

# HP Quality Center

Software Version: 10.00

---

## User Guide

Manufacturing Part Number: T7334-90019

Document Release Date: July 2009

Software Release Date: January 2009



# Legal Notices

## Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

## Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

## Third-Party Web Sites

HP provides links to external third-party Web sites to help you find supplemental information. Site content and availability may change without notice. HP makes no representations or warranties whatsoever as to site content or availability.

## Copyright Notices

© Copyright 1993 - 2009 Hewlett-Packard Development Company, L.P.

## Trademark Notices

Adobe® is a trademark of Adobe Systems Incorporated.

Java™ is a US trademark of Sun Microsystems, Inc.

Microsoft® and Windows® are U.S registered trademarks of Microsoft Corporation.

## Documentation Updates

This guide's title page contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

To check for recent updates, or to verify that you are using the most recent edition of a document, go to:

**<http://h20230.www2.hp.com/selfsolve/manuals>**

This site requires that you register for an HP Passport and sign-in. To register for an HP Passport ID, go to:

**<http://h20229.www2.hp.com/passport-registration.html>**

Or click the **New users - please register** link on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

# Support

You can visit the HP Software Support web site at:

**<http://www.hp.com/go/hpsoftwaresupport>**

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software Support Online provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the HP Software Support web site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.

To find more information about access levels, go to:

**[http://h20230.www2.hp.com/new\\_access\\_levels.jsp](http://h20230.www2.hp.com/new_access_levels.jsp)**

To register for an HP Passport ID, go to:

**<http://h20229.www2.hp.com/passport-registration.html>**

---

# Table of Contents

<b>Welcome to This Guide .....</b>	<b>17</b>
How This Guide is Organized.....	17
Documentation Library.....	19
Additional Online Resources.....	21
Documentation Updates .....	22

## **PART I: QUALITY CENTER BASICS**

<b>Chapter 1: Introduction .....</b>	<b>25</b>
The Application Life Cycle Management.....	27
Specifying Releases .....	28
Specifying Requirements .....	29
Planning Tests .....	31
Running Tests.....	33
Tracking Defects .....	34
Working with Project Databases .....	35
User Privileges.....	35
Importing from Microsoft Word and Microsoft Excel.....	36
<b>Chapter 2: Getting Started .....</b>	<b>37</b>
Starting Quality Center .....	38
Resetting Your Password .....	42
The Quality Center Window.....	43
Quality Center Common Toolbar.....	45
Changing User Properties and Password.....	47
Clearing History .....	49
Viewing Administrator Messages .....	50

<b>Chapter 3: Working with Quality Center Data .....</b>	<b>51</b>
About Working with Quality Center Data .....	52
Arranging Columns .....	52
Selecting Users .....	55
Filtering Records .....	56
Advanced/Cross Filtering Records .....	61
Sorting Records .....	65
Grouping Grid Records .....	67
Updating Multiple Records .....	70
Copying Settings .....	71
Refreshing and Clearing Settings .....	71
Searching Records .....	72
Exporting Data to a File .....	74
<b>Chapter 4: Alerting on Changes .....</b>	<b>75</b>
About Alerting Changes .....	75
Understanding Alerts .....	76
Viewing Alerts .....	80
Clearing Alerts .....	81
Flagging for Follow Up .....	82
<b>Chapter 5: Adding Attachments .....</b>	<b>85</b>
About Adding Attachments .....	86
Attaching a File .....	87
Attaching a URL .....	87
Attaching a Snapshot .....	88
Attaching System Information .....	89
Attaching Items from the Clipboard .....	90
Managing Attachments .....	90
<b>Chapter 6: Working with Favorite Views .....</b>	<b>93</b>
About Working with Favorite Views .....	93
Adding Favorite Views .....	94
Loading Favorite Views .....	95
Updating Favorite Views .....	95
Organizing Favorite Views .....	96

<b>Chapter 7: Working with Version Control.....</b>	<b>99</b>
About Working with Version Control .....	99
Version Control Overview.....	100
Checking Out Entities .....	104
Checking In Entities .....	106
Undoing Check Outs.....	107
Viewing Checked Out Entities .....	108
Viewing Version History .....	109
Filtering Version Control Fields .....	112

## **PART II: RELEASE MANAGEMENT**

<b>Chapter 8: The Release Management Workflow .....</b>	<b>115</b>
Defining Releases and Cycles .....	116
Assigning Requirements .....	117
Assigning and Running Test Sets .....	118
Assigning Defects.....	119
Analyzing Releases and Cycles .....	119
<b>Chapter 9: The Releases Module at a Glance .....</b>	<b>121</b>
The Releases Module .....	122
The Releases Menu Bar .....	123
The Releases Toolbar .....	123
The Release and Cycle Fields.....	124
<b>Chapter 10: Developing the Releases Tree.....</b>	<b>127</b>
About Developing the Releases Tree .....	128
Creating a Releases Tree .....	133
Adding Releases to Release Folders.....	134
Adding Cycles to Releases .....	134
Viewing Assigned Requirements and Test Set Folders .....	136
Viewing Coverage Progress of Releases and Cycles.....	137
Viewing Defects of Releases and Cycles .....	141
Modifying the Releases Tree.....	143

## **PART III: REQUIREMENTS SPECIFICATION**

<b>Chapter 11: The Requirements Specification Workflow .....</b>	<b>149</b>
Defining the Requirements Scope.....	150
Creating the Requirements Outline .....	151
Detailing Requirements.....	152
Assigning Requirements to Releases.....	153
Analyzing Requirements Specification.....	153
Establishing Baselines.....	154

<b>Chapter 12: The Requirements Module at a Glance .....</b>	<b>155</b>
The Requirements Module .....	155
The Requirements Menu Bar .....	167
The Requirements Toolbar .....	169
The Requirement Fields .....	171
<b>Chapter 13: Developing the Requirements Tree .....</b>	<b>177</b>
About Developing the Requirements Tree .....	178
Creating a Requirements Tree .....	179
Assigning Requirements to Releases or Cycles .....	182
Adding Rich Text to Requirements .....	183
Updating Requirements .....	184
Finding Requirements .....	187
Replacing Field Values .....	189
Viewing the Requirements Tree .....	191
Viewing Requirement History .....	193
Mailing Requirements .....	194
Modifying Requirements .....	196
Creating Tests from Requirements .....	200
<b>Chapter 14: Tracing Requirements .....</b>	<b>207</b>
About Tracing Requirements .....	208
Defining Traceability Relationships .....	211
Viewing Traceability Relationships .....	213
Viewing Traceability Impact .....	215
Removing Traceability Relationship Links .....	217
<b>Chapter 15: Calculating Requirement Risks .....</b>	<b>219</b>
About Calculating Requirement Risks .....	220
The Risk-Based Quality Management Process .....	221
Assessing Requirements .....	223
Defining the Testing Policy Settings .....	229
Finalizing the Testing Policy .....	231
Analyzing the Testing Strategy .....	234
Risk-Based Quality Management Example .....	239



**PART IV: TEST PLANNING**

<b>Chapter 16: The Test Plan Workflow .....</b>	<b>245</b>
Defining Testing Strategy .....	246
Defining Test Subjects .....	246
Designing Tests.....	247
Creating Requirements Coverage.....	248
Designing Test Steps.....	248
Automating Tests.....	249
Analyzing Your Test Plan .....	250
Establishing a Baseline .....	250
<b>Chapter 17: The Test Plan Module at a Glance .....</b>	<b>251</b>
The Test Plan Tree .....	252
The Test Plan Menu Bar .....	254
The Test Plan Toolbar.....	255
The Test Grid .....	257
<b>Chapter 18: Developing the Test Plan Tree.....</b>	<b>263</b>
About the Test Plan Tree .....	264
Creating a Test Plan Tree.....	265
Adding Tests to a Test Plan Tree .....	266
Viewing the Test Plan Tree.....	271
Viewing Instances of Tests .....	273
Viewing Test History .....	274
Mailing Tests.....	275
Finding Tests in the Tree or Test Grid.....	277
Replacing Field Values in the Test Grid .....	280
Updating Multiple Records in the Test Grid.....	281
Copying Tests .....	281
Copying URLs of Tests.....	283
Sorting a Test Plan Tree.....	283
Modifying a Test Plan Tree.....	285
<b>Chapter 19: Requirement and Test Coverage .....</b>	<b>287</b>
About Requirement and Test Coverage .....	287
Linking Requirements to a Test .....	290
Linking Tests to a Requirement .....	294
Analyzing Coverage.....	298
<b>Chapter 20: Building Tests .....</b>	<b>303</b>
About Building Tests .....	303
Defining Design Steps .....	305
Calling Manual Tests.....	307
Managing Design Steps .....	309

- Chapter 21: Working with Parameters in Manual Tests .....317**
  - About Working with Parameters in Manual Tests .....317
  - Defining Test Parameters .....319
  - Updating Test Parameters .....320
  - Inserting Test Parameters in a Design Step .....321
  - Assigning Actual Values .....322
  - Managing Test Parameters .....324
- Chapter 22: Creating Automated Tests .....327**
  - About Creating Automated Tests .....327
  - Generating Automated Test Scripts.....328
- Chapter 23: Working with System Tests .....331**
  - About Working with System Tests .....331
  - Adding System Tests to a Test Plan Tree .....332
  - Defining a System Test .....334
  - Running a System Test .....335
  - Viewing System Test Results .....336
- Chapter 24: Managing Test Resources .....339**
  - About Managing Test Resources .....340
  - The Test Resources Module .....341
  - Creating a Test Resource Tree .....342
  - Updating Details of Resources and Folders.....344
  - Working with Resources.....346
  - Viewing Test Resource Dependencies .....348
  - Managing the Test Resource Tree.....348
  - Viewing Resource History .....356
- Chapter 25: Viewing Dependencies.....357**
  - About Viewing Dependencies .....357
  - Viewing Dependencies .....358

**PART V: TEST EXECUTION**

- Chapter 26: The Test Lab Workflow .....363**
  - Creating Test Sets .....364
  - Scheduling Test Runs .....364
  - Running Tests Manually .....364
  - Running Tests Automatically .....365
  - Analyzing Test Results.....365

<b>Chapter 27: The Test Lab Module at a Glance .....</b>	<b>367</b>
The Test Lab Module .....	368
The Test Lab Menu Bar.....	370
The Test Lab Toolbars.....	371
The Execution Grid .....	373
The Execution Flow .....	378
<b>Chapter 28: Creating Test Sets .....</b>	<b>381</b>
About Creating Test Sets .....	382
Creating a Test Sets Tree.....	384
Assigning Test Set Folders to Cycles.....	385
Adding Test Sets .....	386
Adding Tests to a Test Set.....	388
Setting Test Set Notifications .....	390
Setting Test Set On Failure Rules.....	392
Managing Test Sets .....	396
<b>Chapter 29: Scheduling Test Runs .....</b>	<b>409</b>
About Scheduling Test Runs.....	409
Scheduling a Test Run .....	411
Modifying a Test Run Schedule.....	414
Arranging Tests Sequentially .....	417
Finding Tests.....	418
Viewing the Execution Flow Diagram.....	418
<b>Chapter 30: Running Tests Manually.....</b>	<b>421</b>
About Running Tests Manually.....	421
Running a Test Manually .....	422
Editing the Test Steps .....	428
Resuming a Manual Test Run.....	429
<b>Chapter 31: Running Tests Automatically .....</b>	<b>431</b>
About Running Tests Automatically .....	431
Running a Test Automatically.....	432
Viewing the Execution Log .....	436
Setting Up Hosts for Remote Test Execution .....	437
Ordering Tests in the Execution Grid .....	439
Finding and Replacing Values in the Execution Grid.....	441

<b>Chapter 32: Viewing Test Results .....</b>	<b>443</b>
About Viewing Test Results .....	444
Viewing Test Results .....	445
Viewing Details of a Test Run .....	447
Comparing Results of All Runs .....	449
Viewing Configuration of a Test Run .....	452
Viewing Linked Defects.....	457
Viewing Test Run History.....	458

## **PART VI: DEFECT TRACKING**

<b>Chapter 33: The Defect Tracking Workflow .....</b>	<b>463</b>
Adding Defects .....	464
Reviewing New Defects .....	465
Repairing Open Defects.....	466
Testing a New Application Build.....	466
Analyzing Defect Data.....	466
<b>Chapter 34: The Defects Module at a Glance.....</b>	<b>467</b>
The Defects Module.....	468
The Defects Menu Bar .....	471
The Defects Toolbar.....	472
The Defects Grid.....	474
<b>Chapter 35: Adding and Tracking Defects .....</b>	<b>477</b>
About Adding and Tracking Defects .....	478
Adding New Defects .....	479
Matching Defects.....	481
Updating Defects .....	485
Finding and Replacing Values.....	487
Updating Multiple Records .....	489
Viewing Defect History .....	489
Mailing Defects.....	490
Copying Defects .....	493
Copying URLs of Defects.....	494
Printing Defects .....	494
Deleting Defects .....	495
<b>Chapter 36: Linking Defects.....</b>	<b>497</b>
About Linking Defects.....	497
Viewing Defect Links.....	500
Adding Defect Links .....	501
Removing Defect Links .....	502

**PART VII: LIBRARY MANAGEMENT**

<b>Chapter 37: The Libraries Module at a Glance .....</b>	<b>505</b>
The Libraries Module.....	506
The Libraries Menu Bar .....	507
The Libraries Toolbar.....	507
The Library and Baseline Fields.....	508
<b>Chapter 38: Libraries and Baselines.....</b>	<b>511</b>
About Libraries and Baselines .....	512
Creating a Libraries Tree.....	513
Creating Libraries .....	513
Creating Baselines .....	515
The Compare Baselines Tool .....	518
Configuring the Comparison Settings .....	522
Viewing Baseline History.....	524
Pinning a Test Set to a Baseline.....	525
Modifying the Libraries Tree .....	526
Comparing Entities .....	528
<b>Chapter 39: Importing Libraries .....</b>	<b>533</b>
About Importing Libraries.....	534
Importing a Library .....	536
Viewing Associated Libraries.....	540
The Compare Libraries Tool.....	544
Synchronizing Libraries.....	547
Mailing Libraries.....	550

**PART VIII: QUALITY CENTER ANALYSIS**

<b>Chapter 40: The Dashboard Module .....</b>	<b>557</b>
About the Dashboard Module.....	557
The Dashboard Module at a Glance.....	558
Developing the Analysis and Dashboard Trees.....	559
Creating Analysis Items.....	560
Generating Dashboard Pages.....	561
Managing Analysis Items and Dashboard Pages.....	565

<b>Chapter 41: Generating Graphs.....</b>	<b>569</b>
About Generating Graphs .....	569
Creating Graphs with the Graph Wizard.....	570
Creating Quick Graphs.....	575
Creating Graphs in the Dashboard Module.....	576
Configuring Graphs .....	578
Creating Cross-Project Graphs .....	581
Viewing Graphs.....	583
Quality Center Graph Types .....	591
<b>Chapter 42: Generating Standard Reports .....</b>	<b>607</b>
About Generating Standard Reports .....	607
Creating Quick Standard Reports.....	608
Creating Standard Reports in the Dashboard Module.....	612
Configuring Standard Reports.....	615
Adding Sub-Reports.....	617
Viewing Standard Reports .....	620
<b>Chapter 43: Generating Excel Reports .....</b>	<b>623</b>
About Generating Excel Reports .....	624
Creating Excel Reports .....	625
Creating SQL Queries .....	626
Adding Parameters to SQL Queries .....	630
Creating Post-Processing Scripts.....	634
Running Excel Reports .....	635
<b>Chapter 44: Generating Live Analysis Graphs .....</b>	<b>637</b>
About Generating Live Analysis Graphs .....	637
Creating Live Analysis Graphs .....	638
Deleting Live Analysis Graphs .....	644
Setting the Graph Appearance .....	645
<b>Chapter 45: Generating Project Documents .....</b>	<b>647</b>
About Using the Document Generator.....	648
Launching the Document Generator.....	650
Setting Formatting Instructions .....	651
Specifying Project Data .....	657
Generating a Project Document.....	681

**PART IX: APPENDIXES**

<b>Appendix A: Working with VAPI-XP .....</b>	<b>685</b>
About Working with VAPI-XP.....	686
Creating VAPI-XP Test Scripts.....	686
Editing VAPI-XP Test Scripts .....	696
Using the VAPI-XP API.....	701
Running VAPI-XP Tests in Debug Mode.....	706
Running VAPI-XP Tests in Test Mode.....	707
Debugging VAPI-XP Test Scripts .....	709
<b>Appendix B: Quality Center Keyboard Shortcuts .....</b>	<b>713</b>
Switching Between Quality Center Modules .....	714
General Keyboard Shortcuts.....	714
Attachments Shortcuts .....	716
Send Email Dialog Box Shortcuts .....	716
Management Module Shortcuts .....	717
Requirements Module Shortcuts .....	717
Test Plan Module Shortcuts.....	718
Test Resources Module Shortcuts .....	719
Test Lab Module Shortcuts .....	719
Defects Module Shortcuts.....	720
Dashboard Module Shortcuts.....	721
<b>Appendix C: Quality Center Editions .....</b>	<b>725</b>
About Quality Center Editions.....	725
Quality Center Functionality by Edition .....	726
<b>Glossary .....</b>	<b>731</b>
<b>Index.....</b>	<b>743</b>





---

# Welcome to This Guide

Welcome to HP Quality Center, the HP Web-based solution for application life cycle management. Quality Center helps you organize and manage all phases of the application life cycle management, including defining releases, specifying requirements, planning tests, executing tests, and tracking defects.

## How This Guide is Organized

The Quality Center User Guide describes how to use Quality Center to manage all phases of the application life cycle.

It contains the following parts:

**Part I    Quality Center Basics**

Provides an overview of the Quality Center features and methodology.

**Part II   Release Management**

Describes how to define releases and cycles for managing the application life cycle.

**Part III   Requirements Specification**

Describes how to define requirements by building a requirements tree.

**Part IV   Test Planning**

Describes how to plan the testing process, from building a test plan tree to creating tests.

## **Part V Test Execution**

Describes how to create test sets, execute manual and automated tests, and review test results.

## **Part VI Defect Tracking**

Describes how to report application defects to a Quality Center project and keep track of the repair process until the defects are resolved.

## **Part VII Library Management**

Describes how to define libraries to track changes in your project, reuse entities in a project, or share entities across multiple projects.

## **Part VIII Quality Center Analysis**

Describes how you can analyze the application life cycle management process, by creating graphs, standard reports, Excel reports, dashboard pages, and project documentation.

## **Part IX Appendixes**

Describes how to work with the VAPI-XP testing tool, and provides a list of Quality Center keyboard shortcuts. Also describes the different Quality Center editions available — Starter, Enterprise and Premier.

## **Glossary**

Provides a list of terms used throughout Quality Center.

## Documentation Library

The Documentation Library is an online help system that describes how to use Quality Center. You can access the Documentation Library in the following ways:

- Click **Documentation Library** in the Quality Center Help menu to open the Documentation Library home page. The home page provides quick links to the main help topics.
- Click **Help on this page** in the Quality Center Help menu to open the Documentation Library to the topic that describes the current page.

### Documentation Library Guides

The Documentation Library consists of the following guides and references, available online, in PDF format, or both. PDFs can be read and printed using Adobe Reader, which can be downloaded from the Adobe Web site (<http://www.adobe.com>).

**Getting Started** explains how to use the Documentation Library and how it is organized. (Available online.)

**What's New?** describes the newest features in the latest version of Quality Center. (Available online and in PDF format.)

You can also access **What's New?** from the Quality Center **Help** menu. In addition, you can select **Help > Product Feature Movies** to view short movies that demonstrate the main product features.

**Readme** provides last-minute news and information about Quality Center.

### Quality Center Guides

**HP Quality Center User Guide** explains how to use Quality Center to organize and execute all phases of the application life cycle management process. It describes how to specify releases, define requirements, plan tests, run tests, and track defects. (Available online and in PDF format.)

**HP Quality Center Administrator Guide** explains how to create and maintain projects using Site Administration, and how to customize projects using Project Customization. (Available online and in PDF format.)

**HP Quality Center Tutorial** is a self-paced guide teaching you how to use Quality Center to manage the application life cycle management process. (Available in PDF format.)

**HP Quality Center Installation Guide** explains how to install Quality Center on a server machine in a cluster environment or as a standalone application. (Available in PDF format.)

**HP Quality Center Upgrade Preparation Guide** explains how to detect and repair problems before beginning a project upgrade. (Available in PDF format.)

**HP Quality Center Database Best Practices Guide** provides best practices for deploying Quality Center on database servers. (Available in PDF format.)

## **Business Process Testing Guides**

**HP Business Process Testing User Guide** explains how to use Business Process Testing to create business process tests. (Available online and in PDF format.)

**HP Business Process Testing Tutorial** provides a self-paced guide that teaches you the basics of Business Process Testing in Quality Center. (Available in PDF format.)

## **API References**

**HP Quality Center Database Reference** provides a complete online reference for the project database tables and fields. (Available online.)

**HP Quality Center Open Test Architecture API Reference** provides a complete online reference for the Quality Center COM-based API. You can use the Quality Center open test architecture to integrate your own configuration management, defect tracking, and home-grown testing tools with a Quality Center project. (Available online.)

**HP Quality Center Site Administration API Reference** provides a complete online reference for the Site Administration COM-based API. You can use the Site Administration API to enable your application to organize, manage, and maintain Quality Center users, projects, domains, connections, and site configuration parameters. (Available online.)

**HP Quality Center Entity Dependencies API Reference** provides an online reference for managing relations between Quality Center entities. The reference covers a subset of the Quality Center COM-based API and a subset of the data tables used when managing relations. You can use this reference to integrate testing tools with Quality Center. (Available online.)

**HP Quality Center Custom Test Type Guide** provides a complete online guide for creating your own testing tool and integrating it into the Quality Center environment. (Available online.)

## Additional Online Resources

The following additional online resources are available from the Quality Center **Help** menu:

**Troubleshooting & Knowledge Base** accesses the Troubleshooting page on the HP Software Support Web site where you can search the Self-solve knowledge base. Choose **Help > Troubleshooting & Knowledge Base**. The URL for this Web site is <http://h20230.www2.hp.com/troubleshooting.jsp>.

**HP Software Support** accesses the HP Software Support Web site. This site enables you to browse the Self-solve knowledge base. You can also post to and search user discussion forums, submit support requests, download patches and updated documentation, and more. Choose **Help > HP Software Support**. The URL for this Web site is [www.hp.com/go/hpsupportsupport](http://www.hp.com/go/hpsupportsupport).

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.

To find more information about access levels, go to:  
[http://h20230.www2.hp.com/new\\_access\\_levels.jsp](http://h20230.www2.hp.com/new_access_levels.jsp)

To register for an HP Passport user ID, go to:  
<http://h20229.www2.hp.com/passport-registration.html>

**HP Software Web site** accesses the HP Software Web site. This site provides you with the most up-to-date information on HP Software products. This includes new software releases, seminars and trade shows, customer support, and more. Choose **Help > HP Software Web site**. The URL for this Web site is [www.hp.com/go/software](http://www.hp.com/go/software).

**Add-ins Page** opens the HP Quality Center Add-ins Page, which offers integration and synchronization solutions with HP and third-party tools. For more information, refer to the *HP Quality Center Installation Guide*.

## Documentation Updates

HP Software is continually updating its product documentation with new information.

To check for recent updates, or to verify that you are using the most recent edition of a document, go to the HP Software Product Manuals Web site (<http://h20230.www2.hp.com/selfsolve/manuals>).

# Part I

---

## Quality Center Basics





# 1

---

## Introduction

Welcome to HP Quality Center, the HP Web-based solution for application life cycle management. You access Quality Center over the Internet or a corporate intranet, via a Web browser.

Application life cycle management is a complex process. It entails inter-related steps such as defining releases, developing requirements, designing and validating tests, and monitoring and reporting defects. Administrating all aspects of the application management process can be time-consuming and difficult.

Quality Center simplifies and organizes application management by providing you systematic control over the process. It helps you create a framework and foundation for your application management workflow.

Quality Center features a system for organizing and tracking application releases, enabling you to align your business priorities and quality expectations with your project requirements, tests, and defects.

Quality Center helps you define and maintain a project database of requirements and tests. Requirements help ensure that all aspects of your application's functionality are covered. Tests can then be automatically generated from these requirements to ensure the correct aspects of the application are being tested. To meet the various goals of a project, you can organize the tests in your project into unique groups. Quality Center provides an intuitive and efficient method for scheduling and executing test sets, collecting test results, and analyzing the data.

Quality Center also features a sophisticated system for tracking application defects, enabling you to monitor defects closely from initial detection until resolution. By linking Quality Center to your email system, defect tracking information can be shared by all application development, business analysts, quality assurance, customer support, and information systems personnel.

Quality Center provides tools for analyzing requirements, test design and execution, and defect tracking. You can generate interactive graphs that demonstrate a wide variety of business performance perspectives, or define reports with any cross-section of data. You can also monitor multiple business metrics, by arranging multiple graphs alongside each other in a single view.

Quality Center offers integration with HP testing tools (WinRunner, QuickTest Professional, LoadRunner, and Visual API-XP) as well as third-party and custom testing tools, and requirement and configuration management tools. Quality Center communicates seamlessly with the testing tool of your choice, providing you with a complete solution to fully automated application testing.

Quality Center guides you through all phases of the application life cycle management. By integrating the tasks involved in application management, it helps ensure that your customers receive the highest quality applications.

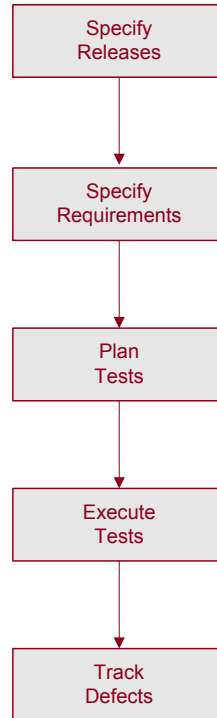
---

**Quality Center Editions:** The availability of each feature depends on your Quality Center edition — Starter, Enterprise or Premier. For more information, see Appendix C, “Quality Center Editions”.

---

# The Application Life Cycle Management

The application life cycle management process with Quality Center involves the following phases:



**Specify Releases.** Develop a release-cycle management plan.

**Specify Requirements.** Analyze your application and determine your requirements.

**Plan Tests.** Create a test plan, based on your requirements.

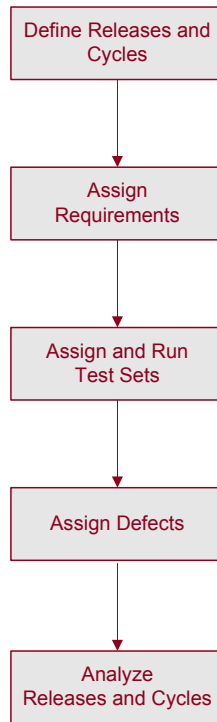
**Execute Tests.** Create test sets and perform test runs.

**Track Defects.** Report defects detected in your application and track repair progress.

Throughout each phase, you can analyze data by generating detailed reports and graphs.

## Specifying Releases

Develop a release-cycle management plan.



**Define Releases and Cycles.** Build a releases tree to define your releases and cycles. A **release** represents a group of changes in one or more applications that will be available for distribution at the same time. A **cycle** represents a development and QA cycle based on the project timeline.

**Assign Requirements.** Define requirements in the Requirements module and assign them to releases and cycles in the releases tree.

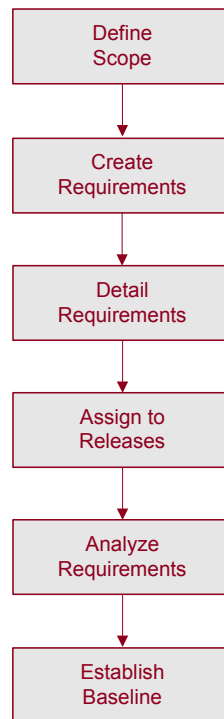
**Assign and Run Test Sets.** Create test set folders in the Test Lab module and assign them to cycles in the releases tree. A **test set** is a group of tests in a Quality Center project designed to achieve specific test goals. After assigning test set folders to a cycle, run the test sets under these test set folders.

**Assign Defects.** Submit new defects detected in your application to a Quality Center project. Assign defects to the relevant releases and cycles in the releases tree.

**Analyze Releases and Cycles.** Generate reports and graphs to assist in analyzing the progress of the release. Review your releases tree to ensure that it meets your release goals.

## Specifying Requirements

Analyze your application and determine your requirements.



**Define Scope.** Examine application documentation to determine your scope, objectives, and strategies.

**Create Requirements.** Build a requirements tree to define your overall requirements.

**Detail Requirements.** For each requirement in the requirements tree, create a list of detailed requirements. Describe each requirement, assign it a priority level, and add attachments if necessary.

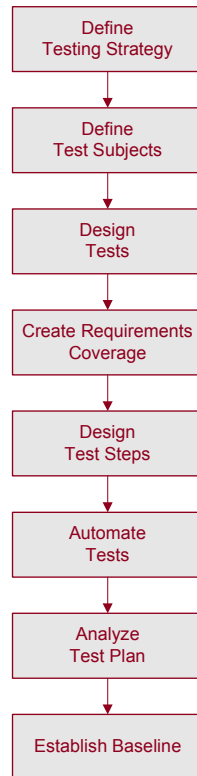
**Assign to Releases.** Assign each requirement to releases and cycles in the releases tree in the Releases module. The **releases tree** shows your product releases within a hierarchical tree structure.

**Analyze Requirements.** Generate reports and graphs to assist in analyzing your requirements. Review your requirements to ensure they meet your application management scope.

**Establish Baseline.** A baseline provides you with a snapshot of your requirements at a specific point in time. Create a baseline to sign off or compare significant milestones in your application life cycle.

# Planning Tests

Create a test plan, based on your requirements.



**Define Testing Strategy.** Examine your application, system environment, and testing resources to determine your testing goals.

**Define Test Subjects.** Divide your application into functions to be tested. Build a test plan tree to hierarchically split your application into testing units, or subjects.

**Design Tests.** Determine the types of tests you need for each subject. Add a basic definition of each test to the test plan tree.

**Create Requirements Coverage.** Link each test with one or more requirements.

**Design Test Steps.** Develop manual tests by adding steps to the tests in your test plan tree. **Test steps** describe the test operations and the expected outcome of each test. Determine which tests to automate.

**Automate Tests.** For tests that you decide to automate, create test scripts with HP testing tools, or with custom or third-party testing tools.

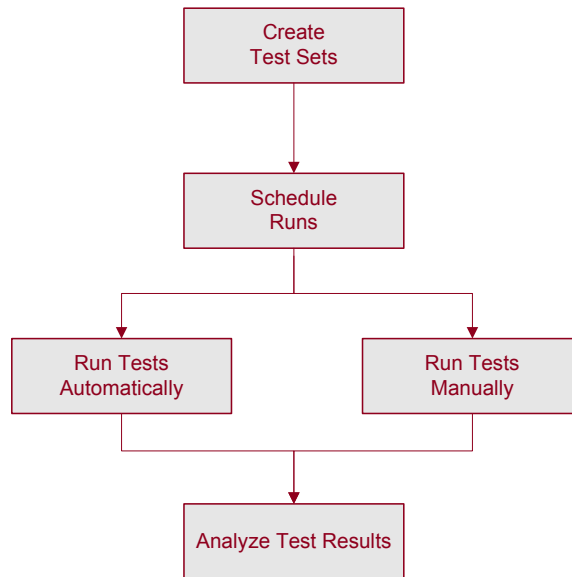
**Analyze Test Plan.** Generate reports and graphs to assist in analyzing test planning data. Review your tests to determine their suitability to your testing goals.

**Establish Baseline.** A baseline provides you with a snapshot of your test plan at a specific point in time. Create a baseline to sign off or compare significant milestones in your application life cycle.



# Running Tests

Create test sets and perform test runs.



**Create Test Sets.** Define groups of tests to meet the various testing goals in your project. These might include, for example, testing a new application version or a specific function in an application. Determine which tests to include in each test set. Assign test set folders to cycles defined in the releases tree in the Releases module.

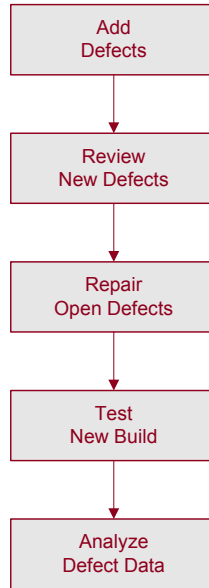
**Schedule Runs.** Schedule test execution and assign tasks to application testers.

**Run Tests.** Run the tests in your test set either automatically or manually.

**Analyze Test Results.** View the results of your test runs in order to determine whether a defect has been detected in your application. Generate reports and graphs to help analyze these results.

## Tracking Defects

Submit defects detected in your application and track how repairs are progressing.



**Add Defects.** Report new defects detected in your application. Quality assurance testers, developers, project managers, and end users can add defects during any phase in the application management process.

**Review New Defects.** Review new defects and determine which ones should be fixed.

**Repair Open Defects.** Correct the defects that you decided to fix.

**Test New Build.** Test a new build of your application. Continue this process until defects are repaired.

**Analyze Defect Data.** Generate reports and graphs to assist in analyzing the progress of defect repairs, and to help determine when to release the application.

## Working with Project Databases

When you create a Quality Center project, you need to store and manage the data that was generated and collected by Quality Center. Each project is supported by a database that stores project information.

For more information on supported database servers, refer to the *HP Quality Center Installation Guide*.

For more information on creating and managing Quality Center projects, refer to the *HP Quality Center Administrator Guide*.

## User Privileges

Quality Center enables you to manage user access to a project. By creating a list of authorized users and assigning each user a password and user group, you control the kinds of additions and modifications that each user makes to the project. The user group determines the privileges that the user has within a project. Quality Center includes a privileges and permissions mechanism that enables you to create rules for specific fields in a project.

For detailed information on the user groups available in Quality Center, and on assigning passwords and privileges, refer to the *HP Quality Center Administrator Guide*.

## Importing from Microsoft Word and Microsoft Excel

You can import data from Word or Excel to a Quality Center project.

### Importing from Word

You can import requirement or test plan data from a Word document to a Quality Center project. To import from Word, you must install the HP Quality Center Microsoft Word Add-in and the HP Quality Center Connectivity Add-in on your client machine. To install an add-in, choose **Help > Add-ins Page** to open the HP Quality Center Add-ins page, and click the appropriate add-in link.

For more information, refer to the *HP Quality Center Microsoft Word Add-in Guide* available on the Microsoft Word Add-in page.

### Importing from Excel

You can import requirement, test plan, or defect data from an Excel worksheet to a Quality Center project. To import from Excel, you must install the HP Quality Center Microsoft Excel Add-in and the HP Quality Center Connectivity Add-in on your client machine. To install an add-in, choose **Help > Add-ins Page** to open the HP Quality Center Add-ins page, and click the appropriate add-in link.

For more information, refer to the *HP Quality Center Microsoft Excel Add-in Guide* available on the Microsoft Excel Add-in page.

# 2

---

## Getting Started

This chapter explains how to start Quality Center and introduces the Quality Center window.

**This chapter includes:**

- Starting Quality Center on page 38
- Resetting Your Password on page 42
- The Quality Center Window on page 43
- Quality Center Common Toolbar on page 45
- Changing User Properties and Password on page 47
- Clearing History on page 49
- Viewing Administrator Messages on page 50

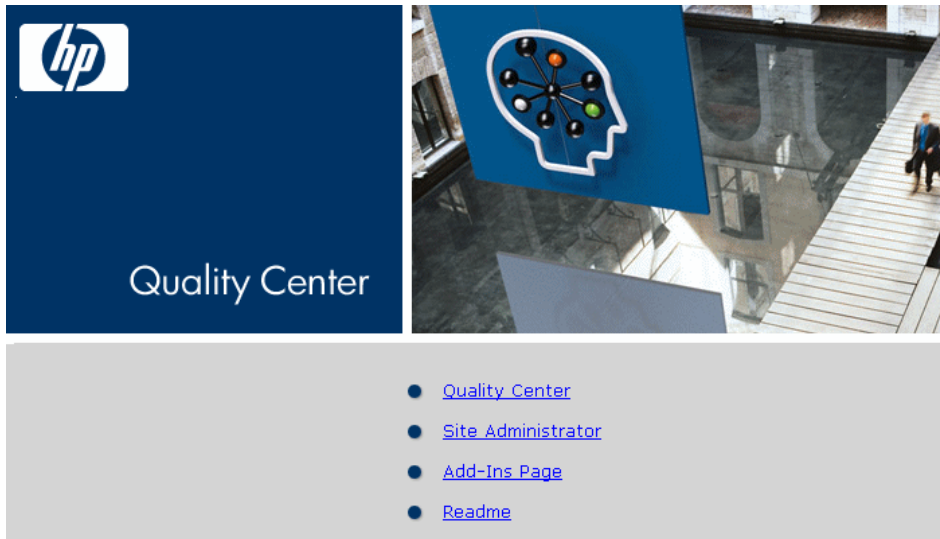
## Starting Quality Center

You launch Quality Center on your machine from your Web browser.

**To start Quality Center:**

- 1 Open your Web browser and type your Quality Center URL `http://<Quality Center server name>[:<port number>]/qcbn`. Contact your system administrator if you do not have the correct path.

The HP Quality Center Options window opens.



- 2 Click the **Quality Center** link.

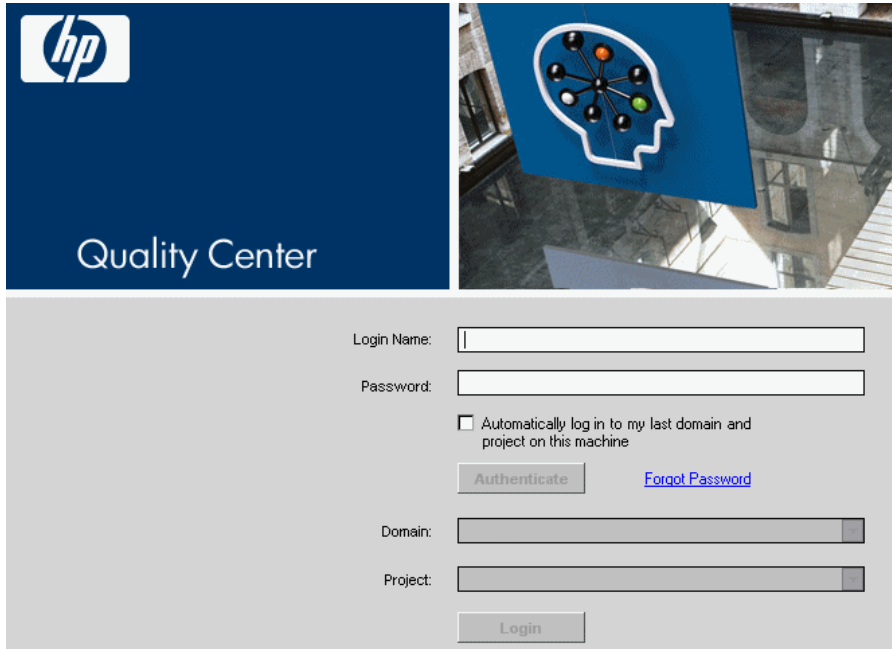
The first time you run Quality Center, files are downloaded to your machine, and if it is not already installed, the Microsoft .NET Framework 2.0 Setup program runs. Subsequently, Quality Center carries out a version check. If there is a newer version on the server, updated files are downloaded to your machine.

---

**Note:**

- To download files to your machine, you must log in with administrator privileges. For more information on the minimum permissions required to install client components, refer to the *HP Quality Center Installation Guide*.
  - If file downloads are prohibited through your browser, you can install these files from the HP Quality Center Client Side Setup Add-in on the HP Quality Center Add-in page. For more information on add-ins, refer to the *HP Quality Center Installation Guide*.
  - Quality Center prompts you to install Microsoft .NET Framework 2.0 if it is not already installed on your machine. To perform the installation, follow the instructions in the Software Update Installation Wizard (if Windows Installer 3.1 is not installed) and the Microsoft .NET Framework 2.0 Setup.
-

After the Quality Center version has been checked and files have been updated if necessary, the HP Quality Center Login window opens.



The screenshot shows the HP Quality Center login interface. At the top left is the HP logo and the text 'Quality Center'. To the right is a graphic of a head with a network diagram inside. Below this is a login form with the following elements:

- Login Name:
- Password:
- ☐ Automatically log in to my last domain and project on this machine
- [Forgot Password](#)
- Domain:
- Project:
- 

- 3** In the **Login Name** box, type your user name.
- 4** In the **Password** box, type the password assigned to you by your site administrator. If you cannot remember your password, click the **Forgot Password** link. For more information, see “Resetting Your Password” on page 42.

To change your assigned password, see “Changing User Properties and Password” on page 47.
- 5** Select the **Automatically log in to my last domain and project on this machine** check box if you want Quality Center to automatically log in to the last project in which you were working.
- 6** Click the **Authenticate** button. Quality Center verifies your user name and password and determines which domains and projects you can access. If you specified automatic login, Quality Center opens.



If authentication fails, check that your user name and password are correct and try again.

- 7** In the **Domain** list, select a domain. By default, the last domain in which you were working is displayed.
- 8** In the **Project** list, select a project. By default, the last project in which you were working is displayed.

If the demonstration project was installed on the Quality Center server, you can select the **QualityCenter\_Demo** project (make sure that you select **DEFAULT** in the **Domain** list). The project includes sample data to help introduce you to Quality Center. For more information, refer to the *HP Quality Center Tutorial*.

- 9** Click the **Login** button. Quality Center opens and displays the module in which you last worked during your previous session.

The first time you run Quality Center, the Welcome page opens. From the Welcome page, you can directly access the Quality Center documentation. If you do not want to display the Welcome page each time you log in to Quality Center, select **Don't show this again**. To open the Welcome page at any time, choose **Help > Welcome Page**.

- 10** To exit and return to the HP Quality Center Login window, click the **Logout** button located in the upper-right corner of the window.

Alternatively, choose **Tools > Change Project** to log in to a different project.

## Resetting Your Password

When logging in to Quality Center, if you cannot remember your password, you can reset it and create a new one.

---

**Note:** Resetting your password is unavailable in either of the following situations:

- It is deactivated by the **PASSWORD\_RESET\_DISABLE** Site Configuration parameter.
- LDAP authentication is enabled.

For more information, refer to the *HP Quality Center Administrator Guide*.

---

### To reset your password:

- 1** In the Quality Center Login window, click the **Forgot Password** link. The **Forgot Password** dialog box opens.
- 2** In the **Login Name** box, type your user name. By default, the name entered in the Quality Center Login window is displayed.
- 3** Click **OK**. Quality Center sends a message to the email address assigned to your Quality Center user name.

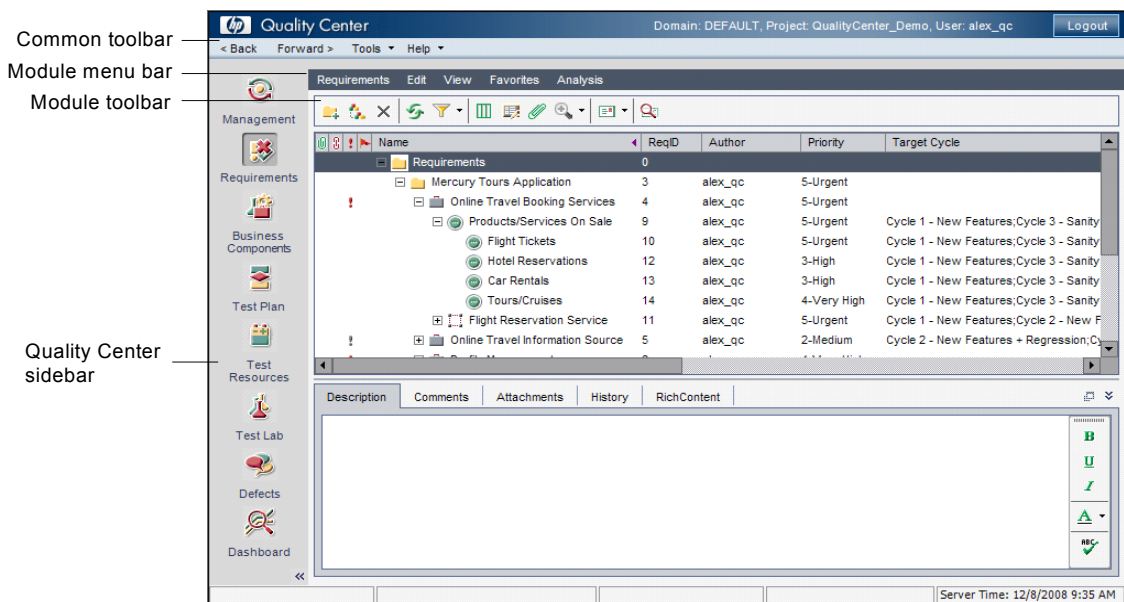
The link contained in the message is valid for a set period of time. For more information, refer to the *HP Quality Center Administrator Guide*.

- 4** Locate the Quality Center email and click the **Reset your password** link. The Password Reset window opens.
- 5** In the **Login Name** box, type your user name.
- 6** In the **New Password** box, type a new password.
- 7** In the **Retype Password** box, retype the password.
- 8** Click **OK**. The Quality Center Login window opens. Log in using your new password.

## The Quality Center Window

When you connect to a project, the Quality Center main window opens and displays the module in which you were last working. On the upper-right side of the window, the domain, project, and your user name are displayed.

**Note:** Available Quality Center functionality may depend on how your site or project administrator has configured your Quality Center project.



The Quality Center window contains the following key elements:

- **Quality Center sidebar.** Provides access to the Quality Center modules. For more information, see “Quality Center Modules” on page 44.

- **Quality Center common toolbar.** Provides navigation buttons, access to common tools, documentation and additional resources. This toolbar is located on the upper-left part of the window. For more information, see “Quality Center Common Toolbar” on page 45.
- **Module menu bar.** Displays the names of menus from which you select commands in the current Quality Center module.
- **Module toolbar.** Contains buttons for frequently-used commands in the current Quality Center module.
- **Logout button.** The **Logout** button, located in the upper-right corner of the window, logs you out of your current project and returns you to the HP Quality Center Login window.

## Quality Center Modules

Quality Center has the following modules, which are accessible from the sidebar:

---

**Quality Center Editions:** The availability of each module and feature depends on the Quality Center edition you have — Starter, Enterprise or Premier. For more information, see Appendix C, “Quality Center Editions”.

---



- **Management.** This module includes the following sub-modules:
  - **Releases.** Enables you to define releases and cycles for the application management process.
  - **Libraries.** Enables you to define libraries to track changes in your project, reuse entities in a project, or share entities across multiple projects.



- **Requirements.** Enables you to manage requirements in a hierarchical tree-structure. Requirements can be linked to other requirements, tests, or defects.



- **Test Plan.** Enables you to develop and manage tests in a hierarchical tree-structure. Tests can be linked to requirements and defects.



- **Test Resources.** Enables you to manage test resources in a hierarchical tree-structure. Test resources can be associated with tests.



- **Test Lab.** Enables you to manage and run tests. After running tests, you can analyze the results.



- **Defects.** Enables you to add defects, determine repair priorities, repair open defects, and analyze the data.



- **Dashboard.** Enables you to create graphs, reports, and Excel reports. You can also create dashboard pages, which enable you to view multiple graphs side-by-side.



Depending on your Quality Center license, you may also have access to the **Business Components** module. This module enables subject matter experts to drive the quality optimization process using Business Process Testing, the HP test automation solution. For more information, refer to the *HP Business Process Testing User Guide*.

---

**Tip:** You can navigate between the modules using shortcut keys. For a list of shortcut keys, see Appendix B, “Quality Center Keyboard Shortcuts.”

---

To customize the module names, refer to the *HP Quality Center Installation Guide*.

## Quality Center Common Toolbar

The Quality Center common toolbar, located on the upper-left side of the Quality Center window, is accessible from all modules and contains the following buttons:

### Navigation Buttons

**Back.** Navigates back to your previous location in Quality Center.

**Forward.** Navigates forward to your next location in Quality Center.

### Tools Button

The **Tools** button contains the following menu items:

**Change Project.** Enables you to log out of your current project and select one of the previously opened projects on that machine (if appropriate), or select a different project from the Login window.

**Customize.** Opens the Project Customization window, enabling you to customize your project. For more information, refer to the *HP Quality Center Administrator Guide*.

**New Defect.** Opens the New Defect dialog box, enabling you to add a new defect. For more information, see Chapter 35, “Adding and Tracking Defects.”

### **Spelling and Grammar:**

- **Check Spelling.** Checks the spelling for the selected word or text box. If there are no errors, a confirmation message opens. If errors are found, the Spelling dialog box opens and displays the word together with replacement suggestions.
- **Spelling Options.** Opens the Spelling Options dialog box, enabling you to configure the way Quality Center checks spelling.
- **Thesaurus.** Opens the Thesaurus dialog box and displays a synonym, antonym, or related word for the selected word. You can replace the selected word or look up new words.

**Clear History.** Opens the Clear History dialog box, enabling you to delete history data from your project. Clearing history requires the appropriate user permissions. For more information, see “Clearing History” on page 49.

**Document Generator.** Opens the Document Generator. For more information, see Chapter 45, “Generating Project Documents.”

To customize the **Tools** menu, refer to the *HP Quality Center Installation Guide*.

### **Help Button**

The **Help** button enables you to open the Quality Center Documentation Library and other additional online resources. It also enables you to display version information for each Quality Center client component. For more information, see “Documentation Library” on page 19 and “Additional Online Resources” on page 21.

To customize the **Help** menu, refer to the *HP Quality Center Installation Guide*.

## Changing User Properties and Password

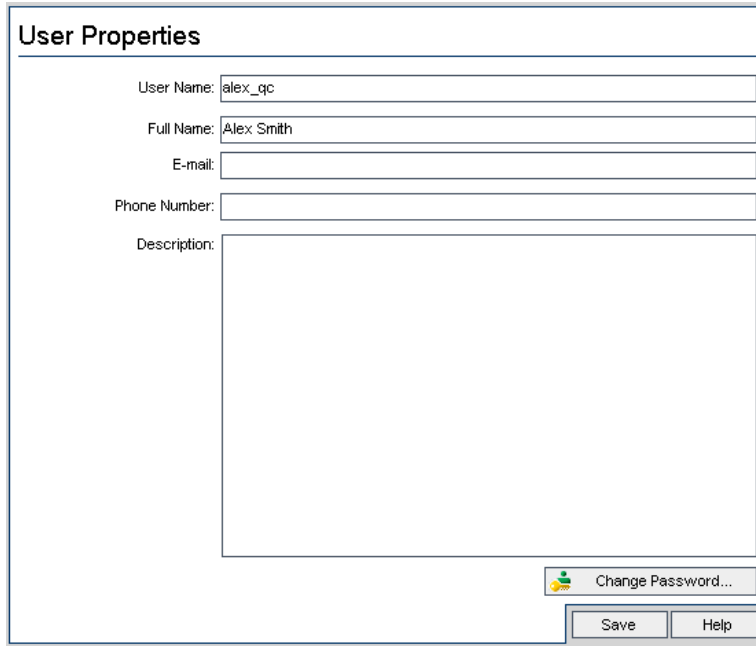
You can change your user properties, including full name, email address, phone number, and description. Email information is important because it enables you to receive email notifications and alerts directly to your mailbox. You can also change your password for accessing Quality Center projects.

The site administrator can change and override a user's properties or password. For more information, refer to the *HP Quality Center Administrator Guide*.

### To change user properties and password:

- 1 On the upper-left side of the window, click the **Tools** button and choose **Customize**. The Project Customization window opens.

- 2 Click the **User Properties** link. The User Properties window opens.



The 'User Properties' dialog box is shown. It has a title bar 'User Properties'. Inside, there are five input fields: 'User Name' with 'alex\_qc', 'Full Name' with 'Alex Smith', 'E-mail', 'Phone Number', and 'Description' (a large text area). At the bottom right, there are three buttons: 'Change Password...' (with a key icon), 'Save', and 'Help'.

- 3 Edit the user properties.
- 4 Click **Save** to save your changes.
- 5 Click the **Change Password** button. The Change Password dialog box opens.



The 'Change Password for [alex\_qc]' dialog box is shown. It has a title bar 'Change Password for [alex\_qc]'. Inside, there are three input fields: 'Old Password', 'New Password', and 'Retype New Password'. At the bottom, there are two buttons: 'OK' and 'Cancel'.

- 6 In the **Old Password** box, type your old password.
- 7 In the **New Password** box, type the new password.
- 8 In the **Retype New Password** box, retype the new password.



- 9 Click **OK** to save your changes. The Change Password dialog box closes.
- 10 On the upper-right side of the window, click the **Return** button to exit the Project Customization window and return to your project.

## Clearing History

When you customize your project, you can instruct Quality Center to preserve a log of values for the system and user fields in your project. For more information on enabling history for a field, refer to the *HP Quality Center Administrator Guide*.

When the history data is no longer needed, you can choose to delete this data from your Quality Center project. For example, if you have successfully run the test sets you created, you may want to clear the test history from your project.

You can choose to clear all history data, or you can select a specific entity or field whose history you want to clear. In addition, you can choose to delete history data up to and including a specific date. Quality Center clears the data displayed in the History tab of the corresponding modules.

---

**Note:** You must have the appropriate user permissions to clear history.

---

### To clear history:

- 1 On the upper-left side of the window, click the **Tools** button and choose **Clear History**. The Clear History dialog box opens.
- 2 In the **Entity** box, select the entity whose history you want to delete. To delete history data from all entities, select **All**.
- 3 In the **Field** box, select the field whose history you want to delete. To delete history data from all fields, select **All**.
- 4 In the **Until Date** box, select a date. All data up to and including the selected date is deleted.
- 5 Click **OK**.

## Viewing Administrator Messages

The site administrator can send messages to users connected to Quality Center projects informing them about important maintenance or other issues. For example, the site administrator may send a message warning that a project you are connected to will be disconnected, or that a Quality Center server will be restarted.

For more information on sending messages from Site Administration, refer to the *HP Quality Center Administrator Guide*.

### To view administrator messages:

- 1** When the site administrator sends you a message, a pop-up window automatically opens on your machine displaying the message text.
- 2** If there is more than one message, use the **Previous Message** and **Next Message** buttons to view other messages.
- 3** To close the message box, click the **Close** button.

# 3

---

## Working with Quality Center Data

You can view and modify the data in your project using Quality Center grids and trees.

**This chapter includes:**

- About Working with Quality Center Data on page 52
- Arranging Columns on page 52
- Selecting Users on page 55
- Filtering Records on page 56
- Advanced/Cross Filtering Records on page 61
- Sorting Records on page 65
- Grouping Grid Records on page 67
- Updating Multiple Records on page 70
- Copying Settings on page 71
- Refreshing and Clearing Settings on page 71
- Searching Records on page 72
- Exporting Data to a File on page 74

## About Working with Quality Center Data

Quality Center organizes and displays data in grids or trees. You can manipulate the data in various ways including rearranging columns, filtering, sorting and grouping. You can also copy settings, search for specific text, and export data to a file.

As Quality Center grids and trees vary in the type of content they display, the activities described in this chapter do not always apply to all grids and trees.

---

**Tip:** You can save your grid and tree settings, such as sorting and filters, as a favorite view. For more information, see Chapter 6, “Working with Favorite Views.”

---

## Arranging Columns

You can customize data by specifying the order in which columns appear, and by changing column size. Quality Center displays your customized column settings the next time you open the project.

---

**Quality Center Starter Edition:** Not all fields and functionality are available if you are working with the Starter Edition.

---

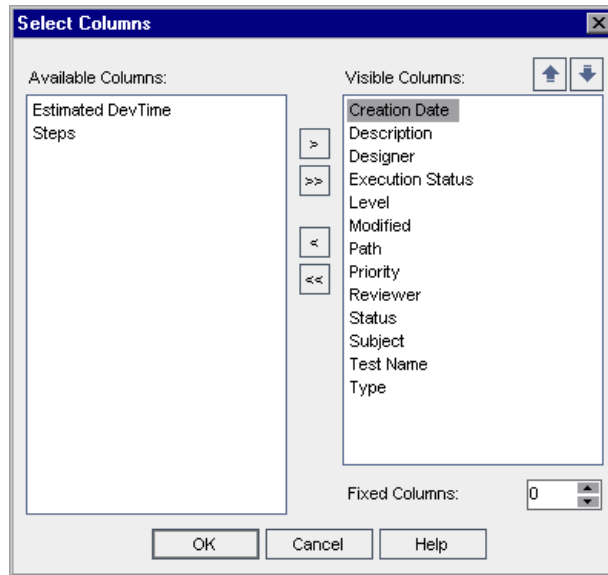
### Setting Column Order

You determine which columns are displayed in Quality Center and the order in which they appear using the Select Columns dialog box. For example, you can set Subject as the first column in the Test Grid.

To determine column appearance and order:



- 1 Click the **Select Columns** button. The Select Columns dialog box opens.



**Available Columns** lists columns that are not currently displayed.

**Visible Columns** lists columns that are currently displayed.


- 2 If you are opening the Select Columns dialog box from the Requirements module, this dialog box also displays the **Requirement Type** box and the **Hide Risk-Based Quality Management Columns** check box.

Select a requirement type from the **Requirement Type** list. The columns available for the requirement type are displayed.

Select the **Hide Risk-Based Quality Management Columns** check box to hide the requirement fields related to risk-based quality management from the **Available Columns** list. Clear the check box to make the fields visible.

- 3 Select column names and click the arrow buttons (> and <) to move them between **Available Columns** and **Visible Columns**. Click the double arrow buttons (>> and <<) to move all the columns from one list to the other. Note that you can also drag the column names between lists or double-click a column name to move a column between lists.

---

**Note:** Columns displayed with the  icon cannot be removed from the **Visible Columns** list.

---



- 4 In **Visible Columns**, set the order in which columns appear by using the Up and Down arrows. You can also drag the column names up or down.
- 5 To set non-scrolling columns, specify the number of non-scrolling columns you want to set in **Fixed Columns**. Starting from the leftmost column, the number of columns you specify will be set as non-scrolling. Non-scrolling columns remain stationary when you scroll horizontally. These columns are shaded.
- 6 Click **OK** to close the dialog box and apply the new column order.

### Resizing Columns

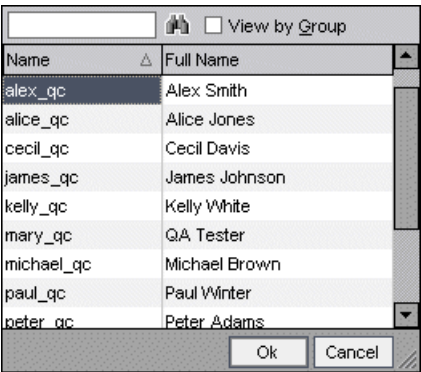
You can resize columns using the mouse. Click on the right edge of a column heading and drag to adjust the width. You can only resize columns that are not fixed (non-scrolling).

# Selecting Users

When you select a column in a Quality Center grid or tree with a user name value, Quality Center displays a users list with the name and full name of each user. You can sort the users list, search for users, group users by user groups, and select users from the list or from a group tree.

## To select users:

- 1 Select a user field and click the drop-down arrow. The Users List dialog box opens.





To sort the Users List in ascending or descending order by user name or full name, click the **Name** or **Full Name** column heading. Click the column heading again to reverse the sort order.

- 2 To search users, you can:
  - Search incrementally by typing the first character in the user name. You can type additional characters to narrow down the search. Quality Center begins searching as soon as you type the first character of the search string, and highlights the record with the first occurrence of all the characters in the search string.
  - Search users by user name or full name. Type the name of a user (or part of the name) in the **Find** box. Click the **Find** button. Quality Center highlights the record with the first occurrence of the search string. Press **F3** to find subsequent occurrences of the search string.



- 3 To display users by user group, select **View by Group**. The users are grouped by user group.



To expand a branch in the tree, click the Expand  sign to the left of the user group name. To collapse a branch in the tree, click the Collapse  sign to the left of the user group name.


- 4 Select a user and click **OK**. The Users List dialog box closes and the user value is displayed in the data field.

## Filtering Records

You can filter Quality Center data to display only those records that meet the criteria that you define. You can assign a single item (such as “Failed”) or a logical expression (such as “Passed Or Failed”) to a filter. Only records meeting all the criteria of the filter appear in the grid or tree.

In addition, you can define multiple filters. For example, you can define the Status filter as “Failed” and the Tester filter as “David Or Mark”. Only failed test runs performed by David or Mark are displayed.

When filtering a tree, the results are displayed in Quality Center as follows:

- If you are filtering in the requirements tree, parents of filter entities that do not correspond to the filter are displayed with the  icon.
- If you are filtering in the test plan or test set tree, folders in the tree that do not correspond to the filter are not displayed.



**Version Control:** For information on filtering data based on version control fields, see “Filtering Version Control Fields” on page 112.

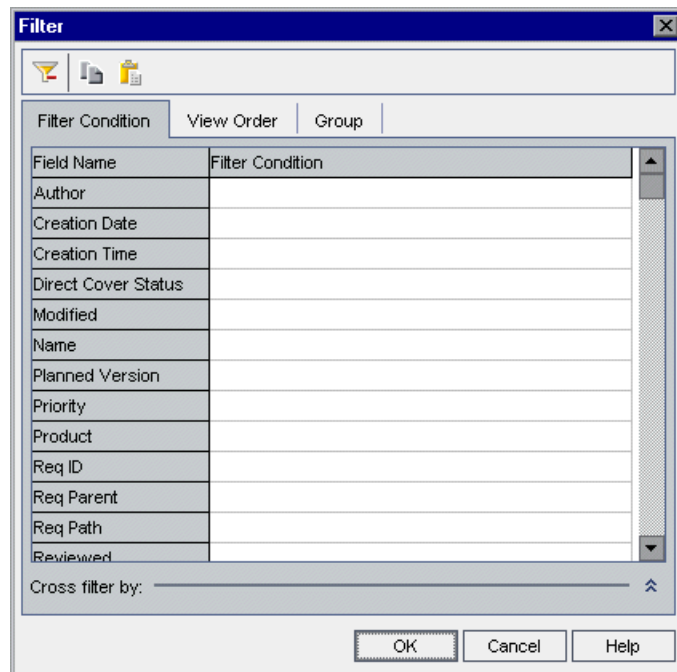
**Quality Center Starter Edition:** Not all fields and functionality are available if you are working with the Starter Edition.

**Tip:** You can save filter and sort information as a favorite view and then load it as needed. To save as a favorite view, choose **Favorites > Add to Favorites**. For more information, see Chapter 6, “Working with Favorite Views”.

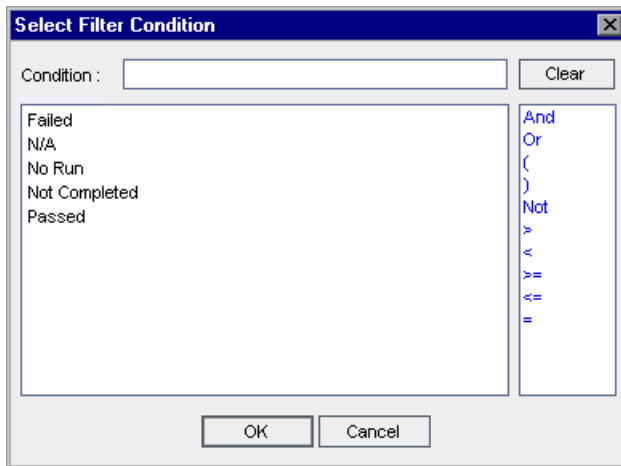
#### To define a filter:



- 1 Click the appropriate **Set Filter/Sort** button. The Filter dialog box opens and displays the Filter Condition tab.



- 2 To define a filter by a requirement type, in the **Requirement Type** box, click the browse button. The Select Filter Condition dialog box opens. Select a requirement type. Click **OK** to close the Select Filter Condition dialog box. The Filter Condition tab displays the relevant field names.
- 3 If you are working in the Requirements module, you can select the **Hide Risk-Based Quality Management Columns** check box to hide the requirement fields related to risk-based quality management. Only fields for which no filter condition is set are hidden. Clear the check box to make the fields visible.
- 4 To go to a field in the Filter Condition tab, click a box in the **Field Name** column and type the first character of the field name. Quality Center highlights the first occurrence.
- 5 To set a filter condition for a field, click the corresponding **Filter Condition** box. Click the browse button. The Select Filter Condition dialog box opens.



---

**Notes:**

- If you select a field with a user name value, the Select Filter Condition dialog box displays a user list that enables you to sort users, search for users, group users by user groups, and select users from the list or from a group tree. For more information, see “Selecting Users” on page 55.
  - In the Requirements module, if you select the **Req Parent** field, the Select Filter Condition dialog box displays the requirements tree, sorted by requirement name. If you select a requirement from the requirements tree, its full path is displayed in the **Condition** box. Only requirements which are descendents of this requirement are displayed when you apply the filter.
- 

- 6 Define the filter condition. If applicable, select items from the list. You can add operators to create a logical expression.

---

**Notes:**

- Some items that appear in hierarchical lists contain sublists. These items are preceded by a folder icon. To choose an item from a sublist, double-click the folder and click the item.
  - When defining a condition for a user, you can specify the current user (select [CurrentUser]), or an entire user group (for example, [Developer]).
  - If you enter an item with more than one word, it must be enclosed in quotes. For example, to search for the test Login Boundary, in the **Condition box**, type the following: "login boundary"
  - If you want to enter only part of the item, use an asterisk (\*). For example, to search for all tests with the word Login, in the Condition box, type the following: \*login\*. To search for all tests that begin with the words Insert New in the Condition box, type the following: "insert new"
  - To specify an empty field, type the following: ""
  - To specify a non-empty field, type the following: not ""
- 

**7** Click **OK** to close the Select Filter Condition dialog box.



**8** To add cross filters, click the **Show Advanced Filter** arrow. For more information, see “Advanced/Cross Filtering Records” on page 61.



**9** To copy the settings, click the **Copy Filter Settings** button. For more information, see “Copying Settings” on page 71.



**10** To clear the settings, click the **Clear Filter** button.

**11** Click **OK** to close the Filter dialog box.

Any filters are applied and the filter description is displayed. For a grid, Quality Center also displays the condition in the grid filter box, which appears under each column name.

To display the grid filter box, choose **View > Grid Filters**. If the filter box is empty, no filter is currently applied to the column. Type directly into the box, or click the box to display the **Browse** button, which opens the Select Filter Condition dialog box.

Filter description

Grid filter box for column **Designer**

Filter: Designer[ michael\_qc ]; Sorted By: Test Name[Asc];

	Test Name	Type	Creation Date	Designer	Status	Reviewer	Priority
				michael_qc			
	Book Flight Page	MANUAL	3/25/2005	michael_qc	Ready	shelly_qc	3-High
	Connect To Site	WR-AUTOMATED	4/18/2005	michael_qc	Ready	shelly_qc	5-Urgent
	Edit Profile Page	MANUAL	3/26/2005	michael_qc	Ready	shelly_qc	3-High
	Find Flight Page	MANUAL	3/25/2005	michael_qc	Ready	shelly_qc	3-High
	Flight Confirmation Page	MANUAL	3/25/2005	michael_qc	Ready	shelly_qc	3-High
	Flight Demo Module	WR-AUTOMATED	4/18/2005	michael_qc	Ready	shelly_qc	3-High
	Forms	MANUAL	3/18/2005	michael_qc	Ready	shelly_qc	3-High
	HTML Page Layout	MANUAL	3/18/2005	michael_qc	Ready	shelly_qc	4-Very High
	HTML Page Source	MANUAL	3/21/2005	michael_qc	Ready	shelly_qc	3-High
	HTML Tag	MANUAL	3/21/2005	michael_qc	Ready	shelly_qc	2-Medium
	Itinerary Page	MANUAL	3/4/2005	michael_qc	Ready	shelly_qc	3-High
	Navigation Bars	MANUAL	3/14/2005	michael_qc	Ready	shelly_qc	3-High
	Profiling	MANUAL	3/4/2005	michael_qc	Ready	shelly_qc	4-Very High
	Registration Page	MANUAL	3/25/2005	michael_qc	Ready	shelly_qc	3-High

## Advanced/Cross Filtering Records

When defining a filter, you can also include a **cross filter**. This is an advanced, second filter on an associated item such as requirements, tests, test sets, or defects. For example, in the test plan tree, you can define the cross filter for associated test sets as “Open”. This ensures that only tests that belong to an open test set are displayed. Alternatively, you can define the associated test set filter to find tests that are not in any test set.

The following table summarizes the cross filters available in each Quality Center module:

Module	Cross Filter
<b>Requirements</b>	<ul style="list-style-type: none"> <li>➤ <b>Tests.</b> Filters the requirements by covered tests.</li> <li>➤ <b>Defects.</b> Filters the requirements by defects that have been directly or indirectly-linked to the requirements.</li> <li>➤ <b>Requirements: Trace from.</b> Filters the requirements by traced from requirements.</li> <li>➤ <b>Requirements: Trace to.</b> Filters the requirements by traced to requirements.</li> <li>➤ <b>Show requirements with alerts.</b> Filters the requirements by alerts that have been triggered.</li> </ul>
<b>Test Plan</b>	<ul style="list-style-type: none"> <li>➤ <b>Requirements.</b> Filters the tests by covered requirements.</li> <li>➤ <b>Test Sets.</b> Filters the tests by test sets that contain the tests.</li> <li>➤ <b>Defects.</b> Filters the tests by defects that have been directly or indirectly-linked to the tests.</li> <li>➤ <b>Show tests with alerts.</b> Filters the tests by alerts that have been triggered.</li> </ul>
<b>Test Lab - Test Sets list</b>	<ul style="list-style-type: none"> <li>➤ <b>Tests.</b> Filters the test sets by contained tests.</li> <li>➤ <b>Defects.</b> Filters the test sets by defects that have been directly or indirectly-linked to the tests.</li> </ul>
<b>Test Lab - Execution Grid</b>	<ul style="list-style-type: none"> <li>➤ <b>Requirements.</b> Filters the test instances by tests that cover selected requirements.</li> <li>➤ <b>Defects.</b> Filters the tests by defects that have been directly or indirectly-linked to the tests.</li> <li>➤ <b>Show test instances with alerts.</b> Filters the test instances by alerts that have been triggered.</li> </ul>
<b>Defects</b>	<ul style="list-style-type: none"> <li>➤ <b>Requirements.</b> Filters the defects by linked requirements.</li> <li>➤ <b>Test Sets.</b> Filters the defects by linked test sets.</li> <li>➤ <b>Tests.</b> Filters the defects by linked tests.</li> <li>➤ <b>Show defects with alerts.</b> Filters the defects by alerts that have been triggered.</li> </ul>
<b>Dashboard - Analysis View</b>	You can define cross filters for requirements, tests, test instances, and defects.


**Notes:**

- Although the cross filter functionality is the same across all Quality Center modules, the interface of the Filter dialog box in the Dashboard module is slightly different than the other modules.
- **Quality Center Starter Edition:** Not all fields and functionality are available if you are working with the Starter Edition.


**To define a cross filter:**

- 1** Click the appropriate **Set Filter/Sort** button. The Filter dialog box opens and displays the Filter tab.

For more information on defining a filter, see “Filtering Records” on page 56.

-  **2** Click the **Show Advanced Filter** arrow to display the cross filter options.

Field Name	Filter Condition
Creation Date	
Designer	
Estimated DevTime	
Execution Status	
Level	
Modified	

Cross filter by: 

☐ Requirements:  ...

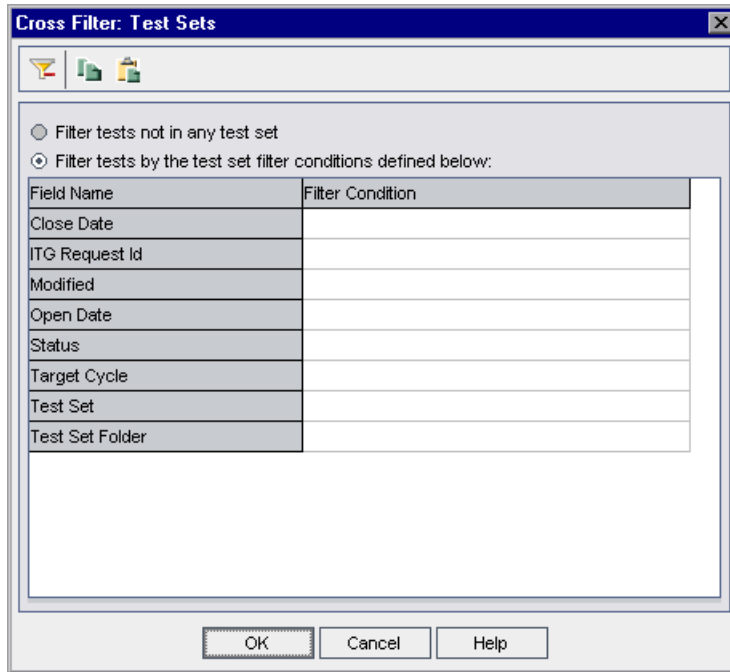
☐ Test Sets:  ...

☐ Defects:  ...

☐ Show Tests with alerts

OK Cancel Help

- 3 Under **Cross filter by**, select a filter check box. For example, select **Test Sets**. The Cross Filter dialog box opens.



In the Test Plan module, the following options are available:

- **Filter tests not in any test set.** Filters tests that are not part of any test set. For example, this can help you identify tests that have not been run. This option is only available in the Cross Filter: Test Sets dialog box.
  - **Filter tests with no requirement coverage.** Filters tests that do not cover any requirements. For example, this can help you identify redundant tests or tests with missing requirement coverage links. This option is only available in the Cross Filter: Requirements dialog box.
- 4 Define the cross filter, using the same rules you would to define a filter. For more information, see “Filtering Records” on page 56.



- 5 To copy the settings, click the **Copy Filter Settings** button. For more information, see “Copying Settings” on page 71.



- 6 To clear the settings, click the **Clear Filter** button.



- 7 Click **OK** to save your changes and close the Cross Filter dialog box. In the Filter dialog box, under **Cross filter by**, the cross filters you defined are displayed.
- 8 Click **OK** to save your changes and close the Filter dialog box.

## Sorting Records

By default, records appear in Quality Center according to the order in which they were added. When you set sorting priorities, records are displayed according to the ASCII sort order. The ASCII sort order considers records beginning with a space or character before considering those beginning with numbers. It then considers uppercase letters and, finally, lowercase letters.

For example, if the **Designer** column in the Test Grid is assigned the highest sort priority, records are sorted in the ASCII sort order according to the names appearing in the Designer column. If **Test Name** is assigned the next highest priority, test records assigned the same name in the **Designer** column are then sorted in the ASCII sort order according to their test name.

---

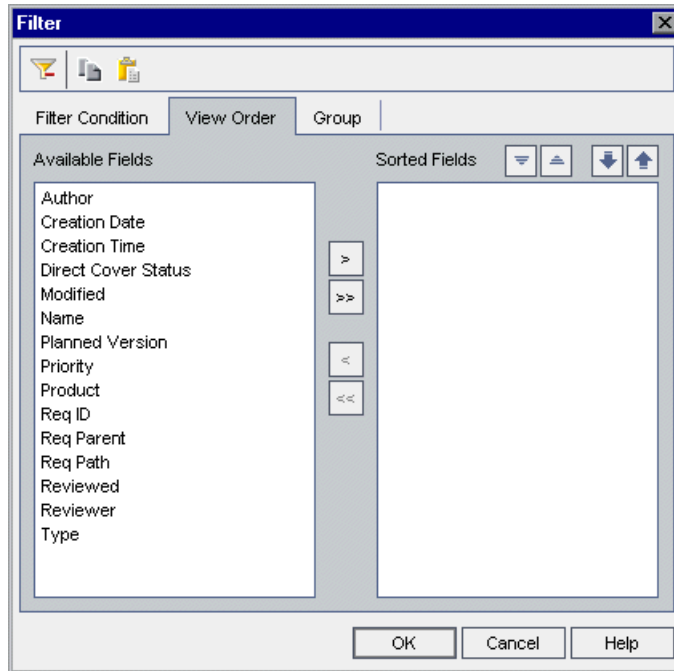
### Notes:

- You can save filter and sort information as a favorite view and then load it as needed. To save as a favorite view, choose **Favorites > Add to Favorites**. For more information, see Chapter 6, “Working with Favorite Views”.
  - **Quality Center Starter Edition:** Not all fields and functionality are available if you are working with the Starter Edition.
-

**To sort records:**



- 1 Click the appropriate **Set Filter/Sort** button. The Filter dialog box opens.
- 2 Click the **View Order** tab.



**Available Fields** contains the names of all the fields you can display.  
**Sorted Fields** contains the names of the fields currently assigned a sorting priority.

- 3 If you are working in the Requirements module, select a requirement type from the **Requirement Type** list. The View Order tab displays the relevant field names.
- 4 If you are working in the Requirements module, you can select the **Hide Risk-Based Quality Management Columns** check box to hide the requirement fields related to risk-based quality management from the **Available Fields** list. Clear the check box to make the fields visible.

- 5 Select field names and click the arrow buttons (> and <) to move a name between **Available Fields** and **Sorted Fields**. Click the double arrow buttons (>> and <<) to move all the names from one list to the other. You can also drag the field names between lists or double-click a column name to move a column between lists.



- 6 In **Sorted Fields**, select a field and use the **Sort Ascending** and **Sort Descending** buttons to sort the field in an ascending or descending order.



- 7 In **Sorted Fields**, select a field and use the **Move Field Up** and **Move Field Down** buttons to set the sort priority. You can also drag the field names up or down.



- 8 To copy the settings, click the **Copy Filter Settings** button. For more information, see “Copying Settings” on page 71.



- 9 To clear the settings, click the **Clear Filter** button.

- 10 Click **OK** to apply the sort order.

## Grouping Grid Records

When working with Quality Center grids, you can separate data into groups according to specified criteria. You can determine the information by which Quality Center groups records, and set the hierarchical order in which they are displayed (up to three levels). This enables you to navigate through large sets of data more easily.

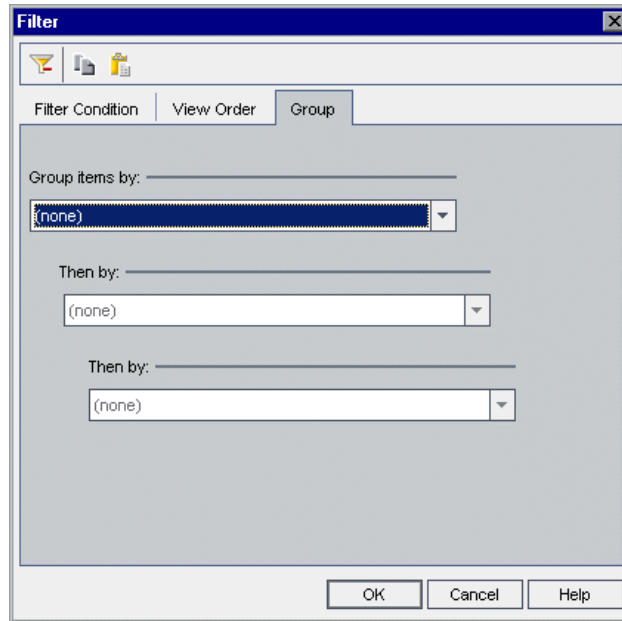
For example, in the Defects Grid if you select the **Assigned To** column as the highest group by priority, records are grouped according to the names appearing in the **Assigned To** column. If you select **Status** and **Severity** as the next highest priorities respectively, test defects assigned the same name in the **Assigned To** column are next grouped according to their status, and then their severity.

**Notes:**

- You cannot select a group header and perform Quality Center actions on an entire group. To perform actions on multiple records, use CTRL or SHIFT to select records.
  - If you group records by a field containing multiple values, the information in each value is grouped as its entire value. This value is the category for grouping. For example, a value with English and French will be grouped once as English;French, and not as part of separate English and French categories. For more information on allowing multiple values, refer to the *HP Quality Center Administrator Guide*.
  - The group by list displays only system and user-defined fields associated with a User List or Lookup List type field. For more information on field types, refer to the *HP Quality Center Administrator Guide*.
  - **Quality Center Starter Edition:** Not all fields and functionality are available if you are working with the Starter Edition.
-

**To group grid records:**

- 1** Click the appropriate **Set Filter/Sort** button. The Filter dialog box opens.
- 2** Click the **Group** tab.



- 3** If you are working in the Requirements module, select a requirement type from the **Requirement Type** list. The Group tab displays the relevant field names.

If you are working in the Requirements module, you can select the **Hide Risk-Based Quality Management Columns** check box to hide the requirement fields related to risk-based quality management. Clear the check box to make the fields visible.

- 4** Click the **Group items by** arrow. Choose the field by which you want to group records.
- 5** To group records by additional fields, click the **Then by** arrow and choose the field by which you want to group records. If you group records by more than one field, select fields in the hierarchical order that you want them to be displayed. You cannot select a field that has already been selected.

- 6 To remove a group level, change the level to **(none)**. If you change a parent group level to **(none)**, its child group levels automatically change to **(none)**.

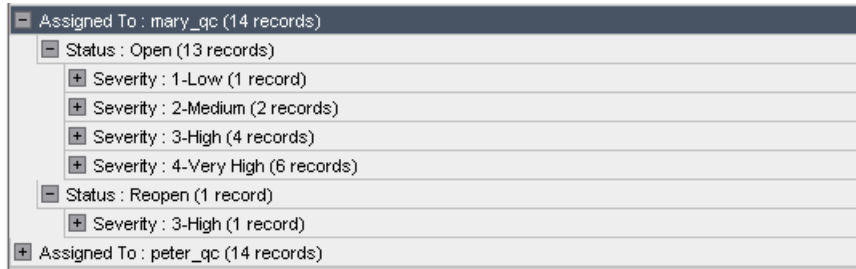


- 7 To copy the settings, click the **Copy Filter Settings** button. For more information, see “Copying Settings” on page 71.



- 8 To clear the settings, click the **Clear Filter** button.
- 9 Click **OK** to close the Filter dialog box.

The grid records are grouped by the group by settings.



## Updating Multiple Records

You can update a field value for multiple records in a grid or a tree. This option is available in the following Quality Center modules: Requirements, Test Plan (grid only), and Defects.

**To update multiple records:**

- 1 Select the records using the CTRL or SHIFT key.
- 2 Choose **Edit > Update Selected**. The Update Selected dialog box opens.
- 3 In the **Update in Field** box, select a field.
- 4 In the **Value** box, type a replacement value.
- 5 Click **Update**. An information box opens, showing the number of values that were updated, and the number of instances where the values were not updated. Click **OK**.
- 6 Click **Close** to close the Update Selected dialog box.

## Copying Settings

You can copy and paste the filter, sort, and group by settings to and from the Clipboard. You can copy the settings and paste them to another project. You can also share the settings with another user by pasting them to an email or a text file.

**To copy settings:**



**1** Click the appropriate **Set Filter/Sort** button. The Filter dialog box opens.



**2** Click the **Copy Filter Settings** button. The settings are copied to the Clipboard.



**3** To paste to another project, log in to the project to which you want to paste the settings, display the appropriate module, and open the Filter dialog box. Click the **Paste Filter Settings** button. Click **OK**.

To paste to an email or a text file, click the paste button.

## Refreshing and Clearing Settings

You can refresh and clear the filter, sort, and group by settings applied to Quality Center data.



➤ To refresh the data in a grid or tree, click the **Refresh All** button.



➤ To clear all the filters and sorting priorities in a grid or tree, click the **Set Filter/Sort** arrow and choose **Clear Filter/Sort**.

## Searching Records

You can use text search to search for records in predefined fields of the Requirements, Test Plan, and Defects modules. The searchable text fields are predefined by the project administrator in Project Customization. For more information on defining searchable fields, refer to the *HP Quality Center Administrator Guide*.

When you enter a keyword, Quality Center searches the predefined fields for the keyword or variations of the keyword. For example, if you type **log**, the search will find fields containing **log**, **logs**, **logging**, and **logged**. The search will not find **login** or **logical** because these are not variations of the word. For more information on search details, see “Search Considerations” on page 73.

If you have defined filter conditions for a module, you can restrict the search to the filtered records, or you can search all records in the module (this saves you having to clear the current filter and redefine it again). If you have a folder selected in the module, the search is still performed on all the records in the module, subject to the filtering option that you selected.

Quality Center displays the search results in a list, sorted in order of relevance. You can view search results, and display record details. You can customize the data by determining which columns are displayed and the order in which they appear.

---

### Notes:

- **Version Control:** Quality Center searches only checked in versions.
  - Text search is only available if it has been enabled for the project. Contact your Quality Center site administrator if the search option is unavailable.
  - **Quality Center Starter Edition:** Text search is not available.
-



## Search Considerations

When you use text search, you should consider the following:

- The search ignores the following: articles (a, an, the); coordinate conjunctions (and, but, for, nor, or); boolean operators (and, or, not, if, or, then).
- If you enter more than one search word, the results will include all records that contain at least one of the search words.
- The letter case does not affect the results.
- The search ranks the results and displays them in order of relevance.

### To search records:



- 1** Click the **Text Search** button or choose **Edit > Text Search**. The text search pane opens in the lower part of the window.

Search for: <input type="text"/>		<input checked="" type="checkbox"/> Restrict to current filter	Search				
Defect ID	Status	Priority	Summary				

- 2** In the **Search for** box, type the words you want to find. If you are working in the Test Plan module: In the **In** box, select **Tests** or **Design Steps**.
- 3** To search all records in the module, clear the **Restrict to current filter** check box.
- 4** Click **Search**. Quality Center performs the text search on the predefined fields and displays the search results in order of relevance.



- 5** To change the column appearance and order, click the **Select Columns** button. The Select Columns dialog box opens. For more information, see “Arranging Columns” on page 52.



- 6 To view the list of predefined search fields set in Project Customization, click the **Searchable Fields Information** button. The list of predefined search fields is displayed. Click **OK** to close the searchable fields list.



- 7 To display record details, select a record and click the record **ID** or **Name** link. Alternatively, select the record and click the **Go to Entity** button.

---

**Note:** In Quality Center tree views, the record details only display if the record matches the current filter. To display details for records that do not match this filter, change or clear the filter.

---

## Exporting Data to a File

You can export the data in a grid as a text file, Microsoft Excel worksheet, Microsoft Word document, or HTML document.

### To export data to a file:

- 1 You can export all grid data or selected records:
  - To export all grid data, right-click the grid and choose **Export > All**. The Export All Grid Data dialog box opens.
  - To export selected records in the grid, select the records using the **Ctrl** or **Shift** key. Right-click the grid and choose **Export > Selected**. The Export Selected Grid Data dialog box opens.
- 2 In the **Save in** box, choose a location for the file.
- 3 In the **File name** box, type a name for the file.
- 4 In the **Save as type** box, select a file type.
- 5 Click **Save**.

# 4

---

## Alerting on Changes


You can instruct Quality Center to create alerts automatically and send email to notify those responsible when changes occur in your project that may impact the application management process. You can also add your own follow up alerts.


### **This chapter includes:**

- About Alerting Changes on page 75
- Understanding Alerts on page 76
- Viewing Alerts on page 80
- Clearing Alerts on page 81
- Flagging for Follow Up on page 82

### **About Alerting Changes**

You can keep track of changes to your requirements, tests, and defects as you perform project testing. There are two alerting functions available in Quality Center:

- **Automatic notification alerts.** Your Quality Center project administrator can activate alert rules. The rules are based on associations you make in Quality Center between requirements, tests, and defects. When an entity in your project changes, Quality Center alerts  any associated entities that may be impacted by the change. The alerts can be seen by all users. Quality Center also notifies the person responsible for the entity at the time of the change of any associated entities that may be impacted by the change. For more information, see “Understanding Alerts” on page 76 and “Viewing Alerts” on page 80.

- **Follow up alerts.** You can add a follow up flag  to a specific requirement, test, test instance, or defect to remind yourself to follow up on an issue. When the follow up date arrives, Quality Center sends you email. For more information, see “Flagging for Follow Up” on page 82.

## Understanding Alerts

When a requirement, test, or defect changes, Quality Center alerts the associated entities and can notify those responsible for any associated entities. The alert rules in Quality Center are based on the following associations you can create:

- You can associate a test in the test plan tree with a requirement. This is accomplished by creating **requirements coverage** in the Test Plan module, or by creating **tests coverage** in the Requirements module. For more information, see Chapter 19, “Requirement and Test Coverage.”
- You can associate a test instance with a defect. This is performed by creating **Linked Defects** in the Test Plan module, or by adding a defect during a manual test run. For more information, see Chapter 36, “Linking Defects.”
- You can create **traceability links** between requirements in the Requirements module. For more information, see Chapter 14, “Tracing Requirements.”

After you establish associations in your project, you can track changes using these associations. When an entity in your project changes, Quality Center alerts any associated entities that may be impacted by the change. The alerts can be seen by all users. Quality Center also notifies the person responsible for the entity at the time of the change of any associated entities that may be impacted by the change.

**Version Control:** Quality Center alerts associated entities only when a new version is checked in. The alert indicates that the version status has changed to **Checked In**. You can then compare the new version with the previous version. For more information on comparing versions, see “Viewing Version History” on page 109.

Your Quality Center project administrator can activate four alert rules:

Rule	Description	Entities Flagged	User Notified by Email
1	When a requirement is modified, alert the associated tests.  <b>Note:</b> A change to the requirement can be any modification, excluding changes to the <b>Direct Cover Status</b> field and the risk-based quality management fields.	Tests covering the requirement.	Test designer.
2	When a defect status changes to “Fixed”, alert the associated test instances.	Test instances associated with the defect.	Responsible tester for the test instance.
3	When a test runs successfully (status changes to “Passed”), alert the linked defects.	Defects linked to the test run.	User assigned the defect.
4	When a requirement is modified or deleted, alert traced to requirements and child requirements.	The requirement’s child requirements and traced to requirements.	Author of the requirement.

For more information on activating alert rules in Project Customization, refer to the *HP Quality Center Administrator Guide*.

## Alert Example

Suppose you are using the **QualityCenter\_Demo** project based on the Mercury Tours application. In Project Customization, your project administrator activates the first rule: **When a requirement is modified, alert the associated tests**. The project administrator also specifies that notifications be sent by email.

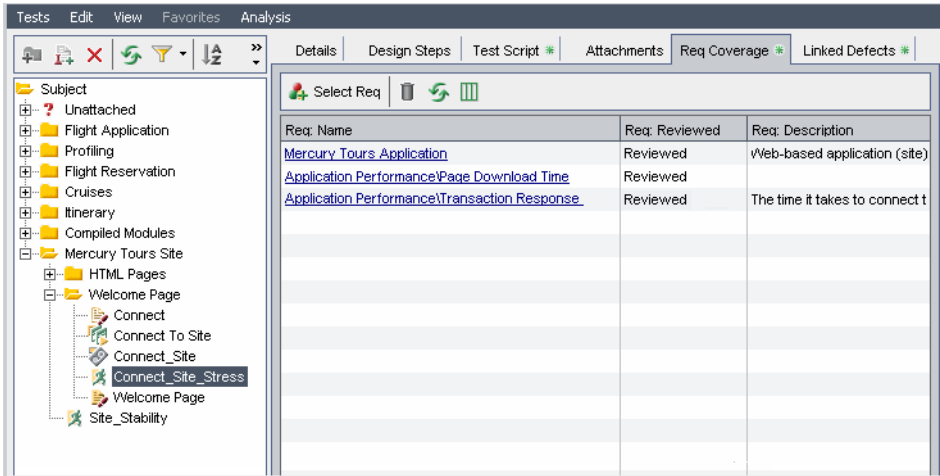
In the Requirements module, your QA manager defines the requirement **Page Download Time** (under **Application Performance**).

In the Test Plan module, the QA manager then defines a new test **Connect\_Site\_Stress** for this requirement (under **Mercury Tours Site > Welcome Page**). In the **Details** tab, the project administrator assigns the new test to designer Cecil.

The screenshot displays the 'Details' tab of a test plan in Quality Center. On the left is a tree view of the project structure, with 'Connect\_Site\_Stress' selected under 'Mercury Tours Site' > 'Welcome Page'. The main panel shows the following information:

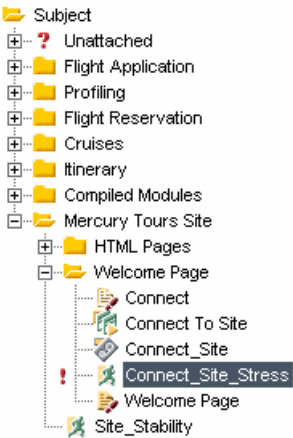
- \* Test Name:** Connect\_Site\_Stress
- Creation Date:** 4/23/2005
- Designer:** cecil\_qc
- Status:** Ready
- Description:**
  - Summary:** The test verifies the connection to the Mercury Tours site under stress.
  - Scripts:** Connect\_Site (50 Virtual Users)
  - Scenario Configuration:**
    - Iterations:** 100 iterations, each iteration starts as soon as previous iteration ends
    - Think Time:** No think time
    - Bandwidth Settings:** Scenario configured to use maximum bandwidth
- \* Level:** Advanced
- \* Priority:** 5-Urgent
- \* Reviewed:** Reviewed
- Reviewer:** shelly\_qc

In the **Req Coverage** tab, the QA Manager links the **Connect\_Site\_Stress** test to the **Page Download Time** requirement.



A QA tester, Mike, reviews the requirement **Page Download Time** and decides that 10 seconds to download the page is too long. He changes the requirement description to 7 seconds. As a result, Cecil now needs to adjust his test **Connect\_Site\_Stress** so that it meets the changed requirements.

With the rule activated, Mike’s change to the requirement causes Quality Center to flag the associated test. This alert can be seen by Cecil, the designer responsible for the test, and all other project users.



When clicking the Alerts flag, the Alerts dialog box opens and displays the details of the change. For more information, see “Viewing Alerts” on page 80.

In addition, Cecil (being the test’s designer) receives an automatic Quality Center notification email message that describes the change Mike made to the **Page Download Time** requirement and recommends that Cecil check the associated test, **Connect\_Site\_Stress**. Cecil clicks a link to open Quality Center and display the specified requirement or test.

## Viewing Alerts

You can view a list of alerts for a selected entity. The entity can be one of the following:

- a requirement in a Requirements module view
- a test in the test plan tree or Test Grid
- a test instance in the Execution Grid
- a defect in the Defects Grid or Defect Details dialog box


---

**Note:** You can also view a list of all alerts for a selected module by selecting the **Show <entity> with alerts** option in the Filter dialog box. For more information, see “Advanced/Cross Filtering Records” on page 61.

---

For more information on how Quality Center creates alerts, see “Understanding Alerts” on page 76.

### To view alerts:

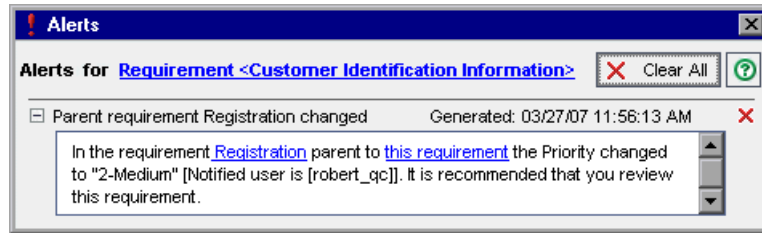
- 1 Select an entity with an alert as follows:
  - In the main module, click the **Alerts** flag  in the Alerts column of the tree or grid. If this column is not visible, choose **View > Indicator Columns**. Alternatively, choose **Edit > Alerts**.
  - In the Defect Details dialog boxes, click the **Alerts** button.





A red flag indicates that the alert is new. A gray flag indicates that the alert has already been read.

The Alerts dialog box opens.



Quality Center displays the selected entity and lists the alerts. You can click a link in the dialog box to highlight the item in Quality Center.



- 2 You can click the **Delete Alert** button to delete a specific alert, or click **Clear All** to delete all alerts for the entity. Click **Yes** to confirm. Note that you can only clear alerts that are assigned to you, or that are not assigned to any user. The user to which an alert is assigned is the user that is sent email notification when the alert is triggered. For a list of alerts, and the users that are sent email notification, see “Understanding Alerts” on page 76.

- 3 Close the Alerts dialog box.

## Clearing Alerts

You can clear an individual alert or all alerts for a selected entity from the Alerts dialog box. For more information on the Alerts dialog box, see “Viewing Alerts” on page 80.

In addition, you can clear all the alerts associated with all the entities in a Quality Center module. If you choose this option, only alerts associated with entities that match the current filter are cleared. In addition, you can only clear alerts that are assigned to you, or that are not assigned to any user. The user to which an alert is assigned is the user that is sent email notification when the alert is triggered. This user is listed in the Alerts dialog box for the alert. For a list of alerts, and the users that are sent email notification, see “Understanding Alerts” on page 76.

**To clear all the alerts for a module:**


- 1** If you are working in the Requirement, Test Plan, or Defects module, choose **Edit > Clear Alerts**. If you are working in the Test Lab module, choose **Tests > Clear Alerts**.
- 2** Click **Yes** to confirm. The alerts are cleared.

## Flagging for Follow Up

Quality Center enables you to add your own alerts, in addition to automatic traceability notifications. You can use **follow up flags** to remind yourself to follow up on something. For example, you can set a follow up flag on a defect to remind yourself to check the status in a week.

You can set follow up flags for:

- a requirement in a Requirements module view
- a test in the test plan tree or Test Grid
- a test instance in the Execution Grid
- a defect in the Defects Grid or Defect Details dialog box

When you add a flag, Quality Center adds a gray flag icon  to the record. You can open the follow up alert at any time to view the details. When the follow up date arrives, Quality Center sends you email and changes the flag icon to red.

Quality Center also displays an information bar for a follow up alert. This appears in the right pane of the test plan tree for a test follow up, in the Test Instance Properties dialog box for a test instance follow up, and in the Defect Details dialog box for a defect follow up.

---

**Note:** A follow up flag is specific to your user login name. Anyone else viewing the record does not see your follow up alert.

---


You can create new follow up alerts, or view and modify existing alerts.

## Creating Follow Up Alerts

You can create a follow up alert for a requirement, test, test instance, or defect.

**To create a follow up alert:**




- 1** Select the record you want to flag for follow up. Click the **Flag for Follow Up** button, or right-click the record and choose **Flag for Follow Up**. The Flag For Follow Up dialog box opens.
- 2** In **Follow up by**, select the date you want Quality Center to send the follow up email.
- 3** In **Description**, type the reminder you want to display.
- 4** Click **OK**. Quality Center saves the follow up alert and adds the flag icon  to the record.

## Modifying Follow Up Alerts

You can open a follow up alert you created for a record. You can view and modify the details, or delete the follow up.

**To modify a follow up alert:**

- 1** Click the flag icon  in the Follow Up Flag column for the flagged record in the tree or grid. If this column is not visible, choose **View > Indicator Columns**. The Flag For Follow Up dialog box opens.
- 2** To modify the alert, change the **Follow up by** date or **Description**. Click **OK** to close the dialog box.
- 3** To remove the follow up flag, click the **Clear Flag** button. Click **Yes** to confirm and close the dialog box.



# 5

---


## Adding Attachments

You can add an attachment to a Quality Center record.

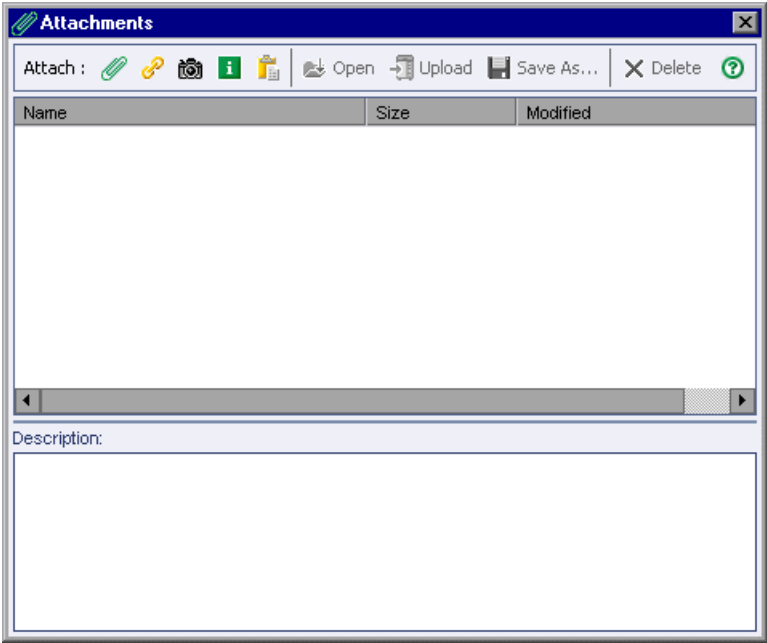
**This chapter includes:**

- About Adding Attachments on page 86
- Attaching a File on page 87
- Attaching a URL on page 87
- Attaching a Snapshot on page 88
- Attaching System Information on page 89
- Attaching Items from the Clipboard on page 90
- Managing Attachments on page 90

# About Adding Attachments

Throughout the application management process, you can add attachments to help illustrate your work. You can attach a file, URL, snapshot of your application, items from the Clipboard, or system information. When you add an attachment to a record, Quality Center adds the  icon to the record.

You manage attachments using the Attachments tab or dialog box.



## Attaching a File

You can attach a file to a Quality Center record.

**To attach a file:**



- 1** In the Attachments dialog box, click the **File** button. The Open dialog box opens.
- 2** Choose a file name and click **Open**. Alternatively, double-click a file name.  
The file name appears in the Attachments list, together with the size and date modified. An icon for the application associated with the file appears next to the file name.
- 3** In the **Description** box, add any comments related to the attached file.

## Attaching a URL

You can attach a Uniform Resource Locator (URL) to a Quality Center record. This can be any valid URL scheme such as HTTP, FTP, Gopher, News, Mailto, or File.

**To attach a URL:**



- 1** In the Attachments dialog box, click the **URL** button. The Attach Uniform Resource Locator (URL) dialog box opens.
- 2** In the **URL** box, type a valid URL and click **OK**.  
The URL appears in the Attachments list. An icon for your default Web browser appears next to the URL.
- 3** In the **Description** box, add any comments related to the attached URL.

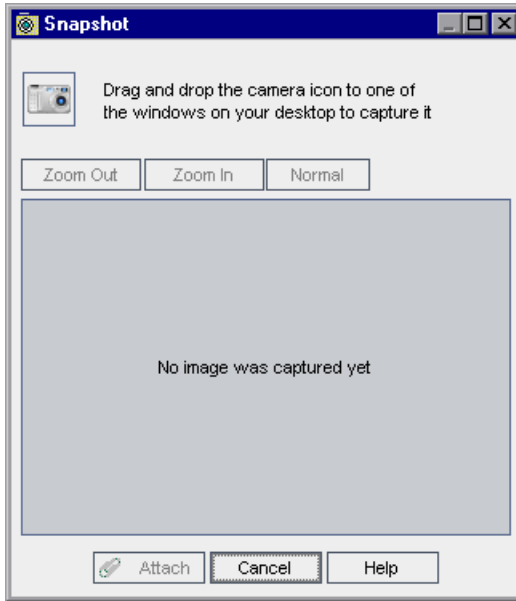
## Attaching a Snapshot

You can attach images of your application to a Quality Center record.

**To attach a snapshot:**



- 1 In the Attachments dialog box, click the **Snapshot** button. The Snapshot dialog box opens.



- 2 Drag the **camera** icon onto an object that you want to capture. The captured image is displayed in the Snapshot dialog box.
- 3 You can change the magnification level of the captured image.
  - Click **Zoom Out** or **Zoom In** to reach the desired magnification level.
  - Click **Normal** to return to the standard level.
- 4 Click **Attach**.

Quality Center assigns the image a unique file name with a **.jpg** extension. The file name appears in the Attachments list, with an image icon next to it. The size of the file and the date on which it was modified are also displayed.

- 5 In the **Description** box, add any comments related to the attached snapshot.



## Attaching System Information

You can attach information about your machine to a Quality Center record.

**To attach system information:**



- 1 In the Attachments dialog box, click the **System Info** button. The System Information dialog box opens.

**System Information**

Network | Devices | Printers | Engines | Drives  
Time Zone | Processes | Startup | Software  
Machine | Windows NT | CPU | Memory | Display | APM | Media

**Identification**

Machine name: DOORS  
User name: PAT

**BIOS information**

Name: AT/AT COMPATIBLE  
Copyright: Award Modular BIOS v6.0  
Date: 05/01/03  
Extended info:

**Boot information**

Last boot: 12/13/2005 9:11:27 AM  
System Up time: 6 Hours, 23 Minutes, 17 Seconds.

Num Lock | Caps Lock | Scroll Lock

Attach: Current Topic | All Topics | Refresh | OK

- 2 To attach information from a single tab, click a tab and click the **Current Topic** button.

- 3 To attach information from all tabs, click **All Topics**.

The information is assigned a unique file name with a **.tsi** extension. The file name appears in the Attachments list, with an icon next to it. The size of the file and the date on which it was modified are also displayed.

- 4 In the **Description** box, add any comments related to the attached text file.

## Attaching Items from the Clipboard

You can attach text and images that you copied to the Clipboard to a Quality Center record.

**To attach an item from the Clipboard:**

- 1 Copy a text string or an image to the Clipboard.
- 2 In the Attachments dialog box, click the **Clipboard** button.



A text string is assigned a unique file name with a **.txt** extension. An image is assigned a unique file name with a **.jpg** extension. The attached file appears in the Attachments list, with an icon next to it. The size of the file and the date on which it was modified are also displayed.

## Managing Attachments

You can view, modify, save, and delete an attachment in the Attachments dialog box or tab.

### Viewing Attachments

You can view an attachment in the Attachments list.

**To view an attachment:**

- 1 In the **Attachments** list, select an attachment. The corresponding description is displayed in the Description box.
- 2 Double-click the attachment, or click the **Download and Open** button. The attachment opens in the application associated with it. For example, a URL opens in your default Web browser.



## Modifying Attachments

You can modify an attachment in the Attachments list. When you open an attachment in the associated application, Quality Center downloads the attachment to a local directory on your client machine. After making changes, you must save the attachment twice. First, save it locally in the application in which you opened it. Then, in Quality Center, click the **Upload Selected** button to save the local copy of the attachment to your Quality Center project.

### To modify an attachment:

- 1 Double-click an attachment in the **Attachments** list. A local copy of the attachment opens in the application associated with it.
- 2 Modify the attachment.
- 3 Save the attachment in the application. This saves the local copy of your attachment.
- 4 Close the attachment.
- 5 In Quality Center, click the **Upload Selected** button in the Attachments dialog box. This saves the local copy to the Quality Center project.

## Saving Attachments

You can save an attachment to the local directory of your client machine.

### To save an attachment:

- 1 In the **Attachments** list, select an attachment and click the **Save As** button. The Save Attachment dialog box opens.
- 2 In the **Save in** box, choose a location for the file.
- 3 In the **File name** box, type a name for the file.
- 4 Click **Save**. The attachment is downloaded and saved to a local directory on your client machine.

## Deleting Attachments

You can delete an attachment from the Attachments list.

**To delete an attachment:**

- 1** In the **Attachments** list, select the attachment to delete. To select more than one attachment, use the CTRL key.
- 2** Click the **Delete Selected** button and click **Yes** to confirm.

# 6

---

## Working with Favorite Views

A **favorite view** is a view of a Quality Center window with the settings you apply to it. You can save your favorite views and reload them in the future.

### **This chapter includes:**

- About Working with Favorite Views on page 93
- Adding Favorite Views on page 94
- Loading Favorite Views on page 95
- Updating Favorite Views on page 95
- Organizing Favorite Views on page 96

### **About Working with Favorite Views**

You determine the way a Quality Center window looks by selecting certain settings for it. For example, these settings may include applying a filter to grid columns, or sorting fields in a grid. You can save a favorite view for future use and then load it as necessary.

You save favorite views in either a public folder or a private folder. Views in a **public** folder are accessible to all users. Views in a **private** folder are accessible only to the user who created them.

Some favorite view commands are accessible only to certain user groups. For more information on user group privileges, refer to the *HP Quality Center Administrator Guide*.

---

**Note:** Working with favorite views is different from the description in this chapter for Document Generator.

In the Document Generator, click the **Add to Favorites** button to add a new view and the **Favorites** button to organize your views.

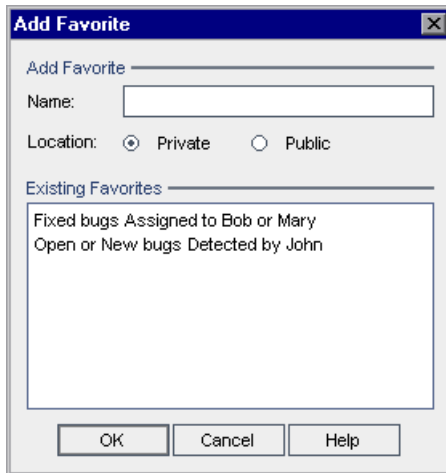
---

## Adding Favorite Views

You can add a view to your private folder or to the public folder.

**To add a favorite view:**

- 1 Choose **Favorites > Add to Favorites**. The Add Favorite dialog box opens.



- 2 In the **Name** box, type a name for the view.
- 3 In **Location:**
  - Select **Private** to add the view to your private folder. Favorite views in this folder can only be accessed by you.
  - Select **Public** to add the view to the common folder. Favorite views in this folder can be accessed by all users of the project.

The favorite views that already exist in the folder you selected are displayed under **Existing Favorites**.

- 4 Click **OK**. The new view is added to your private folder or to the public folder.

## Loading Favorite Views

You can load an existing favorite view in a Quality Center window.

**To load a favorite view:**

- To load a recently used favorite view, open the **Favorites** menu and choose a view.

---

**Note:** By default, Quality Center displays the four most recently used views on the **Favorites** menu. You can define the number of views displayed on the menu by setting the **FAVORITES\_DEPTH** parameter in the Site Configuration tab in Site Administration. For more information, refer to the *HP Quality Center Administrator Guide*.

---

- To load a favorite view, choose **Favorites > Private** or **Favorites > Public** and choose a view.

Alternatively, on the module toolbar, select a view from the **Favorite** bar. By default, the Favorite bar is not displayed. To display it, choose **View > Favorite Bar**. The Favorite bar is available from Quality Center grid views only.

## Updating Favorite Views

You can update the settings of an existing favorite view.

**To update a favorite view:**

- 1 Load a favorite view from the **Favorites** menu. For more information, see “Loading Favorite Views” on page 95.

- 2 Make changes to the view.
- 3 Choose **Favorites > Add to Favorites**. The Add Favorite dialog box opens.
- 4 Under **Existing Favorites**, select the view name and click **OK**.
- 5 Click **Yes** to overwrite the previous settings.

## Organizing Favorite Views

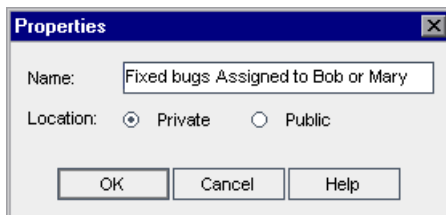
You can organize the list of favorite views in the private and public folders by changing the properties of a view and by deleting views.

**To organize favorite views:**

- 1 Choose **Favorites > Organize Favorites**. The Organize Favorites dialog box opens.



- 2 To change properties, select a view from the list and click **Properties**. The Properties dialog box opens.





- 3** In the **Name** box, type a new name for the view.
- 4** Under **Location**:
  - Select **Private** to add the view name to your private folder. It can only be accessed by you.
  - Select **Public** to add the view name to a common folder. It can be accessed by all users.
- 5** Click **OK** to save the properties. Click **Yes** to confirm.
- 6** To delete a favorite view, select it from the list and click **Delete**. Click **OK** to confirm.
- 7** Click **Close** to close the Organize Favorites dialog box.



# 7

---

## Working with Version Control

Version control enables you to keep track of changes made to entities in your project, including requirements, tests, test resources, and business components.

### **This chapter includes:**

- About Working with Version Control on page 99
- Version Control Overview on page 100
- Checking Out Entities on page 104
- Checking In Entities on page 106
- Undoing Check Outs on page 107
- Viewing Checked Out Entities on page 108
- Viewing Version History on page 109
- Filtering Version Control Fields on page 112

### **About Working with Version Control**

In a version control enabled project, you can create and manage Quality Center entities while maintaining previous versions of those entities. This includes requirements, tests, test resources, and business components. For more information on working with business components in a version control enabled project, refer to the *HP Business Process Testing User Guide*.

You check out an entity to make changes. Then you check in the entity to store the changes, and make the new version of the entity available to other users. You can view and compare previous versions of an entity, or check out a previous version.

For information on enabling version control for a project, refer to the *HP Quality Center Administrator Guide*.

## Version Control Overview

To make changes to an entity in a version control enabled project, you must first check out the entity. When you check out an entity, Quality Center locks the entity, preventing other users from overwriting any changes you make. The checked out version of the entity is not visible to other users. For more information, see “Checking Out Entities” on page 104.

When you finish making changes, you check in the entity. The new version of the entity is then available to the other users. For more information, see “Checking In Entities” on page 106.

The default version number for a new entity is 1. Prior to Quality Center 10.00, version numbers consisted of three segments separated by periods, such as 1.7.4. From Quality Center 10.00, version numbers consist of a single segment, such as 12. When an entity is checked in, the version number is increased by one.

When an entity is checked out, you can undo the checkout to cancel your changes. For more information, see “Undoing Check Outs” on page 107.



You can view all previous versions of an entity, or check out an earlier version. You can also compare two versions of an entity to view the changes between versions. For more information on viewing previous versions of an entity, see “Viewing Version History” on page 109.

---

**Note:** To maintain usability and data integrity, Quality Center stores previous versions of an entity without most data related to relationships between entities. The following data is not stored for previous versions: requirements and tests coverage, requirements traceability, and defect linkage. In addition, risk data is also not stored for previous versions of an entity.

---

You can view the list of all entities that you have checked out in your project. For more information, see “Viewing Checked Out Entities” on page 108.

You can create and manage entities in a version control enabled project in both tree and grid views. In the tree view, an entity checked out by the current user is displayed with an open green lock icon . An entity checked out by another user is displayed with a red lock icon . Grid views contain additional version control fields, such as **Version Status**, indicating whether the entity is checked in or checked out.

The following table provides additional information about working with version control in the Quality Center modules.

Module	Creating a New Entity	Version Control Fields
<b>Requirements</b>	When you create a new requirement, Quality Center automatically checks out the requirement.	The Requirements module contains additional version control fields. For more information, see “The Requirement Fields” on page 171.
<b>Test Plan</b>	When you create a new test, you have the option to immediately check out the test. For more information, see “Adding Tests to a Test Plan Tree” on page 266.	The Test Plan module contains additional version control fields. For more information, see “Test Grid Columns” on page 260.
<b>Test Resources</b>	When you create a new test resource, Quality Center automatically checks out the resource.	The Test Resources module contains additional version control fields. For more information, see “Updating Details of Resources and Folders” on page 344.
<b>Test Lab</b>	N/A	In the Test Instance Properties dialog box, the <b>Run VC Version</b> field indicates the version number of the test. The following fields are not in use in this version of Quality Center: <b>Run VC Status</b> and <b>Run VC User</b> .

You can define filters based on version control fields. For more information, see “Filtering Version Control Fields” on page 112.

The Requirements, Test Plan, and Test Resources module toolbars display the following additional buttons for checking in and checking out entities:



- **Check Out.** Opens the Check Out dialog box, enabling you to check out the selected entity.



- **Check In.** Opens the Check In dialog box, enabling you to check in the selected entity.

### Non-versioned Fields

Changes to the following fields are not stored under version control:

- Requirement fields: **Reviewed**, **Direct Cover Status**, **Target Release**, **Target Cycle**, and all **RBQM** fields.
- Test fields: **Execution Status**.

Consider the following when working with non-versioned fields in a version control enabled project:

- When you undo a checkout, any changes you made to non-versioned fields while the entity was checked out are not cancelled and the new values remain.
- When you check out a previous version, the value of a non-versioned field is the value in the currently checked in version.
- When you view and compare previous versions of an entity, non-versioned fields are displayed with the value **Non-versioned Field**.

### Version Control Examples

The following examples demonstrate how you can use version control.

- **Monitor changes and compare versions.**

The product manager finds that product development is being implemented differently than he had expected. He reviews the requirements for the product and discovers that some have changed. He compares the current requirements with the versions of the requirements that were agreed upon at the start of the release.

► **Restore an earlier version.**

A QA tester receives a new build of the banking application currently being developed. She starts to update the relevant tests to meet the needs of the new release. Then the development team sends out notification of a significant problem with the build. Development rolls back to the previous build. The tester decides to check out and revert back to the versions of tests that were used for the previous build and continue testing from there.

► **Lock entities for editing.**

A business analyst wants to update certain functionality for an application. To do this, he needs to update a set of requirements. He requires several days to update the requirements, and doesn't want anyone else to make any changes to the requirements while he is editing them. He checks out the relevant requirements, and starts to edit.

## Checking Out Entities

You check out an entity in a version control enabled project to make changes to the entity. When you check out an entity, Quality Center locks the entity, preventing other users from overwriting any changes you make. The checked out version of the entity is not visible to other users.

You can check out an entity in the following ways:

- Checking Out Entities Automatically
- Checking Out Entities Manually

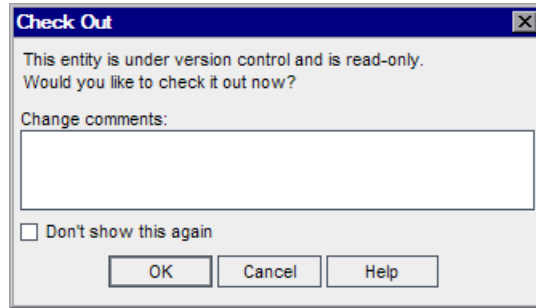


## Checking Out Entities Automatically

When you start to make changes to an entity in a version control enabled project, Quality Center initiates an automatic check out of the entity.


**To check out an entity automatically:**

- 1 Select an entity and start to edit. The Check Out dialog box opens.



- 2 In the **Change Comments** box, type a brief description of the reason for the checkout.
- 3 Select **Don't show this again** to instruct Quality Center to automatically check out entities that you start editing, without requesting confirmation.

To instruct Quality Center to display the confirmation message before automatically checking out entities, from the menu bar, select **Versions > Warn Before Check Out**.

- 4 Click **OK**. In the tree view, the entity is displayed with a lock icon  indicating that it is checked out.

## Checking Out Entities Manually

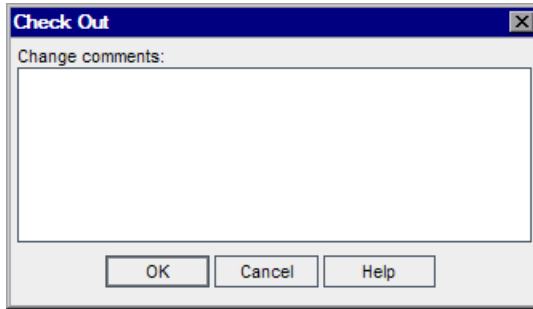
You can check out one or more entities in a version control enabled project to make changes to the entities.


**To check out an entity manually:**

- 1 Select the entity that you want to check out. To check out more than one entity, press the CTRL key and select the entities.



- 2 Click the **Check Out** button, or select **Versions > Check Out**. Alternatively, right-click the entity and select **Versions > Check Out**. The Check Out dialog box opens.



- 3 In the **Change Comments** box, type a brief description of the reason for the checkout.
- 4 Click **OK**. In the tree view, the entity is displayed with a lock icon  indicating that it is checked out.

## Checking In Entities

After you make changes to an entity, you check in the entity. Each time you check in an entity, a new version is created. For example, suppose the current version of a requirement is version number 3. You check the requirement out and make some changes. When you check the requirement in, Quality Center defines it as version number 4. When the entity is checked in, it is unlocked and available to other users.

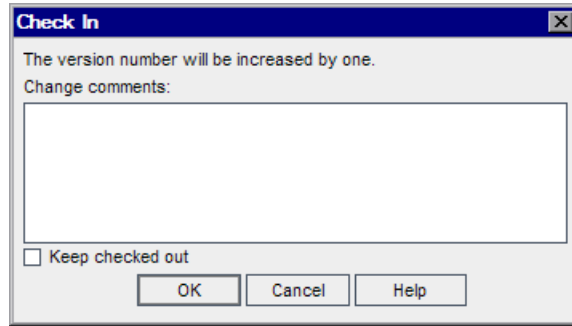
You can also view a list of all entities you have checked out in the current module. For more information, see “Viewing Checked Out Entities” on page 108.

### To check in an entity:

- 1 Select the entity that you want to check in. To check in more than one entity, press the CTRL key and select the entities.



- 2 Click the **Check In** button, or select **Versions > Check In**. Alternatively, right-click the entity and select **Versions > Check In**. The Check In dialog box opens.



- 3 In the **Change Comments** box, type a brief description of the changes that were made to this version.
- 4 Select **Keep checked out** to store your changes with the new version number while keeping the entity checked out.
- 5 Click **OK**.

## Undoing Check Outs

When an entity is checked out, you can undo the checkout to cancel your changes. To undo checkouts for entities checked out by other users, you must have the appropriate user permissions. For more information, refer to the *HP Quality Center Administrator Guide*.

When you undo a checkout, any changes you made to non-versioned fields while the entity was checked out are not cancelled and the new values remain. For more information, see “Non-versioned Fields” on page 103.

You can view a list of all entities you have checked out in the current module. For more information, see “Viewing Checked Out Entities” on page 108.

**To undo a checkout:**

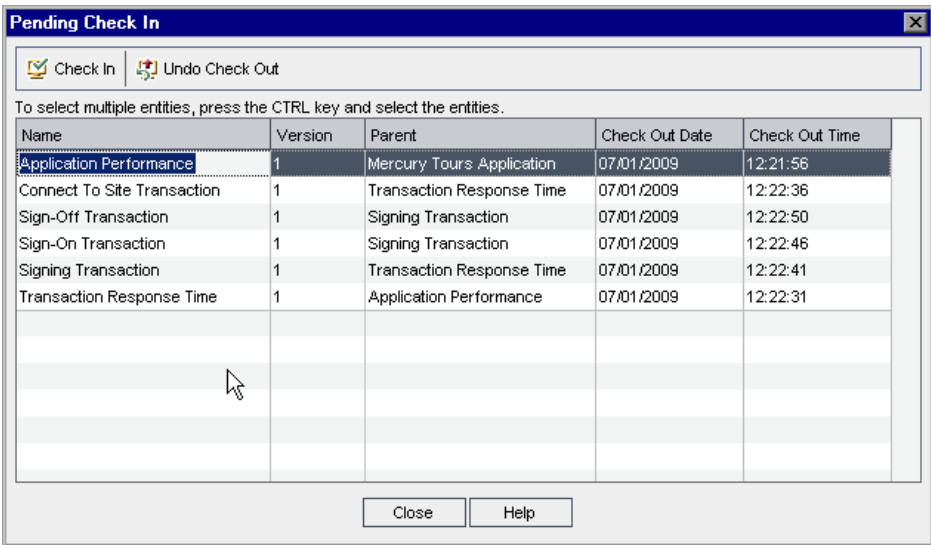
- 1 Select an entity, or press the CTRL key and select multiple entities for which you want to undo the checkout.
- 2 Select **Versions > Undo Check Out**, or right-click the entity and select **Versions > Undo Check Out**.
- 3 Click **Yes** to confirm.

## Viewing Checked Out Entities

You can view a list of all entities in the current module that you have checked out, and check in or undo the check out for selected entities.

**To view checked out entities:**

- 1 Select **Versions > Pending Check In**, or click the **Check In** button on the right side of the module toolbar. The Pending Check In dialog box opens, displaying a list of all entities checked out by the current user in the current module.



You can rearrange columns by dragging the column headers.

- 2 To check in an entity, select an entity from the list, or press the CTRL key and select multiple entities. Click **Check In**. For more information, see “Checking In Entities” on page 106.
- 3 To undo a checkout, select an entity from the list, or press the CTRL key and select multiple entities. Click **Undo Check Out**. For more information, see “Undoing Check Outs” on page 107.

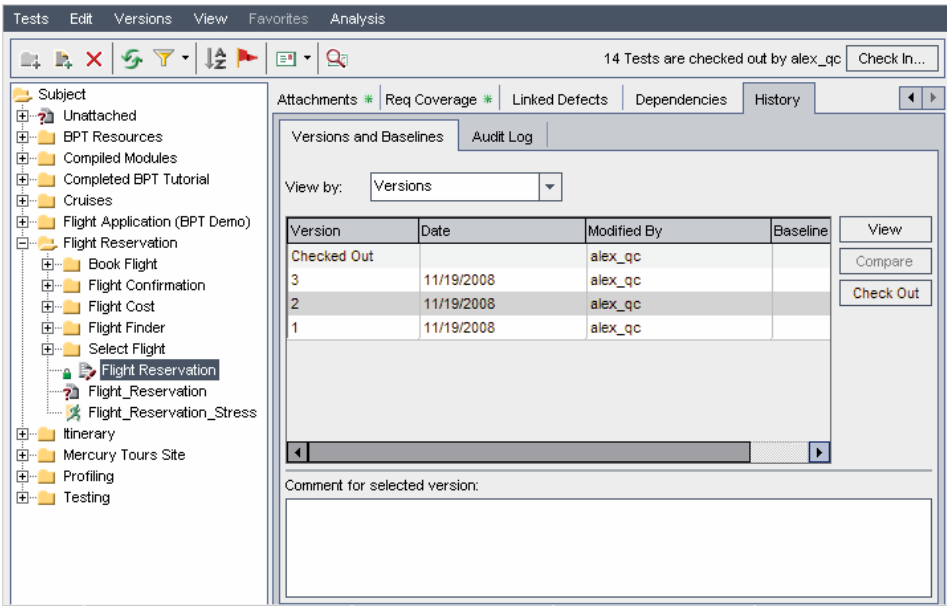
## Viewing Version History

You can view the history for a selected entity, including all previous versions, the name of the user who created each version, and the date each version was created. You can also compare two versions, or check out a previous version.

You can also view the baseline in which a version is stored. For more information, see “Viewing Baseline History” on page 524.

**To view version history:**

- 1 Select an entity and click the **History** tab. The version history for the entity is displayed.



- 2 In the **Versions and Baselines** tab, in the **View by** box, select **Versions**. The version history for the entity is displayed in a grid.

Column	Description
Version	The version number. If the entity is currently checked out, the Version column for the checked out version displays <b>Checked out</b> .
Date	The date the version was created.
Modified By	The user who created the version.
Baseline	The baseline in which the version appears.

- 3 Under **Comment for selected version**, view the comments typed by the user when checking in the version.

- 4** To view details of a previous version, select the version and click **View**. A Details dialog box opens, displaying read-only details for the version. For example, you can view details for a previous version of a test.

The screenshot shows a 'Test Details' dialog box. At the top, there's a 'Test:' field with '150' and 'TestThree'. Below this is a sidebar with icons for 'Details', 'Design Steps', 'Test Script', and 'Attachments'. The main area is titled 'Page 1' and contains several fields: '\* Level: Advanced', '\* Priority: 3-High', '\* Reviewed: Not Reviewed', '\* Test Name: TestThree', 'Creation Date: 10/07/2008', 'Designer: alex\_qc', 'Reviewer:', 'Status: Design', and 'Test ID: 150'. At the bottom, there are tabs for 'Description' and 'Comments', and a large empty text area. 'Close' and 'Help' buttons are at the very bottom.

Click a button on the sidebar to view additional details for the version, such as the Design Steps, Test Script and Attachments. The buttons available depend on the data stored under version control for the particular entity type.

Changes to some fields are not stored under version control. For more information, see “Non-versioned Fields” on page 103.

Click **Close** to close the Details dialog box.

- 5** To compare two versions, press the CTRL key and select each version. Click **Compare**. For more information on comparing entity versions, see “Comparing Entities” on page 528.

- 6** To check out a previous version, select the version and click **Check Out**. For more information on the check out process, see “Checking Out Entities” on page 104.

---

**Note:** To maintain usability and data integrity, Quality Center stores previous versions of an entity without most data related to relationships between entities. The following data is not stored for previous versions: requirements and tests coverage, requirements traceability, and defect linkage. In addition, risk data is also not stored for previous versions of an entity.

---

The **Confirm** dialog box opens. Click **Yes** to confirm.

## Filtering Version Control Fields

You can filter Quality Center data based on version control fields in the Requirements, Test Plan, Test Resources, and Test Lab modules. For more information on defining filters, see “Filtering Records” on page 56.

Defining a filter to display only checked out entities varies depending on the Quality Center module in which you are working. The following table describes how to set the filter conditions:

Filter Description	Filter Conditions for the Test Plan Module	Filter Conditions for All Other Modules
Display all entities that you have checked out	Version Status=Checked Out and Version Owner=<your user name>	Version Checked Out By=<your user name>
Display all entities checked out by another user	Version Status=Checked Out and Version Owner=<other user’s user name>	Version Checked Out By=<other user’s user name>

For more information on version control fields, see the “Version Control Overview” on page 100.



# Part II

---

## Release Management



# 8

---

## The Release Management Workflow

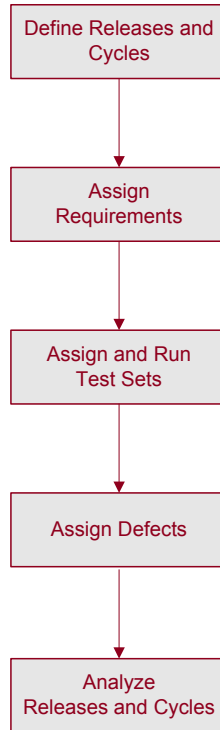
You begin the application management process by defining a releases tree in the Releases module.

---

**Quality Center Editions:** The Releases module is available for Quality Center Enterprise Edition and Quality Center Premier Edition.

---

This chapter describes how you use Quality Center to manage the release life cycle. The release management workflow consists of the following stages.



## Defining Releases and Cycles

The foundation of the Releases module is the releases tree. This tree enables the modeling of upcoming releases within a hierarchical tree structure.

You start by defining a release folder along with its releases. A **release** represents a group of changes in one or more applications that will be available for distribution at the same time. After defining the release, you define cycles. A **cycle** is a set of development and quality assurance efforts performed to achieve a common goal based on the release timeline.

For example, suppose you are defining upcoming releases for the sample Mercury Tours application. The **Mercury Tours Application** folder contains **Release 10.5**. This release includes four cycles. You might define the releases and cycles in the releases tree as follows:



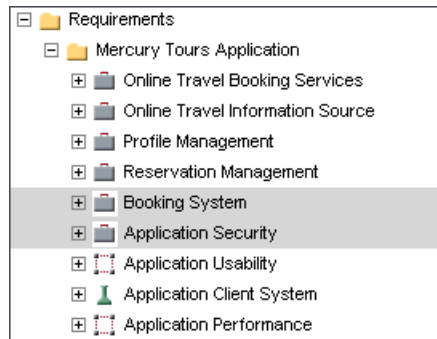
For more information on defining releases, see Chapter 10, “Creating a Releases Tree.”

## Assigning Requirements

After defining the releases tree, you define and review the requirements in the Requirements module and assign them to releases and cycles.

**Requirements** describe in detail your application needs.

For example, in the requirements tree, under the **Mercury Tours Application** folder, you might assign **Booking System** and **Application Security** to the **Cycle 1 - New Features** cycle in the **Release 10.5** release.



Requirements are used as a basis for the test plan in the Test Plan module. The tests you create during the test plan phase should cover these requirements.

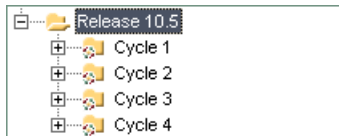
For more information on requirements, see Chapter 13, “Developing the Requirements Tree.”

For more information on test plans, see Chapter 18, “Developing the Test Plan Tree.” For more information on coverage, see Chapter 19, “Requirement and Test Coverage.”

## Assigning and Running Test Sets

After assigning requirements to releases and cycles, you assign each test set folder in the Test Lab module to a cycle. A **test set** is a group of test instances in a Quality Center project designed to achieve specific test goals.

For example in the test set tree, you might define the following test set folders for **Release 10.5**.



Each test set folder is assigned to a cycle. For example, the **Cycle 1** test set folder is assigned to the **Cycle 1 - New Features** cycle.

After assigning test set folders to a cycle, you run the test sets under these test set folders.

For more information on test sets, see Chapter 28, “Creating Test Sets.” For more information on running tests, see Chapter 30, “Running Tests Manually” and Chapter 31, “Running Tests Automatically.”

## Assigning Defects

If an application flaw is detected while running a test set, you can submit a defect. Quality Center automatically creates a link between the test run, associated release and cycle, and the new defect.

Suppose a defect is detected while running a test instance from a test set in the **Cycle 1** test set folder. When the defect is initially submitted to the project, the **Detected in Release** field is assigned to the **Release 10.5** release, and the **Detected in Cycle** field is assigned to the **Cycle 1 - New Features** cycle.

While reviewing and deciding which new defects need to be fixed, they can be assigned to the appropriate target release and cycle.

Continuing with this example, suppose this defect is planned to be fixed in the next cycle. The **Target Release** field would be assigned to **Release 10.5**, and the **Target Cycle** field would be assigned to **Cycle 2 - New Features + Regression**.

A defect can be submitted to a Quality Center project from any module at any stage of the application management process.

For more information on submitting defects, see Chapter 35, “Adding and Tracking Defects.”

## Analyzing Releases and Cycles

Following test runs, you can review the test progress to determine how well it meets the release goals. You can also determine how many defects were resolved, and how many still remain open. The results can be analyzed at a release or at a cycle level.

You can track the progress of the application management process in real time by analyzing the releases tree and ensuring that it matches the release goals. For more information on analyzing results at a release or at a cycle level, see Chapter 10, “Creating a Releases Tree.”





# 9

---

## The Releases Module at a Glance

This chapter introduces the key elements in the Releases module.

---

**Quality Center Editions:** The Releases module is available for Quality Center Enterprise Edition and Quality Center Premier Edition.

---

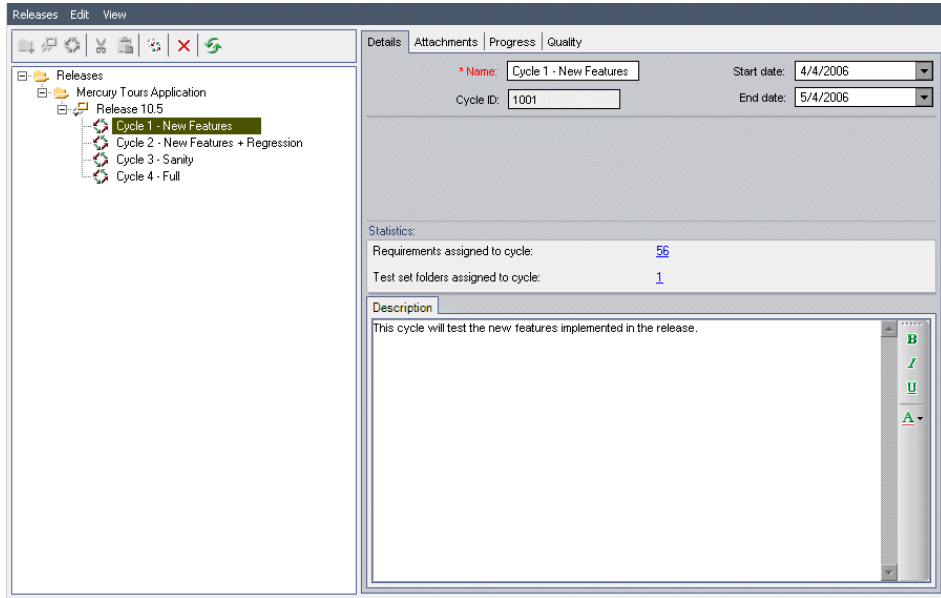
**This chapter includes:**

- The Releases Module on page 122
- The Releases Menu Bar on page 123
- The Releases Toolbar on page 123
- The Release and Cycle Fields on page 124

## The Releases Module



You define releases and cycles in Quality Center using the Releases module. To display this module, click the **Management** button on the sidebar and then click the **Releases** tab.



The Releases module contains the following key elements:

- **Releases menu bar.** Displays drop-down menus of Releases module commands.
- **Releases toolbar.** Contains buttons of Releases module commands.
- **Details tab.** Describes the release folder, release, or cycle currently selected in the releases tree. It also indicates range of release and cycle dates. The **Statistics** pane displays the requirements and test set folders associated with the release or cycle.
- **Attachments tab.** Lists attachments that provide additional information on the currently selected release folder, release, or cycle. For more information, see Chapter 5, “Adding Attachments”.

- **Progress tab.** Shows a high-level overview of the progress of your release or cycle. For more information, see “Viewing Coverage Progress of Releases and Cycles” on page 137.
- **Quality tab.** Shows the number of defects opened over the course of your release or cycle. It also shows the number of outstanding defects. For more information, see “Viewing Defects of Releases and Cycles” on page 141.

## The Releases Menu Bar

The Releases menu bar contains the following menus.

- The **Releases** menu contains commands that enable you to add release folders, releases, and cycles.
- The **Edit** menu contains commands that enable you to cut, paste, delete, and rename release folders, releases, and cycles. It also contains a command to create a duplicate of a cycle.
- The **View** menu contains commands that enable you to expand and collapse the releases tree. It also contains a command to refresh the releases tree.

## The Releases Toolbar

The Releases toolbar contains the following buttons:



**New Release Folder.** Adds a new release folder to the releases tree.



**New Release.** Adds a new release to the releases tree.



**New Cycle.** Adds a new cycle to the releases tree.



**Cut.** Cuts a release folder or a release from the releases tree to move it to a different location in the tree.



**Paste.** Pastes a cut release folder or a release to the specified location in the tree.



**Duplicate Cycle.** Creates a duplicate of a cycle within the same release.



**Delete.** Deletes the selected item. Deleting a release folder also deletes its releases and cycles. Deleting a release also deletes its cycles.



**Refresh All.** Refreshes the releases tree and tabs so that it displays the most up-to-date data.

## The Release and Cycle Fields

The Details tab of the Releases module can display the following fields:

Field	Description
Name	The release folder, release, or cycle name.
Start Date	The date on which the release or cycle starts. Click the down arrow to display a calendar and select a start date.
End Date	The date on which the release or cycle ends. Click the down arrow to display a calendar and select an end date.
Release ID	A unique numeric ID for the release, assigned automatically by Quality Center. The Release ID is read-only.
Cycle ID	A unique numeric ID for the cycle, assigned automatically by Quality Center. The Cycle ID is read-only.
Statistics	Statistics on the requirements and test set folders assigned to your releases and cycles.
Description	The release folder, release, or cycle description.

---

**Notes:**

- The dates for the cycles must be contained within the dates for the releases.
  - You can add user-defined fields and change the label of any of the fields in the Releases module. For more information, refer to the *HP Quality Center Administrator Guide*.
  - You can use the Script Editor to restrict and dynamically change the fields and values in the Releases module. For more information, refer to the *HP Quality Center Administrator Guide*.
-



# 10

---

## Developing the Releases Tree

The issuing of application releases is often challenging. It requires aligning your business priorities and quality expectations with your project requirements, tests, and defects. Most applications require testing on multiple hardware platforms, multiple configurations (computers, operating systems, and browsers), and multiple application versions. Managing all aspects of an application release can be time-consuming and difficult. In the Releases module, you can organize and track your upcoming releases by defining a releases tree.

---

**Quality Center Editions:** The Releases module is available for Quality Center Enterprise Edition and Quality Center Premier Edition.

---

### **This chapter includes:**

- About Developing the Releases Tree on page 128
- Creating a Releases Tree on page 133
- Adding Releases to Release Folders on page 134
- Adding Cycles to Releases on page 134
- Viewing Assigned Requirements and Test Set Folders on page 136
- Viewing Coverage Progress of Releases and Cycles on page 137
- Viewing Defects of Releases and Cycles on page 141
- Modifying the Releases Tree on page 143

## About Developing the Releases Tree

In the Releases module, you can organize and track your upcoming releases by defining a hierarchical releases tree containing releases and cycles. A **release** represents a group of changes in one or more applications that will be available for distribution at the same time. Each release can contain a number of cycles. A **cycle** represents a development and QA cycle based on the project timeline. Both releases and cycles have defined start and end dates.

After defining the releases tree, you define requirements in the Requirements module and assign them to releases and cycles (see Chapter 13, “Developing the Requirements Tree”). Requirements describe in detail what needs to be tested in your application.

To cover your requirements (making sure that all of the features developed in a particular cycle are fully tested), you create tests in the Test Plan module (see Chapter 18, “Developing the Test Plan Tree” and Chapter 19, “Requirement and Test Coverage”).

Then in the Test Lab module, you create a test set folder to store your test sets. Next, you assign the test set folder to a cycle. You then add test sets to your test set folder. Finally, you complete the test coverage planning by adding tests to each test set (see Chapter 28, “Creating Test Sets”).

You then run your test sets (see Chapter 30, “Running Tests Manually,” and Chapter 31, “Running Tests Automatically”). If application flaws are detected, you can submit defects, which you assign to a particular release and cycle in the releases tree (see Chapter 35, “Adding and Tracking Defects”). This enables all relevant developers and testers to determine what needs to be fixed and the target date for each fix.

After running the specified test sets, you can review the release progress in the Releases module to determine how well it meets your release goals. You can also determine how many defects were detected and how many defects are outstanding. You can analyze results at the level of a release or a cycle.



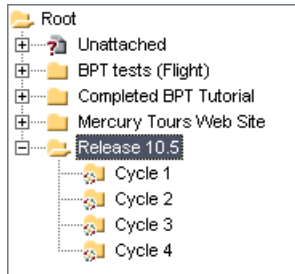
## Release Management Example



Suppose you are developing a flight reservation application. In four months, you plan on releasing version 10.5. Your release includes four cycles. The first cycle is for testing new features. The second cycle is for regression testing. The third cycle is for sanity testing. The fourth cycle verifies the full functionality of the application. Your releases tree may be defined as follows:



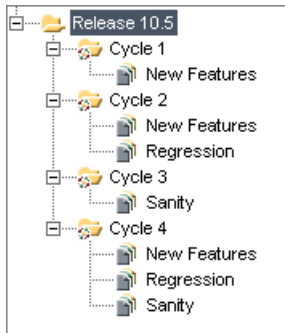
In the Requirements module, you decide which requirements need to be covered in each cycle and assign them to the relevant cycles accordingly. In the Test Plan module, you then create tests and associate them with the assigned requirements to create coverage.

In the Test Lab module, you create test set folders and assign them to specific cycles. For this example, you might define the Cycle 1, Cycle 2, Cycle 3, and Cycle 4 test set subfolders:



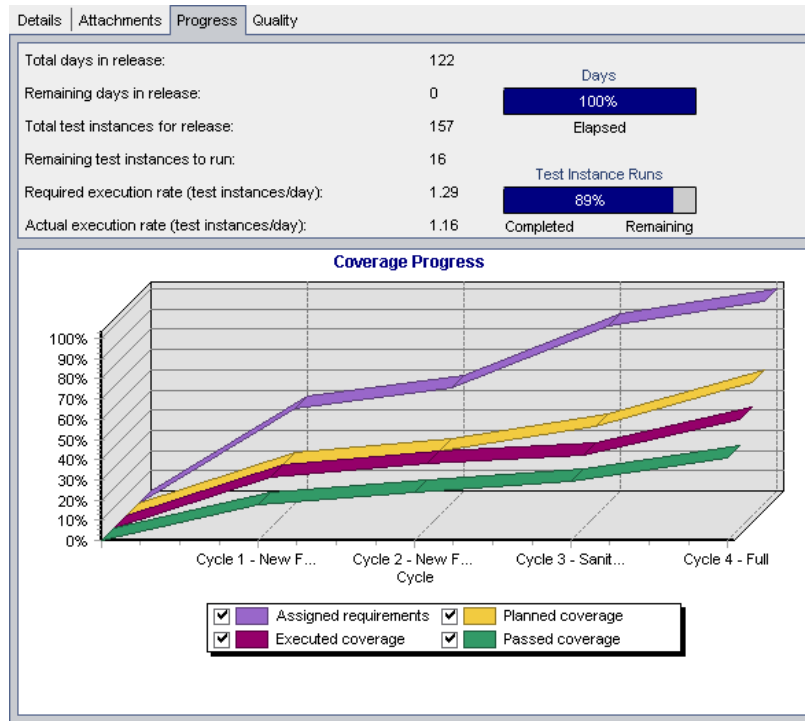
When you assign a test set folder to a cycle, the test set folder icon  is replaced by the assigned test set folder icon .

For each assigned test set folder, you then create test sets and add tests to them, for example:



After running the test sets from the assigned test set folders, you can review the progress in the Progress tab of the Releases module to determine how well it meets your release goals. This provides you with a high-level overview of the progress of your release.

The following shows the progress in the Release 10.5 example:



The top pane shows the total and remaining days in the release, total test instances for the release, actual and remaining test instances to run, and more.

The bottom pane displays the Coverage Progress graph. The curves displayed in this graph are accumulative, that is, each curve is calculated by accumulating all the release information from the beginning of the release.

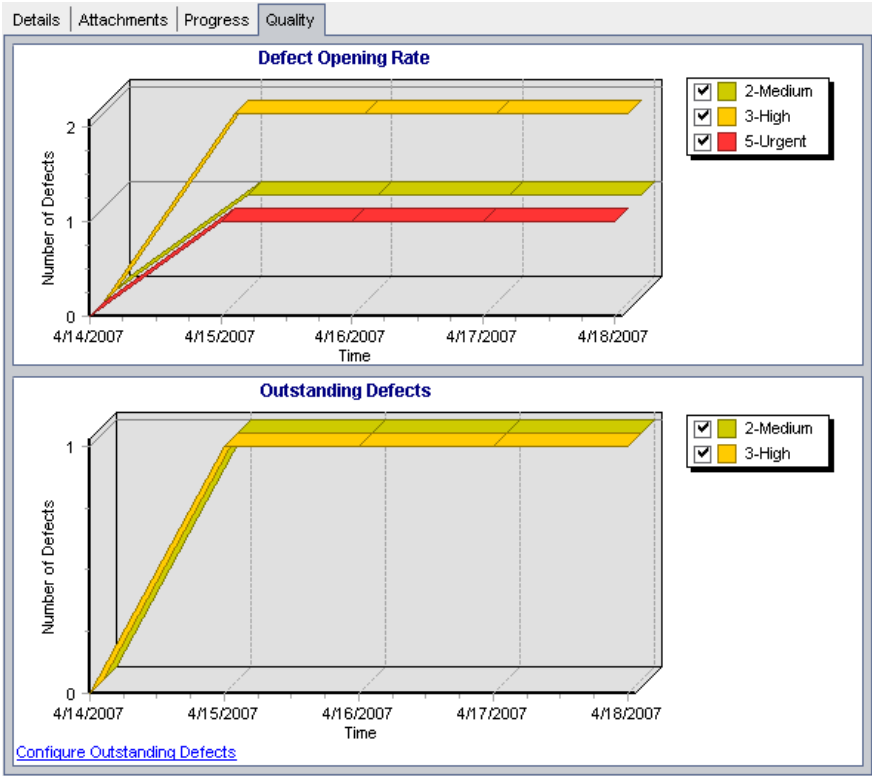
The **Assigned requirements** curve indicates the distribution of the assigned requirements within the release's cycles. In this example, the curve indicates a 100% value in the **Cycle 4 - Full** cycle.

The **Planned coverage** curve below the Assigned requirements curve indicates the percentage of requirements that are covered throughout the release. In this example only 60% of the requirements are covered in the **Cycle 4 - Full** cycle.

The **Executed coverage** curve below the Planned coverage curve indicates the percentage of tests that were run as the release progressed. In this example, the curve indicates that at **Cycle 4 - Full** only 40% of the assigned tests were run.

The **Passed coverage** curve is below the Executed coverage curve. It indicates the test runs in which the most recent status is passed. In this example, the curve indicates a 20% value in the **Cycle 4 - Full** cycle.

For each cycle, you can view the number of defects submitted and their severity in the Quality tab. Suppose that while running the **Cycle 1** test set under the **Release 10.5** test set folder, four application flaws are detected. In the Releases tree, you would select **Cycle 1 - New Features** cycle and click the Quality tab to view the number of defects opened over the course of the cycle. The defects are categorized by severity level, ranging from **1-Low** to **5-Urgent**.




In the Defect Opening Rate graph, you can see that out of the four defects detected while testing the first cycle, two defects are assigned a severity value of **3-High**, one defect is assigned **5-Urgent**, and one defect is assigned **2-Medium**.

In the Outstanding Defects graph, you can see that two out of the four defects are still outstanding. One defect is assigned **2-Medium** the other defect is assigned **3-High**.

## Creating a Releases Tree

You define a hierarchical framework for your releases by creating a releases tree. For each release folder in the tree, you define releases and add cycles to them. You start a releases tree by adding a folder under the **Releases** root folder.

**To create a releases tree:**

- 1** In the releases tree, select the **Releases** folder.
-  **2** Click the **New Release Folder** button or choose **Releases > New Release Folder**. The New Release Folder dialog box opens.
- 3** Type the **Release Folder Name** and click **OK**. The new folder is added under **Releases** in the releases tree.
- 4** In the **Details** tab, type a description for the release folder.
- 5** Click the **Attachments** tab to add an attachment to the folder if necessary. An attachment can be a file, URL, snapshot of your application, an item from the Clipboard, or system information. For more information, see Chapter 5, “Adding Attachments.”
- 6** To create additional folders, select a folder and repeat steps 2 to 5.

# Adding Releases to Release Folders

After creating the releases tree, you add releases to your release folders. For each defined release, you add cycles.

To add a release to a release folder:



- 1 Select a release folder in the releases tree.
- 2 Click the **New Release** button or choose **Releases > New Release**. The New Release dialog box opens.
- 3 Type the **Release Name** and click **OK**. The new release appears under the selected release folder.
- 4 Enter the following release details in the Details tab:

Field	Description
Start Date	The date on which the release starts. Click the down arrow to display a calendar and select a start date.
End Date	The date on which the release ends. Click the down arrow to display a calendar and select an end date.
Description	Type a description of the release.

- 5 Click the **Attachments** tab to add an attachment to the release if necessary. An attachment can be a file, URL, snapshot of your application, an item from the Clipboard, or system information. For more information, see Chapter 5, “Adding Attachments.”
- 6 To create additional releases, select a release folder and repeat steps 2 to 5.

# Adding Cycles to Releases

After adding releases to your release folders, you add cycles to each release.

To add a cycle to a release:



- 1 Select a release in the releases tree.
- 2 Click the **New Cycle** button or choose **Releases > New Cycle**. The New Cycle dialog box opens.

- 3 Type the **Cycle Name** and click **OK**. The new cycle appears under the selected release.
- 4 Enter the following cycle details in the Details tab:

Field	Description
<b>Start Date</b>	The date on which the cycle starts. Click the down arrow to display a calendar and select a start date.
<b>End Date</b>	The date on which the cycle ends. Click the down arrow to display a calendar and select an end date.
<b>Description</b>	Type a description of the cycle.

The dates for the cycles must be contained within the dates of the releases.

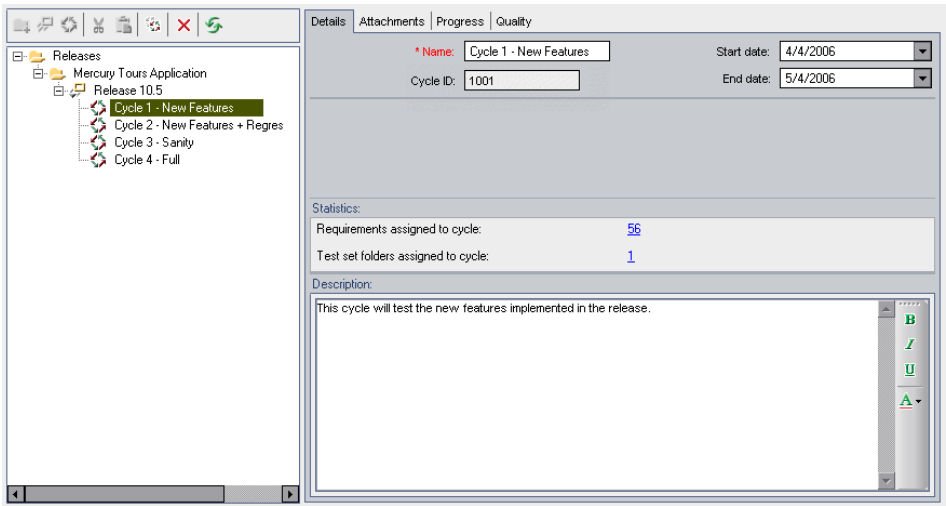
- 5 Click the **Attachments** tab to add an attachment to the cycle if necessary. An attachment can be a file, URL, snapshot of your application, an item from the Clipboard, or system information. For more information, see Chapter 5, “Adding Attachments.”
- 6 To create additional cycles, select a release and repeat steps 2 to 5.

# Viewing Assigned Requirements and Test Set Folders

You can view statistics on the requirements and test set folders assigned to your releases and cycles.

To view assigned requirements for a release or a cycle:

- 1 In the releases tree, select a release or a cycle.
- 2 Click the **Details** tab. The details for the release or cycle are displayed.



- 3 If you select a release, under the **Statistics** area, you can view the following statistics:

Option	Description
Requirements assigned to release	Displays the number of requirements associated with the selected release. To view the requirements assigned to the release in the Requirements module, click the link displaying the number of requirements. Alternatively, in the releases tree, right-click the release and choose <b>Show Requirements</b> .



If you select a cycle, under the **Statistics** area, you can view the following statistics:

Option	Description
<b>Requirements assigned to cycle</b>	Displays the number of requirements associated with the selected cycle. To view the requirements assigned to the cycle in the Requirements module, click the link displaying the number of requirements. Alternatively, in the releases tree, right-click the cycle and choose <b>Show Requirements</b> .
<b>Test set folders assigned to cycle</b>	Displays the number of test set folders associated with the selected cycle. To view the test set folders assigned to the cycle in the Test Lab module, click the link displaying the number of test set folders. Alternatively, in the releases tree, right-click the cycle and choose <b>Show Test Set Folders</b> .

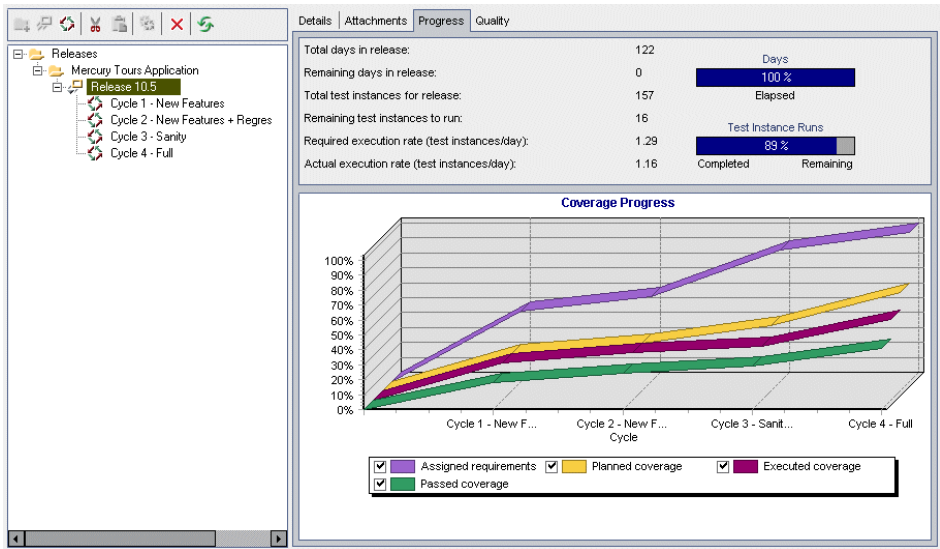
## Viewing Coverage Progress of Releases and Cycles

The Progress tab displays statistics and graphs to provide visual indications of the current progress of your release or cycle. This tab shows information such as elapsed and remaining days, completed and remaining test instances to run, and actual and required execution rate.

**To view coverage progress of a release or a cycle:**

- 1 Select a release or a cycle in the releases tree.

2 Click the **Progress** tab.



For each release, you can view the following information in the top pane of the Progress tab:

Option	Description
Total days in release	The total number of days in a selected release (end date - start date).
Remaining days in release	The total number of days remaining in a selected release.
Total test instances for release	The total number of test instances included in the test set folders assigned to a selected release.
Remaining test instances to run	The total number of test instances included in the assigned test set folders of a selected release that have not yet run.
Required execution rate (test instances/day)	The average number of test instance runs required per day for the remaining days in a selected release.
Actual execution rate (test instances/day)	The average number of test instance runs per day in the selected release up to the current date.

Option	Description
<b>Days (progress bar)</b>	The percentage of days elapsed in a selected release.
<b>Test Instance Runs (progress bar)</b>	The percentage of test instance runs completed in a selected release.

For each cycle, you can view the following information in the top pane of the Progress tab:

Option	Description
<b>Total days in cycle</b>	The total number of days in a selected cycle (end date - start date).
<b>Remaining days in cycle</b>	The total number of days remaining in a selected cycle.
<b>Total test instances for cycle</b>	The total number of test instances included in the test set folders assigned to a selected cycle.
<b>Remaining test instances to run</b>	The total number of test instances included in the assigned test set folders of a selected cycle that have not yet run.
<b>Required execution rate (test instances/day)</b>	The average number of test instance runs required per day for the remaining days in a selected cycle.
<b>Actual execution rate (test instances/day)</b>	The average number of test instance runs per day in the selected cycle up to the current date.
<b>Days (progress bar)</b>	The percentage of days elapsed in a selected cycle.
<b>Test Instance Runs (progress bar)</b>	The percentage of test instance runs completed in a selected cycle.

- 3** To customize the Coverage Progress graph for a selected release, select or clear the check boxes for the following options:

Option	Description
<b>Assigned requirements</b>	The accumulated percentage of requirements assigned to all cycles within a release.
<b>Planned coverage</b>	The accumulated percentage of tests planned for all cycles within a release.
<b>Executed coverage</b>	The accumulated percentage of tests that ran in all cycles within a release.
<b>Passed coverage</b>	The accumulated percentage of tests that ran successfully in all cycles within a release.

- 4** To customize the Coverage Progress graph for a selected cycle, select or clear the check boxes for the following options:

Option	Description
<b>Planned coverage</b>	The percentage of tests planned to be run each day within a cycle.
<b>Executed coverage</b>	The percentage of tests that ran each day within a cycle.
<b>Passed coverage</b>	The percentage of tests that ran successfully each day within a cycle.



- 5** To refresh the data in the Progress tab, click the **Refresh All** button.

## Viewing Defects of Releases and Cycles

The Quality tab helps you draw conclusions quickly and see the number of defects submitted over the course of a release or cycle. The defects are categorized by severity in terms of how they impact system operation. The severity level ranges from **Low-1** to **Urgent-5**. You can view the graphs at any stage of the application management process to check the progress of your release.

For each release, you can view the following graphs in the Quality tab:

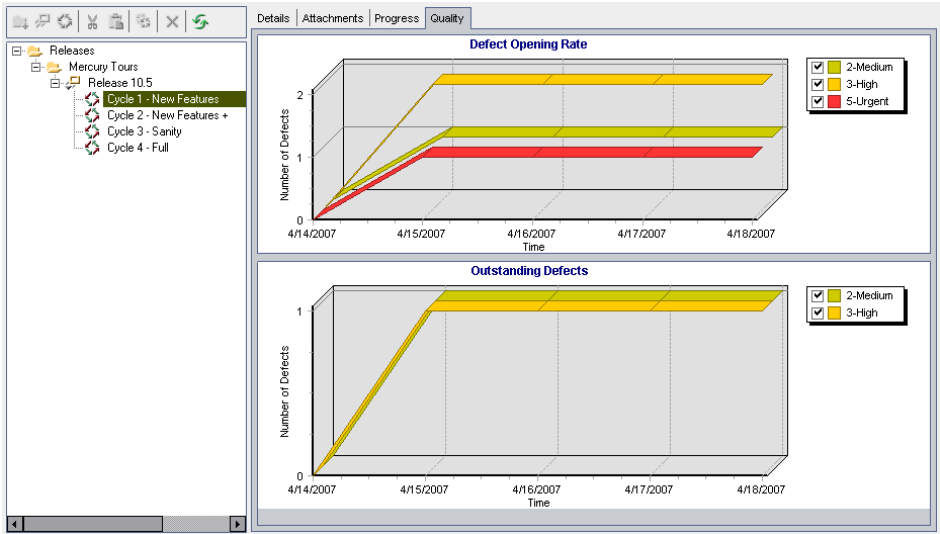
Graph	Description
<b>Defect Opening Rate</b>	Displays the number of defects opened over the course of a release. The graph displays defects whose <b>Detected in Release</b> value matches the selected release. The defects are grouped according to their level of <b>Severity</b> . The x-axis displays the number of defects according to their severity on the last day of each cycle.
<b>Outstanding Defects</b>	Displays the number of outstanding defects for the selected release. The graph displays defects whose <b>Target Release</b> value matches the selected release or is empty. The defects are grouped according to their level of <b>Severity</b> . The x-axis displays the number of outstanding defects according to their severity on the last day of each cycle. By default, <b>New</b> , <b>Open</b> , and <b>Reopened</b> defects are considered outstanding.

For each cycle, you can view the following graphs in the Quality tab:

Graph	Description
Defect Opening Rate	Displays the number of defects opened over the course of a cycle. The graph displays defects whose <b>Detected in Cycle</b> value matches the selected cycle. The defects are grouped according to their level of <b>Severity</b> . The x-axis displays the number of existing defects for each date.
Outstanding Defects	Displays the number of outstanding defects for a cycle. The graph displays defects whose <b>Detected in Cycle</b> value matches the selected cycle. The defects are grouped according to their level of <b>Severity</b> . The x-axis displays the number of existing defects that are outstanding on each date. By default, <b>New</b> , <b>Open</b> , and <b>Reopened</b> defects are considered outstanding.

To view the defects for a release or a cycle:

- 1 Select a release or a cycle in the releases tree.
- 2 Click the **Quality** tab.



The tab displays the Defect Opening Rate and Outstanding Defects graphs for the selected release or cycle.

- 3 In the **Defect Opening Rate** graph, you can select or clear the check boxes of the defect severity levels displayed in this graph.
- 4 In the **Outstanding Defects** graph, you can:
  - Select or clear the check boxes of the defect severity levels displayed in this graph.
  - Determine which defects are displayed in the graph by filtering them by their status. Click **Configure Outstanding Defects**. In the Configure Outstanding Defects dialog box, select a defect status and click the arrow buttons (> and <) to move it between **Available Defect Status** and **Visible Defect Status**. To move all of the types from one list to the other, click the double arrow buttons (>> and <<). Click **OK**.
- 5 To refresh the data in the Quality tab, click the **Refresh All** button.



## Modifying the Releases Tree

This section on modifying the releases tree includes the following topics:

- Renaming Release Folders, Releases, and Cycles
- Moving Release Folders and Releases
- Duplicating Cycles
- Deleting Release Folders, Releases, and Cycles

### Renaming Release Folders, Releases, and Cycles

You can rename a release folder, release, or cycle.

**To rename a release folder, release, or cycle:**

- 1 Select an item from the releases tree.
- 2 Choose **Edit > Rename**. Alternatively, right-click the release folder, release, or cycle and choose **Rename**.
- 3 Edit the item name and press **ENTER**.

## Moving Release Folders and Releases

You can move a release folder or a release to a different location in the releases tree. Moving a release folder also moves its releases and cycles. Moving a release also moves its cycles. The **Releases** root folder cannot be moved.

---

**Tip:** You can also move a release folder or a release to a new location in the releases tree by dragging it.

---

### To move a release folder or a release:

- 1 Select a release folder or a release from the releases tree. To move more than one item, press the CTRL key and select the items you want to move.
- 2 Click the **Cut** button. Alternatively, choose **Edit > Cut**.
- 3 Select a folder in the releases tree.
- 4 Click the **Paste** button. Alternatively, choose **Edit > Paste**.



## Duplicating Cycles

You can create a duplicate of a cycle within the same release.

### To duplicate a cycle:

- 1 Select a cycle from the releases tree.  
  
To duplicate more than one cycle, press the CTRL key and select the cycles you want to duplicate. You can select only multiple cycles that belong to the same release.
- 2 Click the **Duplicate Cycle** button. Alternatively, choose **Edit > Duplicate Cycle**. A duplicate copy is added to the release.





## Deleting Release Folders, Releases, and Cycles

You can delete a release folder, release, or cycle. When you delete a folder, the releases and cycles under the folder are also deleted. When you delete a release, the cycles under it are also deleted.

---

**Note:** Deleting a release folder, release, or cycle, also unassigns the associated requirements, test set folders, and defects.

---

### To delete a release folder, release, or cycle:

- 1 Select an item from the releases tree. To delete more than one item, press the CTRL key and select the items you want to delete.
- 2 Click the **Delete** button. Alternatively, choose **Edit > Delete**. A confirmation message displays.
- 3 Click **Yes** to confirm. The items are deleted.





# Part III

---

## Requirements Specification



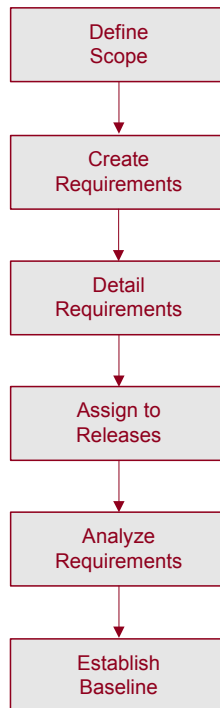
# 11

---

## The Requirements Specification Workflow

Requirements describe in detail what needs to be solved or achieved to meet the objectives of your application under development.

This chapter describes how you use the Requirements module to specify requirements. The requirements specification workflow consists of the following:



---

**Quality Center Starter Edition:** Not all fields and functionality in the Requirements module are available if you are working with the Starter Edition.

---

## Defining the Requirements Scope

You begin the application life cycle management process by gathering all available documentation on the application under development, such as marketing and business requirements documents, system requirement specifications, and design documents.

Use these documents to obtain a thorough understanding of the application under development and determine your scope, goals, objectives, and strategies.

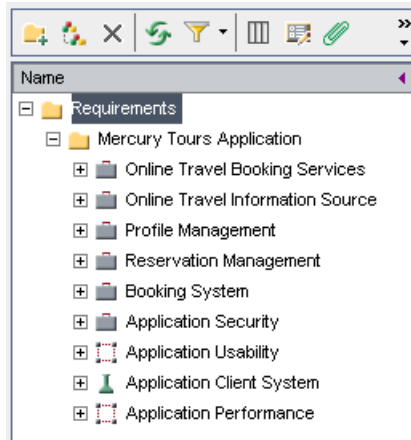
For example, some questions you may want to ask are:

- What is the main purpose and direction of the application?
- What are the critical constraints of the application?
- What are the major features of the application?
- What is the relative importance of each element in the application functionality?
- What are the critical or high-risk functions of the application?
- What are your business or testing priorities?
- Do your customers/end-users agree with your priorities?
- What are your overall quality goals?

## Creating the Requirements Outline

You use the requirements scope to determine the overall requirements for the application under development. You then define different groups of requirements based either on requirement type or functional area.

Requirement groups are recorded in the Requirements module by creating a requirements tree. The **requirements tree** is a graphical representation of your requirements specification, displaying the hierarchical relationship between different requirements.

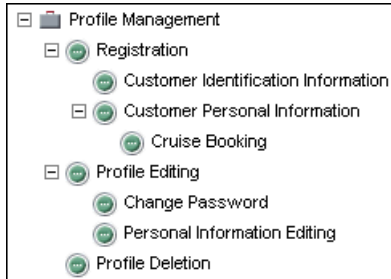


For example, consider a flight reservation application that lets you manage flight scheduling, passenger bookings, and ticket sales. You may define your major requirements as: Online Travel Booking Services, Online Travel Information Source, Profile Management, Reservation Management, Booking System, Application Security, Application Usability, Application Client System, and Application Performance.

For more information, see Chapter 13, “Developing the Requirements Tree.”

## Detailing Requirements

For each requirement group, you create a list of detailed requirements in the requirements tree. For example, the **Profile Management** requirement can be broken down into the following requirements:



Each requirement in the tree is described in detail and can include any relevant attachments. You then assign the requirement a priority level which can be taken into consideration when creating the test plan.

After defining your requirements, you can add traceability between the requirements. When analyzing the impact of a change proposed in a specific requirement, traceability shows the other requirements that the change might affect. For more information, see Chapter 14, “Tracing Requirements.”



## Assigning Requirements to Releases

You can assign the requirements to releases and cycles of the releases tree in the Releases module. The releases tree specifies past, current, and upcoming product releases within a hierarchical tree structure. A **release** represents a group of changes in one or more applications that will be available for distribution at the same time. A **cycle** is a set of development and quality assurance efforts performed to achieve a common goal based on the release timeline. For more information on assigning requirements, see “Assigning Requirements to Releases or Cycles” on page 182.

The assigned requirements are then used as a basis for the test plan in the Test Plan module. The tests you create during the test plan phase are used to link to these requirements to create coverage. For more information on requirements and tests coverage, see Chapter 19, “Requirement and Test Coverage.”

## Analyzing Requirements Specification

Review your requirements to ensure that they meet the scope defined earlier. After a requirement is approved, you change a requirement from a **Not Reviewed** status to **Reviewed**.

You can use risk-based quality management to help you decide how to allocate the resources you have available. For more information, see Chapter 15, “Calculating Requirement Risks.”

To help review the requirements, you can generate reports and graphs. For more information, see Chapter 40, “The Dashboard Module.”

## Establishing Baselines

After the requirements have been reviewed and approved, you can create a baseline for your requirements. A baseline can be used as an agreement that all stakeholders are responsible for signing off. This baseline then serves as a point of reference against which changes can be compared. The requirements baseline can be reviewed throughout the project to ensure its ongoing validity.

For more information on baselines, see Chapter 38, “Libraries and Baselines.”

# 12

---

## The Requirements Module at a Glance

This chapter introduces the key elements in the Requirements module.

**This chapter includes:**

- The Requirements Module on page 155
- The Requirements Menu Bar on page 167
- The Requirements Toolbar on page 169
- The Requirement Fields on page 171

### The Requirements Module



You specify requirements in Quality Center using the Requirements module, which is opened by clicking the **Requirements** button on the sidebar.

You can display requirements in the following views:

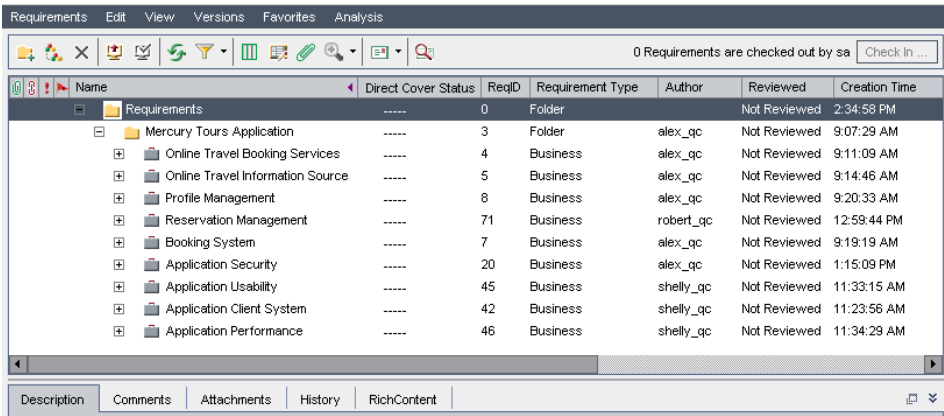
- Requirements Tree
- Requirement Details
- Requirements Grid
- Coverage Analysis

**Note:** You can also import requirements to your Quality Center project from Microsoft Word, Excel, or other third-party requirement management tools. To import requirements, you must first install the appropriate HP Quality Center add-in. For more information, refer to the *HP Quality Center Installation Guide*.

**Quality Center Starter Edition:** Not all fields and functionality in the Requirements module are available if you are working with the Starter Edition.

## Requirements Tree





The Requirements Tree view enables you to display requirements in a tree.




The Requirements Tree view contains the following key elements:

- **Requirements menu bar.** Displays drop-down menus of Requirements module commands. For more information, see “The Requirements Menu Bar” on page 167.

- **Requirements toolbar.** Contains buttons for commands commonly used when creating and modifying requirements. For more information, see “The Requirements Toolbar” on page 169.
- **Indicator columns.** Indicates that the specified requirement has attachments, linked defects, alerts, and follow up flags. Choose **View > Indicator Columns** to display these columns.

Column	Description
<b>Attachments</b>	Click the  icon to view attachments for the requirement. For more information, see Chapter 5, “Adding Attachments.”
<b>Linked Defects</b>	Click the  icon to view linked defects for the requirement. For more information, see Chapter 36, “Linking Defects.”
<b>Alerts</b>	Click the  icon to view alerts for the requirement. For more information, see “Viewing Alerts” on page 80.
<b>Follow Up Flags</b>	Click the  icon to view follow up alerts for the requirement. For more information, see “Flagging for Follow Up” on page 82.

- **Requirements tree.** Displays requirements in a tree.
- **Information Panel.** Displays the following tabs: Description, Comments, Attachments, History, and RichContent. Choose **View > Information Panel** or click the **Show** arrow  to display these tabs.

Tab	Description
<b>Description</b>	Displays a description of the currently selected requirement.
<b>Comments</b>	Displays comments about the currently selected requirement.
<b>Attachments</b>	Lists attachments that provide additional information about the currently selected requirement. For more information, see Chapter 5, “Adding Attachments”.

Tab	Description
History	Displays a list of changes made to the currently selected requirement. For more information, see “Viewing Requirement History” on page 193. Also displays a history of baselines in which the requirement appears. For more information, see “Viewing Baseline History” on page 524.
RichContent	Enables you to add, view, and edit Microsoft Word rich text directly from Quality Center. For more information, see “Adding Rich Text to Requirements” on page 183.

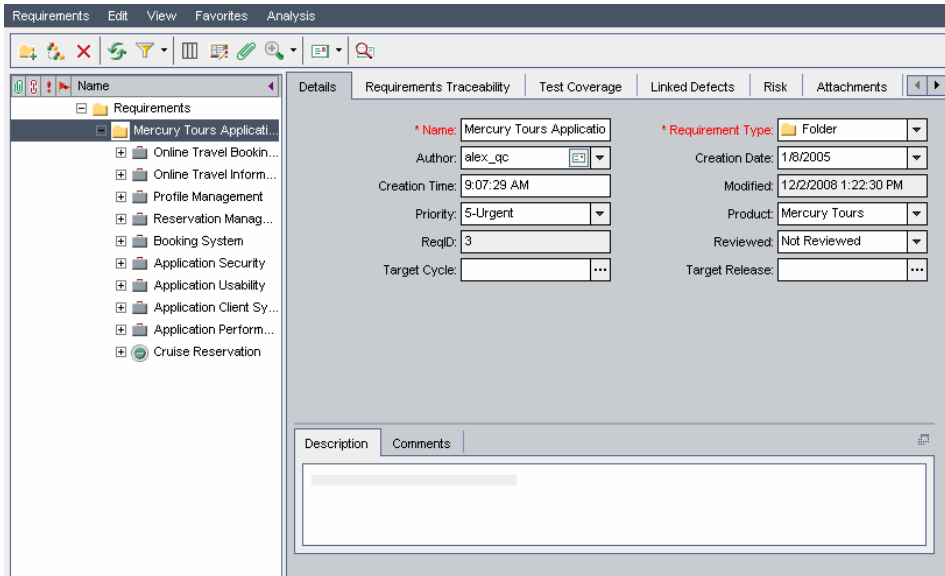
---

**Tip:** To find a specific requirement by **ReqID** in the Requirements Tree view, choose **Requirements > Go to Requirement**, and type the requirement ID. To display the requirement ID, select the **ReqID** column using the Select Columns dialog box. You can only go to requirements that are in the current filter.

---

## Requirement Details





The Requirement Details view enables you to create links between requirements and other entities. It also enables you to calculate and analyze requirement risks.



The Requirement Details view contains the following key elements:

- **Requirements menu bar.** Displays drop-down menus of Requirements module commands. For more information, see “The Requirements Menu Bar” on page 167.
- **Requirements toolbar.** Contains buttons for commands commonly used when creating and modifying requirements. For more information, see “The Requirements Toolbar” on page 169.

- **Indicator columns.** Indicates that the specified requirement has attachments, linked defects, alerts, and follow up flags. Choose **View > Indicator Columns** to display these columns.

Column	Description
Attachments	Click the  icon to view attachments for the requirement. For more information, see Chapter 5, “Adding Attachments.”
Linked Defects	Click the  icon to view linked defects for the requirement. For more information, see Chapter 36, “Linking Defects.”
Alerts	Click the  icon to view alerts for the requirement. For more information, see “Viewing Alerts” on page 80.
Follow Up Flags	Click the  icon to view follow up alerts for the requirement. For more information, see “Flagging for Follow Up” on page 82.

- **Requirements tree.** Displays requirements in a tree.
- **Details tab.** Displays details about the currently selected requirement. It also includes the following tabs:

Tab	Description
Description	Displays a description of the currently selected requirement.
Comments	Displays comments about the currently selected requirement.

For more information on the fields displayed in the Details tab, see “The Requirement Fields” on page 171.

- **Requirements Traceability tab.** Lists the requirements linked to the currently selected requirement. For more information, see Chapter 14, “Tracing Requirements.”



- **Test Coverage tab.** Lists the tests associated with the currently selected requirement. For more information, see Chapter 19, “Requirement and Test Coverage.”
- **Linked Defects tab.** Lists the defects linked to the currently selected requirement. For more information, see Chapter 36, “Linking Defects.”
- **Risk tab.** Calculates and analyzes requirement risks. For more information, see Chapter 15, “Calculating Requirement Risks.”
- **Attachments tab.** Lists the attachments that provide additional information about the currently selected requirement. For more information, see Chapter 5, “Adding Attachments.”
- **RichContent.** Enables you to add, view, and edit Microsoft Word rich text directly from Quality Center. For more information, see “Adding Rich Text to Requirements” on page 183.
- **History tab.** Displays a list of changes made to the currently selected requirement. For more information, see “Viewing Requirement History” on page 193. Also displays a history of baselines in which the requirement appears. For more information, see “Viewing Baseline History” on page 524.



---

**Tip:** To find a specific requirement by **ReqID** in the Requirement Details view, choose **Requirements > Go to Requirement**, and type the requirement ID. To display the requirement ID, select the **ReqID** column using the Select Columns dialog box. You can only go to requirements that are in the current filter.

---

## Requirements Grid





The Requirements Grid view enables you to display requirements in a flat non-hierarchical view. Each line in the grid displays a separate requirement.


Requirements   Edit   View   Favorites   Analysis									
									
	Name	ReqID	Author	Creation Date	Creation Time	Direct Cover	Modified	Priority	De
	Requirements	0		10/05/06	2:34:58 PM	-----	02/05/07 2:56		
	Mercury Tours Application	3	alex_qc	01/08/05	9:07:29 AM	-----	02/27/07 5:37	5-Urgent	
	Online Travel Booking Services	4	alex_qc	01/08/05	9:11:09 AM	-----	02/05/07 5:40	5-Urgent	
	Products/Services On Sale	9	alex_qc	01/08/05	10:11:11 AM	Not Covered	02/02/07 10:1	5-Urgent	
	Flight Tickets	10	alex_qc	01/08/05	10:15:15 AM	Failed	02/12/07 4:27	5-Urgent	
	Itineraries Information	15	alex_qc	01/08/05	10:55:25 AM	Not Covered	02/08/07 11:1	2-Medium	
	Access Authorization	21	alex_qc	01/08/05	1:16:41 PM	-----	01/31/07 4:19	5-Urgent	
	Customers vs. Site Visitors	22	alex_qc	01/08/05	1:56:35 PM	Failed	02/06/07 12:0	5-Urgent	
	Secure Purchase	19	alex_qc	01/08/05	1:12:00 PM	No Run	02/06/07 10:5	5-Urgent	
	Encrypted Transmission	33	robert_qc	01/09/05	12:07:06 PM	No Run	02/06/07 12:0	5-Urgent	
	Authorized Information Sharing	35	robert_qc	01/09/05	1:17:57 PM	Not Covered	02/06/07 12:0	5-Urgent	
	Data Access Restriction	37	robert_qc	01/09/05	1:51:28 PM	Not Covered	02/06/07 12:1	5-Urgent	
	Flight Search	39	robert_qc	01/09/05	2:59:18 PM	Failed	02/12/07 4:27	4-Very High	
									

The Requirements Grid view contains the following key elements:

- **Requirements menu bar.** Displays drop-down menus of Requirements module commands. For more information, see “The Requirements Menu Bar” on page 167.
- **Requirements toolbar.** Contains buttons for commands commonly used when creating and modifying requirements. For more information, see “The Requirements Toolbar” on page 169.

- **Indicator columns.** Indicates that the specified requirement has attachments, linked defects, alerts, and follow up flags. Choose **View > Indicator Columns** to display these columns.

Column	Description
<b>Attachments</b>	Click the  icon to view attachments for the requirement. For more information, see Chapter 5, “Adding Attachments.”
<b>Linked Defects</b>	Click the  icon to view linked defects for the requirement. For more information, see Chapter 36, “Linking Defects.”
<b>Alerts</b>	Click the  icon to view alerts for the requirement. For more information, see “Viewing Alerts” on page 80.
<b>Follow Up Flags</b>	Click the  icon to view follow up alerts for the requirement. For more information, see “Flagging for Follow Up” on page 82.

- **Information Panel.** Displays the following tabs: Description, Comments, Attachments, History, and RichContent. Choose **View > Information Panel** or click the **Show** arrow  to display these tabs.

Tab	Description
<b>Description</b>	Displays a description for the currently selected requirement.
<b>Comments</b>	Displays comments about the currently selected requirement.
<b>Attachments</b>	Lists attachments that provide additional information about the currently selected requirement. For more information, see Chapter 5, “Adding Attachments”.

Tab	Description
History	Displays a list of changes made to the currently selected requirement. For more information, see “Viewing Requirement History” on page 193. Also displays a history of baselines in which the requirement appears. For more information, see “Viewing Baseline History” on page 524.
RichContent	Enables you to add, view, and edit Microsoft Word rich text directly from Quality Center. For more information, see “Adding Rich Text to Requirements” on page 183.

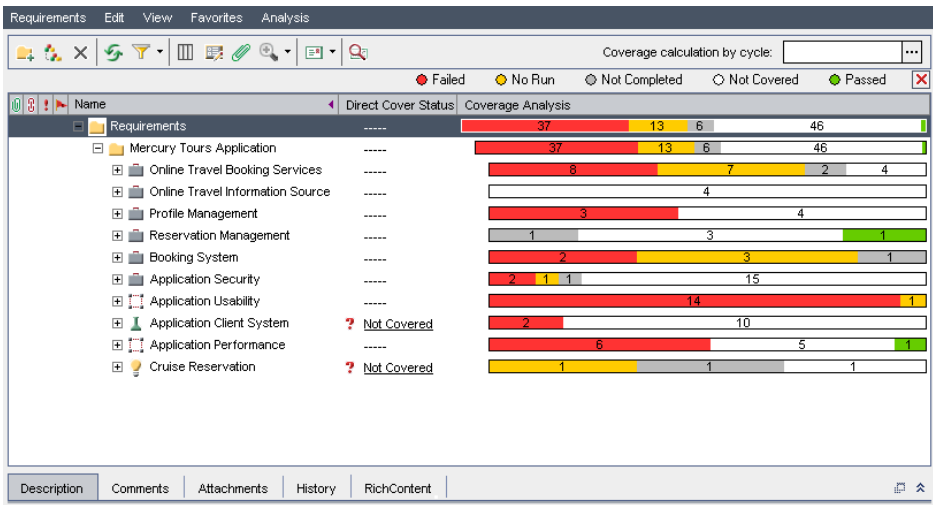
---

**Tip:** To find a specific requirement by **ReqID** in the Requirements Grid view, choose **Requirements > Go to Requirement**, and type the requirement ID. To display the requirement ID, select the **ReqID** column using the Select Columns dialog box.

---

## Coverage Analysis





The Coverage Analysis view enables you to analyze the breakdown of child requirements according to test coverage status.




The Coverage Analysis view contains the following key elements:

- **Requirements menu bar.** Displays drop-down menus of Requirements module commands. For more information, see “The Requirements Menu Bar” on page 167.
- **Requirements toolbar.** Contains buttons for commands commonly used when creating and modifying requirements. For more information, see “The Requirements Toolbar” on page 169.

- **Indicator columns.** Indicates that the specified requirement has attachments, linked defects, alerts, and follow up flags. Choose **View > Indicator Columns** to display these columns.

Column	Description
Attachments	Click the  icon to view attachments for the requirement. For more information, see Chapter 5, “Adding Attachments.”
Linked Defects	Click the  icon to view linked defects for the requirement. For more information, see Chapter 36, “Linking Defects.”
Alerts	Click the  icon to view alerts for the requirement. For more information, see “Viewing Alerts” on page 80.
Follow Up Flags	Click the  icon to view follow up alerts for the requirement. For more information, see “Flagging for Follow Up” on page 82.

- **Requirements tree.** Displays requirements in a tree.
- **Information Panel.** Displays the following tabs: Description, Comments, Attachments, History, and RichContent. Choose **View > Information Panel** or click the **Show** arrow  to display these tabs.

Tab	Description
Description	Displays a description for the currently selected requirement.
Comments	Displays comments about the currently selected requirement.
Attachments	Lists attachments that provide additional information about the currently selected requirement. For more information, see Chapter 5, “Adding Attachments”.

Tab	Description
<b>History</b>	Displays a list of changes made to the currently selected requirement. For more information, see “Viewing Requirement History” on page 193. Also displays a history of baselines in which the requirement appears. For more information, see “Viewing Baseline History” on page 524.
<b>RichContent</b>	Enables you to add, view, and edit Microsoft Word rich text directly from Quality Center. For more information, see “Adding Rich Text to Requirements” on page 183.

---

**Tip:** To find a specific requirement by **ReqID** in the Requirement Details view, choose **Requirements > Go to Requirement**, and type the requirement ID. To display the requirement ID, select the **ReqID** column using the Select Columns dialog box. You can only go to requirements that are in the current filter.

---

## The Requirements Menu Bar

The Requirements menu bar has the following menus. The menus and commands available in the menu bar may change depending on the requirements view.

- The **Requirements** menu contains commands that enable you to add and locate requirements in the tree, generate a test from a requirement, display requirement details, and mail a requirement.
- The **Edit** menu contains commands that enable you to cut, copy, paste, rename, or delete a requirement, update selected requirements, or to find, replace, or search requirements. You can also view and clear alerts for requirements and flag requirements for follow-ups. For more information on alerts and follow-ups, see Chapter 4, “Alerting on Changes.”

- The **View** menu contains commands that enable you to set the display of the requirements tree or grid, filter and sort the requirements, set the displayed columns, and select a requirement view.
- The **Versions** menu is available in a version control enabled project. It contains commands that enable you to check in and check out requirements, undo a checkout, or view all the requirements you have checked out. For more information, see Chapter 7, “Working with Version Control.”
- The **Favorites** menu contains commands that enable you to add, organize, and load favorite views. For more information, see “Working with Favorite Views” on page 93.
- The **Analysis** menu contains commands that enable you to generate requirements reports and graphs. For more information on requirements reports, see Chapter 42, “Generating Standard Reports.” For more information on requirements graphs, see Chapter 41, “Generating Graphs.”

---

**Tip:** You can access the Requirements menu bar from the Requirements module by pressing the shortcut key F9. Additionally, you can perform many other Quality Center operations using shortcut keys. For a list of shortcut keys, see Appendix B, “Quality Center Keyboard Shortcuts.”

---



## The Requirements Toolbar

The Requirements toolbar has the following buttons. The buttons available in the toolbar may change depending on the requirements view.



**New Folder.** Adds a new folder to the requirements tree.



**New Requirement.** Adds a new requirement to the requirements tree.



**Delete.** Deletes the selected requirement or folder. Deleting a requirement also deletes its child requirements, tests coverage, defects linkage, and attachments.



**Refresh All.** Refreshes the requirements tree or grid so that it displays the most up-to-date requirements.



**Set Filter/Sort.** Includes the following options:

- **Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter and sort the requirements in the requirements tree or grid.
- **Clear Filter/Sort.** Clears any filters or sorting that you have applied to the requirements tree or grid.



**Select Columns.** Opens the Select Columns dialog box, enabling you to determine which fields to display in the requirements tree or grid and their order. For more information, see “Arranging Columns” on page 52.



**Requirement Details.** Opens the Requirement Details dialog box, enabling you to display the details of the selected requirement. For more information, see “Updating Requirements” on page 184.



**Attachments.** Opens the Requirement Details dialog box in the Attachments view, enabling you to add an attachment to the selected requirement. For more information, see Chapter 5, “Adding Attachments.”



**Go To Requirement in Requirements Tree.** From the Requirement Grid view, goes to the Requirements Tree view and highlights the selected requirement.



**Zoom In.** Changes the level of detail in the requirements tree. For more information, see “Zooming the Tree” on page 191.



**Send by Email.** Opens the Send Email dialog box, enabling you to send requirement email to recipients selected from a list or to the author of the requirement. For more information, see “Mailing Requirements” on page 194.



**Text Search.** Opens the text search pane in the lower part of the window, enabling you to enter keywords and search predefined fields. For more information, see “Searching Records” on page 72.

**Favorite.** Click the **Favorite** arrow to display a list of favorite views. Favorite views enable you to reload a Quality Center window with the settings you apply to it. (Available only in the Requirements Grid view. To display the Favorite bar, choose **View > Favorite Bar**.) For more information on favorite views, see Chapter 6, “Working with Favorite Views.”

**Version Control.** The Requirements toolbar displays the following additional buttons for version control:



- **Check Out.** Opens the Check Out dialog box, enabling you to check out the selected requirement.



- **Check In.** Opens the Check In dialog box, enabling you to check in the selected requirement.

For more information on version control, see Chapter 7, “Working with Version Control.”

## The Requirement Fields







The Requirements module displays the following fields:

Field	Description
<b>Author</b>	The user name of the person who created the requirement. By default, this is the login user name.
<b>Comments</b>	Comments about the requirement.
<b>Creation Date</b>	The date on which the requirement was created. By default, the creation date is set to the current database server date. Click the down arrow to display a calendar and select a different creation date.
<b>Creation Time</b>	The time at which the requirement was created. By default, the creation time is set to the current database server time.
<b>Description</b>	A description of the requirement.
<b>Direct Cover Status</b>	<p>The current status of the requirement. By default, the status is <b>Not Covered</b>.</p> <p>A requirement status can be one of the following:</p> <ul style="list-style-type: none"> <li>➤ <b>Not Covered.</b> The requirement has not been linked to a test.</li> <li>➤ <b>Failed.</b> One or more tests covered by the requirement have an execution status of “Failed”.</li> <li>➤ <b>Not Completed.</b> One or more tests covered by the requirement have an execution status of “Not Completed”. Alternatively, tests covered by the requirement have execution statuses of “Passed” and “No Run”.</li> <li>➤ <b>Passed.</b> All the tests covered by the requirement have an execution status of “Passed”.</li> <li>➤ <b>No Run.</b> All the tests covered by the requirement have an execution status of “No Run”.</li> <li>➤ <b>N/A.</b> The current status of the requirement is not applicable.</li> <li>➤ <b>-----.</b> The requirement does not have a direct cover status as it belongs to a requirement type that does not support coverage.</li> </ul>
<b>Modified</b>	The date the requirement was last changed.
<b>Name</b>	The requirement name.

Field	Description
<b>Old Type (obsolete)</b> (formerly <b>Type</b> )	The type of requirement (obsolete). In previous versions of Quality Center, the type could be any value configured in the project, with typical values <b>Change</b> , <b>Functional</b> , <b>Guideline</b> , <b>Quality</b> , <b>Standard</b> , and <b>System</b> .  This field can only be in use for requirements of undefined type.
<b>Priority</b>	The priority of the requirement, ranging from low priority (level 1) to urgent priority (level 5).
<b>Product</b>	The component of the application on which the requirement is based.
<b>RBQM Business Impact</b>	The calculated Business Criticality for the requirement. Possible values are <b>A (High)</b> , <b>B (Medium)</b> , and <b>C (Low)</b> . This field is use only for assessment requirements.
<b>RBQM Custom Business Impact</b>	The user-defined custom Business Criticality for the requirement. Possible values are <b>A (High)</b> , <b>B (Medium)</b> , and <b>C (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Custom Failure Probability</b>	The user-defined custom Failure Probability for the requirement. Possible values are <b>1 (High)</b> , <b>2 (Medium)</b> , and <b>3 (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Custom Functional Complexity</b>	The user-defined custom Functional Complexity for the requirement. Possible values are <b>1 (High)</b> , <b>2 (Medium)</b> , and <b>3 (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Custom Risk</b>	The user-defined custom Risk for the requirement. Possible values are <b>A (High)</b> , <b>B (Medium)</b> , and <b>C (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Custom Testing Hours</b>	The user-defined effort required to test the requirement, measured in units defined in Project Customization. This field is only in use for assessment requirements.
<b>RBQM Custom Testing Level</b>	The user defined level at which to test the requirement. Possible values are <b>1-Full</b> , <b>2-Partial</b> , <b>3-Sanity</b> , and <b>4-None</b> . This field is only in use for assessment requirements.

Field	Description
<b>RBQM Date of Last Analysis</b>	The date a risk-based quality management analysis was last performed on the requirement. This field is only in use for analysis requirements.
<b>RBQM Effective Business Impact</b>	The effective Business Criticality for the requirement. Possible values are <b>A (High)</b> , <b>B (Medium)</b> , and <b>C (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Effective Failure Probability</b>	The effective Failure Probability for the requirement. Possible values are <b>1 (High)</b> , <b>2 (Medium)</b> , and <b>3 (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Effective Functional Complexity</b>	The effective Functional Complexity for the requirement. Possible values are <b>1 (High)</b> , <b>2 (Medium)</b> , and <b>3 (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Effective Risk</b>	The effective Risk for the requirement. Possible values are <b>A (High)</b> , <b>B (Medium)</b> , and <b>C (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Estimated RnD Effort</b>	The user-defined estimate of the effort required to develop the requirement. This field is only in use for assessment requirements.
<b>RBQM Exclude from Analysis</b>	Indicates whether to exclude the requirement from risk analysis. A requirement may be excluded from risk analysis if it belongs to a type for which risk assessments are not available, or if you specifically exclude it from analysis.
<b>RBQM Failure Probability</b>	The calculated Failure Probability for the requirement. Possible values are <b>1 (High)</b> , <b>2 (Medium)</b> , and <b>3 (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Functional Complexity</b>	The calculated Functional Complexity for the requirement. Possible values are <b>1 (High)</b> , <b>2 (Medium)</b> , and <b>3 (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Risk</b>	The calculated Risk for the requirement. Possible values are <b>A (High)</b> , <b>B (Medium)</b> , and <b>C (Low)</b> . This field is only in use for assessment requirements.
<b>RBQM Testing Hours</b>	The calculated effort required to test the requirement, measured in units defined in Project Customization. This field is only in use for assessment requirements.

Field	Description
<b>RBQM Testing Level</b>	The calculated level at which to test the requirement. Possible values are <b>1-Full</b> , <b>2-Partial</b> , <b>3-Sanity</b> , and <b>4-None</b> . This field is only in use for assessment requirements.
<b>RBQM Use Custom Business Impact</b>	Indicates whether to use the user-defined Business Criticality, instead of the Business Criticality calculated by Quality Center. This field is only in use for assessment requirements.
<b>RBQM Use Custom Failure Probability</b>	Indicates whether to use the user-defined Failure Probability, instead of the Failure Probability calculated by Quality Center. This field is only in use for assessment requirements.
<b>RBQM Use Custom Functional Complexity</b>	Indicates whether to use the user-defined Functional Complexity, instead of the Functional Complexity calculated by Quality Center. This field is only in use for assessment requirements.
<b>RBQM Use Custom Results</b>	Indicates whether to use the user-defined testing effort and testing level, instead of the values calculated by Quality Center. This field is only in use for assessment requirements.
<b>RBQM Use Custom Risk</b>	Indicates whether to use the user-defined Risk, instead of the Risk calculated by Quality Center. This field is only in use for assessment requirements.
<b>Req ID</b>	A unique alphanumeric ID for the requirement that is assigned automatically. The Req ID field cannot be modified.
<b>Req Parent</b>	The name of the parent requirement.

Field	Description
<b>Requirement Type</b>	<p>Indicates the type of requirement. Default values are:</p> <ul style="list-style-type: none"> <li>➤  <b>Business.</b> A business process requirement. By default, you cannot add coverage to this requirement.</li> <li>➤  <b>Folder.</b> A folder for organizing requirements. By default, you cannot add coverage to this requirement.</li> <li>➤  <b>Functional.</b> A system behavioral requirement.</li> <li>➤  <b>Group.</b> A collection of related requirements.</li> <li>➤  <b>Testing.</b> A system performance requirement.</li> <li>➤  <b>Undefined.</b> An undefined requirement.</li> </ul> <p>You can customize the default types and create your own requirement types. For more information on customizing requirement types, refer to the <i>HP Quality Center Administrator Guide</i>.</p>
<b>Reviewed</b>	Indicates whether the requirement has been reviewed and approved by the person responsible.
<b>Target Cycle</b>	Indicates the cycle in which the requirement was assigned. Click the down arrow to select a different cycle.
<b>Target Release</b>	Indicates the release in which the requirement was assigned. Click the down arrow to select a different release.

**Version Control:** The Requirements module displays the following additional fields:

Field	Description
<b>Version Check Out Date</b>	The date the version was checked out.
<b>Version Check Out Time</b>	The time the version was checked out.
<b>Version Checked Out By</b>	The name of the user who checked out the version.
<b>Version Number</b>	The version number.
<b>Version Status</b>	The status of the version ( <b>Checked Out</b> or <b>Checked In</b> ).

---

**Notes:**

- You can add user-defined fields and change the label of any of the fields in the Requirements module. You can also customize project lists. For more information, refer to the *HP Quality Center Administrator Guide*.
  - You can use the Script Editor to restrict and dynamically change the fields and values in the Requirements module. For more information, refer to the *HP Quality Center Administrator Guide*.
  - When you select a requirement column with a user name value (including user-defined fields), Quality Center displays a list with the name and full name of each user. You can search for users, sort users, group users by user group, and select users from the users list or a group tree. For more information, see “Selecting Users” on page 55.
  - **Quality Center Starter Edition:** Not all fields are available if you are working with the Starter Edition.
-



# 13

---

## Developing the Requirements Tree

The requirements tree organizes and displays your requirements hierarchically.

**This chapter includes:**

- About Developing the Requirements Tree on page 178
- Creating a Requirements Tree on page 179
- Assigning Requirements to Releases or Cycles on page 182
- Adding Rich Text to Requirements on page 183
- Updating Requirements on page 184
- Finding Requirements on page 187
- Replacing Field Values on page 189
- Viewing the Requirements Tree on page 191
- Viewing Requirement History on page 193
- Mailing Requirements on page 194
- Modifying Requirements on page 196
- Creating Tests from Requirements on page 200

## About Developing the Requirements Tree

The Requirements module enables you to define and manage your requirements. You record requirements in Quality Center by creating a requirements tree. This is a graphical representation of your requirements specification, displaying your requirements hierarchically.

After defining your requirements, you can establish traceability between two or more requirements. Requirements traceability defines a relationship between the requirements. When analyzing the impact of a change proposed in a specific requirement, the traceability links indicate the other requirements that the change might affect. When a requirement changes, Quality Center alerts the directly influenced traced requirements. For more information on establishing traceability between requirements, see Chapter 14, “Tracing Requirements.”

During the requirements specification phase, you assign your requirements to a release or a cycle in the releases tree. Requirements can be assigned to one or more releases or cycles. For more information, see “Assigning Requirements to Releases or Cycles” on page 182.

Assigned requirements can be associated with tests and defects. In this way, you can keep track at all stages of the software development life cycle. If a requirement changes, you can immediately identify which tests and defects are affected, and who is responsible. For more information on associating requirements with tests, see Chapter 19, “Requirement and Test Coverage.” For more information on associating requirements with defects, see Chapter 36, “Linking Defects.”

---

**Note:** This chapter assumes you are using the Requirements module’s **Requirements Tree** to create a requirements tree. For information on the **Requirements Grid** view, see “Requirements Grid” on page 162. For information on the **Requirement Details** view and **Coverage Analysis** view, see Chapter 19, “Requirement and Test Coverage.”

---

## Creating a Requirements Tree

You start a requirements tree by adding requirements to the **Requirements** root folder. You can organize your requirement topics into folders. The root folder cannot be renamed or deleted.

**Quality Center Starter Edition:** Requirement Types are not available.

---

**Note:** In addition to creating requirements directly in Quality Center, you can also import requirement data from Microsoft Word or Microsoft Excel to your Quality Center project. To import from Word, you must install the **HP Quality Center Microsoft Word Add-in** and the **HP Quality Center Connectivity Add-in**. To import from Excel, you must install the **HP Quality Center Microsoft Excel Add-in** and the **HP Quality Center Connectivity Add-in**. You can install the add-ins from the HP Quality Center Add-ins page. For more information, refer to the *HP Quality Center Installation Guide*.

---

**To create a requirements tree:**

- 1** In the Requirements module, choose **View > Requirements Tree** to display the Requirements Tree view.
- 2** To add a requirement at the main level, select the **Requirements** root folder. To create a child requirement, select a requirement.
- 3** To add a folder, click the **New Folder** button or choose **Requirements > New Folder**. In the Create New Requirement Folder dialog box, type the **Folder Name** and click **OK**. Note that a folder name cannot include the following characters: \ ^ \*





- 4 To add a requirement, click the **New Requirement** button. Alternatively, choose **Requirements > New Requirement**. The Create New Requirement dialog box opens.

Create New Requirement

Requirement Type: Undefined

Requirement Name:

OK Cancel Help

- 5 In the **Requirement Type** list, select a requirement type. For more information on requirement types, see “The Requirement Fields” on page 171.
- 6 In the **Requirement Name** box, type a name for the new requirement. A requirement name cannot include the following characters: \ ^ \*
- 7 Click **OK**. The New Requirement dialog box opens.

New Requirement

Clear Attach: [Icons]

\* Name: Req\_1 \* Requirement Type: Undefined

Details

\* Priority: [Dropdown] \* Product: [Dropdown]

Author: alex\_qc Direct Cover Status: [Dropdown]

Modified: [Text Box] Old Type (obsolete): [Dropdown]

Reviewed: Not Reviewed Target Release: [Text Box] ...

Target Cycle: [Text Box] ...

Description Comments RichContent

Submit Close Help

**8** Add details for the requirement. Note that a required field is displayed in red. For more information on the available fields in the Requirements module, see “The Requirement Fields” on page 171.

**9** To clear the data in the New Requirement dialog box, click the **Clear** button.

**10** You can add an attachment to your requirement:



- Click the **Attach File** button to attach a text file.
- Click the **Attach URL** button to attach a URL.
- Click the **Attach Snapshot** button to capture and attach an image.
- Click the **Attach Sysinfo** button to attach information about your machine.
- Click the **Attach Clipboard** button to attach text or an image from the Clipboard.

For more information about adding attachments, see Chapter 5, “Adding Attachments.”

**11** You can check the spelling in the New Requirement dialog box:



- Click the **Check Spelling** button to check the spelling for the selected word or text box.
- Click the **Spelling Options** button to open the Spelling Options dialog box, enabling you to configure the way Quality Center checks spelling.
- Click the **Thesaurus** button to open the Thesaurus dialog box and display a synonym, antonym, or related word for the selected word.

**12** Click **Submit** to add the new requirement to the tree.

**13** Click **Close** to close the New Requirement dialog box.

**Version Control:** The new requirement is automatically checked out. For more information, see “Checking Out Entities” on page 104.

**14** To add test coverage for the requirement, choose **View > Requirement Details**. You can also choose **View > Coverage Analysis** to display the breakdown of child requirements according to test coverage status. For more information, see Chapter 19, “Requirement and Test Coverage.”

- 15** To add requirement traceability links for the requirement, choose **View > Requirement Details** and click the **Requirements Traceability** tab. For more information, see Chapter 14, “Tracing Requirements.”
- 16** To add defect links for the requirement, choose **View > Requirement Details** and click the **Linked Defects** tab. For more information, see Chapter 36, “Linking Defects.”

## Assigning Requirements to Releases or Cycles

After you have defined your requirements in the requirements tree, you assign the requirements to a release or a cycle in the Releases module. You can assign requirements to one or more releases or cycles in the releases tree. For more information, see Chapter 10, “Developing the Releases Tree.”

During the test planning stage, you associate the tests in the Test Plan module to your assigned requirements to create coverage. By defining coverage, you can keep track of the relationship between the tests in your test plan and your requirements. For more information on coverage, see Chapter 19, “Requirement and Test Coverage.”

During the test running stage, you add the tests that cover the assigned requirements to test sets in the Test Lab module, and then you assign the test set folders to cycles. For more information, see “Assigning Test Set Folders to Cycles” on page 385.

**Quality Center Starter Edition:** Assigning requirements to releases or cycles is unavailable.

---

**Note:** Assigning a parent requirement to a cycle also assigns its child requirements to the same cycle.

---

**To assign a requirement to a release or a cycle:**

- 1** In the requirements tree, select the requirement that you want to assign to a release or a cycle. To select more than one requirement, use the **Ctrl** key.

- 2 To assign to a release, choose **Requirements > Assign To Release**. Alternatively, right-click and choose **Assign To Release**. The Assign To Release dialog box opens. Expand the tree and select a release. Click **OK** to close the dialog box.  
  
To assign to a cycle, choose **Requirements > Assign To Cycle**. Alternatively, right-click and choose **Assign To Cycle**. The Assign To Cycle dialog box opens. Expand the tree and select a cycle. Click **OK** to close the dialog box.
- 3 If the selected requirement contains child requirements, a confirmation box opens. Click **Yes** to assign the requirement and its child requirements. Click **No** to assign the requirement without its child requirements.

## Adding Rich Text to Requirements

You can add, view, and edit Microsoft Word rich text from within Quality Center, without the need to edit the text in Word. Changes you make to the rich text for a requirement are saved automatically when you move to a different requirement or a different module.

---

**Note:** To verify supported versions of Microsoft Word, refer to the *HP Quality Center Installation Guide*.

---

### To add rich text to a requirement:

- 1 Select a requirement and click the **RichContent** tab. A Microsoft Word editor is displayed.
- 2 Edit the rich text as you would in Word. For more information on using Word to edit rich text, refer to the Microsoft Word documentation.
- 3 To edit rich text in a separate window, click the **Maximize Content** button.
- 4 To replace the existing rich text with content from a saved Word file, in the **RichContent** tab, choose **File > Import**.
- 5 To replace the existing rich text with a blank page, in the **RichContent** tab, choose **File > New**.
- 6 To save the rich text as a Word document, choose **File > Save**.



## Updating Requirements

You can update your requirements directly in the requirements tree or grid, or in the Requirement Details dialog box. Using the Requirement Details dialog box, you can update the details, attachments, tests coverage, requirement traceability links, risk-based quality management settings, and defect links for any requirement. You can also view a list of changes made to any requirement.

**Quality Center Starter Edition:** Not all fields and functionality are available in Requirement Details if you are working with the Starter Edition.



**To update a requirement:**

- 1 Double-click the requirement you want to update. Alternatively, select the requirement and click the **Requirement Details** button. The Requirement Details dialog box opens.





- 2 You can click the **First** button to display the first requirement in the tree or grid, or the **Previous** button to display the preceding requirement.



- 3 You can click the **Next** button to display the next requirement in the tree or grid, or the **Last** button to display the final requirement in the tree or grid.



- 4 Click the **Send by Email** button to send an email with the requirement details. For more information on mailing requirements, see “Mailing Requirements” on page 194.

- 5** In the **Details** view, you can add or modify information for the selected requirement. For more information on available fields in the **Details** view, see “The Requirement Fields” on page 171.
- 6** Click **Requirements Traceability** on the sidebar to add requirement traceability links for the requirement. For more information on traceability, see Chapter 14, “Tracing Requirements.”
- 7** Click **Test Coverage** on the sidebar to add test coverage for the requirement. For more information on test coverage, see Chapter 19, “Requirement and Test Coverage.”
- 8** Click **Linked Defects** on the sidebar to add defect links for the requirement. A clickable icon  is placed next to the requirement in the Requirements Grid. For more information on linked defects, see “Linking Defects” on page 497.
- 9** Click **Risk** on the sidebar to use risk-based quality management to help you determine a strategy for testing the requirement. For more information on risk-based testing, see Chapter 15, “Calculating Requirement Risks.”
- 10** Click **Attachments** on the sidebar to add an attachment to the requirement. An attachment can be a file, URL, snapshot of your application, system information, or an item from the Clipboard. A clickable attachment icon  is placed next to the requirement in the Requirements Grid. For more information on attachments, see Chapter 5, “Adding Attachments.”
- 11** Click **History** on the sidebar to view the history of changes made to the requirement. For more information, see “Viewing Requirement History” on page 193.
- 12** Click **OK** to save your changes and close the Requirement Details dialog box.

## Finding Requirements

You can search for a particular requirement by using the **Find** command.



---

**Tip:** If available, **Text Search** is a more powerful tool that enables you to search for keywords and variations of keywords. For information on using text search, see “Searching Records” on page 72.

---

### Finding Requirements in the Requirements Tree

You can search for a requirement in the requirements tree. If you have applied filters to the tree, the search is restricted to the requirements currently displayed.

**To find a requirement in the requirements tree:**

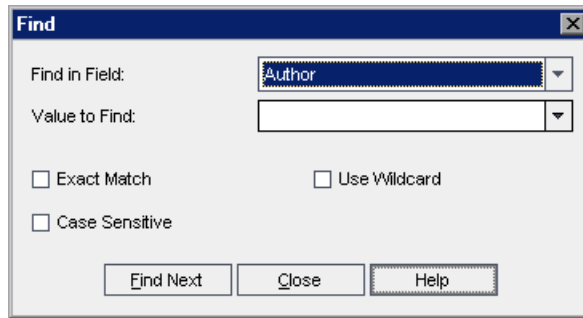
- 1** Choose **Edit > Find**. The Find Requirement dialog box opens.
- 2** In the **Find in Field** box, select the search criterion.
- 3** In the **Value to Find** box, type or select the value of the field you chose. The search is not case sensitive.
- 4** Click **Find**. The Requirements module searches for the requirement with the specified value. If the search is successful, the Search Results dialog box opens and displays a list of possible matches. Select a result from the list and click the **Go To** button to highlight the requirement in the requirements tree. If the search is unsuccessful, an information box opens.

## Finding Requirements in the Requirements Grid

You can search for requirements in the requirements grid, based on the value of a particular field. If you have applied filters to the grid, the search is restricted to the requirements currently displayed.

**To find a requirement in the requirements grid:**

- 1 Choose **Edit > Find**. The Find dialog box opens.



- 2 In the **Find in Field** box, select a field in the grid.
- 3 In the **Value to Find** box, type or select the value of the field, for which you want to search.
- 4 Select **Exact Match** if you want to find requirements with field values that exactly match the Value to Find string.
- 5 Select **Case Sensitive** if you want the search to distinguish between uppercase and lowercase characters.
- 6 Select **Use Wildcard** if you want to use asterisk (\*) characters in your search string in order to type only part of the item.
- 7 Click **Find Next**. If the search is successful, the matching requirement is highlighted in the grid. If the search is unsuccessful, an information box opens.
- 8 Click **Find Next** again to find the next requirement that matches the criteria.

## Replacing Field Values

You can replace field values in the requirements tree or in the requirements grid using the **Replace** command.

### Replace Field Values in the Requirements Tree

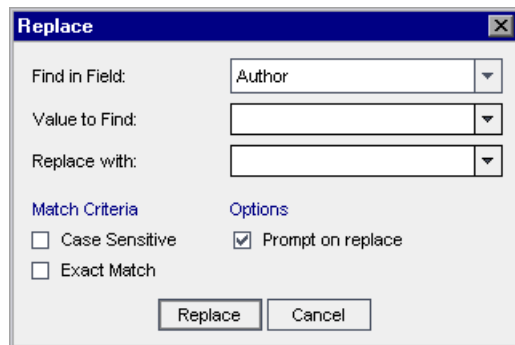
You can replace field values for a selected requirement and all of its child requirements, or for all requirements in the requirements tree.

**To replace a field value in the requirements tree:**

- 1 To replace a field value for the selected requirement and of its child requirements, select a requirement in the tree and choose **Edit > Replace > Replace Selected**.

To replace all values, choose **Edit > Replace > Replace All**.

The Replace dialog box opens.



- 2 In the **Find in Field** box, select the field in which you want to replace values.
- 3 In the **Value to Find** box, type or select the value for which you want to search.
- 4 In the **Replace with** box, type or select a replacement value.
- 5 To distinguish between uppercase and lowercase characters, select the **Case Sensitive** check box.
- 6 To search for an exact value, select the **Exact Match** check box.

- 7 To receive a prompt before each value is replaced, select the **Prompt on replace** check box.
- 8 Click **Replace**. If you selected **Prompt on replace** in step 7, the Confirm dialog box opens.
  - Select **Yes** to replace the current occurrence of the value.
  - Select **Replace All** to replace the value, either in the selected requirement and its child requirements, or in all the requirements, according to your selection in step 1.

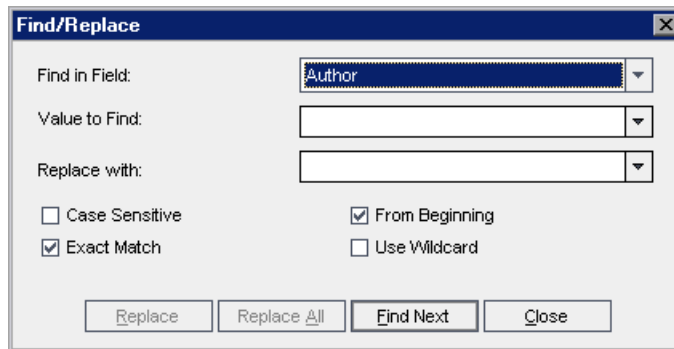
An Information dialog box opens, showing the number of values that were replaced, and the number of instances where the values were not replaced. Click **OK**.

## Replace Field Values in the Requirements Grid

You can replace field values in the requirements grid using the Replace command.

**To replace a field value in the requirements grid:**

- 1 Choose **Edit > Replace**. The Find/Replace dialog box opens.



- 2 In the **Find in Field** box, select the column in which you want to search for a specific value.
- 3 In the **Value to Find** box, type or select the value to find.
- 4 In the **Replace with** box, type or select a replacement field value.

- 5** To distinguish between uppercase and lowercase characters, select the **Case Sensitive** check box.
- 6** To search for an exact value, select the **Exact Match** check box.
- 7** To start the search from the top of the grid, select the **From Beginning** check box.
- 8** To use asterisk (\*) characters in your search string in order to type only part of the item, select the **Use Wildcard** check box.
- 9** To replace the found item and find the next occurrence, click **Replace**.
- 10** To replace all occurrences of the value in the grid, click **Replace All**.

## Viewing the Requirements Tree

You can change the way the Requirements module displays the requirements tree. This includes zooming in and out of the tree, refreshing the tree, filtering the tree, and expanding and collapsing the branches of the tree.

### Zooming the Tree

You can zoom in and zoom out of the requirement topics in the requirements tree. This enables you to change the level of detail that the tree displays.

**To zoom in:**

- 1** Select a requirement topic in the requirements tree.
- 2** Click the **Zoom In** button on the toolbar. Alternatively, right-click the requirement and choose **Zoom In**.



The requirements tree only displays the selected requirement topic and includes a heading with the hierarchical path of the requirement topic.

#### To zoom out:

To reverse a zoom in action, you can either zoom out one level or zoom out to the highest hierarchical level.

- Click the **Zoom In** arrow and choose **Zoom Out One Level** to undo the previous zoom in command.
- Click the **Zoom In** arrow and choose **Zoom Out To Root** to zoom out to the highest hierarchical level and display the entire requirements tree.

### Refreshing the Tree



You can refresh the data in the tree so that it displays the most up-to-date requirements. To refresh the tree, click the **Refresh All** button.

### Filtering Requirements



You can filter and sort requirements in the Requirement module. Click the **Set Filter/Sort** arrow and choose from the following options:



- **Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter and sort the requirements in the Requirement module.
- **Clear Filter/Sort.** Clears any filters or sorting that you have applied to the requirements tree or grid.

For more information, see Chapter 3, “Working with Quality Center Data.”

### Expanding and Collapsing the Tree

You can expand and collapse the branches in the requirements tree. This enables you to change the level of detail that the tree displays.

#### To expand and collapse the tree:

- To expand a branch in the tree, click the Expand  sign to the left of the branch name. To expand all the levels in a branch, right-click the branch name and choose **Expand All**.
- To collapse a branch in the tree, click the Collapse  sign to the left of the branch name. To collapse all the levels in a branch, right-click the branch name and choose **Collapse**.



## Viewing Requirement History

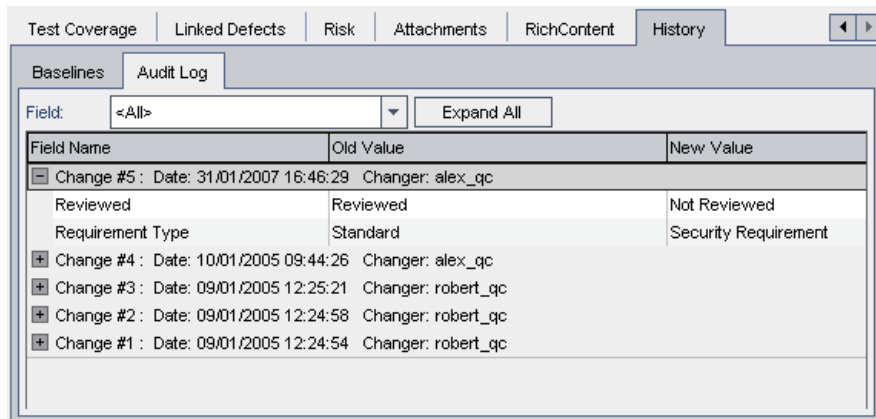
You can view a list of changes made to any requirement in the requirements tree.

You can also view previous versions of requirements stored in a particular baseline. For more information, see “Viewing Baseline History” on page 524.

**To view requirement history:**

- 1 In the requirements tree, select a requirement. Click the **History** tab. The history of changes made to the requirement is displayed in a grid.

**Version Control:** By default, the Versions and Baselines tab is displayed. Click the **Audit Log** tab to view requirement history.



For each change to the requirement, the grid displays the date and time of the change and the name of the user who made the change.

- 2 Expand a change to view a list of fields modified during the change. For each field, the grid displays the old value and the new value. To expand all changes, click the **Expand All** button.
- 3 You can specify which changes are displayed in the grid. In the **Field** list, select a field name to view only changes made to that field. Select **<All>** to view changes made to all fields.

For information on preserving the history of changes made to a field, refer to the *HP Quality Center Administrator Guide*.

## Mailing Requirements

You can send email about a requirement to other users in your Quality Center project. This enables you to routinely inform them about the status of your requirements. A link is included in the email message that enables the recipient to go directly to the requirement.

---

**Note:** By default, Quality Center sends email in HTML format. To send email as plain text instead, edit the **MAIL\_FORMAT** parameter in the **Site Configuration** tab in Site Administration. For more information, refer to the *HP Quality Center Administrator Guide*.

---

### To mail a requirement:



- 1 Select one or more requirements and click the **Send by Email** button. The Send Email dialog box opens.

**Send E-mail**

ABC ✓ [Icons]

To: [Text Box]

CC: [Text Box]

Subject: DEFAULT.QualityCenter\_Demo - Requirement #3 - Mercury Tours Application

Item: [Text Box]

3 - Mercury Tours Application

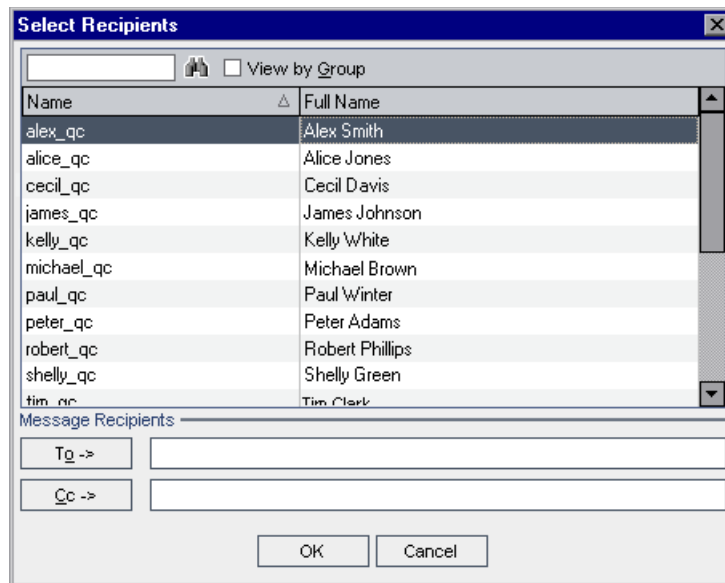
Include: ☐ Attachments ☐ History ☐ Tests Coverage ☐ Traced Requirements

Additional comments: [Text Area]

[Send] [Custom...] [Cancel] [Help]

**Tip:** You can automatically send the email to a specific user type. This can be any requirement column with a user name value, including user-defined fields. Click the **Send by Email** arrow and choose an option. For example, choose **Send by Email to Author** to send the email to the user who wrote the requirement.

- 2 Type a valid email address or user name. Alternatively, click the **To** button or **CC** button to select users. The Select Recipients dialog box opens.



You can sort the users list, search for users, group users by user groups, and select users from the list or from a group tree. For more information, see “Selecting Users” on page 55.

Select the users or user groups to which you want to send the email, and click **OK**.

- 3 In the **Subject** box, type a subject for the email.
- 4 Choose whether you want to include the **Attachments, History, Tests Coverage** and/or **Traced Requirements** of the requirement. If you include the requirement's **Attachments**, any rich text for the requirement is included as a separate attachment.
- 5 In the **Additional comments** box, add any comments you may have.
- 6 To check the spelling in the dialog box:



- Click the **Check Spelling** button to check the spelling for the selected word or text box. If there are no errors, a confirmation message opens. If errors are found, the Spelling dialog box opens and displays the word together with replacement suggestions.



- Click the **Spelling Options** button to open the Spelling Options dialog box, enabling you to configure the way spelling is checked.



- Click the **Thesaurus** button to open the Thesaurus dialog box and display a synonym, antonym, or related word for the selected word. You can replace the selected word or look up new words.

- 7 Click **Custom** to customize the email. In the Select Fields dialog box, you can specify fields to include in the email.
- 8 Click **Send** to send the email.

## Modifying Requirements

This section on modifying requirements includes the following topics:

- Renaming Requirements
- Copying Requirements
- Copying URLs of Requirements
- Updating Multiple Requirements
- Moving Requirements
- Deleting Requirements

## Renaming Requirements

You can rename a requirement in the Requirements module. A name cannot include the following characters: \ ^ \*

---

**Note:** You cannot rename the root folder.

---

### To rename a requirement:

- To rename a requirement in the tree, select a requirement and choose **Edit > Rename**. Alternatively, right-click the requirement and choose **Rename**. Edit the requirement name and press ENTER.
- To rename a requirement in the grid, click the requirement's name and type a new name.

## Copying Requirements

You can copy a requirement within the same project or between projects. When you copy a requirement topic, any children of the requirement topic are also copied.

---

### Notes:

- Test coverage, defect linkage, and risk-based quality management data for the requirement are not copied.
  - To copy a requirement with traceability, you must also copy its associated traced requirements.
  - The root folder cannot be copied within the same project.
-

**To copy a requirement:**

- 1** Select a requirement from the requirements tree or grid. To copy more than one requirement, press the CTRL key and select the requirements you want to copy.
- 2** Choose **Edit > Copy**. Alternatively, right-click and choose **Copy**.
- 3** If you are copying a requirement from the grid to the requirements tree, choose **View > Requirements Tree**. The Requirements Tree view is displayed.
- 4** Select a requirement in the requirements tree.
- 5** Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**.

Note that if you paste a requirement that has the same name as an existing requirement, the suffix `_Copy` is added automatically to the end of the requirement's name.

## **Copying URLs of Requirements**

You can copy a requirement and paste its URL as a link. The requirement itself is not copied. Instead, you can paste the address into another location, such as an email or a document. Clicking the link opens up Quality Center and takes you to the requirement. If you are not already logged in, Quality Center first prompts for login details.

**To copy a URL of a requirement:**

- 1** Select a requirement from the requirements tree or grid.
- 2** Choose **Edit > Copy URL**. Alternatively, right-click and choose **Copy URL**.
- 3** Paste the URL.

## **Updating Multiple Requirements**

You can update a field value for multiple records in the requirements tree or grid. To update, select the records in the grid or select the requirements in the requirements tree. Choose **Edit > Update Selected**. The Update Selected dialog box opens. For more information, see “Updating Multiple Records” on page 70.

## Moving Requirements

You can move a requirement to a different location in the requirements tree. Moving a requirement topic also moves its child requirements, tests coverage, requirement traceability links, and defects linkage. The root folder cannot be moved.

---

**Tip:** You can also move a requirement to a new location in the requirements tree by dragging it.

---

### To move a requirement:

- 1** Select a requirement from the requirements tree. To move more than one requirement, press the CTRL key and select the requirements you want to move.
- 2** Choose **Edit > Cut** or right-click the requirements and choose **Cut**.
- 3** Select a requirement in the requirements tree.
- 4** Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**.

## Deleting Requirements

You can delete a requirement from the Requirements module. Deleting a requirement also deletes its child requirements, tests coverage, requirement traceability links, and defects linkage. Note that you cannot delete the root folder.

**Version Control:** Deleting a requirement deletes all previous versions of the requirement.

### To delete a requirement:

- 1** Select a requirement. To delete more than one requirement, press the CTRL key and select the requirements you want to delete.
- 2** Click the **Delete** button or right-click and choose **Delete**.
- 3** Click **Yes** to confirm.



## Creating Tests from Requirements

After you have created the requirements tree, you use the requirements as a basis for defining the tests in your test plan tree and running tests in a test set. Note that you must have the necessary permissions in order to create tests.

There are two methods you can use to create tests from requirements:

- **Convert Requirements to Tests.** Convert requirements to tests in a specified subject in the test plan tree. You can convert selected requirements or all requirements in the requirements tree. This method, using the Convert to Tests wizard, assists you when designing your test plan tree. See “Converting Requirements to Tests” on page 200.
- **Generate a Test from Requirements.** Convert requirements to a test in a specified subject in the test plan tree and a specified test set in the Test Lab module. This method, using the Generate Test dialog box, enables you to quickly run a test when analyzing your requirements. See “Generating a Test from Requirements” on page 205.

### Converting Requirements to Tests

Use the Convert to Tests wizard to convert requirements to tests in a specified subject in the test plan tree. Coverage is automatically created between the requirements and their corresponding tests.

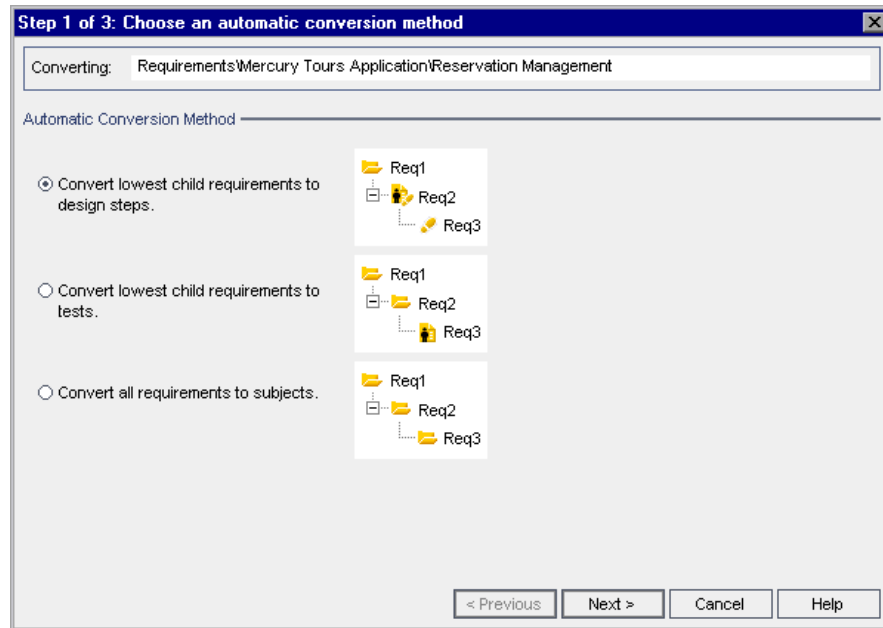
**To convert requirements to tests:**

- 1 To convert a specific requirement, select the requirement in the requirements tree. To convert all requirements, select the root requirement folder in the requirements tree.



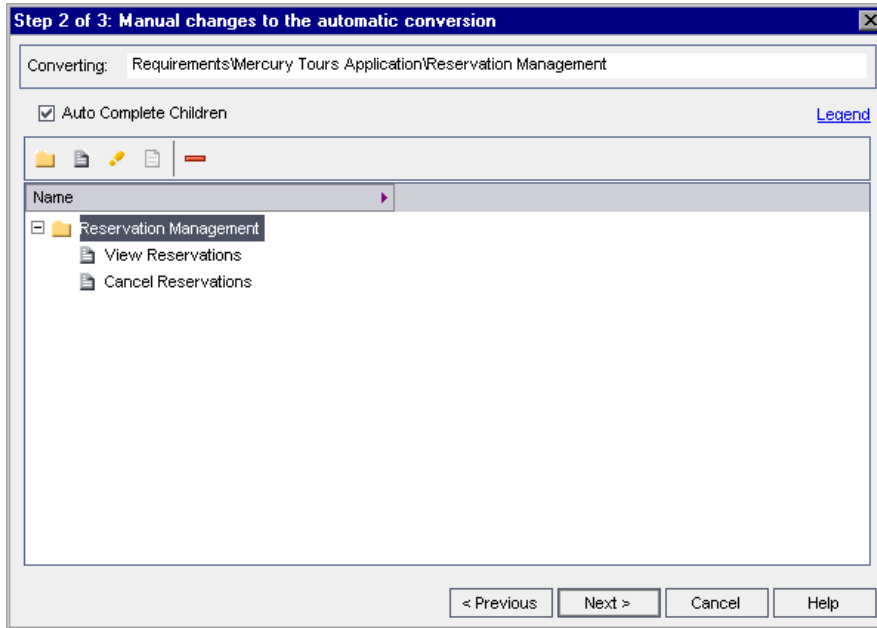
**2 Choose Requirements > Convert to Tests.**

The Step 1 dialog box opens.

**3 Choose an automatic conversion method:**

- Select **Convert lowest child requirements to design steps** to convert all lowest level child requirements to design steps, the next level up to tests, and all levels above to subjects.
- Select **Convert lowest child requirements to tests** to convert all lowest level child requirements to tests and all levels above to subjects.
- Select **Convert all requirements to subjects** to convert all selected requirements to subjects.

- 4 Click **Next** to begin converting the requirements. To cancel the conversion process and return to the Step 1 dialog box, click the **Stop** button in the progress bar. When the conversion process is complete, the results are displayed in the Step 2 dialog box.



---

**Note:** If you are converting a single requirement, the wizard skips this dialog box.

---

- 5 To view the wizard legend, click the **Legend** link.

**6** For each converted item, you can do the following:



- Select the item and click the **Convert to Subject** button or right-click the item and choose **Subject**, to change the item to a subject in the test plan tree. Children can then be either subjects or tests. Note that subject names must be unique.



- Select the item and click the **Convert to Test** button or right-click the item and choose **Test**, to change the item to a test in the test plan tree. Children are then converted to steps. Note that test names must be unique.



- Select the item and click the **Convert to Step** button or right-click the item and choose **Step**, to change the item to a step in the test plan tree. Children are then converted to step descriptions.



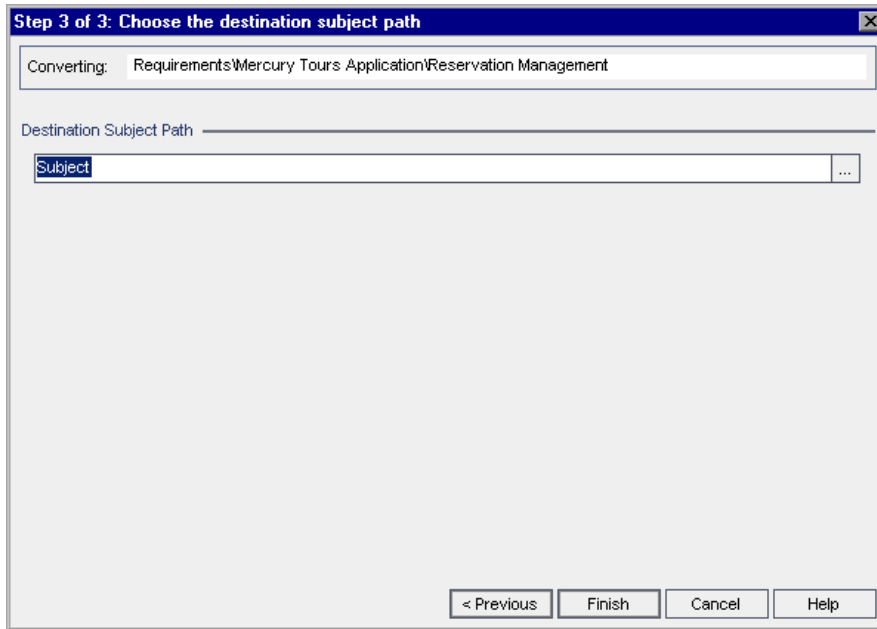
- Select the item and click the **Convert to Description** button or right-click the item and choose **Description**, to change the item to a step description in the test plan tree. Children are then converted to indented description text.



- Select the item and click the **Exclude from Conversion** button or right-click the item and choose **Exclude** to exclude the item from the test plan tree.

**7** Clear the **Auto Complete Children** check box if you do not want the wizard to assist you when you make changes. If this option is selected and you change the level of a parent, for example, from a subject to a test, the wizard changes the level of all the children from tests to test steps.

- 8 Click **Next**. The Step 3 dialog box opens.



- 9 Under **Destination Subject Path**, click the **Select Subject** button to select a subject from your test plan tree in the Select Destination Subject dialog box. Alternatively, type a new subject name. By default, the subject folder and tests are placed in the **Subject** folder of the Test Plan module.
- 10 Click **Finish**.
- 11 To stop the conversion process and return to the Step 3 dialog box, click the **Stop** button in the progress bar.

---

**Note:** If you stop the conversion process, any requirements already converted are not deleted from the test plan tree. You must delete them manually.

---

- 12 Click **OK** to close the Convert to Tests wizard or view the error messages that have been generated.

## Generating a Test from Requirements

Use the Generate Test dialog box to convert requirements to a test in a specified subject in the test plan tree and a specified test set in the Test Lab module. Coverage is automatically created between the requirements and their corresponding tests. Note that by default you cannot generate a test for the following requirement types, which do not enable coverage: Business, Folder, and Group.

**To generate a test from requirements:**

- 1 Select a requirement and choose **Requirements > Generate Test**. Alternatively, right-click a requirement in the requirements tree and choose **Generate Test**. The Generate Test dialog box opens.

- 2 In the **Subject** box, select a subject from your test plan tree or type a new subject name. By default, the test is placed in the **Temporary Tests** folder in the Test Plan module.
- 3 In the **Test Name** box, type a name for the new test. By default, the new test is assigned the same name as the requirement.
- 4 In the **Test Status** box, select a status for the test.
- 5 If you do not want to create design steps, clear the **Create Design Steps** check box. If this option is selected, a step is added to the test for each child requirement.
- 6 Select **Add Test to Test Set** to add the test to a test set in the Test Lab module. In the **Test Set** list, select a test set or type a new test set name.
- 7 Click **OK**.



# 14

---

## Tracing Requirements

Requirements traceability defines a relationship between requirements. As requirements or their linked requirements change, you can trace and monitor the impact of these changes.

---

**Quality Center Editions:** Requirements traceability is available for Quality Center Enterprise Edition and Quality Center Premier Edition.

---

**This chapter includes:**

- About Tracing Requirements on page 208
- Defining Traceability Relationships on page 211
- Viewing Traceability Relationships on page 213
- Viewing Traceability Impact on page 215
- Removing Traceability Relationship Links on page 217

## About Tracing Requirements

Requirements traceability defines a relationship between two or more requirements. When analyzing the impact of a change proposed in a specific requirement, the traceability links indicate the other requirements that the change might affect.

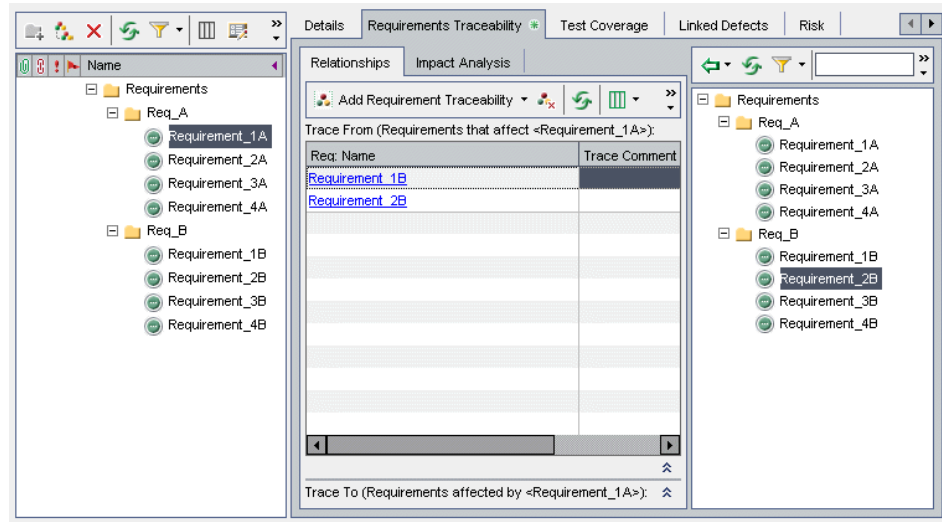
After defining your requirements in the requirements tree (see Chapter 13, “Developing the Requirements Tree”), you can establish traceability between the requirements. Using the Requirements Traceability tab in the Requirement Details view, you can add traceability links to and from a selected requirement. **Trace from** links indicate requirements that affect a selected requirement. **Trace to** links indicate requirements that are affected by a selected requirement.

When a requirement changes, Quality Center alerts the affected requirements. The alerts can be seen by all users. Quality Center also sends email notifications to the authors of the affected requirements. For more information on alerts, see Chapter 4, “Alerting on Changes.”



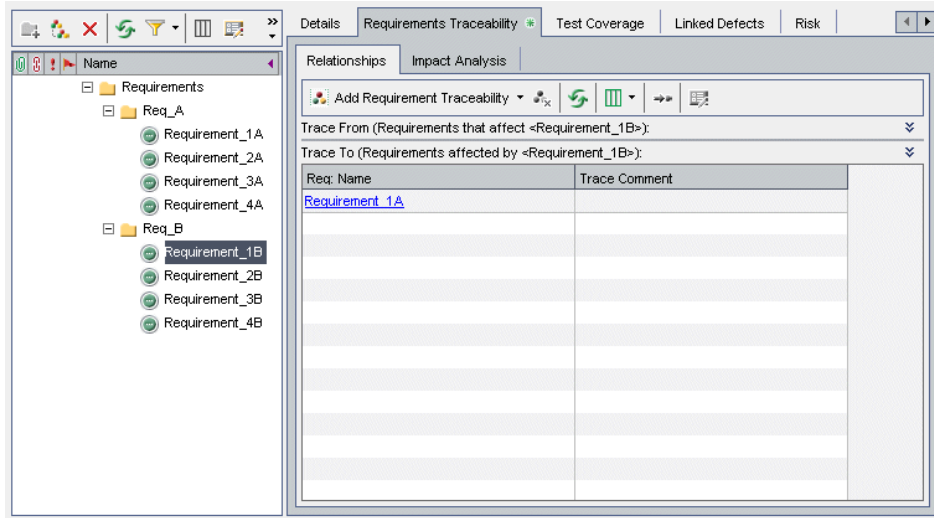
## Requirements Traceability Example

To implement this relationship between the requirements, suppose Requirement\_1B and Requirement\_2B affect Requirement\_1A. You select Requirement\_1A in the requirements tree. In the Relationships tab, you add Requirement\_1B and Requirement\_2B to the Trace From grid.

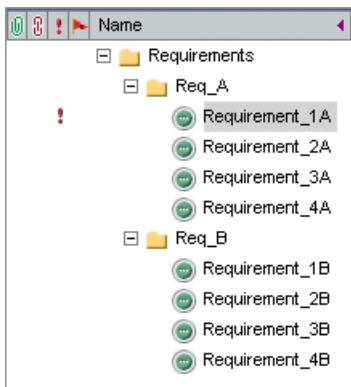


If you select Requirement\_1B in the requirements tree, the Trace To grid indicates that Requirement\_1B is traced to Requirement\_1A.

If you select Requirement\_2B in the requirements tree, the Trace To grid indicates that Requirement\_2B is traced to Requirement\_1A.



When a requirement changes, Quality Center flags the traced to requirements and sends email to notify the authors to evaluate the impact on their requirements. For example, if you change Requirement\_1B or Requirement\_2B, Quality Center alerts Requirement\_1A and alerts its author. The alerts are visible to all users.



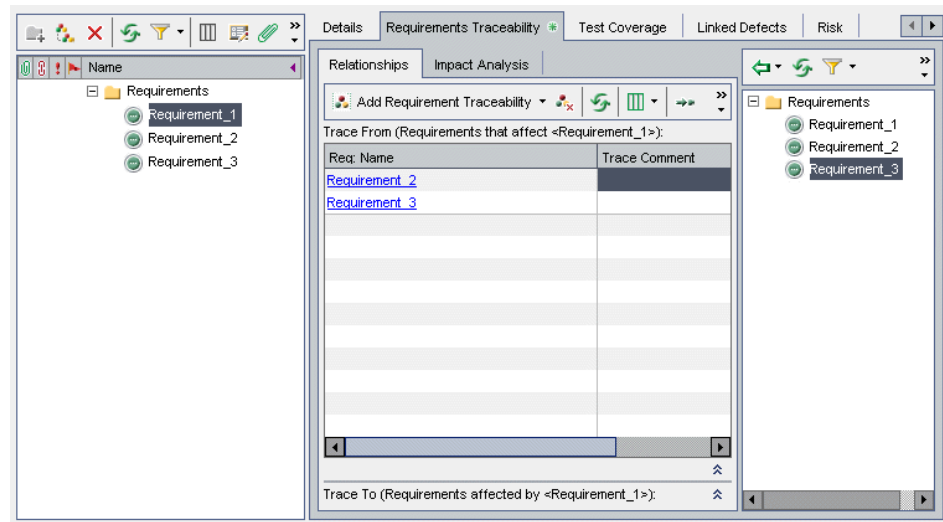
## Defining Traceability Relationships

You can define traceability relationships between requirements in the Relationships tab. This tab contains the Trace From and Trace To grids. The Trace From grid displays requirements that affect a selected requirement. The Trace To grid displays the requirements that are affected by the selected requirement.

You define a relationship by selecting a requirement from the requirements tree or by typing a requirement ID.

### To define a relationship using the requirements tree:

- 1 In the Requirement Details view, select a requirement from the requirements tree and click the **Requirements Traceability** tab. By default, the Relationships tab is displayed.
- 2 Click the **Show/Hide** arrow to display the Trace From or Trace To grid.
- 3 In the Relationships tab, click the **Add Requirement Traceability** button to open the requirements tree in the right pane.



- 4 To search for a specific requirement in the tree, type the name (or part of the name) of the requirement in the **Find** box and click the **Find** button. If the search is successful, the requirement is highlighted in the tree.



- 5 To filter or sort requirements in the tree, click the **Set Filter/Sort** button. For more information on filtering and sorting records, see Chapter 3, “Working with Quality Center Data”.



- 6 To refresh the tree, click the **Refresh All** button.

- 7 Select a requirement to add to the grid:



- Click the **Add to Traceability** arrow and choose **Add to Traceability (Trace To)** to add the requirement to the Trace To grid.
- Click the **Add to Traceability** arrow and choose **Add to Traceability (Trace From)** to add the requirement to the Trace From grid.

The requirement is added to the grid.

---

**Tip:** You can also add a requirement traceability link by dragging a requirement from the requirements tree to the appropriate grid.

---



- 8 Click the **Close** button to hide the requirements tree in the right pane.

#### To define a relationship by typing a requirement ID:

- 1 In the Requirement Details view, select a requirement from the requirements tree and click the **Requirements Traceability** tab. By default, the Relationships tab is displayed.



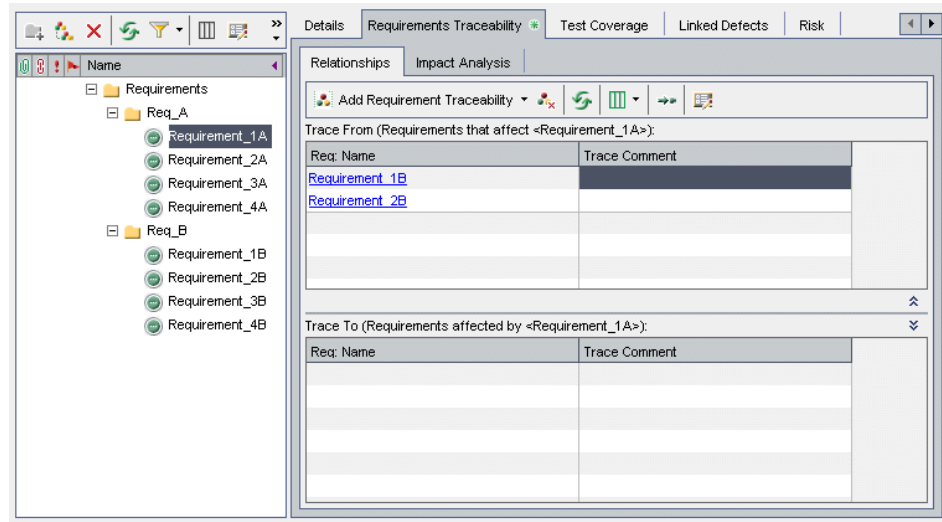
- 2 Click the **Show/Hide** arrow to display the Trace From or Trace To grid.
- 3 Click the **Add Requirement Traceability** button and choose one of the following options:
  - **By ID (Trace From)**. Add a traceability link to the Trace From grid by typing a requirement ID.
  - **By ID (Trace To)**. Add a traceability link to the Trace To grid by typing a requirement ID.

The Trace Existing Requirement dialog box opens.

- 4 Type the requirement ID for the requirement you want to add and click **Trace**. The requirement is added to the specified grid.

## Viewing Traceability Relationships

You can display traceability relationships that exist between requirements in the Relationships tab. This tab contains the Trace From and Trace To grids. The Trace From grid displays requirements that affect a selected requirement. The Trace To grid displays the requirements that are affected by the selected requirement.



In addition to the columns described in “The Requirement Fields” on page 171, the Relationships tab can also display the following columns:

Column	Description
<b>Created By</b>	The user name of the person who created the requirement link. By default, this is the login user name.
<b>Creation Date</b>	The date on which the requirement link was created. By default, the creation date is set to the current database server date.
<b>Modified</b>	The date and time on which the requirement link was modified. By default, the date and time are set to the current database server date and time.

Column	Description
Requirement Trace ID	A unique alphanumeric ID for the requirement link that is assigned automatically.
Trace Comment	Displays comments about the requirement link.

**To view traceability relationships:**

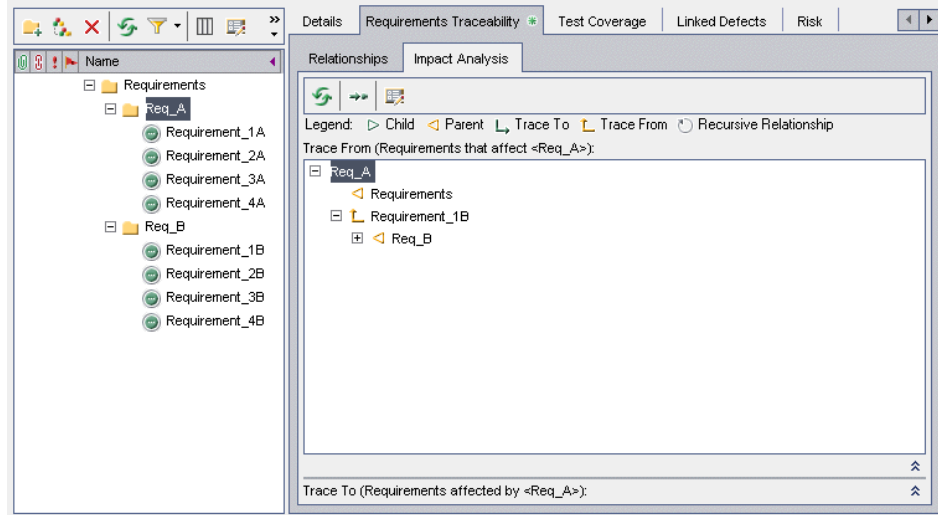
- 1 In the Requirement Details view, select a requirement from the requirements tree and click the **Requirements Traceability** tab. By default, the Relationships tab is displayed.
- 2 To refresh the grids, click the **Refresh All** button.
- 3 To set column appearance and order, click the **Select Columns** arrow and choose **Select Column (Trace From)** or **Select Column (Trace To)**. The Select Columns dialog box opens. For more information, see “Arranging Columns” on page 52.
- 4 To display a traced requirement in the requirements tree, select a requirement and click the **Go To Requirement** button.
- 5 To view details of a traced requirement, select a traced requirement and click the **Requirement Details** button. The Requirement Details dialog box opens. For more information, see “Updating Requirements” on page 184.



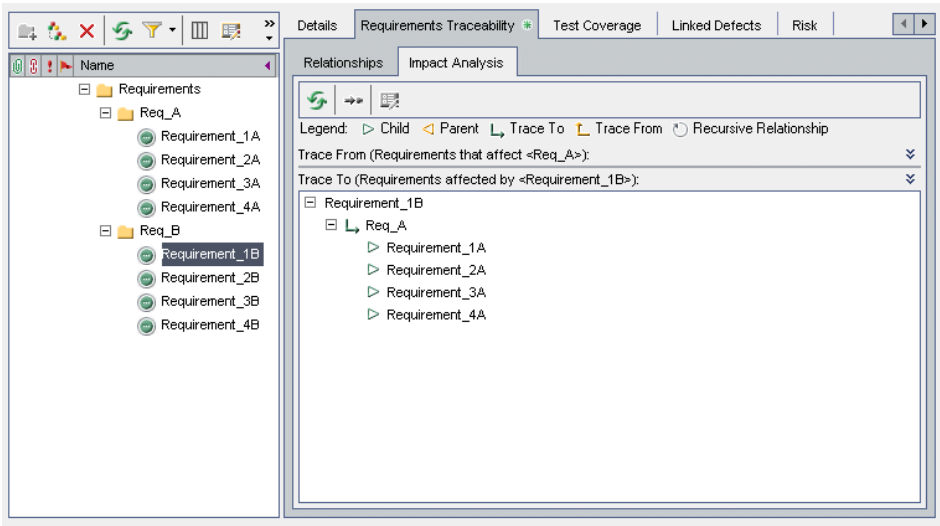
## Viewing Traceability Impact

After establishing traceability relationships, you can analyze the impact of requirement changes by reviewing the relationships. The Impact Analysis tab helps you understand the many associations and dependencies that exist between the requirements by displaying them in a hierarchical tree structure. Unlike the Relationships tab, the Impact Analysis tab shows the affected requirements along with their parent and child requirements.

The Trace From tree displays requirements that affect a selected requirement. For example, the following Trace From tree indicates that Req\_A is traced from Requirement\_1B. Requirements is the parent requirement of Req\_A. Req\_B is the parent requirement of Requirement\_1B.



The Trace To tree displays requirements that are affected by a selected requirement. For example, the following Trace To tree indicates that Requirement\_1B is traced to Req\_A. Requirement\_1A through Requirement\_4A are child requirements of Req\_A, which are affected by Req\_A.






The Impact Analysis tab contains the following icons:

Icon	Description
	A child requirement affected by a change to a selected requirement.
	A parent requirement that affects a selected requirement.
	A traced-to requirement.
	A traced-from requirement.
	A recursive relationship between the requirements.





**To view traceability impact:**

- 1** In the Requirement Details view, select a requirement from the requirements tree and click the **Requirements Traceability** tab. By default, the Relationships tab is displayed.
- 2** Click the **Impact Analysis** tab.
-  **3** To refresh the tree, click the **Refresh All** button.
-  **4** To display a traced requirement in the requirements tree, select a requirement and click the **Go To Requirement** button.
-  **5** To view details of a traced requirement, select a traced requirement and click the **Requirement Details** button. The Requirement Details dialog box opens. For more information, see “Updating Requirements” on page 184.

## Removing Traceability Relationship Links

You can remove a traceability relationship link from the Relationships tab.

**To remove a traceability relationship link:**

- 1** In the Requirement Details view, select a requirement from the requirements tree and click the **Requirements Traceability** tab. By default, the Relationships tab is displayed.
-  **2** Click the **Show/Hide** arrow to display the Trace From or Trace To grid.
- 3** In the appropriate grid, select a traceability relationship link. To select more than one link, press the CTRL key and select the links you want to remove.
-  **4** Click the **Remove from Traceability** button, or right-click and choose **Remove from Traceability**.
- 5** Click **Yes** to confirm.



# 15

---

## Calculating Requirement Risks

Risk-based quality management can assist you in determining testing strategy for your requirements.

---

**Quality Center Editions:** Risk-based quality management is available for Quality Center Enterprise Edition and Quality Center Premier Edition.

---

**This chapter includes:**

- About Calculating Requirement Risks on page 220
- The Risk-Based Quality Management Process on page 221
- Assessing Requirements on page 223
- Defining the Testing Policy Settings on page 229
- Finalizing the Testing Policy on page 231
- Analyzing the Testing Strategy on page 234
- Risk-Based Quality Management Example on page 239

## About Calculating Requirement Risks

When planning how to test your requirements, you generally do not have unlimited resources available, and are not able to fully test every requirement. You must make compromises and only partially test requirements that have low criticality to the business, or those that have only a minor risk associated with their implementation. The risk-based quality management feature enables you to calculate at which level to test each requirement, based on the nature of the requirement and the resources you have available. You can then plan your testing process based on these recommendations.

Each requirement type can be enabled for risk-based quality management. Each requirement type with risk-based quality management enabled can support either risk analysis which is referred to as an **analysis requirement**, or an individual risk assessment which is referred to as an **assessment requirement**.

- An **analysis requirement** is a requirement belonging to a type that represents higher levels in the requirements tree hierarchy, such as the **Folder** type. You perform risk analysis on an analysis requirement based on the assessment requirements under it in the requirements tree.

The risk results of multiple assessment requirements are aggregated to give an overall risk analysis which can then be used to determine testing effort and test strategy.

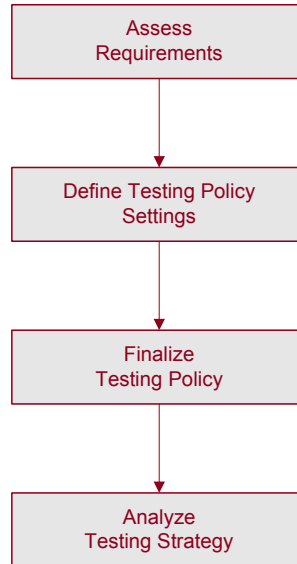
- An **assessment requirement** is a requirement belonging to a type that represents requirements that are children of analysis requirements and at a lower level in the requirements tree hierarchy. Assessment requirements under a particular analysis requirement form the basis for risk analysis on that analysis requirement.

You work with risk-based quality management in the Requirement Details view of the Requirements module. You can also work with risk-based quality management in the Risk view of the Requirement Details dialog box.

You can customize default settings for risk-based quality management. For more information, see the *HP Quality Center Administrator Guide*.

## The Risk-Based Quality Management Process

Performing a risk-based quality management analysis for an analysis requirement involves the following steps:



### Assessing Requirements

For each assessment requirement under the analysis requirement, you determine the Risk and Functional Complexity Categories:

- The **Risk Category** is composed of two factors: Business Criticality and Failure Probability. **Business Criticality** measures how crucial a requirement is for the business. **Failure Probability** indicates how likely a test based on the requirement is to fail.
- The **Functional Complexity Category** indicates the complexity of the requirement's implementation.

For more information, see “Assessing Requirements” on page 223.

## **Defining Testing Policy Settings**

After you determine the Risk and Functional Complexity Categories of the assessment requirements under an analysis requirement, you define the initial settings for testing the analysis requirement and the assessment requirements under it. These settings include how much time to assign to a requirement of a specific Functional Complexity were you to test it fully and how long it would take you to perform partial or basic testing on a requirement. You also decide which level of testing you want to perform on requirements for each Risk and Functional Complexity. For more information, see “Defining the Testing Policy Settings” on page 229.

## **Finalizing the Testing Policy**

After you determine the testing policy settings, Quality Center calculates the total estimated testing time for the analysis requirement and the assessment requirements under it. You decide how much time you have to assign to test these requirements, and can then make adjustments to the testing policy to ensure that you have enough time to perform all the testing, and that no resources are wasted. For more information, see “Finalizing the Testing Policy” on page 231.

## **Analyzing the Testing Strategy**

After you finalize how many resources to allocate to each requirement, you can view a report to analyze the conclusions you reached. For more information, see “Analyzing the Testing Strategy” on page 234.

For an example of using risk-based quality management to help you decide on a testing strategy for a requirement, see “Risk-Based Quality Management Example” on page 239.

## Assessing Requirements

For each assessment requirement under the analysis requirement, you can assign or calculate the Risk and Functional Complexity. The Risk Category is composed of its Business Criticality and Failure Probability. The Functional Complexity Category indicates the complexity of the requirement's implementation.

You determine the Business Criticality, Failure Probability, and Functional Complexity of a requirement by assigning them values directly or by assigning values to a set of criteria. If you do not determine these factors for a requirement, Quality Center does not include the requirement in the risk analysis.

You can customize these criteria, their possible values, and how these values determine the Business Criticality, Failure Probability, and Functional Complexity. You can also customize how the Business Criticality and Failure Probability are used to calculate the Risk. For more information, see the *HP Quality Center Administrator Guide*.

### To assess a requirement:

- 1** In the Requirement Details view of the Requirements module, select an assessment requirement and click the **Risk** tab.
- 2** Click the **Risk Assessment** tab.
- 3** Determine the Risk Category of the selected requirement. For more information, see “Determining the Risk Category” on page 224.
- 4** Determine the Functional Complexity Category of the selected requirement. For more information, see “Determining the Functional Complexity Category” on page 227.
- 5** At the bottom of the Risk tab, in the **Estimated development time** box, you can type the estimated time needed to develop the requirement. Quality Center can then calculate the total estimated development time for an analysis requirement and its children as the sum of the estimated development times of the children. Assigning the estimated development time is optional, and does not affect the risk analysis.
- 6** To ignore an assessment requirement when performing risk analysis, select **Exclude from Analysis**, located at the top of the Risk tab.

## Determining the Risk Category

You can assign or calculate the Risk Category of an assessment requirement. The Risk Category is composed of its Business Criticality and Failure Probability.

The **Business Criticality** of a requirement is a measure of how important the requirement is to your business. It has three possible values: **A - Critical**, **B - Important**, and **C - Nice to Have**. For example, a requirement affecting a minor feature that is likely to be used rarely might be assigned a Nice to Have Business Criticality, whereas a requirement that is essential to your application's functionality would probably be assigned a Critical Business Criticality.

The **Failure Probability** of a requirement is a measure of how likely a test on the requirement is to fail. It has three possible values: **1 - High**, **2 - Medium**, and **3 - Low**. For example, a requirement whose implementation involves making significant changes across most areas of your application would probably be assigned a High Failure Probability. In contrast, a requirement that involves changing an icon in your application would probably not have many associated risks, and so is likely to be assigned a Low Failure Probability.



### To determine the Risk Category for a requirement:

- 1 To determine the Business Criticality value for the requirement, perform the following steps:
  - a In the **Risk Assessment** tab, click the **Business Criticality** tab. The Business Criticality tab displays a list of criteria used to determine Business Criticality.

The screenshot shows the 'Risk Assessment' tool interface. At the top, there's a 'Risk Assessment' section with a checkbox 'Exclude from Analysis' and a note '\* Only complete assessments will be included in the analysis'. To the right, 'Assessment Status' is 'Not Started', 'Overall Risk' is '-', and 'Overall Functional Complexity' is '-'. Below this are three tabs: 'Risk Assessment', 'Functional Complexity', and 'Analysis Results'. The 'Risk Assessment' tab is active, showing 'Calculated Risk' and a checkbox 'Use custom Risk'. Below this are two sub-tabs: 'Business Criticality' and 'Failure Probability'. The 'Business Criticality' sub-tab is active, displaying the instruction 'Assign values to the following criteria to assess the Business Criticality of this requirement:'. It contains a table with four criteria: 'Type of process', 'Impact of failure', 'Frequency of use', and 'Number/Significance of affected users'. Each criterion has a dropdown menu in the 'Value' column. To the right of the table is a 'Description of Criterion' box for 'Type of process', which explains the criterion and lists possible values: 'Calculation/ Validation - The feature represented by the requirement is an important calculation or validation.' At the bottom of the sub-tab, there's 'Calculated Business Criticality' and a checkbox 'Use custom Business Criticality'. The very bottom of the interface has 'Estimated development time (optional):' followed by a text box and the unit 'Hours'.

- b Assign a value to each criterion. To assign a value to a criterion, in the **Criterion** column, click a criterion name and select a value from the **Value** column. You can view a description of a criterion in the **Description of Criterion** box.

After you have assigned a value to each criterion, the **Calculated Business Criticality** is updated according to the values you assigned to the criteria.

- c** To ignore the Business Criticality value calculated on the basis of the values for the criteria, and use instead a custom value when performing risk analysis, select **Use custom Business Criticality**. In the **Use custom Business Criticality** box, select the value which you want to use when performing risk analysis.
- 2** To determine the Failure Probability value for the requirement, perform the following steps:
  - a** Click the **Failure Probability** tab.

<b>Risk Assessment</b>																
<input type="checkbox"/> Exclude from Analysis * Only complete assessments will be included in the analysis	<b>Assessment Status:</b> <div style="background-color: #f0f0f0; padding: 2px; font-weight: bold;">Not Started</div> <b>Overall Risk:</b> -  <b>Overall Functional Complexity:</b> -															
<div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> <span>Risk Assessment</span> <span>Functional Complexity</span> <span>Analysis Results</span> </div>																
<b>Calculated Risk:</b> <div style="border: 1px solid gray; width: 60px; height: 25px; display: inline-block;"></div> <input type="checkbox"/> Use custom Risk <div style="border: 1px solid gray; width: 60px; height: 25px; display: inline-block;"></div>																
<div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> <span>Business Criticality</span> <span>Failure Probability</span> </div>																
<p>Assign values to the following criteria to assess the Failure Probability of this requirement:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;">Criterion</th> <th style="width: 15%;">Value</th> <th style="width: 40%;">Description of Criterion: "Change t</th> </tr> </thead> <tbody> <tr> <td>Change type</td> <td><div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div></td> <td rowspan="4"> <div style="font-size: small;">Whether the feature represented by the requirement is new, changed, or unchanged. This criterion has the following possible values:  <b>New feature</b> - The requirement represents a feature that is new in this release.</div> </td> </tr> <tr> <td>Software maturity</td> <td><div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div></td> </tr> <tr> <td>Defects rate</td> <td><div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div></td> </tr> <tr> <td>Number of affected screens/entities</td> <td><div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div></td> </tr> <tr> <td colspan="3" style="height: 100px;"></td> </tr> </tbody> </table>		Criterion	Value	Description of Criterion: "Change t	Change type	<div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div>	<div style="font-size: small;">Whether the feature represented by the requirement is new, changed, or unchanged. This criterion has the following possible values:  <b>New feature</b> - The requirement represents a feature that is new in this release.</div>	Software maturity	<div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div>	Defects rate	<div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div>	Number of affected screens/entities	<div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div>			
Criterion	Value	Description of Criterion: "Change t														
Change type	<div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div>	<div style="font-size: small;">Whether the feature represented by the requirement is new, changed, or unchanged. This criterion has the following possible values:  <b>New feature</b> - The requirement represents a feature that is new in this release.</div>														
Software maturity	<div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div>															
Defects rate	<div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div>															
Number of affected screens/entities	<div style="border: 1px solid gray; width: 100px; height: 20px; background-color: #e0e0e0;"></div>															
<b>Calculated Failure Probability:</b> <div style="border: 1px solid gray; width: 60px; height: 25px; display: inline-block;"></div> <input type="checkbox"/> Use custom Failure Probability <div style="border: 1px solid gray; width: 60px; height: 25px; display: inline-block;"></div>																
<b>Estimated development time (optional):</b> <div style="border: 1px solid gray; width: 60px; height: 25px; display: inline-block;"></div> Hours																

- b** Assign a value to each criterion. To assign a value to a criterion, in the **Criterion** column, click a criterion name and select a value from the **Value** column. You can view a description of a criterion in the **Description of Criterion** box.

After you have assigned a value to each criterion, the **Calculated Failure Probability** is updated according to the values you assigned to the criteria.

- c** To ignore the Failure Probability value calculated on the basis of the values for the criteria, and use instead a custom value when performing risk analysis, select **Use custom Failure Probability**. In the **Use custom Failure Probability** box, select the value which you want to use when performing risk analysis.
- 3** To ignore the Calculated Risk value calculated on the basis of the values of the Business Criticality and Failure Probability, and use instead a custom value when performing risk analysis, select **Use custom Risk**. In the **Use custom Risk** box, select the value which you want to use when performing risk analysis.

### **Determining the Functional Complexity Category**

You can assign or calculate the Functional Complexity Category of an assessment requirement. The **Functional Complexity** of a requirement indicates the complexity of the requirement's implementation. It has three possible values: **1 - High**, **2 - Medium**, and **3 - Low**. For example, a requirement whose implementation involves making significant changes to your application to enable it to communicate with other systems probably has a high complexity and would be assigned a High Functional Complexity. In contrast, a requirement that involves no significant changes to enable your application to communicate with other systems would probably not have many associated risks, and so is likely to be assigned a Low Functional Complexity.

**To determine the Functional Complexity Category for a requirement:**

- 1 In the **Risk** tab, click the **Functional Complexity** tab. The Functional Complexity tab displays a list of criteria used to determine Functional Complexity.

Risk Assessment

☐ Exclude from Analysis

\* Only complete assessments will be included in the analysis

Assessment Status:

Overall Risk:

Overall Functional Complexity:

Not Started

-

-

Risk Assessment

Functional Complexity

Analysis Results

Assign values to the following criteria to assess the Functional Complexity of this requirement:

Criterion	Value	Description of Criterion: "Number of
Number of windows or process steps	<input type="text"/>	The number of windows, dialogs or steps used to perform the business activity.
Number of entities involved	<input type="text"/>	
Number of data items written	<input type="text"/>	
Number of data item combinations	<input type="text"/>	
<div>Calculated Functional Complexity: <input type="text"/></div> <div> <input type="checkbox"/> Use custom Functional Complexity <input type="text"/> </div>		

Estimated development time (optional):  Hours

- 2 Assign a value to each criterion. To assign a value to a criterion, in the **Criterion** column, click a criterion name and select a value from the **Value** column. You can view a description of a criterion in the **Description of Criterion** box.

After you have assigned a value to each criterion, the **Calculated Functional Complexity** is updated according to the values you assigned to the criteria.

- 3** To ignore the Functional Complexity value calculated on the basis of the values for the criteria, and use instead a custom value when performing risk analysis, select **Use custom Functional Complexity**. In the **Use custom Functional Complexity** box, select the value which you want to use when performing risk analysis.

## Defining the Testing Policy Settings

After you have defined the Risk and Functional Complexity for each requirement, you determine how much time each requirement needs to be tested. The time needed to test a requirement depends on the Functional Complexity of the requirement. A requirement with a high Functional Complexity generally requires more testing time as it is more likely that the requirement's implementation contains defects. For each Functional Complexity, you define the **Testing Time** needed to fully test a requirement with that Functional Complexity.

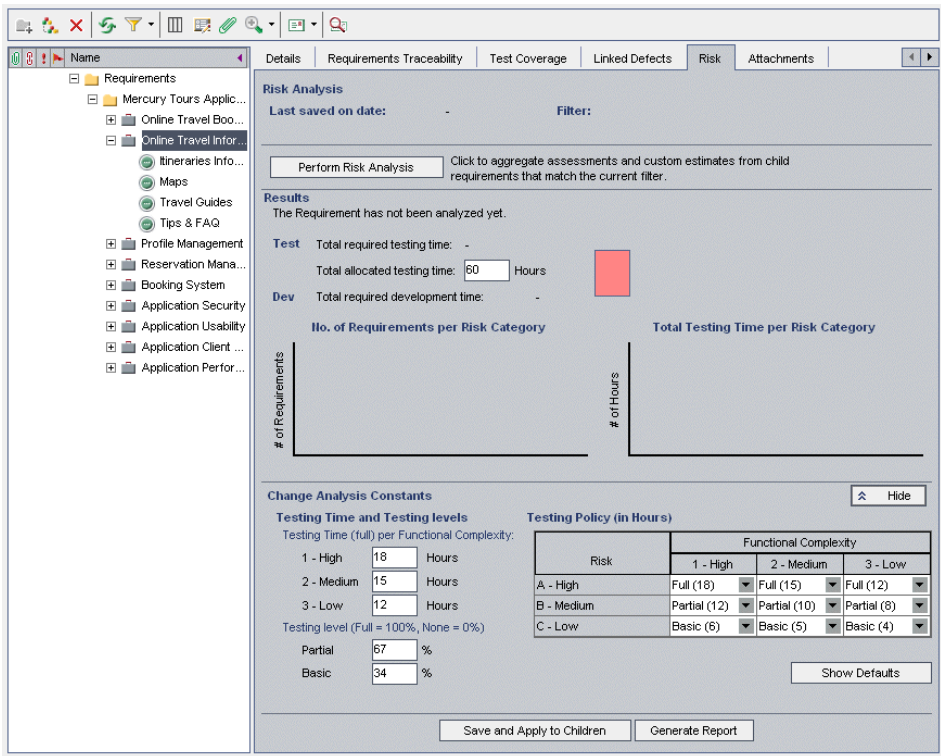
Quality Center defines four **Testing Levels: Full, Partial, Basic, and None**. For partial and basic testing, you define how much Testing Time is required for a requirement as a percentage of full testing. For example, if 20 hours are required to perform full testing on a requirement and partial testing is defined as 75% of full testing, Quality Center calculates that 15 hours are required to perform partial testing on the requirement. A requirement whose Testing Level is set to **None** is not tested at all, and the Testing Effort is zero.

After you define the Testing Time required for each Testing Level and Functional Complexity, you can estimate at what Testing Level to test requirements. For each Risk and Functional Complexity Category, you assign a Testing Level.

You can customize the testing policy used by default. For more information, see the *HP Quality Center Administrator Guide*.

To define the testing policy settings for a requirement:

- 1 In the Requirement Details view of the Requirements module, select an analysis requirement and click the **Risk** tab. Click the **Show** button to display the Change Analysis Constants section.



- 2 Under **Testing Time (full) per Functional Complexity**, for each Functional Complexity value, type the estimated Testing Time required to fully test a requirement.
- 3 Under **Testing level**, in the **Partial** and **Basic** boxes, type the default Testing Time required for partial testing and basic testing of a requirement. You express this as a percentage of the effort required for full testing.

- 4 In the **Testing Policy** grid, define the level at which to test a requirement of each Risk and Functional Complexity Category.

To define these levels, click the arrow next to the cell in the grid. Select a Testing Level from the available Testing Levels. The available Testing Levels are **Full**, **Partial**, **Basic**, and **None**. Next to each Testing Level, you can see the estimated time needed to test a requirement at that level, based on the Testing Efforts and Testing Levels you defined.

- 5 To display the default constants used, click the **Show Defaults** button. The Risk-Based Quality Management Constants Defaults dialog box opens.

In the Risk-Based Quality Management Constants Defaults dialog box, you can click the **Restore Defaults** button to assign these default values to the constants used for the current requirement.

Click **Close** to close the Risk-Based Quality Management Constants Defaults dialog box.

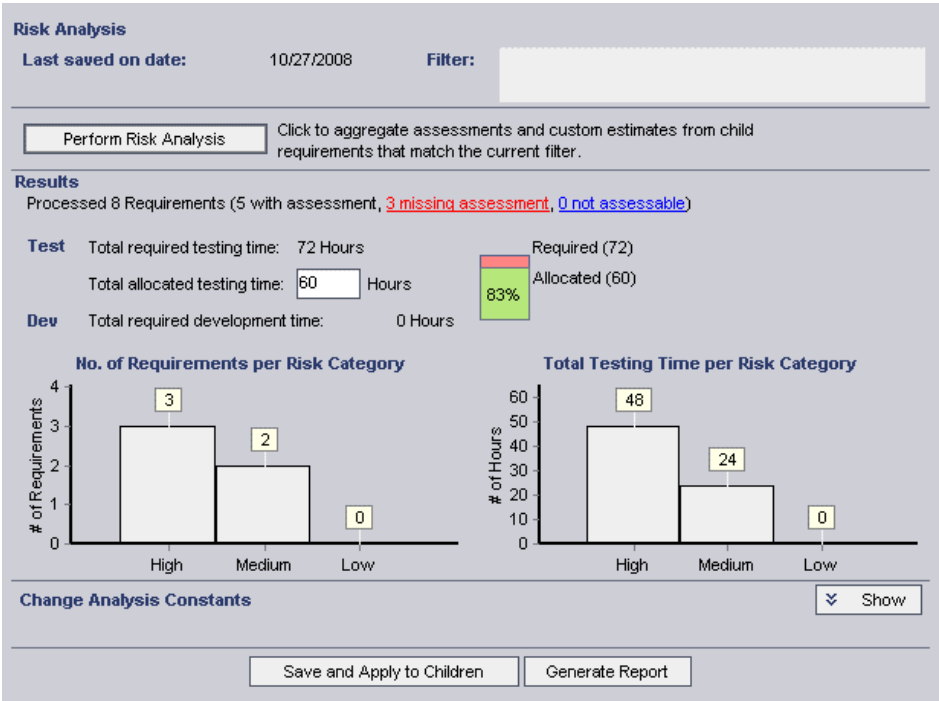
## Finalizing the Testing Policy

Based on the testing policy you defined, Quality Center can calculate the total estimated testing time for the analysis requirement and the assessment requirements under it. You estimate how much time you have available to test these requirements and make adjustments to the testing policy to make sure that the testing time required does not exceed the testing resources available.

For example, suppose you have 100 hours available to test a requirement. Quality Center estimates that you need 120 hours to test the requirement using the current Testing Levels. You decide to lower the Testing Level for requirements with Low Risk and Medium Functional Complexity from **Partial** to **Basic**. After you adjust the Testing Level and recalculate the testing time, Quality Center estimates that you need only 98 hours to perform the testing, which is within the time you have available. You can now plan the testing of your requirement based on Quality Center's recommendations.

To finalize the testing policy:

- 1 Make sure that you have determined the Risk and Functional Complexity Categories of all assessment requirements that are located under the analysis requirement for which you want to finalize the testing policy, and that you want to include in the risk analysis. For more information, see “Assessing Requirements” on page 223.
- 2 You can filter the requirements tree to include only the assessment requirements you want to include in the risk analysis. For more information on filtering, see “Filtering Records” on page 56.
- 3 If you do not want to use the default Testing Effort and Testing Level values, make sure that you have defined custom values. For more information, see “Defining the Testing Policy Settings” on page 229.
- 4 In the Requirement Details view of the Requirements module, select an analysis requirement and click the **Risk** tab.





- 5 In the **Total allocated testing time** box, type the time available to test the analysis requirement and the assessment requirements under it.
- 6 Click the **Perform Risk Analysis** button. Quality Center calculates the Testing Level and Testing Time for each assessment requirement under the analysis requirement that matches the current filter. This calculation is based on the assessment requirements' Risk Category, and the Testing Level and Testing Time values you defined for the analysis requirement. The results of this calculation are displayed in the following ways:
  - **Total required testing time.** Displays the total calculated time required to test all the assessment requirements under the analysis requirement matching the current filter and included in the risk analysis.
  - **Total required development time.** Displays the total time required to develop all the assessment requirements under the analysis requirement, based on the required development time you optionally estimated for each assessment requirement.
  - **No. of Requirements per Risk Category graph.** Displays the number of sub-requirements of the analysis requirement of each Risk Category.
  - **Total Testing Time per Risk Category graph.** Displays the total calculated testing time required to test all the requirements of each Risk Category.
- 7 To display which requirements are included and which were not included in the analysis, click a segment in the Requirements per Risk graph, or the **missing assessment** or **not assessable** links. The Drill Down Results dialog box opens and displays a grid with a list of requirements in the category. You can determine the order and appearance of the columns and view details for an individual requirement. You can also export the contents of the grid as a text file, Microsoft Excel spreadsheet, Microsoft Word document, or HTML document. For more information, see “Exporting Data to a File” on page 74.

---

**Tip:** The **missing assessment** link displays the requirements for which you did not determine a category or exclude explicitly from the analysis. Verify that there are no requirements that should be assigned a category. If you do not want to include a requirement in the analysis, then exclude it from the analysis explicitly.

---

- 8** Compare the total calculated testing time with the resources you have available. If the resources you have available are not sufficient to test the requirement according to the current settings, you can reduce the Testing Level for a Risk Category, or reduce the Testing Time assigned to each Testing Level, and perform the calculation again. For more information on changing the Testing Levels and Testing Times, see “Defining the Testing Policy Settings” on page 229.
- 9** When you are satisfied with the testing policy, click the **Save and Apply to Children** button to apply it to all assessment requirements under the analysis requirement that match the current filter.
- 10** You can now analyze how the testing policy you created for the analysis requirement affects the assessment requirements under it, and produce a report detailing your testing strategy. For more information, see “Analyzing the Testing Strategy” on page 234.

## Analyzing the Testing Strategy

After you have finalized your testing policy for an analysis requirement, you can analyze the testing strategy for the analysis requirement and for the assessment requirements under it. The analysis results are only valid for the requirements at the time the analysis was last performed. If you subsequently modify the Risk or Functional Complexity Categories of the requirements, or the testing policy, you should re-perform the analysis.

This section describes:

- Analyzing the Testing Strategy for Analysis Requirements
- Analyzing the Testing Strategy for Assessment Requirements

## Analyzing the Testing Strategy for Analysis Requirements

After you have finalized your testing policy for an analysis requirement, you can generate a report detailing your testing strategy. The report is saved as a Microsoft Word document in a specific file directory. It can also be saved as an attachment to the analysis requirement.

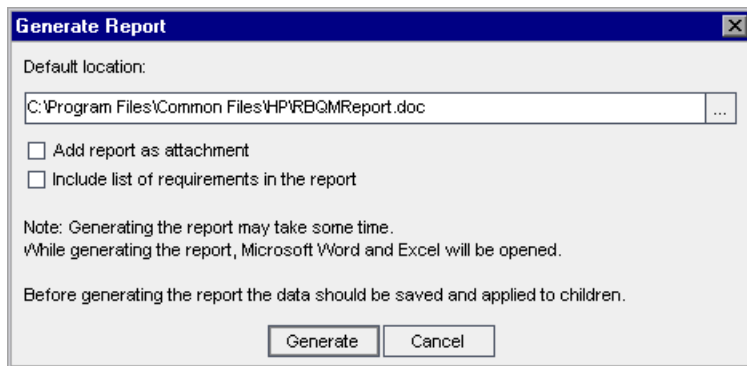
---

**Note:** To generate the report, Microsoft Word and Excel must be installed on your machine.

---

**To analyze the testing strategy for an analysis requirement:**

- 1** In the Requirement Details view of the Requirements module, select an analysis requirement and click the **Risk** tab.
- 2** Make sure that you save the analysis and apply it to all assessment requirements under the analysis requirement. Click the **Save and Apply to Children** button. Click **OK**.
- 3** Click the **Generate Report** button. The Generate Report dialog box opens.



- 4** In the **Default Location** box, type the location and name of the Word file to which you want the data to be exported. You can click the browse button to select a location from the Save As dialog box.
- 5** To also add the report as an attachment to the analysis requirement, select **Add report as attachment**.

- 6** To include a list of the requirements, select **Include list of requirements in the report**.
- 7** Click **Generate**. A report is generated and saved in the location you specified.

The report may contain the following headings, depending on the options you selected in the Generate Report dialog box:

Heading	Description
<b>Date last saved</b>	The date on which the risk analysis was last performed.
<b>Filter</b>	The filter used to determine which requirements were included in the risk analysis.
<b>Processed</b>	The number of requirements included in the risk analysis. Also provides a breakdown of which requirements had assessment, which were missing assessment, and which were not assessable.
<b>Total required testing time</b>	The total time required to test the requirements included in the risk analysis, according to the testing policy you determined.
<b>Total allocated testing time</b>	The total time allocated to test the requirements included in the risk analysis.
<b>Total required development time</b>	The total time required to develop the features defined by the requirements.
<b>No. of Requirements per Risk Category</b>	A graph displaying a breakdown of the number of requirements by their Risk Category.
<b>Total Testing Time per Risk Category</b>	A graph displaying the total time needed to test all the requirements of each Risk Category.
<b>Implemented testing policy</b>	The time necessary to test requirements belonging to each Risk Category, according to the testing policy used in the risk analysis.
<b>Analyzed requirements</b>	A list of the requirements included in the risk analysis which had assessments, together with their Risk Category, Testing Level, and Testing Time.

Heading	Description
<b>Requirements with missing assessments</b>	A list of the requirements included in the risk analysis which did not have assessments.
<b>Not assessable requirements</b>	A list of the requirements that cannot be assessed. These may be requirements explicitly excluded from the analysis, or requirements belonging to a type that does not support risk-based quality management.

## Analyzing the Testing Strategy for Assessment Requirements

After you have finalized your testing policy for an analysis requirement, you can analyze its effect on the assessment requirements under the analysis requirement.

**To analyze the testing strategy for an assessment requirement:**

- 1 In the Requirement Details view of the Requirements module, select an assessment requirement and click the **Risk** tab. Click the **Analysis Results** tab.

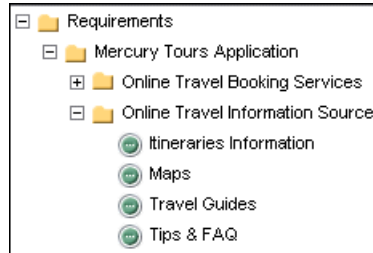
Risk Assessment	Functional Complexity	Analysis Results
Based on analysis requirement: <a href="#">[5] Online Travel Information Source</a>		
Last analysed on date: 10/28/2008		
Overall Risk Assessment: A		
Calculated Testing Level: 1-Full		
Calculated Testing Time: 18 Hours		
<input type="checkbox"/> Use these for the next calculation:		
Testing Level <input type="text"/>		
Testing Time <input type="text"/> Hours		

The Analysis Results tab displays the conclusions of the last analysis you performed on an analysis requirement that is a parent of the assessment requirement:

- **Based on analysis requirement.** Displays the analysis requirement on which the last analysis that included the current requirement was performed. You can click the analysis requirement's name to go to the analysis requirement in the requirements tree.
  - **Last analysis on date.** The date on which the last analysis that included the current requirement was performed.
  - **Overall Risk Assessment.** Calculates the risk based on the Business Criticality and Failure Probability for the requirement.
  - **Calculated Testing Level.** The level at which to test the requirement, as calculated in the last analysis that included the current requirement.
  - **Calculated Testing Time.** The time allocated to test the requirement, as calculated in the last analysis that included the current requirement.
- 2** To override the calculated values in the next calculation, and instead use custom values, select the **Use these for the next calculation** check box. In the **Testing Level** box, select the Testing Level to use for the next calculation. In the **Testing Time** box, type the Testing Effort to use for the next calculation. When you next perform an analysis that includes the current requirement, these values will be used instead of the calculated values.

## Risk-Based Quality Management Example

Suppose you are using a project based on an application for reserving flights and vacations. You want to plan the testing of the analysis requirement **Online Travel Information Source**, located under **Mercury Tours Application**.



You begin by assigning values to the Business Criticality criteria for the child assessment requirement **Itineraries Information**. As information on travel itineraries is for display purposes and does not involve calculation or validation, you assign the value **Display** to the criterion **Type of Process**. As incorrect information on travel itineraries could result in legal action, you assign the value **Legal** to the criterion **Impact of failure**.

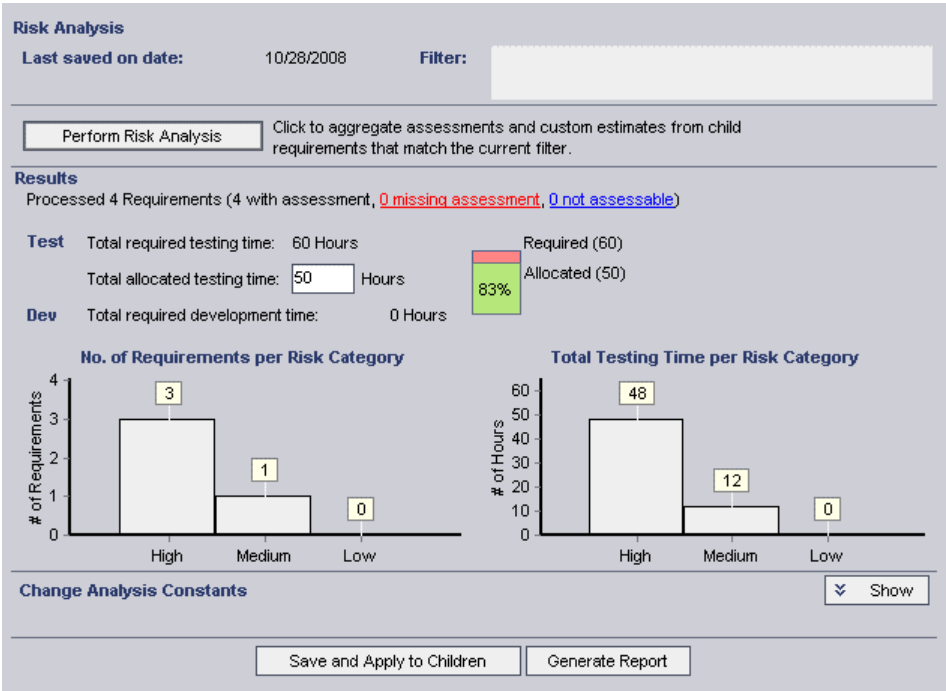
You also assign the value **Very often** to the criterion **Frequency of use**, and the value **Many/High** to the criterion **Number/Significance of affected users**. Quality Center now calculates the Business Criticality of the requirement as **A**.

Risk Assessment		Functional Complexity	Analysis Results
Calculated Risk:		<input type="text"/>	<input type="checkbox"/> Custom Risk <input type="text"/>
Business Criticality		Failure Probability	
Assign values to the following criteria to assess the Business Criticality of this requirement:			
Criterion	Value	Description of Criterion: "Number/Significance of affected users"	
Type of process	Display	How many users are affected by the requirement, and how important the affected users are to the business. This criterion has the following possible values: <b>Many/High</b> - The requirement affects many users, or users with high importance to the business. <b>Some/Medium</b> - The requirement affects some users, or users with	
Impact of failure	Legal		
Frequency of use	Very often		
Number/Significance of affected users	Many/ High		
Calculated Business Criticality:		A	<input type="checkbox"/> Use custom Business Criticality <input type="text"/>

Similarly, you determine the Failure Probability by assigning values to its criteria. Quality Center calculates the Failure Probability as **2**. Next, you determine the Functional Complexity by assigning values to its criteria. Quality Center calculates the Functional Complexity as **1**. The overall Risk Category is **A** and the overall Functional Complexity is **1**.

You then proceed to determine the Risk and Functional Complexity for each of the assessment requirements **Maps**, **Travel Guides**, and **Tips & FAQ**.

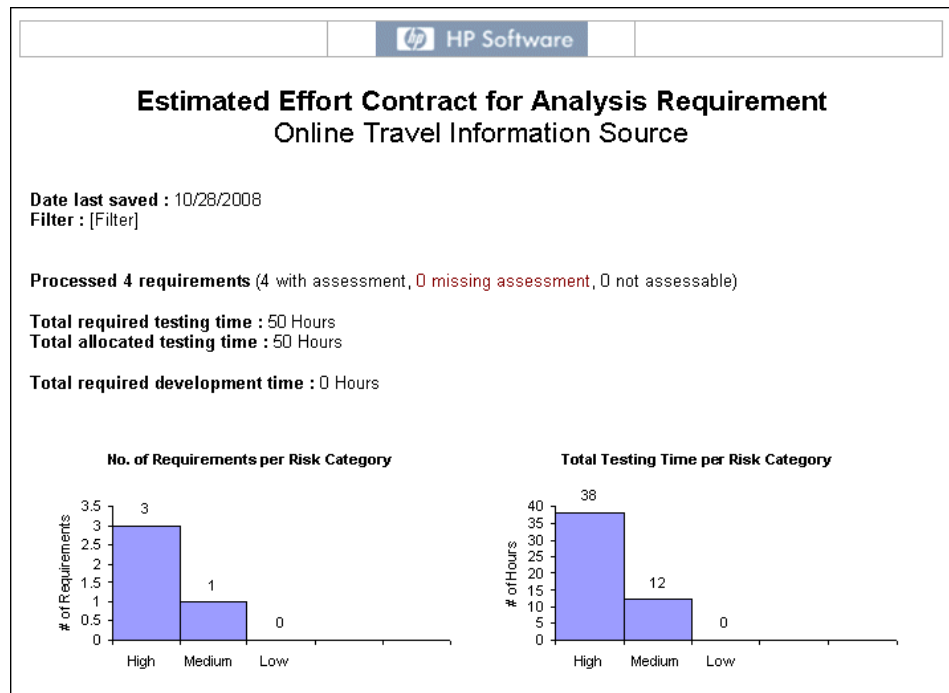
You are now ready to perform a risk analysis on the requirement **Online Travel Information Source**. You decide to use Quality Center’s default testing policy and perform a risk analysis based on this policy. Quality Center calculates that you need 60 hours to test the requirement. However, you only have 50 hours available, which is 83% of the required resources, so need to modify the testing policy.





You change the Testing Level for requirements with Risk Category **A3** from Full to Basic. Quality Center re-calculates the time needed to test the requirement as 52 hours, which is still greater than the time available. You therefore modify the definition of basic testing by defining it as 20% of full testing instead of 34%. The time needed to test the requirement is now estimated at 50 hours, which is the amount of time you have available, so you decide to accept this modified testing policy.

You now have sufficient resources to test the requirement, so you create a risk analysis report to summarize the testing strategy recommended by Quality Center, and give it to your organization to use as a basis for their test plan.





# Part IV

---

## Test Planning



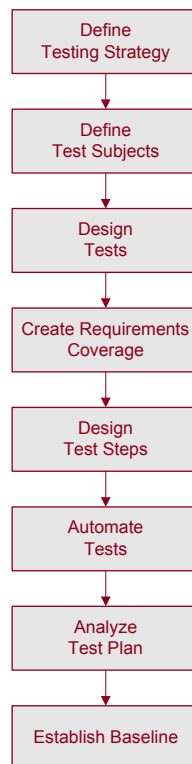
# 16

---

## The Test Plan Workflow

Developing a clear and concise test plan is fundamental to successful application testing. A good test plan enables you to assess the quality of your application at any point in the application management process.

This chapter describes how you develop a test plan using the Test Plan module. Developing a test plan consists of the following:



## Defining Testing Strategy

Outline a strategy for achieving your requirements, as defined in the Requirements module. Ask yourself two basic questions:

### How should you test your application?

- Which testing techniques will you use (stress tests, security tests, performance and load tests, etc.)?
- How will you handle defects (severity classification, authorization to open and close defects, etc.)?

### What resources do you require?

- What resources do you require to test (personnel, hardware, etc.)?
- When will the various tasks be completed?

For example, consider a flight reservation application that lets you manage flight scheduling, passenger bookings, and ticket sales. Testing will require designing both manual and automated tests. You could assign testing personnel with programming experience the task of designing automated tests, while non-programmers could design manual tests.

## Defining Test Subjects

Consider the hierarchical relationship of the functions in your application. Divide the functions into subjects and build a test plan tree representing your application's functionality.

The test plan tree is a graphical representation of your test plan. It is a hierarchical list of tests organized according to topic, which describes the set of tests you will implement in order to meet your quality requirements. For example, the flight reservation application could require that you include **Flight Finder**, **Book Flight**, **Flight Confirmation**, and **Flight Cost** as test subjects.

For a complete description and illustration of how to create a test plan tree, see Chapter 18, "Developing the Test Plan Tree".

## Designing Tests

Plan tests for each subject in your test plan tree. Decide which types of tests to create for each subject, such as sanity level tests or regression tests. (For an explanation of these test types, see Chapter 28, “Creating Test Sets”.) Then create the tests and assign them to a branch of the test plan tree. For example, in the flight reservation application, you could include the following tests under the subject **Flight Finder: Airline Preference, Departing and Arriving Locations, Departing Date, Find Flight, Flight Time Preference, and Number of Passengers**.

You can link a test to specific defects. This is useful, for example, when a new test is created specifically for a known defect. By creating a link, you can determine if the test should be run based on the status of the defect.

For information on planning tests, see Chapter 18, “Developing the Test Plan Tree”.

You can include parameters in your manual tests. This enables you to run the same test repeatedly and assign the parameters different values. For more information, see “Working with Parameters in Manual Tests” on page 317.

You can also associate your tests with a set of resources that you upload to your Quality Center repository. You can then view these dependencies and determine the resources that are in use. This is useful, for example, when you copy tests between projects. The tests along with the related resources are copied to the new project. For more information on resources, see Chapter 24, “Managing Test Resources”, and Chapter 25, “Viewing Dependencies”.

## Creating Requirements Coverage

Link each test in the test plan tree with a requirement or requirements in the requirements tree. By defining requirements coverage for a test, you can keep track of the relationship between the tests in your test plan and your original requirements. For example, in the flight reservation application, the tests in the subject **Registration** cover the requirement topic **Customer Personal Information**.

For information on requirements coverage, see Chapter 19, “Requirement and Test Coverage”.

## Designing Test Steps

Design the tests in your test plan tree. Create test steps describing the operations to perform and the expected results. After you define the test steps, decide whether to perform the test manually or to automate it.

For manual tests you define steps, execute them on your application, and record the results of each step. Use manual tests in cases where the test requires a response by the tester. Manual tests include usability tests, one-time tests, tests that need to be run immediately, tests requiring knowledge of the application, and tests without predictable results.

For example, in the flight reservation application, tests that check if a dialog box is user-friendly require user response. Therefore, you should make these tests manual.

You can include a step that calls another manual test. This is useful if you have common steps that you want to perform as part of other tests.

For information on designing test steps, see Chapter 20, “Building Tests.”



## Automating Tests

Automating a test allows unattended execution of the test at high speed. It also makes the test reusable and repeatable. For example, you automate functional, benchmark, unit, stress and load tests, as well as tests requiring detailed information about applications.

After designing test steps, you can decide which tests to automate. Factors influencing test automation include frequency of execution, volume of data input, length of execution time, and complexity.

For automated tests, you can first design test steps and automate them by generating a test script. The test script can be for WinRunner, QuickTest Professional, LoadRunner, QAIInspect, or Visual API-XP.

For example, in the flight reservation application, you can automate a test that checks whether the login mechanism works. After adding test steps, you create a test script. Then, using QuickTest Professional, you complete the automated test script.

For more information on creating automated tests, see Chapter 22, “Creating Automated Tests.”

You can also create automated system tests that provide system information for a machine, capture a desktop image, or restart a machine. For more information, see Chapter 23, “Working with System Tests”.

## Analyzing Your Test Plan

Review your test plan to determine how well it meets the goals that you defined at the beginning of the application management process. Then, analyze your test plan by generating reports and graphs. For more information, see Chapter 40, “The Dashboard Module.”

For example, you can create a report that displays design step data for each test in a test plan tree. You can then use this report to help you determine your test design priorities.

To best ensure the success of the application management process, analyze your test plan throughout the process. Review the plan, and determine whether or not it matches your testing goals. Make adjustments to your test plan accordingly.

## Establishing a Baseline

After your test plan has been reviewed and approved, you can create a baseline. A baseline provides you with a snapshot of your test plan at a specific point in time. You can use a baseline to mark any significant milestone in the application life cycle. The baseline then serves as a point of reference against which changes can be compared.

For more information on baselines, see Chapter 38, “Libraries and Baselines.”

# 17

---

## The Test Plan Module at a Glance

This chapter introduces the key elements in the Test Plan module.

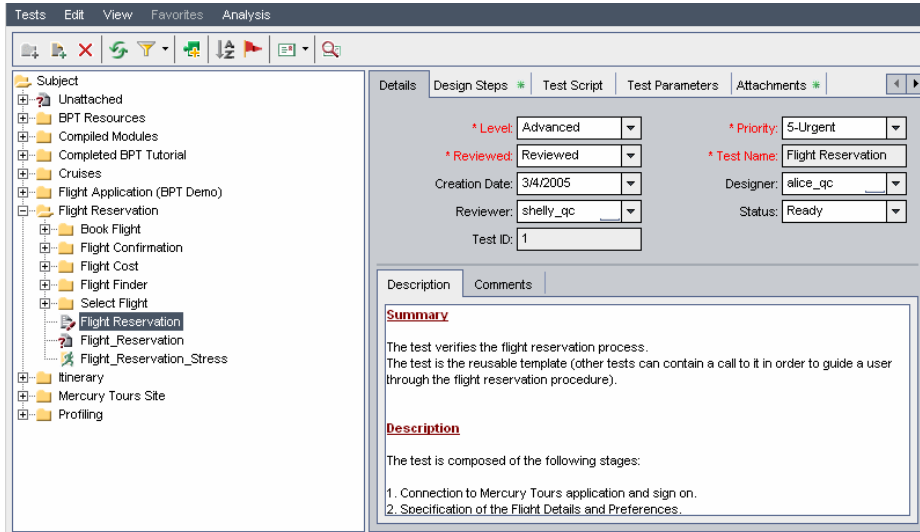
**This chapter includes:**

- The Test Plan Tree on page 252
- The Test Plan Menu Bar on page 254
- The Test Plan Toolbar on page 255
- The Test Grid on page 257

## The Test Plan Tree








You design tests in Quality Center in the Test Plan module, which you open by clicking the **Test Plan** button on the sidebar. To view the test plan tree, choose **View > Test Plan Tree**.



The test plan tree contains the following key elements:

- **Test Plan menu bar.** Displays drop-down menus of Test Plan module commands. For more information, see “The Test Plan Menu Bar” on page 254.
- **Test Plan toolbar.** Contains buttons of commands commonly used when creating and modifying the test plan tree. For more information, see “The Test Plan Toolbar” on page 255.
- **Test Plan Tree.** A graphical representation of your test plan. For more information, see Chapter 18, “Developing the Test Plan Tree.” For a list of test icons, see “Viewing the Test Plan Tree” on page 271.
- **Details tab.** A description of the test currently selected on the test plan tree. For more information, see Chapter 18, “Developing the Test Plan Tree.”

- **Design Steps tab.** A list of test steps explaining how to execute the test currently selected on the test plan tree. The tab includes an icon  if the selected test has design steps. For more information, see Chapter 20, “Building Tests.”
- **Test Script tab.** The test script for the test currently selected on the test plan tree. The tab includes an icon  if the selected test has a test script. For more information, see Chapter 22, “Creating Automated Tests.” For more information on using the Test Script tab in Business Process Testing, refer to the *HP Business Process Testing User Guide*.
- **Test Parameters tab.** A list of parameters associated with the test currently selected on the test plan tree. Parameters can be incorporated in the test’s design steps. The tab includes an icon  if the selected test has any parameters. For more information, see Chapter 21, “Working with Parameters in Manual Tests.”
- **Attachments tab.** A list of attachments that provide additional information for the test currently selected on the test plan tree. The tab includes an icon  if the selected test has any attachments. For more information, see Chapter 5, “Adding Attachments.”
- **Req Coverage tab.** A list of the requirements that are met by the test currently selected on the test plan tree. The tab includes an icon  if the selected test has requirements coverage. For more information, see Chapter 19, “Requirement and Test Coverage.”
- **Linked Defects tab.** A list of the defects that are linked to the test currently selected in the test plan tree. For more information, see Chapter 36, “Linking Defects.”
- **Dependencies tab.** A list of dependencies that are associated with the test currently selected in the test plan tree. For more information, see Chapter 25, “Viewing Dependencies.”
- **Live Analysis tab.** A graphical representation of test data related to the selected subject folder in the test plan tree. For more information, see Chapter 44, “Generating Live Analysis Graphs.”
- **History.** A list of changes made to the currently selected test. For more information, see “Viewing Test History” on page 274. Also displays a history of baselines in which the test appears. For more information, see “Viewing Baseline History” on page 524.

---

**Tip:** To find a specific test by **Test ID** in the test plan tree, choose **Tests > Go to Test**, and type the test ID. To display the test ID, select the **Test ID** column using the Select Columns dialog box. You can only go to tests that are in the current filter.

---

## The Test Plan Menu Bar

The Test Plan menu bar has the following menus:

- The **Tests** menu contains commands that enable you to manage the folders and tests in the tree, go to tests in test sets, and to mail tests. For more information, see Chapter 18, “Developing the Test Plan Tree.”
- The **Edit** menu contains commands that enable you to cut, copy, paste, rename, delete, find, or search tests. You can also update selected tests, view and clear alerts for tests, and flag tests for follow-ups. For more information on alerts and follow-ups, see Chapter 4, “Alerting on Changes.”
- The **Versions** menu is available in a version control enabled project. It contains commands that enable you to check in and check out tests, undo a checkout, or view all the tests you have checked out. For more information, see Chapter 7, “Working with Version Control.”
- The **View** menu contains commands that enable you to set the display of tests in the test plan tree or grid, filter and sort the tests, and set the displayed columns.
- The **Favorites** menu contains commands that enable you to add and organize favorite views. Available only in Test Grid. For more information on favorite views, see Chapter 6, “Working with Favorite Views.”
- The **Analysis** menu contains commands that enable you to generate planning reports and graphs. For more information on planning reports, see Chapter 42, “Generating Standard Reports.” For more information on planning graphs, see Chapter 41, “Generating Graphs,” and Chapter 44, “Generating Live Analysis Graphs.”

---

**Tip:** You can access the Test Plan menu bar from the Test Plan module by pressing the shortcut key F9. Additionally, you can perform many other Quality Center operations using shortcut keys. For a list of shortcut keys, see Appendix B, “Quality Center Keyboard Shortcuts.”

---

## The Test Plan Toolbar

The Test Plan toolbar has the following buttons:



**New Folder.** Adds a new subject folder to the test plan tree. For more information, see “Creating a Test Plan Tree” on page 265.



**New Test.** Adds a new test to the test plan tree. For more information, see “Adding Tests to a Test Plan Tree” on page 266.



**Delete.** Deletes the selected folder or test from the tree. For more information, see “Deleting a Folder or Test” on page 285.



**Refresh All.** Refreshes the test plan tree so that it displays the most up-to-date tests.



**Set Filter/Sort.** Includes the following options:

- **Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter and sort the tests in the test plan tree.
- **Clear Filter/Sort.** Clears any filters or sorting that you have applied to the test plan tree.

For more information on filtering and sorting tests, see Chapter 3, “Working with Quality Center Data.”



**Sort Folders.** Opens the Sort Folders in Test Plan Tree dialog box, enabling you to custom sort the folders in the test plan tree. By default, folders are sorted by name. For more information, see “Sorting a Test Plan Tree” on page 283.



**Flag for Follow Up.** Opens the Flag For Follow Up dialog box, enabling you to add or modify a follow up flag for a test. For more information, see “Flagging for Follow Up” on page 82.



**Send by E-mail.** Opens the Send by E-mail dialog box, enabling you to send email containing the selected tests to recipients selected from a list, or to any other email addresses. For more information, see “Mailing Tests” on page 275.



**Text Search.** Opens the text search pane in the lower part of the window, enabling you to enter keywords and search predefined fields. For more information, see “Searching Records” on page 72.

**Version Control.** The Test Plan toolbar displays the following additional buttons for version control:



► **Check Out.** Opens the Check Out dialog box, enabling you to check out the selected test.



► **Check In.** Opens the Check In dialog box, enabling you to check in the selected test.

For more information on version control, see Chapter 7, “Working with Version Control.”



## The Test Grid

The Test Grid displays all the tests in a Quality Center project. Each row displays a separate test record. Each column represents a separate data item.





To view the Test Grid, choose **View > Test Grid**.

	Test Name	Creation Date	Description	Designer	Estimated De	Execution St	Level	Modified	Path
0	Flight Reservation	3/4/2005	Summary Th	alice_qc	0	▶ No Run	Advanced	2/6/2007 10:5	
0	Itinerary Page	3/4/2005	Summary Th		0	▶ No Run	Advanced	3/8/2007 4:57	
0	Profiling	3/4/2005	Summary Th	michael_qc	0	▶ No Run	Advanced	6/22/2006 2:3	
0	Welcome Page	3/4/2005	Summary Th	michael_qc	0	✖ Failed	Advanced	6/22/2006 1:5	
0	Book Flight	3/4/2005	Summary Th	alice_qc	0	▶ No Run	Advanced	2/6/2007 10:5	
0	Flight Confirmation	3/4/2005	Summary Th	alice_qc	0	▶ No Run	Advanced	2/6/2007 10:5	
0	Find Flight	3/4/2005	Summary Th	alice_qc	0	▶ No Run	Advanced	2/6/2007 10:5	
0	Select Flight	3/4/2005	Summary Th	alice_qc	0	▶ No Run	Advanced	2/6/2007 10:5	
0	Review Reservations	3/4/2005	Summary Th	cecil_qc	0	✔ Passed	Advanced	6/22/2006 4:1	
0	Registration	3/4/2005	Summary Th	cecil_qc	0	▶ No Run	Medium	6/22/2006 2:1	
0	Sign-On	3/4/2005	Summary Th	cecil_qc	0	▶ No Run	Basic	6/22/2006 2:1	
0	Sign-Off	3/4/2005	Summary Th	shelly_qc	0	▶ No Run	Medium	6/22/2006 2:1	
0	Connect And Sign-On	3/5/2005	Summary Th	alice_qc	0	▶ No Run	Basic	6/22/2006 2:1	
0	Connect	3/5/2005	Summary Th	alice_qc	0	▶ No Run	Basic	6/22/2006 1:5	

You can view and modify test information in the Test Grid. For example, you can copy several automated tests and paste them in another project, or you can delete several tests at once. In addition, you can save the grid information in several formats, including a text file, Word document, HTML document, XML document, and Excel spreadsheet.

The Test Grid contains the following key elements:

- **Test Grid toolbar.** Contains buttons of commands commonly used when creating and modifying the Test Grid. For more information, see “The Test Grid Toolbar” on page 259.
- **Indicator columns.** Indicates that the specified test has attachments, linked defects, alerts, and follow up flags. Choose **View > Indicator Columns** to display these columns.

Column	Description
<b>Attachments</b>	Click the  icon to view attachments for the test. For more information, see Chapter 5, “Adding Attachments.”
<b>Linked Entities</b>	Click the  icon to view linked entities for the test. For more information, see Chapter 36, “Linking Defects.”
<b>Alerts</b>	Click the  icon to view alerts for the test. For more information, see “Viewing Alerts” on page 80.
<b>Follow Up Flags</b>	Click the  icon to view follow up alerts for the test. For more information, see “Flagging for Follow Up” on page 82.

- **Grid filter.** Displays the filter that is currently applied to a column. For more information, see “Filtering Records” on page 56.
- **Description tab.** Displays a description of the selected test in the Test Grid.
- **Attachments tab.** Displays the attachments for the selected test. For more information, see Chapter 5, “Adding Attachments.”
- **History tab.** A list of changes made to the currently selected test. For more information, see “Viewing Test History” on page 274. Also displays a history of baselines in which the test appears. For more information, see “Viewing Baseline History” on page 524.

---

**Tip:** To find a specific test by **Test ID** in the Test Grid, choose **Test > Go to Test**, and type the test ID. To display the test ID, select the **Test ID** column using the Select Columns dialog box.

---

## The Test Grid Toolbar

The Test Grid toolbar has the following buttons:



**Delete Selected Tests.** Deletes the selected tests from the Test Grid.



**Refresh All.** Refreshes the Test Grid so that it displays the most up-to-date tests.



**Set Filter/Sort.** Includes the following options:

- **Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter, sort, and group the tests in the Test Grid.
- **Clear Filter/Sort.** Clears any filters, sorting, or grouping that you have applied to the Test Grid.

For more information on filtering and sorting tests, see Chapter 3, “Working with Quality Center Data.”



**Select Columns.** Opens the Select Columns dialog box, enabling you to determine which columns to display in the grid and their order. For more information, see “Arranging Columns” on page 52.



**Go to Test in Test Plan Tree.** Closes the Test Grid and displays the selected test in the test plan tree.



**Attachments.** Opens the Attachments dialog box, enabling you to add an attachment to the selected test. For more information, see Chapter 5, “Adding Attachments.”



**Flag for Follow Up.** Opens the Flag For Follow Up dialog box, enabling you to add or modify a follow up flag for a test. For more information, see “Flagging for Follow Up” on page 82.



**Send by E-mail.** Opens the Send by E-mail dialog box, enabling you to send email containing the selected test to recipients selected from a list, or to any other email addresses. For more information, see “Mailing Tests” on page 275.



**Text Search.** Opens the text search pane in the lower part of the window, enabling you to enter keywords and search predefined fields. For more information, see “Searching Records” on page 72.

**Version Control.** The Test Grid toolbar displays the following additional buttons.



➤ **Check Out.** Opens the Check Out dialog box, enabling you to check out the selected test.



➤ **Check In.** Opens the Check In dialog box, enabling you to check in the selected test.

For more information on version control, see Chapter 7, “Working with Version Control.”

## Test Grid Columns

The Test Grid displays the following test planning data columns:

Column	Description
Comments	Displays comments about the test.
Creation Date	The date on which the test was created. By default, the creation date is set to the current server date. Click the down arrow to display a calendar and select a different creation date.
Description	Describes the test.
Designer	The user name of the person who designed the test.
Estimated DevTime	The time estimated to design and develop the test.
Execution Status	The execution status of the last run of an instance of the test. Execution status can be one of the following: Failed, N/A, No Run, Not Completed, Passed.
Modified	The date and time of the last change to the test.

Column	Description
<b>Path</b>	The path of this test relative to the Tests directory in the project repository.
<b>Status</b>	The planning status of the test. The default status is Design.
<b>Subject</b>	The subject folder in the test plan tree in which the test resides.
<b>Template</b>	Indicates whether the manual test or QuickTest Professional test is a test template. The value in this column is <b>Y</b> if the test is a test template; <b>N</b> or empty otherwise. For more information on manual template tests, see “Viewing Instances of Tests” on page 273. For more information on QuickTest Professional template tests, see “Adding Tests to a Test Plan Tree” on page 266.
<b>Test ID</b>	A unique numeric ID for the test, assigned automatically by Quality Center. The field is read-only.
<b>Test Name</b>	The name of the test.
<b>Type</b>	The type of test. For example, manual or WinRunner. The field is read-only.

**Version Control:** The Test Grid displays the following additional fields:

Field	Description
<b>Version Owner</b>	The name of the user who performed the last action (check in or check out).
<b>Version Date</b>	The date of the last action (check in or check out) performed for the version.
<b>Version Number</b>	The version number.
<b>Version Status</b>	The status of the version ( <b>Checked Out</b> or <b>Checked In</b> ).
<b>Version Time</b>	The time of the last action (check in or check out) performed for the version.

---

**Notes:**

- ▶ You can add user-defined fields and change the label of any of the fields in the Test Grid. You can also customize project lists. For more information, refer to the *HP Quality Center Administrator Guide*.
  - ▶ You can use the Script Editor to restrict and dynamically change the fields and values in the Test Grid. For more information, refer to the *HP Quality Center Administrator Guide*.
  - ▶ When you select a Test Grid column with a user name value, Quality Center displays a list with the name and full name of each user. You can search for users, sort users, group users by user group, and select users from the users list or a group tree. For more information, see “Selecting Users” on page 55.
-

# 18

---

## Developing the Test Plan Tree

The test plan tree organizes and displays your tests hierarchically, according to test subjects.

**This chapter includes:**

- About the Test Plan Tree on page 264
- Creating a Test Plan Tree on page 265
- Adding Tests to a Test Plan Tree on page 266
- Viewing the Test Plan Tree on page 271
- Viewing Instances of Tests on page 273
- Viewing Test History on page 274
- Mailing Tests on page 275
- Finding Tests in the Tree or Test Grid on page 277
- Replacing Field Values in the Test Grid on page 280
- Updating Multiple Records in the Test Grid on page 281
- Copying Tests on page 281
- Copying URLs of Tests on page 283
- Sorting a Test Plan Tree on page 283
- Modifying a Test Plan Tree on page 285

## About the Test Plan Tree

The typical application is too large to test as a whole. The Test Plan module enables you to divide your application according to functionality. You divide your application into units, or **subjects**, by creating a test plan tree. This is a graphical representation of your test plan, displaying your tests according to the hierarchical relationship of their functions.

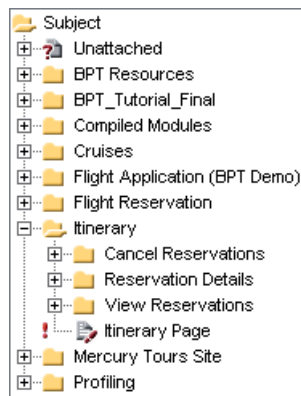
After you define subjects in the tree, you decide which tests to create for each subject and add them to the tree. At this stage, you define basic information about the test, such as its name, status, and the designer. You can also attach a file, URL, application snapshot or system information to illustrate a test. Afterwards, you define the test steps. **Test steps** contain detailed instructions on how to execute a test and evaluate the results.

During the application management process, you may need to modify your test plan. You can update the test plan tree at any time.

There are a number of methods for organizing your test plan by subject. For example, you could define subjects according to:

- Application functionality—such as editing, file operations, and reporting
- Type of testing—such as functional, user interface, performance, and load

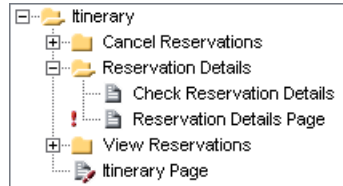
Suppose you are testing a flight reservation application that lets you manage flight scheduling, passenger bookings, and ticket sales. (For the complete example, refer to the **QualityCenter\_Demo** project.) You might define the following subjects for the test plan tree:





Notice how, for example, the **Itinerary** subject contains additional subject folders. These folders further categorize the tests in the test plan tree by creating additional levels of subjects.

After you build the basic structure of your plan, you create tests and assign them to each subject. For example, in the test plan tree shown above, you might assign tests to the **Reservation Details** subject folder as follows:




---

**Note:** Developing and editing a test plan tree requires appropriate user permissions. For more information, refer to the *HP Quality Center Administrator Guide*.

---

## Creating a Test Plan Tree

You define a hierarchical framework for your test plan by creating a test plan tree that may contain folders and subfolders.

---

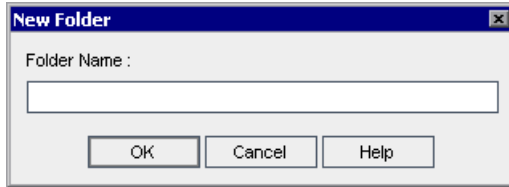
**Note:** In addition to creating a test plan tree directly in Quality Center, you can also import test plan data from Microsoft Word or Microsoft Excel to your Quality Center project. To import from Word, you must install the **HP Quality Center Microsoft Word Add-in** and the **HP Quality Center Connectivity Add-in**. To import from Excel, you must install the **HP Quality Center Microsoft Excel Add-in** and the **HP Quality Center Connectivity Add-in**. You can install the add-ins from the HP Quality Center Add-ins page. For more information, refer to the *HP Quality Center Installation Guide*.

---

**To create a test plan tree:**



- 1 In the test plan tree, select a subject folder and click the **New Folder** button, or choose **Tests > New Folder**. The New Folder dialog box opens.



- 2 In the **Folder Name** box, type a name for the subject and click **OK**. Note that a folder name cannot include the following characters: \ ^ \*

The new subject folder appears under **Subject** in the test plan tree.

- 3 In the **Description** tab, type a description of the subject.
- 4 Click the **Attachments** tab to add an attachment to the new folder if necessary. An attachment can be a file, URL, snapshot of your application, an item from the Clipboard, or system information. For more information, see Chapter 5, “Adding Attachments.”
- 5 To create additional subjects at the main level, repeat steps 1 to 4.
- 6 To create a subfolder, select a subject folder and repeat steps 1 to 4.

## Adding Tests to a Test Plan Tree

After you have created a test plan tree containing the main test subjects, you are ready to create tests. Each test should have a distinct objective, such as verifying a specific function or system requirement. The tests you define should be based on the goals you set at the beginning of the application management process.

For example, in the flight reservation application, you could define a test called **Password Verification** that checks that only users that provide the correct password can sign on. You could place this test under the subject **Sign-On/Sign-Off**.

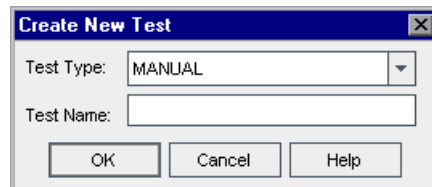
---

**Tip:** You can automatically create tests based directly on your requirements in the Requirements module. For more information, see “Creating Tests from Requirements” on page 200.

---

**To add a new test:**

- 1 Choose a subject folder in the test plan tree.
- 2 Click the **New Test** button, or choose **Tests > New Test**. The Create New Test dialog box opens.



---

**Note:** If you have installed the QuickTest Professional Add-in on your machine, the Create New Test dialog box includes the **Template** box.

---

- 3 Select a test type from the **Test Type** list. You can select the following test types:

Test Type	Description
MANUAL	A Quality Center manual test.
WR-AUTOMATED	A test that is executed by WinRunner, HP's functional testing tool for Microsoft Windows applications.
LR-SCENARIO	A scenario that is executed by LoadRunner, HP's load testing tool.

Test Type	Description
<b>QUICKTEST_TEST</b>	A test that is executed by QuickTest Professional, HP's functional enterprise testing tool.  This test type is only available if you have installed the appropriate add-in from the HP Quality Center Add-ins page. For more information on installing add-ins, refer to the <i>HP Quality Center Installation Guide</i> .
<b>VAPI-XP-TEST</b>	A test that is created using Visual API-XP, the Quality Center open test architecture API testing tool. For more information, see Appendix A, "Working with VAPI-XP."
<b>SYSTEM-TEST</b>	A test that instructs Quality Center to provide system information, capture a desktop image, or restart a machine. For more information, see Chapter 23, "Working with System Tests."
<b>QAINSPPECT-TEST</b>	A test that is executed by QAInspect, the HP security testing tool.
<b>BUSINESS-PROCESS</b>	A business process test. For more information, refer to the <i>HP Business Process Testing User Guide</i> .
<b>FLOW</b>	A test comprising a collection of business components in a fixed sequence that performs a specific task. For more information, refer to the <i>HP Business Process Testing User Guide</i> .

- 4 In the **Test Name** box, type a name for the test. A test name cannot include the following characters: \ / : " ? < > | \* % '
- 5 If you selected **QUICKTEST\_TEST** from the **Test Type** list, the **Template** box is available. You create your new test based on another QuickTest test, defined as a template test. The template test is copied to your new test, without the test results.

---

**Note:** To set the QuickTest add-ins that Quality Center associates with a new QuickTest test, choose a template test that lists the appropriate add-ins. Alternatively, use the default template test provided on your Quality Center client. This test loads the Web and ActiveX add-ins by default. For more information, refer to the QuickTest documentation and the relevant QuickTest add-in documentation.

---

To select a template test, click the browse button. The Select Tests dialog box opens. By default, only QuickTest template tests are displayed.



Select the template test and click the **Add Test** button. The Select Tests dialog box closes and the template test is displayed in the **Template** box.

---

**Note:** To set a QuickTest Professional test as a template test, right-click the test in the test plan tree, and choose **Mark as Template Test**.

---

## 6 Version Control:

- Select **Check out immediately** to keep the test checked out after it is created. This enables you to continue to define the test after it is created, such as by defining design steps or adding parameters. By default, this option is selected.
- In the **Comments** box, type a brief description of the reason for the checkout. The **Comments** box is enabled only if the **Check out immediately** check box is selected.

## 7 Click **OK** to close the Create New Test dialog box.

If required test fields were defined in the Project Customization window, the Required Test Fields dialog box opens. Select values for the required fields, and click **OK**.

The new test appears in the test plan tree under the subject folder you selected. In the Details tab, the name is added to the **Test Name** box.

**8** Enter the following test details in the Details tab:

Option	Description
<b>Designer</b>	The person who designed the test. By default, the name of the user who is currently logged in to Quality Center is displayed. Click the down arrow to select a different user name.
<b>Creation Date</b>	The date on which the test was created. By default, the creation date is set to the current database server date. Click the down arrow to display a calendar and select a different creation date.
<b>Status</b>	The current status of the test. The default status is <b>Design</b> . Click the down arrow to select a different status from the list.

---

**Note:** You can change the label of any of the test detail fields. You can also add user-defined fields to the test details. For more information, refer to the *HP Quality Center Administrator Guide*.

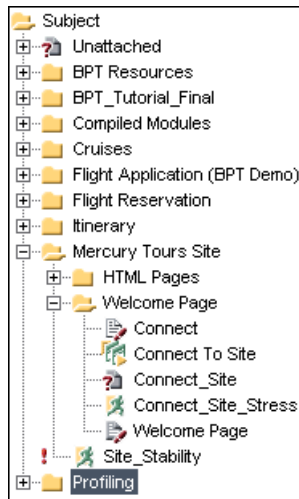
---

- 9** In the Details tab, click the **Description** tab and type a description for the test.
- 10** In the Details tab, click the **Comments** tab to add a comment to the test. In the Comments tab, click the **Add Comment** button. A new section is added to the Comments tab, displaying your user name and the database's current date.
- 11** Click the **Test Parameters** tab to add parameters to the new test, if necessary. In the Test Parameters tab, click the **New Parameter** button. For more information, see Chapter 21, "Working with Parameters in Manual Tests."
- 12** Click the **Attachments** tab to add an attachment to the new test, if necessary. An attachment can be a file, URL, snapshot of your application, an item from the Clipboard, or system information. For more information, see Chapter 5, "Adding Attachments."
- 13** Click the **Req Coverage** tab to define requirements coverage. For more information, see Chapter 19, "Requirement and Test Coverage."

- 14** Click the **Linked Defects** tab to link defects to the test. For more information, see Chapter 36, “Linking Defects.”
- 15** Click the **Design Steps** tab to define steps for the test. For more information, see Chapter 20, “Building Tests.”











## Viewing the Test Plan Tree

Use the test plan tree to review the overall structure of your test plan and to view the tests assigned to each subject.





A test plan tree can include the following test icons:

	Manual test
	Manual test that includes test steps
	Manual Template test
	Manual Template test that includes test steps
	Business process test
	Flow of business components
	WinRunner test




	WinRunner batch test For more information on creating and working with WinRunner batch tests, refer to the <i>HP WinRunner User Guide</i> .
	LoadRunner scenario
	QuickTest Professional test
	QuickTest Professional Template test
	QuickTest Professional test that includes test steps
	QuickTest Professional Template test that includes test steps
	Visual API-XP test
	System test
	Vuser Script test
	QAInspect test

**Version Control:** The test plan tree can include the following additional icons.

	The test is checked out by the current user.
	The test is checked out by a different user.

**To view tests in the test plan tree:**

By default, the test plan tree displays only the highest level subjects in the subject hierarchy.

- To expand a branch in the tree, click the Expand  sign to the left of the branch name. To expand all the branches in the tree, right-click the **Subject** folder and choose **Expand All**.
- To collapse a branch in the tree, click the Collapse  sign to the left of the branch name. To collapse all the branches in the tree, right-click the **Subject** folder and choose **Collapse**.
- To view tests associated with a particular subject, double-click a subject folder .
- To refresh all tests in the test plan tree, click the **Refresh All** button.







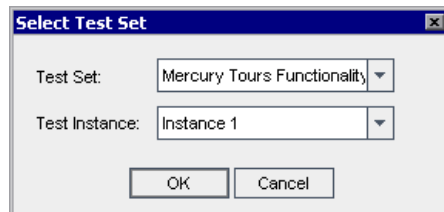
- Click the **Set Filter/Sort** button to filter and sort the tests in the test plan tree. For more information, see Chapter 3, “Working with Quality Center Data.” Any currently applied filters or sorting orders are displayed under the test plan tree toolbar.
- To view all the tests in a Quality Center project at once, choose **View > Test Grid**.

## Viewing Instances of Tests

You can view instances of tests you create in test sets in the Test Lab module. You can view which test sets contain an instance of a test, and go to such a test instance in the Test Lab module.

**To view an instance of a test:**

- 1** In the test plan tree, select a test and choose **Tests > Go to Test in Test Set**. Alternatively, right-click a test and choose **Go to Test in Test Set**. If there is only one instance of the selected test, the Test Lab module opens with the instance highlighted. If there is more than one instance, the Select Test Set dialog box opens.



- 2** In the **Test Set** box, select the test set containing the test instance you want to go to, from the list of all test instances containing the test.
- 3** In the **Test Instance** box, select the instance of the test from the test instances in the selected test set.
- 4** Click **OK**. The Test Lab module opens with the selected test instance highlighted.

# Viewing Test History

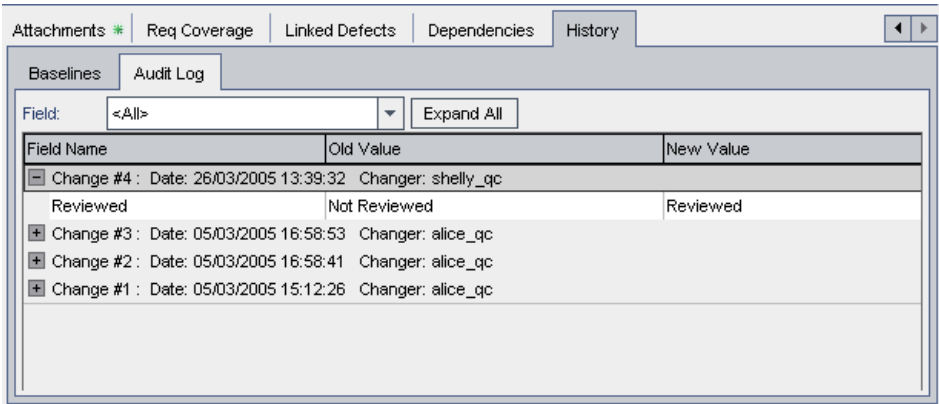
You can view a list of changes made to any test in the test plan tree.

You can also view previous versions of the test stored in a particular baseline. For more information, see “Viewing Baseline History” on page 524.

To view test history:

- 1 In the test plan tree, select a test. Click the **History** tab. The history of changes made to the test is displayed in a grid.

**Version Control:** By default, the Versions and Baselines tab is displayed. Click the **Audit Log** tab to view test history.



For each change to the test, the grid displays the date and time of the change and the name of the user who made the change.

- 2 Expand a change to view a list of fields modified during the change. For each field, the grid displays the old value and the new value. To expand all changes, click the **Expand All** button.
- 3 You can specify which changes are displayed in the grid. In the **Field** list, select a field name to view only changes made to that field. Select **<All>** to view changes made to all fields.

For information on preserving the history of changes made to a field, refer to the *HP Quality Center Administrator Guide*.

## Mailing Tests

You can send email about a test to other users in your project. This enables you to routinely inform development and quality assurance personnel about the status of your tests. A **Go To Test** link is included in the email, enabling the recipient to go directly to the test.

---

**Note:** By default, Quality Center sends email in HTML format. To send email as plain text instead, edit the **MAIL\_FORMAT** parameter in the **Site Configuration** tab in Site Administration. For more information, refer to the *HP Quality Center Administrator Guide*.

---

### To mail a test:



- 1 Select one or more tests in the test plan tree or in the Test Grid, and click the **Send by Email** button. The Send Email dialog box opens.

**Send E-mail**

ABC ✓

To:

CC:

Subject: DEFAULT.QualityCenter\_Demo - Test #80 - Connect To Site

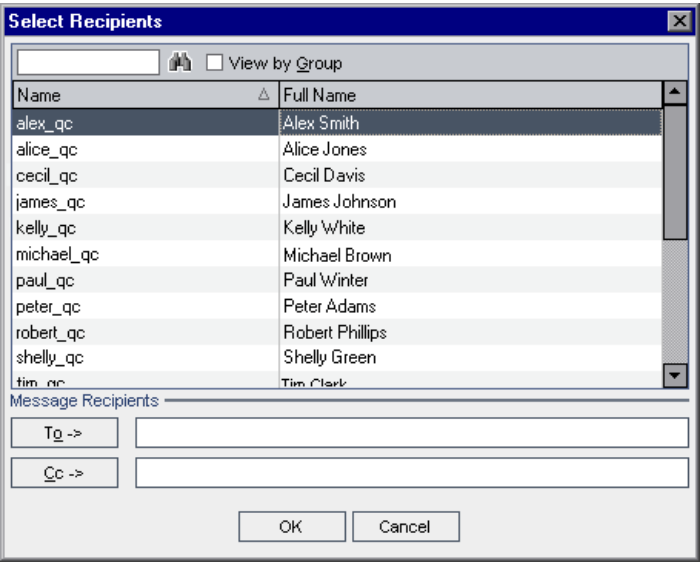
Item: ☒ 80 - Connect To Site

Include: ☐ Attachments ☐ History ☐ Design Steps

Additional comments:

**Tip:** You can automatically send the email to a specific user type. This can be any test column with a user name value, including user-defined fields. Click the **Send by Email** arrow and choose an option. For example, choose **Send Mail to Designer** to send the email to the user who designed the test.

- 2 Type a valid email address or user name. Alternatively, click the **To** button or **CC** button to select users. The Select Recipients dialog box opens.



You can sort the users list, search for users, group users by user groups, and select users from the list or from a group tree. For more information, see “Selecting Users” on page 55.

Select the users or user groups to whom you want to send the email, and click **OK**.

- 3 In the **Subject** box, type a subject for the email. By default, if you select only one test, the domain, project, test ID, and name of the test are displayed in the Subject box.
- 4 If you select more than one test, the tests are listed in the **Item** box. You can clear any tests you do not want to include in the email.
- 5 Choose whether you want to include the **Attachments**, **History**, and/or **Design Steps** of the test.
- 6 In the **Additional comments** box, add any comments you may have.
- 7 To check the spelling in the dialog box:



- Click the **Check Spelling** button to check the spelling for the selected word or text box. If there are no errors, a confirmation message opens. If errors are found, the Spelling dialog box opens and displays the word together with replacement suggestions.



- Click the **Spelling Options** button to open the Spelling Options dialog box, enabling you to configure the way spelling is checked.



- Click the **Thesaurus** button to open the Thesaurus dialog box and display a synonym, antonym, or related word for the selected word. You can replace the selected word or look up new words.

- 8 Click **Custom** to customize the email. In the Select Fields dialog box, you can specify fields to include in the email.
- 9 Click **Send** to send the email.

## Finding Tests in the Tree or Test Grid

You can search for a particular test in the test plan tree or in the Test Grid using the Find command.




---

**Tip:** If **Text Search** is available, you can use it to search for tests in the test plan tree or Test Grid. Text search provides a more powerful search by allowing you to search for keywords and variations of keywords. For information on using the text search, see “Searching Records” on page 72.

---

## Finding Tests in the Test Plan Tree

You can search for a folder or test in the test plan tree. If you have applied filters to the test plan tree, the search is restricted to the tests currently displayed.

**To find a folder or test in the test plan tree:**

- 1** Select a subject folder in the test plan tree, and choose **Edit > Find**.

The Find Folder/Test dialog box opens and displays the folder name in the **Find in** box. If you are searching the entire tree, the folder name is **Subject**.

- 2** In the **Value To Find** box, type the name (or part of the name) of the folder or test. Note that the search is not case sensitive.
- 3** Check **Include Tests** to search for both folders and tests.
- 4** Click **Find**.

The Test Plan module attempts to locate the folder or test. If the search is successful, the Search Results dialog box opens and displays a list of possible matches. Select a result from the list and click the **Go To** button to highlight the folder or test in the test plan tree.

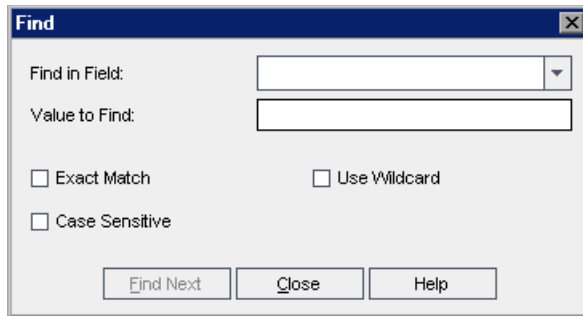
If the search is unsuccessful, an information box opens.

## Finding Tests in the Test Grid

You can search for tests in the Test Grid, based on the value of a particular field. If you have applied filters to the Test Grid, the search is restricted to the tests currently displayed.

**To find tests in the Test Grid:**

- 1 Choose **View > Test Grid**.
- 2 Choose **Edit > Find**. The Find dialog box opens.



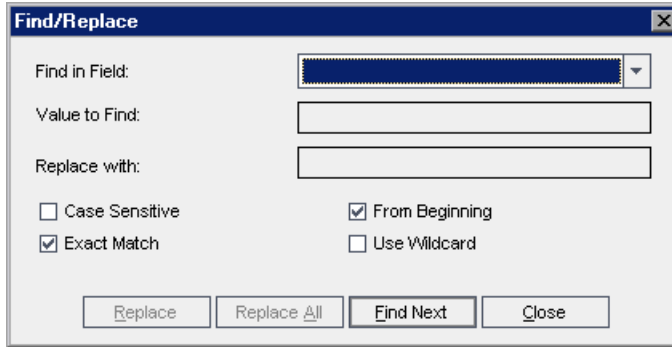
- 3 In the **Find in Field** box, select a field in the grid.
- 4 In the **Value to Find** box, type or select the value of the field, for which you want to search.
- 5 Select **Exact Match** if you want to find tests with field values that exactly match the Value to Find string.
- 6 Select **Case Sensitive** if you want the search to distinguish between uppercase and lowercase characters.
- 7 Select **Use Wildcards** if you want to use asterisk (\*) characters in your search string in order to type only part of the item.
- 8 Click **Find Next**. If the search is successful, the matching test is highlighted in the grid. If the search is unsuccessful, an information box opens.
- 9 Click **Find Next** again to find the next test that matches the criteria.

## Replacing Field Values in the Test Grid

You can replace field values in the Test Grid using the Replace command.

**To replace a field value in the Test Grid:**

- 1 Choose **Edit > Replace**. The Find/Replace dialog box opens.



- 2 In the **Find in Field** box, select the column in which you want to search for a specific value.
- 3 In the **Value to Find** box, type or select the value to find.
- 4 In the **Replace with** box, type or select a replacement field value.
- 5 To distinguish between uppercase and lowercase characters, select the **Case Sensitive** check box.
- 6 To search for an exact value, select the **Exact Match** check box.
- 7 To start the search from the top of the grid, select the **From Beginning** check box.
- 8 To use asterisk (\*) characters in your search string in order to type only part of the item, select the **Use Wildcard** check box.
- 9 To replace the found item and find the next occurrence, click **Replace**.
- 10 To replace all occurrences of the value in the grid, click **Replace All**.



## Updating Multiple Records in the Test Grid

You can update a field value for multiple records in the Test Grid. To update, select the records in the grid and choose **Edit > Update Selected**. The Update Selected dialog box opens. For more information, see “Updating Multiple Records” on page 70.

## Copying Tests

You can copy tests within the same project or between projects.

### Copying Tests in a Project

You can copy tests and subject folders within the same project.

**To copy a test in a project:**

- 1** Select the test or the subject folder that you want to copy in the test plan tree. To copy more than one test or subject folder, use the CTRL key.
- 2** Choose **Edit > Copy**. Alternatively, right-click and choose **Copy**.
- 3** Select the folder to which you want to copy the tests or subject folders.
- 4** Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**.

### Copying Tests Across Projects

You can copy tests from one project to another. If the tests contain calls to other tests, or if the tests are dependent on test resources, you can instruct Quality Center to copy them using one of the following methods:

- Copy tests and link them to existing called tests and related test resources in the target project. If a called test or a test resource does not exist in the target project, Quality Center copies it to the target project.
- Copy tests along with called tests and related test resources into the target project.
- Copy tests without copying called tests and related test resources into the target project.

---

**Note:** To copy tests across projects, both projects must use the same Quality Center version and patch level.

---

For more information on related entities, see “Viewing Dependencies” on page 357.

**To copy a test across projects:**

- 1** Select the test or the subject folder that you want to copy in the test plan tree. To copy more than one test or subject folder, use the CTRL key.
- 2** Choose **Edit > Copy**. Alternatively, right-click and choose **Copy**.
- 3** Open another instance of Quality Center and log in to the project to which you want to paste the tests.
- 4** Select the folder to which you want to copy the tests or subject folders.
- 5** Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**. The Paste Tests/Subject Folders to Target Project dialog box opens.
- 6** Select one of the following options:
  - **Copy tests/subject folders and link to existing related entities.** Quality Center copies the tests or subject folders and pastes them into the target project. The copied tests or subject folders are linked to existing test resources and called tests with the same name and path. If a related test resource or a test does not exist in the target project, Quality Center copies it to the target project.
  - **Copy tests/subject folders and related entities.** Quality Center copies the tests or subject folders along with the related test resources and called tests, and pastes them into the target project. If a related test resource or a called test already exists in the target project, the copied related test resource or called test is renamed to resolve the duplicate name.

- **Copy tests/subject folders without copying related entities.** Quality Center copies the tests or subject folders without copying the related test resources or called tests, and pastes them into the target project. The copied items are not linked to any related entities.

**7** Click **OK**.

## Copying URLs of Tests

You can copy a test and paste its URL as a link. The test itself is not copied. Instead, you can paste the address into another location, such as an email or a document. Clicking on the link opens up Quality Center and takes you to the test. If you are not already logged in, Quality Center first prompts for login details.

**To copy a URL of a test:**

- 1** Select a test from the test plan tree or grid.
- 2** Choose **Edit > Copy URL**. Alternatively, right-click and choose **Copy URL**.
- 3** Paste the URL.

## Sorting a Test Plan Tree

By default, subjects are displayed in a test plan tree in alphabetical order. You can sort the folders in the test plan tree and create a custom sort according to your needs.

---

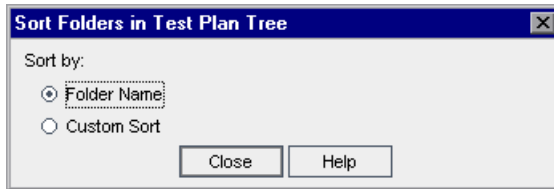
**Note:** You must have project administrator permissions to create a custom sort. For more information on assigning user group permissions, refer to the *HP Quality Center Administrator Guide*.

---

**To sort a test plan tree:**

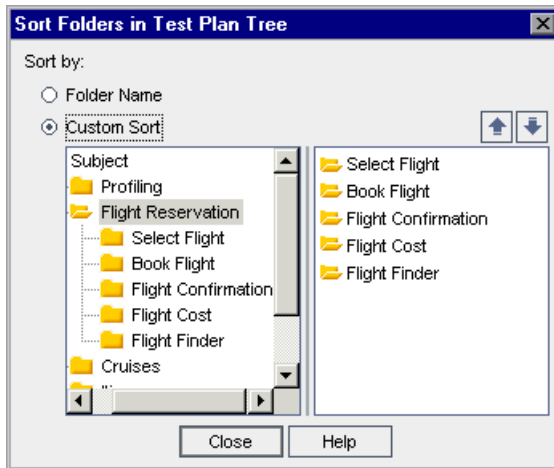


- 1 Click the **Sort Folders** button on the toolbar. The Sort Folders in Test Plan Tree dialog box opens.



By default, **Folder Name** is selected.

- 2 To create a custom sort, select **Custom Sort**.



- 3 Click a subject folder on the left side of the dialog box. The subfolders appear on the right side.



- 4 Choose a subfolder on the right side of the dialog box and click the **Up** or **Down** arrow buttons to set the sorting priority for your test plan tree. You can also drag the subfolder up or down.
- 5 Click **Close** to apply the sort order to your test plan tree.

## Modifying a Test Plan Tree

You can rename or delete subject folders and tests in the test plan tree.

### Renaming a Folder or Test

You can rename a folder or a test.

**To rename a folder or test:**

- 1 Select an item from the test plan tree.
- 2 Click the item. Alternatively, right-click the item and choose **Rename**.
- 3 Edit the item name and press ENTER or click another location.

### Deleting a Folder or Test

You can delete a folder or test from the test plan tree. When you delete a folder, you can choose to delete the folder only, or the folder, its subfolders, and tests.

Consider the following before deleting a folder or test:

- If you choose to delete the folder only, all of the tests are moved to the **Unattached** folder in the test plan tree.
- If you choose to delete a folder and tests, all subfolders and tests under the selected folder are deleted permanently.
- If you delete a test, the test and test script are deleted permanently.
- If dependencies are defined for a test, deleting the test may impact these dependencies. For more information on related entities, see “Viewing Dependencies” on page 357.
- **Version control:** Deleting a test deletes all previous versions of the test.

**To delete a folder:**

- 1 Select a folder from the test plan tree. To delete more than one folder, press the CTRL key and select the folders you want to delete.
- 2 Click the **Delete** button. Alternatively, right-click the folder and choose **Delete**. The Confirm Delete Folder dialog box opens.



- 3 To delete folders and move all related tests to the Unattached folder, select **Delete folders only**. Click **Yes**.
- 4 To delete folders, tests, and test scripts, select **Delete folders and tests**. Click **Yes**.

If dependencies are defined for some of the tests in the folders, an additional dialog box opens. To delete the tests and possibly impact the dependencies, click **Yes**.

To cancel, click **No**. To view the dependencies before you delete, click the Dependencies tab. For more information, see “Viewing Dependencies” on page 357.

**To delete a test:**

- 1 Select a test from the test plan tree. To delete more than one test, press the CTRL key and select the tests you want to delete.



- 2 Click the **Delete** button, or choose **Edit > Delete**. Alternatively, right-click the test and choose **Delete**.
- 3 If other entities are not dependent on the test, a confirm box opens. Click **Yes**.
- 4 If dependencies are defined for the test, the Delete Test dialog box opens. To view the related entities, click **Details**. Click **Yes** to confirm you want to delete the test and the related entities.

# 19

---

## Requirement and Test Coverage

It is essential that the tests in your test plan meet your original requirements. To keep track of the relationship between your requirements and tests, you add links between them.

### **This chapter includes:**

- About Requirement and Test Coverage on page 287
- Linking Requirements to a Test on page 290
- Linking Tests to a Requirement on page 294
- Analyzing Coverage on page 298

### **About Requirement and Test Coverage**

You begin by defining your requirements in the requirements tree and then assigning them to a release or a cycle in the releases tree (see Chapter 13, “Developing the Requirements Tree”). In the planning stage, you build a test plan tree based on these assigned requirements (see Chapter 18, “Developing the Test Plan Tree”). To keep track of the relationship between your assigned requirements and tests, you add links between them.

In the Test Plan module, you create **requirements coverage** by selecting requirements to link to a test. Alternatively, in the Requirements module, you create **test coverage** by selecting tests to link to a requirement. A test can cover more than one requirement, and a requirement can be covered by more than one test.

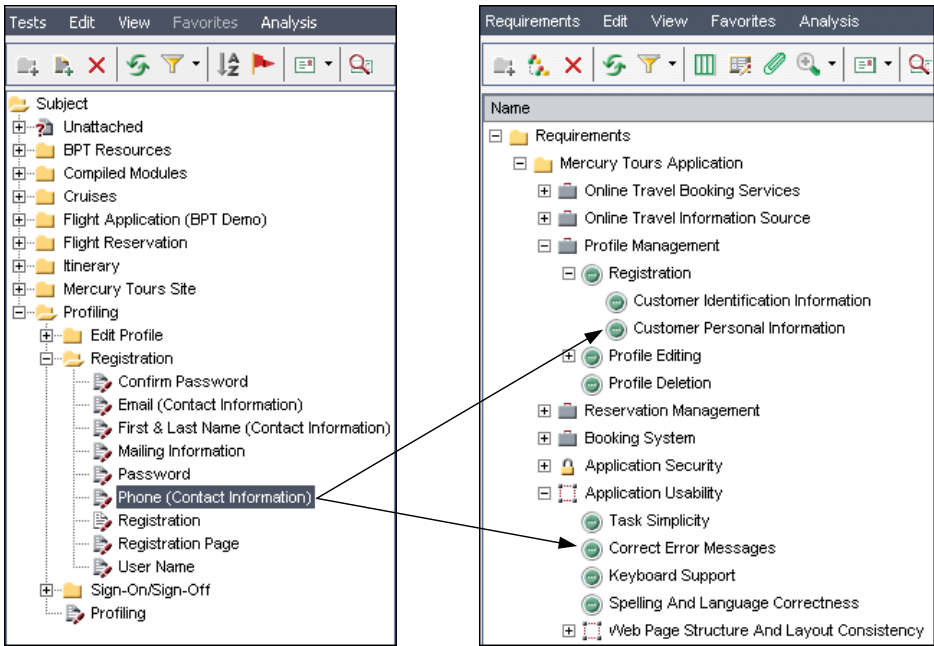
**Note:** You can also create coverage between test instances and requirements. To enable this feature use the **ALLOW\_REQ\_COVERAGE\_BY\_TEST\_INSTANCE** parameter in Site Administration. For more information on this parameter, see the *HP Quality Center Administrator Guide*.

You can link requirements and tests to defects. This can help you ensure compliance with your testing needs throughout the application management process (see Chapter 36, “Linking Defects”). If a requirement changes, you can immediately identify which tests and defects are affected, and who is responsible.

### Requirements Coverage Example



Suppose you are using the **QualityCenter\_Demo** project based on the Mercury Tours application. Click the **Test Plan** button on the sidebar. In the test plan tree, under **Profiling**, expand the **Registration** folder and select the **Phone (Contact Information)** test.

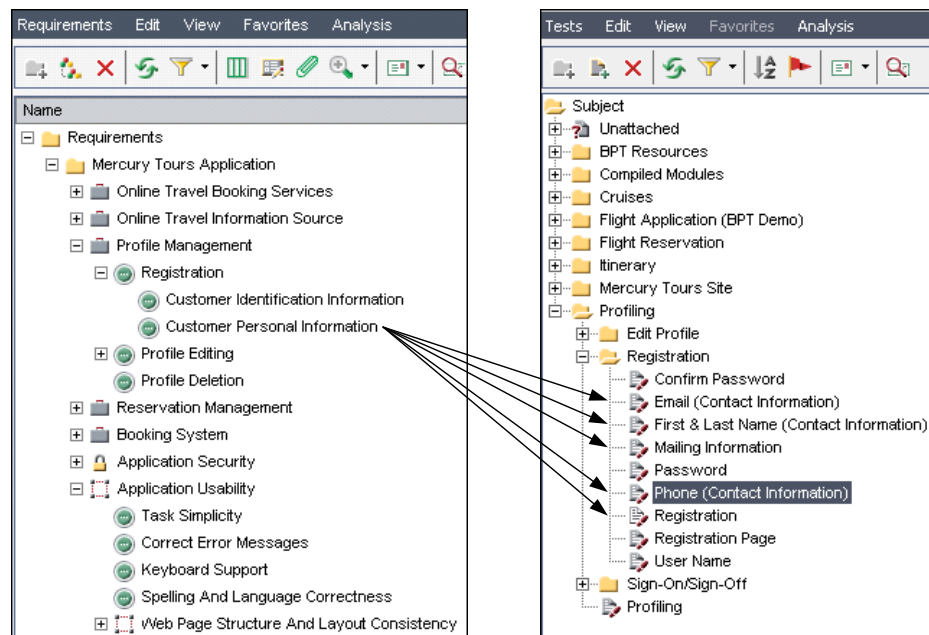




The **Phone (Contact Information)** test verifies the customer phone number in the Registration page. If you click the **Req Coverage** tab, you can see that this test covers the following requirement topics: **Customer Personal Information**, and **Correct Error Messages**.

## Test Coverage Example

Continuing with the requirements coverage example, you can also view coverage in the **QualityCenter\_Demo** project from the other direction. Click the **Requirements** button on the sidebar. In the requirements tree, under **Requirements**, expand the requirement topics **Mercury Tours Application**, **Profile Management**, and **Registration**, and then select the requirement **Customer Personal Information**.

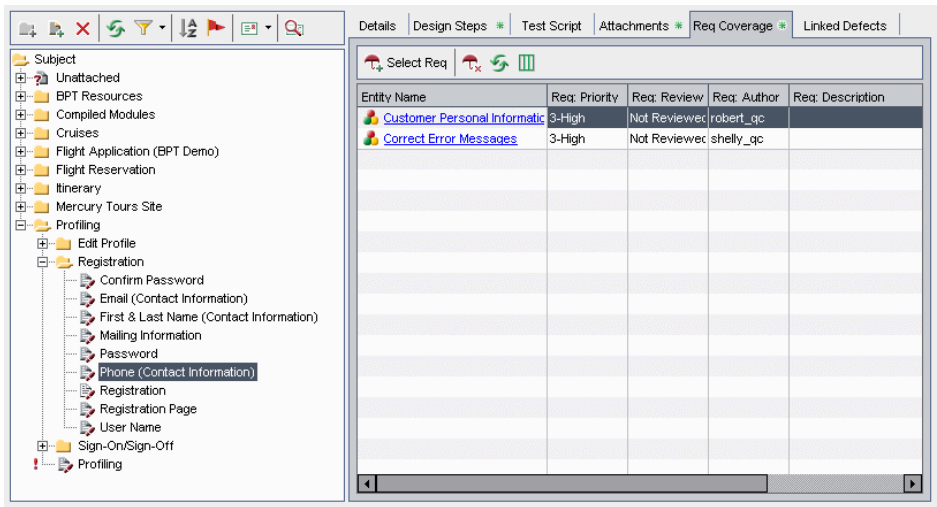


The **Customer Personal Information** requirement ensures that the flight reservation system includes personal information about the customer. In the **Test Coverage** tab, you can see that this requirement is covered by the following tests: **Email (Contact Information)**, **First & Last Name (Contact Information)**, **Mailing Information**, **Phone (Contact Information)**, and **Registration**.

# Linking Requirements to a Test

During test planning, when you select a test in the test plan tree, the test’s requirements coverage is displayed in the Req Coverage tab.

The coverage grid lists the requirements that are covered by the selected test. You can view, add, and remove requirements from the coverage grid.





The columns in the Req Coverage tab display data for the covered requirements. In addition to the columns described in “The Requirement Fields” on page 171, the coverage grid can also display the following columns:

Column	Description
Coverage Type	The type of coverage. The value in this column can be “Test” or “Test Instance”.
Entity Name	The entity name.
Entity Status	The current execution status of the entity.

## Viewing the Requirements Coverage Grid

You can set column appearance and order in the coverage grid. You can view requirements in the coverage grid with their full path. In addition, you can instruct Quality Center to go to a requirement in the requirements tree.

### To view the Requirements Coverage Grid:

- 1** In the test plan tree, select a test.
- 2** Click the **Req Coverage** tab.
-  **3** To refresh the coverage grid so that it displays the most up-to-date requirements, click the **Refresh All** button.
-  **4** To set column appearance and order in the coverage grid, click the **Select Columns** button. For more information, see “Arranging Columns” on page 52.
- 5** To display the location of the requirements in the requirements tree, right-click the coverage grid and choose **Show Full Path**.
- 6** To go to a requirement in the requirements tree, click the requirement in the coverage grid. Alternatively, right-click the requirement and choose **Go To Requirement in Requirements Tree**.

## Adding Requirements Coverage

To add requirements coverage to a test, you select one or more requirements from the requirements tree. Note that by default you cannot add coverage for the following requirement types: Business, Folder, and Group.

---

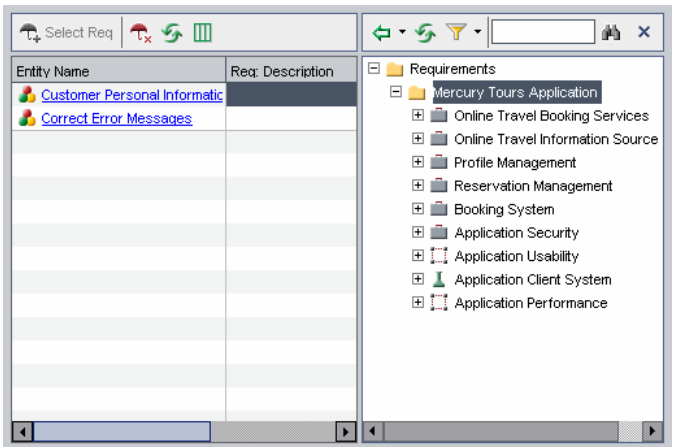
**Note:** Requirements coverage is created automatically when you convert a requirement to a test. Therefore, even if you have not yet added requirements coverage, it may already exist. For more information, see “Creating Tests from Requirements” on page 200.

---

### To add requirements coverage:

- 1** In the test plan tree, select a test.
- 2** Click the **Req Coverage** tab.

- 3 Click the **Select Req** button to display the requirements tree in the right pane.



- 4 To search for a specific requirement in the tree, type the name (or part of the name) of the requirement in the **Find** box and click the **Find** button. If the search is successful, the requirement is highlighted in the tree.



- 5 To search for a specific requirement by **ReqID**, click the **Go To Requirement** button. The Go To Requirement dialog box opens. Type a requirement ID and click **OK**. If the search is successful, the requirement is highlighted in the tree.



- 6 To filter and sort requirements in the tree, click the **Set Filter/Sort** button. For more information, see Chapter 3, “Working with Quality Center Data”.



- 7 To refresh the requirements tree or coverage grid, click the appropriate **Refresh All** button.

**8** Select a requirement or requirement topic to add to the coverage:

- Click the **Add to Coverage (Without Children)** button to add the requirement without the requirement's child requirements. Alternatively, double-click the requirement.
- Click the **Add to Coverage** arrow and choose **Add to Coverage (Include Children)** to add the requirement, including its child requirements. Only child requirements that match the current filter and that belong to a type that supports test coverage are added to the coverage.

The requirement is added to the coverage grid.

---

**Tip:** You can also define requirements coverage by dragging a requirement in the requirements tree to the coverage grid. The requirement is added to the coverage grid without its child requirements.

---

**9** Click the **Close** button to hide the requirements tree.

## Removing Requirements Coverage

You can remove requirements from a test's requirements coverage.

**To remove requirements coverage:**

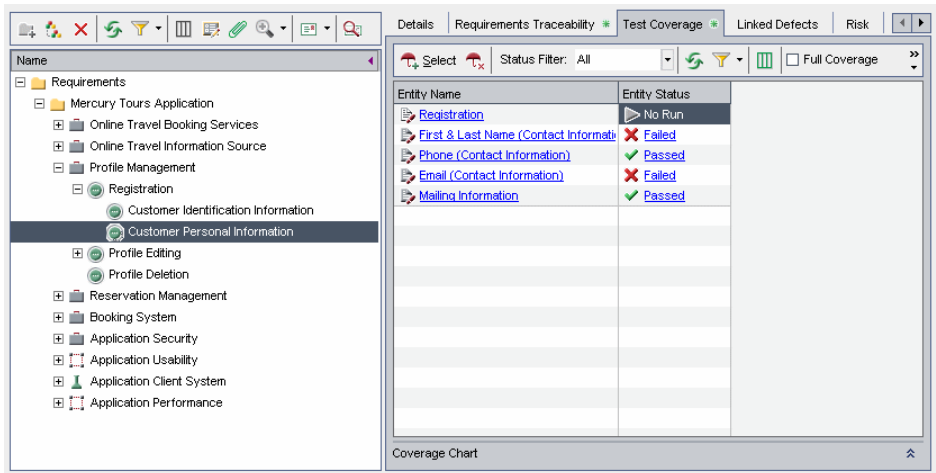
- 1** In the test plan tree, select a test.
- 2** Click the **Req Coverage** tab.
- 3** Select a requirement from the coverage grid to delete.
- 4** Click the **Remove Selected** button, and click **Yes** to confirm.



# Linking Tests to a Requirement

You can link tests to requirements using the Requirements module.

When you select a requirement in the requirements tree, the requirement’s test coverage is displayed in the Test Coverage tab. The coverage grid lists the tests that cover the selected requirement. You can view, add, and remove tests from the coverage grid.







The columns in the Test Coverage grid display data for the tests that cover the requirement. In addition to the columns described in “Test Grid Columns” on page 260, the coverage grid can also display the following columns:

Column	Description
Coverage Type	The type of coverage. The value in this column can be “Test” or “Test Instance”.
Entity Name	The entity name.
Entity Status	The current execution status of the entity.

## Viewing the Test Coverage Grid

You can filter the coverage grid, and show or hide full coverage. You can also instruct Quality Center to go to a test in the test plan tree.

### To view the Test Coverage Grid:

- 1** In the Requirement Details view, select a requirement.
- 2** Click the **Test Coverage** tab.
- 3** To filter the coverage grid by status type, select a status from the **Status Filter** list. For example, you can select to view only tests that have passed. Select **All** to clear the filter.
-  **4** To refresh the data in the coverage grid, click the **Refresh All** button.
-  **5** To filter, sort, or group records in the coverage grid, click the **Set Filter/Sort** button. To clear any filters, sorting, or group by settings, click the **Set Filter/Sort** arrow and choose **Clear Filter/Sort**.
-  **6** To set column appearance and order in the grid, click the **Select Columns** button. For more information on the Select Columns dialog box, see “Arranging Columns” on page 52.
- 7** To show the test coverage of all the children of the requirement, check the **Full Coverage** check box. By default, full coverage is not displayed.
- 8** To go to the test in the test plan tree, click the test in the coverage grid. Alternatively, right-click the test in the coverage grid and choose **Go to Test in Test Plan Tree**.
- 9** To go to the test in the Test Lab module, right-click the test in the coverage grid and choose **Go to Test in Test Set**.
-  **10** On the lower-right side of the window, click **Show** to display the Coverage Chart. This pie chart graphically displays the run status of the tests in the coverage grid.

## Adding Test Coverage

To add test coverage to a requirement, you select tests from the test plan tree. Note that by default you cannot add coverage for the following requirement types: Business, Folder, and Group.

**Note:** Test coverage is created automatically when you generate a test from a requirement. Therefore, even if you have not yet added test coverage, it may already exist. For more information, see “Creating Tests from Requirements” on page 200.

To add test coverage to a requirement:

- 1 In the requirements tree, select a requirement. The Test Coverage tab displays the coverage grid for the selected requirement.
- 2 In the Test Coverage tab, click the **Select Tests** button to display the test plan tree in the right pane.



Details | Requirements Traceability \* | **Test Coverage \*** | Linked Defects | Risk | Attachments

Select Status Filter: All

Entity Name	Entity Status
<a href="#">Registration</a>	No Run
<a href="#">First &amp; Last Name (Contact Information)</a>	Failed
<a href="#">Phone (Contact Information)</a>	Passed
<a href="#">Email (Contact Information)</a>	Failed
<a href="#">Mailing Information</a>	Passed

Coverage Chart

Test Plan Tree

- Subject
  - Unattached
  - BPT Resources
  - Compiled Modules
  - Cruises
  - Flight Application (BPT Demo)
  - Flight Reservation
  - Itinerary
  - Mercury Tours Site
  - Profiling





- 3 To search for a specific test in the tree, type the name (or part of the name) of the test in the **Find** box and click the **Find** button. If the search is successful, the test is highlighted in the tree.



- 4 To search for a specific test by **Test ID**, click the **Go To Test** button. The Go To Test dialog box opens. Type a test ID and click **OK**. If the search is successful, the test is highlighted in the tree.



- 5 To filter or sort tests in the tree, click the **Set Filter/Sort** button. For more information on filtering and sorting records, see Chapter 3, “Working with Quality Center Data”.



- 6 To refresh the tree, click the **Refresh All** button.



- 7 To add a test to the requirement's test coverage, in the Test Plan Tree tab, select a test or a test folder and click the **Add To Coverage** button. The test is added to the coverage grid. If you select a folder, only tests that match your current filter are added to the test coverage.

---

**Tip:** You can also define test coverage by dragging a test or a test folder from the Test Plan Tree tab to the coverage grid.

---



- 8 Click the **Close** button to hide the test plan tree in the right pane.

## Removing Test Coverage

You can remove tests from a requirement's test coverage.

### To remove test coverage:

- 1 In the Requirements Details view, select a requirement. The Test Coverage tab displays the coverage grid for the selected requirement.
- 2 Select a test from the coverage grid to delete.



- 3 Click the **Remove From Coverage** button and click **Yes** to confirm.

# Analyzing Coverage

In the Requirements module, you can use the **Coverage Analysis** view to examine the status of your requirements. This enables you to understand the breakdown of child requirements according to test coverage. You can set the coverage analysis by cycle, enabling you to view in the analysis only the coverage of runs that are assigned to specific cycles.

For example, in the **QualityCenter\_Demo** project, select the requirement **Application Client System**, located under the requirement **Mercury Tours Application**. This requirement has twelve children, including itself. In the Coverage Analysis, you can see that two of the children have a status of Failed (one or more of the tests covered by the requirement failed). When you analyze this, you can see that three (27%) of the tests associated with this requirement failed.

**Note:** By default, coverage is available only for the following requirement types: Functional, Testing, and Undefined.

To analyze coverage:

- 1 Choose **View > Coverage Analysis**.

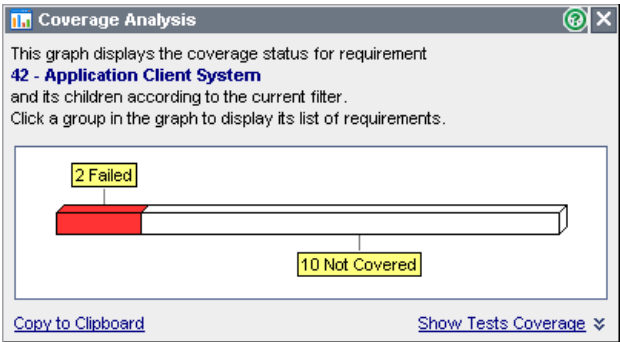


The Coverage Analysis view displays the following columns:

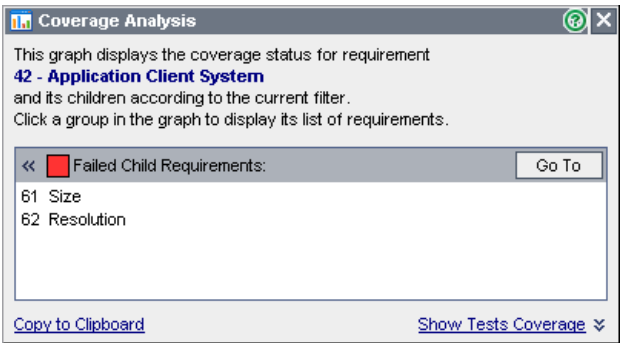
Column	Description
<b>Name</b>	The requirements tree, listing requirements grouped hierarchically.
<b>Direct Cover Status</b>	The current status of the requirement, determined according to the status of the tests associated with the requirement. For example, if the direct cover status is “Not Completed”, then one or more tests covered by the requirement have not been completed. For a complete definition, see “Direct Cover Status” on page 171.
<b>Coverage Analysis</b>	This column graphically displays the direct cover status of the requirement and its children. Requirements which do not match the current filter, or requirements with direct cover status “N/A” are not counted in the analysis.  If you set the coverage by cycle, Quality Center does not use the Direct Cover Status field in its calculations. Instead, it uses calculated direct cover status values based on the tests that have instances belonging to test set folders that are assigned to cycles included in the filter. In this case, requirements that do not have test coverage for any of the cycles in the filter are not counted in the analysis.

- 2 Quality Center Enterprise and Premier Editions:** To include in the analysis only tests that have runs that are assigned to specific cycles, in the **Coverage calculation by cycle** box, click the browse button. The releases tree opens. Expand the tree and select the cycles for which you want to analyze coverage. Click **OK** to close the releases tree.
- 3** Click the **Coverage Analysis** column for the requirement you want to analyze. Alternatively, right-click the requirement, and choose **Coverage Analysis**. The Coverage Analysis dialog box opens.

For example, click the **Coverage Analysis** column for the requirement **Application Client System**. The graph shows that this requirement has two requirements that have Failed and ten child requirements that are Not Covered.

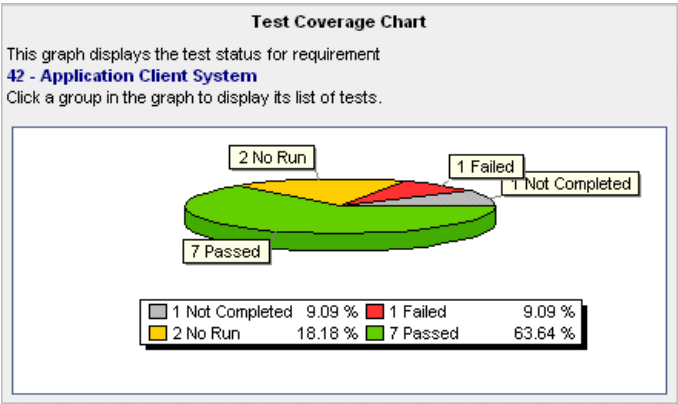


- 4 Click a section in the graph to display a list of child requirements with the selected status. In this example, click the **Failed** area of the graph to show the requirements with a status of Failed. The names of the two requirements with Failed status are displayed.



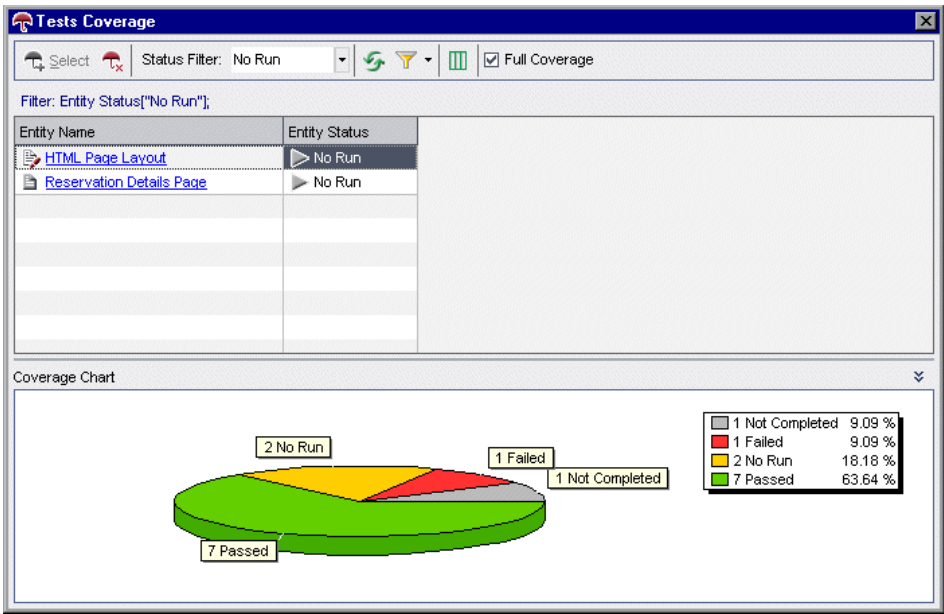
You can select a requirement and click **Go To** to highlight the requirement in the requirements tree.

- 5 Click the **Show Tests Coverage** link to extend the Coverage Analysis dialog box and display the Tests Coverage Chart.



This pie chart graphically displays the full test coverage for the requirement, grouped according to test status. In this example, the Application Client System requirement and its child requirements are associated with one Failed test, one Not Completed test, two No Run tests, and seven Passed tests. If a parent requirement has several children all of which cover the same test, that test is included only once in the parent requirement's Tests Coverage Chart.

- 6 Click a section in the chart to view the list of tests with the selected status that cover the requirement and its children. The Tests Coverage dialog box opens with the **Status Filter** set to the status of the area you selected in the chart.



If a parent requirement has several children all of which cover the same test, that test is included once for each child requirement in the parent requirement’s Tests Coverage Chart.

You can change the Status Filter or modify test coverage for the requirement. For more information, see “Linking Tests to a Requirement” on page 294.



- 7 To display the Tests Coverage Chart, click the **Show** button.
- 8 Click **Close** to close the Test Coverage dialog box.
- 9 Click **Close** to close the Coverage Analysis dialog box.
- 10 To save the Coverage Analysis view to a Word document, choose **Requirements > Export > Word Document**. A Word document is created, displaying a bar graph for each parent requirement in the requirements tree.

# 20

---

## Building Tests

After you create a test plan tree, you are ready to develop the tests by defining design steps.

**This chapter includes:**

- About Building Tests on page 303
- Defining Design Steps on page 305
- Calling Manual Tests on page 307
- Managing Design Steps on page 309

### About Building Tests

You build tests in the Test Plan module by defining design steps: detailed, step-by-step instructions on how to execute a test. A step includes the actions to perform on your application, the input to enter, and the expected output. You define steps for a test after you add the test to the test plan tree and define basic test information.

You can create design steps for both manual and automated tests. For a manual test, you complete test planning and design once you finish creating the steps. Using your plan, you can begin execution immediately. Automated tests require that you create automated test scripts using HP testing tools, or custom, or third-party testing tools.

If you decide to automate a test, a test script is created based on the design steps you defined. After evaluating your test design, you decide whether to automate a test. For further information, see Chapter 22, “Creating Automated Tests.”

You can create a design step that calls another manual test. This is useful if you have common steps that you often want to perform as parts of other tests. For more information on calling a manual test, see “Calling Manual Tests” on page 307.

You design steps for a test using the **Design Steps** tab in the test plan tree.

Details	Design Steps	Test Script	Test Parameters	Attachments	Req Coverage
	Step Name	Description	Expected Result		
	Step 1: Open Itinerary	Select the Itinerary from the top menu.	The Itinerary page opens. All the flight reservations that you have created in the Initialization step should be shown.		
	Step 2: Click Cancel All Reservations Button	Click the Cancel All Reservations button.	If the current user profile has no reservations, the Cancel All Reservations button must not be available. If the current user has at least one reservation, a message should appear asking you to confirm the deletion of all reservations.		
	Step 3: Omit Reservations Deletion	Close the confirmation message with the No button.  Note: This step should only be executed for user profiles having at least one reservation.	No reservations should be deleted. All the flight reservations that you have created in the Initialization step should still be shown.		
	Step 4: Check Omit After Logout	1. Click the Log Out button. 2. Login again to the application with the same user name. 3. Select the Itinerary from the top menu.	The Itinerary page opens. All the flight reservations that you have created in the Initialization step should still be shown.		



## Defining Design Steps

You add design steps to a test using the Design Step Editor.

---

**Note:** You can include a design step that calls another manual test. For more information, see “Calling Manual Tests” on page 307.

---

**To define a design step:**

- 1 Select a test in the test plan tree and click the **Design Steps** tab.
- 2 Click the **New Step** button or right-click in the Design Steps tab and choose **New Step**. The Design Step Editor opens and displays a default step name in the Step Name box.



**Design Step Editor: Test <Flight Reservation>**

Step Name:

Description

Expected Result:

OK Cancel

The default step name is the sequential number of the design step (Step 1 if you are adding steps to a test for the first time). You can change the name by typing a different name in the box.

**3** Type a **Description** and **Expected Result** for the design step.



**4** To insert a parameter, click the **Insert Parameter** button. For more information, see “Inserting Test Parameters in a Design Step” on page 321.



**5** To manually save the current step, click the **Save Steps** button.



**6** To add additional steps, click the **New Step** button. The next sequential number appears in the **Step Name** box.

**7** Click **OK** to close the Design Step Editor and add the steps.

The design steps appear in the Design Steps tab. In the test plan tree, a footprint  appears next to the test icon, indicating that steps were defined for the test.



**8** You can associate an attachment with a design step. An attachment can be a file, URL, snapshot, an item from the Clipboard, or system information. To add an attachment to a design step, select a step and click the **Attachments** button. For more information, see Chapter 5, “Adding Attachments.”

---

#### Notes:

- You can copy steps from an existing test. For more information, see “Managing Design Steps” on page 309.
  - If you add an attachment to a design step, a copy of the attachment is made every time the test is run. For more information on running tests, see “Running a Test Manually” on page 422.
-

## Calling Manual Tests

In a test, you can include a design step that calls a manual test. When you run the calling test, it includes the steps and parameters from the called test. This is useful if you have common steps you often want to perform as part of other tests.

For example, suppose you want to include a login step in a number of different tests. You can create a test **Login\_Template** that logs in a user when you start your application. You can call this test at the beginning of each test.

To easily identify tests that you will call from other tests, you can mark the called tests as template tests.

Template tests often include test parameters. These are useful if you want to run the template test with different data according to the type of test that is calling it. For more information on using parameters in manual tests, see Chapter 21, “Working with Parameters in Manual Tests.”

This section on calling manual tests includes the following topics:

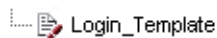
- Marking a Manual Test as a Template Test
- Calling a Manual Test

### Marking a Manual Test as a Template Test

You can mark a manual test in the test plan tree as a template test. You do not need to mark a test as a template test to be able to call it. Marking a test as a template test makes selecting the template test easier when you call it from another test.

#### To mark a manual test as a template test:

In the test plan tree, right-click a manual test, and choose **Mark as Template Test**. The manual test icon changes from gray to white to indicate that it is now a template test.

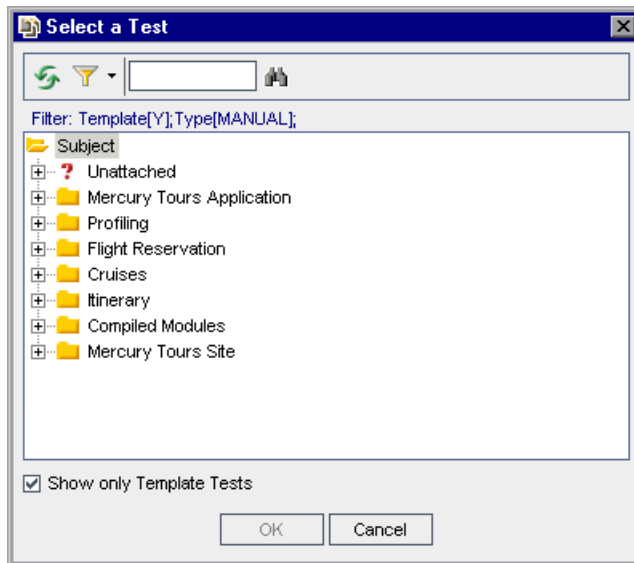


## Calling a Manual Test

In a test, you can include a step that calls another manual test. When you run the calling test, its design steps include the steps from the called test.

**To call a manual test:**

- 1 Select a test in the test plan tree and click the **Design Steps** tab.
- 2 Select the step after which you want to include a call to another test and click the **Call to Test** button. The Select a Test dialog box opens.



- 3 By default, only template tests are displayed. If you want to choose a test that is not a template test, clear the **Show only Template Tests** check box.
- 4 To filter and sort the tests in the Select a Test dialog box, click the **Set Filter/Sort** button. The Filter dialog box opens. For more information on filtering and sorting, see Chapter 3, “Working with Quality Center Data.”
- 5 To search for a specific test, type the name (or part of the name) of the test in the **Find** box and click the **Find** button. If the search is successful, the test is highlighted in the tree.
- 6 To refresh all tests in the tree, click the **Refresh All** button.
- 7 Select the manual test that you want to call.



- 8 Click **OK**. If the called test contains parameters, the Parameters of Test dialog box opens and displays the parameters of the test you are calling. Assign actual values for the parameters. These values will be used for all test instances created from this test. For more information, see “Assigning Actual Values” on page 322.
- 9 Click **OK**. The call is inserted as a link in your design step, and the values assigned to the parameters in the called test are displayed.
- 10 To edit the values you assigned to the parameters in the called test, right-click the test call and choose **Called Test Parameters**. In the Called Test Parameters dialog box, type the new values for the parameters, and click **OK**.

## Managing Design Steps

This section on managing design steps includes the following topics:

- Editing Design Steps
- Reordering Design Steps
- Renumbering Design Steps
- Resizing Design Steps
- Arranging Design Step Columns
- Deleting Design Steps
- Copying Design Steps in a Project
- Copying Design Steps Across Projects
- Finding and Replacing Step Text

### Editing Design Steps

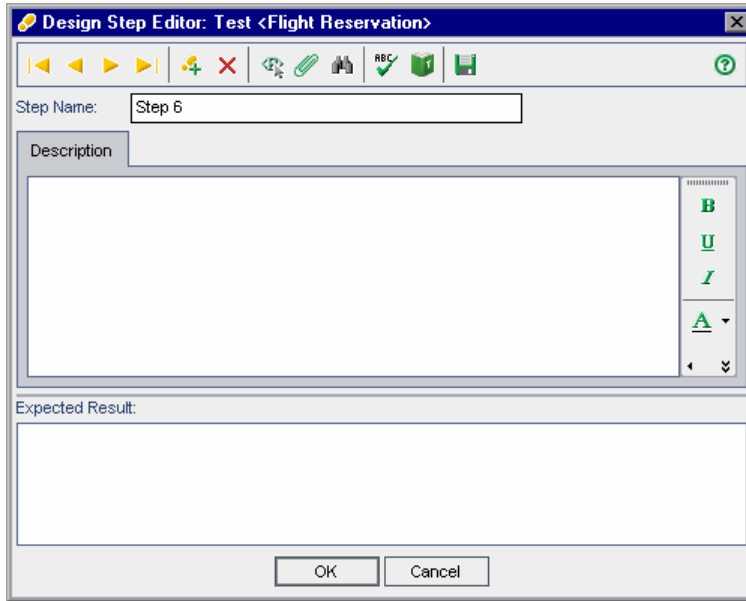
You can edit existing design steps or add new ones.

**To modify design steps:**

- 1 Choose a test in the test plan tree and click the **Design Steps** tab.



- 2 Double-click a step, or select a step and click the **Edit Step** button. The Design Step Editor opens.



You can proceed through the steps in a test using the browse buttons:



- Click the **First Step** button to display the first step in the test, or the **Previous Step** button to display the preceding step.



- Click the **Next Step** button to display the subsequent step in the test, or the **Last Step** button to display the final step in the test.

---

**Tip:** You can navigate between steps in the Design Step Editor using shortcut keys. Use ALT+HOME to access the first step, ALT+LEFT to access the previous step, ALT+RIGHT to access the next step, and ALT+END to access the last step.

---

- 3 Edit step descriptions and expected results by typing in the **Description** and **Expected Result** areas.



- 4 Click the **New Step** button to add a step after the currently selected step.
- 5 Click **OK** to close the Design Step Editor and save your changes.

## Reordering Design Steps

You can change the order of the steps in a test.

**To reorder design steps:**

- 1 Choose a test in the test plan tree and click the **Design Steps** tab.
- 2 Position the mouse pointer on the gray sidebar to the left of the step you want to move. The mouse pointer changes to ➡.
- 3 Click and drag the step to the desired position.

## Renumbering Design Steps

You can renumber your steps after you add, delete, or reorder steps in a test.

**To renumber design steps:**

- 1 Choose a test in the test plan tree and click the **Design Steps** tab.
- 2 Click the **Renumber Steps** button.



## Resizing Design Steps

You can adjust the row size of the steps in a test. This enables you to view all the text in the Description or Expected Result columns if the text is long.

**To resize design steps:**

- 1 Choose a test in the test plan tree and click the **Design Steps** tab.
- 2 Position the mouse pointer in the gray sidebar on the lower edge of the step you want to resize.
- 3 Click the **Adjust Rows Height** button.



Alternatively, position the mouse pointer in the gray sidebar on the lower edge of the step you want to resize. The mouse pointer changes to ⇅. Click and drag the step to adjust the row size.

## Arranging Design Step Columns

You can determine which columns appear and the order in which they appear in the Design Steps tab.

**To arrange design step columns:**



- 1 Choose a test in the test plan tree and click the **Design Steps** tab.
- 2 Click the **Select Columns** button. The Select Columns dialog box opens. For more information, see “Arranging Columns” on page 52.

## Deleting Design Steps

You can remove steps from a test.

**To delete a design step:**



- 1 Choose a test in the test plan tree and click the **Design Steps** tab.
- 2 Choose the step that you want to delete. To delete more than one step, position the mouse pointer on the gray sidebar to the left of the step that you want to delete. The mouse pointer changes to ➡. Click to select the step. Then use the CTRL or SHIFT key to select additional steps.
- 3 Click the **Delete Selected** button. Alternatively, right-click and choose **Delete Selected**.
- 4 Click **Yes** to confirm.

## Copying Design Steps in a Project

You can copy design steps from another test in the same project. Parameters used in the design step test are copied to the target test.

**To copy a design step in a project:**



- 1 Select the test in the test plan tree from which you want to copy steps and click the **Design Steps** tab.
- 2 Select the step that you want to copy. To copy more than one step, position the mouse pointer on the gray sidebar to the left of the step that you want to copy. The mouse pointer changes to ➡. Click to select the step. Then use the CTRL or SHIFT key to select additional steps.
- 3 Click the **Copy Steps** button, or right-click and choose **Copy**.



- 4 Select the test to which you want to copy the steps, and click the **Design Steps** tab.



- 5 Click the **Paste Steps** button or right-click and choose **Paste**.

## Copying Design Steps Across Projects

You can copy design steps in a test from one project to another. If the design steps contain calls to other tests, you can instruct Quality Center to copy them using one of the following methods:

- Copy design steps and link them to existing tests in the target project. If a called test does not exist in the target project, Quality Center copies it to the target project.
- Copy design steps and called tests into the target project.
- Copy design steps without copying called tests into the target project.

Parameters used in the design step test are copied to the target test.

---

**Note:** To copy design steps across projects, both projects must use the same Quality Center version and patch level.

---

### To copy a design step across projects:

- 1 Select the test in the test plan tree from which you want to copy steps and click the **Design Steps** tab.
- 2 Select the step that you want to copy. To copy more than one step, position the mouse pointer on the gray sidebar to the left of the step that you want to copy. The mouse pointer changes to ➡. Click to select the step. Then use the CTRL or SHIFT key to select additional steps.



- 3 Click the **Copy Steps** button, or right-click and choose **Copy**.
- 4 Open another instance of Quality Center and log in to the project to which you want to paste the steps.
- 5 Select the test to which you want to copy the steps, and click the **Design Steps** tab.



- 6 Click the **Paste Steps** button or right-click and choose **Paste**. The Paste Design Steps to Target Project dialog box opens.
- 7 Select one of the following options:
  - **Copy design steps and link to existing related entities.** Quality Center copies the design steps and pastes them into the target project. The copied design steps are linked to existing tests with the same name. If a called test does not exist in the target project, Quality Center copies it to the target project.
  - **Copy design steps and related entities.** Quality Center copies the design steps and called tests and pastes them into the target project. If a called test name already exists in the target project, the copied called test is renamed to resolve the duplicate test name.
  - **Copy design steps without copying related entities.** Quality Center copies the design steps without copying the called tests, and pastes them into the target project. The copied design steps are not linked to any called tests.

Click **OK**.

## Finding and Replacing Step Text

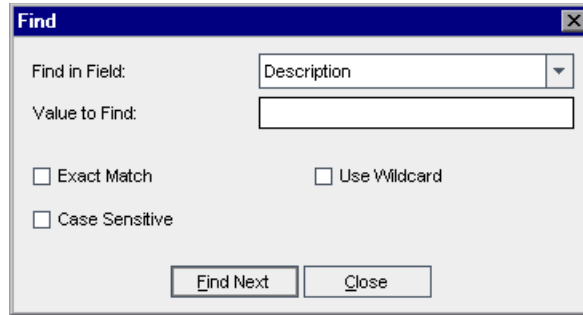
You can search for specific text in the design steps in the Design Steps tab. For a single step, you can also find and replace specific text in the Design Steps Editor.

**To find text in the Design Steps tab:**

- 1 Choose a test in the test plan tree and click the **Design Steps** tab.



- 2 Click the **Find Text** button. The Find dialog box opens.



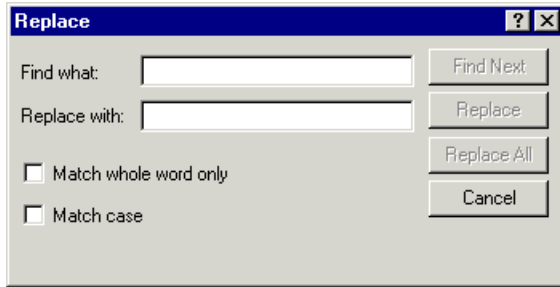
- 3 In the **Find in Field** box, select the criterion to search for.
- 4 In the **Value to Find** box, select the value of the field you chose.
- 5 To distinguish between uppercase and lowercase characters, select the **Case Sensitive** check box.
- 6 To search for an exact value, select the **Exact Match** check box.
- 7 To use asterisk (\*) characters in your search string to type only part of the item, select the **Use Wildcard** check box.
- 8 Click **Find Next**. If the search is successful, the step is highlighted. If the search is unsuccessful, an information box opens.
- 9 Click **Close** to close the dialog box.

#### To find and replace text in the Design Steps Editor:

- 1 Choose a test in the test plan tree and click the **Design Steps** tab.
- 2 Click the **New Step** button to add a new step, or click the **Edit Step** button to modify an existing step. The Design Step Editor opens.



- 3 Click the **Find/Replace Text** button. The Replace dialog box opens.



- 4 In the **Find what** box, type the text for which you want to search.
- 5 To replace the specified text, type the text you want to use as replacement text in the **Replace with** box.
- 6 To search for whole words, select the **Match whole word only** box.
- 7 To search for an exact value, select the **Match case** check box.
- 8 Click **Find Next**. If the search is unsuccessful, an information box opens.
- 9 Click **Replace** to replace the first occurrence of the text, or **Replace All** to replace all occurrences of the text.

# 21

---

## Working with Parameters in Manual Tests

You can add parameters to your manual tests and use them in design steps.

**This chapter includes:**

- About Working with Parameters in Manual Tests on page 317
- Defining Test Parameters on page 319
- Updating Test Parameters on page 320
- Inserting Test Parameters in a Design Step on page 321
- Assigning Actual Values on page 322
- Managing Test Parameters on page 324

### About Working with Parameters in Manual Tests

To increase the flexibility of manual tests, you can add parameters to design steps. This enables you to run the same test repeatedly with different data each time.

A **test parameter** is a variable that can be assigned a value outside the test from which it is defined.

Manual tests with parameters can be called from other tests. This is useful if you have common steps you often want to perform as part of other tests. For example, you can create a template test **Login\_Template** that logs a user in when you start the application. You need to call this test at the beginning of each test. In some cases, you will want to log in as a regular user while in others, you will need to log in as the project administrator.

For this purpose, you can create two parameters, <<<user name>>> and <<<password>>>, and change the values according to the type of test that is calling **Login\_Template**. If the most common login is a regular user, you can set the default values for the parameters to a regular user name and password. For more information on calling manual tests, see “Calling Manual Tests” on page 307.

**To work with parameters in manual tests:**

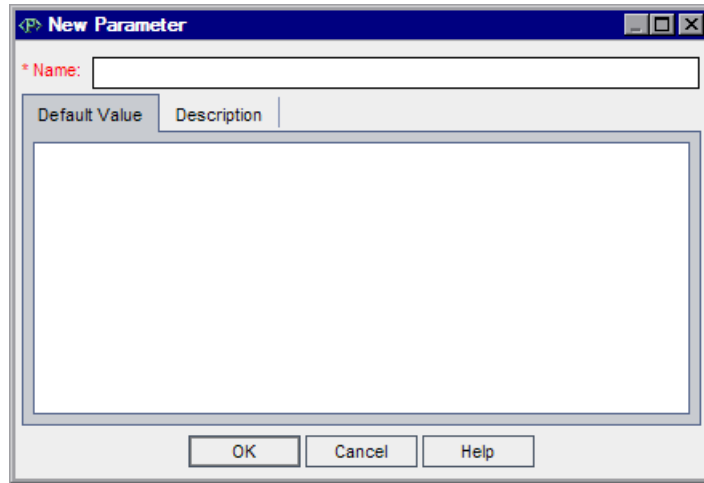
- 1** Define parameters in a manual test. For more information, see “Defining Test Parameters” on page 319.
- 2** Add parameters to a design step. For more information, see “Inserting Test Parameters in a Design Step” on page 321.
- 3** At different stages of designing your test, assign parameter values that are used during test runs. For more information, see “Assigning Actual Values” on page 322.

## Defining Test Parameters

Before you can use parameters in design steps, you need to define them in the test.

To define a test parameter:

- 1 Select a test in the test plan tree and click the **Test Parameters** tab.
- 2 Click the **New Parameter** button. The New Parameter dialog box opens.



- 3 Type a name for the new parameter. A parameter name may not include the following characters: ~ ? ' < > %
- 4 Click the **Default Value** tab and type a default value for the parameter. The default value helps users to assign an actual value before they run the test.
- 5 Click the **Description** tab and type a description of the parameter.
- 6 Click **OK**.

## Updating Test Parameters

You can add or change details of an existing test parameter.

**To update a test parameter:**



- 1 In the Test Parameters grid, double-click the parameter you want to edit. Alternatively, select the parameter and click the **Parameter Details** button. The Parameter Details dialog box opens.

Default Value	Description
250	

- 2 Update or type values in the following fields:
  - **Parameter Name.** A parameter name may not include the following characters: ~ ? ' < > %  
If you rename the parameter, Quality Center creates a new parameter with the new name, in addition to the original parameter.
  - **Default Value.**
  - **Description.**
- 3 Click **OK** to save the changes.

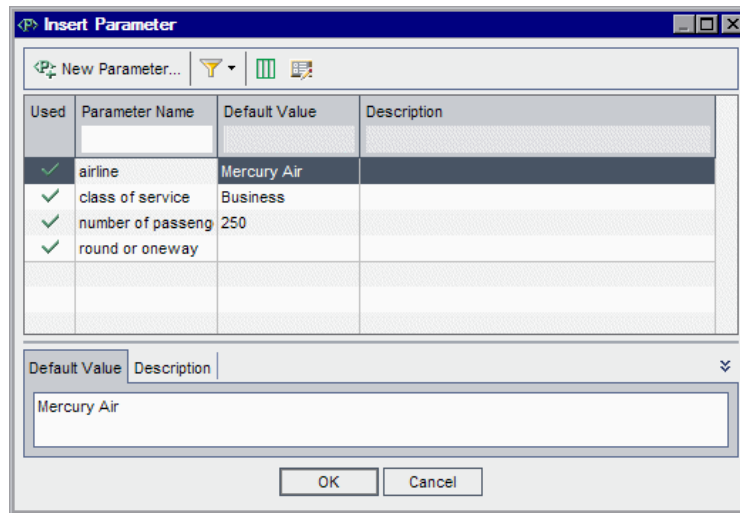


## Inserting Test Parameters in a Design Step

You can add a parameter to the description or expected results of a manual design step. You can use existing parameters, or define new parameters.

To insert a test parameter in a design step:

- 1 In the **Design Steps** tab, double-click a design step. Place the cursor in the **Description** box or **Expected Result** box.
- 2 Click the **Insert Parameter** button. The Insert Parameter dialog box opens.



- 3 To insert an existing parameter, select the parameter and click **OK**.

The parameter is added to the step at the current cursor location, using the syntax <<<parameter name>>>.

---

**Note:** If you apply formatting to a parameter name in a design step, you must apply the same formatting to the entire parameter name, including the <<< and >>> characters. For example, if you want to italicize the parameter <<<password>>>, you must italicize the entire string <<<password>>> and not just the word password.

---

- 4 To insert a new parameter, click the New Parameter button. For more information, see “Defining Test Parameters” on page 319. The new parameter is added to the step.

Alternatively, in the description of the design step, type a new parameter name, using the syntax <<<parameter name>>>. After the design step is saved, the new parameter is added to the Test Parameters tab.

## Assigning Actual Values

Before you run a test, Quality Center prompts you to assign actual values to the parameters included in the test. The **actual value** is the data that is used during the test run. You can take the parameter default values and use them as actual values.

Quality Center prompts you to assign actual values at three stages of designing your test. According to your testing policy, you can assign actual values at any of these stages:

- **When you call a test with parameters.** If you assign actual values to parameters when you call a test, the values are automatically applied to each test instance that you create from the calling test.
- **When you create a test instance.** If you assign actual values to parameters when you create a test instance, the values are automatically applied to each run of the test instance. You can also assign actual values to test instances within the test instance configuration. For more information, see “Setting Parameter Values for Manual Test Instances” on page 452.
- **When you run a test.** If you assign actual values to parameters for a test run, the values apply to that test run only. If you do not assign actual values at this stage, the test will run with null values.

At each of these stages, you can only assign values to parameters that have not already been assigned values.

**To assign actual values:**

- 1 When you call a manual test with parameters, create a test instance with parameters, or run a test with parameters, Quality Center prompts you to assign actual values to the parameters. The Parameters of Test dialog box opens.

Parameters of Test <1>Find Flight

Take Default Values

Enter actual values for the test parameters:

Used	Parameter Name	Default Value	Actual Value
✓	class of service	Business	
✓	round or oneway		
✓	number of passeng	250	
✓	airline	Mercury Air	

Description | Default Value | Actual Value

OK Cancel Help

Quality Center displays only parameters for which you have not already assigned actual values.

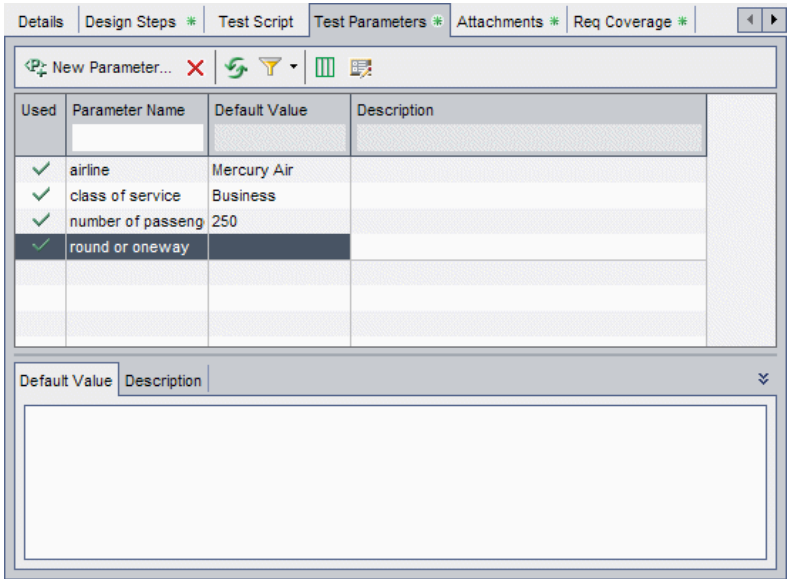
- 2 Select a parameter that you want to assign an actual value. To select multiple parameters, use the CTRL or SHIFT key.
- 3 In the **Actual Value** column, type the value that will be used for the parameter during the test run. After you start typing, a text box opens. Click **OK** to save the value.
- 4 To use a parameter's default value as its actual value, click the **Take Default Values** button. The current Actual Value is replaced by the Default Value.
- 5 Click **OK**.

## Managing Test Parameters

You view and manage the parameters of a test in the Test Parameters tab.

**To manage test parameters:**

- 1 In the Test Plan tree, select a test and click the **Test Parameters** tab.



A tick mark in the Used column indicates that the parameter is included in a design step.

- 2 To add a new test parameter, click the **New Parameter** button. For more information, see “Defining Test Parameters” on page 319.
- 3 To delete a test parameter, select a parameter and click the **Delete** button. If you delete a parameter that is included in a design step, the parameter in the design step is replaced by regular text, using the syntax: `<parameter name>`.
- 4 To refresh the test parameters grid, click the **Refresh All** button.





**5** To filter the test parameters that appear in the grid, use one of the following options in the **Set Filter/Sort** button:

- **Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter and sort the parameters in the test parameters grid.
- **Clear Filter/Sort.** Clears any filters or sorting that you have applied to the test parameters grid.

For more information on filtering and sorting, see Chapter 3, “Working with Quality Center Data.”



**6** To select the columns that appear in the test parameters grid, and to set their order, click the **Select Columns** button. For more information, see “Arranging Columns” on page 52.



**7** To edit the details of a test parameter, select a parameter and click the **Parameter Details** button. For more information, see “Updating Test Parameters” on page 320.



# 22

---

## Creating Automated Tests

After you have designed test steps, you can use them as a framework for creating an automated test script.

### **This chapter includes:**

- About Creating Automated Tests on page 327
- Generating Automated Test Scripts on page 328

### **About Creating Automated Tests**

Test planning involves deciding which tests to automate. If you choose to automate a test, you can generate a test script and run the test using WinRunner, QuickTest Professional, LoadRunner, or Visual API-XP.

Consider the following issues when deciding whether to automate a test.

#### **Frequency of Execution**

Tests that will run with each new version of your application are good candidates for automation. These include sanity tests that check basic functionality across an entire application. Each time there is a new version of the application, you run these tests to check the stability of the new version, before proceeding to more in-depth testing.

Tests that use multiple data values for the same operation (data-driven tests) are also good candidates for automation. Running the same test manually—each time with a different set of input data—can be tedious and ineffective. By creating an automated data-driven test, you can run a single test with multiple sets of data.

## Stress/Load Testing

It is also recommended that you automate tests that are run many times (stress tests) and tests that check a multi-user client/server system (load tests). For example, suppose a test must be repeated a thousand times. Running the test manually would be extremely impractical. In this case, you can create a test that runs a thousand iterations.

## When Not To Automate Tests

Generally, the more user involvement a test requires, the less appropriate it is to automate. The following describes test cases that should not be automated:

- Usability tests—tests providing usage models that check how easy the application is to use.
- Tests that you only have to run once.
- Tests that you need to run immediately.
- Tests based on user intuition and knowledge of the application.
- Tests with no predictable results.

## Generating Automated Test Scripts

After you have created steps for a manual test, you can generate a test script skeleton in which you can write scripts to run the test as an automated test.

Any text that appeared in the steps of the manual test is listed as comments in the generated test script. If the manual test has parameters, they are also listed as comment text.






**To generate an automated test script:**

- 1** In the test plan tree, choose the manual test that you want to automate.
- 2** Click the **Design Steps** tab and click the **Generate Script** button.






**3** Choose an automated test type to convert to:

Test Icon	Test Type	Description
	<b>WR-AUTOMATED</b>	A test that is executed by WinRunner, the HP functional testing tool for Microsoft Windows applications.
	<b>VAPI-XP-TEST</b>	A test that is created by Visual API-XP, the Quality Center open test architecture API testing tool. For more information on VAPI-XP tests, see Appendix A, “Working with VAPI-XP.”
	<b>LR-SCENARIO</b>	A scenario that is executed by LoadRunner, the HP load testing tool.
	<b>QUICKTEST_TEST</b>	A test that is executed by QuickTest Professional, the HP functional enterprise testing tool.
	<b>QAINspect_TEST</b>	A test that is executed by QAIInspect, the HP security testing tool.

---

**Note:** The **QUICKTEST\_TEST** test type is only available if you have installed the appropriate add-in from the HP Quality Center Add-ins page. For more information on installing add-ins, refer to the *HP Quality Center Installation Guide*.

---

The Test Plan module uses the steps of the selected test to create an automated test script. In the test plan tree, note that the manual test icon  next to the test you just automated is now replaced with the automated test icon.

- 4** Click the **Test Script** tab to view the test script.
- 5** If the test is a WinRunner test, you can attach a different test script to the test by clicking the **Copy From** button. The Select Test dialog box opens, enabling you to select a WinRunner test from the file system.

- 6 For WinRunner, LoadRunner, and QuickTest Professional tests, to display your test script in the testing tool for which it is created, click the **Launch** button. You can now modify your test as necessary.

# 23

---

## Working with System Tests

Using system tests, you can instruct Quality Center to provide system information for a machine, capture a desktop image, or restart a machine.

**This chapter includes:**

- About Working with System Tests on page 331
- Adding System Tests to a Test Plan Tree on page 332
- Defining a System Test on page 334
- Running a System Test on page 335
- Viewing System Test Results on page 336

### About Working with System Tests

You can run a system test to retrieve a machine's system information, view a captured desktop image of a test run on a machine, or restart a machine. For example, you can run a system cleanup test that will restart the machine on which an automated test failed. You can also create a system test to retrieve information about a machine's resource usage before or after a test run.

You create a system test by adding a system test to the test plan tree, defining the test, and adding the test to a test set.

---

**Note:** To run a system test, you must install the System Test Remote Agent Add-in and the HP Quality Center Connectivity Add-in on the machine where the test is to be run. For more information on HP Quality Center add-ins, refer to the *HP Quality Center Installation Guide*.

---

When running a system test, the following steps can be created:

- **SysInfo.** Collection of system information
- **Snapshot.** Capture of desktop image
- **Reboot Start** and **Reboot Finish.** Machine restart

You can view details for each of these steps after your system test has finished running. You can also view the system information that has been retrieved—such as CPU, memory, and processes running on the machine—and an image of the machine executing the system test.

## Adding System Tests to a Test Plan Tree

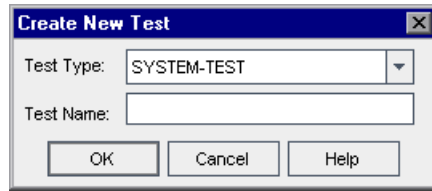
You begin creating a system test by adding it to your test plan tree.

**To add a system test to a test plan tree:**

- 1** Choose a subject folder in the test plan tree.
- 2** Click the **New Test** button, or choose **Tests > New Test**. The Create New Test dialog box opens.



- 3 In the **Test Type** box, select **SYSTEM-TEST**.



---

**Note:** If you have installed the QuickTest Professional Add-in on your machine, the Create New Test dialog box includes the **Template** box.


---

- 4 In the **Test Name** box, type a name for the test.
- 5 Click **OK**.

---

**Note:** If required test fields were defined in Project Customization, the Required Test Fields dialog box opens. Select values for the required fields and click **OK**.

---

The new system test with a system test icon  appears in the test plan tree under the subject folder you selected.

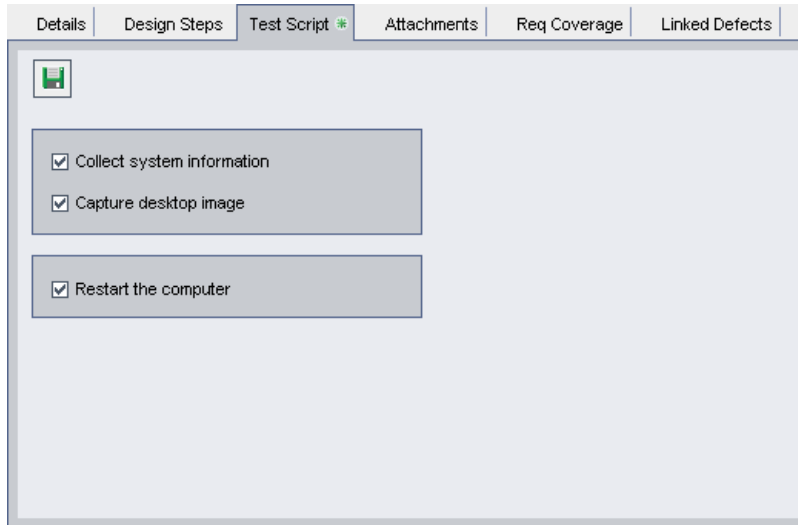
- 6 You can add details and attachments to the test, and define requirements coverage. For more information, see Chapter 18, “Developing the Test Plan Tree.”

## Defining a System Test

Once you have added your system test to the test plan tree, you can define a test script for the test.

**To define a system test:**

- 1 Select the system test you created from the test plan tree, and click the **Test Script** tab.



- 2 Select **Collect system information** to collect information such as CPU, memory, and processes running on the machine when the system test is run.
- 3 Select **Capture desktop image** to add an attachment displaying a snapshot of the machine's desktop, when the system test is run.

- 4 Select **Restart the computer** to instruct Quality Center to restart the machine when the system test is run.

---

**Notes:**

- To use the **Restart the computer** option, you must enable auto login on your machine. Choose **Start > Programs > HP Quality Center SystemTest Agent > SystemTest Agent (configuration)**. The Auto Restart Settings dialog box opens. By default, **User Name** and **Domain** are read-only. Type your password and click **OK**.
  - To select a different user name, reopen the Auto Restart Settings dialog box. **User Name** and **Domain** are no longer read-only. Modify the values and click **OK**.
- 



- 5 Click the **Save** button to save your system test settings.

After you define your system test in the Test Plan module, you can choose to add the test to a test set in the Test Lab module. For information on creating test sets, see Chapter 28, “Creating Test Sets”.

## Running a System Test

Once you have defined your system test and added it to a test set in the Test Lab module, you can run it. System tests can be run on your own machine, or on multiple remote host machines connected to your network.

For more information on running tests, see Chapter 31, “Running Tests Automatically”.

# Viewing System Test Results

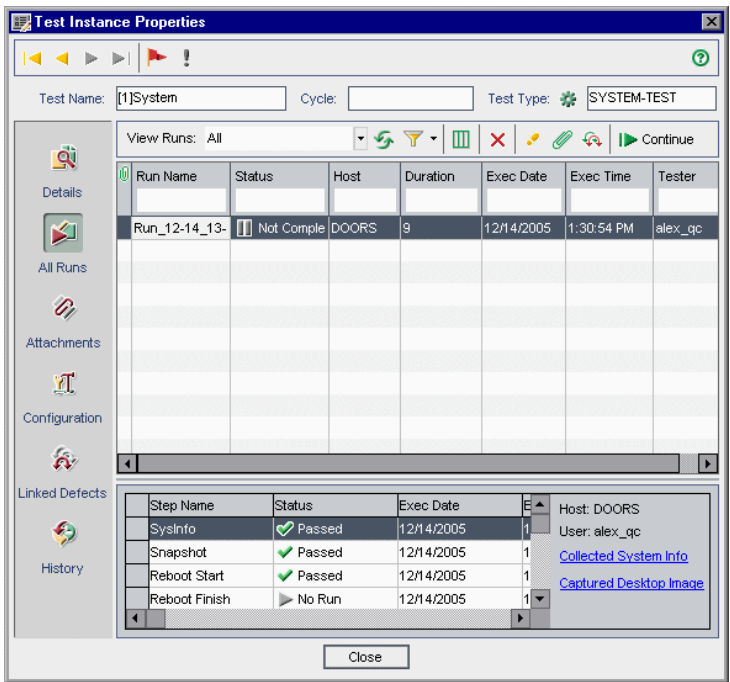
You can view the results of your system test in the Test Lab module.

To view system test results:



- 1 In the Execution Grid, double-click your system test, or select the test and click the **Test Instance Properties** button. In the Execution Flow tab, right-click the system test and choose **Test Instance Properties**.

The Test Instance Properties dialog box opens and displays the All Runs view.



You can view the status, execution date, and execution time for the following steps that are created during a system test run:

- **SysInfo**. Details for collection of the system information.
- **Snapshot**. Details for capture of the desktop image.
- **Reboot Start** and **Reboot Finish**. Details for the machine restart.



- 2 Click the **Collected System Info** link to view the collected system information, for example, CPU, memory, and processes running on the machine.

The screenshot shows the 'System Information' window with the following details:

System Information	
Network	Devices
Printers	Engines
Drives	Time Zone
Processes	Startup
Software	Machine
Windows NT	CPU
Memory	Display
APM	Media

**Identification**

Machine name: DOORS  
User name: PAT

**BIOS information**

Name: AT/AT COMPATIBLE  
Copyright: Award Modular BIOS v6.0  
Date: 05/01/03  
Extended info:

**Boot information**

Last boot: 12/13/2005 9:11:27 AM  
System Up time: 6 Hours, 23 Minutes, 17 Seconds.

Num Lock (highlighted) Caps Lock Scroll Lock

Attach: Current Topic All Topics Refresh OK

- 3 Click the **Captured Desktop Image** link to view the desktop image of the machine executing the system test.



# 24

---

## Managing Test Resources

You can manage a set of resources to be used by your tests in the Test Resources module. You can organize your resources by defining a test resource tree.

**This chapter includes:**

- About Managing Test Resources on page 340
- The Test Resources Module on page 341
- Creating a Test Resource Tree on page 342
- Updating Details of Resources and Folders on page 344
- Working with Resources on page 346
- Viewing Test Resource Dependencies on page 348
- Managing the Test Resource Tree on page 348
- Viewing Resource History on page 356

## About Managing Test Resources

The Test Resources module enables you to manage resources used by your tests. You can organize your resources by defining a hierarchical **test resource tree** containing resource folders and resources. For each resource in the tree, you select and upload a set of resource files to the Quality Center repository. These files can be used by one or more tests.

For example, suppose you work with an external testing tool that stores its tests in Quality Center. Each test uses a shared configuration file that is common to a number of tests. You therefore want a single point of maintenance for the configuration file, rather than saving separate copies of the file for each test.

Your testing tool may define the configuration file as a resource and define each test that uses the file as dependent on that resource. As only one copy of the resource exists in Quality Center, replacing the configuration file would replace it for all tests that depend on it.

You can define dependencies between resources and tests using QuickTest Professional. For more information, refer to the *HP QuickTest Professional User Guide*.

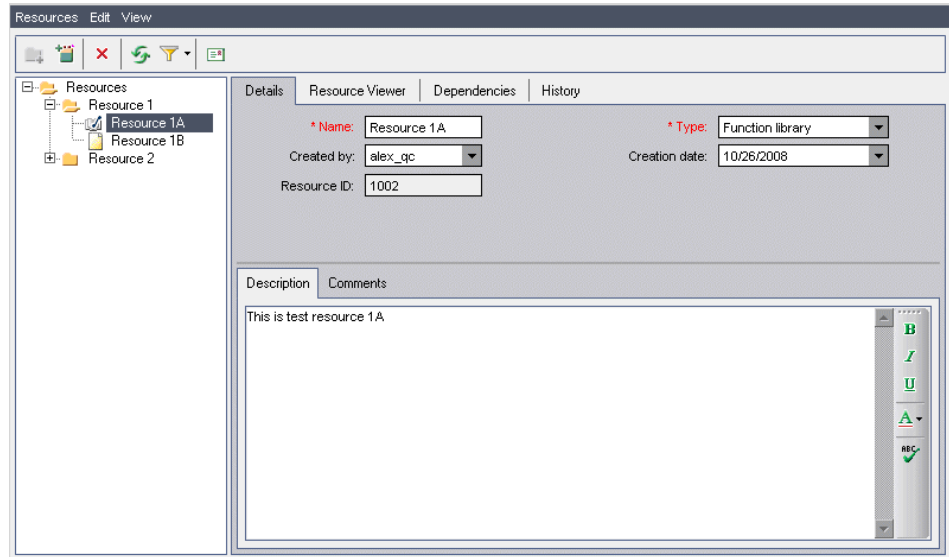
You can also define dependencies between resources and tests by writing your own application or script. For more information, refer to *HP Quality Center Entity Dependencies API Reference*.

After you define dependencies, if you attempt to delete the resource, Quality Center warns you that this may affect tests that depend on it. When copying one of the tests that depend on the resource between projects, Quality Center enables you to choose to copy the resource as well as the test.

## The Test Resources Module



You define resource folders and resources in Quality Center using the Test Resources module, which is opened by clicking the **Test Resources** button on the sidebar.



The Test Resources module contains the following key elements:

- **Test Resource tree.** A graphical representation of your test resources.
- **Details tab.** Displays details of the currently selected resource folder or resource. For more information, see “Updating Details of Resources and Folders” on page 344.
- **Resource Viewer tab.** Enables you to upload and download test resource files from the Quality Center repository. For more information, see “Working with Resources” on page 346.
- **Dependencies tab.** Displays dependency relationships that exist between entities such as test resources and tests. For more information, see “Viewing Test Resource Dependencies” on page 348.
- **History tab.** Displays a history of baselines in which the resource appears. For more information, see “Viewing Resource History” on page 356.

## Creating a Test Resource Tree

You define a hierarchical framework for your resources by creating a test resource tree. For each resource folder in the tree, you define resources.

---


**Note:** When a Quality Center project with Business Process Testing is connected to QuickTest Professional, a BPT Resources folder is created automatically in the tree. The BPT Resources folder contains all the QuickTest resources available for business components in the project.

---

### Adding Folders to the Test Resource Tree

You start a test resource tree by adding a folder under the **Resources** root folder.

**To add a resource folder to the test resource tree:**

- 1** In the test resource tree, select the **Resources** folder.
-  **2** Click the **New Resource Folder** button or choose **Resources > New Resource Folder**. The New Resource Folder dialog box opens.
- 3** Type the **Resource Folder Name** and click **OK**. The new folder is added under **Resources** in the test resource tree.
- 4** In the **Details** tab, type a description for the resource folder. For more information on the Details tab, see “Updating Details of Resources and Folders” on page 344.
- 5** To add an additional folder, select a folder from the tree and repeat Steps 2 to 4.

### Adding Resources to Resource Folders

You can add resources to resource folders.

**Version Control:** The new resource is automatically checked out. For more information, see “Checking Out Entities” on page 104.

**To add a resource to a resource folder:**

- 1 Select a resource folder in the test resource tree.
- 2 Click the **New Resource** button or choose **Resources > New Resource**. The New Resource dialog box opens.



- 3 In the **Name** field, type the resource name.
- 4 In the **Type** box, select a resource type.
- 5 In the **Created By** box, select the user name of the person who created the resource. By default, the name of the user who is currently logged in to Quality Center is displayed.
- 6 In the **Description** box, type a description for the resource.
- 7 To add a comment, click the **Comments** tab. Click the **Add Comment** button. A new section is added to the Comments box, displaying your user name and the database's current date.
- 8 Click **Submit**. An empty resource is added to the selected resource folder.

Resource details are displayed in the Details tab. For more information on the Details tab, see “Updating Details of Resources and Folders” on page 344.

You can add content to the resource using the Resource Viewer tab. For more information on the Resource Viewer tab, “Working with Resources” on page 346.

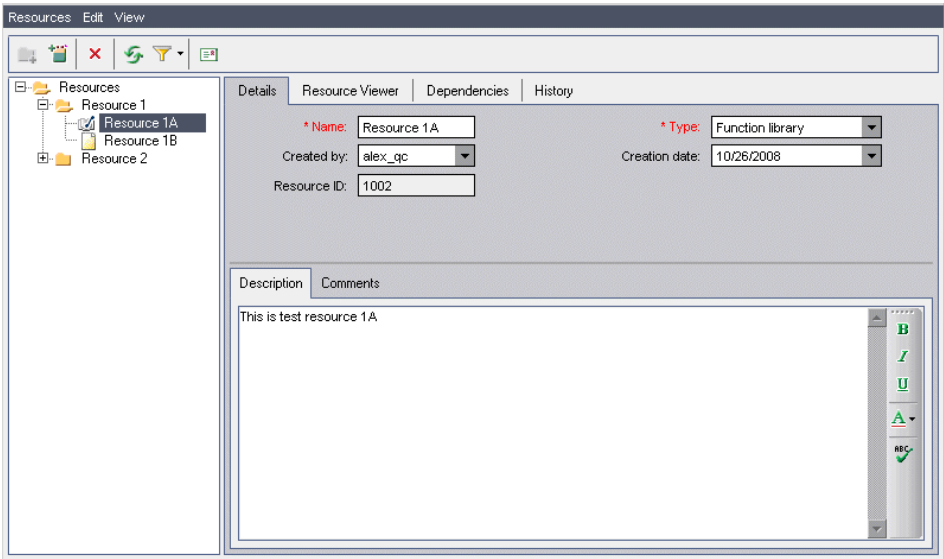
For more information on working with QuickTest resources, see the section on working with Quality Center in the *HP QuickTest Professional User Guide*.

## Updating Details of Resources and Folders

You can view and update details of the resources and folders of your test resource tree in the Details tab.

**To update details of a resource or folder:**

- 1 Select a resource or folder in the test resource tree.
- 2 Click the **Details** tab.





- If you select a folder, the following fields are displayed in the Details tab:

Field	Description
<b>Name</b>	The name of the resource folder.
<b>Folder ID</b>	A unique numeric ID for the folder that is assigned by Quality Center. This field cannot be modified.
<b>Description</b>	The description of the resource folder.

- If you select a resource, the following fields are displayed in the Details tab:

Field	Description
<b>Name</b>	The name of the resource.
<b>Type</b>	Indicates the type of resource. Click the down arrow to select a different type from the list.
<b>Created By</b>	The user who created the file. Click the down arrow to select a different user name.
<b>Creation Date</b>	The date on which the file was created. Click the down arrow to display a calendar and select a creation date. By default, the creation date is set to the current database server date.
<b>Resource ID</b>	A unique numeric ID for the file that is assigned by Quality Center. This field cannot be modified.
<b>Description</b>	The description of the resource.
<b>Comments</b>	Displays comments about the resource. To add a new comment, click the <b>Add Comment</b> button. A new section is added to the Comments box, displaying your user name and the database's current date.
<b>Version Number</b>	The version number of the resource. If version control is enabled for your project, this field is displayed.

You can add user-defined fields and change the label of any of the fields in the Test Resources module. For more information, refer to the *HP Quality Center Administrator Guide*.

You can use the Script Editor to restrict and dynamically change the fields and values in the Test Resources module. For more information, refer to the *HP Quality Center Administrator Guide*.

## Working with Resources

Using the Resource Viewer tab, you can upload files for each resource or folder in the test resource tree to the Quality Center repository. You can also download files to a local directory.

After you upload your files, you define dependencies between resources and tests from your testing tool, for example, QuickTest Professional. For more information, refer to the *HP QuickTest Professional User Guide*.

You can also define dependencies between resources and tests by writing your own application. For more information, refer to *HP Quality Center Entity Dependencies API Reference*.

---

**Note:** To view the resource content, you must install the relevant add-in or extension. For more information on the QuickTest Professional add-in, refer to the *HP QuickTest Professional User Guide*.

---

This section includes:

- Uploading Test Resource Files
- Downloading Test Resource Files

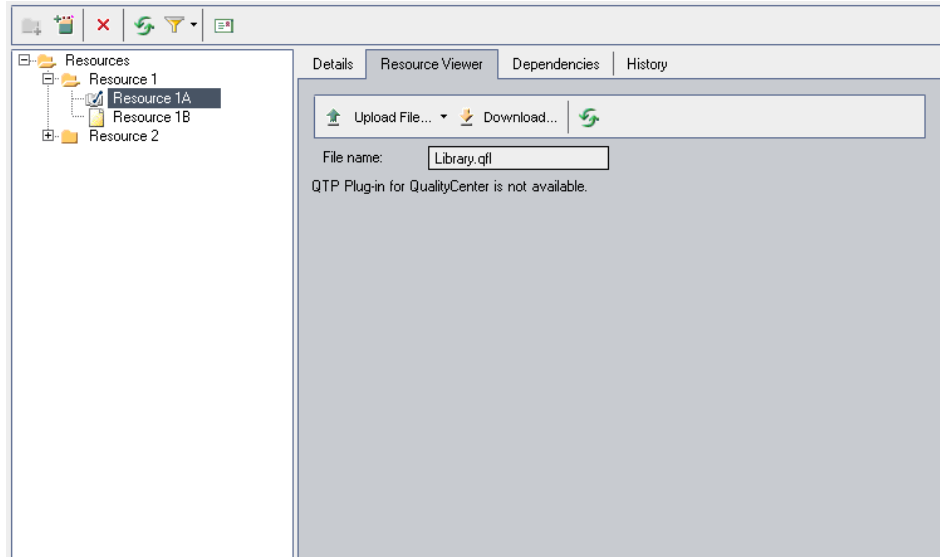
### Uploading Test Resource Files

You can upload files for each resource in the test resource tree to the Quality Center repository.

**To upload a test resource file:**

- 1 Select a resource in the test resource tree.

**2** Click the **Resource Viewer** tab.



- 3** To upload a file, click the **Upload File** button. The Upload File dialog box opens. Select a file and click **Open**. The file is uploaded to the Quality Center repository.
- 4** To upload a folder, click the **Upload File** arrow and choose **Upload Folder**. The Browse for Folder dialog box opens. Select a folder and click **OK**. The folder is uploaded to the Quality Center repository.
- 5** To replace an uploaded file, repeat Step 3.
- 6** To replace an uploaded folder, repeat Step 4.

## Downloading Test Resource Files

To view and edit your test resources, you can download them to your machine.

**To download a test resource file:**

- 1** Select a resource in the test resource tree.
- 2** Click the **Resource Viewer** tab.

- 3 Click the **Download** button. The Browse for Folder dialog box opens.
- 4 Select a folder and click **OK**. The resource is downloaded to the specified folder.

## Viewing Test Resource Dependencies

After you define associations between the test resources and your tests, you can view dependency relationships that exist between them in the Dependencies tab. For more information, see “Viewing Dependencies” on page 357.

## Managing the Test Resource Tree

This section on managing the test resource tree includes the following topics:

- Copying Test Resources in a Project
- Copying Test Resources Across Projects
- Copying URLs of Test Resources
- Finding Test Resources
- Filtering Test Resources
- Mailing Test Resources
- Moving Test Resources
- Renaming Test Resources
- Deleting Test Resources

### Copying Test Resources in a Project

You can copy resources within the same project.

**To copy a test resource in a project:**

- 1 Select the resource or folder that you want to copy in the test resource tree. To copy more than one item, use the CTRL key.

- 2** Choose **Edit > Copy**. Alternatively, right-click and choose **Copy**.
- 3** Select the folder to which you want to copy the resource or folder.
- 4** Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**.

## Copying Test Resources Across Projects

You can copy resources from one project to another. If the test resources are dependent on other test resources, or if the test resources contain calls to other tests, you can instruct Quality Center to copy them using one of the following methods:

- Copy test resources and link them to existing related test resources and called tests in the target project. If a related test resource or called test does not exist in the target project, Quality Center copies it to the target project.
- Copy test resources along with related test resources and called tests into the target project.
- Copy test resources without copying related test resources and called tests into the target project.

---

**Note:** To copy test resources across projects, both projects must use the same Quality Center version and patch level.

---

For more information on related entities, see “Viewing Dependencies” on page 357.

### To copy a test resource across projects:

- 1** Select the resource or folder that you want to copy in the test resource tree. To copy more than one item, use the CTRL key.
- 2** Choose **Edit > Copy**. Alternatively, right-click and choose **Copy**.
- 3** Open another instance of Quality Center and log in to the project to which you want to paste the resource or folders.
- 4** Select the folder to which you want to copy the resources or folders.

- 5 Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**. The Paste Resources to Target Project dialog box opens.
- 6 Select one of the following options:
  - **Copy resources and link to existing related entities.** Quality Center copies the test resources or folders and pastes them into the target project. The copied test resources or folders are linked to existing test resources and called tests with the same name. If a related test resource or a test does not exist in the target project, Quality Center copies it to the target project.
  - **Copy resources and related entities.** Quality Center copies the test resources or folders along with the related test resources and called tests, and pastes them into the target project. If a related test resource or a called test already exists in the target project, the copied related test resource or called test is renamed to resolve the duplicate name.
  - **Copy resources without copying related entities.** Quality Center copies the test resources or folders without copying the related test resources or called tests, and pastes them into the target project. The copied items are not linked to any related entities.

Click **OK**.

## Copying URLs of Test Resources

You can copy a resource from the test resource tree and paste its URL as a link. The resource itself is not copied. Instead, you can paste the address into another location, such as an email or a document. Clicking on the link opens up Quality Center and takes you to the resource file or folder. If you are not already logged in, Quality Center first prompts for login details.

**To copy a URL of a test resource:**

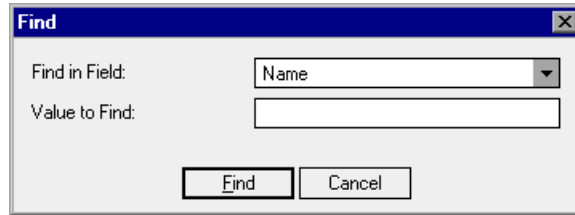
- 1 In the test resource tree, select a resource or a folder.
- 2 Choose **Edit > Copy URL**. Alternatively, right-click and choose **Copy URL**.
- 3 Paste the URL.

## Finding Test Resources

You can search for resources in the test resource tree. If you have applied filters to the tree, the search is restricted to the resources currently displayed.

**To find a test resource:**

- 1 Choose **Edit > Find**. The Find dialog box opens.



- 2 In the **Find in Field** box, select the criterion to search for.
- 3 In the **Value to Find** box, type or select the value of the field you chose. The search is not case sensitive.
- 4 Click **Find**. The Test Resources module searches for the resource with the specified value. If the search is successful, the Search Results dialog box opens and displays a list of possible matches. Select a result from the list and click the **Go To** button to highlight the resource in the test resources tree. If the search is unsuccessful, an information box opens.

## Filtering Test Resources



Click the **Set Filter/Sort** button to filter and sort the resources in the test resource tree. For more information, see Chapter 3, “Working with Quality Center Data.” Any currently applied filters or sorting orders are displayed under the test resource tree toolbar.

## Mailing Test Resources

You can send email about a resource to other users. This enables you to routinely inform development and quality assurance personnel about the status of your resources. A link is included in the email, enabling the recipient to go directly to the resource.

By default, Quality Center sends email in HTML format. To send email as plain text instead, edit the **MAIL\_FORMAT** parameter in the **Site Configuration** tab in Site Administration. For more information, refer to the *HP Quality Center Administrator Guide*.

### To mail a test resource:



- 1 Select one or more resources in the test resource tree and click the **Send by E-mail** button. The Send E-mail dialog box opens.

**Send E-mail**

abc envelope calendar document

To:

CC:

Subject:

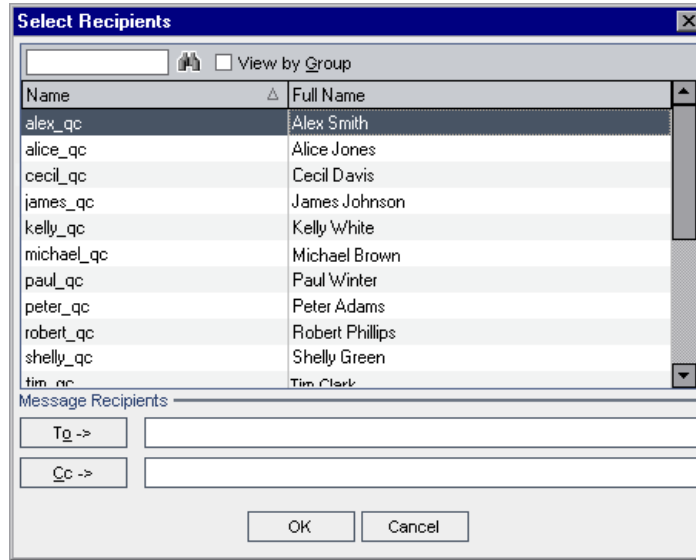
Item:

☒ 1 - Resource 1A

Additional comments:



- 2 Type a valid email address or user name. Alternatively, click the **To** button or **CC** button to select users. The Select Recipients dialog box opens.



You can sort the users list, search for users, group users by user groups, and select users from the list or from a group tree. For more information, see “Selecting Users” on page 55.

Select the users or user groups to whom you want to send the email, and click **OK**.

- 3 In the **Subject** box, type a subject for the email. By default, the domain, project, resource ID, and name of the resource are displayed in the Subject box.
- 4 In the **Additional comments** box, add any comments you may have.
- 5 To check the spelling in the dialog box:



- Click the **Check Spelling** button to check the spelling for the selected word or text box. If there are no errors, a confirmation message opens. If errors are found, the Spelling dialog box opens and displays the word as well as replacement suggestions.



- Click the **Spelling Options** button to open the Spelling Options dialog box, enabling you to configure the way spelling is checked.



- Click the **Thesaurus** button to open the Thesaurus dialog box and display a synonym, antonym, or related word for the selected word. You can replace the selected word or look up new words.



- Click the **Custom** button to specify fields to include in the email. In the Select Fields dialog box, select field names and click the arrow buttons (> and <) to move them between **Available Fields** and **Visible Fields**. Click the double arrow buttons (>> and <<) to move all the fields from one list to the other. Click **OK** to close the Select Fields dialog box.

- 6 Click **Send** to send the email.

## Moving Test Resources

You can move a resource to a different location in the test resource tree. The root folder cannot be moved.

---

**Tip:** You can also move a resource to a different location in the test resource tree by dragging it.

---

### To move a test resource:

- 1 Select the resource or folder that you want to move in the test resource tree. To move more than one item, use the **Ctrl** key.
- 2 Choose **Edit > Cut** or right-click the resource and choose **Cut**.
- 3 Select the folder to which you want to move the resource or folder.
- 4 Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**.

## Renaming Test Resources

You can rename a resource or a folder in the test resource tree.

### To rename a test resource:


- 1 In the test resource tree, select a resource or a folder.
- 2 Click the item. Alternatively, right-click the item and choose **Rename**.
- 3 Edit the item name and press **ENTER**.

## Deleting Test Resources


You can delete resources and folders from the test resource tree. If other entities depend on the resource, deleting the resource may impact these related entities. For more information on related entities, see “Viewing Dependencies” on page 357.

**Version Control:** Deleting a resource deletes all previous versions of the resource.

### To delete a test resource:

- 1 In the test resource tree, select a resource.
-  2 Click the **Delete** button or choose **Edit > Delete**.
- 3 If the resource is not being shared with other entities, a confirm box opens. Click **Yes**.
- 4 If other entities depend on the resource, the Delete Resource dialog box opens. To view the related entities, click **Details**. Click **Yes** to confirm you want to delete the resource.

### To delete a folder:

- 1 In the test resource tree, select a folder.
-  2 Click the **Delete** button or choose **Edit > Delete**. A confirm box opens.
- 3 If the folder is not being shared with other entities, click **Yes**.
- 4 If other entities are dependent on some of the resources in the folder, choose one of the following:
  - Click **Yes** to delete the folder and possibly impact other related entities.
  - Click **No** to view the related entities before you delete the folder. You can view related entities in the Dependencies tab. For more information, see “Viewing Dependencies” on page 357.

## Viewing Resource History

You can view a history of baselines in which the test resource appears. You can also compare two baseline versions. For more information, see “Viewing Baseline History” on page 524.

**Version Control:** You can view all previous versions of a test resource. For more information, see “Viewing Version History” on page 109.

# 25

---

## Viewing Dependencies

Dependencies define relationships between entities such as tests, components, and test resources. You can view the entities used by a selected entity, and the entities that a selected entity is using.

**This chapter includes:**

- About Viewing Dependencies on page 357
- Viewing Dependencies on page 358

### About Viewing Dependencies

You can view dependencies that exist between entities such as tests, components, and test resources. When analyzing the impact of a change proposed to a specific entity, the dependencies indicate the other entities that the change might affect.

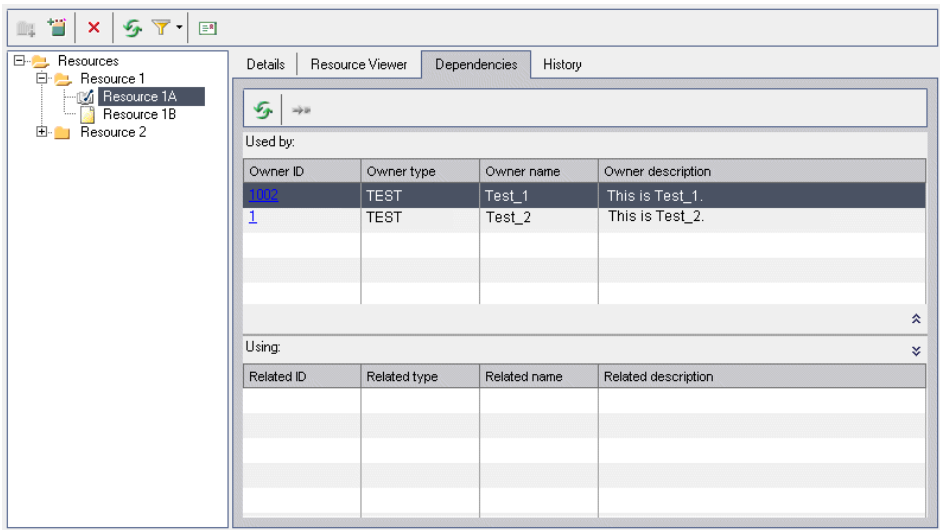
Dependency relationships are displayed in the Dependencies tab. This tab is available from the Test Plan and Test Resources modules. Depending on your Quality Center license, you may also view the Dependencies tab from the Business Components module. For more information, refer to the *HP Business Process Testing User Guide*.

You can define dependencies between entities using other HP testing tools, for example, QuickTest Professional. For more information, refer to the *HP QuickTest Professional User Guide*.

You can also define dependencies between entities by writing your own application. For more information, refer to *HP Quality Center Entity Dependencies API Reference*.

# Viewing Dependencies

You can view dependencies in the Dependencies tab. This tab contains the Used By and Using grids. The **Used By** grid displays entities that depend on a selected entity. The **Using** grid displays the entities that a selected entity depends on.



**Version Control:** When checking out an old version of an entity, the Dependencies tab does not display any dependencies to entities that no longer exist.

The Used By grid contains the following columns:

Column	Description
<b>Owner ID</b>	A unique numeric ID for the associated entity. The ID is assigned automatically by Quality Center.
<b>Owner Type</b>	<p>The type of the associated entity that uses the selected entity. It includes the following types:</p> <ul style="list-style-type: none"> <li>➤ <b>Resource.</b> A resource listed in the test resource tree.</li> <li>➤ <b>Test.</b> A test listed in the test plan tree.</li> <li>➤ <b>Component.</b> Depending on your Quality Center license, you may also view the component listed in the business component tree. For more information, refer to the <i>HP Business Process Testing User Guide</i>.</li> <li>➤ <b>&lt;user-defined entity&gt;.</b> A user-defined entity.</li> </ul>
<b>Owner Name</b>	The name of the associated entity that uses the selected entity.
<b>Owner Description</b>	The description of the associated entity that uses the selected entity.

The Using grid contains the following columns:

Column	Description
<b>Related ID</b>	A unique numeric ID for the associated entity. The ID is assigned automatically by Quality Center.
<b>Related Type</b>	<p>The type of the associated entity that the selected entity uses. It includes the following types:</p> <ul style="list-style-type: none"> <li>➤ <b>Resource.</b> A resource listed in the test resource tree.</li> <li>➤ <b>Test.</b> A test listed in the test plan tree.</li> <li>➤ <b>Component.</b> Depending on your Quality Center license, you may also view the component listed in the business component tree. For more information, refer to the <i>HP Business Process Testing User Guide</i>.</li> <li>➤ <b>&lt;user-defined entity&gt;.</b> A user-defined entity.</li> </ul>

Column	Description
Related Name	The name of the associated entity that the selected entity uses.
Related Description	The description of the associated entity that the selected entity uses.

**To view dependencies:**

- 1 To display the Dependencies tab:
  - From the Test Plan module, select a test from the test plan tree. Click the **Dependencies** tab.
  - From the Test Resources module, select a resource from the test resource tree. Click the **Dependencies** tab.

Depending on your Quality Center license, you may also view the Dependencies tab from the Business Components module.



- 2 Click the **Show/Hide** arrow to display the Used By or Using grid.



- 3 To refresh the grids, click the **Refresh** button.



- 4 To view additional details for an entity, select an entity from the Used By or Using grid and click the **Go To** button. You can view the following entities:
  - **Resource.** Goes to the test resource tree and displays the test resource.
  - **Test.** Goes to the test plan tree and displays the test.
  - **<user-defined entity>.** Goes to the test plan tree and displays the test that is associated with this user-defined entity.
  - **Component.** Depending on your Quality Center license, you may also view the component in the Business Components module.



# Part V

---

## Test Execution



# 26

---

## The Test Lab Workflow

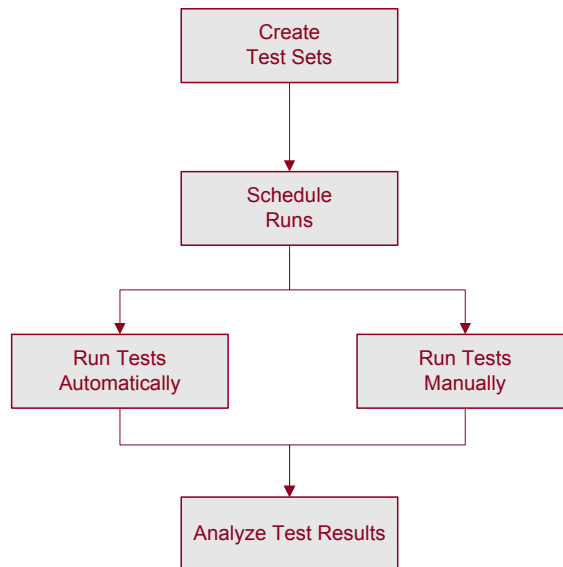
As your application changes, you run the manual and automated tests in your project in order to locate defects and assess quality.

---

**Quality Center Starter Edition:** Fields and functionality related to release management and baselining are not available in the Test Lab module if you are working with the Starter Edition.

---

This chapter describes how you run tests using the Quality Center Test Lab module. Executing tests consists of the following:



## Creating Test Sets

Start by creating test sets and choosing which tests to include in each set. A test set is a group of tests in a Quality Center project designed to achieve specific testing goals. In the sample Mercury Tours application, for example, you could create a set of sanity tests that checks the basic functionality of the application. You could include tests that check the login mechanism, and tests that check the flight booking mechanism.

After you have created test sets, you assign test set folders to cycles defined in the releases tree in the Releases module. A cycle represents a development and QA cycle based on the project timeline.

For more information, see Chapter 28, “Creating Test Sets.”

## Scheduling Test Runs

Quality Center enables you to control the execution of tests in a test set. You can set conditions, and schedule the date and time for executing your tests. You can also set the sequence in which to execute the tests. For example, you can determine that you want to run `test2` only after `test1` has finished, and run `test3` only if `test1` passed.

For more information, see Chapter 29, “Scheduling Test Runs.”

## Running Tests Manually

Once you have defined test sets, you can begin executing the tests. When you run a test manually, you execute the test steps that you defined during test planning. You pass or fail each step, depending on whether the application’s actual results match the expected output.

For example, suppose you are testing the process of booking a flight in the sample Mercury Tours application. You open the application, create a new order, and book a flight, following the instructions detailed by the test steps.

For more information, see Chapter 30, “Running Tests Manually.”

## Running Tests Automatically

Once you have defined test sets, you can begin executing the tests. You can select all the tests in a test set, or specific tests. Your selection can include both automated and manual tests.

When you run an automated test, the selected testing tool opens automatically, runs the test, and exports the test results to Quality Center. When you run a manual test, email is sent to a designated tester, requesting that they run the manual test.

For more information, see Chapter 31, “Running Tests Automatically.”

You can also run an automated system test to provide system information, capture a desktop image, or restart a machine. For more information on running system tests, see Chapter 23, “Working with System Tests.”

## Analyzing Test Results

Following a test run, you analyze test results. Your goal is to identify failed steps and to determine whether a defect has been detected in your application, or if the expected results of your test need to be updated. If a defect has been detected, you can create a new defect and link it to the test run, or link an already-existing defect with the test run. For more information, see Chapter 36, “Linking Defects.”

You can validate test results regularly by viewing run data and by generating reports and graphs. For more information, see Chapter 40, “The Dashboard Module,” and Chapter 44, “Generating Live Analysis Graphs.”

For more information on understanding the data that appears in Quality Center following a test run, see Chapter 32, “Viewing Test Results.”



# 27

---

## The Test Lab Module at a Glance

This chapter introduces the key elements in the Test Lab module.

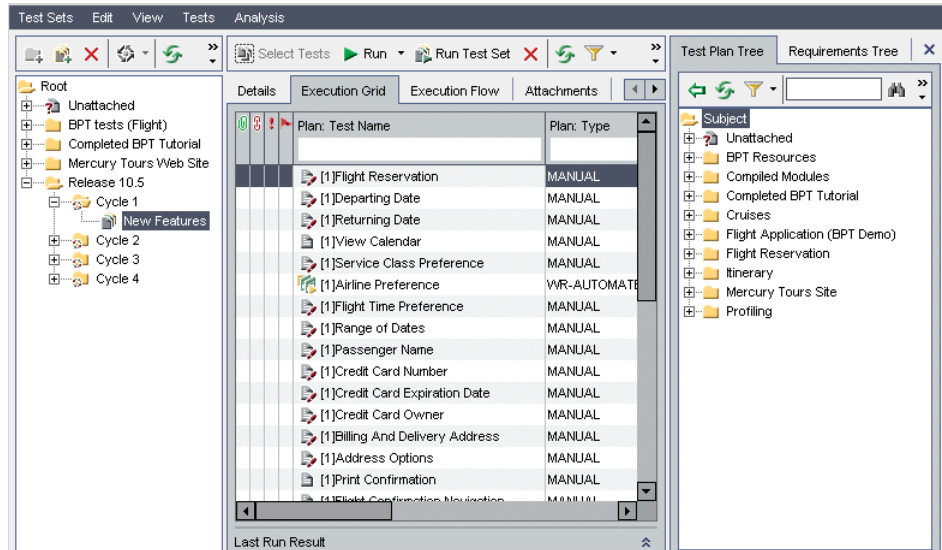
**This chapter includes:**

- The Test Lab Module on page 368
- The Test Lab Menu Bar on page 370
- The Test Lab Toolbars on page 371
- The Execution Grid on page 373
- The Execution Flow on page 378

## The Test Lab Module




You create test sets and perform test runs in the Test Lab module of Quality Center, which you open by clicking the **Test Lab** button on the sidebar.



The Test Lab module contains the following key elements:

- **Test Lab menu bar.** Displays drop-down menus of Test Lab module commands. For more information, see “The Test Lab Menu Bar” on page 370.
- **Test Set toolbar.** Contains buttons of commands commonly used when creating and modifying test sets in the test sets tree. For more information, see “Test Set Toolbar” on page 371.
- **Test Set pane.** Displays your test sets hierarchically in the test sets tree. By default, the tests are grouped in folders. You can also view your test sets as a list, by choosing **View > Test Sets Grid**. For more information on creating a test sets tree, see “Creating a Test Sets Tree” on page 384.
- **Details tab.** A description of the test set currently selected in the test sets tree. For more information, see “Adding Test Sets” on page 386.



- **Execution Grid tab.** Displays test data in a grid. For more information, see “The Execution Grid” on page 373.
- **Execution Flow tab.** Displays test data in a diagram. For more information, see “The Execution Flow” on page 378.
- **Attachments tab.** A list of attachments that provide additional information for the test set currently selected in the test sets tree. The tab includes an icon  if the selected test set has any attachments. For more information, see Chapter 5, “Adding Attachments.”
- **Automation tab.** Displays email notification rules and On Failure instructions for the test set currently selected in the test sets tree. For more information, see Chapter 28, “Creating Test Sets.”
- **Linked Defects tab.** Displays a list of entities linked to the current test set. For more information, see Chapter 36, “Linking Defects.”
- **Select Tests pane.** Displays tests in the right pane to enable you to add tests to a test set. To open this pane, click the **Select Tests** button. The Select Tests pane contains two tabs. The **Test Plan Tree** tab displays the test plan tree. The **Requirements Tree** tab displays tests according to associated requirements.
- **Live Analysis tab.** A graphical representation of test data related to the selected test set folder in the test set tree. For more information, see Chapter 44, “Generating Live Analysis Graphs.”

---

**Tip:** Right-click a test in the Execution Grid or Execution Flow, and choose **Go to Test in Test Plan Tree** to open the Test Plan module and highlight the selected test in the test plan tree.

---

---

**Quality Center Starter Edition:** Fields and functionality related to release management are not available in the Test Lab module if you are working with the Starter Edition.

---

## The Test Lab Menu Bar

The Test Lab menu bar has the following menus:

- The **Test Sets** menu contains commands that enable you to create, manage, and run your test sets. You can purge runs, set test set notifications and failure rules, add hosts and set host groups, and export the contents of the Execution Grid to a file. For more information, see Chapter 28, “Creating Test Sets”.
- The **Edit** menu contains commands that enable you to cut, copy, paste, rename, or delete a test set, or to find a folder or test set. In the Execution Flow tab, it enables you to find the test in the flow.
- The **View** menu contains commands that enable you to filter and sort test sets, and set the display in the Test Sets Tree and the Test Sets Grid.
- The **Tests** menu contains commands that enable you to run tests, remove tests from test sets, set the display in the Execution Grid, view test instance properties, reorder tests, find tests, select tests, and view last run result. For more information, see Chapter 28, “Creating Test Sets”.

You can also view and add alerts for tests and flag tests for follow-ups. For more information, see Chapter 4, “Alerting on Changes”.

- The **Analysis** menu contains commands that enable you to generate execution reports and graphs. For more information on execution reports, see Chapter 42, “Generating Standard Reports.” For more information on execution graphs, see Chapter 41, “Generating Graphs,” and Chapter 44, “Generating Live Analysis Graphs.”

---

**Tip:** You can access the Test Lab menu bar from the Test Lab module by pressing the shortcut key F9. Additionally, you can perform many other Quality Center operations using shortcut keys. For a list of shortcut keys, see Appendix B, “Quality Center Keyboard Shortcuts.”

---

## The Test Lab Toolbars

The Test Lab module includes the following toolbars: Test Set and Select Tests.

In addition, you can use the toolbars in the Execution Grid tab and Execution Flow tab. For more information, see “The Execution Grid Toolbar” on page 374 and the “The Execution Flow Toolbar” on page 379.

### Test Set Toolbar

The Test Set toolbar has the following buttons:



**New Folder.** Opens the New Folder dialog box, enabling you to create a new test set folder. The folder is added to the test sets tree in the left pane. For more information, see “Creating a Test Sets Tree” on page 384.



**New Test Set.** Opens the New Test Set dialog box, enabling you to create a new test set in an existing folder. For more information, see “Adding Test Sets” on page 386.



**Delete.** Deletes folders and test sets from the test sets tree. Deletes test sets from the test sets grid. For more information, see “Deleting Test Sets” on page 404.



**Assign To Cycle.** Includes the following options:

- **Assign To Cycle.** Enables you to assign a test set folder to a cycle. For more information, see “Assigning Test Set Folders to Cycles” on page 385.
- **Clear Assigned Cycle.** Clears the assigned cycle from the test set folder.



**Refresh All.** Refreshes the test sets tree or test sets grid so that it displays the most up-to-date test sets.



**Set Filter/Sort.** Includes the following options:

- **Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter and sort test sets.
- **Clear Filter/Sort.** Clears any filters or sorts that you have applied.

For more information, see “Filtering Records” on page 56.

## Select Tests Toolbar

To display the test plan tree in the right pane, click the **Select Tests** button. The Test Plan Tree tab is displayed. If you click the **Requirements Tree** tab, the tests are displayed according to associated requirements.

The Select Tests toolbar has the following buttons:



**Add Tests to Test Set.** Adds tests to a test set.



**Refresh All.** Refreshes the tree.



**Set Filter/Sort.** Includes the following options:

- **Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter and sort tests.
- **Clear Filter/Sort.** Clears any filters or sorting that you have applied.



**Find.** Searches for a specific test in the tree. If the search is successful, the test is highlighted in the tree.



**Go To Test.** Searches for a specific test by Test ID in the tree. If the search is successful, the test is highlighted in the tree.



**Go To Requirement.** Searches for a specific requirement by ReqID in the tree. If the search is successful, the requirement is highlighted in the tree.

## The Execution Grid

In the Execution Grid, your test data is organized and displayed in a grid. Each line in the grid displays a separate test record.

The screenshot shows the 'Execution Grid' tab selected. The grid contains the following data:

Plan Name	Plan Type	Target Cycle	Tester	Planned
[1]Flight Reservation	MANUAL	Cycle 1 - New	alex_qc	
[1]Departing Date	MANUAL	Cycle 1 - New	alex_qc	
[1]Returning Date	MANUAL	Cycle 1 - New	alex_qc	
[1]View Calendar	MANUAL	Cycle 1 - New		
[1]Service Class Preference	MANUAL	Cycle 1 - New	alex_qc	
[1]Airline Preference	WR-AUTOMATED	Cycle 1 - New	alex_qc	
[1]Flight Time Preference	MANUAL	Cycle 1 - New	alex_qc	
[1]Range of Dates	MANUAL	Cycle 1 - New	alex_qc	

Below the grid is the 'Last Run Result' section. It includes a table of test steps and a summary of the run.





Step Name	Status	Exec Date
Blue Skies Airlines	Failed	4/10/2006
Pangea Airlines	Failed	4/10/2006
Unified Airlines	Failed	4/10/2006
Iteration passed	Passed	4/10/2006
Blue Skies Airlines	Failed	4/10/2006
Pangea Airlines	Failed	4/10/2006

Run: Run\_3-13\_15-36-9 [View Report](#)

The Select Flight page includes flights by Blue Skies Airlines and other airlines

The Execution Grid tab contains the following key elements:

- **Execution Grid toolbar.** Contains buttons of commands commonly used when executing and viewing tests. See “The Execution Grid Toolbar” on page 374.
- **Indicator columns.** Indicates that the specified test instance has attachments, linked defects, alerts, and follow up flags. Choose **Tests > Indicator Columns** to display these columns.

Column	Description
<b>Attachments</b>	Click the  icon to view attachments for the test instance. For more information, see Chapter 5, “Adding Attachments.”
<b>Linked Entities</b>	Click the  icon to view linked entities for the test instance. For more information, see Chapter 36, “Linking Defects.”
<b>Alerts</b>	Click the  icon to view alerts for the test instance. For more information, see “Viewing Alerts” on page 80.
<b>Follow Up Flags</b>	Click the  icon to view follow up alerts for the test instance. For more information, see “Flagging for Follow Up” on page 82.

- **Grid filter.** Displays the filter that is currently applied to a column. To display grid filters, choose **Tests > Grid Filters**.
- **Last Run Result pane.** Displays the results of the last test run. To display the last run result pane, choose **Tests > Last Run Result** or click the **Show** arrow.

## The Execution Grid Toolbar

The Execution Grid toolbar has the following buttons:

**Select Tests.** Displays the test plan tree in the right pane. You use the test plan tree to select tests to add to a test set. You can also click the **Requirements Tree** tab to view tests according to associated requirements. For more information, see “Adding Tests to a Test Set” on page 388.

**Run.** If you select a manual test, opens the Manual Runner dialog box to run the test. If you select an automated test, opens the Automatic Runner dialog box to run the test. It also includes the following options:

- **Run Manually.** Runs an automated test manually.
- **Continue Manual Run.** Resumes a manual test run.

For more information on running a test manually, see Chapter 30, “Running Tests Manually”. For more information on running a test automatically, see Chapter 31, “Running Tests Automatically”.

**Run Test Set.** Opens the Automatic Runner dialog box to run the test set. Test sets can include both manual and automated tests. For more information, see “Running a Test Automatically” on page 432.



**Remove Tests from Test Set.** Removes the selected tests from the test set. For more information, see “Removing Tests from a Test Set” on page 400.



**Refresh All.** Refreshes the Execution Grid so that it displays the most up-to-date tests based on the filters you have selected.



**Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter and sort the tests in the Execution Grid. Includes the following options:

- **Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter and sort tests.
- **Clear Filter/Sort.** Clears any filters or sorting that you have applied in the Execution Grid.

For more information, see “Filtering Records” on page 56.



**Select Columns.** Opens the Select Columns dialog box, enabling you to determine which columns to display in the Execution Grid and their order. For more information, see “Arranging Columns” on page 52.



**Test Instance Properties.** Opens the Test Instance Properties dialog box to display the properties of the selected test instance. For more information, see “Viewing Test Results” on page 443.



**Attachments.** Opens the Test Instance Properties dialog box, enabling you to add an attachment to a test run instance. For more information, see Chapter 5, “Adding Attachments.”



**Flag for Follow Up.** Opens the Flag For Follow Up dialog box, enabling you to add or modify a follow up flag for a test instance. For more information, see “Flagging for Follow Up” on page 82.

**Execution Grid Columns**

The Execution Grid displays test planning and test run data columns. For more information on the test planning data columns, see “Test Grid Columns” on page 260.

Column	Description
Exec Date	The date on which the test was last executed.
Modified	The date and time of the last change to the test in the Execution Grid.
Planned Exec Date	The date on which it was planned to execute the test.
Planned Exec Time	The time at which it was planned to execute the test.
Planned Host Name	The name or IP address of the machine to run the test.
Responsible Tester	The user name of the person responsible for running the test.
Status	The status of the last test run. Execution status can be one of the following: Failed, N/A, No Run, Not Completed, Passed.
Target Cycle	Indicates the cycle in which the test was assigned. Click the down arrow to select a different cycle.
Tester	The user name of the person who last executed the test.
Time	The time at which the test was last executed.



---

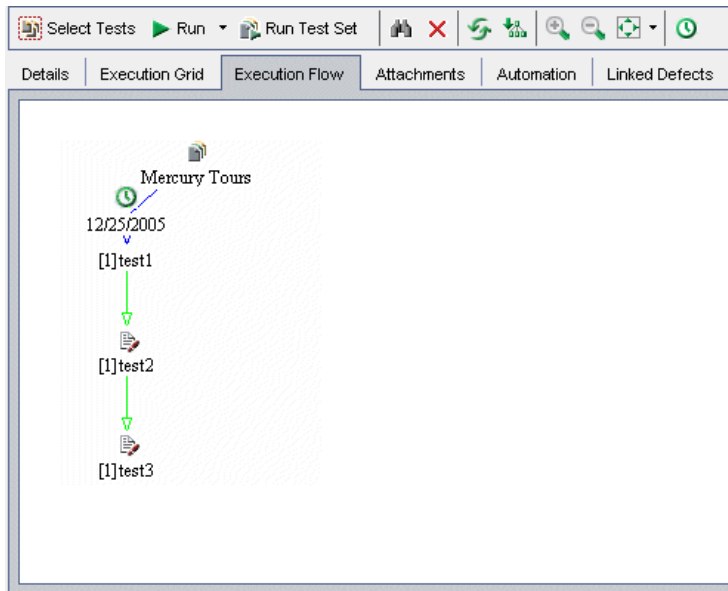
**Notes:**

- You can add user-defined fields and change the label of any of the fields in the Execution Grid. You can also customize project lists. For more information, refer to the *HP Quality Center Administrator Guide*.
  - You can use the Script Editor to restrict and dynamically change the fields and values in the Execution Grid. For more information, refer to the *HP Quality Center Administrator Guide*.
  - When you select an Execution Grid column with a user name value, Quality Center displays a list with the name and full name of each user. You can search for users, sort users, group users by user group, and select users from the users list or a group tree. For more information, see “Selecting Users” on page 55.
-

## The Execution Flow

In the Execution Flow, your test data is organized and displayed in a diagram. You use the Execution Flow to control the way your tests are executed. You can specify when and under what conditions you want a test to be executed.

For more information on the Execution Flow tab, see Chapter 29, “Scheduling Test Runs.”



The Execution Flow tab contains the following key elements:

- **Execution Flow toolbar.** Contains buttons of commands commonly used when scheduling test executions. See “The Execution Flow Toolbar” on page 379.
- **Execution Flow diagram.** Displays tests with conditions in a diagram. For more information, see Chapter 29, “Scheduling Test Runs.”

## The Execution Flow Toolbar

The Execution Flow toolbar has the following buttons:

**Select Tests.** Displays the test plan tree in the right pane. You use the test plan tree to select tests to add to a test set. You can also click the **Requirements Tree** tab to view tests according to associated requirements. For more information, see “Adding Tests to a Test Set” on page 388.

**Run.** If you select a manual test, opens the Manual Runner dialog box to run the test. If you select an automated test, opens the Automatic Runner dialog box to run the test. It also includes the following options:

- **Run Manually.** Runs an automated test manually.
- **Continue Manual Run.** Resumes a manual test run.

For more information on running test manually, see Chapter 30, “Running Tests Manually”. For more information on running test automatically, see Chapter 31, “Running Tests Automatically.”

**Run Test Set.** Opens the Automatic Runner dialog box to run the test set. Test sets can include both manual and automated tests. For more information, see “Running a Test Automatically” on page 432.



**Find Test In Flow.** Opens the Find Test dialog box, enabling you to find a test in the Execution Flow. For more information, see “Finding Tests” on page 418.



**Remove Tests from Test Set.** Removes the selected tests from the test set.



**Refresh Flow.** Refreshes the Execution Flow diagram so that it displays the most up-to-date tests.



**Arrange Layout.** Rearranges the tests in a hierarchical layout, enabling you to view dependencies between different tests.



**Zoom In.** Increases the magnification level so that you can view a section of the Execution Flow more closely.



**Zoom Out.** Decreases the magnification level so that you can view more of the Execution Flow.



**Fit Picture In Window.** Redisplays the diagram to fit the window. Click the **Fit Picture In Window** arrow to select a magnification option. For more information, see “Viewing the Execution Flow Diagram” on page 418.



**Add Time Dependency to Flow.** Adds a time dependency icon to the diagram. To create a time dependency for a test, link the arrow from the icon to a test in the Execution Flow. The default time dependency is the Quality Center server’s current date and time. For more information, see “Scheduling a Test Run” on page 411.

# 28

---

## Creating Test Sets

You can organize test execution by creating test sets. A **test set** contains a subset of the tests in your project. The test sets tree organizes and displays your test sets hierarchically.

---

**Quality Center Starter Edition:** Fields and functionality related to release management and baselining are not available when creating test sets with the Starter Edition.

---

### **This chapter includes:**

- About Creating Test Sets on page 382
- Creating a Test Sets Tree on page 384
- Assigning Test Set Folders to Cycles on page 385
- Adding Test Sets on page 386
- Adding Tests to a Test Set on page 388
- Setting Test Set Notifications on page 390
- Setting Test Set On Failure Rules on page 392
- Managing Test Sets on page 396

# About Creating Test Sets

After you design tests in the Test Plan module, you create a test sets tree. A **test sets tree** enables you to organize your application management process by grouping test sets in folders and organizing them in different hierarchical levels in the Test Lab module. A **test set** is a group of tests in a Quality Center project designed to achieve specific test goals. Test sets can include both manual and automated tests. After you create a test sets tree, you assign test set folders to cycles defined in the releases tree in the Releases module.

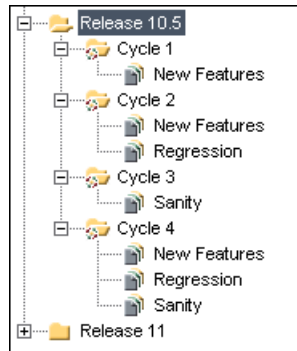
To decide which test sets to create, think about the goals you defined at the beginning of the application management process. Consider issues such as the current state of the application and the addition or modification of new features.

Following are examples of general categories of test sets you can create:

Test Set	Description
Sanity	Checks the entire application at a basic level—focusing on breadth, rather than depth—to verify that the application is functional and stable. This set includes fundamental tests that contain positive checks, validating that the application is functioning properly. For example, in the Mercury Tours application, you could test whether the application opens, and enables you to log in.
Regression	Tests the system in a more in-depth manner than a sanity set. This set can include both positive and negative checks. Negative tests attempt to fail an application to demonstrate that the application is not functioning properly.
Advanced	Tests both breadth and depth. This set covers the entire application, and also tests the application’s advanced options. You can run this set when there is ample time for testing.
Function	Tests a subsystem of an application. This could be a single feature or a group of features. For example, in the Mercury Tours application, a function set could test all activities related to booking a flight.

Suppose you want to test new features added to Release 10.5 of the Mercury Tours application. Release 10.5 consists of four cycles, and you want to test the new features for the release in Cycle 1, Cycle 2, and Cycle 4. Because the tests you need to run to test the new features are the same for each of these cycles, you want to use the same test set as a basis for testing new features in each of the cycles.

In the test sets tree, you can create the folder **Release 10.5** for the release. Under this folder, you create the folder **Cycle 1** for the first cycle of the release. In the **Cycle 1** folder, you create a test set **New Features** containing the tests necessary to test new features for the release. After you create this test set and add its tests, you can copy and paste the **Cycle 1** folder and use it as a basis for the other cycles that test new features.




Note that by default, the uppermost level in a test sets tree is the **Root** folder. You cannot delete the Root folder or add test sets directly to it. Under the Root folder, the **Unattached** folder contains all test sets no longer associated with a folder. You cannot add a test set to the Unattached folder. When you delete a folder, you can instruct the Test Lab module to move the folder's test sets to the Unattached folder or to permanently delete the test sets.

## Creating a Test Sets Tree

You define a hierarchical framework for your test sets by creating a test sets tree. The test sets tree can contain folders at the main level and subfolders below the main folders. For each folder in the test sets tree, you define a test set and add test instances to it. You start a test sets tree by adding a folder to the **Root** folder.

After you have created a test sets tree, you assign test set folders to cycles defined in the releases tree in the Releases module. For more information, “Assigning Test Set Folders to Cycles” on page 385.

### To create a test sets tree:

- 1 Choose **View > Test Sets Tree** to display the test sets tree view in the Test Set pane.
- 2 In the test sets tree, select the **Root** folder.
- 3  Click the **New Folder** button or choose **Test Sets > New Folder**. The New Folder dialog box opens.
- 4 Type the **Folder Name** and click **OK**. Note that a folder name cannot include the following characters: \ ^ \*

The new folder appears under **Root** in the test sets tree.

- 5 In the **Details** tab, complete the test set folder details by assigning the test set folder to a cycle. For more information, see “Assigning Test Set Folders to Cycles” on page 385.
- 6 In the **Description** tab, type a description of the test set folder.
- 7 Click the **Attachments** tab to add an attachment to the new test set folder if necessary. An attachment can be a file, URL, snapshot of your application, an item from the Clipboard, or system information. For more information, see Chapter 5, “Adding Attachments.”
- 8 To create additional folders, select a folder and repeat steps 3 to 7.





# Assigning Test Set Folders to Cycles

After you have created a test sets tree, you assign test set folders to cycles defined in the releases tree in the Releases module. For more information, see Chapter 10, “Developing the Releases Tree.”

**Quality Center Starter Edition:** Assigning test set folders to cycles is unavailable.

**To assign a test set folder to a cycle:**



- 1 In the test sets tree, select the test set folder that you want to assign to a cycle.
- 2 Click the **Assign To Cycle** button or choose **Test Sets > Assign To Cycle**. Alternatively, in the Details tab, click the browse button next to the **Assigned to cycle** box. The Assign To Cycle dialog box opens.
- 3 Expand the tree and select a cycle.
- 4 Click **OK** to close the Assign To Cycle dialog box. In the test set tree, the test set folder icon  is replaced by the assigned test set folder icon .

The Details tab displays the following test set folder details:

Field	Description
Assigned to cycle	Indicates the cycle to which the selected test set folder is assigned.
Cycle start date	The date on which the cycle starts.
Cycle end date	The date on which the cycle ends.
Remaining days in cycle	The total number of days remaining in the cycle.

You can click the **Show** button to view the following details:

Field	Description
Total test instances	The total number of test instances in the selected test set folder.
Remaining test instances to run	The total number of test instances in the selected test set folder that have not yet run.



- 5 To clear an assigned test set folder, select it, click the **Assign To Cycle** arrow, and choose **Clear Assigned Cycle**. Alternatively, select an assigned test set folder and choose **Test Sets > Clear Assigned Cycle**.

## Adding Test Sets

You can add a test set to a folder in your test sets tree, or to the test sets grid.

**To add a test set:**

- 1 You can add a test set to the test sets tree or test sets grid:



- Display the test sets tree by choosing **View > Test Sets Tree**. In the test sets tree, choose a folder and click the **New Test Set** button or choose **Test Sets > New Test Set**.



- Display the test sets grid by choosing **View > Test Sets Grid**. Click the **New Test Set** button or choose **Test Sets > New Test Set**.

The New Test Set dialog box opens.

**New Test Set**

Test Set Folder:

Test Set Name:

Description:

If you opened the dialog box from the test sets tree, the **Test Set Folder** box displays the preselected folder name.

- 2 If you opened the New Test Set dialog box from the test sets grid, click the browse button in the **Test Set Folder** box, and choose a folder.

- 3 In the **Test Set Name** box, type a name for the test set. Note that a test set name cannot include the following characters: \ ^ , " \*
- 4 In the **Description** box, type a description of the test set.
- 5 Click **OK**. The test set name is added to the test sets tree.
- 6 Click the **Details** tab.

The screenshot shows a software interface with a tabbed menu at the top. The 'Details' tab is active, displaying several input fields. Below the tabs, there are two rows of fields. The first row contains 'Baseline:' with a text box and a dropdown arrow, and 'Close Date:' with a date picker. The second row contains 'Cycle ID:' with a text box containing '287', and 'ITG Request Id:' with a text box. The third row contains 'Open Date:' with a date picker showing '12/16/2008', and 'Status:' with a dropdown menu showing 'Open'. The fourth row contains 'Target Cycle:' with an empty text box. Below these fields is a section labeled 'Description' with a large empty text area.

Enter the following information:

- **Quality Center Enterprise and Premier Editions:** In **Baseline**, select a baseline to which to pin the test set. For more information, see “Pinning a Test Set to a Baseline” on page 525.
- In **Close Date**, select the planned closing date for the test set.
- In **Open Date**, select a date from the calendar. By default, the date is set to the current database server date.

- In **ITG Request Id**, add the IT Governance request ID. Note that this is relevant only when integrating with an IT Governance tool.
  - In **Status**, set the status of the test set to **Open** or **Closed**.
- 7 Click the **Attachments** tab to add an attachment to the test set. An attachment can be a file, URL, snapshot of your application, an item from the Clipboard, or system information. For more information on attachments, see Chapter 5, “Adding Attachments.”
  - 8 Click the **Automation** tab and perform the following steps:
    - Click the **Notifications** link to instruct Quality Center to send email to specified users if certain events occur. For more information, see “Setting Test Set Notifications” on page 390.
    - Click the **On Failure** link to set rules for the automated tests in the test set in the event of a test failure. For more information, see “Setting Test Set On Failure Rules” on page 392.

## Adding Tests to a Test Set

After you have defined a test set, you can add manual and automated tests from the test plan tree, or tests covering requirements from the requirements tree, to the test set. You can also include instances of the same test in different test sets or add more than one instance to the same test set.

**To add tests from the test plan tree to a test set:**

- 1 Select a test set from the test sets tree or test sets grid.
- 2 In the Execution Grid tab or Execution Flow tab, click the **Select Tests** button. By default, the right pane displays the test plan tree in the Test Plan Tree tab.
- 3 Select a test or folder and click the **Add Tests to Test Set** button.



---

**Tip:** You can also add tests by double-clicking or dragging a folder or test in the test plan tree to the Execution Grid or Execution Flow.

---

- 4 If you are adding a folder, a message box opens. Click **Yes** to confirm.

---

**Note:** Only tests that match the current filter in the Test Plan Tree tab are added.

---

- 5 If any of the tests you are adding are already in the test set, the Create Test Instance dialog box opens. It displays the tests that already exist in the test set and how many instances there are. Select the tests you still want to add to the test set and click **Create**.
- 6 If the test you are adding has parameters that have not been assigned actual values, the Parameters of Test dialog box opens. Assign actual values for the parameters. These values will be used for all test runs of the test. For more information, see “Assigning Actual Values” on page 322.
- 7 Click the **Close** button to close the right pane.

**To add tests covering requirements from the requirements tree to a test set:**

- 1 Select a test set from the test sets tree or test sets grid.
- 2 In the Execution Grid tab or Execution Flow tab, click the **Select Tests** button.
- 3 In the right pane, click the **Requirements Tree** tab, the tests are displayed according to associated requirements.
- 4 To add a test, select the test and click the **Add Tests Covering Requirement** button.




---

**Tip:** You can also add tests by double-clicking or dragging a test or requirement in the Requirements Tree tab to the Execution Grid or Execution Flow.

---



- 5 To add all tests that cover a selected requirement, select the requirement and click the **Add Tests Covering Requirement** button.

To add all tests that cover a selected requirement and its children, select the requirement. Click the **Add Tests Covering Requirement** arrow and choose **Add Tests Covering Requirement and Children**.

A message box opens. Click **Yes** to confirm.

---

**Note:** Only tests that match the current filter in the Requirements Tree tab are added.

---

- 6 If any of the tests you are adding are already in the test set, the Create Test Instance dialog box opens. It displays the tests that already exist in the test set and how many instances there are. Select the tests you still want to add to the test set and click **Create**.
- 7 If the test you are adding has parameters that have not been assigned actual values, the Parameters of Test dialog box opens. Assign actual values for the parameters. These values will be used for all test runs of the test. For more information, see “Assigning Actual Values” on page 322.
- 8 Click the **Close** button to close the right pane.

## Setting Test Set Notifications

You can instruct Quality Center to send email to a specified user if any of the following events occur for a test set:

- Any test in the test set fails.
- A test in the test set fails due to reasons other than the test logic itself. Environmental failure could include, for example, function calls not returning, access violations, version incompatibility between application components, a missing DLL, inadequate permissions, and many other reasons.
- All tests in the test set that were run have finished running. Note that this does not include tests that were not run.

**To set test set notifications:**

- 1** Select a test set from the test sets tree or the test sets grid.
- 2** Click the **Automation** tab and select the **Notifications** link.

Details Execution Grid Execution Flow Attachments Automation Linked Defects

Notifications On Failure

Send e-mail in the event of \_\_\_\_\_

☐ Any test in the Automatic Runner finishes with status "Failed"

☐ Environmental failure (network problems, hardware failure, etc.)

☐ All tests in the Automatic Runner that were run have finished

To...

Message

**B**  
**U**  
**I**  
**A** ▾  
RBC ✓

- 3** Select one or more events for the test set.
- 4** To specify who should receive the email, enter a valid email address.  
Alternatively, click the **To** button. The Select Recipients dialog box opens. Select individual users or an entire user group. Click **OK**. To send an email to a user, the user must have a valid email address set up in their user properties. For more information on defining user properties, refer to the *HP Quality Center Administrator Guide*.
- 5** In the **Message** box, type a message for the email.

# Setting Test Set On Failure Rules

You can set On Failure rules for a test set which instruct Quality Center in the event that an automated test in the test set fails. This includes instructions on how many times the test should be rerun, and the cleanup test that should be run before the test is rerun. For any automated test in the test set, you can change the default On Failure rules.

**To set test set On Failure rules:**

- 1** Select a test set from the test sets tree or test sets grid.
- 2** Click the **Automation** tab and select the **On Failure** link.

Details Execution Grid Execution Flow Attachments Automation Linked Defects

Notifications On Failure

On automated test failure

☒ If an automated test fails, rerun the test up to 1 times

☐ Run cleanup test <None> ... before each rerun of the test

Settings per test...

On final test failure

On final failure of any test in test set

☒ Do nothing

☐ Stop the test set

☐ Rerun the test set

Maximum number of times the test set can be rerun is 1

- 3** To set the test set On Failure rule, select the first check box and specify the number of times an automated test should be rerun.
- 4** To include a cleanup test before each test rerun, select the second check box and click the browse button to select the cleanup test from the test plan tree in the Select Cleanup Test dialog box.
- 5** You can change the default failure rules for a specific test in the test set. For more information, see “Changing the Default Failure Rules for Specific Tests” on page 393.



- 6 On the final failure of any test in the test set, you can instruct Quality Center to:
  - Do nothing.
  - Stop the test set.
  - Run the test set again a specified number of times.

### **Changing the Default Failure Rules for Specific Tests**

You can change the default failure rules for specific tests in a test set. These rules instruct Quality Center in the event that the test fails. This includes the number of times the test should be rerun and the cleanup test that should be run before the test is rerun.

---

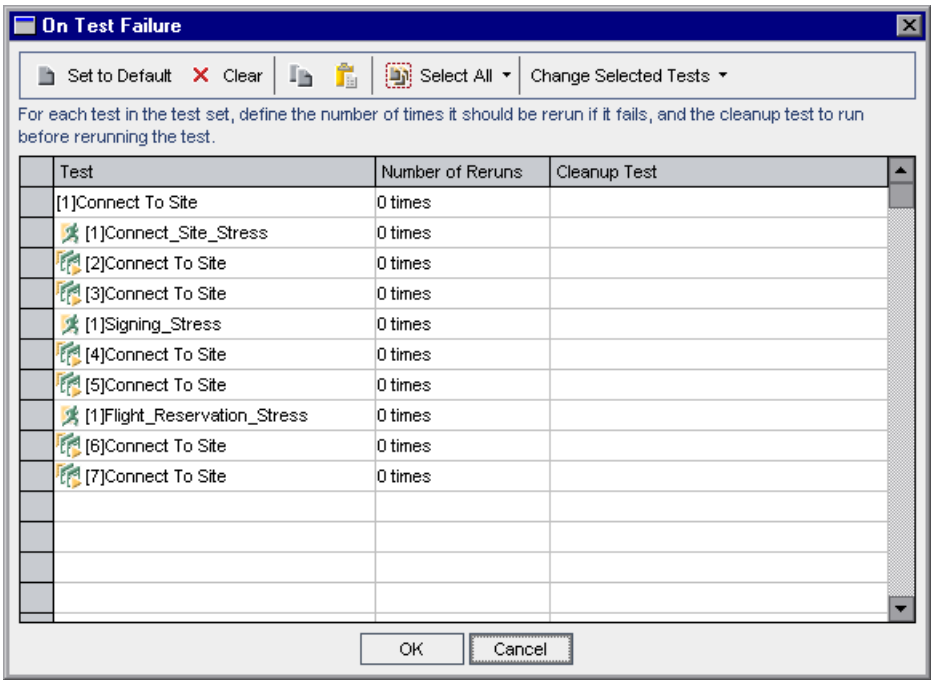
**Note:** You can also use the Run Events view in the Test Instance Properties dialog box to set the On Failure rules for a test in a test set. For more information, see “Viewing Test Run Events” on page 455.

---



#### **To change the default failure rules for specific tests:**

- 1 Set the default failure rules. For more information, see “Setting Test Set On Failure Rules” on page 392.

- 2 To change the default failure rules for specific tests, click the **Settings per test** button. The On Test Failure dialog box opens.



- 3 You can use the following options to specify the number of times an automated test should be rerun:
- To specify for a selected test, double-click the corresponding cell in the **Number of Reruns** column. The Number of Reruns dialog box opens. Specify the number of reruns and click **Apply**.
  - To specify for selected tests, select the tests or click the **Select All** button. Press CTRL and double-click any cell in the **Number of Reruns** column. Alternatively, click the **Change Selected Tests** arrow and choose **Change Number of Reruns**. The Number of Reruns dialog box opens. Note that the **Apply to all selected tests** option is selected. Specify the number of reruns and click **Apply**.

- 4 You can use the following options to specify a cleanup test:
  - To specify for a selected test, double-click the corresponding cell in the **Cleanup Test** column. The Select Cleanup Test dialog box opens. Select a cleanup test from the test plan tree and click **Apply**.
  - To specify one cleanup test for the selected tests, select the tests or click the **Select All** button. Press CTRL and double-click any cell in the **Cleanup Test** column. Alternatively, click the **Change Selected Tests** arrow and choose **Change Cleanup Test**. The Select Cleanup Test dialog box opens. Note that the **Apply to all selected tests** option is selected. Select a cleanup test from the test plan tree and click **Apply**.
- 5 To reset the default failure rules, select a test and click the **Set to Default** button. Click **Yes** to confirm.
- 6 To clear the settings for a test, select a test and click **Clear**. Click **Yes** to confirm.
-  7 To copy the settings from one test to another, select a test to copy and click the **Copy Test Settings** button.  
 Select a test to paste and click the **Paste Test Settings** button.
- 8 Click **OK** to save your changes and close the On Test Failure dialog box.

## Managing Test Sets

This section on managing test sets includes the following topics:

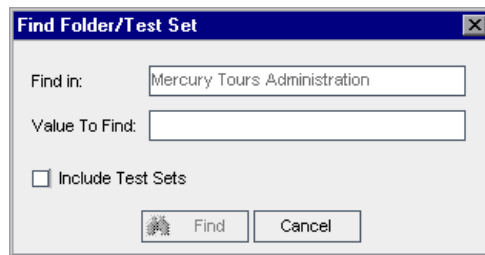
- Finding Test Sets in the Tree
- Finding Tests in the Execution Grid
- Replace Field Values in the Execution Grid
- Removing Tests from a Test Set
- Copying Test Sets in a Project
- Copying Test Sets Across Projects
- Copying URLs of Test Sets
- Renaming Test Sets
- Deleting Test Set Folders
- Deleting Test Sets
- Resetting Test Sets
- Purging Test Runs from a Test Set

## Finding Test Sets in the Tree

You can search for a folder or test set in the test sets tree. If you have applied filters to the test sets tree, the Test Lab module restricts the search to the test sets currently displayed.

**To find a test set in the tree:**

- 1 Select a folder in the test sets tree.
- 2 Choose **Edit > Find Folder/Test Set**. The Find Folder/Test Set dialog box opens and displays the folder name in the Find in box. If you are searching the entire tree, the folder name is **Root**.



- 3 In the **Value To Find** box, type the name (or part of the name) of the folder or test set. You cannot use the asterisk (\*) wildcard. Note that the search is not case sensitive.
- 4 Check **Include Test Sets** to include test sets in the search.
- 5 Click **Find**.

The Test Lab module attempts to locate the folder or test set. If the search is successful, the Search Results dialog box opens and displays a list of possible matches. Select a result from the list and click the **Go To** button to highlight the folder or test set in the test sets tree.

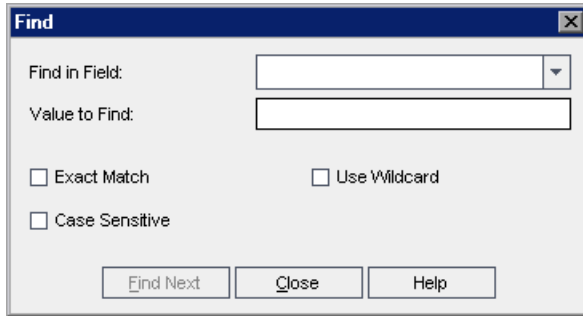
If the search is unsuccessful, an information box opens.

## Finding Tests in the Execution Grid

You can search for tests in the Execution Grid, based on the value of a particular field. If you have applied filters to the grid, the search is restricted to the tests currently displayed.

### To find a test in the Execution Grid:

- 1 Choose **Tests > Find**. The Find dialog box opens.



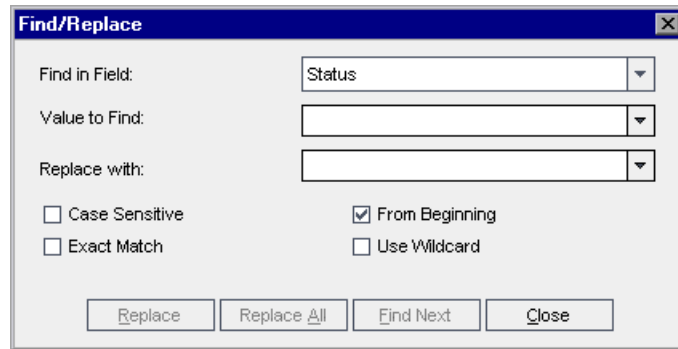
- 2 In the **Find in Field** box, select a field in the grid.
- 3 In the **Value to Find** box, type or select the value of the field, for which you want to search.
- 4 Select **Exact Match** if you want to find tests with field values that exactly match the Value to Find string.
- 5 Select **Case Sensitive** if you want the search to distinguish between uppercase and lowercase characters.
- 6 Select **Use Wildcard** if you want to use asterisk (\*) characters in your search string in order to type only part of the item.
- 7 Click **Find Next**. If the search is successful, the matching test is highlighted in the grid. If the search is unsuccessful, an information box opens.
- 8 Click **Find Next** again to find the next test that matches the criteria.

## Replace Field Values in the Execution Grid

You can replace field values in the Execution Grid using the Replace command.

**To replace a field value in the Execution Grid:**

- 1 Choose **Tests > Replace**. The Find/Replace dialog box opens.



- 2 In the **Find in Field** box, select the column in which you want to search for a specific value.
- 3 In the **Value to Find** box, type or select the value to find.
- 4 In the **Replace with** box, type or select a replacement field value.
- 5 To distinguish between uppercase and lowercase characters, select the **Case Sensitive** check box.
- 6 To search for an exact value, select the **Exact Match** check box.
- 7 To start the search from the top of the grid, select the **From Beginning** check box.
- 8 To use asterisk (\*) characters in your search string in order to type only part of the item, select the **Use Wildcard** check box.
- 9 To replace the found item and find the next occurrence, click **Replace**.
- 10 To replace all occurrences of the value in the grid, click **Replace All**.

## Removing Tests from a Test Set

You can remove tests from a test set.

**To remove a test from a test set:**

- 1 Select a test set from the test sets tree or the test sets grid. The tests are displayed in the Execution Grid or Execution Flow.
- 2 Select the test that you want to remove. To remove more than one test from the Execution Grid or Execution Flow, press the CTRL key and select the tests you want to remove.
- 3 Click the **Remove Tests from Test Set** button.
- 4 Click **Yes** to confirm.



## Copying Test Sets in a Project

You can copy a test set within the same project. Test run information is not copied.

**To copy a test set in a project:**

- 1 Select a test set or a test set folder from the test sets tree. To copy more than one test set or folder, use the CTRL key.
- 2 Choose **Edit > Copy**. Alternatively, right-click and choose **Copy**.
- 3 Select the folder to which you want to copy the test set or subject folder.
- 4 Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**.

## Copying Test Sets Across Projects

You can copy test sets from one project to another. If the test sets contain calls to other tests, or if the test sets are dependent on test resources, you can instruct Quality Center to copy them using one of the following methods:

- Copy test sets and link them to existing called tests and related test resources in the target project. If a called test or a related test resource does not exist in the target project, Quality Center copies it to the target project.
- Copy test sets along with called tests and related test resources into the target project.



- Copy test sets without copying called tests and related test resources into the target project.

---

**Notes:**

- To copy test sets or test set folders across projects, both projects must use the same Quality Center version and patch level.
  - When copying test sets or test set folders, test run information is not copied.
- 

For more information on related entities, see “Viewing Dependencies” on page 357.

**To copy a test set across projects:**

- 1** Select the test set or the test set folder that you want to copy in the test sets tree. To copy more than one test set or folder, use the CTRL key.
- 2** Choose **Edit > Copy**. Alternatively, right-click and choose **Copy**.
- 3** Open another instance of Quality Center and log in to the project to which you want to paste the tests.
- 4** Select the folder to which you want to copy the test sets or test set folders.
- 5** Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**. The Paste Test Sets/Test Set Folders to Target Project dialog box opens.

**6** Select one of the following options:

- **Copy test sets/test set folders and link to existing related entities.**  
Quality Center copies the test sets or test set folders and pastes them into the target project. The copied test sets or test set folders are linked to existing test resources and called tests with the same name and path. If a related test resource or a test does not exist in the target project, Quality Center copies it to the target project.
- **Copy test sets/test set folders and related entities.** Quality Center copies the test sets or test set folders along with the related test resources and called tests, and pastes them into the target project. If a related test resource or a called test already exists in the target project, the copied related test resource or called test is renamed to resolve the duplicate name.
- **Copy test sets/test set folders and related entities.** Quality Center copies the test sets or test set folders without copying the related test resources or called tests, and pastes them into the target project. The copied items are not linked to any related entities.

Click **OK**.

## Copying URLs of Test Sets

You can copy a test set and paste its URL as a link. The test set itself is not copied. Instead, you can paste the address into another location, such as an email or a document. Clicking on the link opens Quality Center and takes you to the test set.

**To copy a URL of a test set:**

- 1** Select a test set from the test sets tree or grid.
- 2** Choose **Edit > Copy URL**. Alternatively, right-click and choose **Copy URL**.
- 3** Paste the URL.

## Renaming Test Sets

You can rename a test set or test set folder. Note that you cannot rename the default test set.

### To rename a test set:

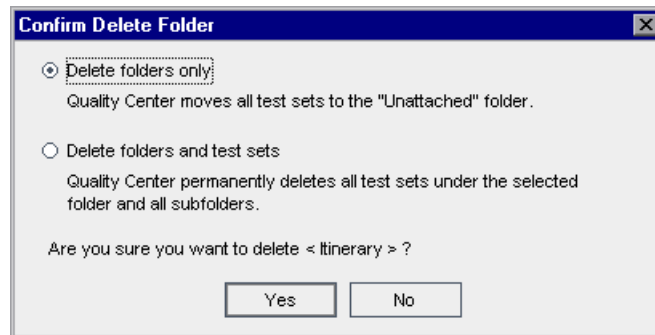
- 1 Select a test set or test set folder from the test sets tree or the test sets grid.
- 2 Right-click the test set or test set folder and choose **Rename**.
- 3 Edit the test set name and press ENTER.

## Deleting Test Set Folders

You can delete a folder and move all of its test sets to the **Unattached** folder, or you can permanently delete a folder with all its test sets.

### To delete a test set folder:

- 1 Select a folder from the test sets tree. To delete more than one folder, press the CTRL key and select the folders you want to delete.
- 2 Click the **Delete** button, or choose **Edit > Delete**. The Confirm Delete Folder dialog box opens.



**3** To delete, you can:

- Select **Delete folders only** to delete the folder and move all test sets to the **Unattached** folder. The Unattached folder contains all test sets that are no longer associated with a folder.
- Select **Delete folders and test sets** to permanently delete the folder and all its test sets.

**4** Click **Yes** to confirm.

## Deleting Test Sets

You can delete a test set from a project. Note that you cannot delete the default test set.

**To delete a test set:**

**1** Select a test set from the test sets tree or the test sets grid. To delete more than one test set, press the CTRL key and select the test sets you want to delete.



**2** Click the **Delete** button, or choose **Edit > Delete**.

**3** Click **Yes** to confirm.

## Resetting Test Sets

Resetting a test set changes the status of all the tests in the test set to **No Run**. When resetting a test set, you can also decide if you want to delete the test run results.

**To reset a test set:**

**1** Select a test set from the test sets tree or the test sets grid.

**2** Choose **Test Sets > Reset Test Set**. The Confirm Reset Test Set dialog box opens.

**3** To instruct the Test Lab module not to delete the test run results for the test set, clear the **Delete all the test run results in test set** check box.

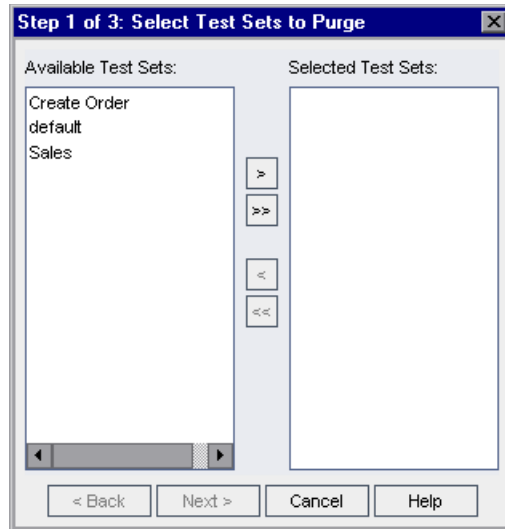
**4** Click **Yes** to confirm.

## Purging Test Runs from a Test Set

You can use the Purge Runs wizard to delete old test run results in your project.

To purge a test run from a test set:

- 1 Choose **Test Sets > Purge Runs**. The Select Test Sets to Purge dialog box opens, enabling you to select test sets to purge.



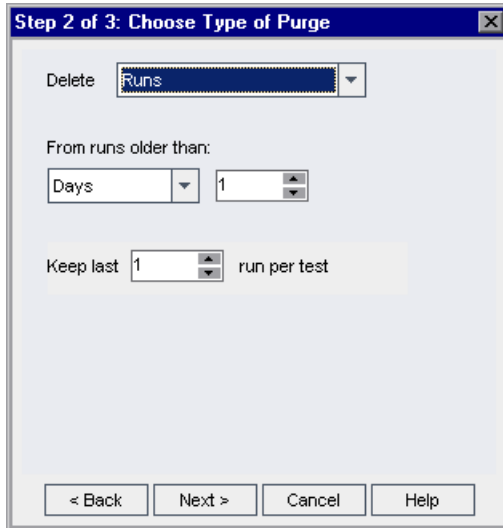
Using the arrows, move the appropriate test set names from the **Available Test Sets** box to the **Selected Test Sets** box.

---

**Tip:** You can also drag the test sets between lists.

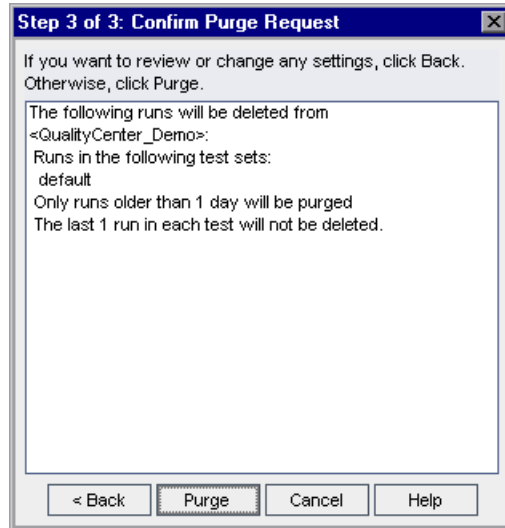
---

- 2 Click **Next**. The Choose Type of Purge dialog box opens, enabling you to select the purge type and define the purge conditions.



- 3 To delete run steps but keep the overall run details:
  - In the **Delete** box, select **Run Steps Only**.
  - Under **From runs older than**, select a period of time before which you want to delete run steps.
- 4 To delete test run results:
  - In the **Delete** box, select **Runs**.
  - Under **From runs older than**, select a period of time before which you want to delete test run results.
  - In **Keep last**, select the number of test run results to keep for each test.

- 5 Click **Next**. The Confirm Purge Request dialog box opens, summarizing the deletions you chose to make.



- 6 Click **Purge** to confirm.





# 29

---

## Scheduling Test Runs

The Test Lab module enables you to control the execution of the tests in a test set.

### **This chapter includes:**

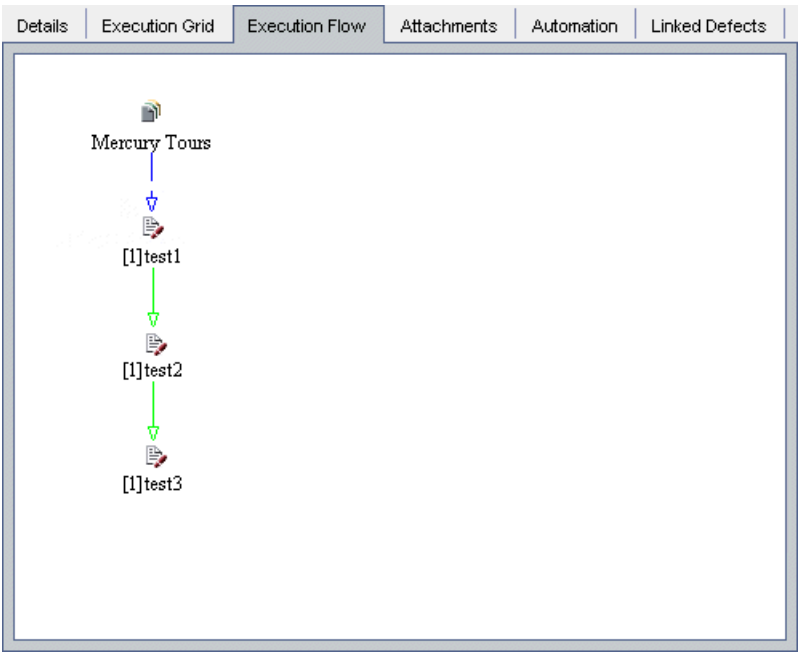
- About Scheduling Test Runs on page 409
- Scheduling a Test Run on page 411
- Modifying a Test Run Schedule on page 414
- Arranging Tests Sequentially on page 417
- Finding Tests on page 418
- Viewing the Execution Flow Diagram on page 418


### **About Scheduling Test Runs**


In the Execution Flow, you can specify a date and time, and set conditions for executing a test. A **condition** is based on the results of another specified test in the Execution Flow. By setting conditions, you can instruct the Test Lab module to postpone execution of the current test until the other specified test has either finished running or passed. You can also set the sequence in which to execute the tests.


For example, in a test set, you can determine that `test2` will run only if `test1` passed, and `test3` will run only if `test2` passed.

Unlike the Execution Grid, which displays the tests with only test run information, the Execution Flow displays the tests with conditions in a diagram.



In the Execution Flow, a test set is represented by the Test Set  icon. Each test in the diagram is represented by a test icon.

A dashed line  arrow indicates that the test is to be executed after the previous test, with no conditions.

A solid line  arrow indicates a condition and can be blue or green. If the solid line is blue, it indicates that the test is to be executed only if the previous test has status **Finished**. If the solid line is green, it indicates that the test is to be executed only if the previous test has status **Passed**.

When a test is time-dependent, a Time Dependency  icon is added to the diagram.

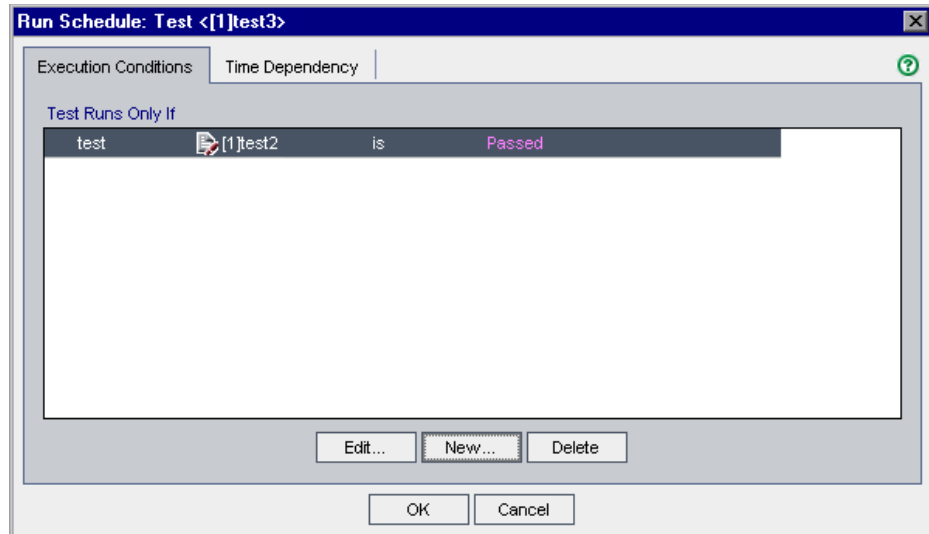
## Scheduling a Test Run

The Execution Flow tab enables you to watch the execution process as it happens and to control the way your tests are executed. You can specify under what conditions you want a test to be executed (**execution conditions**) and when (**time dependency**).

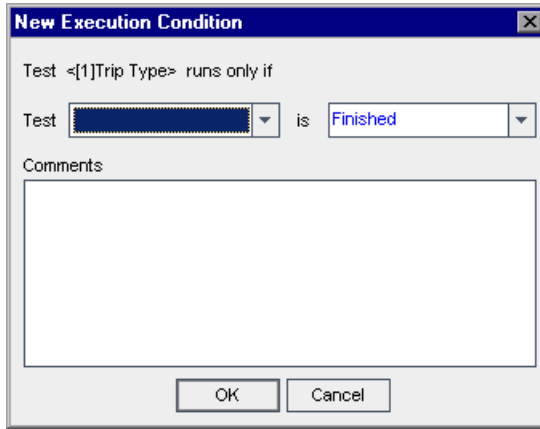
For information on running tests, see “Running Tests Manually” on page 421 and “Running Tests Automatically” on page 431.

**To schedule a test run:**

- 1 In the Execution Flow tab, double-click a test. Alternatively, right-click a test and choose **Test Run Schedule**. The Run Schedule dialog box opens and displays the Execution Conditions tab.



- 2 To add a condition, click **New**. The New Execution Condition dialog box opens.



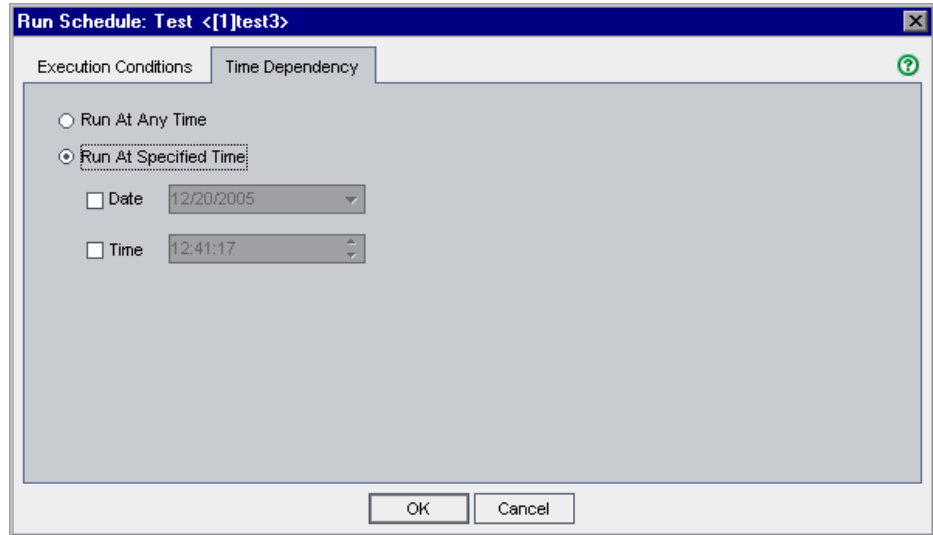
- 3 In the **Test** box, select the test on which you want the current test to be dependent.
  - Select **Finished** (default) to instruct the Test Lab module to execute the current test only after the specified test has finished executing.
  - Select **Passed** to instruct the Test Lab module to execute the current test only if the specified test has finished executing and has passed.
- 4 In the **Comments** box, add any relevant information regarding the condition.
- 5 Click **OK**. The condition is added to the list.

---

**Tip:** You can also add a condition directly in the Execution Flow. Click a test icon (not the test name) and drag the arrow to another test. By default, the condition is set to **Finished**. To change the condition, double-click the condition arrow and select **Passed**.


---

- 6 Click the **Time Dependency** tab to specify when you want the test to be executed.



- 7 Select **Run At Specified Time**, and select a **Date** and/or **Time**.

---

**Tip:** You can schedule the test run date and time by clicking the **Add Time Dependency To Flow**  button, and linking the arrow from the icon to a test. Double-click the icon to set the time in the Time Dependency dialog box. The default time dependency is the Quality Center server's current date and time.

---

- 8 Click **OK** to close the Run Schedule dialog box. In the Execution Flow, the diagram displays the tests and the conditions.

## Modifying a Test Run Schedule

You can modify and delete conditions and time dependency information for a test run schedule.

This section includes:

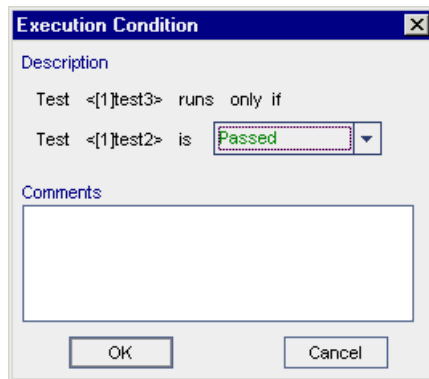
- Editing Execution Conditions
- Deleting Execution Conditions
- Editing Time Dependency
- Deleting Time Dependency
- Deleting All Conditions and Dependencies

### Editing Execution Conditions

You can edit conditions connected to a test run.

To edit an execution condition:

- 1 In the Execution Flow, double-click a condition arrow. Alternatively, right-click a condition arrow and choose **Execution Condition**. The Execution Condition dialog box opens.



- 2 Modify any relevant information regarding the condition and click **OK**.

## Deleting Execution Conditions

You can delete a single condition or all conditions connected to a test.

**To delete an execution condition for a test:**

- 1 In the Execution Flow, right-click a condition arrow and choose **Remove Execution Condition**.
- 2 Click **Yes** to confirm. The condition arrow is removed.

**To delete all execution conditions for a test:**

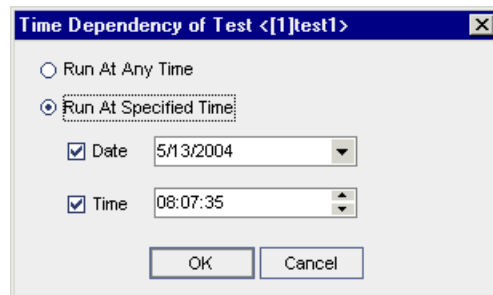
- 1 In the Execution Flow, right-click a test and choose **Remove Test's Execution Conditions**.
- 2 Click **Yes** to confirm. All connecting arrows are removed.

## Editing Time Dependency

You can modify the date and time of a scheduled test run.

**To edit time dependency:**

- 1 In the Execution Flow, double-click the **Time Dependency**  icon connected to a test. The Time Dependency dialog box opens.




- 2 Modify the date and/or time, and click **OK**.

## Deleting Time Dependency

You can delete a specified time dependency.

**To delete time dependency:**

- 1 In the Execution Flow, right-click a **Time Dependency**  icon connected to a test and choose **Remove Time Dependency**.
- 2 Click **Yes** to confirm. The Time Dependency icon is removed from the Execution Flow.

## Deleting All Conditions and Dependencies

You can delete all execution conditions and time dependencies in a test set.

**To delete all execution conditions for a test set:**

- 1 Right-click in the Execution Flow and choose **Remove All Execution Conditions**.
- 2 If your test set includes both execution conditions and time dependencies, the Remove All Execution Conditions dialog box opens.

Choose one of the following options:

- **Run conditions and time dependencies.** Removes the execution conditions and time dependencies from your test set.
- **Run conditions only.** Removes the execution conditions from your test set.
- **Time dependencies only.** Removes the time dependencies from your test set.

Click **OK**. The execution conditions and/or time dependencies are removed.

- 3 If your test set contains only execution conditions or only time dependencies, a confirm dialog box opens. Click **Yes** to confirm. The execution conditions or time dependencies are removed.

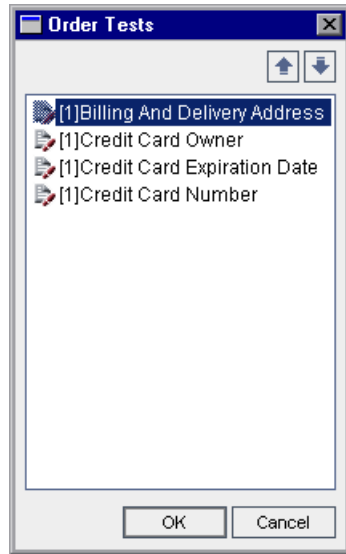


## Arranging Tests Sequentially

In the Execution Flow, you can change the execution order of the tests displayed in the diagram.

**To arrange tests sequentially:**

- 1 In the Execution Flow, press the CTRL key and select two or more tests.
- 2 Right-click a test and choose **Order Tests**. The Order Tests dialog box opens.



- 3 Select a test from the list and click the up or down arrow to change the position of the test in the sequence.
- 4 Click **OK**.

## Finding Tests

You can search for a test in the Execution Flow.

**To find a test:**



- 1 Click the **Find Test In Flow** button on the toolbar, or choose **Edit > Find Test in Flow**. The Find Test dialog box opens.

In the **Value to Find** box, type the name (or part of the name) of the test. The search is not case sensitive.

- 2 Click **Find**. The Test Lab module attempts to locate the test.
- 3 If the search is successful, the Search Results dialog box opens and displays a list of possible matches. Select a result from the list, and click the **Go To** button to highlight the test in the Execution Flow.



Click the **Keep on Top** button to display the Find Results dialog box on top of all open windows.



To display a selected window on top of the Find Results dialog box, click the **Not on Top** button.

- 4 If the search is unsuccessful, an information box opens.

## Viewing the Execution Flow Diagram

You can change the way the Execution Flow is displayed. This includes zooming in and out of the diagram, rearranging the tests in a hierarchical layout, refreshing the diagram, and displaying full test names in the diagram. You can also copy the diagram to the Clipboard.

### Layout



Click the **Arrange Layout** button to rearrange the tests in a hierarchical layout. This enables you to view dependencies between different tests.

### Zoom In



Click the **Zoom In** button to increase the magnification level of the diagram to make it appear larger.

### Zoom Out



Click the **Zoom Out** button to reduce the magnification level of the diagram to make it appear smaller.

### Fit Picture In Window



Click the **Fit Picture in Window** button to redisplay the diagram to fit in the window. You can also click the down arrow to select a magnification option:

- Select a specific magnification level, such as **25%**, **50%**, **150%** or **200%**.
- Select **Normal** to display the diagram at 100% magnification.
- Select **Fit In Window** to display the entire diagram in the window.
- Select **Custom Zoom** to specify a zoom level. In the Custom Zoom dialog box, type a zoom level and click **Zoom**.

### Refresh Flow



Click the **Refresh Flow** button to refresh the Execution Flow diagram so that it displays the most up-to-date tests.

### Show Full Test Names

Choose **Tests > Flow > Show Full Test Names** to display full test names in the Execution Flow diagram. By default, long names are truncated.

### Copy to Clipboard

Choose **Tests > Flow > Copy to Clipboard** to copy the Execution Flow diagram to the Clipboard as a bitmap.



# 30

---

## Running Tests Manually

When you run tests manually, you follow the test steps and perform operations on the application under test. You pass or fail each step, depending on whether the actual application results match the expected output. You can run both manual and automated tests manually.

**This chapter includes:**

- About Running Tests Manually on page 421
- Running a Test Manually on page 422
- Editing the Test Steps on page 428
- Resuming a Manual Test Run on page 429

### About Running Tests Manually

You run tests manually by following the test steps you defined during test planning:

- 1** Perform operations on the application under test. Follow the instructions detailed in the test step descriptions.
- 2** Compare the actual results with the expected results. When performing the steps, decide whether the application responds according to the expected results.
- 3** Assign a pass or fail status to each step, depending on whether or not the expected results match the actual results.

- 4 If a step fails, explain how the application actually responded. A test fails if one or more steps fail.

You can execute tests more than once in the same set. Each execution is considered a new test run.

After test execution is complete, you can view a summary of test results in the Test Lab module. The updated status for each test run appears in the Execution Grid. Results for each test step appear in the Last Run Result pane. You can view more detailed results in the Test Instance Properties dialog box. For more information on viewing test results, see Chapter 32, “Viewing Test Results.”

## Running a Test Manually

When you run a test manually, you follow the test steps and perform operations on the application under test. You compare the expected results with the actual outcome and record the results. You can execute a test as many times as you want. Test results are stored separately for each run. You can run both manual and automated tests manually.

Note that while executing a test manually you can modify the test steps. You can choose to save the modifications in the original test in the Test Plan module and the test instance in the Test Lab module. Alternatively, you can save them for the current test run only. For more information, see “Editing the Test Steps” on page 428.

You can also resume a manual test run that was paused during execution. For more information, see “Resuming a Manual Test Run” on page 429.

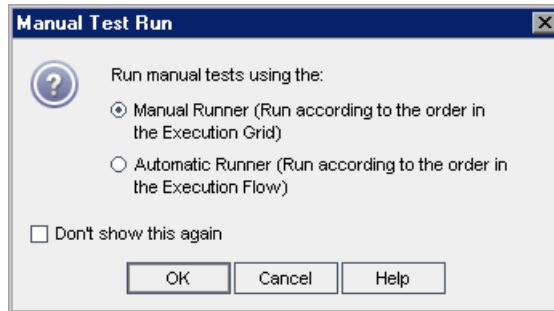
---

**Note:** If you are running a business process test, refer to the *HP Business Process Testing User Guide*.

---

**To run a test manually:**

- 1 In the Execution Grid tab or Execution Flow tab, select the tests you want to run manually.
  - To run a single manual test, select the test and click the **Run** button.
  - To run two or more manual tests, select the tests and click the **Run** button. The Manual Test Run dialog box opens.



By default, the **Manual Runner (Run according to the order in the Execution Grid)** option is selected. This option runs the tests according to the order displayed in the Execution Grid.

To run manual tests automatically, select **Automatic Runner (Run according to the order in the Execution Flow)**. This option runs the tests according to the order displayed in the Execution Flow. For more information on running tests automatically, see “Running a Test Automatically” on page 432.

If you do not want the Manual Test Run dialog box to be displayed the next time you run manual tests, select **Don't show this again**. To enable, choose **Tests > Enable Manual Test Run Confirmation**.

Click **OK**.

- To run automated tests manually, select the tests, click the **Run** arrow, and choose **Run Manually**.

The Manual Runner dialog box opens.

**Manual Runner: Test Set <Mercury Tours Functionality>, Test <[1]Departing Date>**

Begin Run End Run Cancel Run

**Run Details**

Run Name: Run\_12-16\_17-45-10 Exec Date: 12/16/2008

Tester: alex\_qc Exec Time: 5:45:10 PM

Status: Not Completed Target Cycle:

Baseline:

[Operating System Info](#)

**Test Details**

Name: Departing Date [More...](#)

**Summary**

The test verifies the Departing Date on the Flight Finder page.

**Description**

The test is composed of the following stages:

1. Connection to Mercury Tours application and sign on.
2. Completion of the Flight Finder page, except the Departing Date field.
3. Verification of Departing Date field completed with the different values.

**2** Under **Run Details**, you can edit the following run information:

- **Run Name.** The name of the test run.
- **Tester.** The user name of the person who executed the test.

**3** Click the **Operating System Info** link to display operating system information. The Operating System Information dialog box opens.

You can edit the following operating system information:

- **Operating System.** The operating system on the machine where you perform your test steps. By default, the operating system on your Quality Center client machine is displayed.
- **OS Service Pack.** The operating system service pack.
- **OS Build Number.** The operating system build number.



- 4 Under **Test Details**, you can view details of the test. Click **More** to open the Test Properties dialog box and display test details and attachments. For more information on test properties, see Chapter 18, “Developing the Test Plan Tree.”



- 5 To add attachments to the test run, click the **Attach to Run** button. An attachment can be a file, URL, snapshot of your application, an item from the Clipboard, or system information. For more information on attachments, see Chapter 5, “Adding Attachments.”



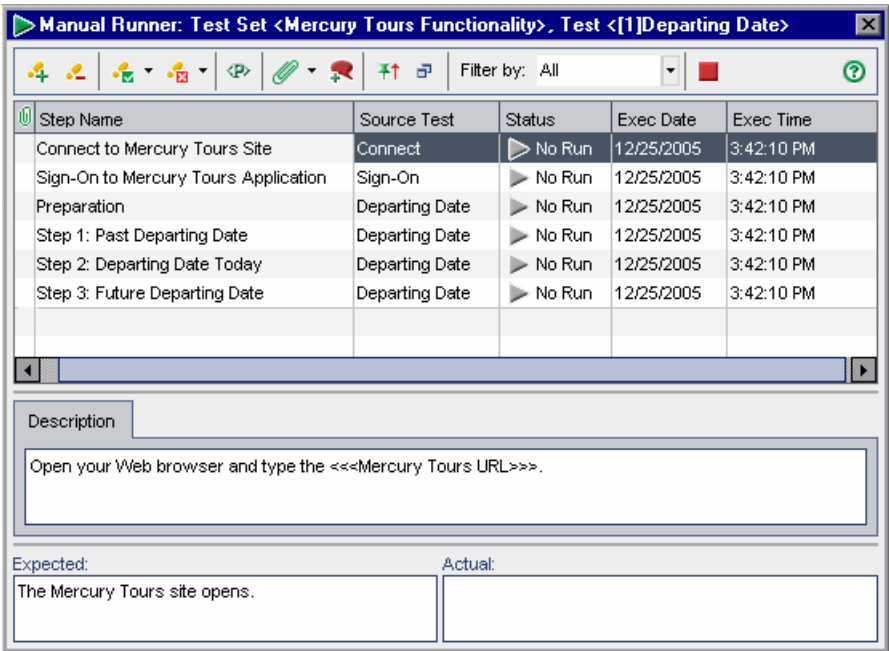
- 6 To add a defect to the test run, click the **New Defect** button. The New Defect dialog box opens. Quality Center automatically creates a link between the test run and the new defect. For more information, see Chapter 35, “Adding and Tracking Defects”, and Chapter 36, “Linking Defects”.

- 7 To end the run at this point, you can click the **End Run** button. Quality Center saves the test run. To cancel the run completely, click the **Cancel Run** button and click **No** to confirm.

- 8 Click the **Begin Run** button to start the test run.

If the test you are running has parameters that have not been assigned actual values, the Parameters of Test Run dialog box opens. Assign actual values for the parameters. For more information, see “Assigning Actual Values” on page 322.

The Manual Runner: Step Details dialog box opens.



In **Filter by**, you can filter the steps in the test according to the Status column.



**Tip:** You can conveniently read each test step and record the results using the compact view display of this dialog box. To open this display, click the **Compact View** button. To return to the steps grid, click the **Back to Steps Grid** button.

9 If there are no test steps, or if you want to make changes to the steps, you can edit the test steps before you begin executing them. For more information, see “Editing the Test Steps” on page 428.



10 To view the values of test parameters, click the **Show Parameters** button. The Parameter Values for Run dialog box opens.

**11** Open the application being tested and execute the first step of the test.



- Click **Pass Selected** if the actual result is the same as the expected result. A green check is added to the step and the step status changes to Passed. (To pass all the test steps at once, click the **Pass Selected** arrow and choose **Pass All**.)



- If the actual result is different from the expected result, type the actual result in the **Actual** box and click the **Fail Selected** button. A red X is added to the step and the step status changes to Failed. (To fail all the test steps at once, click the **Fail Selected** arrow and choose **Fail All**.)



**12** Click **Attachments** to add attachments to the test step. To add attachments to the entire test run, click the **Attachments** arrow and choose **Attach to Run**. For more information on attachments, see Chapter 5, “Adding Attachments.”



**13** Click **New Defect** if you detect an application flaw while running the test. The New Defect dialog box opens, enabling you to add the defect. Quality Center automatically creates a link between the test run and the new defect. For more information, see “Adding New Defects” on page 479 and “Linking Defects” on page 497.



**14** Click the **Keep on Top** button to display the Manual Runner: Step Details dialog box on top of all open windows. To display selected windows on top of the Manual Runner: Step Details dialog box, click the **Not on Top** button.

**15** Perform the remaining steps.






**16** Click the **End Run** button when you complete the test run, or to pause execution of the test run. To resume a manual test run that was paused during execution, see “Resuming a Manual Test Run” on page 429.

## Editing the Test Steps

While executing a test in the Manual Runner: Step Details dialog box, you can add, delete, or modify test steps. After you finish executing the test, you can save your design steps with the changes you make.

**To edit a test step:**

- 1** Open the Manual Runner: Step Details dialog box. For more information, see “Running a Test Manually” on page 422.
-  **2** Click the **Add Step** button to add a step. A new step with a default step name is added. You can type details about the new step in the **Description** box.
-  **3** Click the **Delete Selected** button to delete a selected step or steps, and click **Yes** to confirm.
-  **4** Click the **End Run** button to close the dialog box. A message box opens.
- 5** Click **Yes** to save your changes and update your test in the Test Plan and Test Lab modules. Click **No** to save your changes in the current test run only.

Note that the Test Lab module enables you to update changes made to called tests in the current test run only. The called tests are not affected. For more information on called tests, see “Managing Design Steps” on page 309.

## Resuming a Manual Test Run

If a manual test run was paused during execution, you can continue the run at a later stage.

---

**Note:** The Continue Manual Run command continues the last run of the selected test. If you want to resume running a previous run, click the **Test Instance Properties** button, select **All Runs** on the sidebar and choose the test run you want to resume. Click the **Continue** button.

---

### To resume a manual test run:

- 1** In the Execution Grid tab or Execution Flow tab, select the test you want to resume running.
- 2** Choose **Tests > Continue Manual Run**. Alternatively, click the **Run** arrow and choose **Continue Manual Run**. The Manual Runner dialog box opens for the selected test.
- 3** Continue running the test.



---

## Running Tests Automatically

You can run tests automatically, directly from Quality Center. You can choose to run tests on your machine or on remote hosts.

### **This chapter includes:**

- About Running Tests Automatically on page 431
- Running a Test Automatically on page 432
- Viewing the Execution Log on page 436
- Setting Up Hosts for Remote Test Execution on page 437
- Ordering Tests in the Execution Grid on page 439
- Finding and Replacing Values in the Execution Grid on page 441

### **About Running Tests Automatically**

You can run tests automatically on your machine or on remote hosts. A **host** is any machine connected to your network on which a testing tool has already been installed.

You can select the tests you want to run from the Execution Grid tab or Execution Flow tab. Note that you can choose to run all of the tests in a test set, or specific tests, and that you can include both automated and manual tests. The selected tests are displayed in the Automatic Runner dialog box.

When you run an automated test, Quality Center opens the selected testing tool automatically, runs the test on your local machine or on remote hosts, and exports the results to Quality Center.

When you run a manual test from the Automatic Runner dialog box, Quality Center notifies a designated tester by email to run the test on a specified host.

You can also run an automated system test to provide system information, capture a desktop image, or restart a machine. For more information on system tests, see Chapter 23, “Working with System Tests.”

## Running a Test Automatically

When you run an automated test, Quality Center opens the selected testing tool automatically, runs the test, and exports the test results to Quality Center. When you run a manual test, email is sent to a designated tester, requesting that they run the manual test.

You can run an entire test set or specific tests including both automated and manual tests. Your selected tests are displayed in the Automatic Runner dialog box.

The following should be considered when running tests automatically:

- Before running a test on a remote host, you must first set up hosts in the Host Manager dialog box. For more information, see “Setting Up Hosts for Remote Test Execution” on page 437.
- To run the same test concurrently on multiple remote hosts, add multiple instances of the test to your test set. For more information, see “Adding Tests to a Test Set” on page 388.
- To run several test sets concurrently on multiple remote hosts, open a new Automatic Runner dialog box instance for each test set.
- To enable Quality Center to run QuickTest Professional or WinRunner tests on a remote host, open the relevant application on the remote host and select the required option. For more information, refer to the *HP QuickTest Professional User Guide* or the *HP WinRunner User Guide*.
- If you run a WinRunner test in batch mode, each test that is called from the batch test is considered a separate test, and not part of the batch test itself. Any test called from the batch test that is not already included in the test set is added to the test set at the end of the test run.



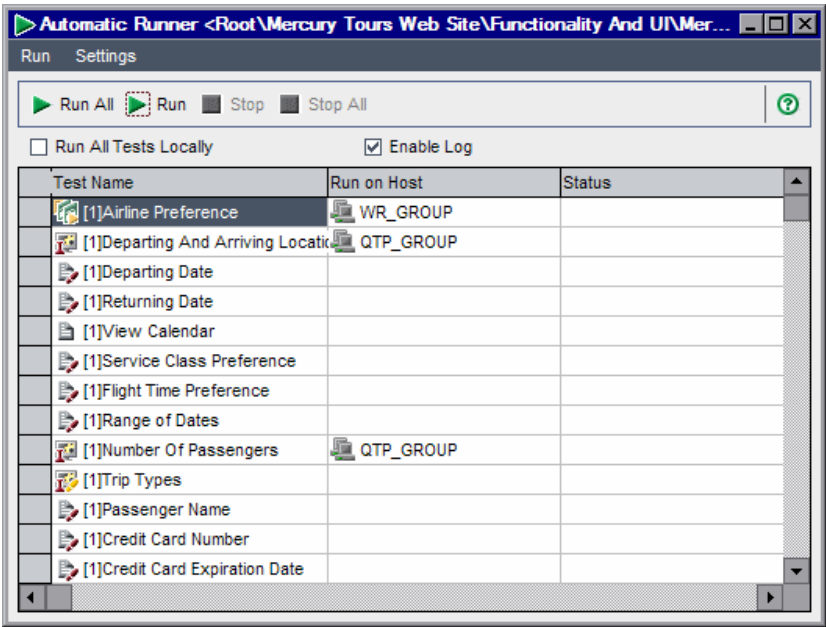
QuickTest Professional users should consider the following:

- Before running a QuickTest test, Quality Center loads the QuickTest add-ins that are associated with the selected test. You must ensure that you run the test on a machine on which the required QuickTest add-ins are installed. For more information on working with add-ins and associated add-in lists in QuickTest, refer to the QuickTest Professional documentation and the relevant QuickTest add-in documentation.
- When you run QuickTest Professional tests from the Test Lab module, they are automatically run in **Fast** mode. They cannot be run in **Normal** mode.

**To run tests automatically:**

- 1** Select a test set from the test sets tree or the test sets grid.
- 2** You can set conditions and schedule the date and time for executing your tests. You can also set the order in which you want your tests to be executed. For more information, see Chapter 29, “Scheduling Test Runs.”
- 3** You can run all the tests in a test set or select specific tests:
  - To run a test set, in the Execution Grid tab or Execution Flow tab, click the **Run Test Set** button. Alternatively, choose **Test Sets > Run Test Set**.
  - To run selected tests, in the Execution Grid tab or Execution Flow tab, select one or more tests and click the **Run** button. Alternatively, choose **Tests > Run**.

The Automatic Runner dialog box opens and displays the tests.



- 4 You can run your tests locally or remotely:
- To execute the tests locally, select the **Run All Tests Locally** check box.
  - To execute the tests remotely, clear the **Run All Tests Locally** check box. For each test, you must select a host machine. Click the **Run on Host** grid box, and click the browse button. The Select Host dialog box opens. Under **<Any Host>**, you can select a host to run the test.
- Alternatively, you can select a host group. Note that if you select a host group, Quality Center runs the test on the first available host in the group, not on every host in the group.
- 5 To instruct Quality Center to create an execution log file during the test run, select the **Enable Log** check box. For more information, see “Viewing the Execution Log” on page 436.

- 6 Click **Run** to run the selected tests. Click **Run All** to run all the tests in the Automatic Runner dialog box.

For an automated test, Quality Center opens the selected testing tool automatically and runs the test. Test execution commences only when the selected host becomes available to run tests.

For a manual test, Quality Center notifies a designated tester by email to run the test. This notification can be sent only if you have designated a tester for the test with a valid email address. To designate a tester, locate the test in the Execution Grid tab, place the mouse pointer in the **Responsible Tester** column, and click the arrow button. Select a name from the list.

The test execution progress is displayed in the Status column.

- 7 If you need to terminate test execution before it has been completed, click **Stop**.
- 8 If you selected **Enable Log** before you started the test run (see Step 5), you can view the Execution Log by choosing **Run > View Execution Log**. For more information, see “Viewing the Execution Log” on page 436.
- 9 Choose **Run > Exit** to close the Automatic Runner dialog box.
- 10 After the test run is complete, you can view a summary of test results in Quality Center. The updated status for each test run appears in the Execution Grid tab. Results for each test step appear in the Last Run Result pane. You can view more detailed results in the Test Instance Properties dialog box. For more information on test results, see Chapter 32, “Viewing Test Results.”

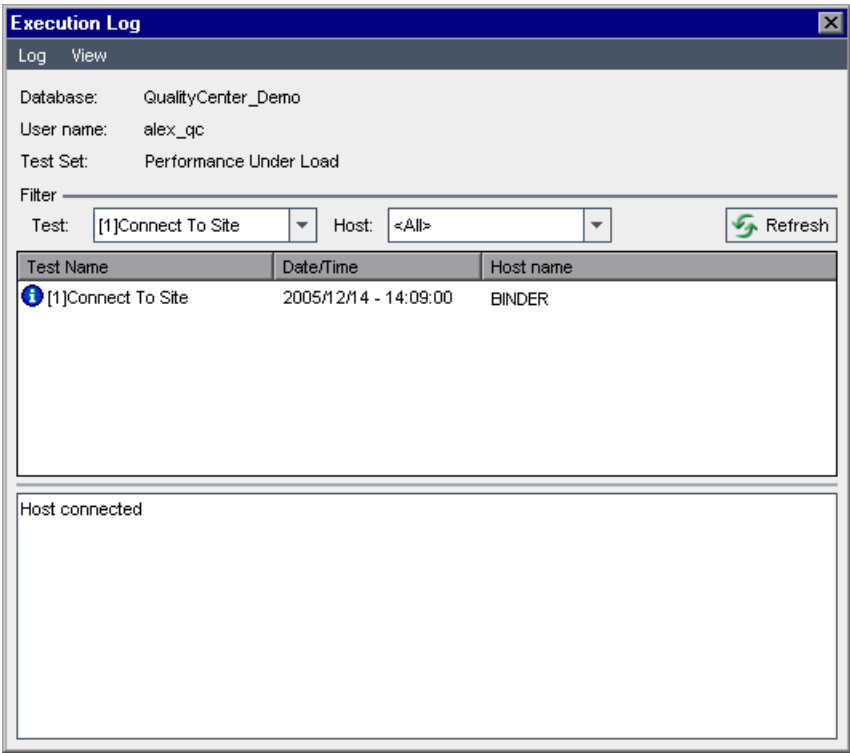
# Viewing the Execution Log

The Execution Log contains details about the executed tests, such as the project name, user name, and test set name. For each test, the log includes the date and time of the run, the host, and a description of the run.

**Note:** You can only view the Execution Log if you selected **Enable Log** in the Automatic Runner dialog box before you executed the test. For more information, see Step 5 on page 434.

**To view the Execution Log:**

- 1 After the test run is complete, choose **Run > View Execution Log** in the Automatic Runner dialog box. The Execution Log dialog box opens.



- 2 To filter the execution log:
  - In the **Test** list box, select a test and click the **Refresh** button.
  - In the **Host** list box, select a host and click the **Refresh** button.
- 3 Choose **Log > Open** to display another execution log file.
- 4 Choose **Log > Delete** to delete the execution log. Click **Yes** to confirm.
- 5 Choose **Log > Exit** to close the Execution Log.

## Setting Up Hosts for Remote Test Execution

You can run tests on any host connected to your network. Using the Host Manager dialog box, you can create a list of available hosts for test execution. You can also organize hosts into groups to be used for a specific project.

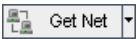
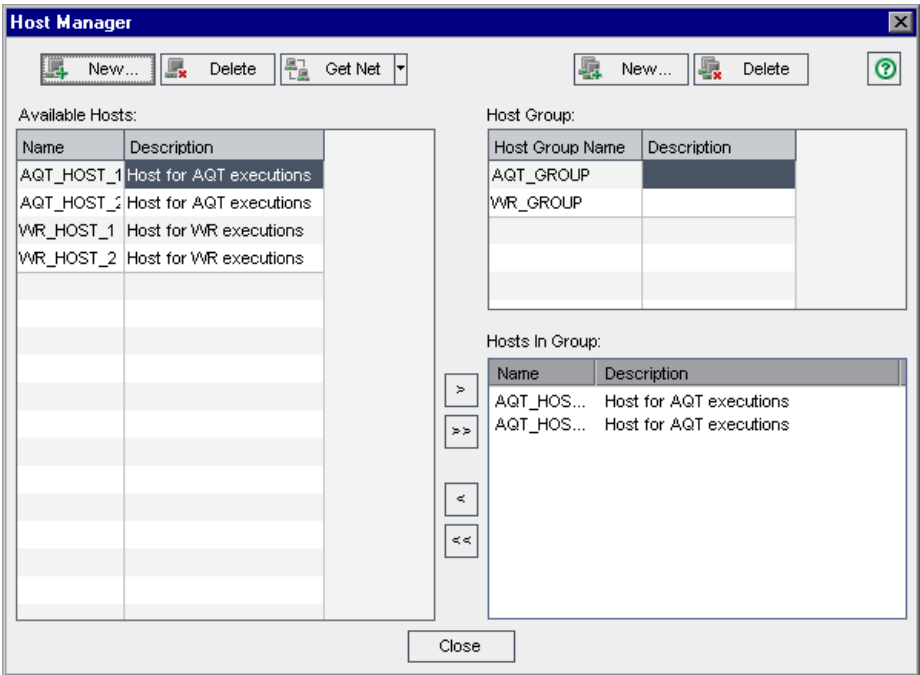
---

**Note:** If you specify a host group for remote test execution, Quality Center runs the test on the first available host, not every host in the host group.

---

To set up hosts for remote test execution:

- 1 Choose **Test Sets > Host Manager**. The Host Manager dialog box opens.



If no hosts are displayed in the **Available Hosts** list, click the **Get Hosts on the Network** button. Quality Center scans the Network Neighborhood directory and inserts each host found into the **Available Hosts** list.

To synchronize the hosts in the **Available Hosts** list with the hosts in the Network Neighborhood directory, click the **Get Hosts on the Network** arrow and choose **Synchronize Hosts in the Project with Hosts on Net**. Quality Center adds hosts found in the Network Neighborhood directory and deletes hosts that were not found in the Network Neighborhood directory.



- 2 To add a host to the **Available Hosts** list, click the **New Host** button. The New Host dialog box opens. In the **Host Name** box, type the name of the host machine. In the **Description** box, type a description of the host. Click **OK**.



- 3 To delete a host from the **Available Hosts** list, select the host and click the **Delete Host** button. Click **Yes** to confirm.



- 4 To create a host group, click the **New Host Group** button. The New Host Group dialog box opens. In the **Group Name** box, type a name for the host group. In the **Description** box, type a description of the host group. Click **OK**.



- 5 To add a host to a host group, select a group from the **Host Group** list. Select a host from the **Available Hosts** list, and click the **Add Host To Host Group** button. Alternatively, double-click a group.



- 6 To remove a host from a host group, select a group from the **Host Group** list. Select a host from the **Hosts in Group** list. Click the **Remove Host From Host Group** button.



- 7 To delete a host group, select the group from the **Host Group** list. Click the **Delete Host Group** button. Click **Yes** to confirm.
- 8 Click **Close** to close the Host Manager dialog box.

## Ordering Tests in the Execution Grid

You can change the order of the tests in the Execution Grid. Quality Center runs the tests according to the specified order, grouped by host type. For example, if you have your tests ordered as **test1**, **test2**, and **test3**, Quality Center runs **test1** and **test3** first if they are set to run on the same host, followed by **test2** on a different host.

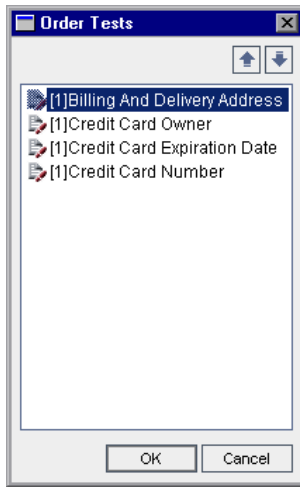
---

**Note:** When determining the order for running tests, Quality Center first checks the Execution Flow. The order you define in the Execution Grid is only used if there are no conditions set in the Execution Flow. For more information on scheduling tests in the Execution Flow, see Chapter 29, “Scheduling Test Runs.”

---

**To order tests in the Execution Grid:**

- 1** Choose **Tests > Order Tests**. The Order Tests dialog box opens.



- 2** Select a test from the list, and click the up or down arrow to change the position of the test in the sequence.

---

**Tip:** You can also drag the tests up or down.

---

- 3** Click **OK**.

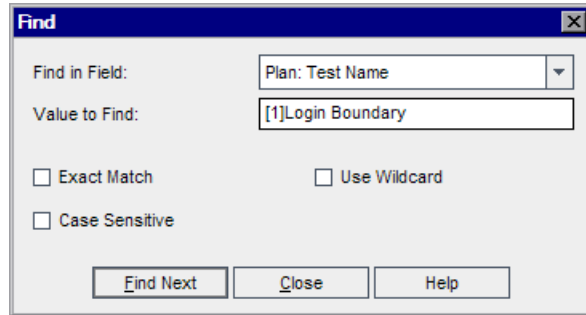


## Finding and Replacing Values in the Execution Grid

You can search and replace field values in the Execution Grid.

To find a value:

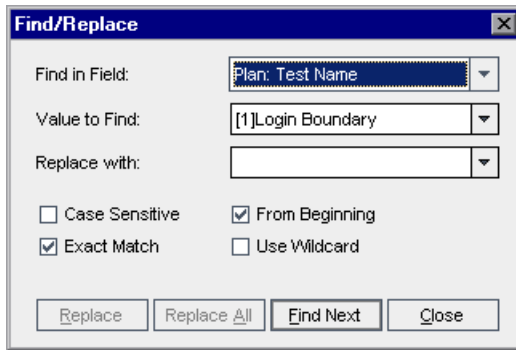
- 1 Choose **Tests > Find**. The Find dialog box opens.



- 2 In the **Find in Field** box, select the column in which you want to search for a specific value.
- 3 In the **Value to Find** box, type or select the value to find.
- 4 You can select **Exact Match** to search for an exact value.
- 5 You can select **Case Sensitive** to distinguish between uppercase and lowercase characters.
- 6 You can select **Use Wildcard** to use asterisk (\*) characters in your search string in order to type only part of the item.
- 7 Click **Find Next**. Quality Center attempts to locate any tests with the specified value. If the search is successful, the test is highlighted in the Execution Grid. If the search is unsuccessful, an information box opens.

**To replace a value:**

- 1 Choose **Tests > Replace**. The Find/Replace dialog box opens.



- 2 In the **Find in Field** box, select the column in which you want to search for a specific value.
- 3 In the **Value to Find** box, type or select the value to find.
- 4 In the **Replace with** box, type or select a replacement field value.
- 5 You can select **Case Sensitive** to distinguish between uppercase and lowercase characters.
- 6 You can select **Exact Match** to search for an exact value.
- 7 You can select **From Beginning** to start the search from the top of the Execution Grid.
- 8 You can select **Use Wildcard** to use asterisk (\*) characters in your search string in order to type only part of the item.
- 9 To replace:
  - Click **Replace** to replace the found item and find the next occurrence.
  - Click **Replace All** to replace all occurrences in the Execution Grid.

# 32

---

## Viewing Test Results

After running test instances, you analyze the test results to determine which test instances failed, and which steps caused the failure.

**This chapter includes:**

- About Viewing Test Results on page 444
- Viewing Test Results on page 445
- Viewing Details of a Test Run on page 447
- Comparing Results of All Runs on page 449
- Viewing Configuration of a Test Run on page 452
- Viewing Linked Defects on page 457
- Viewing Test Run History on page 458

## About Viewing Test Results

After running test instances, you can view the results in Quality Center. Test results consist of the overall pass/fail status of a test instance and the pass/fail status of each step in a test instance. These results help you determine whether a defect was detected in your application. In some cases, you may decide that a step failed because the expected results are no longer valid and need to be updated.

Following the execution of manual and automated tests, you can view results and general test information in the Execution Grid. Use the Test Instance Properties dialog box to view test run details, compare the results of the most recent test run with previous runs, manage attachments, view test run configuration information, view linked defects, and view a history of test run changes.

---

**Note:** For information on viewing system test results, see Chapter 23, “Working with System Tests.”

---

In addition, you can analyze the progress of a test set by periodically generating execution reports and graphs. For further information, see Chapter 42, “Generating Standard Reports,” Chapter 41, “Generating Graphs,” and Chapter 44, “Generating Live Analysis Graphs.”

## Viewing Test Results

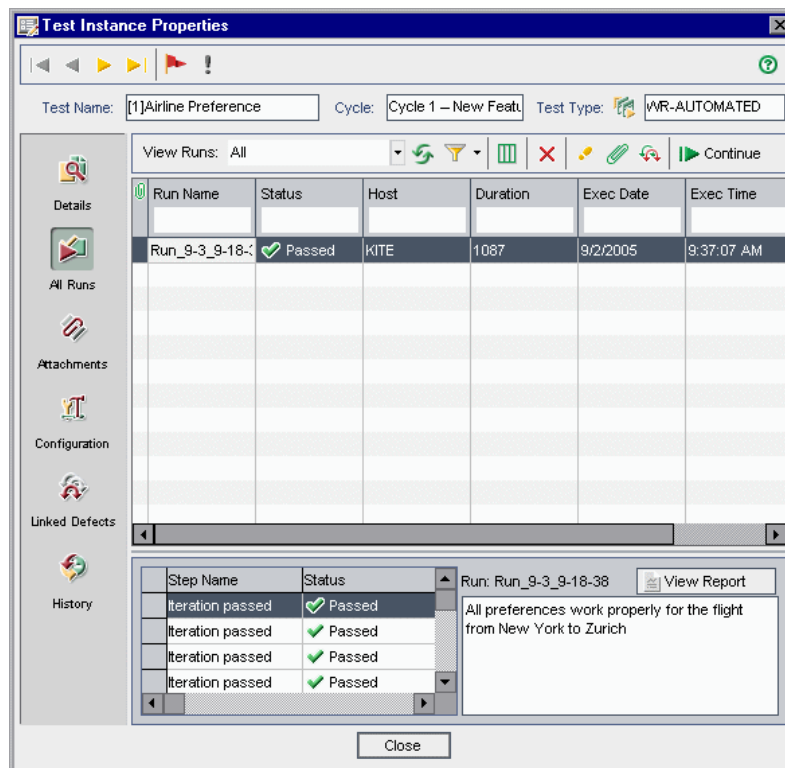
You can view the test results from the Test Instance Properties dialog box.

To view the test results:



- 1 In the Execution Grid, double-click a test, or select a test instance and click the **Test Instance Properties** button. The Test Instance Properties dialog box opens. By default, the All Runs view is displayed.

In the Execution Flow, right-click a test instance and choose **Test Instance Properties**. The Test Instance Properties dialog box opens. By default, the Details view is displayed.



- 2 Click a view on the sidebar. The Test Instance Properties dialog box contains the following views:

View	Description
Details	Displays run details of a test instance. For more information, see “Viewing Details of a Test Run” on page 447.
All Runs	Display the results of all test runs. For more information, see “Comparing Results of All Runs” on page 449.
Attachments	Displays any attachments to a test instance. Also includes any attachments that were added to the test during test planning. For more information, see Chapter 5, “Adding Attachments.”
Configuration	Displays run configuration information for a test instance. For more information, see “Viewing Configuration of a Test Run” on page 452.
Linked Defects	<p>Displays linked defects and requirements coverage for a test instance. For more information, see “Viewing Linked Defects” on page 457.</p> <p><b>Note:</b> If coverage between test instances and requirements is enabled with the <b>ALLOW_REQ_COVERAGE_BY_TEST_INSTANCE</b> parameter, the Linkage and Coverage view is available instead of the Linked Defects view. The Linkage and Coverage view displays linked defects and requirements coverage for a test instance. For more information on this parameter, see the <i>HP Quality Center Administrator Guide</i>. For more information on requirements coverage, see “Linking Requirements to a Test” on page 290.</p>
History	Displays the history of changes to the test instance. For more information, see “Viewing Test Run History” on page 458.



- 3 You can click the **First Test** button to display the first test instance, or the **Previous Test** button to display the preceding test instance in the current Execution Grid.



- 4 You can click the **Next Test** button to display the next test instance, or the **Last Test** button to display the final test instance in the current Execution Grid.



- 5 You can click the **Flag for Follow Up** button to add or modify a follow up flag for the test instance. For more information, see Chapter 4, “Alerting on Changes.”



- 6 If the test instance has an alert, you can click the **Alerts** button to open the Alerts dialog box. For more information, see “Viewing Alerts” on page 80.

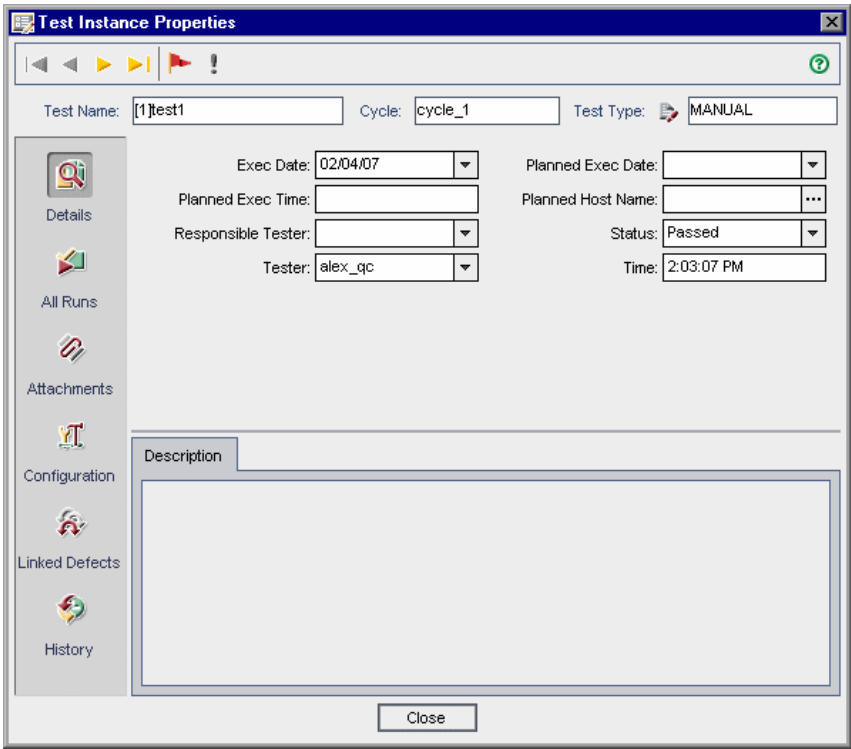
## Viewing Details of a Test Run

You can view run details of a test instance in the **Details** view.

**To view details of a test run:**

- 1 Open the Test Instance Properties dialog box. For more information, see “Viewing Test Results” on page 445.

2 In the Test Instance Properties dialog box, click **Details** on the sidebar.



3 In the **Details** view, you can verify the following test information:

Option	Description
Description	The description of the test.
Exec Date	The date on which the test was last executed.
Planned Exec Time	The time at which the test was planned to be executed.
Responsible Tester	The user name of the user who last executed the test.
Planned Exec Date	The date on which the test was planned to be executed.



Option	Description
<b>Planned Host Name</b>	The name or IP address of the machine on which the test was planned to run.
<b>Status</b>	<p>The current status of the test. A test status can be one of the following:</p> <p><b>Failed.</b> The test run failed.</p> <p><b>N/A.</b> The current status of the test is not applicable.</p> <p><b>No Run.</b> The test has not been run.</p> <p><b>Not Completed.</b> The test run was not completed.</p> <p><b>Passed.</b> The test run was successful.</p>
<b>Tester</b>	The user name of the user that is actually executing the test.
<b>Time</b>	The time at which the test was last executed.

If you edit the test information, the changes you make are reflected in the Execution Grid.

---

**Note:** You can change the label of any of the fields in the Details tab. You can also add user-defined fields to the Details view. For more information, refer to the *HP Quality Center Administrator Guide*.

---

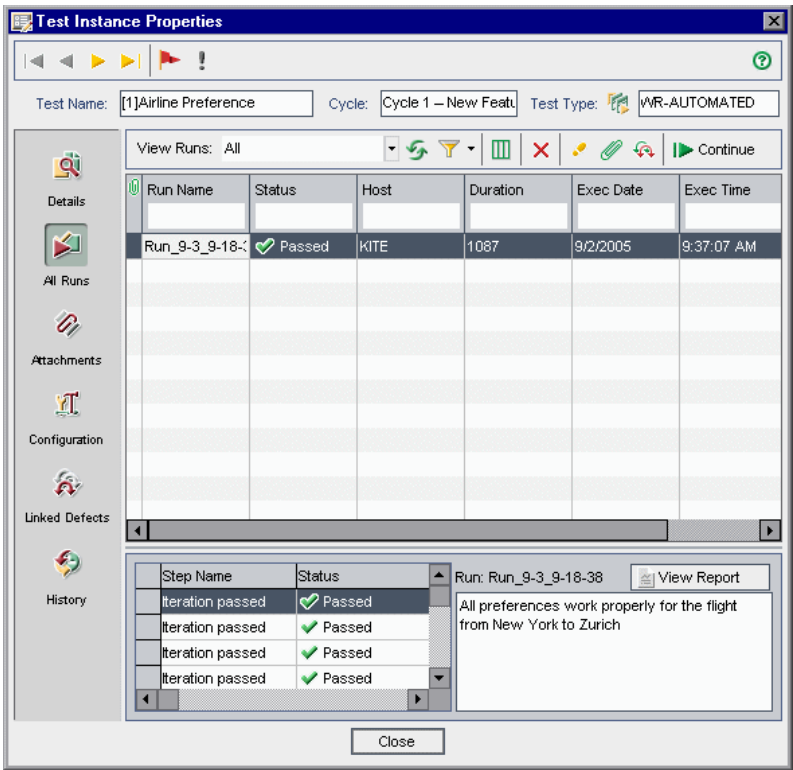
## Comparing Results of All Runs

Quality Center enables you to compare the results of a test run with the results of previous runs. Using the **All Runs** view, you can view run details and step results for all the runs of a selected test instance.

**To view results of all runs for a test:**

- 1 Open the Test Instance Properties dialog box. For more information, see “Viewing Test Results” on page 445.

2 In the Test Instance Properties dialog box, click **All Runs** on the sidebar.



3 To view run records with a certain status, choose a status from the **View Runs** list.



4 To filter, sort, or group the run records, click the **Set Filter/Sort** button. For more information on filtering, sorting, and grouping records, see Chapter 3, “Working with Quality Center Data.” If you set a filter, the description is displayed above the grid.



5 To clear any filters or sorting that you have applied to the run records, click the **Set Filter/Sort** arrow and choose **Clear Filter/Sort**.



6 To refresh the grid so that it displays the most up-to-date runs based on the filters you have selected, click the **Refresh** button.



**7** To set column appearance and order in the grid, click the **Select Columns** button. For more information on the Select Columns dialog box, see “Arranging Columns” on page 52.



**8** To remove a run from the grid, select a run and click **Delete Selected**. Click **Yes** to confirm.



**9** To view the test steps of a run, select a run and click **Show Run Steps**. The Run Steps dialog box opens and displays details of the test steps, their description, expected results, and actual results. For more information on test steps, see Chapter 20, “Building Tests.”





**10** To add an attachment to a test run, select a run and click the **Attachments** button. The Attachments dialog box opens. For more information on attachments, see Chapter 5, “Adding Attachments.”

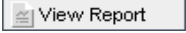


**11** To add defect links to a run, select a run and click **Linked Defects**. The Linked Defects dialog box opens. For more information on linked defects, see Chapter 36, “Linking Defects.”

**12** To continue running a previous run, select a run and click **Continue**.

**13** For automated test instances, you can click one of the following buttons or links:

Button/Link	Test Type	Description
 LR Analysis	LR-SCENARIO	Opens and displays the results in LoadRunner Analysis.
 Launch Report	QUICKTEST_TEST	Opens and displays the report in QuickTest Professional.  Note that the Launch Report button is only enabled if you have installed the QuickTest Professional Add-in from the HP Quality Center Add-ins page. For more information on installing add-ins, refer to the <i>HP Quality Center Installation Guide</i> .

Button/Link	Test Type	Description
<b>Collected System Info</b>  <b>Captured Desktop Image</b>	SYSTEM-TEST	<p>The <b>Collected System Info</b> link opens the System Information dialog box.</p> <p>The <b>Captured Desktop Image</b> link opens the captured image.</p> <p>For more information on viewing system tests, see “Viewing System Test Results” on page 336.</p>
	WR-AUTOMATED or WR-BATCH	Opens and displays the report in WinRunner.

## Viewing Configuration of a Test Run

You can view or set the test parameter values for a manual test instance or an automated test instance in the **Configuration** view. You can also view and edit the On Failure rules for an automated test instance.

This section includes:

- Setting Parameter Values for Manual Test Instances
- Setting Automated Test Parameters
- Viewing Test Run Events

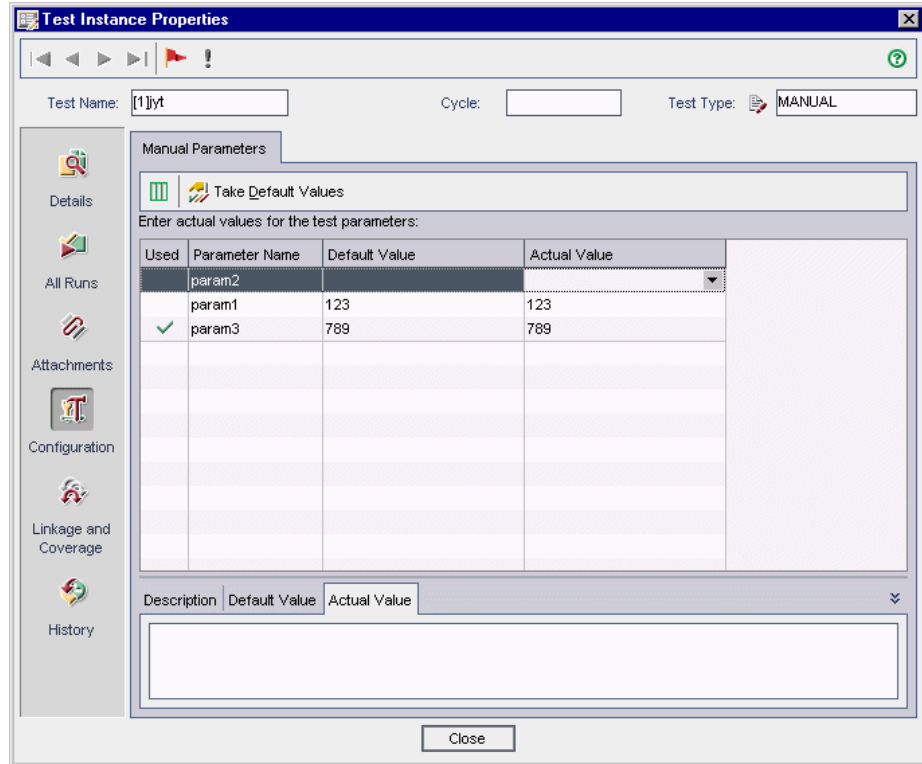
### Setting Parameter Values for Manual Test Instances

You can set actual parameter values for manual test instances. Actual values that you assign for parameters in the test instance are used for all test runs of the test instance.

**To set parameter values for a manual test instance:**

- 1 Open the Test Instance Properties dialog box. For more information, see “Viewing Test Results” on page 445.

- 2 In the Test Instance Properties dialog box, click **Configuration** on the sidebar. The Manual Parameters tab opens. The tab shows all the test parameters that are used in the test steps, including parameters of called tests that have not already been assigned actual values.



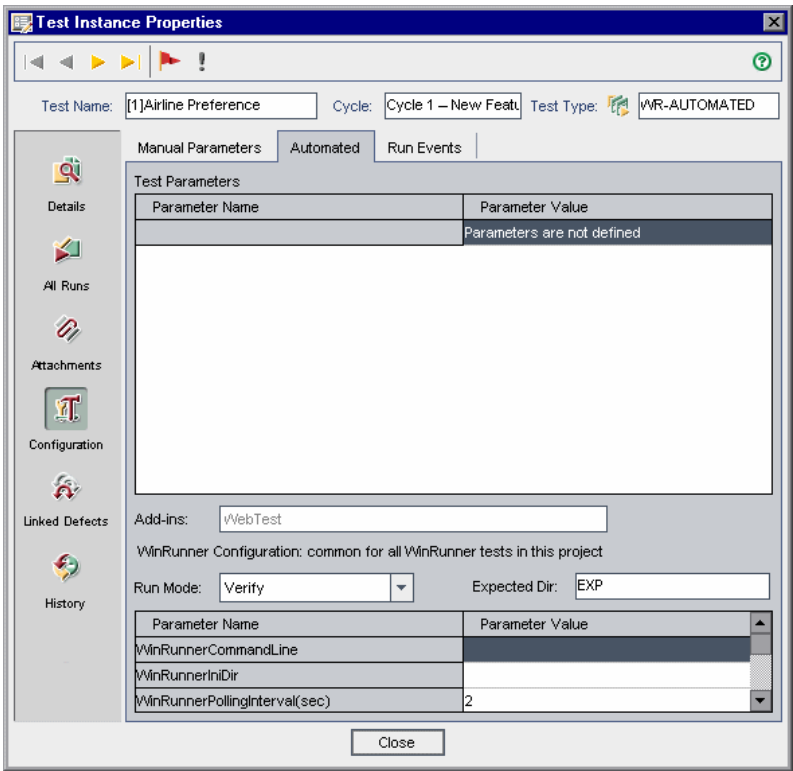
- 3 In the **Actual Value** column, type the value that will be used for the parameter during the test run. After you start typing, a text box opens. Click **OK** to save the value.
- 4 To use a parameter's default value as its actual value, select a parameter, and click the **Take Default Values** button. The current Actual Value is replaced by the Default Value.

## Setting Automated Test Parameters

You can set parameter values and other configuration options for an automated test instance from the **Configuration** view.

**To set automated test parameters and other configuration options:**

- 1 Open the Test Instance Properties dialog box. For more information, see “Viewing Test Results” on page 445.
- 2 In the Test Instance Properties dialog box, click **Configuration** on the sidebar and click the **Automated** tab.



- 3 In the **Parameter Value** column, you can view and edit the value of each parameter. Note that if you change a parameter value, the change is implemented in the next test run.

---

**Note:** When defining the **WinRunnerCommandLine** parameter, you must specify the path within quotes. For example:

-ini "C:\program files\wrun.ini"

---

- 4 You may be able to set additional configuration options, depending on the type of automated test you are running. For more information, refer to the user guide for your automated test.

## Viewing Test Run Events

You can view and edit the On Failure rules for an automated test instance using the **Run Events** view. These rules instruct Quality Center in the event that the test instance fails. This includes the number of times the test instance should be rerun and the cleanup test that should be run before the test instance is rerun.

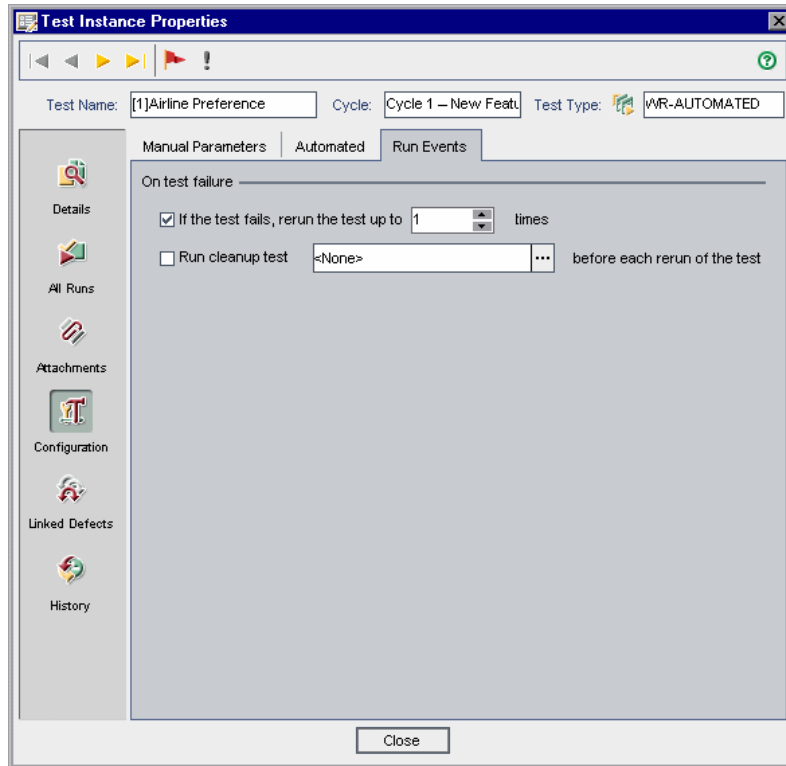
---

### Notes:

- If you change the failure rules in the **Run Events** view, your changes are implemented in the next test run.
  - You can also set On Failure rules for a test by choosing **Test Sets > Automation > On Failure** and clicking the **Settings per Test** button. For more information, see “Setting Test Set On Failure Rules” on page 392.
-

**To view test run events:**

- 1 Open the Test Instance Properties dialog box. For more information, see “Viewing Test Results” on page 445.
- 2 In the Test Instance Properties dialog box, click **Configuration** on the sidebar, and click the **Run Events** tab.



- 3 To set the test On Failure rule, select the first check box and specify the number of times the test instance should be rerun.
- 4 To include a cleanup test, select the **Run cleanup test** check box and click the browse button. In the Select Clean Up Test dialog box, select the test from the test plan tree and click the **Add Test** icon.



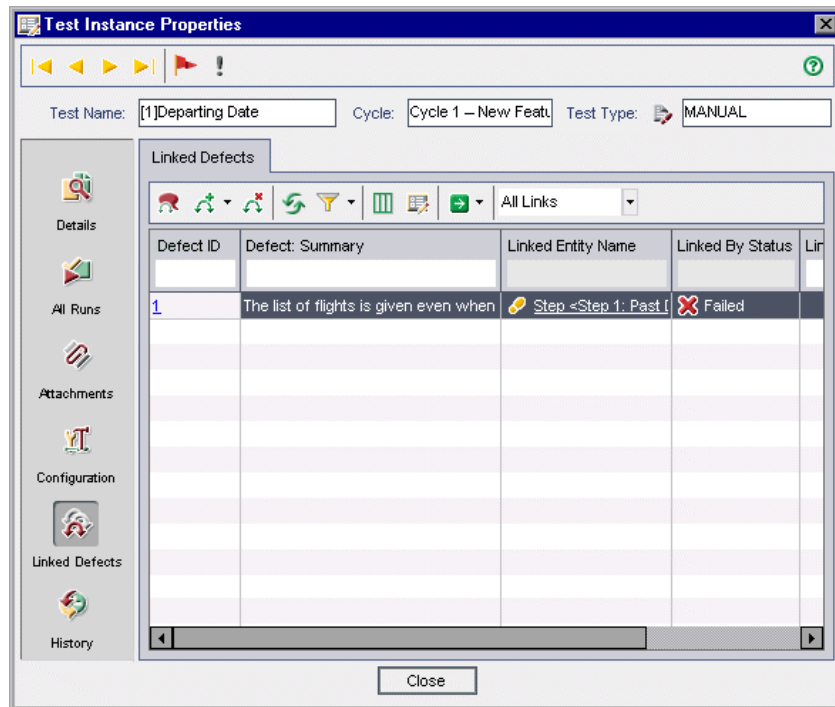


## Viewing Linked Defects

You can view and manage defect links made to other Quality Center entities.

**To view linked defects:**

- 1 Open the Test Instance Properties dialog box. For more information, see “Viewing Test Results” on page 445.
- 2 In the Test Instance Properties dialog box, click **Linked Defects** on the sidebar.



---

**Note:** If coverage between test instances and requirements is enabled with the **ALLOW\_REQ\_COVERAGE\_BY\_TEST\_INSTANCE** parameter, click **Linkage and Coverage** on the sidebar. For more information on this parameter, see the *HP Quality Center Administrator Guide*.

---

- 3 In the **Linked Defects** tab, you can view, add, and remove defect links. For more information, see Chapter 36, “Linking Defects.”

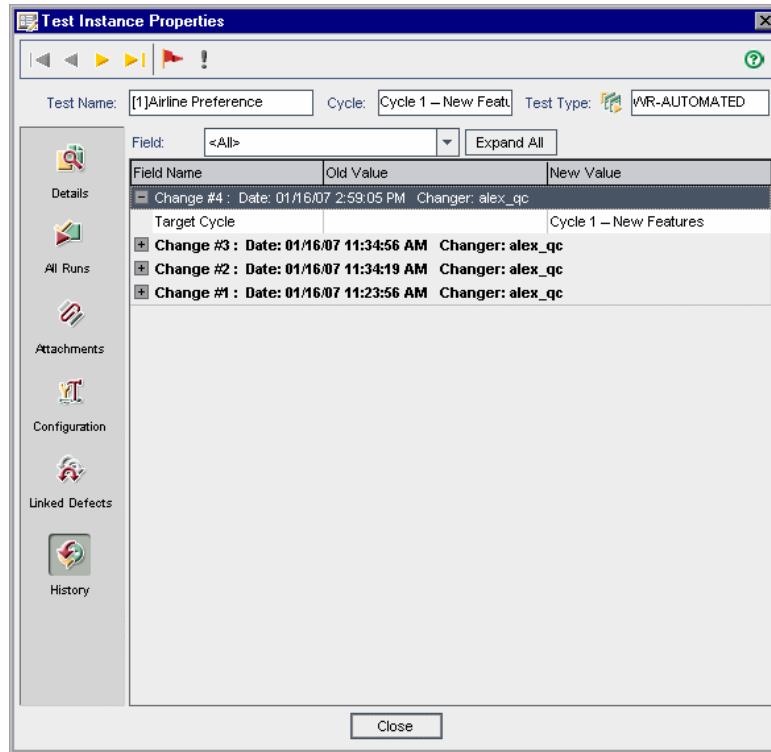
## Viewing Test Run History

You can view a list of changes made to the test instance in the **History** view.

**To view the history of changes to a test run:**

- 1 Open the Test Instance Properties dialog box. For more information, see “Viewing Test Results” on page 445.

- 2 In the Test Instance Properties dialog box, click **History** on the sidebar.



For each change to the test instance, the grid displays the date and time of the change and the name of the user who made the change.

- 3 Expand a change to view a list of fields modified during the change. For each field, the grid displays the old value and the new value. To expand all changes, click the **Expand All** button.
- 4 You can specify which changes are displayed in the grid. In the **Field** list, select a field name to view only changes made to that field. Select **<All>** to view changes made to all fields.

For information on preserving the history of changes made to a field, refer to the *HP Quality Center Administrator Guide*.



# Part VI

---

## Defect Tracking



# 33

---

## The Defect Tracking Workflow

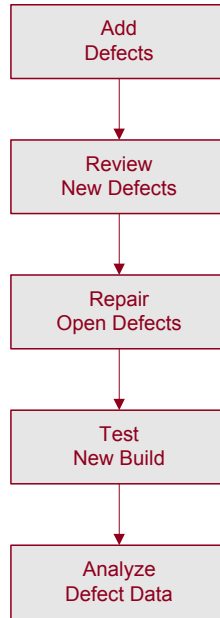
Locating and repairing application defects efficiently is essential to the development process. Defects can be detected and added to your Quality Center project by users during all stages of the application management process. Using the Quality Center Defects module, you can report design flaws in your application, and track data derived from defect records.

---

**Quality Center Starter Edition:** Fields related to release management are not available in the Defects module if you are working with the Starter Edition.

---

This chapter describes how you track defects. The defects tracking workflow consists of the following:



## Adding Defects

When you discover a defect in your application, you submit a defect to the Quality Center project. The project stores defect information that can be accessed by authorized users, such as members of the development, quality assurance, and support teams. You can associate this new defect with the cycle and release in which it was detected.

Suppose you are testing the Mercury Tours application. You just ran the **Cycle 1** test set under the **Release 10.5** test set folder and one of the test runs revealed a defect when entering expiration dates for credit card numbers. When the defect is initially submitted to the project, the **Detected in Release** field is assigned to the **Release 10.5** release, and the **Detected in Cycle** field is assigned to the **Cycle 1 - New Features** cycle. For more information on releases and cycles, see Chapter 8, “The Release Management Workflow.”



You can link this new defect with the test you ran, for future reference. You can also link defects to other Quality Center entities, such as requirements, tests and other defects. For more information, see Chapter 36, “Linking Defects.”

You can also view, update, and analyze defects in the project. For more information, see Chapter 35, “Adding and Tracking Defects”.

## Reviewing New Defects

Review all new defects in the project and decide which ones to fix. This task is usually performed by the project manager. Change the status of a new defect to **Open**, and assign it to a member of the development team.

In the **Target Release** field, assign the open defect to the release that is targeted to be fixed. In the **Target Cycle** field, assign the defect to the cycle that is targeted to be closed. For example, suppose the defect detected when entering expiration dates for credit card numbers is planned to be fixed in the next cycle. Assign the **Target Release** field to **Release 10.5**, and the **Target Cycle** field to **Cycle 2 - New Features + Regression**.

While reviewing new defects, if duplicate defects appear in the project, change their status to either **Closed** or **Rejected**, or delete them from the project.

## Repairing Open Defects

Fix the **Open** defects. This involves identifying the cause of the defects, and modifying and rebuilding the application. These tasks are performed by application developers. When a defect is repaired, assign it the status **Fixed**. For example, suppose the defect detected when entering expiration dates for credit card numbers was repaired in a new application build. You would update the defect status from **Open** to **Fixed**.

## Testing a New Application Build

Run tests on the new build of the application. If a defect does not recur, assign it the status **Closed**. If a defect is detected again, assign it the status **Reopen**, and return to the previous stage (see “Repairing Open Defects” on page 466). This task is usually performed by the quality assurance manager or project manager. For information on running tests, see Chapter 30, “Running Tests Manually” and Chapter 31, “Running Tests Automatically.”

## Analyzing Defect Data

View data from defect reports to see how many defects were resolved, and how many still remain open. As you work, you can save settings that are helpful in the defect-tracking process, and reload them as needed. For more information, see Chapter 6, “Working with Favorite Views.”

Reports and graphs enable you to analyze the progress of defect repairs, and view how long defects have been residing in a project. This helps you determine when the application can be released. For more information, see Chapter 40, “The Dashboard Module.”

# 34

---

## The Defects Module at a Glance

This chapter introduces the key elements in the Defects module.

**This chapter includes:**

- The Defects Module on page 468
- The Defects Menu Bar on page 471
- The Defects Toolbar on page 472
- The Defects Grid on page 474

## The Defects Module



You track defects in the Quality Center Defects module, which you open by clicking the **Defects** button on the sidebar.

Defects	View	Favorites	Analysis
New Defect...			Favorite : <None>

Defect ID	Priority	Status	Summary	Assigned To	Detected By	Detected	Subject
1	3-High	Open	The list of flights is given even when past date set as Dep	james_gc	alice_gc	9/1/2005	Flight Finder
2	5-Urgent	Reopen	The list of available flights is not given, when Departing an	james_gc	alice_gc	9/1/2005	Flight Finder
3	3-High	Open	The list of flights is given when Departing date after Retur	james_gc	alice_gc	9/1/2005	Flight Finder
4	5-Urgent	Closed	Nothing happened when pressing View Calendar link	james_gc	alice_gc	9/1/2005	Flight Finder
5	2-Medium	Open	The list of flights is appear when illegal date is set as Dep	james_gc	alice_gc	9/1/2005	Flight Finder
6	2-Medium	Open	If error on submitting the registration form occurs all fields	marty_gc	cecil_gc	9/1/2005	Registration
7	3-High	Open	Incorrect time format used in Mercury Tours site	peter_gc	alice_gc	9/1/2005	Flight Reserv
8		Rejected	User profile is registered when Contact and Mailing inform		cecil_gc	9/1/2005	Registration
9	3-High	Reopen	Email fields in Edit Profile form is empty, even if value was	marty_gc	michael_gc	9/1/2005	Edit Profile
10	2-Medium	Open	User profile is registered when Contact and Mailing inform	marty_gc	cecil_gc	9/1/2005	Registration
11	3-High	Open	User Profile registered with illegal email field value	marty_gc	cecil_gc	9/2/2005	Registration





  

Description	Attachments	History
<p>* Summary:</p> <p>The list of flights is given even when past date set as Departing date</p>		
<p>Description:</p> <p>Test Set: Mercury Tours Functionality</p> <p>Test: [1]Departing Date</p> <p>Run: Run_9-2_10-26-57</p> <p>Step: Step 1: Past Departing Date</p>		<p>Comments:</p> <p>Add Comment</p>


The Defects module contains the following key elements:

- **Defects menu bar.** Displays drop-down menus of Defects module commands. For more information, see “The Defects Menu Bar” on page 471.
- **Defects toolbar.** Contains buttons for commands commonly used when adding, managing, and tracking defects. For more information, see “The Defects Toolbar” on page 472.

- **Indicator Columns.** Indicates that the specified defect has attachments, linked entities, alerts, and follow up flags. Choose **View > Indicator Columns** to display these columns.

Column	Description
<b>Attachments</b>	Click the  icon to view attachments for the defect. For more information, see Chapter 5, “Adding Attachments.”
<b>Linked Entities</b>	Click the  icon to view linked entities for the defect. For more information, see Chapter 36, “Linking Defects.”
<b>Alerts</b>	Click the  icon to view alerts for the defect. For more information, see “Viewing Alerts” on page 80.
<b>Follow Up Flags</b>	Click the  icon to view follow up alerts for the defect. For more information, see “Flagging for Follow Up” on page 82.

- **Grid Filters.** Displays the filter that is currently applied to a column. Choose **View > Grid Filters** to display the grid filter boxes.
- **Defects Grid.** Displays defect data in a grid. For more information, see “The Defects Grid” on page 474.

- **Information Panel.** Displays the following tabs: Description, Attachments, and History. Choose **View > Information Panel > Show** or click the **Show** arrow  to display these tabs.

Tab	Description
<b>Description</b>	<p>Displays the description for the currently selected defect. You can also display the following options:</p> <ul style="list-style-type: none"><li>➤ <b>Summary.</b> Choose <b>View &gt; Information Panel &gt; Summary</b> to display a defect's summary.</li><li>➤ <b>Comments.</b> Choose <b>View &gt; Information Panel &gt; Comments</b> to view and add comments for a defect.</li></ul> <p>For more information, see “Updating Defects” on page 485.</p>
<b>Attachments</b>	<p>Displays the attachments for the selected defect. For more information, see Chapter 5, “Adding Attachments.”</p>
<b>History</b>	<p>Displays a defect's history. For more information, see “Viewing Defect History” on page 489.</p>

---

**Tip:** To find a specific defect by **Defect ID** in the Defects Grid, choose **Defects > Go To Defect**.

---

## The Defects Menu Bar

The Defects menu bar has the following menus:

- The **Defects** menu contains commands that enable you to add, go to, mail, print, and export defects, as well as view defect details.
- The **Edit** menu contains commands that enable you to copy, paste, or delete defects, find and replace field values, search defects, update selected defects, and find similar defects or text. You can also view and clear alerts for defects and flag defects for follow-ups. For more information on alerts and follow-ups, see Chapter 4, “Alerting on Changes.”
- The **View** menu contains commands that enable you to set the display in the Defects Grid.
- The **Favorites** menu contains commands that enable you to view a selected item in the Favorites list, add a Defects Grid view to your Favorites list, and organize the Favorites list. For more information on favorite views, see Chapter 6, “Working with Favorite Views.”
- The **Analysis** menu contains commands that enable you to generate defect reports and graphs. For more information on defect reports, see Chapter 42, “Generating Standard Reports.” For more information on defect graphs, see Chapter 41, “Generating Graphs.”

---

**Tip:** You can access the Defects menu bar from the Defects module by pressing the shortcut key F9. Additionally, you can perform many other Quality Center operations using shortcut keys. For a list of shortcut keys, see Appendix B, “Quality Center Keyboard Shortcuts.”

---

## The Defects Toolbar

The Defects toolbar has the following buttons:

**New Defect.** Opens the New Defect dialog box, enabling you to add a new defect to the Defects Grid. For more information, see “Adding New Defects” on page 479.



**Delete.** Deletes the selected defects from the Defects Grid. For more information, see “Deleting Defects” on page 495.



**Refresh All.** Refreshes the Defects Grid so that it displays the most up-to-date defects based on the filters you have selected.



**Set Filter/Sort.** Includes the following options:

- **Set Filter/Sort.** Opens the Filter dialog box, enabling you to filter, sort, and group the defects in the Defects Grid.
- **Clear Filter/Sort.** Clears any filters, sorting, or grouping that you have applied to the Defects Grid.

For more information on filtering and sorting defects, see Chapter 3, “Working with Quality Center Data.”



**Select Columns.** Opens the Select Columns dialog box, enabling you to define which columns appear in the Defects Grid, and the order in which they appear. For more information, see “Arranging Columns” on page 52.



**Defect Details.** Opens the Defect Details dialog box to display the details of the selected defect. For more information, see “Updating Defects” on page 485.



**Attachments.** Opens the Defect Details dialog box, enabling you to add an attachment to a defect. For more information, see Chapter 5, “Adding Attachments.”



**Flag for Follow Up.** Opens the Flag For Follow Up dialog box, enabling you to add or modify a follow up flag for a defect. For more information, see “Flagging for Follow Up” on page 82.





**Send by E-mail.** Opens the Send E-mail dialog box, enabling you to send defect email to recipients selected from a list, or to any other email address. For more information, see “Mailing Defects” on page 490.



**Find Similar Defects.** Includes the following options:

- **Find Similar Defects.** Conducts a search for similar defects and, if any are found, displays them in the Similar Defects dialog box.
- **Find Similar Text.** Opens the Find Similar Text dialog box, enabling you to search for similar defects by specifying a text string and, if any are found, displays them in the Similar Defects dialog box.

For more information on finding similar defects, see “Matching Defects” on page 481.



**Text Search.** Opens the text search pane in the lower part of the window, enabling you to type keywords and search predefined fields. For more information, see “Searching Records” on page 72.

**Favorite.** Click the **Favorite** arrow to display a list of favorite views. Favorite views enable you to reload a Quality Center window with the settings you apply to it. If you do not see the Favorite bar, choose **View > Favorite Bar** to display it. For more information on favorite views, see Chapter 6, “Working with Favorite Views.”

# The Defects Grid

Quality Center organizes and displays defect data in a grid. Each line in the Defects Grid displays a separate defect record. The Defects Grid can display the following columns:

Column	Description
Actual Fix Time	Indicates the actual number of days needed to fix the defect. If this field is left blank, Quality Center automatically calculates the Actual Fix Time as Closing Date - Detected on Date.
Assigned To	The user name of the person who is assigned to fix the defect. Click the down arrow to display a list displaying the name and full name of each user.
Closed in Version	Indicates the application version in which the defect was closed. Click the down arrow to display a list of versions.
Closing Date	Indicates the date on which the defect was closed. Click the down arrow to display a calendar and select a closing date.
Comments	Displays comments about the defect.
Defect ID	A unique numeric ID for the defect, assigned automatically by Quality Center. The Defect ID is read-only.
Description	Describes the defect in detail.
Detected By	The user name of the person who found the defect. By default, Quality Center inserts the login user name into this field.
Detected in Cycle	Indicates the cycle in which the defect was detected. Click the down arrow to select a different cycle.  Note that when assigning a defect to a cycle in the <b>Detected in Cycle</b> field, Quality Center automatically assigns its release to the <b>Detected in Release</b> field.
Detected in Release	Indicates the release in which the defect was detected. Click the down arrow to select a different release.

Column	Description
<b>Detected in Version</b>	Indicates the application version in which the defect was detected. Click the down arrow to display a list of versions.
<b>Detected on Date</b>	The date on which the defect was detected. By default, the current database server date is displayed. Click the down arrow to select a different detection date.
<b>Estimated Fix Time</b>	Indicates the estimated number of days required for fixing the defect.
<b>Modified</b>	Indicates the date and time when this defect was last changed.
<b>Planned Closing Version</b>	Indicates in which version the defect is planned to be fixed. Click the down arrow to display a list of versions.
<b>Priority</b>	The priority of the defect, ranging from low priority (level 1) to urgent priority (level 5).
<b>Project</b>	The name of the project where the defect occurs. Click the down arrow to display a list of projects.
<b>Reproducible</b>	Indicates whether the defect can be recreated under the same conditions by which it was detected. Click the down arrows to choose Y or N.
<b>Severity</b>	The severity of the defect, ranging from low (level 1) to urgent (level 5).
<b>Status</b>	The current status of the defect. By default, the status is New. Defect status can be one of the following: <b>Closed, Fixed, New, Open, Rejected, Reopen.</b>
<b>Subject</b>	Indicates the subject folder. Click the down arrow to display a list of subjects.
<b>Summary</b>	A brief summary of the defect.

Column	Description
<b>Target Cycle</b>	Indicates in which cycle the defect is targeted to be fixed. Click the down arrow to select a different cycle.  Note that when assigning a defect to a cycle in the <b>Target Cycle</b> field, Quality Center automatically assigns its release to the <b>Target Release</b> field.
<b>Target Release</b>	Indicates in which release the defect is targeted to be closed. Click the down arrow to select a different release.

---

**Notes:**

- You can add user-defined fields and change the label of any of the fields in the Defects Grid. You can also customize project lists. For more information, refer to the *HP Quality Center Administrator Guide*.
  - You can use the Script Editor to restrict and dynamically change the fields and values in the Defects Grid. For more information, refer to the *HP Quality Center Administrator Guide*.
  - When you select a defects column with a user name value, Quality Center displays a list with the name and full name of each user. You can search for users, sort users, group users by user group, and select users from the users list or a group tree. For more information, see “Selecting Users” on page 55.
  - **Quality Center Starter Edition:** Fields related to release management are not available in the Defects module if you are working with the Starter Edition.
-

# 35

---

## Adding and Tracking Defects

You use the Defects module to add application defects directly to a Quality Center project. You can then track defects until the application developers and application testers determine that they are resolved.

**This chapter includes:**

- About Adding and Tracking Defects on page 478
- Adding New Defects on page 479
- Matching Defects on page 481
- Updating Defects on page 485
- Finding and Replacing Values on page 487
- Updating Multiple Records on page 489
- Viewing Defect History on page 489
- Mailing Defects on page 490
- Copying Defects on page 493
- Copying URLs of Defects on page 494
- Printing Defects on page 494
- Deleting Defects on page 495

## About Adding and Tracking Defects

Defect records inform members of the application development and quality assurance teams of new defects discovered by other members. By sharing defect information, both the application development and defect repair processes are faster, more efficient, and more comprehensive. As you monitor the progress of defect repair, you update the information in your Quality Center project.

Suppose you detect a defect in the Mercury Tours application. When you initially report the defect in Quality Center, by default it is assigned the status **New**. A quality assurance manager or project manager reviews the defect, determines a repair priority, changes its status to **Open**, and assigns it to a member of the development team. A developer repairs the defect and assigns it the status **Fixed**. You retest the application, making sure that the defect does not recur. The quality assurance manager or project manager determines that the defect is actually repaired and assigns it the status **Closed**.

---

### Notes:

- You can link defects to other Quality Center entities, such as requirements, tests and other defects. For more information, see Chapter 36, “Linking Defects.”
  - You can use the Workflow Script Editor to restrict and dynamically change the fields and values in the Defects module. You can also customize the fields for a specific user group. For more information, refer to the *HP Quality Center Administrator Guide*.
  - **Quality Center Premier Edition:** You can share defects across multiple Quality Center projects. You share and synchronize defects using the *HP Quality Center Synchronizer*. For more information, see the *HP Quality Center Synchronizer User Guide*, available from the Quality Center Add-ins Page.
-

# Adding New Defects

You can add a new defect to a Quality Center project from any module at any stage of the application management process.

**Note:** In addition to adding defects directly in Quality Center, you can also import defect data from Microsoft Excel to your Quality Center project. To import from Excel, you must install the **Microsoft Excel Add-in** and the **HP Quality Center Connectivity Add-in**. You can install these add-ins from the HP Quality Center Add-ins page. For more information, refer to the *HP Quality Center Installation Guide*.

## To add a new defect:

- 1 To add a new defect from any module, click the **Tools** button on the upper-left corner. Select **New Defect**.  
  
To add a new defect from the Defects module, click the **New Defect** button. The New Defect dialog box opens.

**New Defect**

Clear Attach: [Icons]

\* Summary: [Text Field]

**Details**

* Category: [Dropdown]	* Subject: [Text Field] ...
* Detected By: [Text Field: alice_qc]	* Detected on Date: [Text Field: 1/9/2006]
* Project: [Text Field: Mercury Tours (HTML)]	* Detected in Version: [Dropdown]
* Severity: [Dropdown]	* Status: [Text Field: New]
* Reproducible: [Text Field: Y]	Regression: [Text Field: N]

Description: [Large Text Area]

Submit Close

**2** Enter the relevant defect details. Note that a required field is displayed in red and that Quality Center fills in some fields by default. For more information on available fields in the New Defect dialog box, see Chapter 34, “The Defects Module at a Glance.”

**3** To clear the data in the New Defect dialog box, click the **Clear** button.

**4** You can add an attachment to your defect:



➤ Click the **Attach File** button to attach a file.



➤ Click the **Attach URL** button to attach a URL.



➤ Click the **Attach Snapshot** button to capture and attach an image.



➤ Click the **Attach SysInfo** button to attach information about your machine.



➤ Click the **Attach Clipboard Content** button to attach an item from the Clipboard.

For more information about adding attachments, see Chapter 5, “Adding Attachments.”

**5** To eliminate duplicate or similar defects, you can:



➤ Click the **Find Similar Defects** button to conduct a search for similar defects based on keywords from the **Summary** and **Description** fields.

➤ Click the **Find Similar Defects** arrow and choose **Find Similar Text** to search for similar defects by specifying a text string.

For more information, see “Matching Defects” on page 481.

**6** You can check the spelling in the dialog box:



➤ Click the **Check Spelling** button to check the spelling for the selected word or text box. If there are no errors, a confirmation message opens. If errors are found, the Spelling dialog box opens and displays the word which is misspelled together with replacement suggestions.



➤ Click the **Spelling Options** button to open the Spelling Options dialog box, enabling you to configure the way Quality Center checks spelling.



➤ Click the **Thesaurus** button to open the Thesaurus dialog box and display a synonym, antonym, or related word for the selected word. You can replace the selected word or look up new words.



- 7 Click the **Submit** button to add the defect to the project. Quality Center assigns a Defect ID to the new defect.
- 8 Click **Close**.

## Matching Defects

Matching defects enables you to eliminate duplicate or similar defects in your project. Each time you add a new defect, Quality Center stores lists of keywords from the **Summary** and **Description** fields. When you search for similar defects, keywords in these fields are matched against other defects.

Note that keywords are more than two characters, and letter case does not affect your results. The following are ignored: articles (**a**, **an**, **the**); coordinate conjunctions (**and**, **but**, **for**, **nor**, **or**); boolean operators (**and**, **or**, **not**, **if**, **then**); and wildcards (**?**, **\***, **[ ]**).

There are two methods you can use to conduct a search for similar defects:

- **Find Similar Defects.** Compares a selected defect with all other existing defects in your project. You can conduct a search for similar defects in the Defects Grid, or before submitting a new defect in the New Defect dialog box. See “Finding Similar Defects” on page 482.
- **Find Similar Text.** Compares a specific text string against all other existing defects in your project. You can conduct a search for similar defects in the Defects Grid, or before submitting a new defect in the New Defect dialog box. You can limit your results by specifying a percentage of detected similarity. See “Finding Similar Text” on page 483.



---

**Tip:** If is available, **Text Search** is a more powerful search tool that enables you to search for keywords and variations of keywords. For information on using the text search, see “Searching Records” on page 72.

---

## Finding Similar Defects

You can match defects by comparing a selected defect with all other existing defects in your project. When similar defects are found, they are displayed according to the percentage of detected similarity.

To find similar defects:



- 1 In the Defects Grid, select a defect and click the **Find Similar Defects** button. Alternatively, in the New Defect dialog box, before you submit a defect, click the **Find Similar Defects** button.

Results are displayed in the Similar Defects dialog box, ordered by percentage of detected similarity, as listed in the **Similar** column. If no similar defects are found, a message is displayed.

Similar Defects

	Defect ID	Status	Similar	Summary
	3	Open	72%	The list of flights is given when departing date after
	2	Reopen	62%	The list of available flights is not given when departi
	5	Open	60%	The list of flights is displayed when an illegal date is
	14	Closed	59%	All flight are shown when time preference is set to t
	34	Closed	50%	Clicking on Back to Home button opens Find Flight pa
	38	Closed	48%	Cancel All Reservation button is available when ther
	30	Open	45%	Same As Billing Address option is not functioning
	4	Closed	44%	Nothing happened when clicking View Calendar link
	18	Closed	43%	The itinerary is booked when Credit Card Number fie
	29	Open	43%	The itinerary is booked when Billing Address is emp
	8	Rejected	42%	User profile is registered when Contact and Mailing
	19	Closed	42%	The itinerary is booked when Credit Card Number fie
	37	Open	42%	The flight cost should depend on the service class
	15	Closed	41%	The itinerary is booked when First Name or Last Nar
	26	Open	40%	The itinerary is booked when Credit Card Owner de

Description:

Test Set: Mercury Tours Functionality  
Test: [1]Returning Date  
Run: Run\_9-2\_10-51-7  
Step: Step 3: Departing Date After Returning Date  
Description:

Comments:

Close

Help

- 2 To see more details for a defect in the Similar Defects dialog box, double-click the defect.
- 3 Click **Close** to close the Similar Defects dialog box.

## Finding Similar Text

You can match defects by comparing a specific text string with all other existing defects in your project. You can limit the results of defects found to those that meet a specific similarity percentage. For example, suppose that you are searching for defects with the word **Help**. If you limit your results to 25 percent, the search returns the following results:

Defect ID	Status	Similar	Summary
46	New	100%	help
44	New	57%	Help contents not implemented
45	New	37%	Help About doesn't show the version number of the application

If you limit your results to 100 percent, the search returns the following result:

Defect ID	Status	Similar	Summary
46	New	100%	help

### To find similar text:



- 1 In the Defects Grid, click the **Find Similar Defects** arrow and choose **Find Similar Text**. Alternatively, in the New Defect dialog box, before you submit a defect, click the **Find Similar Defects** arrow and choose **Find Similar Text**.

The Find Similar Text dialog box opens.

The dialog box titled "Find Similar Text" has a close button (X) in the top right corner. It contains a "Percent of Similarity:" label followed by a text box containing "25" and a small up/down arrow control. Below this is a "Text to Find:" label followed by a large empty text area. At the bottom are three buttons: "OK", "Cancel", and "Help".

- 2** To limit the results of defects found to those with a minimum similarity, type a percentage in the **Percent of Similarity** box. By default, Quality Center returns defects with a similarity of at least 25 percent.
- 3** In the **Text to Find** box, type the text string.
- 4** Click **OK**. Results are displayed in the Similar Defects dialog box, ordered by percentage of detected similarity, as listed in the **Similar** column. If no similar defects are found, a message is displayed.
- 5** To see more details for a defect in the Similar Defects dialog box, double-click the defect.
- 6** Click **Close** to close the Similar Defects dialog box.

# Updating Defects

Tracking the repair of defects in a project requires that you periodically update defects. You can do so directly in the Defects Grid, or in the Defect Details dialog box.

## To update defects:



- 1 In the Defects Grid, double-click the defect you want to update. Alternatively, select the defect and click the **Defect Details** button. The Defect Details dialog box opens.



- 2 You can click the **First** button to display the first defect in the grid, or the **Previous** button to display the preceding defect.



- 3 You can click the **Next** button to display the next defect in the grid, or the **Last** button to display the final defect in the grid.



- 4 To display a specific defect in the Defect Details dialog box, click the **Go To Defect** button. The Go To Defect dialog box opens. Type a **Defect ID** and click **OK**.



- 5 You can click the **Flag for Follow Up** button to add or modify a follow up flag for the defect. For more information, see Chapter 4, “Alerting on Changes.”



- 6 If the defect has an alert, you can click the **Alerts** button to open the Alerts dialog box. For more information, see “Viewing Alerts” on page 80.



- 7 Click the **Send by Email** button to send email with the defect details. For more information on mailing defects, see “Mailing Defects” on page 490.




- 8 Click the **Create Report For This Defect** button to generate a report that displays detailed information about the defect.

- 9 If the defect is linked to a test run, you can click the **Execution Report** link at the bottom of the Defect Details dialog box to generate an execution report. The execution report displays detailed information about the linked test run.

- 10 In the **Details** view, you can add or modify information for the selected defect. For more information on available fields in the **Details** view, see Chapter 34, “The Defects Module at a Glance.”

To add a new comment, click the **Add Comment** button. A new section is added to the Comments box, displaying your user name and the database’s current date.

- 11 Click **Attachments** on the sidebar to add an attachment to the defect. An attachment can be a file, URL, snapshot of your application, system information, or an item from the Clipboard. A clickable attachment icon  is placed next to the defect in the Defects Grid. For more information on attachments, see Chapter 5, “Adding Attachments.”

- 12 Click **Linked Entities** on the sidebar. The following tabs are available:

- **Defects.** Enables you to view and add links to existing defects. For example, you can link a defect to a duplicate defect.
- **Others.** Enables you to view and remove links from other entities. You cannot add new links.

For more information on linked defects, see Chapter 36, “Linking Defects.”

- 13** Click **History** on the sidebar to view the history of changes made to the defect. For more information, see “Viewing Defect History” on page 489.
- 14** Click **OK** to save your changes and return to the Defects Grid.

## Finding and Replacing Values

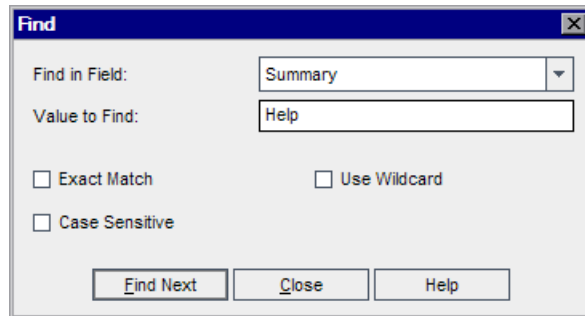
You can search and replace field values in the Defects Grid using the Find/Replace command.



**Tip:** If text search is available, you can use it to search for defects in the Defects Grid. Text search provides a more powerful search by allowing you to search for keywords and variations of keywords. For information on using the text search, see “Searching Records” on page 72.

### To find a value:

- 1** In the Defects Grid, choose **Edit > Find**. The Find dialog box opens.

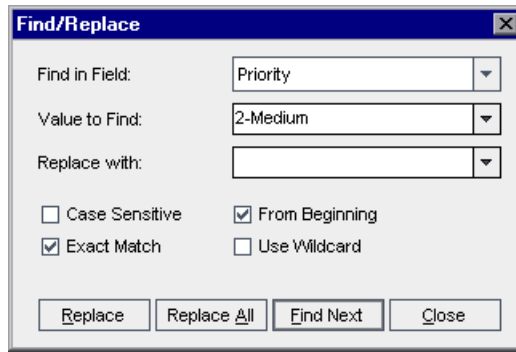


- 2** In the **Find in Field** box, select the column in which you want to search for a specific value.
- 3** In the **Value to Find** box, type or select the value to find.
- 4** To search for an exact value, select the **Exact Match** check box.
- 5** To distinguish between uppercase and lowercase characters, select the **Case Sensitive** check box.

- 6 To use asterisk (\*) characters in your search string in order to type only part of the item, select the **Use Wildcard** check box.
- 7 Click **Find Next**. Quality Center attempts to locate any defects with the specified value. If the search is successful, the defect is highlighted in the Defects Grid. If the search is unsuccessful, an information box opens.

**To replace a value:**

- 1 In the Defects Grid, choose **Edit > Replace**. The Find/Replace dialog box opens.



- 2 In the **Find in Field** box, select the column in which you want to search for a specific value.
- 3 In the **Value to Find** box, type or select the value to find.
- 4 In the **Replace with** box, type or select a replacement field value.
- 5 To distinguish between uppercase and lowercase characters, select the **Case Sensitive** check box.
- 6 To search for an exact value, select the **Exact Match** check box.
- 7 To start the search from the top of the Defects Grid, select the **From Beginning** check box.
- 8 To use asterisk (\*) characters in your search string in order to type only part of the item, select the **Use Wildcard** check box.
- 9 To replace the found item and find the next occurrence, click **Replace**.
- 10 To replace all occurrences of the value in the Defects Grid, click **Replace All**.



# Updating Multiple Records

You can update a field value for multiple records in the Defects Grid. To update, select the records in the grid and choose **Edit > Update Selected**. The Update Selected dialog box opens. For more information, see “Updating Multiple Records” on page 70.

# Viewing Defect History

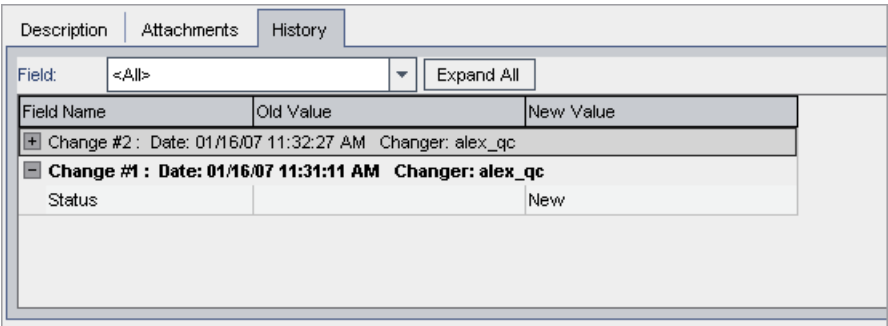
You can view a list of changes made to a defect. Note that you can only see changes for selected fields predefined by the project administrator in Project Customization. For more information on enabling the history option for a field, refer to the *HP Quality Center Administrator Guide*.

**To view the history of changes to a defect:**

- 1 To display the history in the Defects Grid, select a defect and choose **View > Information Panel > Show**. Click the **History** tab.

Alternatively, in the Defects Grid, double-click a defect to open the Defect Details dialog box and click **History** on the sidebar.

The history of changes made to the defect is displayed in a grid.



For each change to the defect, the grid displays the date and time of the change and the name of the user who made the change.

- 2 Expand a change to view a list of fields modified during the change. For each field, the grid displays the old value and the new value. To expand all changes, click the **Expand All** button.

- 3 You can specify which changes are displayed in the grid. In the **Field** list, select a field name to view only changes made to that field. Select **<All>** to view changes made to all fields.

## Mailing Defects

You can send email about a defect to another user. This enables you to inform development and quality assurance personnel about defect repair activity. Quality Center includes a **Go To Defect** link in the email, which enables the recipient to go directly to the defect.

---

**Note:** By default, Quality Center sends email in HTML format. To send email as plain text instead, edit the **MAIL\_FORMAT** parameter in the **Site Configuration** tab in Site Administration. For more information, refer to the *HP Quality Center Administrator Guide*.

---

**To mail a defect:**

- 1 In the Defects Grid, select one or more defects and click the **Send by Email** button. The Send Email dialog box opens.

**Send E-mail**

ABC ✓ [document icon] [cube icon]

To: [text box]

CC: [text box]

Subject: [text box]

Items:

- ☒ 20 - Mercury Tours site crash during execution of load test for Welcome Page
- ☒ 21 - Welcome page download time during the load exceeds 10 seconds
- ☒ 32 - The average response time for the Sign-On Page Download transaction exceeded 8-second thresh

Include: ☐ Attachments ☐ History

Additional comments: [text area]

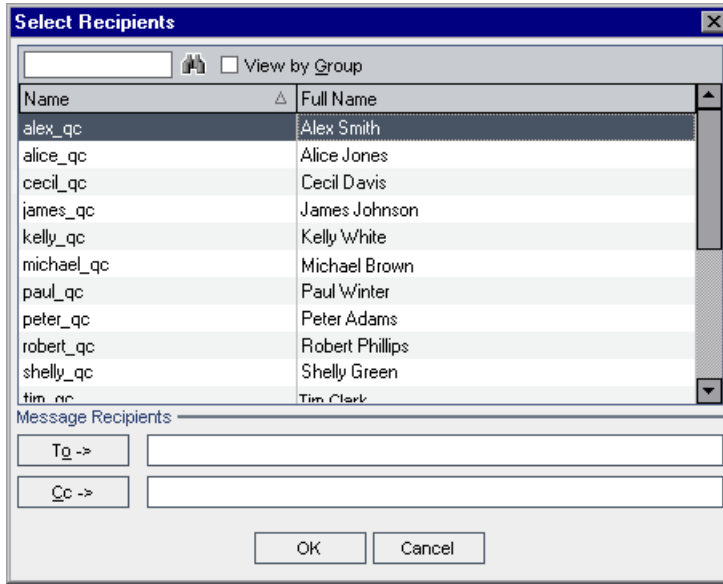
[Send] [Custom...] [Cancel] [Help]

---

**Tip:** You can automatically send the email to a specific user type. This can be any defect column with a user name value, including user-defined fields. Click the **Send by Email** arrow and choose an option. For example, choose **Send Mail to Detected By** to send the email to the user who detected the defect.

---

- 2 Type a valid email address or user name. Alternatively, click the **To** button or **CC** button to select users. The Select Recipients dialog box opens.



You can sort the users list, search for users, group users by user groups, and select users from the list or from a group tree. For more information, see “Selecting Users” on page 55.

Select the users or user groups to which you want to send the email, and click **OK**.

- 3 In the **Subject** box, type a subject for the email. By default, if you select only one defect, the domain, project, defect ID, and summary of the defect are displayed in the Subject box.
- 4 In the **Items** box, you can clear any items you do not want to include in the email.
- 5 Select whether you want to include the **Attachments** and/or **History** of the defect.
- 6 In the **Additional comments** box, add any comments you have.

**7** You can check the spelling in the dialog box:



- Click the **Check Spelling** button to check the spelling for the selected word or text box. If there are no errors, a confirmation message opens. If errors are found, the Spelling dialog box opens and displays the word that is misspelled together with replacement suggestions.



- Click the **Spelling Options** button to open the Spelling Options dialog box, enabling you to configure the way Quality Center checks spelling.



- Click the **Thesaurus** button to open the Thesaurus dialog box and display a synonym, antonym, or related word for the selected word. You can replace the selected word or look up new words.

**8** Click **Custom** to customize the email. In the Select Fields dialog box, you can specify fields to include in the email.

**9** Click **Send** to send the email.

## Copying Defects

You can copy a defect to any Quality Center project.

**To copy a defect:**

- 1** In the Defects Grid, select the defect you want to copy. To copy more than one defect, press the CTRL key and select the defects you want to copy.
- 2** Choose **Edit > Copy**. Alternatively, right-click and choose **Copy**.
- 3** In the project to which you want to copy the defects, in the Defects Grid, choose **Edit > Paste**. Alternatively, right-click and choose **Paste**.

## Copying URLs of Defects

You can copy a defect and paste its URL as a link. The defect itself is not copied. Instead, you can paste the address into another location, such as an email or a document. Clicking on the link opens up Quality Center and takes you to the defect. If you are not already logged in, Quality Center first prompts for login details.

**To copy a URL of a defect:**

- 1 From the Defects Grid, select a defect.
- 2 Choose **Edit > Copy URL**. Alternatively, right-click and choose **Copy URL**.
- 3 Paste the URL.

## Printing Defects

You can print all defects or selected defects in the Defects Grid.

**To print defects:**

- 1 You can print all defects or selected defects:
  - To print all defects, choose **Defects > Print > All**.
  - To print selected defects, select the defects using the CTRL or SHIFT keys and choose **Defects > Print > Selected**.

The Print Preview dialog box opens.

- 2 Use the buttons on the toolbar to adjust and set up the page before printing.
- 3 Click the **Print** button or choose **File > Print**.



## Deleting Defects

You can delete old or duplicate defects from a project. When you delete a defect, Quality Center does not reuse the Defect ID.

### To delete a defect:

- 1 In the Defects Grid, select a defect to delete.
- 2 Click the **Delete** button or choose **Edit > Delete**. Alternatively, right-click the defect and choose **Delete**.
- 3 Click **Yes** to confirm.







# 36

---

## Linking Defects

You can link defects to other entities in Quality Center.

**This chapter includes:**

- About Linking Defects on page 497
- Viewing Defect Links on page 500
- Adding Defect Links on page 501
- Removing Defect Links on page 502

### About Linking Defects

You can link a defect to the following entities: requirements, tests, test sets, test instances, runs, run steps, and other defects. Defect linkage is useful, for example, when a new test is created specifically for a defect. By creating this linkage, you can determine if the test should be run based on the status of the defect.

A defect can be linked directly or indirectly to an entity. When you add a defect link to an entity, Quality Center adds a direct link to this entity and indirect links to other related entities. In addition, during a manual test run, if you add a defect, Quality Center automatically creates a linkage between the test run and the new defect.

The following diagram illustrates the flow of indirect linkage:



For example, when you link a defect to a run step, Quality Center adds an indirect link to its run, test instance, test set, and test. If the same test is covered by a requirement, an indirect link is also added to the requirement. Note that the indirect linkage is a one-directional flow. For example, if you link a defect to a run it is not indirectly linked to its run steps.

Using the Linked Defects dialog box or tab, you can view and manage defect links.

Defect ID	Defect: Summary	Linked Entity Name	Linked By Status	Linked Entity Ty
1	The list of flights is given even whe	Run <Run_9-2_11-3-29> of Te	Failed	Run
3	The list of flights is given when Dep	Run <Run_9-2_11-3-29> of Te	Failed	Run
5	The list of flights is appear when ile	Run <Run_9-2_11-3-29> of Te	Failed	Run
9	Email fields in Edit Profile form is em	Run <Run_9-2_11-3-29> of Te	Failed	Run
16	The itinerary is booked when Passe	Run <Run_9-2_11-3-29> of Te	Failed	Run
17	The itinerary is booked when Credit	Run <Run_9-2_11-3-29> of Te	Failed	Run
20	Mercury Tours site crash during ex	Run <Run_9-2_11-3-29> of Te	Failed	Run
21	Welcome page download time durin	Run <Run_9-2_11-3-29> of Te	Failed	Run
22	User Name and Password fields ha	Run <Run_9-2_11-3-29> of Te	Failed	Run

The Linked Defects grid contains the following columns:

Column	Description
<b>Created By</b>	The user name of the person who created the link.
<b>Creation Date</b>	The date on which the link was created.
<b>Defect ID</b>	A unique numeric ID for the defect, assigned automatically by Quality Center. The Defect ID is read-only.
<b>Link Comment</b>	Enables you to add comments about the link.
<b>Link ID</b>	A unique numeric ID for the link, assigned automatically by Quality Center. The Link ID is read-only.
<b>Link Type</b>	A value of the Link Type customized list. For more information on lists, refer to the <i>HP Quality Center Administrator Guide</i> .
<b>Linked By Status</b>	The current status of the linked entity.
<b>Linked Entity ID</b>	A unique numeric ID for the linked entity, assigned automatically by Quality Center. The Linked Entity ID is read-only.
<b>Linked Entity Name</b>	The linked entity name. For example, the requirement name.
<b>Link Entity Type</b>	The linked entity type (for example: step, test, test set).

For more information on the defect fields, see “The Defects Grid” on page 474.

## Viewing Defect Links

You can filter links, set column appearance and order in the grid, and refresh the grid. In addition, you can view details of a defect and instruct Quality Center to go to a module and highlight a linked entity.



- To refresh the grid, click the **Refresh All** button.



- To filter and sort the defect links, click the **Set Filter/Sort** button. For more information on filtering and sorting, see “Filtering Records” on page 56. If you set a filter, the description of the filter is displayed above the grid.



- To set column appearance and order in the grid, click the **Select Columns** button. For more information, see “Arranging Columns” on page 52.



- To view details of a defect, select a defect link and click the **Defect Details** button. The Defect Details dialog box opens. For more information, see “Updating Defects” on page 485.



- To open the Defects module and highlight the linked defect, select a defect link. Click the **Go To** arrow and choose **Go To Defect**.

Alternatively, click the **Defect ID** link to open the Defects module and highlight the linked defect.




- To open the relevant module and highlight the linked entity, select a defect link. Click the **Go To** arrow and choose **Go To 'Linked By' Entity**.

Alternatively, click the **Linked Entity Name** link to open the relevant module and highlight the linked entity.

- To display direct links, from the Type of Link list, select **Direct Links**. To display direct and indirect links, select **All Links**. Not available in the Defects module.
- To display defect links added to parent requirements, select **Current Req Links** from the **Show Links For** list. To display defect links added to parent and children requirements, select **Including Child's Links**. Available only in the Requirements module.

## Adding Defect Links

You can add a defect link by submitting a new defect or by selecting an existing defect. When you link an entity to a defect, Quality Center adds the  icon to the entity and to the linked defect.

### Adding Links by Submitting New Defects

You can add a defect link by submitting a new defect.

**To add a link by submitting a new defect:**



- 1** In the Linked Defects tab or dialog box, click the **Add and Link Defect** button, or right-click the grid and choose **Add and Link Defect**. The New Defect dialog box opens.
- 2** Enter the relevant defect details. For more information on adding defects, see “Adding New Defects” on page 479.
- 3** Click the **Submit** button in the New Defect dialog box. The defect is added to the project and the defect link is displayed in the Linked Defects grid.

### Adding Links by Selecting Existing Defects

You can add a defect link by selecting an existing defect.

**To add a link by selecting an existing defect:**



- 1** In the Linked Defects tab or dialog box, click the **Link Existing Defect** arrow, or right-click the grid and choose **Link Existing Defect**.
- 2** Choose **By ID** or **Select**:
  - To add a link by typing a defect ID, choose **By ID**. In the Link Existing Defect dialog box, type the defect ID and click **Link**. The defect link is displayed in the grid.
  - To add a link by selecting a defect, choose **Select**. In the Defects to Link dialog box, select the defect. To select more than one defect, press the CTRL key and select the defects you want to link. Click **Link**. The defect links are displayed in the grid.

## Removing Defect Links

You can remove defect links from the Linked Defects grid.

---

**Note:** You can only remove direct links. Indirect links are removed automatically when the direct links are removed.

---

### To remove a defect link:

- 1** In the Linked Defects tab or dialog box, select a link in the grid. To select more than one defect, press the CTRL key and select the defects you want to remove.
- 2** Click the **Remove Link** button, or right-click and choose **Remove Link**.
- 3** Click **Yes** to confirm.



# Part VII

---

## Library Management





# 37

---

## The Libraries Module at a Glance

This chapter introduces the key elements in the Libraries module.

---

**Quality Center Editions:** Quality Center Premier Edition includes all Libraries module functionality and Quality Center Enterprise Edition includes some functionality. This module is not available with Quality Center Starter Edition.

---

**This chapter includes:**

- The Libraries Module on page 506
- The Libraries Menu Bar on page 507
- The Libraries Toolbar on page 507
- The Library and Baseline Fields on page 508

## The Libraries Module



You define libraries in Quality Center using the Libraries module. To display this module, click the **Management** button on the sidebar, and then click the **Libraries** tab.

The Libraries module contains the following key elements:

- **Libraries menu bar.** Displays drop-down menus of Libraries module commands. For more information, see “The Libraries Menu Bar” on page 507.
- **Libraries toolbar.** Contains buttons of Libraries module commands. For more information, see “The Libraries Toolbar” on page 507.
- **Libraries tree.** Displays libraries and baselines in a hierarchical tree structure. For more information, see Chapter 38, “Libraries and Baselines.”
- **Details tab.** Describes the library folder, library, or baseline currently selected in the libraries tree. For more information on the Libraries module fields, see “The Library and Baseline Fields” on page 508.

The **Entities** pane lists the root folders associated with the library. For more information, see Chapter 38, “Libraries and Baselines.”

- **Quality Center Premier Edition:** The following additional tabs are available for importing libraries:
  - **Imported By tab.** Lists the projects that imported the selected library. For more information, see “Viewing Associated Libraries” on page 540. This tab is visible only when the current project or other projects have imported the selected library.
  - **Imported From tab.** Displays details about the library from which the currently selected library was imported. For more information, see “Viewing Associated Libraries” on page 540. This tab is visible only when the selected library is imported.

## The Libraries Menu Bar

The Libraries menu bar contains the following menus:

- The **Libraries** menu contains commands that enable you to add library folders, libraries and baselines. It also contains a command enabling you to compare libraries and baselines. For more information, see Chapter 38, “Libraries and Baselines.”
- The **Edit** menu contains commands that enable you to cut, paste, delete, and rename library folders, libraries, and baselines.
- The **View** menu contains a command that enables you to refresh the libraries tree.

## The Libraries Toolbar

The Libraries toolbar contains the following buttons:



**New Folder.** Adds a new folder to the libraries tree.



**Create Library.** Adds a new library to the libraries tree.



**Quality Center Premier Edition: Import Library.** Imports a new library and adds it to the libraries tree. For more information, see Chapter 39, “Importing Libraries.”



**Create Baseline.** Creates a baseline and adds it to the libraries tree.



**Compare To.** Compares the currently selected library or baseline with other libraries or baselines. For more information, see “The Compare Baselines Tool” on page 518 and “The Compare Libraries Tool” on page 544.



**Cut.** Cuts a library folder or a library from the libraries tree to move it to a different location in the tree.



**Paste.** Pastes a cut library folder or library to the specified location in the tree.



**Delete.** Deletes the selected item. Deleting a library folder also deletes its libraries and baselines. Deleting a library also deletes its baselines.



**Refresh.** Refreshes the libraries tree and tabs so that they display the most up-to-date data.

## The Library and Baseline Fields

The Details tab of the Libraries module displays the following fields:

Field	Description
<b>Name</b>	The name of the library folder, library, or baseline.
<b>Created By</b>	The user name of the person who created the library or baseline.
<b>Creation Date</b>	The date on which the library or baseline was created.
<b>Library ID</b>	A unique numeric ID for the library that Quality Center assigns automatically.
<b>Baseline ID</b>	A unique numeric ID for the baseline that Quality Center assigns automatically.
<b>Modified</b>	The date and time on which the baseline was last renamed or the description was changed.
<b>Description</b>	The library folder, library, or baseline description.

---

**Notes:**

- You can add user-defined fields and change the label of any of the fields in the Details tab. You can also customize project lists. For more information, refer to the *HP Quality Center Administrator Guide*.
  - You can use the Script Editor to restrict and dynamically change the fields and values in the Libraries module. For more information, refer to the *HP Quality Center Administrator Guide*.
-



# 38

---

## Libraries and Baselines

You create libraries in the Libraries module. After you create a library, you can create and compare baselines for the library to track changes in your project over time.

---

**Quality Center Editions:** The Libraries module functionality described in this chapter is available for Quality Center Enterprise Edition and Quality Center Premier Edition.

---

**This chapter includes:**

- About Libraries and Baselines on page 512
- Creating a Libraries Tree on page 513
- Creating Libraries on page 513
- Creating Baselines on page 515
- The Compare Baselines Tool on page 518
- Configuring the Comparison Settings on page 522
- Viewing Baseline History on page 524
- Pinning a Test Set to a Baseline on page 525
- Modifying the Libraries Tree on page 526
- Comparing Entities on page 528

## About Libraries and Baselines

In the Libraries module, you define a hierarchical libraries tree to create and manage your libraries. A **library** represents a set of entities in a project and the relationships between them. The entities in a library can include requirements, tests, test resources, and business components. For more information, see “Creating a Libraries Tree” on page 513.

After you create a library, you can create a baseline. When you create a **baseline** for a library, you have a snapshot of the library at a specific point in time. Baselines enable you to keep track of changes made to your project over time. For more information on baselines, see “Creating Baselines” on page 515.

You can compare baselines at all stages of the application development life cycle. For example, you can compare two baselines in a library to review changes made to requirements in the library over time. You can also compare a baseline to the current entities in the library. For more information, see “The Compare Baselines Tool” on page 518.

**Quality Center Premier Edition:** You can also import a library. Importing a library enables you to reuse an existing set of entities. For more information, see Chapter 39, “Importing Libraries.”

Creating and managing libraries and baselines requires appropriate user permissions. For more information, refer to the *HP Quality Center Administrator Guide*.

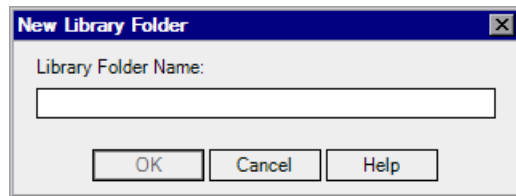


## Creating a Libraries Tree

You define a hierarchical framework for your libraries by creating a libraries tree that can contain folders and subfolders.

**To create a libraries tree:**

- 1 In the Libraries module, select the **Libraries** folder.
- 2 Click the **New Folder** button, or select **Libraries > New Folder**. The New Library Folder dialog box opens.



- 3 In the **Library Folder Name** box, type a name for the folder and click **OK**. The new folder is added to the libraries tree.
- 4 In the Details tab, in the **Description** pane, type a description of the library folder.
- 5 To create additional folders, select a folder and repeat steps 2 to 4.

## Creating Libraries

After creating the libraries tree, you add libraries to your library folders. You can create a new library, or import a library. For more information on importing a library, see Chapter 39, “Importing Libraries.”

**To add a library to a library folder:**

- 1 In the libraries tree, select a library folder.



- 2 Click the **Create Library** button, or select **Libraries > Create Library**. The Create Library dialog box opens.

**Create Library**

\* Name:

**Select Entities**

Requirement Root Folder:  ...

Component Root Folder:  ...

Test Root Folder:  ...

Resource Root Folder:  ...

Description:

OK Cancel Help

- 3 In the **Name** box, type a name for the library. A library name cannot include the following characters: \ / : \* ? " < > |
- 4 Under **Select Entities**, select folders to include in the library. You can select one or more root folders for each of the Requirements, Business Components, Test Plan, and Test Resources modules. For more information on Business Components, see the *HP Business Process Testing User Guide*.
- 5 In the **Description** box, type a description for the library.
- 6 Click **OK**. The new library is added to the libraries tree.

## Creating Baselines

After you create a library, you can create a baseline. A baseline is a snapshot of your library at a specific point in time. You can use a baseline to mark any significant milestone in the application development life cycle. A baseline includes all the entities defined in the library, including requirements, tests, and test resources. Baselines also include the relationships between the entities in the library, such as traceability and coverage. Baselines enable you to keep track of changes made to your project over time.

When you create a baseline, Quality Center first verifies the library. The link verification process checks whether there are entities in the library that are associated with entities not contained in the library.

You can use baselines in the following ways:

- Compare two baselines to view the changes in a library at different stages of development. For more information, see “The Compare Baselines Tool” on page 518.
- Pin a test set to a baseline. This ensures that when you run the test set, Quality Center runs the versions of the tests stored in a baseline you specify. For more information, see “Pinning a Test Set to a Baseline” on page 525.
- **Quality Center Premier Edition:** Use a baseline to share the entities in a library. This enables you to reuse the library’s entities within your project, or in a different project. To import a library, the library must contain a baseline. For more information, see Chapter 39, “Importing Libraries.”

### Baseline Examples

The following examples demonstrate how you can use baselines:

- **Establish content of a release - stakeholder sign off.**

Your organization is starting development of a new version of an application. A business analyst presents a group of requirements to the stakeholders to review. After the requirements are reviewed and approved, you create a baseline. Stakeholders can then sign off on the agreed upon release content.

► **Monitor change.**

A product manager finds that product development is being implemented differently than he expected. He reviews the requirements for the product and discovers that some have changed. He compares the current requirements with the requirements in the baseline created and agreed upon at the start of the release.

► **Evaluate the impact of changes.**

A tester is responsible for a large group of tests that are part of the latest application release. She is updating some of the tests in accordance with the requirements for the release. Following the latest requirements review meeting, she is notified that some of the requirements have been changed. The tester compares the current requirements with the requirements in the baseline created at the start of the release. She identifies which changes affect tests she is working on, and updates the tests to reflect the changes.

## **Creating a Baseline**

You can create a baseline for a library.

### **To create a baseline:**

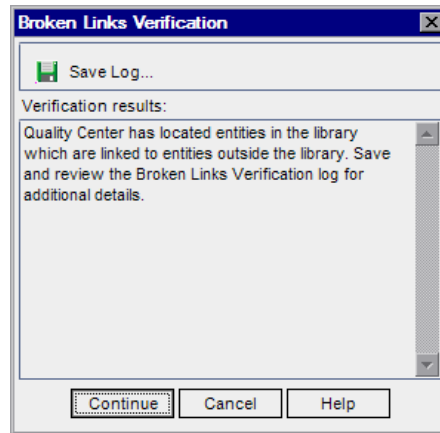
- 1 In the libraries tree, select a library.



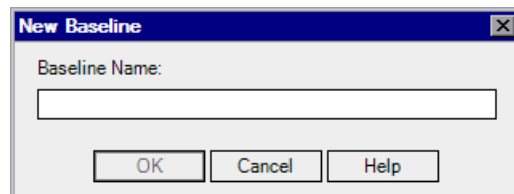
- 2 Click the **Create Baseline** button, or select **Libraries > Create Baseline**. The verification process begins.

For each entity in the library that is associated with another entity in the project, Quality Center verifies that the associated entity is also contained in the library. For example, for each test that has requirements coverage, Quality Center checks if the associated requirement is also contained in the library.

If there are entities in the library that are associated with entities not contained in the library, Quality Center creates a list of these entities, and the Broken Links Verification dialog box opens.



- 3 To save the verification results in a text file, click **Save Log**. In the Save As dialog box, type a name for the file and click **Save**. The Broken Links Verification log is downloaded and saved to the location you specified. Review the log and resolve any issues, if necessary, before continuing to create the baseline.
- 4 To continue to create the baseline, click **Continue**. The New Baseline dialog box opens.



- 5 In the **Baseline Name** box, type a name for the new baseline.
- 6 Click **OK**. The baseline is added to the libraries tree, and the creation process begins.

The baseline is created in a background process, and may take some time. You can continue working in Quality Center during the baseline creation process.

- 7 Click the **View Log** button in the Details tab. The Log: Create Baseline dialog box opens and displays progress. Click **Close** to close the dialog box.

---

**Note:** When the process is complete, view the log before refreshing the display. If you refresh the display after the baseline is created, the **View Log** button is no longer displayed, and you cannot view the log.

---



- 8 Click the **Refresh** button on the module toolbar to refresh the display. The baseline details are displayed in the Details tab. For more information on the available fields in the Details tab, see “The Library and Baseline Fields” on page 508.
- 9 In the Details tab, click the **Description** pane to add a description to the baseline.

## The Compare Baselines Tool

You can compare two baselines in a library. For example, you can compare baselines at different stages of development to assess the impact of changes made to requirements in your project. You can then update the relevant tests in your project accordingly.

You can also compare a baseline to the current entities in the library. For example, suppose you create a baseline at the start of a new release. Over time, changes are made to requirements in the library. To determine whether product development is proceeding as planned, you can compare requirements in the initial baseline with the current requirements in the library.

---

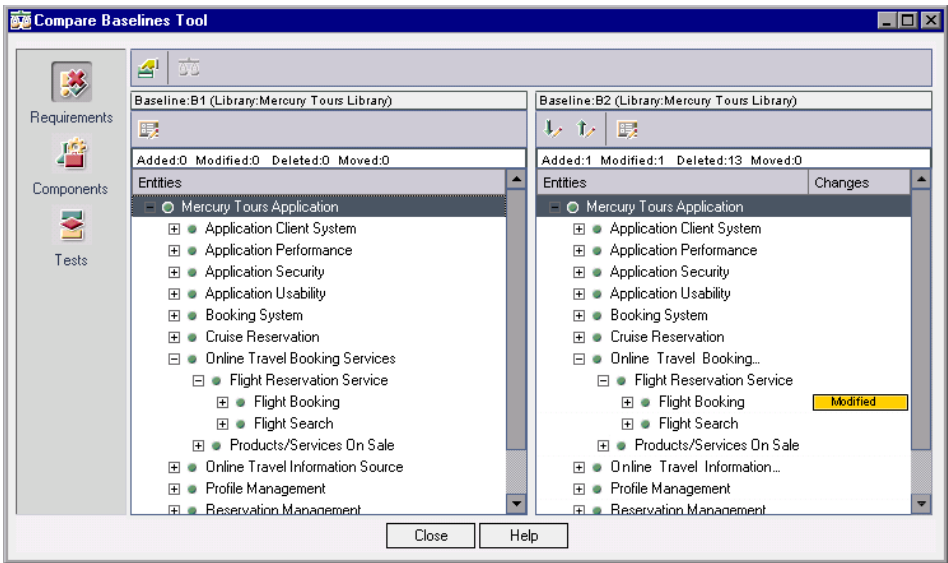
**Notes:**

- Quality Center does not consider changes made to **Target Release** and **Target Cycle** fields when determining whether an entity has been modified.
  - If coverage or traceability between two entities was deleted and then added again, those entities are considered modified.
- 

**To compare baselines:**

- 1** In the libraries tree, expand a library and select a baseline. Click the **Compare To** button or select **Libraries > Compare To**, and select a baseline with which to compare.
  - Select **Select Baseline** to compare the baseline you selected with another baseline in the library. The Select Baseline dialog box opens. Click the browse button and select a baseline from the list. Click **OK**.  
Click **OK** to close the Select Baseline dialog box.
  - Select **Current Entities** to compare the baseline you selected with the current entities in the library.

2 The Compare Baselines Tool dialog box opens.



The baselines are displayed in separate panes, with the more recently created baseline or current entities displayed in the right pane. In each pane, the library’s entities are displayed in the same hierarchical tree structure as defined in the specific module.

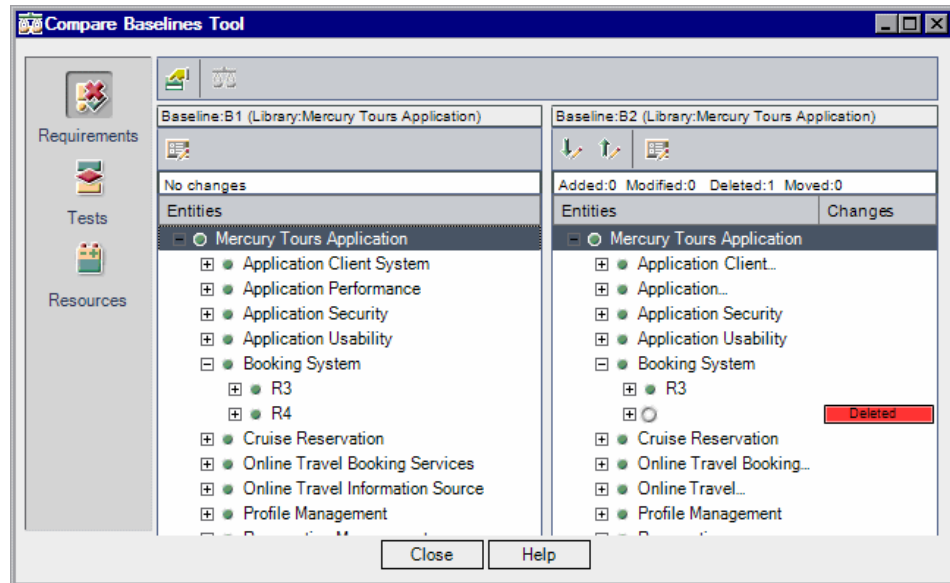
Differences between the two baselines are indicated in the **Changes** column. The following types of changes are identified by the Compare Baselines Tool:

Change	Description
Added	The entity did not exist in the older baseline.
Modified	There is a difference in the entity between the baselines.
Deleted	The entity does not exist in the newer baseline.
Moved	The entity is in a different location in the tree structure in the newer baseline.



The number of entities that were added, modified, deleted, or moved is indicated in the counter above each pane.

A deleted or moved entity is displayed in its original location in the tree, indicated by a placeholder. This maintains the hierarchical structure, enabling you to compare changes between baselines.



- 3 Click a button on the sidebar to view comparison results for entities in a particular module. For example, click the **Tests** button to view comparison results for the Test Plan module. The sidebar displays only the modules that are included in the library.



- 4 Click the **Go to Next Change** button in the right pane to move to the next change, or **Go to Previous Change** to move to the previous change.



- 5 To view additional details for an entity, select the entity and click the **Details** button on the toolbar. The Details dialog box for the entity opens. For example, select a requirement and click the **Details** button. This opens the Requirement Details dialog box, and displays details of the selected requirement in the selected baseline.



- 6 To compare a modified entity between baselines, select the entity and click the **Compare Entities** button on the toolbar. The Compare Entities dialog box opens and displays details of the entity in each baseline. For more information, see “Comparing Entities” on page 528.



- 7 To set options for the Compare Baselines Tool, click the **Comparison Settings** button on the toolbar. For more information, see “Configuring the Comparison Settings.”

## Configuring the Comparison Settings

You can define settings for comparing libraries or baselines. The Comparison Settings dialog box enables you to select which fields Quality Center considers when determining whether an entity has been modified.

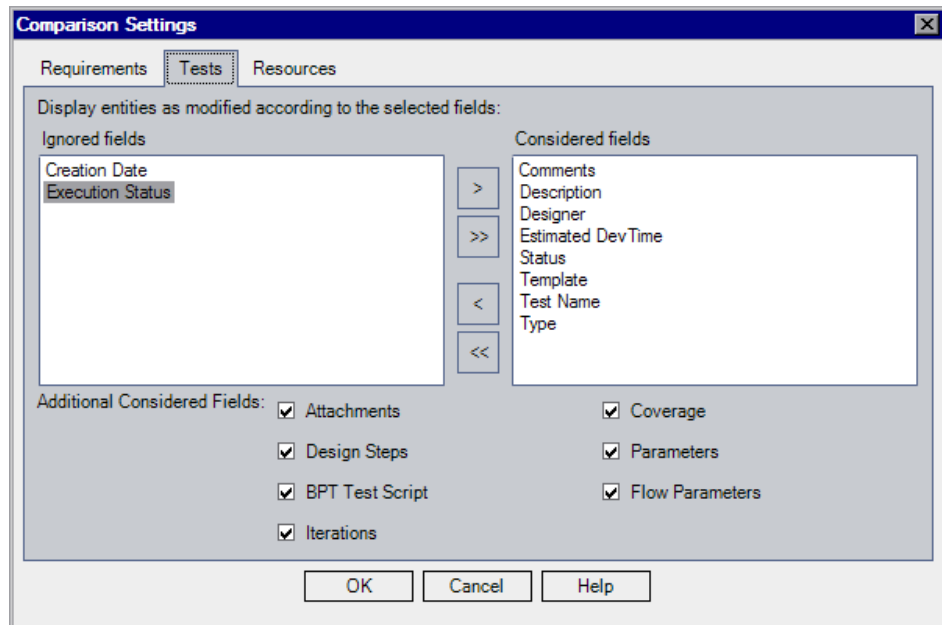
---

**Note:** Quality Center does not consider changes made to **Target Release** and **Target Cycle** fields when determining whether an entity has been modified.

---

**To configure the comparison settings:**

- 1 In the Compare Baselines Tool or the Compare Libraries Tool, click the **Comparison Settings** button. The Comparison Settings dialog box opens.



- 2 Click the tab for the entity type you want to configure. For example, click the **Tests** tab. The current settings display:
  - **Considered Fields.** Quality Center displays the entity as modified based on changes made to fields in this box.
  - **Ignored Fields.** Quality Center does not display the entity as modified based on changes made to fields in this box.
- 3 Select field names and click the arrow buttons (> and <) to move them between the **Ignored Fields** and **Considered Fields** boxes. Click the double arrow buttons (>> and <<) to move all the fields from one list to the other. You can also double-click a field name to move the field between lists.
- 4 Under **Additional Considered Fields**, select any additional fields to include. To instruct Quality Center to ignore coverage, you must clear the **Coverage** check box in both the Requirements and Tests tabs.

# Viewing Baseline History

You can view all versions of an entity that are stored in a baseline. This includes entities in the Requirements, Business Components, Test Plan, and Test Resources modules. You can also compare two baseline versions. For more information on Business Components, see the *HP Business Process Testing User Guide*.

**Version Control:** You can view all previous versions of an entity. For more information, see “Viewing Version History” on page 109.

**To view baseline history:**

- 1 Select an entity in the tree or grid. Click the **History** tab, and then click the **Baselines** tab.

**Version Control:** In the **History** tab, click the **Versions and Baselines** tab. In the **View By** box, select **Baselines**.

The baseline history is displayed in a grid.

Column	Description
Baseline	The name of the baseline in which the entity appears.
Library	The library for which the baseline was created.
Date	The date the baseline was created.
Created By	The name of the user who created the baseline.

- 2 Under **Description for selected baseline**, view the description typed by the user when creating the baseline.
- 3 To view a version of the entity stored in a baseline, select a baseline and click **View**. A Details dialog box opens, displaying read-only details for the version of the entity stored in the selected baseline. Click the buttons on the sidebar to view additional information. The buttons displayed may change according to the entity you selected in the tree or grid.

---

**Note:** If you are viewing information for a QuickTest test, clicking the **Test Script** button opens the test in a QuickTest viewer, enabling you to view the test or open the test in QuickTest. For more information, refer to the *HP QuickTest Professional User Guide*.

---

Click **Close** to close the Details dialog box.

- 4** To compare two baseline versions, press the CTRL key and select each version. You can compare two baseline versions when the baselines belong to the same library.

Click **Compare**. For more information on comparing baseline versions, see “Comparing Entities” on page 528.



## Pinning a Test Set to a Baseline

You can pin a test set to a baseline. This associates the test set with the tests stored in a baseline that you specify. When you run a test set that is pinned to a baseline, Quality Center runs the versions of the tests that are stored in the specified baseline.

A test set that is pinned to a baseline can include only tests that are included in the baseline. When you pin a test set to a baseline, tests that are not a part of the baseline are removed from the test set. In addition, all test runs are deleted from the test set.

For more information on baselines, see “Creating Baselines” on page 515.

### To pin a test set to a baseline:

- 1** In the Test Lab module, select a test set from the test sets tree.
- 2** Select **Tests Sets > Pin to Baseline**, or right-click and select **Pin to Baseline**. The Pinned to Baseline dialog box opens and displays the Libraries tree.
- 3** Select a baseline and click **OK**. A confirmation message displays. Click **OK** to confirm. In the test sets tree, the test set icon  is replaced by the pinned test set icon .

- 4 To clear a pinned test set, select the test set and select **Tests Sets > Clear Pinned Baseline**. A confirmation message displays. If the test set includes tests that do not exist in the Test Plan module, Quality Center deletes the tests from the test set. In addition, all test runs in the test set are deleted. Click **OK** to confirm. The tests in the test set are associated with the current tests in the Test Plan module.

## Modifying the Libraries Tree

This section describes the following:

- Renaming Library Folders, Libraries, and Baselines
- Moving Library Folders and Libraries
- Deleting Library Folders, Libraries, and Baselines

### Renaming Library Folders, Libraries, and Baselines

You can rename a library folder, library, or baseline.

**To rename a library folder, library, or baseline:**

- 1 Select an item from the libraries tree.
- 2 Select **Edit > Rename**. Alternatively, right-click the item and select **Rename**.
- 3 Edit the name and press ENTER.

### Moving Library Folders and Libraries



You can move a library folder or a library to a different location in the libraries tree. Moving a library folder also moves its libraries and baselines. Moving a library also moves its baselines. You cannot move a baseline or the root Libraries folder.

---

**Tip:** You can also move a library folder or a library to a new location in the libraries tree by dragging it.

---

**To move a library folder or a library:**

- 1** Select a library folder or library from the libraries tree. To move more than one item, press the Ctrl key and select the items you want to move.
-  **2** Click the **Cut** button. Alternatively, select **Edit > Cut**.
- 3** Select a folder in the libraries tree.
-  **4** Click the **Paste** button. Alternatively, select **Edit > Paste**.


**Deleting Library Folders, Libraries, and Baselines**

You can delete a library folder, library, or baseline. You cannot delete a library folder that contains libraries, or delete a library that contains baselines. Deleting a library or baseline does not delete the library's entities from your project.

Consider the following before deleting a baseline:

- If you delete a baseline, you can no longer compare between the baseline's library and another library that was imported from or synchronized with the baseline.
- Deleting a baseline clears the baseline from pinned test sets. For more information, see “Pinning a Test Set to a Baseline” on page 525.

**To delete a library folder, library, or baseline:**

- 1** Select an item from the libraries tree. To delete more than one item, press the CTRL key and select the items you want to delete.
-  **2** Click the **Delete** button. Alternatively, select **Edit > Delete**. A confirmation message displays.
- 3** Click **Yes** to confirm. The items are deleted.

## Comparing Entities

You compare entities in the Compare Entities dialog box. You can access the Compare Entities dialog box in the following ways:

- Compare an entity between two baselines from the History page of the Requirements, Test Plan, and Test Resources modules. For more information, see “Viewing Baseline History” on page 524.
- Compare an entity between two baselines from the Compare Baselines Tool dialog box. For more information, see “The Compare Baselines Tool” on page 518.
- Compare an entity between two libraries from the Compare Libraries Tool dialog box. For more information, see “The Compare Libraries Tool” on page 544.
- **Version Control:** Compare two versions of an entity from the History page of the Requirements, Test Plan, and Test Resources modules. For more information, see “Viewing Version History” on page 109.

---

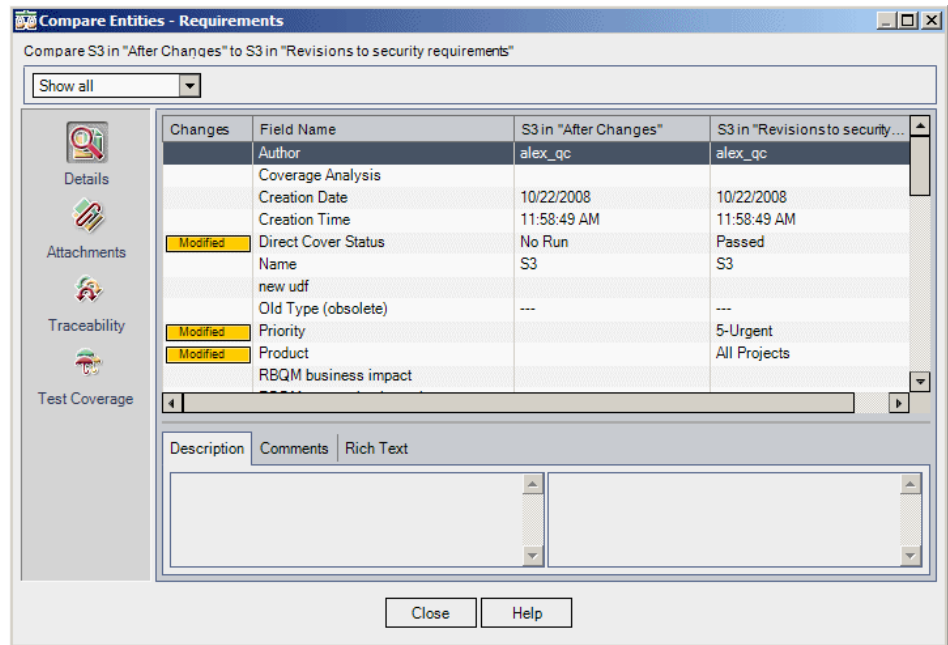
### Notes:

- Changes made to **Target Release** and **Target Cycle** fields do not cause the fields to be marked as modified.
  - **Version Control:** When you compare two versions of an entity, not all sidebar buttons are displayed. The buttons available depend on the information stored under version control. For more information, see “Version Control Overview” on page 100.
-



**To compare entities:**

- 1 In the Compare Entities dialog box, click **Details** on the sidebar.

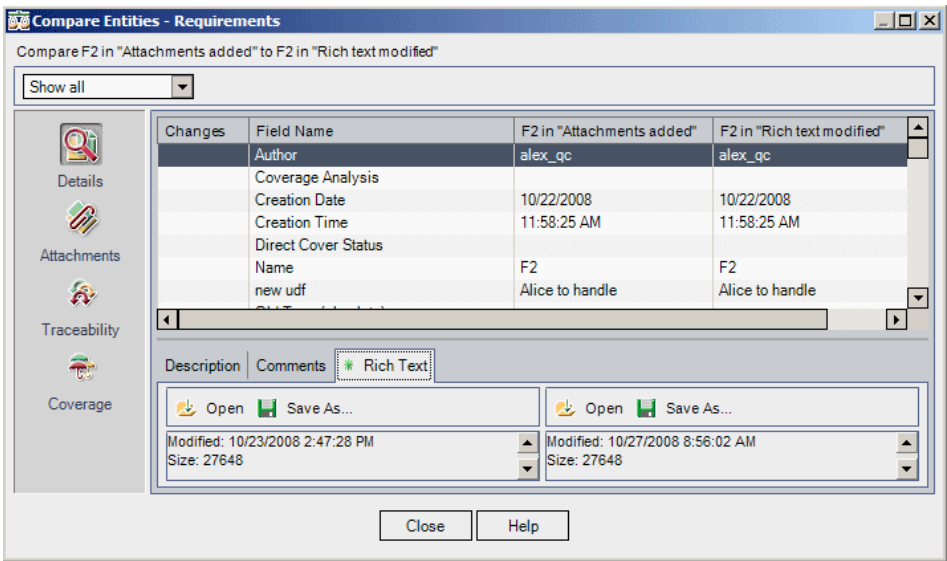


The **Field Name** column displays the entity's fields. You can compare the field values between the entity versions. Fields that have been changed are marked as **Modified** in the **Changes** column.

**Version Control:** Changes to some fields are not stored under version control. For more information, see “Non-versioned Fields” on page 103.

- 2 In the **View** box, select one of the following options:
  - **Show All.** Displays all entity fields.
  - **Show Only Changed.** Displays fields whose values have changed.
  - **Show Only Unchanged.** Displays fields whose values are the same.

- 3 Click the **Rich Text** tab to compare the entity's rich text. Each pane in the Rich Text tab indicates if rich text has been added, deleted, or modified for the relevant entity version.



- 4 You can open or save the rich text as a file to view and compare changes.
- To view rich text, click the **Open** button for either version of the entity.
  - To save rich text to a file, click the **Save As** button for either version of the entity. In the Save As dialog box, type a name for the file and click **Save**. The rich text is downloaded and saved to the location you specified.
- 5 Click a button on the sidebar to view additional comparison results, such as traceability and coverage. The buttons displayed depend on the type of entity you are comparing.

---

**Notes:**

- If you are comparing a QuickTest entity, the **QTP Comparison** button is displayed, enabling you to open the QuickTest Asset Comparison Tool. For more information on working with QuickTest, refer to the *HP QuickTest Professional User Guide*.
  - For traceability and coverage, if a linked entity is marked as both **Deleted** and **Added**, or is displayed as **Missing** on both sides, this can indicate that the link between the entities was deleted and then added again.
- 

- 6** Click **Attachments** on the sidebar to compare the entity's attachments. The **Changes** column indicates if an attachment has been added, deleted, or modified.
- 7** You can open or save attachments to view and compare changes.



- To view an attachment, double-click the attachment, or select the attachment and click the **Open Attachment** button.
- To save an attachment, select the attachment and click the **Save As** button. In the Save As dialog box, type a name for the file and click **Save**. The attachment is downloaded and saved to the location you specified.



# 39

---

## Importing Libraries

You can import a library to reuse the library's entities within a project or in different projects across your enterprise.

---

**Quality Center Premier Edition:** The Libraries module functionality described in this chapter is only available for Quality Center Premier Edition.

---

**This chapter includes:**

- About Importing Libraries on page 534
- Importing a Library on page 536
- Viewing Associated Libraries on page 540
- The Compare Libraries Tool on page 544
- Synchronizing Libraries on page 547
- Mailing Libraries on page 550

## About Importing Libraries

Importing a library enables you to share and reuse an existing set of entities. You import a library by selecting a baseline in another library from which to import. You can import a library from the same project, or from a different project. For more information on creating libraries and baselines, see Chapter 38, “Libraries and Baselines.”

You can compare associated libraries at all stages of the application development life cycle. For example, you can compare an imported library with the source library from which it was imported. For more information, see “The Compare Libraries Tool” on page 544.

When changes are made to entities in a library, you can synchronize libraries to update the entities in an associated library. For more information, see “Synchronizing Libraries” on page 547.

Importing and synchronizing libraries requires appropriate user permissions. For more information, refer to the *HP Quality Center Administrator Guide*.

---

**Note:** You can also share defects across multiple Quality Center projects. You share and synchronize defects using the *HP Quality Center Synchronizer*. For more information, see the *HP Quality Center Synchronizer User Guide*, available from the Quality Center Adds-ins Page.

---

### Library Examples

The following examples demonstrate how you can use libraries.

► **Reuse requirements and tests for a new release.**

While developing a new application, you create a library that includes all the entities in your project that are relevant to the application. After work is complete, you release the new application. As you are about to begin work on the next version, you can import the library, and start making adjustments to requirements and tests to meet the needs of the new version.

➤ **Create a set of requirements, tests, and resources for use by multiple applications.**

Your project contains requirements in the Requirements module that are relevant to an application you are developing. The project also contains tests in the test plan module that you developed to test those requirements. In addition, you have created relationships between the requirements and tests, such as traceability and coverage. You can create a library that represents the application. Then import this library as a self-contained component of other applications.


➤ **Update imported libraries with changes made in the source library.**

A library in your project includes requirements and tests for a calculator application. Multiple other projects have imported the library, and are using the application's requirements and tests in other applications they are developing. The business analyst has revised some requirements for the calculator application. To update the imported libraries with these changes, you can synchronize the imported libraries with the source library.

➤ **Update a source library with developments in an imported library.**

A tester works with an imported library that contains a set of regression tests for the banking application currently in development. During testing, she develops new tests to test the added functionality in the new version of the banking application. When testing is complete, the tester wants to update the regression tests in the source library. The source library can be synchronized with the imported library to update the tests for future testing needs.

## Importing a Library

You can import a library to your libraries tree from the same project or from a different project. When you import a library, the library is added to your libraries tree, and the library's entities are copied to the corresponding modules in your project. If the library includes associated entities, such as requirements that have test coverage, this relationship is also copied. An imported library is displayed with an Imported Library icon  in the libraries tree.

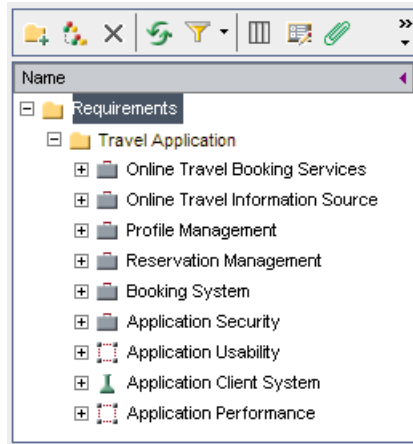
You import a library by selecting a baseline in another library from which to import. After you import a library, Quality Center automatically creates a baseline for the new library in your project. This baseline is the basis for comparing the libraries at any point in time and should not be deleted. For more information on baselines, see Chapter 38, “Libraries and Baselines.”

When you import a library, Quality Center first verifies that the library can be successfully imported. The verification process includes the following checks:

- **Requirement type check.** Checks that your project contains the necessary requirement types. If the source library contains customized requirement types, your project must contain the same requirement types. For more information on customized requirement types, see *HP Quality Center Administrator Guide*.
- **Entities compatibility check.** Checks that your project has the necessary extensions enabled. If the source project has a Quality Center extension enabled, and the source library includes entities for that extension, your project must also have that extension enabled. For more information on extensions, see *HP Quality Center Administrator Guide*.



You cannot import a library under the same previously imported library in the requirements, test plan, or test resources tree. For example, in the requirements tree, the Travel Application folder is an imported library. If you want to import the Travel Application library again, you cannot define the Travel Application folder or any of its child folders as the root folder for the requirements in the library.



## Importing a Library

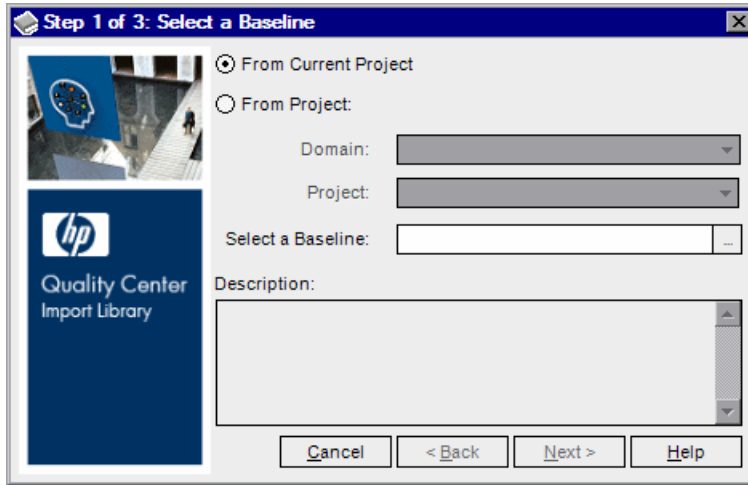
You can import a library by selecting a baseline from the same project or from a different project. You cannot import an imported library.

### To import a library:

- 1 In the libraries tree, select a library folder.



- 2 Click the **Import Library** button, or select **Libraries > Import Library**. The Step 1 of 3: Select a Baseline dialog box opens.

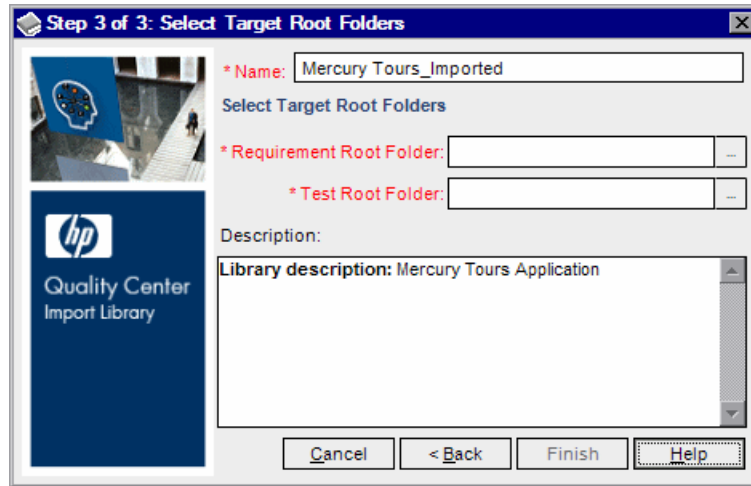


- 3 Select one of the following options:
  - **From Current Project.** Enables you to import a library from the project in which you are working.
  - **From Project.** Enables you to select a domain and project from which to import a library.
    - In the **Domain** list, select a domain.
    - In the **Project** list, select a project.
- 4 In the **Select a Baseline** box, click the browse button. The libraries tree for the project you selected opens, and displays the libraries that can be imported. Expand a library and select a baseline from which to import the library and click **OK**. The library and baseline descriptions are displayed in the Description box.
- 5 Click **Next**. The Step 2 of 3: Library Verification dialog box opens, displaying verification results and the list of fields to be imported.

If any of the verification checks have the status **Failed**, you cannot proceed with the import process. Click **Cancel**.

If the verification checks all have the status **Passed**, click **Next** to continue.

- 6 The Step 3 of 3: Select Target Root Folders dialog box opens.



- 7 In the **Name** box, type a name for the library or accept the default name. By default, the name of the library from which you are importing is displayed with the suffix `_Imported`.
- 8 Under **Select Target Root Folders**, select a location in your project for each of the imported root folders. For example, in the **Requirement Root Folder** box, specify a location for the imported requirements. All of the requirement folders defined in the library are imported under the requirement folder you specify. Click the browse button to display the requirements tree in your project. Select a location for the imported requirements.
- 9 In the **Description** box, type a description for the library or accept the default description. By default, if the source library and baseline contain descriptions, the descriptions are displayed.
- 10 Click **Finish** to import the library. The imported library is added to the libraries tree, and the import process begins.

The library is imported in a background process, and may take some time. You can continue working in Quality Center during the import process.

- 11 Click the **View Log** button in the Details tab. The Log: Import Library dialog box opens and displays progress. Click **Close** to close the dialog box.

---

**Note:** When the process is complete, view the log before refreshing the display. If you refresh the display after the library is imported, the **View Log** button is no longer displayed, and you cannot view the log.

---



- 12** Click the **Refresh** button on the module toolbar to refresh the display. The library details are displayed in the Details tab. For more information on the available fields in the Details tab, see “The Library and Baseline Fields” on page 508.
- 13** In the Details tab, click the **Description** pane to add a description to the library, or modify the existing description.

## Viewing Associated Libraries

You can view information about associated libraries. You can view details of projects that imported a selected library in the **Imported By** tab. You can also view details of the source project from which a library was imported in the **Imported From** tab.

This section includes:

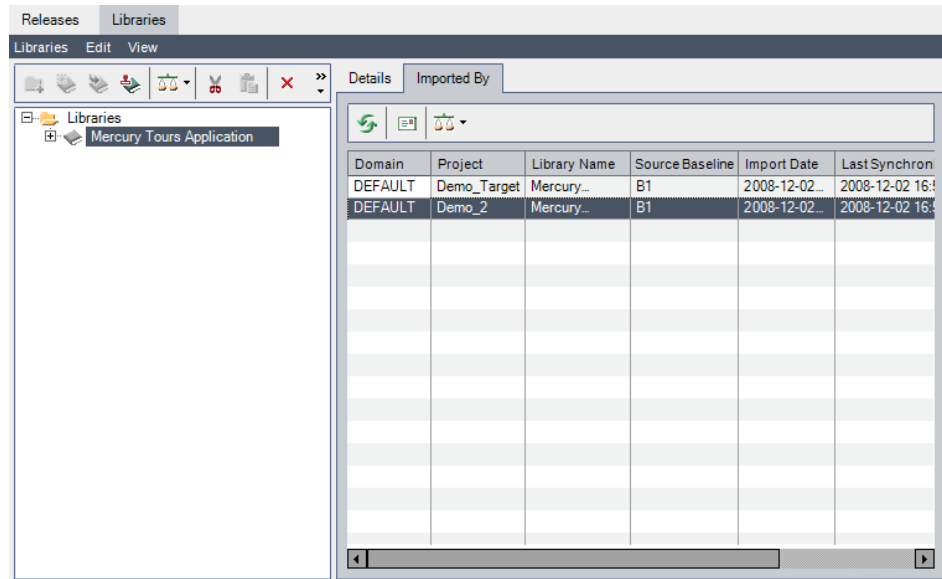
- Viewing the Imported By Tab
- Viewing the Imported From Tab

## Viewing the Imported By Tab

For a selected library, you can view a list of projects that imported this library.

**To view the Imported By tab:**

- 1 In the libraries tree, select a library and click the **Imported By** tab. The projects that have imported the selected library are listed in a grid.



The Imported By tab displays the following columns for each library that imported the selected library:

Column	Description
Domain	The domain in which the imported library is located.
Project	The name of the project that imported the library.
Library Name	The name of the imported library.

Column	Description
Source Baseline Name	The initial value indicates the name of the baseline in the source project from which the library was imported. After synchronization, indicates the name of the baseline in the source project with which the library was synchronized.
Import Date	The date the library was imported.
Last Synchronization	The date of the most recent synchronization of the imported and source libraries.
Library Owner	The user name of the person who imported the library.

You can rearrange columns by dragging the column headers.



**2** Click the **Refresh** button to refresh the display.



**3** To send email to a library owner, select an entry in the grid and click the **Send Mail** button. For more information, see “Mailing Libraries” on page 550.



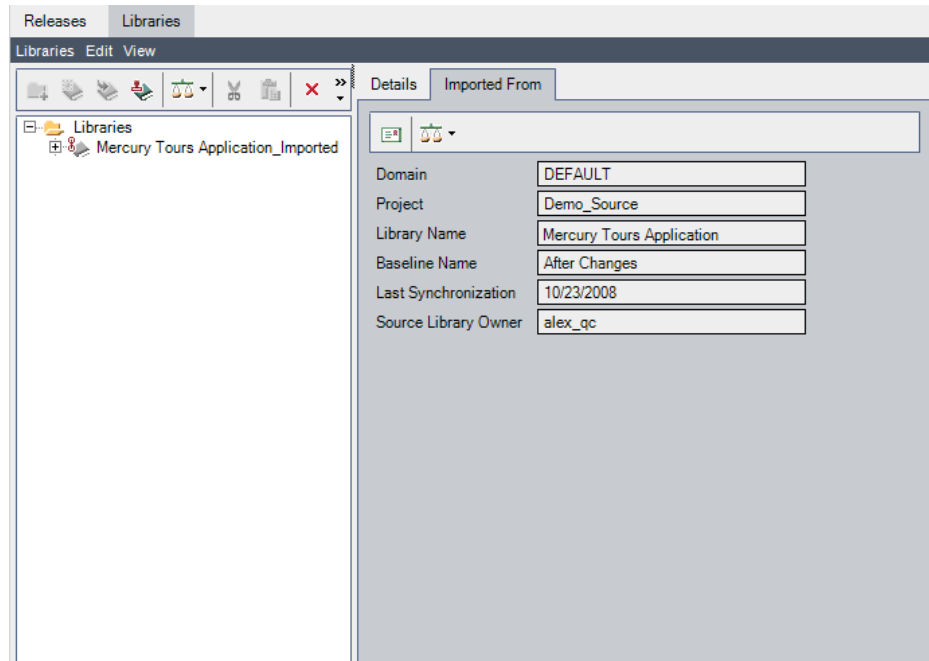
**4** To compare the source to an imported library, click the **Compare To** button. For more information, see “The Compare Libraries Tool” on page 544.

## Viewing the Imported From Tab

You can view details of the source library from which a selected library is imported.

**To view the Imported From tab:**

- 1 In the libraries tree, select an imported library and click the **Imported From** tab.



The Imported From tab displays the following fields:

Column	Description
<b>Domain</b>	The domain in which the source project is located.
<b>Project</b>	The name of the source project.
<b>Library Name</b>	The name of the library in the source project.
<b>Baseline Name</b>	The name of the baseline in the source project from which the project was imported.

Column	Description
Last Synchronization	The date of the most recent synchronization of the imported and source libraries. When the library is first imported, the value of this field is <b>N/A</b> .
Source Library Owner	The user name of the person who created the library in the source project.



- 2** To send email to the source library owner, click the **Send Mail to Owner** button. For more information, see “Mailing Libraries” on page 550.



- 3** To compare the imported library to the source library, click the **Compare To Source** button. For more information, see “The Compare Libraries Tool” on page 544.

# The Compare Libraries Tool

You can compare two associated libraries. The Compare Libraries Tool enables you to compare an imported library with the source library from which it was imported.

---

**Notes:**

- Quality Center does not consider changes made to **Target Release** and **Target Cycle** fields when determining if an entity has been modified.
  - If coverage or traceability between two entities was deleted and then added again, those entities are considered modified.
- 

You can also synchronize two associated libraries. For more information, see “Synchronizing Libraries” on page 547.

**To compare libraries:**



- 1** In the libraries tree, select a library. Click the **Compare To** button or select **Libraries > Compare To**.

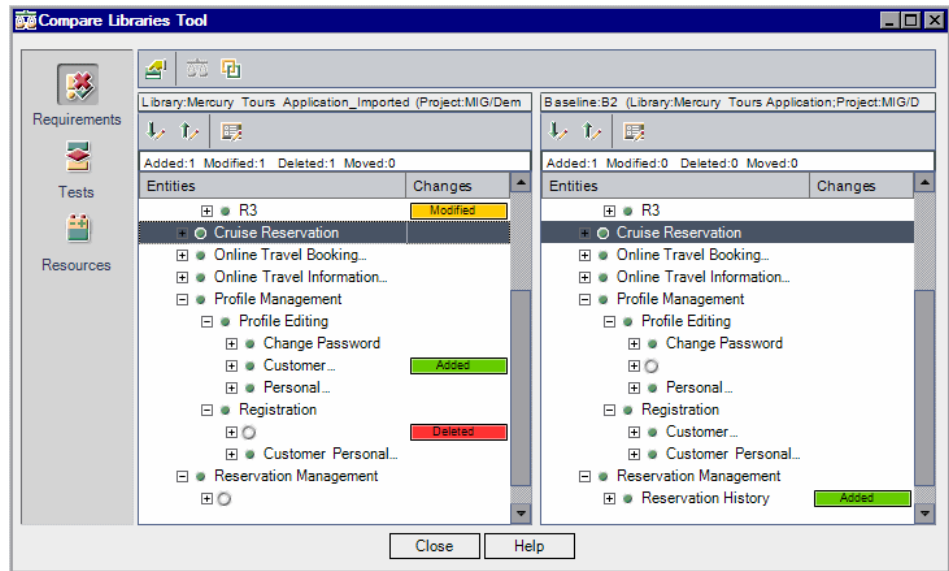


**2** Select a baseline with which to compare the library.

- Select **Latest Baseline Created** to compare the library with the most recent baseline created in the other library.
- Select **Select Baseline** to select a baseline in the other library with which to compare. The Select Baseline dialog box opens. Click the browse button and select a baseline from the list. Click **OK**.

Click **OK** to close the Select Baseline dialog box.

**3** The Compare Libraries Tool dialog box opens.



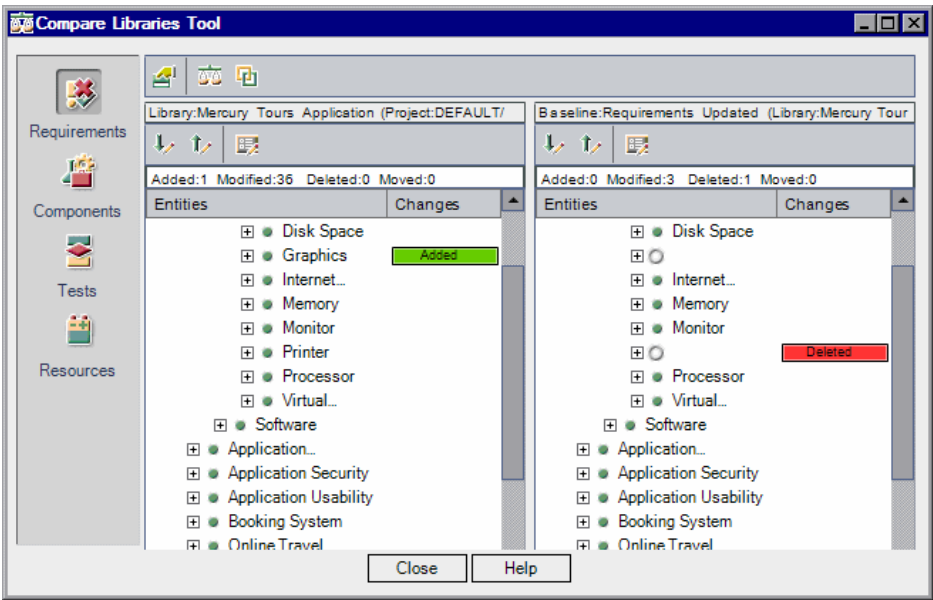
The libraries are displayed in separate panes. The left pane displays the library you selected in the library tree. The right pane displays the baseline in the library to which you are comparing. Each library's entities are displayed in the same hierarchical tree structure as defined in the specific module.

Differences between the two libraries are indicated in the **Changes** column of each pane. The following types of changes are identified by the Compare Libraries Tool:

Change	Description
Added	The entity does not exist in the other library.
Modified	The entity has been modified in the library.
Deleted	The entity was deleted from the library.
Moved	The entity is in a different location in the tree structure in the library.

The number of entities that were added, modified, deleted, or moved is indicated in the counter above each pane.

A deleted or moved entity is displayed in its original location in the tree, indicated by a placeholder. In addition, a placeholder is displayed in the tree where an entity was added in the other library. This maintains the hierarchical structure, enabling you to easily compare changes between the libraries.



- 4 Click a button on the sidebar to view comparison results for entities in a particular module. For example, click the **Tests** button to view comparison results for the Test Plan module. The sidebar displays only the modules that are included in the library.



- 5 Click the **Go to Next Change** button on the library toolbar to move to the next change, or **Go to Previous Change** to move to the previous change.



- 6 To view additional details for an entity, select the entity and click the **Details** button on the library toolbar. The Details dialog box for the entity opens. For example, select a requirement click the **Details** button. This opens the Requirement Details dialog box, and displays details of the selected requirement.



- 7 To compare a modified entity between libraries, select the entity and click the **Compare Entities** button on the toolbar. The Compare Entities dialog box opens and displays details of the entity in each library. For more information, see “Comparing Entities” on page 528.



- 8 Click the **Comparison Settings** button on the toolbar to set options for the Compare Libraries Tool. For more information, see “Configuring the Comparison Settings” on page 522.



- 9 To synchronize the libraries, click the **Synchronize** button. Data from the other library is copied to your library. For more information, see “Synchronizing Libraries” on page 547.

## Synchronizing Libraries

You can synchronize two associated libraries to update one library with changes made in another library. You can update an imported library with changes made in the source library. You can also update a source library with changes made in the imported library.

When you synchronize libraries, Quality Center first verifies that the libraries can be successfully synchronized. The verification process includes the following checks:

- **Requirement type check.** Checks that your project contains the necessary requirement types. If the other library contains customized requirement types, your project must contain the same requirement types. For more information on customized requirement types, see *HP Quality Center Administrator Guide*.
- **Entities compatibility check.** Checks that your project has the necessary extensions enabled. If the other library's project has a Quality Center extension enabled, and the library includes entities for that extension, your project must also have that extension enabled. For more information on extensions, see *HP Quality Center Administrator Guide*.

During synchronization, data from the other library's baseline is copied to your library. The following table summarizes how the entities in your library are updated:

Event in Source Library	Event in Your Library
An entity was added.	The entity is added.
An entity was modified.	The entity is updated. If the entity was modified in both libraries, Quality Center overwrites the entity in your library. <b>Version Control:</b> A new version is created.
An entity was deleted.	Quality Center creates a new folder and moves the deleted entity to the new folder. The new folder is named SYNC_OBSOLETE_<library_id>_<current_date> and is located under the module's root folder.
An entity was moved.	The entity and its children are moved.

Entities in a library must not be edited during synchronization. If entities in your library are being edited by another user during the synchronization process, synchronization cannot complete successfully.

**Version Control:** All entities in your library must be checked in before synchronization. If an entity in your library is checked out, synchronization cannot complete successfully.

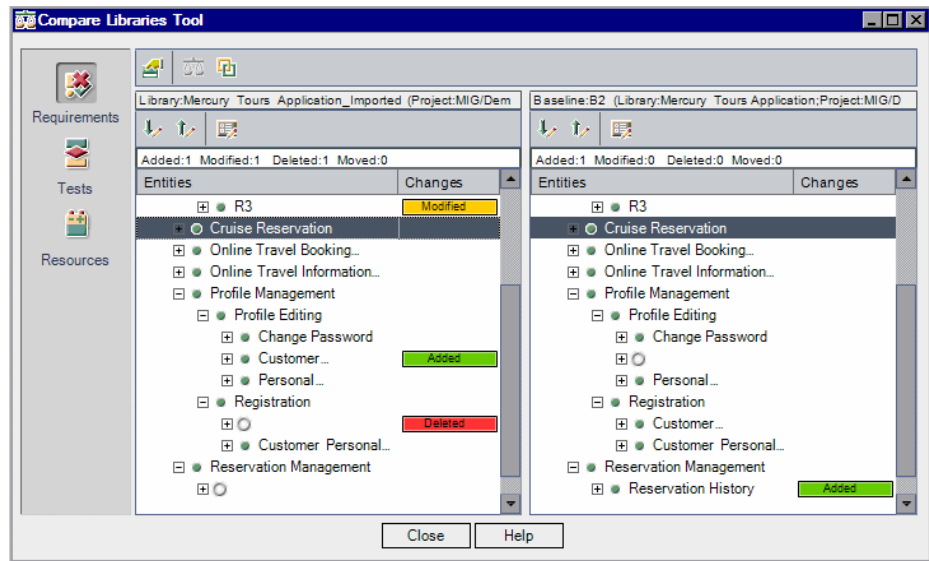
After you synchronize libraries, Quality Center automatically creates a baseline for the updated library. This baseline is the basis for comparing the libraries at any point in time and should not be deleted. For more information on baselines, see Chapter 38, “Libraries and Baselines.”

## Synchronizing Libraries

You can synchronize two libraries to update your library with changes made in another library. You synchronize libraries by selecting a baseline in the library with which to synchronize.

### To synchronize libraries:

- 1 In the libraries tree, select the library that you want to update. Using the Compare Libraries Tool, compare the library by selecting a baseline in the other library. For more information, see “The Compare Libraries Tool” on page 544.



The Compare Libraries Tool displays your library in the left pane, and the baseline of the other library in the right pane. When you synchronize the libraries, Quality Center updates your library with the changes indicated in the baseline in the right pane.



- 2** In the Compare Libraries Tool, click the **Synchronize** button. The Library Verification dialog box opens, displaying the verification results.
- 3** Click **Continue** to start the synchronization. Quality Center copies data from the other library's baseline to your library.
- 4** Click **Close** to close the Compare Libraries Tool dialog box. Synchronization continues in a background process, and may take some time. You can continue working in Quality Center during the synchronization process.
- 5** Click the **View Log** button in the Details tab. The Log: Synchronize Libraries dialog box opens and displays progress. Click **Close** to close the dialog box.



- 6** Click the **Refresh** button on the module toolbar to refresh the display. When the process completes, the **Last Synchronization** date is updated in the Imported By or Imported From tab.

## Mailing Libraries

You can send email about a library to other users. This enables you to inform them about the status of your libraries. For example, after updating requirements in a library, you can notify imported library owners of the changes. A link is included in the email that enables the recipient to go directly to the library.

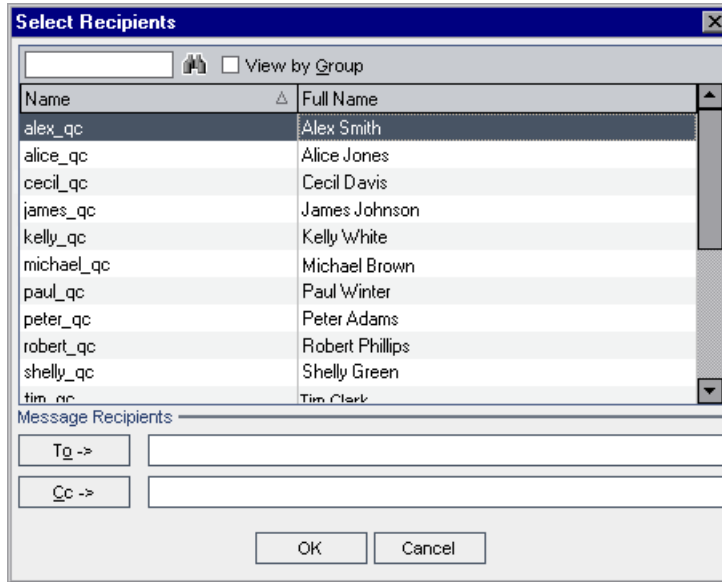
By default, Quality Center sends email in HTML format. To send email as plain text instead, edit the **MAIL\_FORMAT** parameter in the **Site Configuration** tab in Site Administration. For more information, refer to the *HP Quality Center Administrator Guide*.

**To mail a library:**

- 1 In the libraries tree, select a library. Click the **Imported By** or **Imported From** tab. In the **Imported By** tab, you can select a library, or press the CTRL key and select multiple libraries.
- 2 Click the **Send E-Mail** button. The Send E-mail dialog box opens.

A screenshot of the 'Send E-mail' dialog box. The dialog has a title bar 'Send E-mail' with a close button. Below the title bar is a toolbar with icons for 'ABC' (font face), 'B' (bold), 'I' (italic), 'U' (underline), and 'A' (font color). The 'To' field contains 'alex\_qc'. The 'CC' field is empty. The 'Subject' field contains 'DEFAULT.QualityCenter\_Demo - Library #1007 - Mercury Tours Site Tests\_Imported'. The 'Item:' section shows a list with one item '1 - Mercury Tours Site Tests\_Imported' which is checked. Below this is an 'Include:' section and an 'Additional comments:' text area. On the right side of the text area is a vertical toolbar with buttons for 'B' (bold), 'I' (italic), 'U' (underline), 'A' (font color), and 'ABC' (font face). At the bottom are 'Send', 'Cancel', and 'Help' buttons.

- 3 By default, the library owner is listed in the **To** box. To add a user, type a valid email address or user name. Alternatively, click the **To** button or **CC** button to select users. The Select Recipients dialog box opens.



You can sort the users list, search for users, group users by user groups, and select users from the list or from a group tree. For more information, see “Selecting Users” on page 55.

Select the users or user groups to which you want to send the email, and click **OK**.

- 4 In the **Subject** box, type a subject for the email.
- 5 In the **Item** box, you can view the name of the library included in the email.
- 6 In the **Additional comments** box, add any comments you have.



**7** You can check the spelling in the dialog box:



- Click the **Check Spelling** button to check the spelling for the selected word or text box. If there are no errors, a confirmation message opens. If errors are found, the Spelling dialog box opens and displays the word that is misspelled together with replacement suggestions.



- Click the **Spelling Options** button to open the Spelling Options dialog box, enabling you to configure the way Quality Center checks spelling.



- Click the **Thesaurus** button to open the Thesaurus dialog box and display a synonym, antonym, or related word for the selected word. You can replace the selected word or look up new words.



- 8** Click the **Custom** button to customize the email. In the Select Fields dialog box, you can specify fields to include in the email.

- 9** Click **Send** to send the email.



# Part VIII

---

## Quality Center Analysis



# 40

---

## The Dashboard Module

In the Dashboard module, you create, view and manage graphs, standard reports, and Excel reports, for analyzing Quality Center data. You also create dashboard pages that display multiple graphs side-by-side.

### **This chapter includes:**

- About the Dashboard Module on page 557
- The Dashboard Module at a Glance on page 558
- Developing the Analysis and Dashboard Trees on page 559
- Creating Analysis Items on page 560
- Generating Dashboard Pages on page 561
- Managing Analysis Items and Dashboard Pages on page 565

## About the Dashboard Module

The Dashboard module includes two tabs: The Analysis View tab and the Dashboard View tab.

The **Analysis View** tab contains a tree in which you organize all of your analysis items. Analysis items can be any of the following analysis types: graphs, standard reports, and Excel reports.

The **Dashboard View** tab contains a tree in which you organize dashboard pages. In **Dashboard pages** you arrange multiple graphs that you created in the analysis tree, and display them in a single view.

This chapter describes how to develop and manage the analysis tree and the dashboard tree, and how to generate dashboard pages.

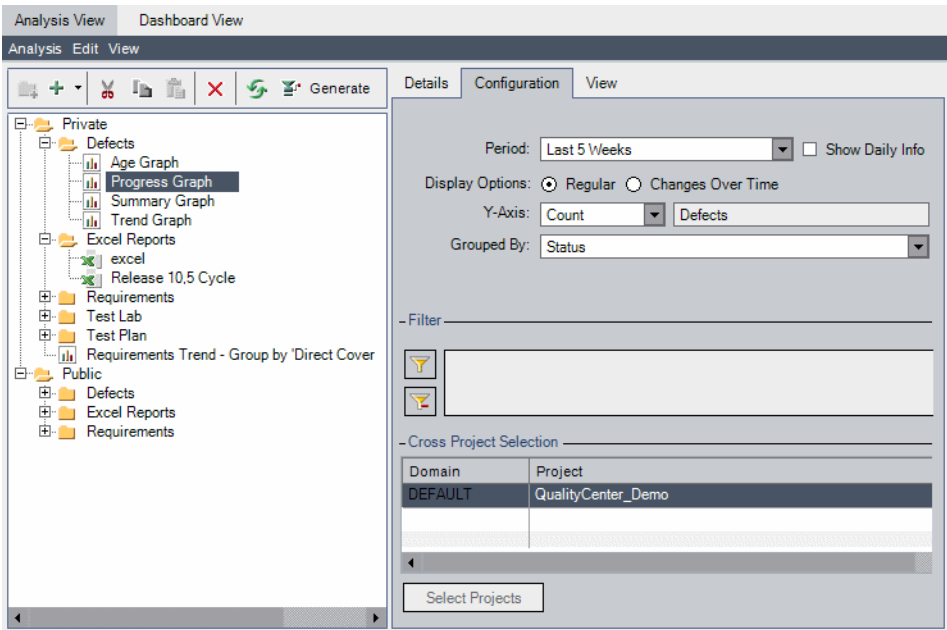
Additional Analysis Tools

- **Live Analysis graphs.** Enables you to create and display a dynamic graphic representation of data related to test plans and test sets. For more information, see Chapter 44, “Generating Live Analysis Graphs.”
- **Document Generator.** Enables you to create a Microsoft Word document containing a project’s requirements, planning, test list, test set folders, and defect tracking data. For more information, see Chapter 45, “Generating Project Documents.”

The Dashboard Module at a Glance



You define analysis items — graphs, standard reports, Excel reports — and dashboard pages using the Dashboard module. To open the Dashboard module, click the **Dashboard** button on the sidebar.



The Dashboard module contains the following key elements:

- **Analysis and Dashboard trees.** Structures of private and public folders that contain your analysis items and dashboard pages. For more information on developing the trees, see “Developing the Analysis and Dashboard Trees” on page 559.
- **Analysis View tab.** Enables you to create and manage graphs, standard reports, and Excel reports.
  - For more information on graphs, see Chapter 41, “Generating Graphs.”
  - For more information on standard reports, see Chapter 42, “Generating Standard Reports.”
  - For more information on Excel reports, see Chapter 43, “Generating Excel Reports.”
- **Dashboard View tab.** Enables you to create and manage dashboard pages, that display multiple graphs on a single page. For more information on creating dashboard pages, see “Generating Dashboard Pages” on page 561.

## Developing the Analysis and Dashboard Trees

The Dashboard module includes trees for analysis items and dashboard pages. Each tree consists of **Private** and **Public** root folders. Under each root folder you develop separate trees. Analysis items or dashboard pages that you create in a public folder are accessible to all users. Analysis items or dashboard pages that you create in a private folder are accessible only to the user who created them. Public dashboard pages can include only public graphs.

Analysis items and dashboard pages in public folders may show different results for different users, depending on the data hiding definitions for the user group. For more information on data permissions, refer to the *HP Quality Center Administrator Guide*.

**To develop the analysis or dashboard tree:**

- 1** In the Dashboard module, click either the **Analysis View** tab or the **Dashboard View** tab.
- 2** In the tree, select the folder under which you want to create a new folder.



- 3 Click the **New Folder** button. Alternatively, right-click and choose **New Folder**. The New Folder dialog box opens.
  - 4 In the **Folder Name** box, type a name for the folder and click **OK**. The folder name cannot include the following characters: \ ^ \*
- The new folder appears as a sub-folder of the folder you selected.
- 5 Click the **Details** tab. The Details tab displays the following fields:

Field	Description
Name	The name of the folder.
Owner	Indicates the user that created the folder. Permissions to modify public folders may be limited to the owner only.
Description	A description of the folder.

# Creating Analysis Items

You create graphs, standard reports, and Excel reports in the Analysis View tab of the Dashboard module.

- To create a graph, see “Creating Graphs with the Graph Wizard” on page 570, or “Creating Graphs in the Dashboard Module” on page 576.
- To create a standard report, see “Creating Standard Reports in the Dashboard Module” on page 612.
- To create an Excel report, see “Creating Excel Reports” on page 625.



## Generating Dashboard Pages

In the dashboard pages, you can arrange and view multiple graphs on a single page. You select the graphs to include in the dashboard page from the graphs in the analysis tree. You can arrange the graphs on the page in any order you like, and you can expand or reduce their size.

This section includes:

- Creating Dashboard Pages
- Configuring Dashboard Pages
- Viewing Dashboard Pages

### Creating Dashboard Pages

You create dashboard pages in the Dashboard View tab of the Dashboard module.

**To create a dashboard page:**

- 1** In the Dashboard module, click the **Dashboard View** tab.
- 2** In the dashboard tree, select a public or a private folder. For more information on folders in the dashboard tree, see “Developing the Analysis and Dashboard Trees” on page 559.



- 3** Click the **New Page** button. Alternatively, choose **Dashboard > New Page**.

The New Dashboard Page dialog box opens. Enter a dashboard page name, and click **OK**. A dashboard page name cannot include the following characters: \ ^ \*

A dashboard page is added to the dashboard tree under the selected folder.

- 4** Click the **Details** tab.

The Details tab displays the following fields:

Field	Description
Name	The name of the dashboard page.
Modified	Indicates the date and time on which the dashboard page was last modified.
Modified By	Indicates the user that last modified the dashboard page.
Page Owner	Indicates the user that created the dashboard page. Permissions to modify public pages may be limited to the owner only.
Title	The title that displays in the header of the dashboard page view.
Description	A description of the dashboard page.

- 5 Select and arrange the graphs that you want to include in the dashboard page. For more information, see “Configuring Dashboard Pages” on page 562.
- 6 View the dashboard page. For more information, see “Viewing Dashboard Pages” on page 563.

### Configuring Dashboard Pages

You configure dashboard pages by selecting and arranging graphs on your page. Each row on the dashboard page can include one or two graphs. In public dashboard pages you may include only public graphs.

---

**Note:** You can change the maximum number of graphs that Quality Center allows you to include in a dashboard page, by setting the **DASHBOARD\_PAGE\_ITEM\_LIMIT** site parameter. For more information, refer to the *HP Quality Center Administrator Guide*.

---

**To configure a dashboard page:**

- 1 In the Dashboard module, click the **Dashboard View** tab.
- 2 In the dashboard tree, select the dashboard page that you want to configure.
- 3 Click the **Configuration** tab. The Select Graphs pane opens.
- 4 To refresh the graphs tree, click the **Refresh** button.
- 5 Select a graph, and click the **Add Graph to Dashboard Page** button. You can also drag a graph to a new row above or below existing graphs, or to an empty box alongside a graph.



A placeholder for the graph is created in the Configuration tab displaying the graph's title.

---

**Note:** You cannot include a graph from a private analysis folder in a public dashboard page.

---

- 6 To move a graph sideways, upwards or downwards, select and drag the placeholder to a new position. You cannot leave blank lines between graphs.
- 7 To expand the width of a graph to cover a whole row, make sure that the graph is in a row of its own, and click the **Expand** button, located in the upper-left corner of the placeholder.
- 8 To reduce the width of a graph to cover half a row, click the **Contract** button, located in the upper-left corner of the placeholder.
- 9 To remove a graph from the dashboard page, click the **Remove** button, located in the upper-right corner of the placeholder.

**Viewing Dashboard Pages**

After you arrange graphs on your dashboard page, you view the graphs in the View tab.

**To view a dashboard page:**

- 1 In the Dashboard module, click the **Dashboard View** tab.
- 2 In the dashboard tree, select the dashboard page that you want to view.

- 3 Click the **Generate** button on the Dashboard View toolbar. Alternatively, click the **View** tab. Quality Center generates and displays the graphs in the dashboard page.

At any time, two rows of graphs are visible in the window. Use the vertical scroll bar to move up or down the dashboard page.

- 4 In bar charts or pie charts, you can drill down from segments of the graph to the records that they represent. For more information, see “Drilling Down to Graph Records” on page 585.



- 5 To view the dashboard page in full-screen mode, click the **View Page in Full Screen** button, located in the upper-right corner of the page.

To return to the standard view, click the **Close** button, located in the upper-right corner of the page.



- 6 To view a single graph in full-screen mode, click the **View Graph in Full Screen** button, located in the upper-right corner of the graph.

You can use the toolbar buttons to adjust the graph’s display, save or print the graph. The adjustments you make to the graph’s display are reset when you next generate the dashboard page. For more information on viewing the graph, see “Viewing Graphs” on page 583.

To return to the dashboard page view, click the **Close** button, located in the upper-right corner of the graph.



- 7 To refresh the data in all the graphs, click the **Generate All Graphs in Page** button, located in the upper-right corner of the page.

To refresh the data in a single graph, click the **Generate Graph** button, located in the upper-right corner of the graph.

Quality Center refreshes the graph and updates the Last Generated time and date.



- 8 To navigate to a graph in the analysis tree, click the **Go To Graph in Analysis Tree** button, located in the upper-right corner of the graph. Alternatively, double-click the graph. The Analysis View opens and the graph is selected in the analysis tree.

## Managing Analysis Items and Dashboard Pages

This section includes editing commands for managing analysis items and dashboard pages in the analysis tree and the dashboard tree. It includes the following topics:

- Moving Items and Folders
- Copying Analysis Items or Folders
- Copying the URL of an Item or Folder
- Renaming an Item or Folder
- Deleting Items or Folders

### Moving Items and Folders

You can move items and folders to a new location in the tree. Before you move an item or folder, consider the following:

- When you move a folder, all the analysis items or dashboard pages it contains move with it.
- When you move an analysis item from a public folder to a private folder, it is removed from public dashboard pages in which it is included.
- When you move a dashboard page from a private folder to a public folder, Quality Center removes any private graphs from the dashboard page.

#### To move an item or folder:

- 1** In the tree, select an item or folder. To move more than one item or folder, hold down the CTRL key and select the items or folders you want to move.
- 2** Click the **Cut** button. Alternatively, right-click and choose **Cut**.
- 3** Select a folder in the tree.
- 4** Click the **Paste** button. Alternatively, right-click and choose **Paste**.




---

**Tip:** You can also move items or folders by dragging them to a different folder.

---

## Copying Analysis Items or Folders

You can copy analysis items or folders within the same project, or to another Quality Center project.

**To copy an analysis item or folder:**

- 1 In the analysis tree, select the item or folder you want to copy. To copy more than one item or folder, hold down the CTRL key and select the items or folders.
- 2 Click the **Copy** button. Alternatively, right-click and choose **Copy**.
- 3 To copy to another project, open another browser window, and log in to the target project.
- 4 Select the folder to which you want to copy the item or folder.
- 5 Choose **Edit > Paste**. Alternatively, right-click and choose **Paste**.



## Copying the URL of an Item or Folder

You can copy an item or folder and paste its URL as a link. The item is not copied. Instead, you can paste the address into another location, such as an email or a document. Clicking on the link opens up Quality Center and takes you to the item or folder. If you are not already logged in, Quality Center first prompts for login details.

**To copy a URL of an item or folder:**

- 1 In the tree, select an item or folder.
- 2 Choose **Edit > Copy URL**. Alternatively, right-click and choose **Copy URL**.
- 3 Paste the URL.

## Renaming an Item or Folder

You can rename an item or folder.

**To rename an item or folder:**

- 1 In the tree, select an item or folder.
- 2 Right-click the item or folder and choose **Rename**.
- 3 Edit the item or folder name and click **Enter**.

## Deleting Items or Folders

You can delete an item or folder from the tree. Before you delete an item or folder, consider the following:

- Deleting a folder deletes all the items included in it.
- Deleting a graph removes it from dashboard pages that contain it.

### To delete an item or folder:

- 1** In the tree, select an item or folder. To delete more than one item or folder, hold down the CTRL key and select the items or folders you want to delete.
- 2** Click the **Delete** button, or right-click and choose **Delete**.
- 3** Click **Yes** to confirm.







---

## Generating Graphs

You can generate graphs that let you view images describing the information in a Quality Center project. You can also design graphs that combine data from multiple projects.

**This chapter includes:**

- About Generating Graphs on page 569
- Creating Graphs with the Graph Wizard on page 570
- Creating Quick Graphs on page 575
- Creating Graphs in the Dashboard Module on page 576
- Configuring Graphs on page 578
- Creating Cross-Project Graphs on page 581
- Viewing Graphs on page 583
- Quality Center Graph Types on page 591

### About Generating Graphs

Quality Center graphs help you analyze and view the relationships between different types of data. Graphs can represent data in the Requirements, Test Plan, Test Lab, and Defects modules. Depending on the module, you have different graph options. For more information on available graph types, see “Quality Center Graph Types” on page 591.

**Quality Center Premier Edition:** You can create graphs that include data from multiple Quality Center projects.

You launch graphs either in the Dashboard module, or during your work in the Requirements, Test Plan, Test Lab, or Defects modules. In either case, you can save the graphs in the Dashboard module for future reference.

Quality Center provides a graph wizard that guides you through the stages of creating a graph. For more information, see “Creating Graphs with the Graph Wizard” on page 570.

When viewing the graphs, you can drill down to the records represented by each segment. For more information, see “Drilling Down to Graph Records” on page 585.

You can display multiple graphs in a single view, by including them in a dashboard page. For more information, see “Generating Dashboard Pages” on page 561.

## Creating Graphs with the Graph Wizard

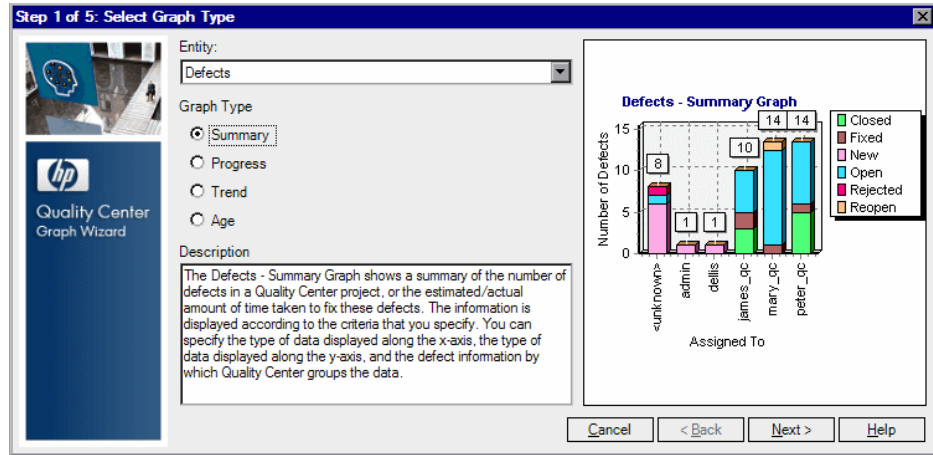
You can create a graph using the graph wizard. The graph wizard takes you through the steps involved in creating a graph and defining its settings.

**To create a graph using the graph wizard:**

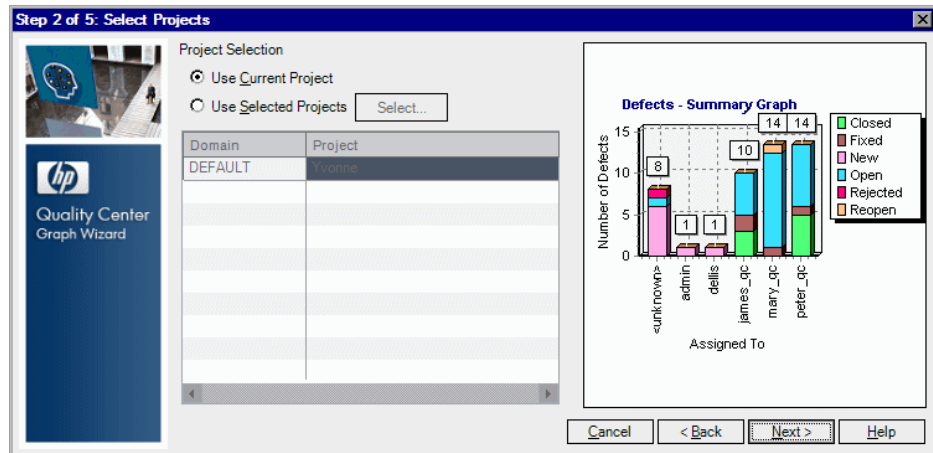
- 1** Launch the graph wizard:
  - Open either the Requirements, Test Plan, Test Lab, or Defects module. Choose **Analysis > Graphs > Graph Wizard**.
  - Open the Dashboard module and select the **Analysis View** tab. Click the **New Item** button, and select **Graph Wizard**.



The graph wizard opens on the Select Graph Type dialog box.

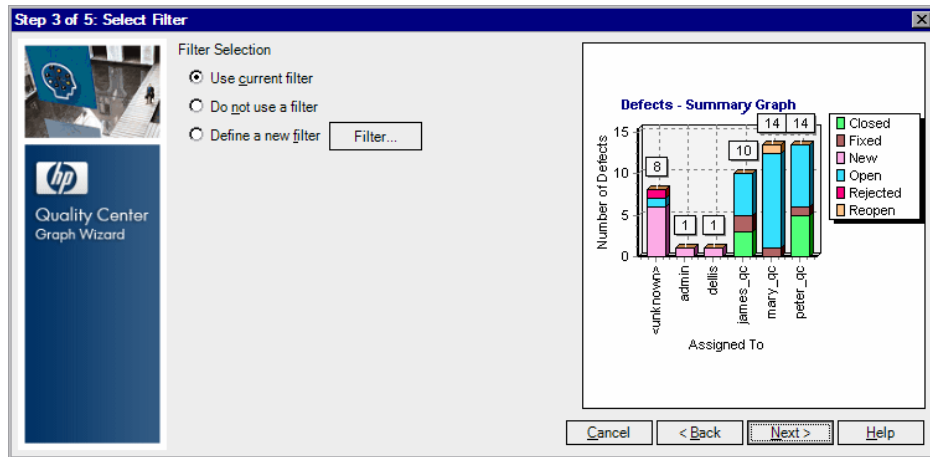


- The following step applies if you launched the graph wizard from the Dashboard module. Under **Entity**, select the Quality Center module for which you want to create the graph.
- Under **Graph Type**, select the type of graph that you want to display. For more information on graph types, see “Quality Center Graph Types” on page 591. Click **Next**.
- Quality Center Premier Edition:** The Select Projects dialog box opens.



Under **Project Selection**, specify the projects that you want to include in the graph:

- **Use Current Project.** The graph uses the current Quality Center project.
  - **Use Selected Projects.** The graph uses the projects that appear in the grid. To change the selected projects, click **Select**. For more information on creating cross-project graphs, see “Creating Cross-Project Graphs” on page 581.
- 5 The following step applies if you launched the graph wizard from the Test Lab module. The Select Test Set Option dialog box opens. Select whether to include in the graph the selected test set only, or all the test sets. Click **Next**.
- 6 The Select Filter dialog box opens.



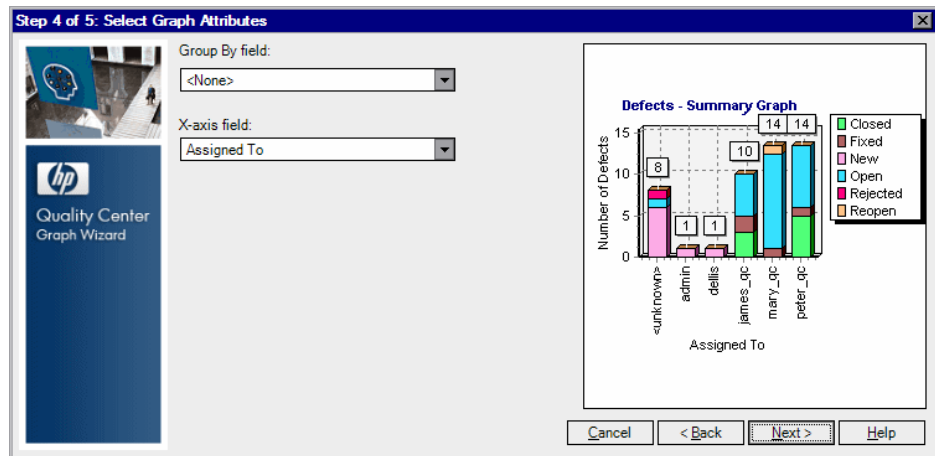
Under **Filter Selection**, specify which filter to use to define the records included in the graph:

- **Use current filter.** Available if you launched the graph wizard from the Requirements, Test Plan, Test Lab, or Defects modules. Uses the current filter applied to the data.
- **Do not use a filter.** Includes all records of the selected module.
- **Define a new filter.** Enables you to define a new filter or cross-filter. Click the **Filter** button to open the Filter dialog box, and define the filter.

For more information on filtering, see “Filtering Records” on page 56.

**Quality Center Premier Edition:** If your graph includes multiple projects, you can filter using only fields that are in all the selected projects.

- 7 Click **Next**. The Select Graph Attributes dialog box opens.



In the **Group By field** box, select the field by which you want data to be grouped in the graph. For progress and trend graphs, you can only select a field for which history has been enabled. For more information on enabling history for a field, refer to the *HP Quality Center Administrator Guide*.

**Quality Center Premier Edition:** If your graph includes multiple projects, you can only select from fields that are in all the selected projects. To group the data by project, select the **QC Project** value.

- 8 If you are creating a summary graph, in the **X-Axis** box, select the field that you want to use for the x-axis.

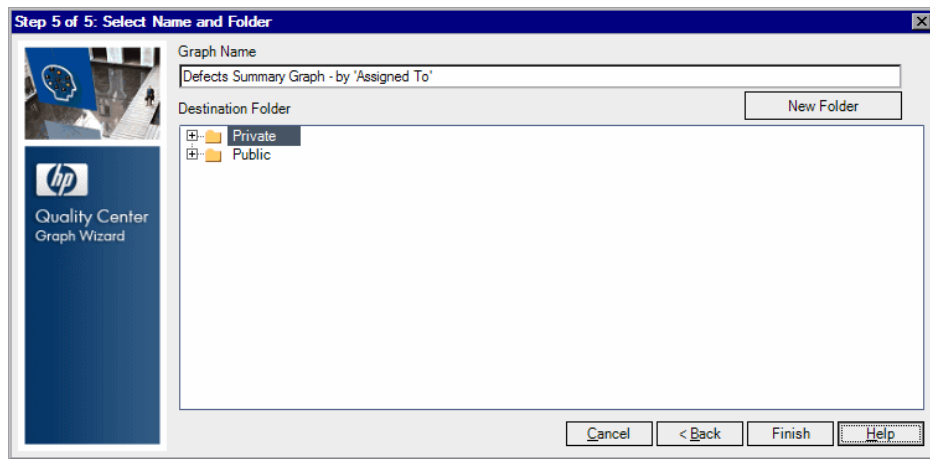
**Quality Center Premier Edition:** If your graph includes multiple projects, you can only select from fields that are in all the selected projects. To list the projects along the x-axis, select the **QC Project** value.

- 9 This step applies if you are working in the Requirements module. The Select Coverage dialog box opens. Under **Select a coverage option**, select which requirements to include in the graph:

- **Do not show 'Not Covered' parents.** Does not include parent requirements with a 'Not Covered' status.
- **Show 'Not Covered' parents.** Includes all requirements.

For more information on coverage, see Chapter 19, “Requirement and Test Coverage.”

- 10 Click **Next**. The Select Name and Folder dialog box opens.



In the **Graph Name** box, type a name for the graph, or leave the default name.

- 11 Under **Destination Folder**, select the folder in which the graph will be located in the Dashboard module. To create a new folder, select the parent folder and click the **New Folder** button. For more information on folders in the analysis tree, see “Developing the Analysis and Dashboard Trees” on page 559.
- 12 Click **Finish**. The graph opens in the **View** tab of the Dashboard module, with the settings you defined.

## Creating Quick Graphs

You can create quick graphs during your work in the Requirements, Test Plan, Test Lab, and Defects modules. **Quick graphs** enable you to create several types of graphs in each module, using the existing module filter. You can use quick graphs for one-time reference, or save them in the Dashboard module, where you can continue to configure their data and appearance.

---

**Note:** You can also create graphs from the Requirements, Test Plan, Test Lab, and Defects modules using the graph wizard. For more information, see “Creating Graphs with the Graph Wizard” on page 570.

---

### To create a quick graph:

- 1 Open the Quality Center module in which you want to generate the graph.
- 2 Choose **Analysis > Graphs** and select a graph type. For more information on graph types, see “Quality Center Graph Types” on page 591.

The graph opens with default data and appearance settings.

- 3 Use the toolbar buttons to browse the graph, adjust its appearance, and output the results. For more information on viewing graphs, see “Viewing Graphs” on page 583.
- 4 In bar and pie charts, you can drill down to the records that are represented by the segments by clicking a segment. For more information, see “Drilling Down to Graph Records” on page 585.
- 5 To save the graph in the Dashboard module, click **Save**. The New Graph dialog box opens.
- 6 Under **Graph Name**, type a name for the new graph.
- 7 Under **Select Folder**, select the folder in the Analysis tree in which to save the graph, or click **New Folder** to create a new folder. For more information on folders in the analysis tree, see “Developing the Analysis and Dashboard Trees” on page 559.

- 8 Click **Save**. The Dashboard module opens in the Analysis View, and the graph opens under the View tab.
- 9 You can configure the graph content in the **Configuration** tab. For more information, see “Configuring Graphs” on page 578.

## Creating Graphs in the Dashboard Module

You can create graphs in the Dashboard module, that display data from the Requirements, Test Plan, Test Lab, and Defects modules.

---

**Note:** You can also create a graph using the graph wizard. For more information, see “Creating Graphs with the Graph Wizard” on page 570.

---

### To create a graph in the Dashboard Module:

- 1 In the Dashboard module, click the **Analysis View** tab.
- 2 In the analysis tree, select the folder under which you want to add a graph. For more information on adding folders in the analysis tree, see “Developing the Analysis and Dashboard Trees” on page 559.



- 3 Click the **New Item** button, and select **New Graph**. The New Graph dialog box opens.

A screenshot of the 'New Graph' dialog box. It has a title bar with 'New Graph' and a close button. Inside, there are three dropdown menus: 'Entity' with 'defects' selected, 'Graph Type' with 'Age Graph' selected, and 'Graph Name' which is empty. At the bottom are three buttons: 'OK', 'Cancel', and 'Help'.

- 4 Under **Entity**, select the entity for which you want to create a graph.



- 5 Under **Graph Type**, select the type of graph you want to create. For more information on graph types, see “Quality Center Graph Types” on page 591.
- 6 Under **Graph Name**, type a name for the graph.
- 7 Click **OK**. The graph is added to the analysis tree.
- 8 Click the **Details** tab. The Details tab displays the following fields:

Field	Description
<b>Entity</b>	Indicates the data set sampled by the graph.
<b>Type</b>	Indicates the analysis item type.
<b>Sub Type</b>	Indicates the graph type.
<b>Name</b>	The name of the graph.
<b>Modified</b>	Indicates the date and time on which the graph was last modified.
<b>Modified By</b>	Indicates the user that last modified the graph.
<b>Owner</b>	Indicates the user that created the graph. Permissions to modify public graphs may be limited to the owner only.
<b>Description</b>	A description of the graph.

- 9 You can configure the graph content in the **Configuration** tab. For more information, see “Configuring Graphs” on page 578.
- 10 View the graph in the **View** tab. For more information, see “Viewing Graphs” on page 583.

## Configuring Graphs

You can define what data appears in a graph, and how the data is organized.

**To configure the graph:**

- 1 In the analysis tree, select the graph you want to configure.
- 2 Click the **Configuration** tab.

Details

Configuration

View

X-Axis: Detected By

Y-Axis: Count Defects

Grouped By: Severity

- Filter

Filter: Status[Fixed Or Rejected ]

- Cross Project Selection

Domain	Project
DEFAULT	QualityCenter_Demo

Select Projects

**3** Configure the following settings that apply to your graph type:

Setting	Description
<b>Age Grouping</b>	<p>You can group all defects older than a certain period (for example, older than six months) in one column, and all defects more recent than that period in a second column. Alternatively, you can group the defects by all available periods.</p> <ul style="list-style-type: none"> <li>➤ Select a period to group the defects in two columns.</li> <li>➤ Select <b>No grouping</b> to view all of the available periods.</li> </ul>
<b>Display Options</b>	<ul style="list-style-type: none"> <li>➤ Select <b>Regular</b> to view the number of requirements, tests, or defects over the period of time you selected.</li> <li>➤ Select <b>Changes over Time</b> to view the change in the number of requirements, tests, or defects over the period of time you selected. Each record begins at 0.</li> </ul>
<b>Grouped By</b>	<p>Select a field to determine the information by which Quality Center groups data in the graph. You can group the data only by string or list fields.</p> <p><b>Tip:</b> For cross-project graphs, select <b>QC Projects</b> to group the data by project.</p>
<b>Period</b>	Select the period of time you want the graph to show.
<b>Show Daily Info</b>	Select this option to display each day along the x-axis.
<b>Show 'Not Covered' parents</b>	In Requirements graphs, you can choose to include in the graph parent requirements with a Not Covered status.

Setting	Description
X-Axis	Select a field to determine the information displayed along the x-axis of the graph. <b>Tip:</b> For cross-project graphs, select <b>QC Projects</b> to display the data by project.
Y-Axis	In Defects graphs, you can select the data that displays on the y-axis. <ul style="list-style-type: none"><li>➤ Select <b>Count</b> to display the total number of items (for example, a count of open defects).</li><li>➤ Select <b>Sum of</b> and choose a numerical field. For example, choose <b>Estimated Fix Time</b> to display the estimated time required for fixing the defects. Choose <b>Actual Fix Time</b> to display the actual time spent on fixing the defects. (Available only in Defects graphs.)</li></ul>



- 4** To apply a filter or cross-filter to the graph content, click the **Set Filter** button. For more information on filtering, see “Filtering Records” on page 56. For more information on cross filtering, see “Advanced/Cross Filtering Records” on page 61.
- 5 Quality Center Premier Edition:** To change the projects whose data is included in the graph, under **Cross Project Selection**, click the **Select Projects** button. For more information on creating cross-project graphs, see “Creating Cross-Project Graphs” on page 581.

## Creating Cross-Project Graphs

**Quality Center Premier Edition:** You can create cross-project graphs that combine data from several projects in a single graph. In the graph wizard, you select the projects that the graph will include as part of the wizard's procedure. You can also change the selected projects at any time in the graph's **Configuration** tab. You can only select projects in which you are listed as a user.

---

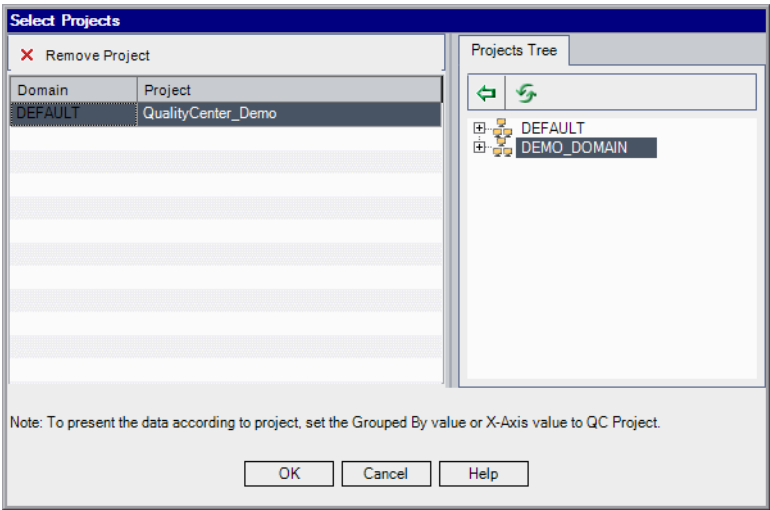
**Note:** You can change the maximum number of projects that Quality Center allows you to include in a graph, by setting the **PROJECT\_SELECTION\_MAX\_PROJECTS** site parameter. For more information, refer to the *HP Quality Center Administrator Guide*.

---

**To create cross-project graphs:**

- 1** Select one of the following options:
  - **In the graph wizard:** Proceed to the Select Projects dialog box, and click the **Select** button.
  - **In the analysis tree:** Select the graph, click the **Configuration** tab, and click the **Select Projects** button.

The Select Projects dialog box opens.



The Projects Tree includes only projects in which you are listed as a user.



- 2 To add a project to the grid, expand the Projects Tree, select a project and click the **Add** button. You can also drag a project from the Projects Tree to the grid, or double-click the project.

---

**Tip:** To include all of a domain’s projects in the graph, select a domain in the Projects Tree, and add it to the grid. All the domain’s projects are listed individually in the grid.

---

- 3 Click **OK** to close the **Select Projects** dialog box.
- 4 You can display project data separately in the graph, by selecting **QC Project** in the **X-Axis** or **Grouped By** fields. Select one of the following options:
  - In the graph wizard, proceed to the Select Graph Attributes dialog box.
  - In the **Configuration** tab, set the **X-Axis** or **Grouped By** fields. For more information, see “Configuring Graphs” on page 578.

## Considerations for Creating Cross-Project Graphs

- Every time you add or remove projects in your graph, Quality Center updates the Filter Condition list, and the drop-down lists of the following boxes: **X-Axis**, **Y-Axis**, and **Grouped By**. The lists contain only fields that are identical in all the selected projects. Identical fields are fields that have the same field name, label and data type. For more information on customizing fields, see the *HP Quality Center Administrator Guide*.
- If you defined a filter condition using a field that becomes unavailable, that condition is removed.
- If you selected a field in the **X-Axis**, **Y-Axis**, and **Grouped By** boxes that becomes unavailable, the first field in the drop-down list is selected.

## Viewing Graphs

This section includes the following topics:

- Viewing the Graph
- Drilling Down to Graph Records
- Setting the Graph Appearance
- Editing Graph Categories

### Viewing the Graph

You can change the graph format, browse the graph, set the graph appearance, change the graph categories, save, and print the graph.

**To view the graph:**

- 1** Select a graph:
  - In the analysis tree, select a graph, and click the **View** tab.
  - Select the Requirements, Test Plan, Test Lab, or Defects module, choose **Analysis > Recently Used**, and select a graph.
- 2** In progress and trend graphs, click the categories in the legend box to show or hide the categories in the graph.

- 3 Browse the graph using the graph view toolbar. The toolbar includes the following buttons, depending on the graph type:

**Generate.** Refreshes the graph with the most recent data.



**Bar Chart.** Available in summary, trend, and age graphs.



**Pie Chart.** Displays the x-axis categories as pie segments. The y-axis quantities are represented by the size of the segments. Pie charts do not display the Grouped By field. Available in summary graphs.



**Line Chart.** Available in progress graphs.



**Data Grid.** The grid creates a matrix of the graph's x-axis and Grouped By categories. A **Total** row is added that displays the total of each Grouped By category. Available in all graph types.



**Show/Hide Total Values.** Available in progress graphs. Toggles between showing and hiding a category representing the total of the Grouped By categories.



**Scroll to the Left.** Scrolls the graph to the left. This button is enabled when the Zoom In and Zoom Out buttons are in use.



**Scroll to the Right.** Scrolls the graph to the right. This button is enabled when the Zoom In and Zoom Out buttons are in use.



**Show All.** Returns the graph to its normal size. This button is enabled when the Zoom In and Zoom Out buttons are in use.



**Zoom In.** Increases the magnification of the graph.



**Zoom Out.** Decreases the magnification of the graph.



**Save Graph Data.** Saves the contents of a graph as a file. When viewing the graph as a bar chart, a pie chart, or a line chart, you can save the graph as a graphic file in various graphic formats. When viewing the data grid, you can save the data as an Excel spreadsheet, a Word file, an HTML document, or a text file.



**Set Graph Appearance.** Changes the appearance of the graph, enabling you to customize the graph title, graph color, and graph display. For more information, see “Setting the Graph Appearance” on page 587.





**Copy Graph to Clipboard.** Includes the following options:

- **Copy Graph (Color).** Copies the graph in color to the Clipboard.
- **Copy Graph (Monochrome).** Copies the graph in monochrome to the Clipboard.
- **Copy Full Screen Graph (Color).** Copies the graph in color to the Clipboard, enlarged to fit full screen.
- **Copy Full Screen Graph (Monochrome).** Copies the graph in monochrome to the Clipboard, enlarged to fit full screen.



**Print Graph.** Includes the following options:

- **Print Graph (Color).** Prints the graph in color. This is the default button option.
- **Print Graph (Monochrome).** Prints the graph in monochrome.
- **Print Graph and Details (Color).** Prints the graph and its description in color.
- **Print Graph and Details (Monochrome).** Prints the graph and its description in monochrome.



**Edit Categories.** Enables you to combine **X-Axis** and **Grouped By** field values into categories. For more information, see “Editing Graph Categories” on page 588.




**Full Screen.** Opens the graph in a new window and maximizes its display. Available in the Dashboard module.

## Drilling Down to Graph Records

You can drill down to the graph’s records by clicking on segments in the graph.

**To drill down to graph records:**

- 1** Display the graph in the pie chart format or the bar chart format.
- 2** Click a segment or a bar.

- 3 If the segment or bar represents records from only the project you are currently working in, the Drill Down Results dialog box opens. In this case, proceed to step 6.
- 4 **Quality Center Premier Edition:** If the segment or bar represents only records from another project, the records display in a separate browser window:
  - If you are already logged in to the other project in another browser window, the appropriate module is selected in that window, and the relevant records are listed.
  - If you are not logged in to the other project, click **OK** to confirm. A new browser window opens. After you log in, Quality Center displays the relevant records in the appropriate module.
- 5 **Quality Center Premier Edition:** If the segment or bar represents records from multiple projects, the Project Selection dialog box opens.
  - a Under **Select Project**, select a project, and click **OK**.
  - b If you selected the current project, the Drill Down Results dialog box opens. In this case, proceed to step 6.
  - c If you selected another project, the records display in a separate browser window:
    - If you are already logged in to the other project in another browser window, the appropriate module is selected in that window, and the relevant records are listed.
    - If you are not logged in to the other project, click **OK** to confirm. A new browser window opens. After you log in, Quality Center displays the relevant records in the appropriate module.
- 6  In the Drill Down Results dialog box, click the **Select Columns** button, located in the upper-right corner, to define which columns appear in the grid, and the order in which they appear. For more information, see “Arranging Columns” on page 52.
- 7 Double click a record to open the record details.
- 8 The <Module> Details dialog box opens. You can edit the record details in this dialog box.

- 9 Click **OK** or **Cancel** to close the dialog box and return to the Drill Down Results dialog box.
- 10 Close the Drill Down Results dialog box to return to the View tab.

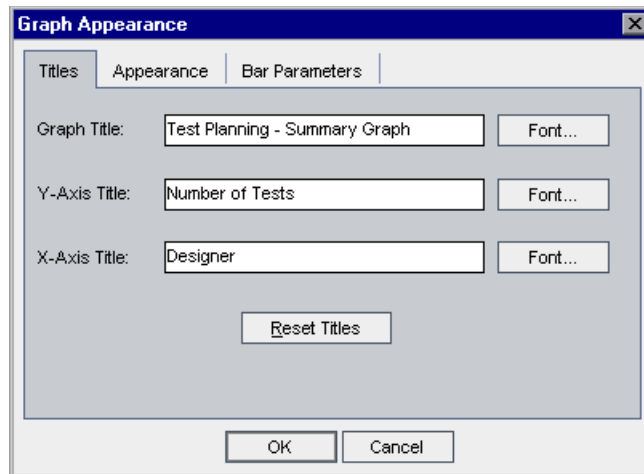
## Setting the Graph Appearance

After you have created your graph, you can change its titles and appearance. For a bar chart, you can specify the display parameters for the bars. For a line chart, you can specify the display parameters for the lines.

To set the graph appearance:



- 1 Click the **View** tab. Click the **Set Graph Appearance** button located in the graph toolbar. Alternatively, click the graph title. The Graph Appearance dialog box opens.



- 2 Click the **Titles** tab to change the titles of the graph, the y-axis, or the x-axis. You can click the **Font** button to change a title's font or color. You can click the **Reset Titles** button to restore the original titles. Note that for a pie chart, you can only change the title of the graph.
- 3 Click the **Appearance** tab to set the default format of your graph, to modify the orientation of the labels at the base of the graph (for a bar chart and a line chart only), to determine the format in which dates are displayed on the x-axis, to display the graph with a 3-D effect, or to change the colors of the various components in your graph.

- 4 For a bar chart, click the **Bar Parameters** tab to specify whether you want the values for each bar to be displayed. You can also adjust the bar width. If you specify that the values of each bar are to be displayed, you can change the data that is displayed for each bar, or its position relative to the bar.
- 5 For a line chart, click the **Line Parameters** tab to specify whether you want the line frame to be displayed.

## Editing Graph Categories

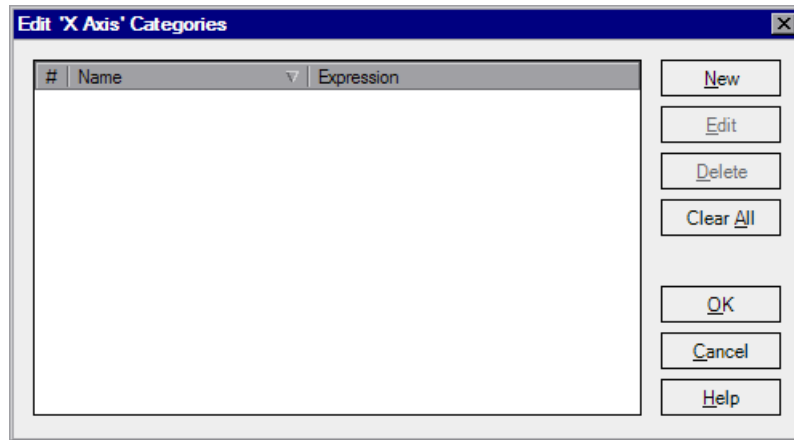
You can combine values in the **X-Axis** and **Grouped By** fields into categories. This enables you to group together data for different field values and display the combined data as one category. For example, suppose the **Priority** field has five values: Low, Medium, High, Very High, and Urgent. You might combine the values Medium and High into a category Important, and the values Very High and Urgent into a category Critical. The graph would then display data divided into three categories: Low, Important, and Critical.

**To edit categories for a graph:**

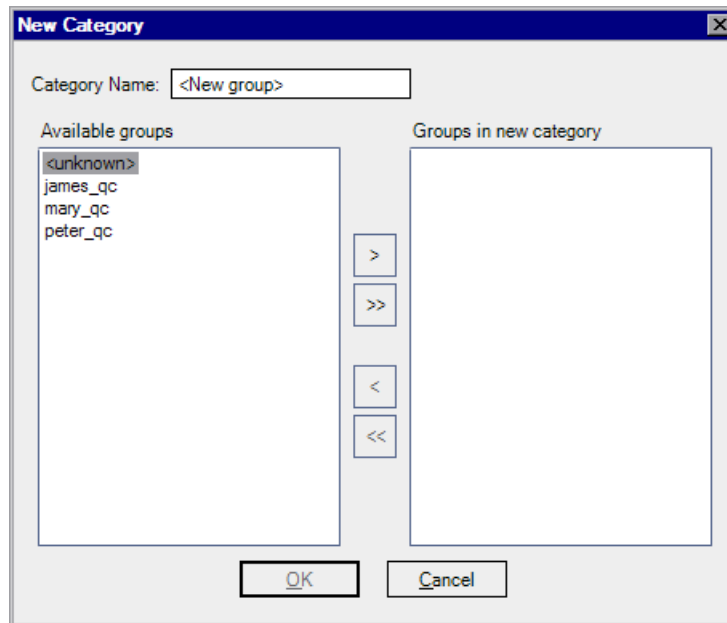


- 1 Click the **View** tab. Click the **Edit Categories** button located in the graph toolbar and select one of the following options:
  - **Edit X-Axis Categories.** Enables you to combine **X-Axis** field values into categories for graph display. This option is only available for summary graphs and Requirements Coverage graphs. This is the default button option.
  - **Edit Grouped By Categories.** Enables you to combine **Grouped By** field values into categories for graph display.

The Edit 'X-Axis' Categories or Edit Grouped By Categories dialog box opens.



- 2** To create a new category, click the **New** button. The New Category dialog box opens.



- 3** In the **Category Name** box, type a name for the category.

- 4 To select which field values to include in the category, select field values and click the arrow buttons (> and <) to move them between **Available groups** and **Groups in new category**. Click the double arrow buttons (>> and <<) to move all the field values from one list to the other. You can also drag field values between lists. You cannot include a field value in more than one category.

Click **OK** to close the New Category dialog box.

- 5 To edit a category, select the category and click the **Edit** button. Repeat steps 3 to 4.
- 6 To delete a category, select the category and click the **Delete** button.
- 7 To delete all categories, click the **Clear All** button. Click **Yes** to confirm.
- 8 Click **OK** to close the Edit X-Axis Categories or Edit Grouped By Categories dialog box.



- 9 To reset the **X-Axis** or **Group By** categories to their default settings, click the **Edit Categories** button located in the graph toolbar and select one of the following options:
  - **Reset X-Axis Categories.** Restore the **X-Axis** categories. This option is only available for summary graphs and Requirements Coverage graphs.
  - **Reset Group By Categories.** Restore the **Group By** categories.

Click **Yes** to confirm. The **X-Axis** or **Group By** categories are reset.

## Quality Center Graph Types

Quality Center enables you to generate graphs for the Requirements, Test Plan, Test Lab, and Defects modules. For each module, different graph types are available.

### Requirements Module Graphs

You can generate the following graphs for the Requirements module:

Graph	Description
<b>Requirements - Summary Graph</b>	Shows how many requirements are currently in a Quality Center project. For more information, see “Requirements - Summary Graph” on page 594.
<b>Requirements - Progress Graph</b>	Shows how many requirements accumulated in a Quality Center project at specific points during a period of time. For more information, see “Requirements - Progress Graph” on page 595.
<b>Requirements - Trend Graph</b>	Shows the history of changes to specific requirement fields in a Quality Center project, for each time interval displayed. For more information, see “Requirements - Trend Graph” on page 597.
<b>Requirements - Coverage Graph</b> (Available from the Requirements module only.)	Shows how many requirements are currently in a Quality Center project, according to their test coverage status. For more information, see “Requirements - Coverage Graph” on page 596.

## Test Plan Module Graphs

You can generate the following graphs for the Test Plan module:

Graph	Description
<b>Test Planning - Summary Graph</b>	Shows how many tests are currently in a Quality Center project. For more information, see “Test Planning - Summary Graph” on page 598.
<b>Test Planning - Progress Graph</b>	Shows how many tests accumulated in a Quality Center project at specific points during a period of time. For more information, see “Test Planning - Progress Graph” on page 599.
<b>Test Planning - Trend Graph</b>	Shows the history of changes to specific Test Plan fields in a Quality Center project, for each time interval displayed. For more information, see “Test Planning - Trend Graph” on page 600.

## Test Lab Module Graphs

You can generate the following graphs for the Test Lab module:

Graph	Description
<b>Test Execution - Summary Graph</b>	Shows how many tests in a Quality Center project belong to the current test set, or to all test sets. For more information, see “Test Execution - Summary Graph” on page 601.
<b>Test Execution - Progress Graph</b>	Shows how many tests accumulated in the current test set, or in all test sets, at specific points during a period of time. For more information, see “Test Execution - Progress Graph” on page 602.



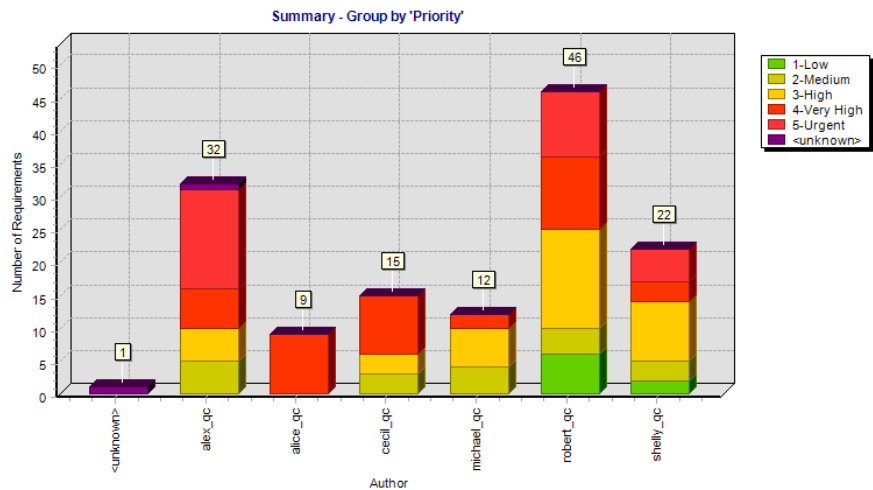
## Defects Module Graphs

You can generate the following graphs for the Defects module:

Graph	Description
<b>Defects - Summary Graph</b>	Shows a summary of the number of defects in a Quality Center project, or the estimated/actual amount of time taken to fix these defects. For more information, see “Defects - Summary Graph” on page 603.
<b>Defects - Progress Graph</b>	Shows the accumulation of defects in a Quality Center project, or the estimated/actual amount of time taken to fix these defects, at specific points during a period of time. For more information, see “Defects - Progress Graph” on page 604.
<b>Defects - Age Graph</b>	Shows the lifetime of defects in a Quality Center project. For more information, see “Defects - Age Graph” on page 605.
<b>Defects - Trend Graph</b>	Shows the history of changes to specific defect fields in a Quality Center project, for each time interval displayed. For more information, see “Defects - Trend Graph” on page 606.

## Requirements - Summary Graph

The Requirements - Summary Graph shows how many requirements are currently in a Quality Center project. The number of requirements is displayed according to the criteria that you specify. You can specify the type of data displayed along the x-axis, and the requirement information by which Quality Center groups the data.



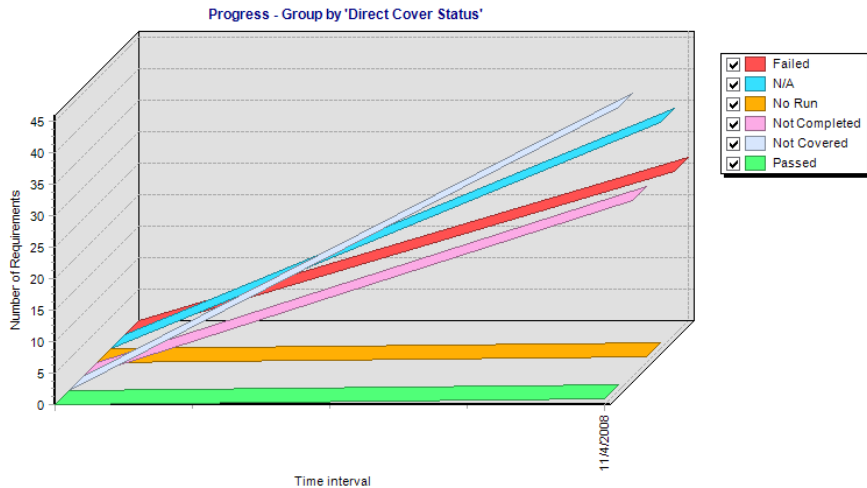
For example, choose **Author** from the **X-Axis** list to display the number of requirements that exist in your project, according to author. Select **Priority** from the **Grouped By** list to group requirements in the graph columns according to their level of priority. You can select the **Show 'Not Covered' parents** check box to include parent requirements with a 'Not Covered' status in the graph.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

By default, the graph appears as a bar chart.

## Requirements - Progress Graph

The Requirements - Progress Graph shows how many requirements accumulated in a Quality Center project at specific points during a period of time. The number of requirements is displayed according to the criteria that you specify. You can specify the time interval displayed along the x-axis, and the requirement information by which Quality Center groups the data. You can also specify whether you want to view the number of requirements or the change in the number of requirements.



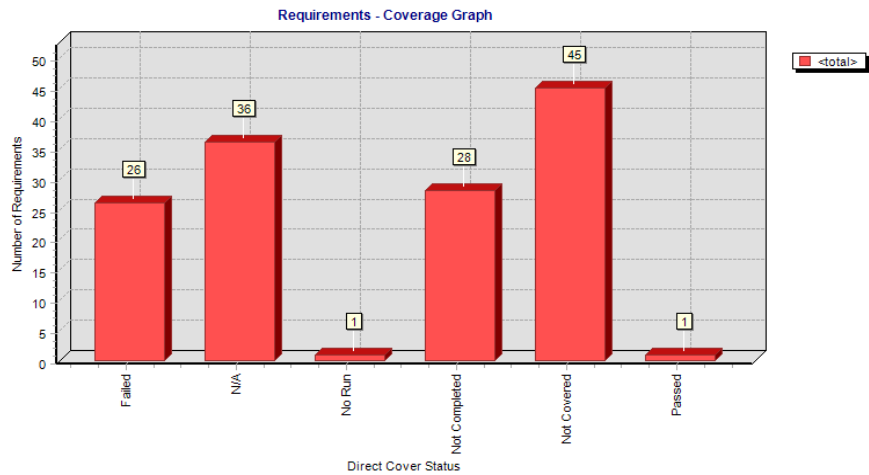
For example, choose **Direct Cover Status** from the **Grouped By** list to group the displayed requirements according to their test coverage status. Under **Period**, select **Last 5 weeks** to display this interval along the x-axis. Note that the graph displays data measured on the last day of each week. Under **Display Options**, select **Changes Over Time** to view the changes in the number of requirements over time, as opposed to the number of requirements.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

The graph can be viewed as a line chart only.

## Requirements - Coverage Graph

The Requirements - Coverage Graph shows how many requirements are currently in a Quality Center project, according to their test coverage status.



You can specify the requirement information by which Quality Center groups the data. For example, select **Priority** from the **Grouped By** list to group requirements in the graph's columns according to their level of priority. Select the **Show 'Not Covered' parents** check box to include parent requirements with a Not Covered status in the graph.

---

**Note:** The Requirements - Coverage Graph is a specific type of summary graph. If you select a different requirement field from the X-Axis list, a regular Requirements - Summary Graph is displayed.

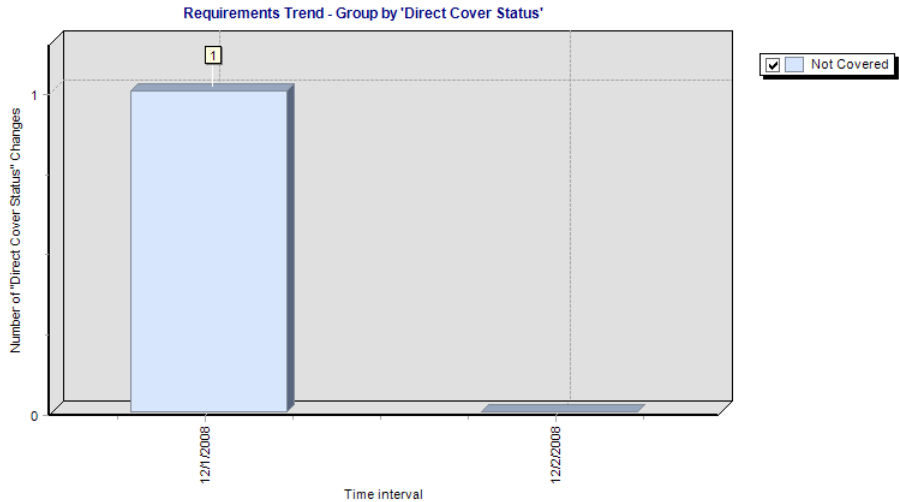
---

For more information on configuring the graph, see “Configuring Graphs” on page 578.

By default, the graph appears as a bar chart. To view the graph as a pie chart, click the **Pie Chart** button.

## Requirements - Trend Graph

The Requirements - Trend Graph shows the history of changes to specific requirement fields in a Quality Center project, for each time interval displayed. You specify the field for which you want to view the number of changes, and the time period for which you want to view data.



For example, choose **Direct Cover Status** from the **Count Changes in Field** list to display the number of changes made to the “Direct Cover Status” requirement field. Under **Period**, select **Last 5 weeks** to display this time period along the x-axis. Note that the graph displays a sum of the data measured for each week.

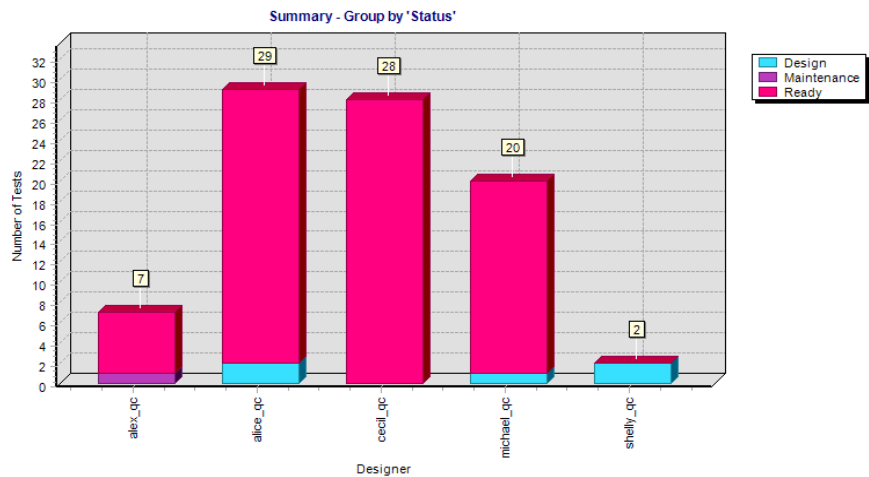
For more information on configuring the graph, see “Configuring Graphs” on page 578.

Note that each status change is only recorded once for the purpose of this graph. For example, if a field was changed from “Not Completed” to “Passed” to “Not Completed”, the “Not Completed” status change will only be recorded once in this graph.

The Requirements - Trend Graph can be viewed as a bar chart only.

## Test Planning - Summary Graph

The Test Planning - Summary Graph shows how many tests are currently in a Quality Center project. The number of tests is displayed according to the criteria that you specify. You can specify the type of data displayed along the x-axis, and the test plan information by which Quality Center groups the data.



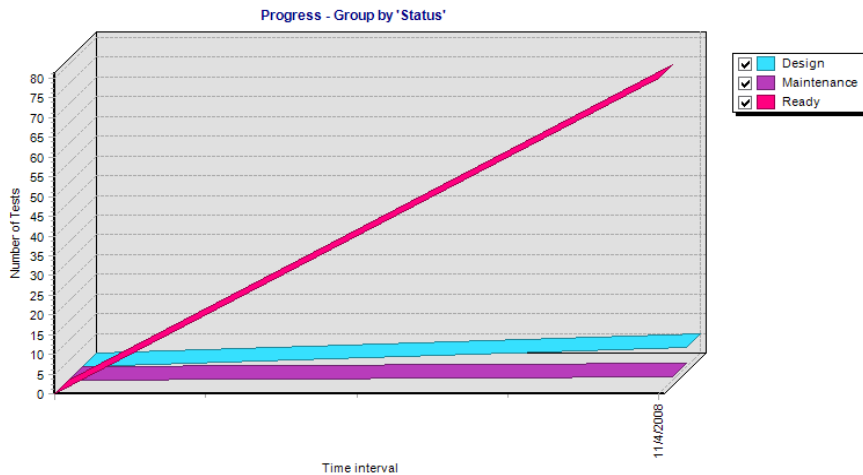
For example, choose **Designer** from the **X-Axis** list to display the number of tests that exist in your project, according to designer. Select **Priority** from the **Grouped By** list to group tests in the graph's columns according to their level of priority. Click the **Generate** button to refresh the graph display.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

By default, the graph appears as a bar chart. To view the graph as a pie chart, click the **Pie Chart** button.

## Test Planning - Progress Graph

The Test Planning - Progress Graph shows how many tests accumulated in a Quality Center project at specific points during a period of time. The number of tests is displayed according to the criteria that you specify. You can specify the time interval displayed along the x-axis and the test plan information by which Quality Center groups the data. You can also specify whether you want to view the number of tests or the change in the number of tests.



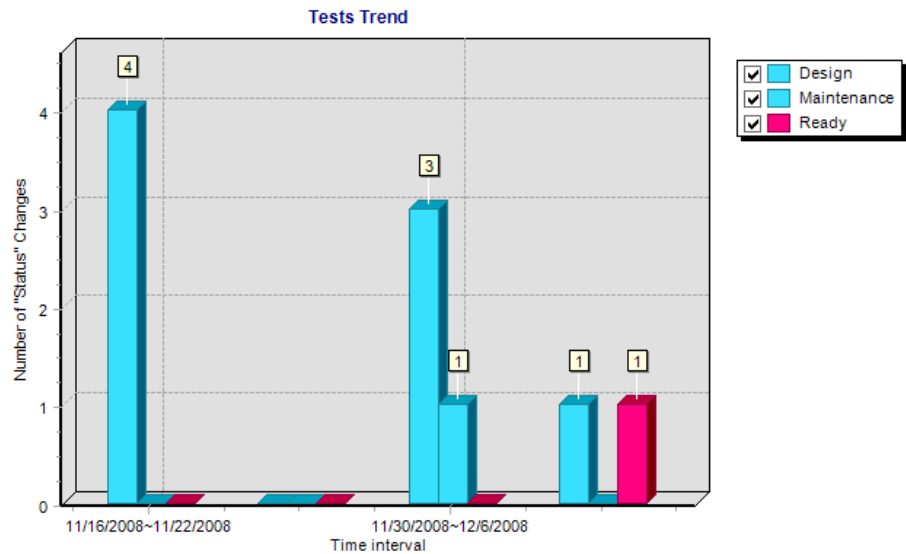
For example, choose **Status** from the **Grouped by** list to group the displayed tests according to their level of priority. Under **Period**, select **All days** and **Show daily info** to display each day along the x-axis. Under **Display Options**, select **Changes Over Time** to view the changes in the number of tests over time, as opposed to the number of tests.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

The Test Planning - Progress Graph can be viewed as a line chart only.

### Test Planning - Trend Graph

The Test Planning - Trend Graph shows the history of changes to specific Test Plan fields in a Quality Center project, for each time interval displayed. You specify the field for which you want to view the number of changes, and the time period for which you want to view data.



For example, choose **Status** from the **Count changes in field** list to display the number of changes made to the Test Plan “Status” field. Under **Period**, select **Last 5 weeks** to display this time period along the x-axis. Note that the graph displays a sum of the data measured for each week.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

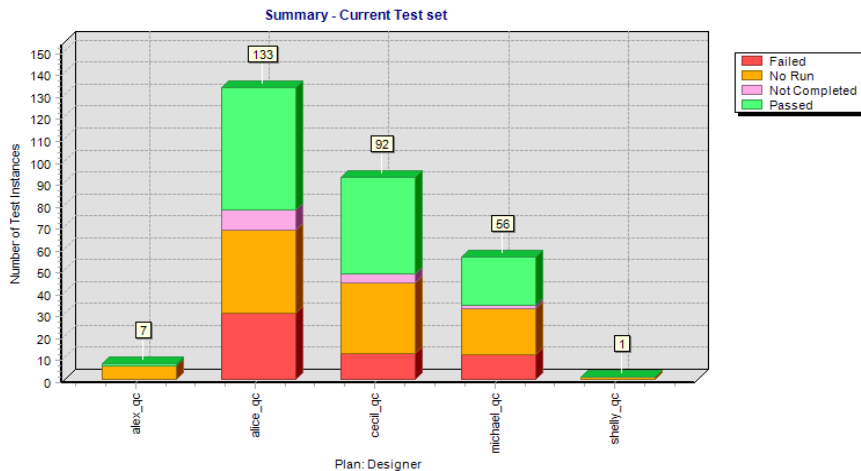
Note that each status change is only recorded once for the purpose of this graph. For example, if a field was changed from “Ready” to “Repair” to “Ready”, the “Ready” status change will only be recorded once in this graph.

The Test Planning - Trend Graph can be viewed as a bar chart only.



## Test Execution - Summary Graph

The Test Execution - Summary Graph shows how many tests in a Quality Center project belong to test sets. You can specify whether the graph refers to the current test set, or to all test sets. The number of tests is displayed according to the criteria that you specify. You can specify the type of data displayed along the x-axis, and the test plan and test in test set information by which Quality Center groups the data.



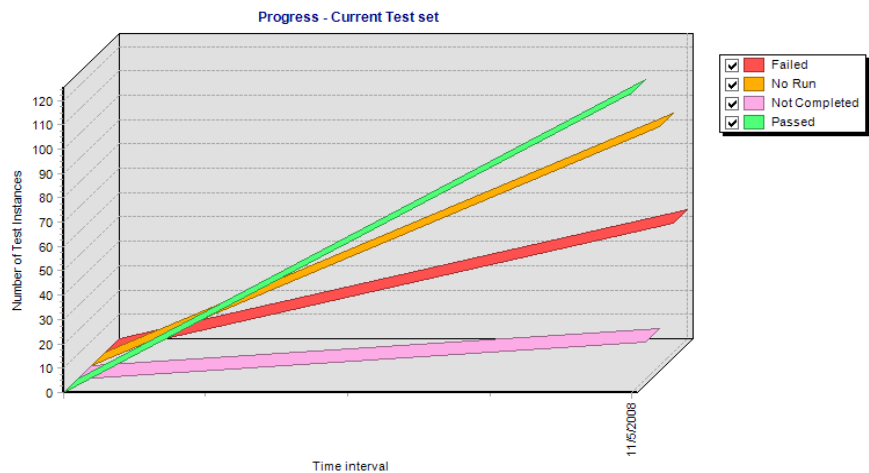
For example, choose **Status** from the **X-Axis** list to display the number of tests that exist in your project, according to test status. Select **Plan: Priority** from the **Grouped By** list to group tests in the graph's columns according to their level of priority. Click the **Generate** button to refresh the graph display.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

By default, the graph appears as a bar chart. To view the graph as a pie chart, click the **Pie Chart** button.

Test Execution - Progress Graph

The Test Execution - Progress Graph shows how many tests accumulated in test sets at specific points during a period of time. You can specify whether the graph refers to the current test set, or to all test sets. The number of tests is displayed according to the criteria that you specify. You can specify the time interval displayed along the x-axis, and the test plan and test in test set information by which Quality Center groups the data. You can also specify whether you want to view the number of tests or the change in the number of tests.



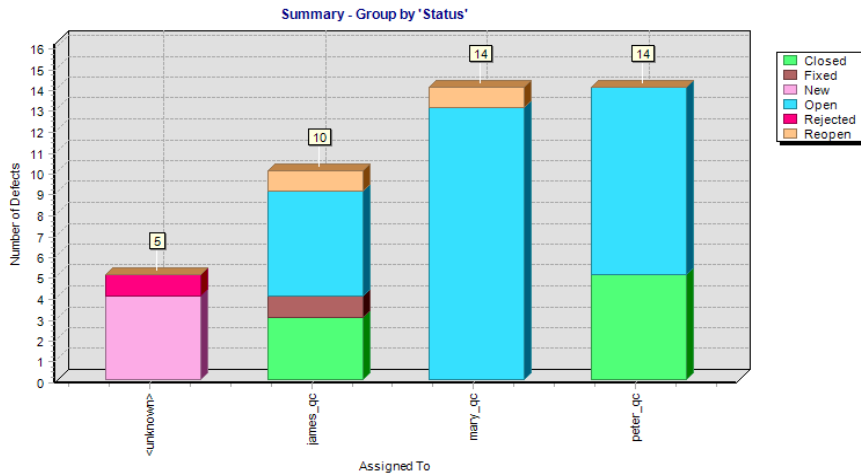
For example, choose **Status** from the **Grouped by** list to group the displayed tests according to their status. Under **Period**, select **Last 5 weeks** to display this interval along the x-axis. (Note that the graph displays data measured on the last day of each week.) Under **Display Options**, select **Changes Over Time** to view the changes in the number of tests over time, as opposed to the number of tests.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

The Test Execution - Progress Graph can be viewed as a line chart only.

## Defects - Summary Graph

The Defects - Summary Graph shows a summary of the number of defects in a Quality Center project, or the estimated/actual amount of time taken to fix these defects. The information is displayed according to the criteria that you specify. You can specify the type of data displayed along the x-axis, the type of data displayed along the y-axis, and the defect information by which Quality Center groups the data.



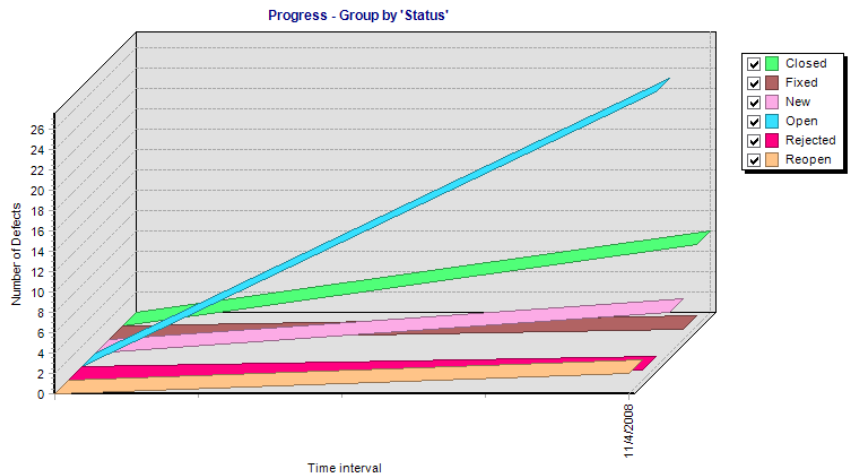
For example, choose **Assigned To** from the **X-Axis** list to display the number of defects that exist in your project, according to the people to whom they are assigned. Select **Status** from the **Grouped By** list to group defects in the graph's columns according to their status. Under **Data Type**, select **Count** to display the number of defects along the y-axis. Click the **Generate** button to refresh the graph display.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

By default, the graph appears as a bar chart. To view the graph as a pie chart, click the **Pie Chart** button.

## Defects - Progress Graph

The Defects - Progress Graph shows the accumulation of defects in a Quality Center project, or the estimated/actual amount of time taken to fix these defects, at specific points during a period of time. The information is displayed according to the criteria that you specify. You can specify the time interval displayed along the x-axis, the defect information by which Quality Center groups the data, and the data displayed along the y-axis. You can also specify whether you want to view the number of defects or the change in the number of defects.



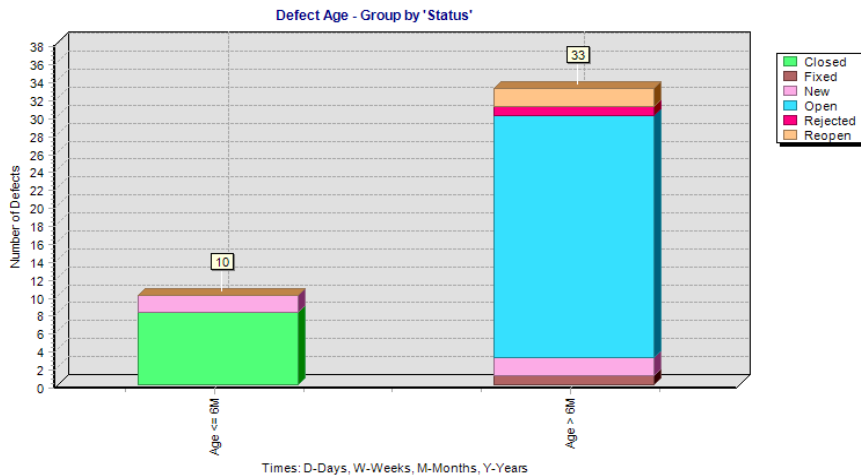
For example, choose **Status** from the **Grouped by** list to group the displayed defects according to their status. Under **Data Type**, select **Count** to view the number of defects along the y-axis, as opposed to the estimated/actual amount of time taken to fix the defects. Under **Period**, select **Last 5 weeks** to display this interval along the x-axis. (Note that the graph displays data measured on the last day of each week.) Under **Display Options**, select **Changes Over Time** to view the changes in the number of defects over time, as opposed to the number of defects.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

The Defects - Progress Graph can be viewed as a line chart only.

## Defects - Age Graph

The Defects - Age Graph shows the lifetime of defects in a Quality Center project. The lifetime of a defect begins when it is reported, and ends when it is closed. The information in this graph is displayed according to the criteria that you specify. You can specify the defect information by which Quality Center groups the data, and the data displayed along the y-axis. You can also specify the time interval that you want to use to divide the data, if you want to view graph content in two data columns.



For example, choose **Status** from the **Grouped by** list to group the displayed defects according to their status. Under **Data Type**, select **Count** to view the number of defects along the y-axis, as opposed to the estimated/actual amount of time taken to fix the defects. Under **Age Grouping**, select **No Grouping** to display all of the available age groupings. Click the **Generate** button to refresh the graph display.

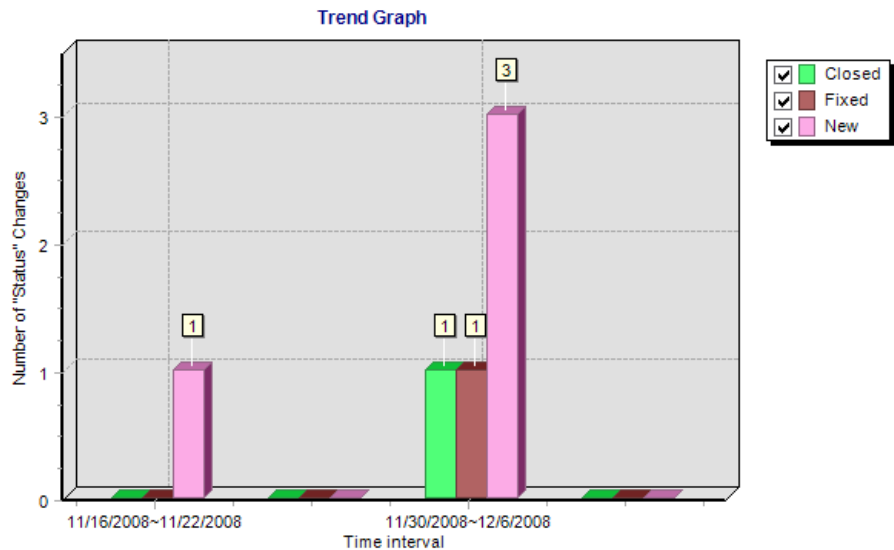
For more information on configuring the graph, see “Configuring Graphs” on page 578.

Note that the age of a “Closed” defect is the difference between the date on which it was reported and the date on which it was closed. After a defect is closed, its age is fixed.

The Defects - Age Graph can be viewed as a bar chart only.

## Defects - Trend Graph

The Defects - Trend Graph shows the history of changes to specific defect fields in a Quality Center project, for each time interval displayed. You specify the field for which you want to view the number of changes, and the time period for which you want to view data.



For example, choose **Priority** from the **Count Changes in Field** list to display the number of changes made to the “Priority” defect field. Under **Period**, select **Last 5 weeks** to display this time period along the x-axis. (Note that the graph displays a sum of the data measured for each week.) Click the **Generate** button to refresh the graph display.

For more information on configuring the graph, see “Configuring Graphs” on page 578.

Note that each priority change is only recorded once for the purpose of this graph. For example, if a field was changed from “Urgent” to “Very High” to “Urgent”, the “Urgent” priority change will only be recorded once in this graph.

The Defects - Trend Graph can be viewed as a bar chart only.

# 42

---

## Generating Standard Reports

Standard reports offer you a variety of report types that list data from Quality Center modules.

**This chapter includes:**

- About Generating Standard Reports on page 607
- Creating Quick Standard Reports on page 608
- Creating Standard Reports in the Dashboard Module on page 612
- Configuring Standard Reports on page 615
- Adding Sub-Reports on page 617
- Viewing Standard Reports on page 620

### About Generating Standard Reports

Standard reports help you monitor requirements and test coverage, the test plan, test runs, and defect tracking.

You create standard reports either in the Dashboard module, or during your work in the Requirements, Test Plan, Test Lab, or Defects modules. In either case, you can save the standard reports in the Dashboard module for future reference.

When you create standard reports in the Requirements, Test Plan, Test Lab, or Defects modules, you can choose from a variety of predefined reports. You can also create reports on selected records for immediate display.

Standard reports that you create in the Dashboard module allow you to define the data that the report includes. You can also add sub-reports, that add extra layers of related data.

---

**Notes:**

- You can create Excel reports that extract data by running SQL queries. For more information, see Chapter 43, “Generating Excel Reports.”
  - You can export grid data as a text file, Microsoft Excel spreadsheet, Microsoft Word document, or HTML document. You export data from the Requirements Grid, Test Grid, Execution Grid, or Defects Grid. For more information, see “Exporting Data to a File” on page 74.
- 

## Creating Quick Standard Reports

Quick reports are reports that display data in the Requirements, Test Plan, Test Lab and Defects modules. You can use quick reports for one-time reference, or save them in the Dashboard module, where you can continue to configure their data and appearance.

When you create quick reports, you can choose from a list of predefined reports, or you can generate a report of selected data. For more information on predefined report types, see “Available Predefined Reports” on page 610.

**To create a quick standard report:**

- 1** Select the Quality Center module in which you want to create a report.
- 2** To create a predefined report, choose **Analysis > Reports**, and select the type of report you want to create.



**3** To create a quick report of selected records:

- a** Select the requirements, tests, or defects that you want to include in the report. To include more than one record, hold down the CTRL key and select the records.
- b** Choose **Analysis > Reports > Report Selected**. Alternatively, right-click the records and choose **Report Selected**. The report opens and displays data from the selected records.

In the Requirements module, to create a quick report for a requirement and its children, choose **Analysis > Report Selected with Children**.

Alternatively, right-click the requirement and choose **Report Selected with Children**. The report opens with data from the selected requirement and its children.

- 4** Use the buttons in the report toolbar to adjust the report view. For more information, see “Viewing Standard Reports” on page 620.
- 5** To save the report in the Dashboard module, click **Save**. The New Standard Report dialog box opens.
- 6** Under **Standard Report Name**, type a name for the new report.
- 7** Under **Select Folder**, select the folder in the Analysis tree in which to save the report, or click **New Folder** to create a new folder. For more information on folders in the analysis tree, see “Developing the Analysis and Dashboard Trees” on page 559.
- 8** Click **Save**. The Dashboard module opens in the Analysis View, and the report opens under the **View** tab.
- 9** After you save the report, you can configure the report content, and adjust its viewing settings. For more information, see “Configuring Standard Reports” on page 615.

## Available Predefined Reports

You can select predefined reports from the Requirements, Test Plan, Test Lab, and Defects modules.

### Requirements Module Reports

The following reports are available for the Requirements module:

Report	Description
<b>Standard Requirement Report</b>	Lists the requirements that appear in the current requirements view.
<b>Tabular Report</b>	Displays the requirements that appear in the current requirements view, in a grid format.
<b>Requirements with Coverage Tests</b>	Lists the requirements that appear in the current requirements view, with their test coverage information.
<b>Requirements with Coverage Tests and Steps</b>	Lists the requirements that appear in the current requirements view, with their test coverage information. It also displays the test steps for each tests coverage.
<b>Requirements with Linked Defects</b>	Lists the requirements that appear in the current requirements view, with their linked defects.
<b>Requirements with Traceability</b>	Lists the requirements that appear in the current requirements view, with their associated traced to and traced from requirements.

### Test Plan Module Reports

The following reports are available for the Test Plan module:

Report	Description
<b>Standard Test Planning Report</b>	Lists the tests in the current test plan view.
<b>Subject Tree Report</b>	Lists the tests in the current test plan view by subject.

Report	Description
<b>Tests with Design Steps</b>	Lists the tests that appear in the current test plan view, including their design steps.
<b>Tests with Covered Requirements</b>	Lists the tests that appear in the current test plan view, with their requirement coverage information.
<b>Tests with Linked Defects</b>	Lists the tests that appear in the current test plan view, with their linked defects.

### Test Lab Module Reports

The following reports are available for the Test Lab module:

Report	Description
<b>Current Test Set</b>	Lists the tests that appear in the current test set.
<b>Cross Test Set</b>	Lists the tests that appear in the Test Sets list, without listing their tests.
<b>Test Set Hierarchy with Tests</b>	Lists the test sets hierarchically, as well as the status of each of the test sets.
<b>Cross Test Set with Tests</b>	Lists the test sets that appear in the Test Sets list, including their tests.
<b>Current Test Set with Failed Test Runs</b>	Lists tests from the current test set, with “Failed” test run status.
<b>Cross Test Set with Failed Test Runs</b>	Lists tests from all test sets, with “Failed” test run status.
<b>Execution Notification</b>	Lists the tests that are displayed in the current test set with the results of their last test run.

**Defects Module Reports**

The following reports are available for the Defects module:

Report	Description
Standard Defect Report	Lists the defects that appear in the defects grid.
Tabular Report	Displays the defects that appear in the defects grid, in a grid format.
Defects with Linked Tests and Runs	Lists the defects with their linked tests and test run results.
Fixed or Rejected Defects	Lists defects with “fixed” or “rejected” status.
Fixed or Rejected Defects Detected by Current User	Lists defects with “fixed” or “rejected” status that were detected by the current user.
Opened Defects Assigned to Current User	List defects with “open” status that are assigned to the current user.

**Creating Standard Reports in the Dashboard Module**

You create standard reports in the Dashboard module, that display data from the Requirements, Test Plan, Test Lab, and Defects modules.

---

**Note:** You can also create standard reports from the Requirements, Test Plan, Test Lab, and Defects modules. For more informations, see “Creating Quick Standard Reports” on page 608.

---

**To create a standard report in the Dashboard module:**

- 1** In the Dashboard module, click the **Analysis View** tab.
- 2** In the analysis tree, select the folder under which you want to add the report. For more information on creating folders in the analysis tree, see “Developing the Analysis and Dashboard Trees” on page 559.
- 3** Click the **New Item** button, and select **New Standard Report**. The New Standard Report dialog box opens.



- 4** Under **Entity**, select the data set for which you want to create a report.
- 5** Under **Standard Report Type**, select the type of report you want to create. For more information on the available report types, see “Available Report Types” on page 614.
- 6** Under **Standard Report Name**, type a name for the report.
- 7** Click **OK**. The report is added to the analysis tree.
- 8** Click the **Details** tab. The Details tab displays the following fields:

Field	Description
<b>Entity</b>	Indicates the data set sampled by the report.
<b>Type</b>	Indicates the analysis item type.
<b>Sub Type</b>	Indicates the report type.
<b>Name</b>	The name of the report.
<b>Modified</b>	Indicates the date and time on which the report was last modified.

Field	Description
Modified By	Indicates the user that last modified the report.
Owner	Indicates the user that created the report. Permissions to modify public reports may be limited to the owner only.
Description	A description of the report.

- 9 You can configure the report content, and adjust its viewing settings. For more information, see “Configuring Standard Reports” on page 615.
- 10 To view the report, click the **Generate** button, or click the **View** tab. For more information, see “Viewing Standard Reports” on page 620.

**Available Report Types**

When you create standard reports in the Dashboard module, you select one of the available report types. Different report types are available for each data entity.

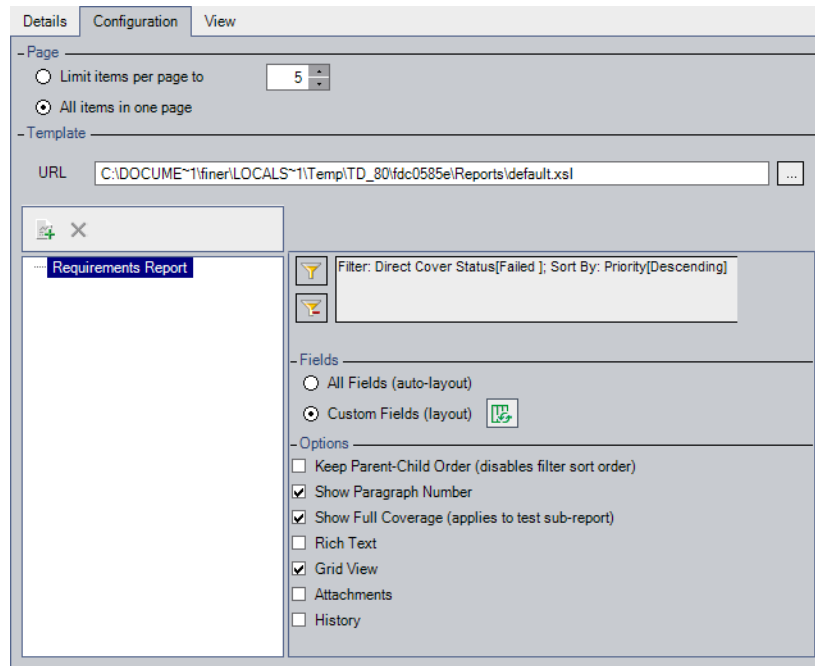
Report	Description
Requirements Report	Lists the requirements in the Requirements module.
Subject Test Report	Lists the hierarchy of test subjects in the Test Plan module.
Test Plan Report	Lists the tests in the Test Plan module.
Cross Test Set Report	Lists the tests sets that appear in the Test Lab module, without listing their tests.
Execution Report	Lists the test instances with their testing status.
Test Set Hierarchy Report	Lists the hierarchy of test set folders in the Test Lab module.
Defects Report	Lists the defects in the Defects module.

## Configuring Standard Reports

You can determine the appearance and contents of your Quality Center reports. You can set the configuration of the main report and each of its sub-reports separately.

**To configure a standard report:**

- 1 In the analysis tree, select a report.
- 2 Click the **Configuration** tab.



- 3 Under **Page**, you can set the number of items from the main report that display per page:
  - To limit the number of items per page, select **Limit items per page to** and specify the number of items per page.
  - To display all items in one page, select **All items in one page**.
- 4 Under **Template**, you can use the Quality Center default report template or your own template.



**5** To add a sub-report, click the **Add Sub-Report** button. For more information on sub-reports, see “Adding Sub-Reports” on page 617.

**6** In tree to the left side of the tab, select the main report or a sub-report that you want to configure.

**7** Under **Filter**, you can define or clear filters and sorting priorities:



➤ Click the **Set Filter/Sort** button to filter and sort your data according to the criteria you choose.



➤ Click the **Clear Filter/Sort** button to clear all filters and sorting priorities.

For more information, see Chapter 3, “Working with Quality Center Data.”

**8** Under **Fields**, you can set the fields you want to appear in the report and their order.

➤ Select **All Fields (auto-layout)** to display all fields in the report.



➤ Select **Custom Fields (layout)**, and click the **Select Fields** button to choose the fields and set their order. For more information, see “Arranging Columns” on page 52.

**9** Under **Options**, select the following options, depending on the report type.

Option	Description
<b>Attachments</b>	Displays a list of associated attachments.
<b>Grid View</b>	Displays the report as a grid.
<b>History</b>	Displays a list of all the changes made to a requirement, test, or defect.
<b>Keep Parent-Child Order</b>	Displays the requirement topic with the child requirement below it. Selecting this option deactivates your defined filters and sorting priorities.
<b>Rich Text</b>	Includes rich text for the requirements in the report.
<b>Show Full Coverage</b>	Displays the tests coverage for each requirement in the tree.



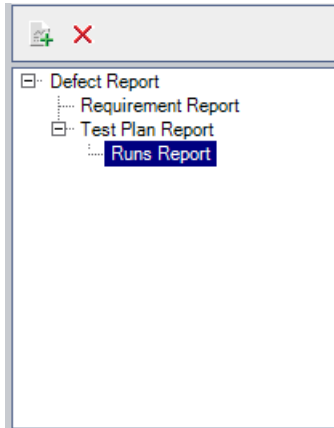
Option	Description
<b>Show Paragraph Number</b>	Displays the assigned hierarchical numbers to each requirement in the tree. Note that the numbers are not related to the unique Req ID assigned to each requirement.
<b>Show Steps only for “Failed” Runs</b>	If you add a Run Steps sub-report, the steps are listed only for Failed runs.

- 10** Click the **View** tab to generate a report with the updated settings. For more information on viewing reports, see “Viewing Standard Reports” on page 620.

## Adding Sub-Reports



After you create a report, you can add sub-reports. A sub-report adds an extra layer of information related to the parent report. For example, if you create a report of defects, you can add a sub-report of linked requirements. The report then displays the requirements that are linked to each defect. For more information on available sub-report types, see “Available Sub-Reports” on page 619.

To each sub-report you can add further sub-reports. At each level you can include multiple sub-reports.



For an overview of standard reports, see Chapter 42, “Generating Standard Reports.”

**To add a sub-report:**

- 1** In the analysis tree, select a report, and click the **Configuration** tab.
- 2** In the Reports pane, select the report or sub-report to which you want to add a sub-report.
-  **3** Click the **Add Sub Report** button. In the **Type** list, select a sub-report and click **OK**. Alternatively, right-click the report, and select a sub-report from the **Add Sub Report** list. The sub-report is added to the Reports list.
-  **4** To delete a sub-report, select the sub-report, and click the **Delete Sub Report** button. Alternatively, right-click the report, and select **Delete Sub Report**. If you delete a parent report, all its sub-reports are deleted as well.

## Available Sub-Reports

The available sub-reports depend on the type of the parent report.

The following sub-reports may be available:

Report	Description
<b>Contained Test Sets</b>	Lists the test sets in a test set folder.
<b>Contained Tests</b>	Lists the test instances in a test set.
<b>Coverage Requirements</b>	Lists information for requirements covered by a test.
<b>Design Steps</b>	Lists the design steps for a test.
<b>Linked Defects</b>	Lists the defects that are linked to a record.
<b>Linked Entities</b>	List all entities that are linked to a defect.
<b>Parent Test</b>	Lists the parent test instance of a test run.
<b>Related Requirements</b>	Lists the requirements that are linked to a defect.
<b>Requirements Coverage</b>	Lists the tests that cover a requirement.
<b>Run Steps</b>	Lists the run steps for a test run.
<b>Runs</b>	Lists all runs of a test instance.
<b>Source Execution Test</b>	Lists the executed test instances that are linked to a defect.
<b>Source Run</b>	Lists the test runs that are linked to a defect.
<b>Source Test</b>	Lists the tests that are linked to a defect.
<b>Trace To</b>	Lists the requirements traced to a requirement.
<b>Trace From</b>	Lists the requirements traced from a requirement.

# Viewing Standard Reports

You can view, print, and save your Quality Center reports.

To view a standard report:

- 1 Select a report:
  - In the analysis tree, select a report, and click the **View** tab.
  - Select either the Requirements, Test Plan, Test Lab, or Defects module, choose **Analysis > Recently Used**, and select a report.

DetailsConfigurationView

Generate1 - 5 of [43]

Defects Report

Defect ID	Summary	Status	Detected By	Severity	Assigned To	Priority
1	The list of flights is given even when past date set as departing date	Fixed	alice_qc (Alice Jones)	3-High	james_qc (James Johnson)	3-High

Description:  
Test Set: Mercury Tours Functionality  
Test: [1]Departing Date  
Run: Run\_9-2\_10-26-57  
Step: Step 1: Past Departing Date  
  
Actual Result:  
The list of flights is given even when past date or today's date set as departing date.

Related Requirements:  

ReqID (10) - Flight Tickets

Name:	Flight Tickets	Old Type (obsolete):	Functional
Priority:	5-Urgent	Product:	Mercury Tours
Requirement Type:	Functional	Author:	alex_qc ()
Creation Time:	10:15:15	Creation Date:	08/01/2005
Direct Cover Status:	Failed	Modified:	23/10/2008 19:42:45
RBQM business impact:	A	RBQM custom business impact:	
RBQM custom failure probability:		RBQM custom Functional Complexity:	

Last Generated: 28/10/2008 17:02:50

- 2 To refresh the report so that it displays the most recent data, click the **Generate** button.



- 3 To view the report in full-screen mode, click the **Full Screen** view button. The View toolbar remains visible in full-screen mode.

To exit the full-screen mode, click the **Close** button.



- 4 Click the **First Page** button to display the first page of the report, or the **Previous Page** button to display the preceding page.



- 5** Click the **Next Page** button to display the next page of the report, or the **Last Page** button to display the final page.



- 6** To print your report, click the **Print** arrow and choose **Current Page** or **All Pages**. The Print dialog box opens. Change the printer settings, if necessary. Click **Print**.



- 7** To save your report as a Web page or text file, click the **Save** arrow and choose **Current Page** or **All Pages**. The Save Web Page dialog box opens. Change the file name if necessary. To save the report in its original format, select **Web Page, complete** in the **Save as type** list. To save it as a text file, select **Text File** and click **Save**.



# 43

---

## Generating Excel Reports

You can generate Excel reports that enable you to export Quality Center data to Microsoft Excel, and analyze the data in Excel.

---

**Note:** To verify supported versions of Microsoft Excel, refer to the *HP Quality Center Installation Guide*.

---

**This chapter includes:**

- About Generating Excel Reports on page 624
- Creating Excel Reports on page 625
- Creating SQL Queries on page 626
- Adding Parameters to SQL Queries on page 630
- Creating Post-Processing Scripts on page 634
- Running Excel Reports on page 635

# About Generating Excel Reports

You can export Quality Center data to Microsoft Excel. This enables you to analyze your data using any of the capabilities available in Excel. An Excel report consists of a set of data defined by SQL queries on the project database. You can also run a Visual Basic script on the extracted data to process and analyze the data.

For example, you could create a pivot table to summarize Defects module data, such as to display in tabular format the number of defects assigned to different users with different statuses.

Count of STATUS	STATUS ▼			
ASSIGNED TO ▼	Closed	Open	Reopen	Grand Total
james_qc	3	6	1	10
mary_qc		13	1	14
peter_qc	5	9		14
Grand Total	8	28	2	38

You can also create a report with parameters. This enables you to create a more flexible report that you only need to create once but can be used in a number of different contexts.

---

**Tip:** The Quality Center Demo Project contains sample Excel reports. You can use the SQL queries and Visual Scripts in those reports as a basis for developing your own queries and scripts.

---

---

**Note:** Users who belong to groups that have data-hiding filters, are able to access the restricted data through Excel reports. To overcome this, you can exclude user groups from performing Excel report tasks. For more information on user groups and permissions, refer to the *HP Quality Center Administrator Guide*.


---



## Creating Excel Reports

You create Excel reports in the Dashboard module.

**To create an Excel report:**

- 1** In the Dashboard module, click the **Analysis View** tab.
- 2** In the analysis tree, select the folder under which you want to add the Excel report. For more information on managing folders in the analysis tree, see “Developing the Analysis and Dashboard Trees” on page 559.
-  **3** Click the **New Item** button, and select **New Excel Report**. The New Excel Report dialog box opens.
- 4** Under **Excel Report Name**, type a name for the Excel report.
- 5** Click **OK**. The Excel report is added to the analysis tree.
- 6** Click the **Details** tab. The Details tab displays the following fields:

Field	Description
<b>Entity</b>	In Excel reports, this field displays <b>Unspecified Entity</b> .
<b>Type</b>	Indicates the analysis item type.
<b>Sub Type</b>	In Excel reports, same as <b>Type</b> .
<b>Name</b>	The name of the Excel report.
<b>Modified</b>	Indicates the date and time on which the Excel report was last modified.
<b>Modified By</b>	Indicates the user that last modified the Excel report.
<b>Owner</b>	Indicates the user that created the Excel report. Permissions to modify public Excel reports may be limited to the owner only.
<b>Description</b>	A description of the Excel report.

- 7** Create one or more SQL queries to define the data that is extracted. For more information, see “Creating SQL Queries” on page 626.

- 8 Optionally, create a post-processing script that runs in Excel after the data is exported. For more information, see “Creating Post-Processing Scripts” on page 634.
- 9 Export the data to Excel. For more information, see “Running Excel Reports” on page 635.

## Creating SQL Queries

After you have added an Excel report in the Dashboard module, you define which project data you want to include in the report. You define this data by creating SQL queries. You can create multiple queries in an Excel report. When you generate the report, the results of each query are displayed in separate Excel worksheets.

This section includes:

- Protecting the Database
- Creating an SQL Query

### Protecting the Database

To ensure the integrity of the database, you should run only queries that extract data from the project database. You should not run queries that alter the project database by adding, modifying, or deleting database records.

By default, to ensure that your queries are valid and do not alter the project database, Quality Center checks that the following conditions are fulfilled:

- The query starts with the command **SELECT**.
- The query contains only one SQL statement.

- The query does not contain any of the following commands (except in comments): **INSERT, DELETE, UPDATE, DROP, CREATE, COMMIT, ROLLBACK, ALTER, EXEC, EXECUTE, MERGE, GRANT, REVOKE, SET, INTO, or TRUNCATE.**

You can customize whether this verification is performed, and how it is performed, using the **SQL\_QUERY\_VALIDATION\_ENABLED** and **SQL\_QUERY\_VALIDATION\_BLACK\_LIST** parameters in Site Administration. For more information, see the *HP Quality Center Administrator Guide*.

## Creating an SQL Query

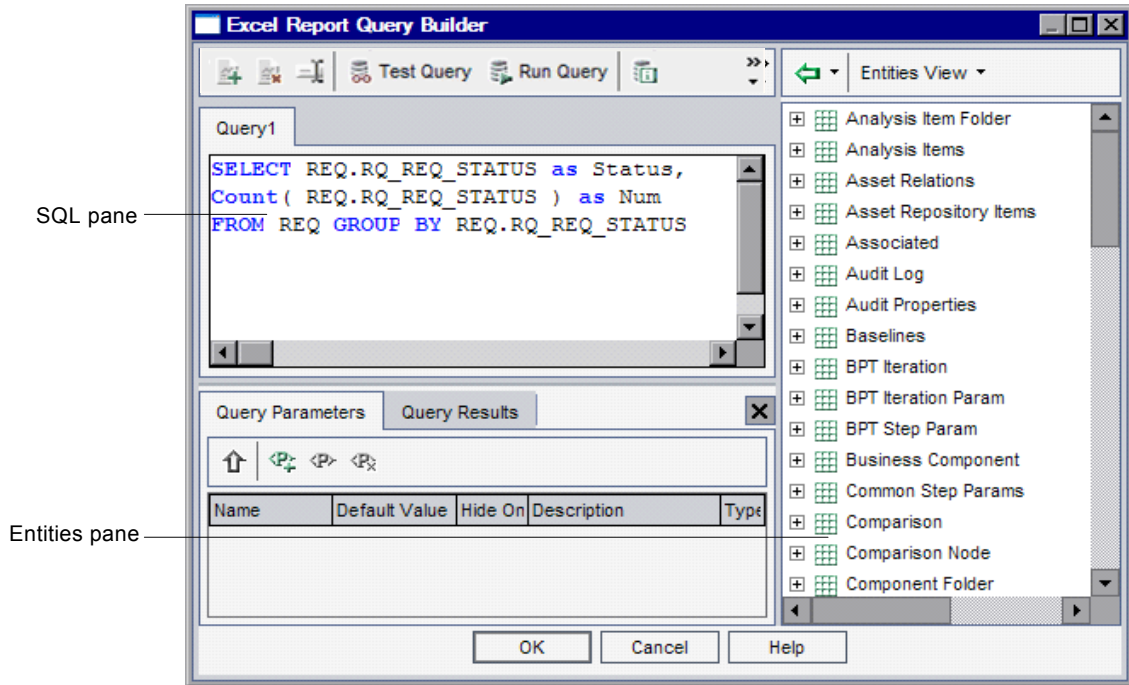
You create an SQL query in the Query tab, or in the Query Builder. You can write the SQL query manually directly in the Query tab. To take project entities from a list, and to define or add parameters to your query, use the Query Builder.

**To create an SQL query:**

- 1** In the analysis tree, select an Excel report.
- 2** Click the **Configuration** tab, and then click the **Query** tab.

Write the SQL query in the Query tab, or perform the following steps to write the SQL query using the Query Builder.

- 3 Click the **Query Builder** button. The Excel Reports Query Builder dialog box opens.



The query builder consists of the following panes and tabs:

- **SQL pane.** Contains the SQL statements for the queries in the report.
- **Query Parameters tab.** Contains a list of parameters for the query.
- **Query Results tab.** Contains the results of tests of the query.
- **Entities pane.** Contains a list of Quality Center database fields and entities that you can add to the query. You can view fields and entities by their name, their database column name, or by both. To change the view, click the **Entities View** button and select a view.



- 4 You must write the SQL query using the SQL type used by the project database. To view the type of database used for your project database, click the **Database Type** button.



- 5 To add a new query, click the **Add Query** button. A new tab is added to the query builder with the default name **Query<number>**.
- 6 In the SQL pane, type an SQL query to define the data set you want to use for your report.

---

**Note:** The @ and \ characters have a special meaning and are not read literally when running SQL queries on the project database. If you want these characters to be read literally, you should replace @ by \@ and \ by \\. For example, if you want the statement

```
SELECT * FROM BUG WHERE BUG.BG_SUMMARY = '@parameter@'
```

to be run literally on the Quality Center database, type

```
SELECT * FROM BUG WHERE BUG.BG_SUMMARY = '\@parameter\@'
```

---

- 7 You can add a project entity to your SQL query. The following options are available:



- To add a project entity without a column alias, double-click an entity in the Entities pane, or select an entity and click the **Add Entity to Query** button.
- To add a project entity with the column alias defined by the entity title, select the entity you want to add. Click the **Add Entity to Query** arrow and choose **Add Entity to Query with Entity Title as Alias**.

The entity is added to your SQL query at the current cursor location. Separate multiple project entities with a comma.

- 8 You can add parameters to your SQL query. For more information, see “Adding Parameters to SQL Queries” on page 630.

- 9 You can test the query and view the results of the test in the **Query Results** tab. You can choose to view all the results of the query or only the first ten records:
- Click **Run Query** to view all the results of the query in the **Query Results** tab. If your query contains parameters, you are prompted to type a value for each parameter, or confirm the default value.
  - Click **Test Query** to display only the first ten records from the results of the query. If your query contains parameters, Quality Center uses the default values for the parameters.



- 10 You can search for text in your query. To search for text, type the string you want to search for in the **Find** box and click the **Find** button.



- 11 You can rename a query. To rename a query, select the query and click the **Rename** button. In the Rename query dialog box, type the new name and click **OK**. The Excel worksheet containing the data extracted by the query will have the same name as the query.



- 12 To delete a query, select the query and click the **Delete** button. Alternatively, right-click the query and choose **Delete**. Click **Yes** to confirm.

## Adding Parameters to SQL Queries

You can include parameters in the SQL queries for your Excel reports. For each query parameter, you can assign a default value. When you generate the report, you are prompted to enter the value of the parameter, or confirm the default value. Alternatively, you can choose to always use the default value, without being prompted by Quality Center each time you generate the report.

For example, suppose you want to create a report that displays a graph of the number of requirements added to your project over a period of time. You might want to run the report several times, each time for a different period of time. You can avoid the need to create multiple reports by creating a single report with query parameters for the start date and end date of the period. Each time you generate the report, you are prompted to enter the start and end dates for the period.

You first add query parameters to the Parameters list. You can add global parameters that are accessible to all queries in a report, or you can add parameters that can only be used in particular queries. After you add parameters to the Parameters list, you insert parameters into the query.

---

**Important:**

- You cannot use parameters for SQL identifiers, such as a table name or a column name.
  - Parameter values cannot include an SQL statement.
- 

## **Adding Query Parameters to the Parameters List**

Before you can add a parameter to a query, you must add it to the Parameters list.

### **To add a parameter to the Parameters list:**

- 1** In the analysis tree, select an Excel report.
- 2** Under the Configuration tab, click the **Query** tab, and then click the **Query Builder** button.



- 3** In the **Query Parameters** tab, click the **New Query Parameter** button. The **New Query Parameter** dialog box opens.

The screenshot shows a standard Windows-style dialog box titled "New Query Parameter". It features a title bar with a close button (X). The main area contains four input fields: "Parameter Name:", "Default Value:", "Description:", and two checkboxes labeled "Hide On Run" and "Global Parameter". At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

- 4** In the **Parameter Name** box, type a name for the parameter. A parameter name cannot include the following character: @
- 5** In the **Default Value** box, type a default value for the parameter.  
Select **Hide On Run** to use the default value every time you generate the report. Do not select this option if you want Quality Center to prompt you to confirm or change the default value when you generate the report.
- 6** Select **Global Parameter** to make the parameter available in all queries in your report. If you do not select this option, the parameter is only available in the current query.
- 7** In the **Description** box, type a description for the parameter.
- 8** Click **OK**. The parameter is added to the Parameters list and the dialog box closes.





- 9 To delete a parameter from the Parameters list, in the Query Parameters tab, select the parameter and click **Delete**. Click **Yes** to confirm.

---

**Important:** If you delete a parameter that is in use in a report query, queries containing the parameter will not be valid.

---



- 10 To edit a parameter in the Parameters list, select the parameter and click **Edit Parameter**. In the Edit Parameter dialog box, edit the parameter settings and click **OK**.

## Adding a Parameter to an SQL Query

After you have added a parameter to the Parameters list, you can add it to your SQL query.

**To add a parameter to an SQL query:**

- 1 In the analysis tree, select an Excel report.
- 2 Under the Configuration tab, click the **Query** tab, and then click the **Query Builder** button.
- 3 In the SQL pane, place the cursor in the location that you want to add the parameter.
- 4 In the **Query Parameters** tab, select a parameter from the Parameters list, and click the **Add Parameter to Query** button. Alternatively, drag the parameter to the query pane. The parameter is added to the query.




---

**Note:** For a parameter representing a text value, you must manually add single quotes (') around the parameter in the SQL pane. For example, if the SQL pane contains the phrase WHERE BUG.BG\_DETECTED\_BY = @name@, you must replace the text @name@ with '@name@'.

---

## Creating Post-Processing Scripts

You can create a Visual Basic script to run after the data is exported to Excel. You use this script to manipulate the data in Excel. For example, you can present requirements data in Excel as a pivot table, you could perform calculations on defects data to calculate the average time an open defect takes to be fixed, or you could create a graph based on exported data.

### Guidelines for Creating a Post-Processing Script

When writing the post-processing script, consider the following guidelines:


- Before you run a post-processing script, you must configure your Microsoft Excel security settings so that Excel can run the script. In Excel, choose **Tools > Macro > Security**. The Security dialog box opens. In the Security Level tab, select **Low**. In the Trusted Publishers tab, select **Trust access to Visual Basic Project**. Close Excel.
- Your post-processing script must contain a sub-procedure named **QC\_PostProcessing**. This procedure serves as the entry point to your script. This procedure cannot return a value and cannot take any arguments.
- Before you can work with the report data in Excel, you must first define the range containing the report data. You define this range in two steps:
  - You first define the worksheet containing the report data by creating a worksheet object containing the data. For example, if the worksheet is named Query1, you can use the statement `Set MainWorksheet = ActiveWorkbook.Worksheets("Query1")`.
  - After you define the worksheet containing the report data, you define the range containing the data by creating a range object containing the data. For example, you if defined the worksheet object with name `MainWorksheet`, you can use the statement `Set DataRange = MainWorksheet.UsedRange`.

After you define this range, you can manipulate the data contained in it using Visual Basic code.

## Creating a Post-Processing Script

You create a post-processing script in the Post-processing tab.

**To create a post-processing script:**

- 1** In the analysis tree, select an Excel report.
- 2** Under the Configuration tab, click the **Post-processing** tab.
- 3** In the script editor box, type the Visual Basic script you want to run after the data defined in your query is exported to Excel. You should base this script on the template script already displayed in the Script Editor box. For further guidelines for creating a post-processing script, see “Guidelines for Creating a Post-Processing Script” above.
- 4** To run the post-processing script after the data is exported to Excel, select **Run post-processing**. If you do not select this option, the script is not run when you generate the report.
-  **5** You can search for text in your post-processing script. To search for text, type the string you want to search for in the **Find** box and click the **Find** button.

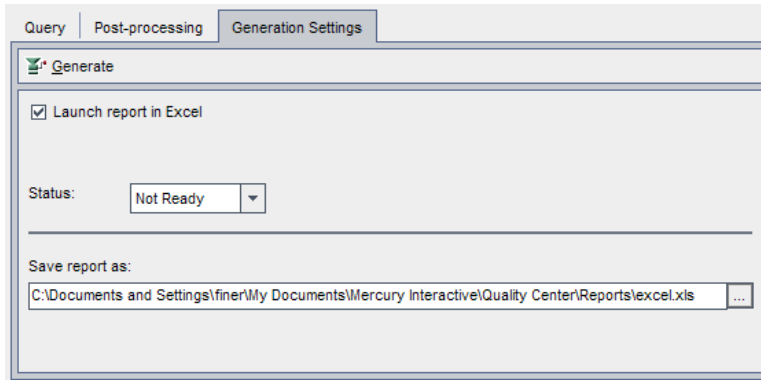
## Running Excel Reports

After you have configured your report, you can run it. Running the report extracts the data you specified in the SQL queries from the project database, saves the data in an Excel workbook, and runs the post-processing script.

**To run an Excel report:**

- 1** In the analysis tree, select an Excel report.

- 2 Under the Configuration tab, click the **Generation Settings** tab.



- 3 To instruct Quality Center to open the report in Excel after it is generated, select **Launch report in Excel**.
- 4 In the **Status** box, select the status of your report. The report status informs other users whether the report is ready to be generated. The following options are available for the report status:
  - **Ready**. Indicates that the report is ready to be generated.
  - **Not Ready**. Indicates that the report is not ready to be generated. If a user tries to generate a report with this status, a warning message displays.
- 5 In the **Save report as target file** box, type the location and name of the Excel file to which you want the data to be exported. Click the browse button to select a location from the Save Report dialog box.
- 6 Click the **Generate** button to generate the report.
  - If the status of the report is **Not Ready**, a warning displays. Click **Yes** to generate the report despite the warning.
  - If the report query contains parameters, the Report Parameters dialog box opens. Type the parameter values in the **Value** column and click **OK**.

The report is saved in the location you define. If you selected Launch report in Excel, Excel opens and displays the report. If not, a confirmation message displays.

---

## Generating Live Analysis Graphs

Live Analysis graphs enable you to create and display a dynamic graphical representation of data related to test plans and test sets. You use Live Analysis graphs to view data that relates to a test subject folder or test set folder. Each time that you click on a test subject folder or test set folder, the graphs change to reflect the data related to your selection.

### **This chapter includes:**

- About Generating Live Analysis Graphs on page 637
- Creating Live Analysis Graphs on page 638
- Deleting Live Analysis Graphs on page 644
- Setting the Graph Appearance on page 645

### **About Generating Live Analysis Graphs**

You create Live Analysis graphs to provide a dynamic quick visual overview of all the tests in a folder, or test sets in a test set folder. After you have created a graph, you can access it by choosing the Live Analysis tab when you are in the tree view of the Test Plan or Test Lab modules.

When you update a record in the folder, the data change is reflected in the graph, without the need for the graph to be manually regenerated.

Live Analysis graphs differ from the graphs described in Chapter 41, “Generating Graphs”, in that you do not have to recreate a graph to view data that has changed. In addition, the layout and settings of the graph are preserved when you select another folder in the same module. This enables you to view the same graphical analysis of different folders without the need to recreate the graphs.

## Creating Live Analysis Graphs

You can create Live Analysis graphs for test subject folders and test set folders. For more information on creating Live Analysis graphs for test subject folders, see “Creating Test Subject Folder Graphs” on page 638. For more information on creating Live Analysis graphs for test set folders, see “Creating Test Set Folder Graphs” on page 641.

---

**Note:** The Live Analysis graphs that you create are unique for your user login. Each project user can create Live Analysis graphs which will be visible only to that user but will not be visible to other users.

---

### Creating Test Subject Folder Graphs

In the Live Analysis tab, you can create Live Analysis graphs for tests in your test subject folders. After you define the data that you want to display, the graphs are automatically updated each time the data changes in one or more of the tests in the test subject folder for which you created the graph.

---

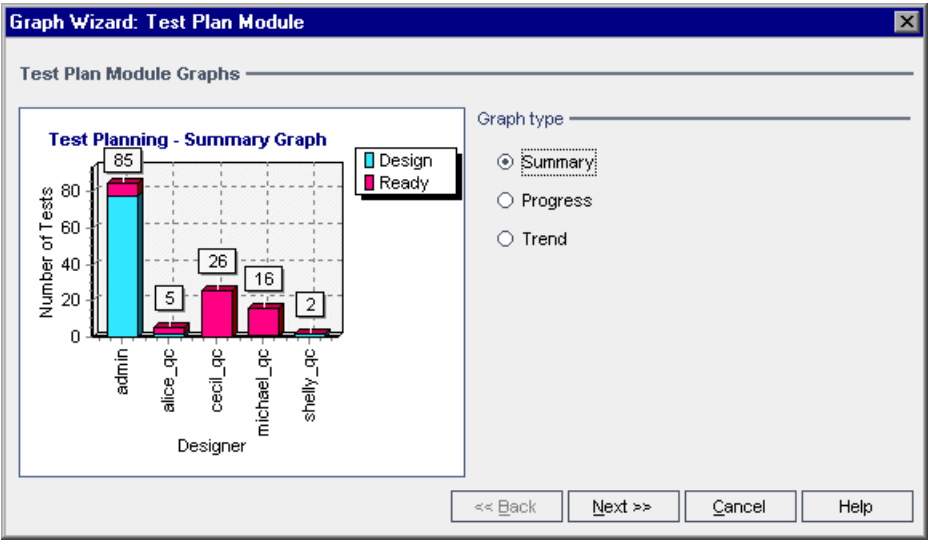
**Note:** Live Analysis graphs only represent tests which are located directly below the selected test subject folder. They do not include tests located at a lower hierarchical level in child folders of the selected test subject folder.

---

#### To create a test subject folder graph:

- 1** Click the **Test Plan** button on the sidebar to display the Test Plan module.
- 2** Choose **View > Test Plan Tree**. The test plan tree view is displayed.
- 3** In the test plan tree, select a test subject folder.
- 4** Click the **Live Analysis** tab. The Live Analysis tab is divided into two panes, each of which can display a graph.
- 5** If you already have two graphs displayed and you want to create a new graph, delete one of the existing graphs. For more information, see “Deleting Live Analysis Graphs” on page 644.

- 6 Click the **Add Graph** link in the pane in which you want to display the graph. Alternatively, choose **Analysis > Live Analysis > Add Graph**. The Graph Wizard: Test Plan Module dialog box opens.

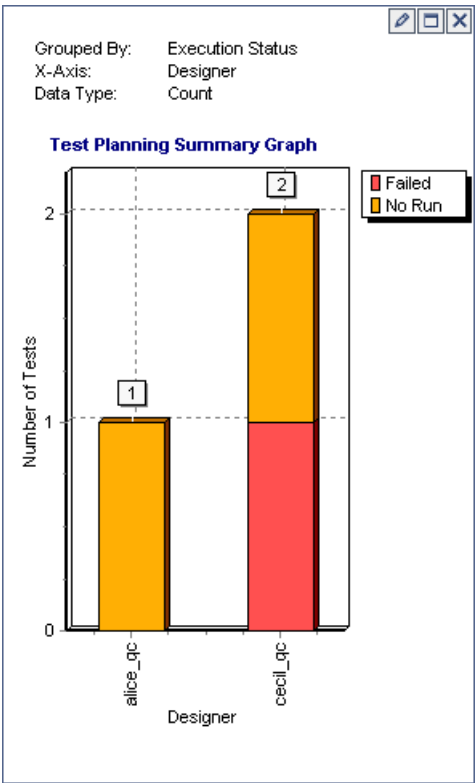


- 7 Under **Graph type**, select the type of graph that you want to display. You can generate the following graphs from the Test Plan module:

Graph	Description
Summary Graph	Shows how many tests are currently in the selected test subject folder.
Progress Graph	Shows how many tests accumulated in the selected test subject folder, at specific points during a period of time.
Trend Graph	Shows the history of changes to specific Test Plan fields in the selected test subject folder, for each time interval displayed.

- 8 Click **Next**. In the **Group By** box, select the field by which you want the tests to be grouped in the graph. For progress and trend graphs, you can only select a field for which history has been enabled. For more information on enabling history for a field, refer to the *HP Quality Center Administrator Guide*.
- 9 If you chose to create a summary graph, click **Next**. In the **X-Axis** box, select the field that you want to use for the X-axis.

- 10** Click **Finish**. The Live Analysis graph is displayed in the pane that you selected.



The graph properties that you specified are displayed at the top of the graph.

---


**Note:** The data displayed in the graph reflects the filters that you have set for the test plan tree. For more information on filtering, see “Filtering Records” on page 56.

---



- 11** Click the **Full Screen View** button to maximize the graph. To return to the normal view, click the **Close** button.



- 12** To further analyze your data, click a segment in the graph. The Drill Down Results dialog box opens and displays a grid with more details. You can determine the column appearance and order. You can also export the contents of a grid as a text file, Microsoft Excel spreadsheet, Microsoft Word document, or HTML document. For more information, see “Exporting Data to a File” on page 74.
- 13** To change the color of a bar in a bar graph or a line in a line graph, right-click the bar or line, or click the corresponding entry in the graph legend. In the Color dialog box that opens, select the new color from one of the color palettes.
-  **14** Click the **Set Graph Appearance** button to customize the graph title, graph color, and graph display. For more graph appearance options, see “Setting the Graph Appearance” on page 645.

## Creating Test Set Folder Graphs

In the Live Analysis tab, you can create Live Analysis graphs for the test sets in your test set folders. After you define the data that you want to display, the graphs are automatically updated each time the data changes in one or more test sets in the folder for which you created the graph.

---

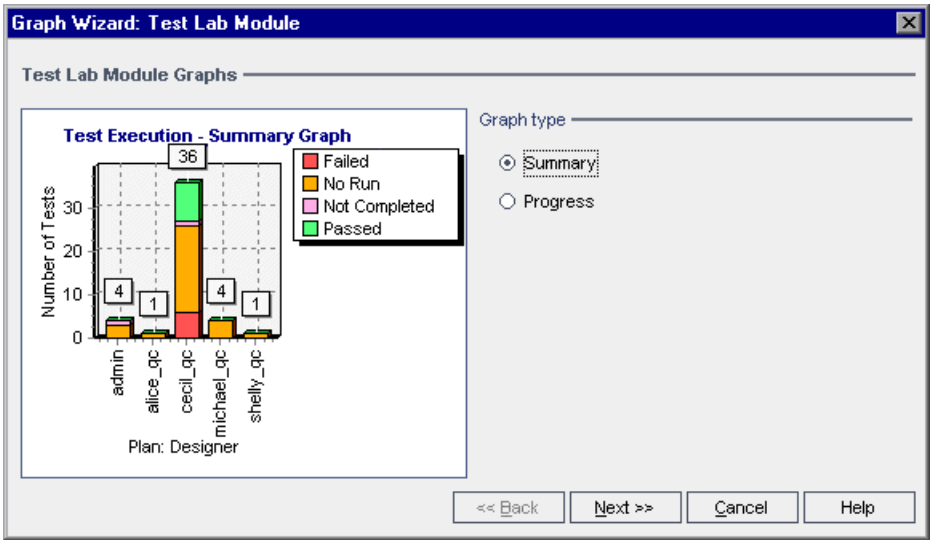
**Note:** Live Analysis graphs only represent test sets which are located directly below the selected test set folder. They do not include test sets located at a lower hierarchical level in child folders of the selected test set folder.

---

### To create a test set folder graph:

- 1** Click the **Test Lab** button on the sidebar to display the Test Lab module.
- 2** Choose **View > Test Sets Tree**. The Test Sets Tree view is displayed.
- 3** In the test sets tree, select a test set folder.
- 4** Click the **Live Analysis** tab. The Live Analysis tab is divided into two panes, each of which can display a graph.

- 5 If you already have two graphs displayed and you want to create a new graph, delete one of the existing graphs. For more information, see “Deleting Live Analysis Graphs” on page 644.
- 6 Click the **Add Graph** link in the pane in which you want to display the graph. Alternatively, choose **Analysis > Live Analysis > Add Graph**. The Graph Wizard: Test Lab Module dialog box opens.

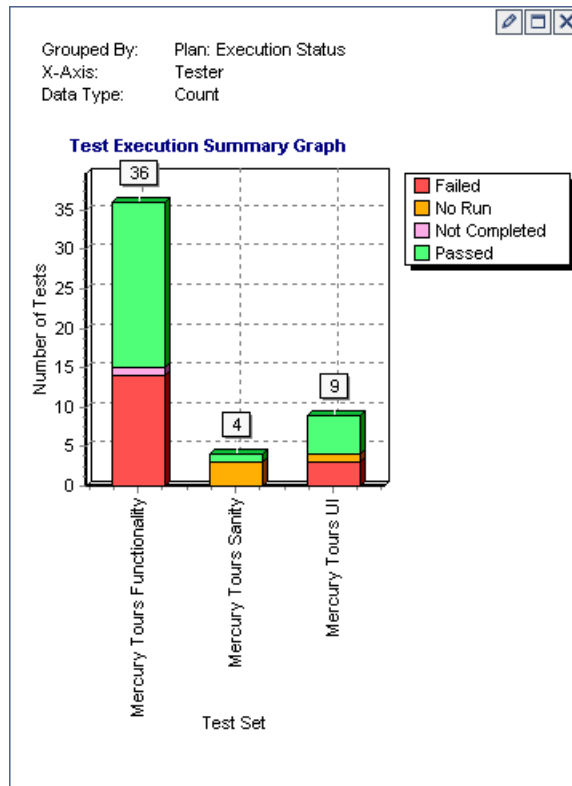


- 7 Under **Graph type**, select the type of graph that you want to display. You can generate the following graphs from the Test Lab module:

Graph	Description
Summary Graph	Shows how many tests belong to the test sets in the selected folder.
Progress Graph	Shows how many tests accumulated in the test sets in the selected folders, at specific points during a period of time.

Click **Next**.

- 8 In the **Group By** box, select the field by which you want the tests to be grouped in the graph. For a progress graph, you can only select a field for which history has been enabled. For more information on enabling history for a field, refer to the *HP Quality Center Administrator Guide*.
- 9 If you chose to create a summary graph, click **Next**. In the **X-Axis** box, select the field that you want to use for the X-axis.
- 10 Click **Finish**. The Live Analysis graph is displayed in the pane that you selected.



The graph properties that you specified are displayed at the top of the graph.

---

**Note:** The data displayed in the graph reflects the filters that you have set for the test sets tree. For more information on filtering, see “Filtering Records” on page 56.

---



**11** Click the **Full Screen View** button to maximize the graph. To return to the normal view, click the **Close** button.

**12** To further analyze your data, click a segment in the graph. The Drill Down Results dialog box opens and displays a grid with more details. You can determine the column appearance and order. You can also export the contents of a grid as a text file, Microsoft Excel spreadsheet, Microsoft Word document, or HTML document. For more information, see “Exporting Data to a File” on page 74.

**13** To change the color of a bar in a bar graph or a line in a line graph, right-click the bar or line, or click the corresponding entry in the graph legend. In the Color dialog box that opens, select the new color from one of the color palettes.



**14** Click the **Set Graph Appearance** button to customize the graph title, graph color, and graph display. For more graph appearance options, see “Setting the Graph Appearance” on page 645.

## Deleting Live Analysis Graphs

You can delete a Live Analysis graph. If you have two Live Analysis graphs displayed for a folder and you want to create a new graph, you must first delete one of the existing graphs.

**To delete a Live Analysis graph:**



- 1** Click the **Remove Graph** button located at the top of the graph you want to delete. Alternatively, choose **Analysis > Live Analysis > Remove Graph**.
- 2** Click **Yes** to confirm. The graph is deleted from the selected pane and the **Add Graph** link is displayed.

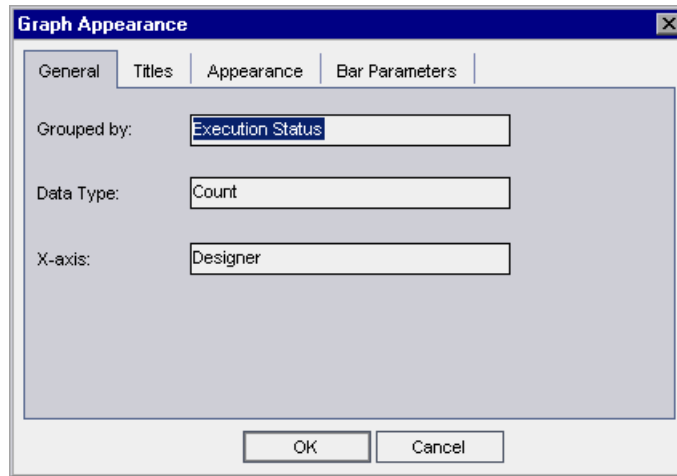
## Setting the Graph Appearance

After you have created your graph, you can change its titles and appearance. For a bar chart, you can specify the display parameters for the bars. For a line chart, you can specify the display parameters for the lines.

To set the graph appearance:



- 1 Click the **Set Graph Appearance** button located at the top of the graph. Alternatively, choose **Analysis > Live Analysis > Set Graph Appearance**. The Graph Appearance dialog box opens and displays the General tab.



The General tab displays read-only information about the graph.

- 2 Click the **Titles** tab to change the titles of the graph, the Y-axis, or the X-axis. You can click the **Font** button to change a title's font, size, formatting, or color. You can click the **Reset Titles** button to reset the original titles.
- 3 Click the **Appearance** tab to change the colors of the various components in your graph, to modify the orientation of the labels at the base of the graph, or to display the graph with a 3-D effect.

- 4 For a bar chart, click the **Bar Parameters** tab to specify whether you want the values for each bar to be displayed. You can also fix the bar width. If you specify that the values of each bar are to be displayed, you can change the data that is displayed for each bar, or its position relative to the bar.

For a line chart, click the **Line Parameters** tab to specify whether you want the line frame to be displayed and which format you want to use for the date on the X-axis.

# 45

---

## Generating Project Documents

The Quality Center Document Generator enables you to create a Microsoft Word document containing a project's requirements, planning, test list, test set folders, and defect tracking data.

---

### Notes:

- The Document Generator can only be run if Microsoft Word has been enabled to run macros. If you receive a security message while using the Document Generator, you must set the security level of Microsoft Word to medium or low. To do this, choose **Tools > Macro > Security** from the Word menu bar. On the Security Level tab, select the desired level of protection (Medium or Low), and click **OK**.
- To verify supported versions of Microsoft Word, refer to the *HP Quality Center Installation Guide*.

---

### This chapter includes:

- About Using the Document Generator on page 648
- Launching the Document Generator on page 650
- Setting Formatting Instructions on page 651
- Specifying Project Data on page 657
- Generating a Project Document on page 681

## About Using the Document Generator

The Document Generator enables you to create a hard copy of the data contained in a Quality Center project. You create the document by performing the following tasks:

- 1** Set document format.
- 2** Specify document content.
- 3** Generate and edit the document.


First, you set formatting instructions in order to determine how your project document will look. For example, you can print a company logo on each page of the document, create a table of contents and an index, and place test scripts and file attachments in the text of your document.

Next, you specify the project data that will be presented in your document. You can select information from the Quality Center modules. For example, from the Test Plan module, you can choose which folders and tests to include from the test plan tree, sort this data alphabetically or in a custom sort order, and display the data as lists or tables.

After you have set the formatting instructions and specified the document's content, you can save the document settings as a favorite view for future use and generate the document. After document generation is complete, you can view and edit the document in Microsoft Word. The information for each module that you select is printed in a separate chapter of the project document.



Below is a sample page from a Microsoft Word project document generated by the Document Generator.

	 HP Software	
--	---	--

Chapter 1. Track Defects

**1.1. Defect ID: 1**

**Status:** Fixed

**Assigned To:** james\_qc

**Project:** Mercury Tours (HTML Edition)

**Subject:** Flight Finder

**Summary:** The list of flights is given even when past date set as Departing date

**Reproducible:** Y

**Severity:** 3-High

**Priority:** 3-High

**Detected By:** alice\_qc

**Detected on Date:** 09/01/05

**Detected in Version:** Version 1.0

**Planned Closing Version:** Version 1.01

**Estimated Fix Time:** 5

**Actual Fix Time:** 0

**Description:** Test Set: Mercury Tours Functionality

Test: [1]Departing Date

Run: Run\_9-2\_10-26-07

Step: Step 1: Past Departing Date

Description:

1. Select the One Way option.
2. In Departing Date, select any past date. Check each of the following possibilities:
  - Previous month, any date selected.
  - Past date, current month selected.
3. Click the Continue button.

Expected result:

The list of flights should not be given.

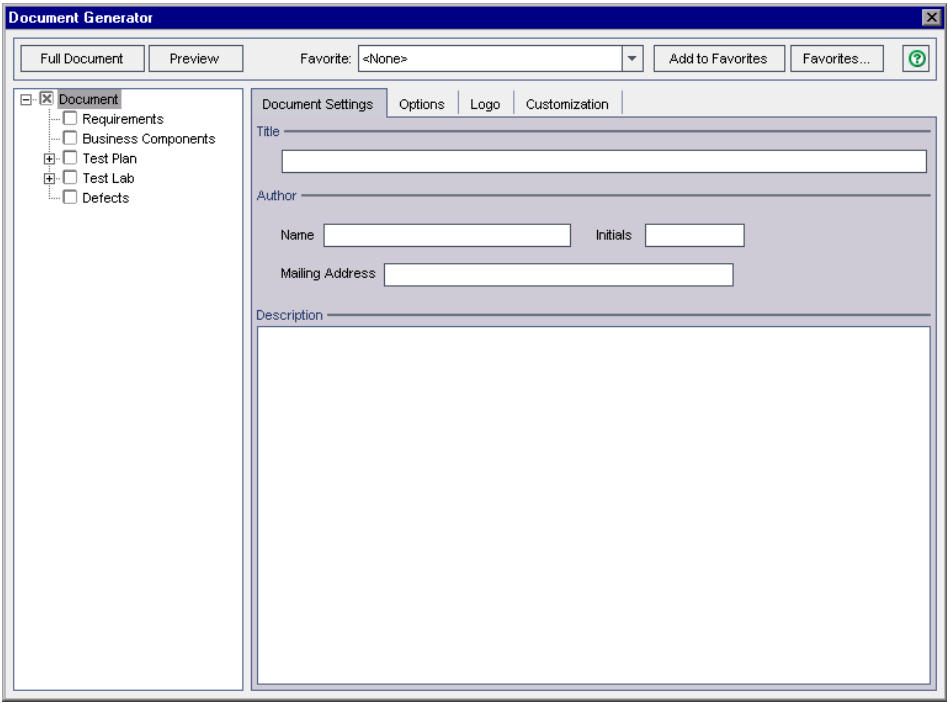
You should be requested to insert valid departing date.

Actual Result:

	3	04/10/07
--	---	----------

## Launching the Document Generator

To start the Document Generator, click the **Tools** button on the upper-left of the Quality Center window. Choose **Document Generator**. The Document Generator opens.



## Setting Formatting Instructions

Before you can generate a document, you set formatting instructions that control how the document will look and what is included in the cover page.

To set formatting instructions:

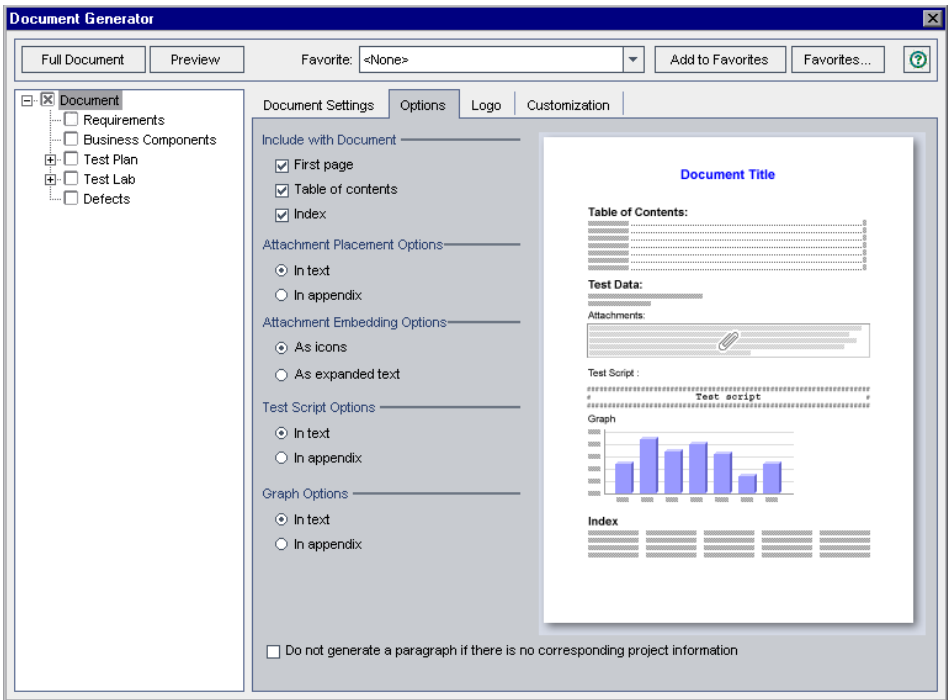
- 1 Open the Document Generator. By default, the **Document** link is selected in the Document Generator tree and the Document Settings tab is displayed.

The screenshot shows the 'Document Generator' application window. On the left is a tree view with 'Document' selected, which includes sub-items: Requirements, Business Components, Test Plan, Test Lab, and Defects. The main area on the right has four tabs: 'Document Settings' (active), 'Options', 'Logo', and 'Customization'. The 'Document Settings' tab contains the following fields:

- Title**: A single-line text input field.
- Author**: A section header followed by:
  - Name**: A single-line text input field.
  - Initials**: A single-line text input field.
  - Mailing Address**: A single-line text input field.
- Description**: A large multi-line text area.

- 2 Type a **Title** for the document, **Author** details, and a **Description** of the document.

3 Click the **Options** tab.



4 Under **Include with Document**, you can select the following options to include in the project document:

Option	Description
First page	The cover page of the project document. This displays the title of the document, the date the document was created, and the name of the document's author. You specify this information in the Document Settings tab.
Table of contents	A list of all sections in the project document.
Index	An alphabetical list of all the information in the project document. The index appears at the end of the document.

- 5** Under **Attachment Placement Options**, choose where attachments will appear in the document:

Option	Description
In text	Displays attachments in the main text of the document.
In appendix	Places attachments in a separate appendix.

- 6** Under **Attachment Embedding Options**, choose whether the project document contains the data from attachments as a linked icon or as embedded text:

Option	Description
As icons	Places a link to the attachment in the document as an icon.
As expanded text	Adds the attachment to the document as expanded text.

- 7** Under **Test Script Options**, choose where test scripts will appear in the document:

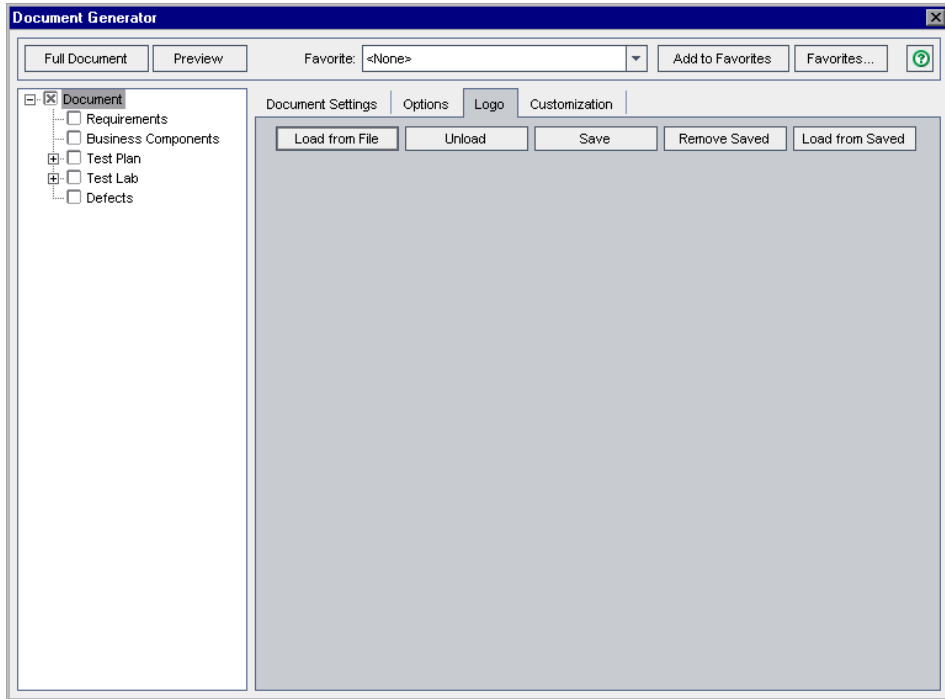
Option	Description
In text	Displays test scripts in the main text of the document.
In appendix	Places test scripts in a separate appendix.

- 8** Under **Graph Options**, choose where graphs will appear in the document:

Option	Description
In text	Displays graphs in the main text of the document.
In appendix	Places graphs in a separate appendix.

- 9** Select **Do not generate a paragraph if there is no corresponding project information** if you do not want to include empty data fields in the project document.

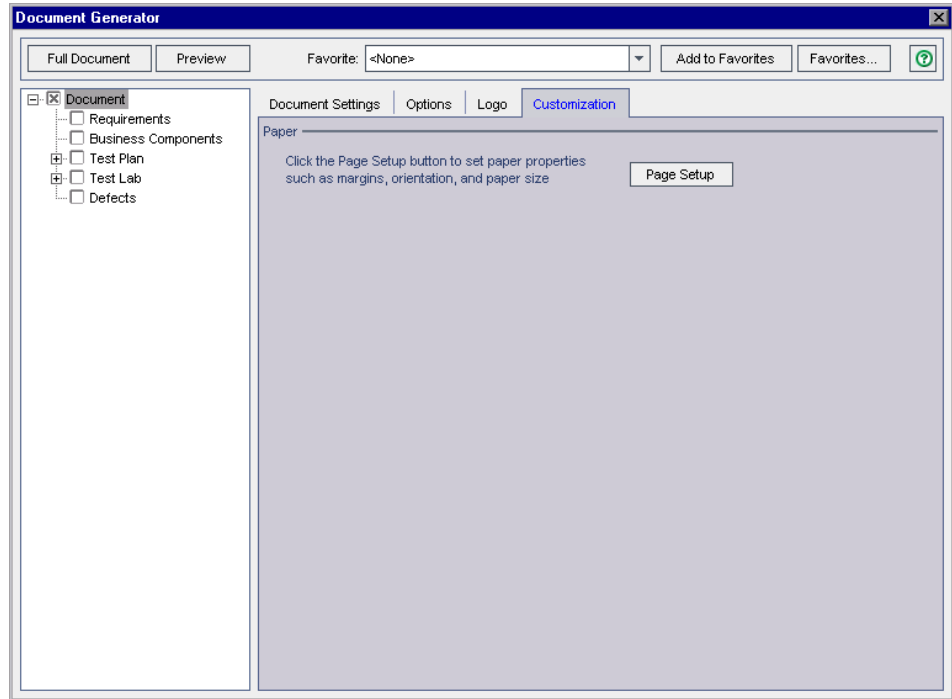
- 10** To set the image that is placed at the top of each page of the project document, click the **Logo** tab.



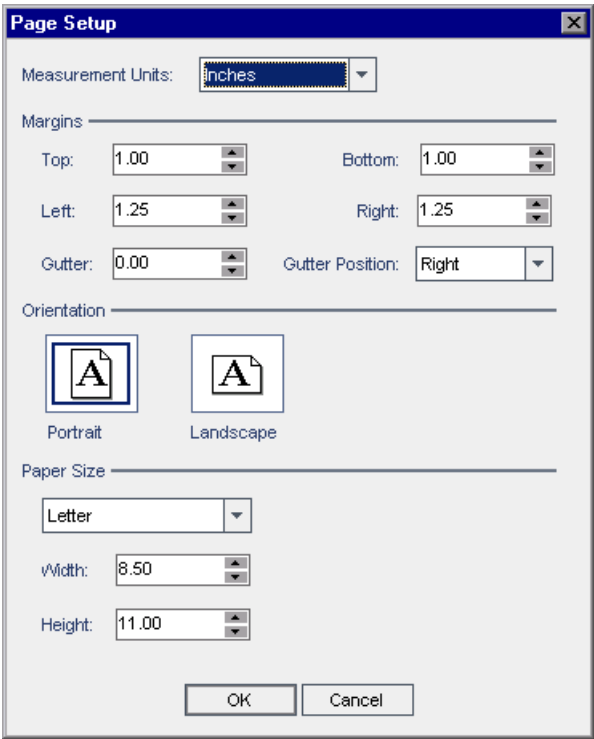
You can define a logo for the project document, and save the image so that it is available for other users in the current project. If you do not select an image, the Document Generator uses the HP logo in the project document.

- 11** Click the **Load from File** button. The Open dialog box opens.
- 12** Locate the image and click **Open**. The image is displayed in the Logo tab. To unload the image, click **Unload**.
- 13** To save the displayed image in the current project, click the **Save** button. To delete the image, click the **Remove Saved** button.
- 14** To load a saved image that was cleared (using the **Unload** button), click the **Load from Saved** button.

- 15** To set paper properties, click the **Customization** tab and click the **Page Setup** button.



The Page Setup dialog box opens.

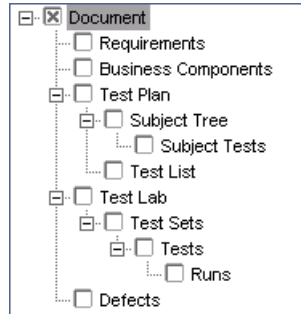


- 16** Set the measurement units, margins, orientation, and paper size to be used for project documents. Click **OK** to return to the Customization tab.



## Specifying Project Data

Select a check box in the Document Generator tree to specify project data to include in your project document.



Check Box	Description
<b>Document</b>	Use the Document Settings, Options, Logo, and Customization tabs to set formatting instructions. For more information, see “Setting Formatting Instructions” on page 651. Note that this option is always selected.
<b>Requirements</b>	Specify which requirements, traced requirements, tests coverage, and linked defects to include from the Requirements module. For more information, see “Specifying Requirements Module Data” on page 658.
<b>Business Components</b>	If you use HP Business Process Testing, refer to the <i>HP Business Process Testing User Guide</i> .
<b>Test Plan</b>	<p>Expand to specify which test subject folders and which tests to include from the Test Plan module. For more information, see “Specifying Test Plan Module Data from the Test Plan Tree View” on page 662 and “Specifying Test Plan Module Data from the Test Grid View” on page 666.</p> <p>Select <b>Subject Tree</b> to specify which test subject folders to include from the Test Plan module.</p> <p>Select <b>Subject Tests</b> to specify which tests to include from the selected folders.</p> <p>Select <b>Test List</b> to specify which tests to include from the Test Grid.</p>

Check Box	Description
<b>Test Lab</b>	<p>Specify which test set folders to include from the Test Lab module. Expand to select which test sets, tests and test runs to include. For more information, see “Specifying Test Lab Module Data” on page 670.</p> <p>Select <b>Test Sets</b> to specify which test sets to include.</p> <p>Select <b>Tests</b> to specify which tests to include from the selected test sets.</p> <p>Select <b>Runs</b> to specify which test runs to include from the selected tests in a test set.</p>
<b>Defects</b>	<p>Specify which defects to include from the Defects module. For more information, see “Specifying Defects Module Data” on page 679.</p>

### Specifying Requirements Module Data

You use the Requirements page to specify the requirement information from the Requirements module that should appear in the Requirements section of the project document.

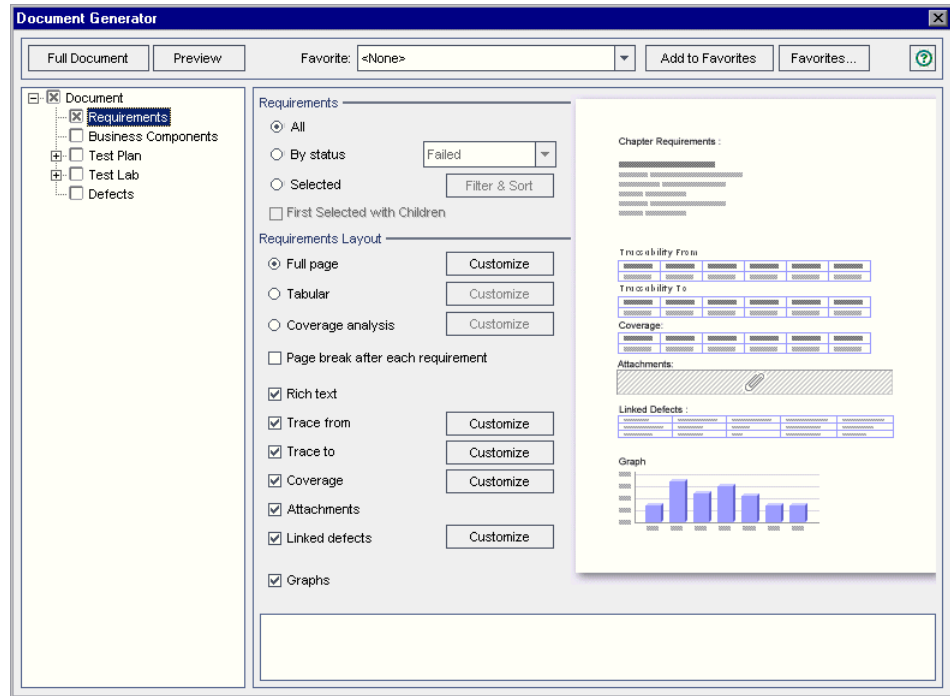
---

**Note:** Microsoft Word is limited to nine header levels in the table of contents. If the requirements tree has more than nine hierarchical levels, these levels will not appear in the table of contents of the generated project document.

---

### To specify Requirements module data:

- 1 Select the **Requirements** check box in the Document Generator tree and click the **Requirements** link. The Requirements page is displayed.



- 2 Under **Requirements**, select one of the following options:

Option	Description
<b>All</b>	Includes all the requirements from the requirements tree.
<b>By status</b>	Includes only requirements with the selected status.
<b>Selected</b>	Includes only selected requirements. To include child requirements, click <b>First Selected with Children</b> .  Click the <b>Filter &amp; Sort</b> button to specify the criteria for selecting requirements. For more information on using the Filter dialog box, see Chapter 3, "Working with Quality Center Data."

**3** Under **Requirements Layout**, select one of the following options:

Option	Description
<b>Full page</b>	Displays a list of the selected requirements. Click the <b>Customize</b> button to choose the information to appear in the document.
<b>Tabular</b>	Displays the requirements as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.
<b>Coverage Analysis</b>	Displays a graphical breakdown of the direct cover status for each requirement. Click the <b>Customize</b> button to open the Coverage Analysis dialog box to choose whether to display the analysis in color or black and white, the number of hierarchical levels to display, and whether to display a legend.

**4** If you selected **Full page** as the Requirements Layout, you can set the following options:

Option	Description
<b>Page break after each requirement</b>	Inserts page breaks in the project document after each requirement.
<b>Rich text</b>	Includes Microsoft Word content for each requirement.
<b>Trace from</b>	Includes traced from requirements in the document. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the traceability table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.

Option	Description
<b>Trace to</b>	Includes traced to requirements in the document. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the traceability table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.
<b>Coverage</b>	Includes test coverage for the requirements in the document. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the coverage table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.
<b>Attachments</b>	Includes requirement attachments in the document. Requirement attachments are files that have been associated with the requirement, such as text files, images, or URLs.
<b>Linked defects</b>	Includes linked defects in the document. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the linked defects table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions. You can also specify whether to display only defects that have been directly linked to requirements or to include indirectly-linked defects as well.

- 5** To include graphs in the project document, select **Graphs** and select graphs from the graph list located at the bottom of the page. Only graphs that you saved as favorites are included in the list. For more information on favorite views, see Chapter 6, “Working with Favorite Views.”

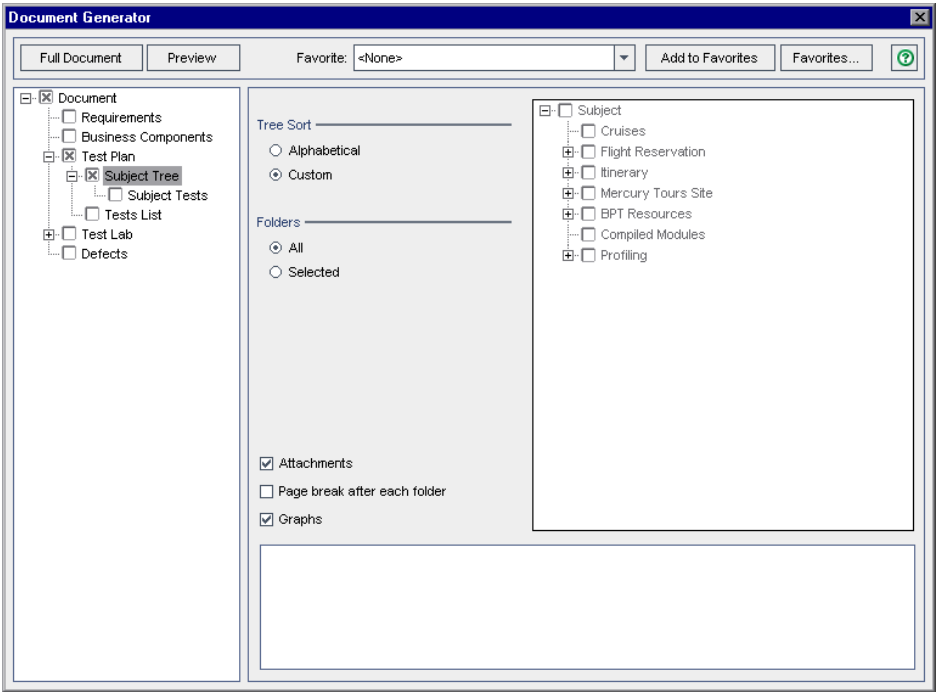
## Specifying Test Plan Module Data from the Test Plan Tree View

You use the Subject Tree and Subject Tests pages to specify the information from the test plan tree view of the Test Plan module that should appear in the project document.

**Note:** Microsoft Word is limited to nine header levels in the table of contents. If the test plan tree has more than nine hierarchical levels, these levels will not appear in the table of contents of the generated project document.

To specify Test Plan module data from the test plan tree view:

- 1 Expand the **Test Plan** node in the Document Generator tree. Select the **Subject Tree** check box and click the **Subject Tree** link. The Subject Tree page is displayed.



- 2** Under **Tree Sort**, determine the order of the test plan tree information in the document:

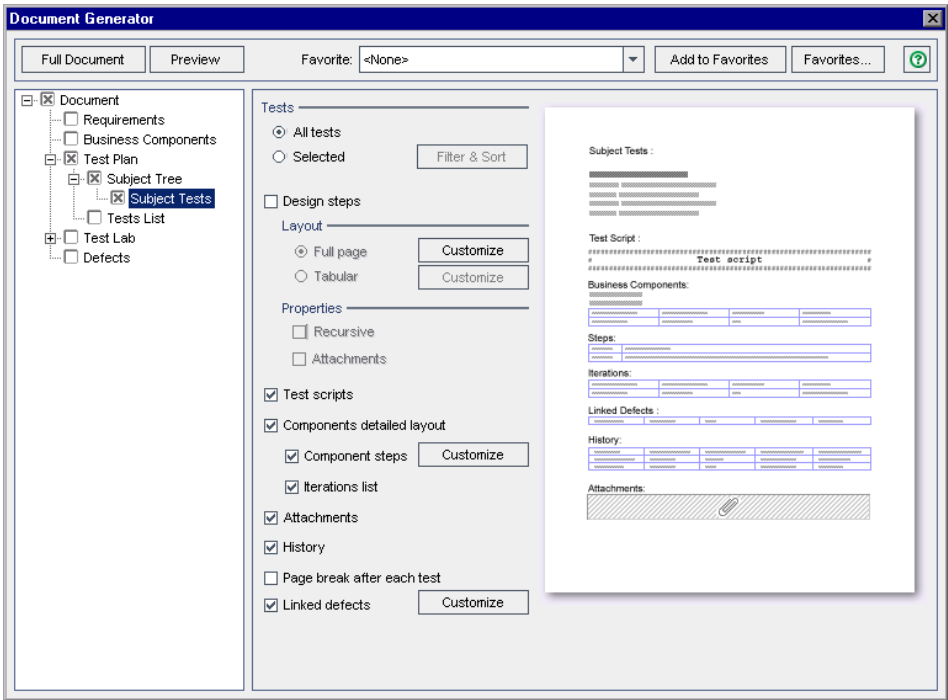
Option	Description
<b>Alphabetical</b>	The contents of the folders will be organized according to the alphabetical order of the folders in the test plan tree. For example, suppose the test plan tree contains two folders, Automated Tests and Manual Tests. The tests in the Automated Tests folder will be printed before the tests in the Manual Tests folder.
<b>Custom</b>	The contents of the folders will be organized according to the custom sort order you set for displaying test plan tree folders. By default, subject folders in the test plan tree appear in alphabetical order (by name). For example, suppose the test plan tree contains two folders, Automated Tests and Manual Tests. You can create a sort order that prints the tests in the Manual Tests folder before the tests in the Automated Tests folder. For more information about creating a custom sort order for the test plan tree, see Chapter 18, “Developing the Test Plan Tree.”

- 3** Under **Folders**, specify which test plan tree folders you want to include in the document:

Option	Description
<b>All</b>	Includes all the folders in the test plan tree.
<b>Selected</b>	Includes only the folders you choose from the test plan tree. You select the folders from the test plan tree displayed on the right side of the Subject Tree page.

- 4** To include folder attachments in the document, select **Attachments**. Folder attachments are files that have been associated with the folder, such as text files, images, or URLs.
- 5** To insert page breaks in the project document after each test subject folder, select **Page break after each folder**.

- 6 To include graphs in the document, select **Graphs** and select graphs from the list. Only graphs you saved as favorites are included in the list. For more information on favorite views, see Chapter 6, “Working with Favorite Views.”
- 7 To include test data in the project document, expand the **Subject Tree** node in the Document Generator tree. Select the **Subject Tests** check box and click the **Subject Tests** link. The Subject Tests page is displayed.





- 8** Under **Tests**, specify which tests you want to include in the document:

Option	Description
<b>All tests</b>	Includes all the tests from the selected test plan tree folders.
<b>Selected</b>	Includes only selected tests. Click the <b>Filter &amp; Sort</b> button to specify the criteria for selecting tests. For more information on using the Filter dialog box, see Chapter 3, “Working with Quality Center Data.”

- 9** To include design steps from the test, select **Design steps**.

Under **Layout**, specify how design steps will be organized:

Option	Description
<b>Full page</b>	Displays a list of all the design steps in a test. Click the <b>Customize</b> button to choose the information to appear in the document.
<b>Tabular</b>	Displays all the design steps in a test as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.

Under **Properties**, specify what to include from the design steps:

Option	Description
<b>Recursive</b>	Includes called tests from the design steps.
<b>Attachments</b>	Includes all design step attachments.

- 10** To include test scripts in the document, select **Test scripts**.

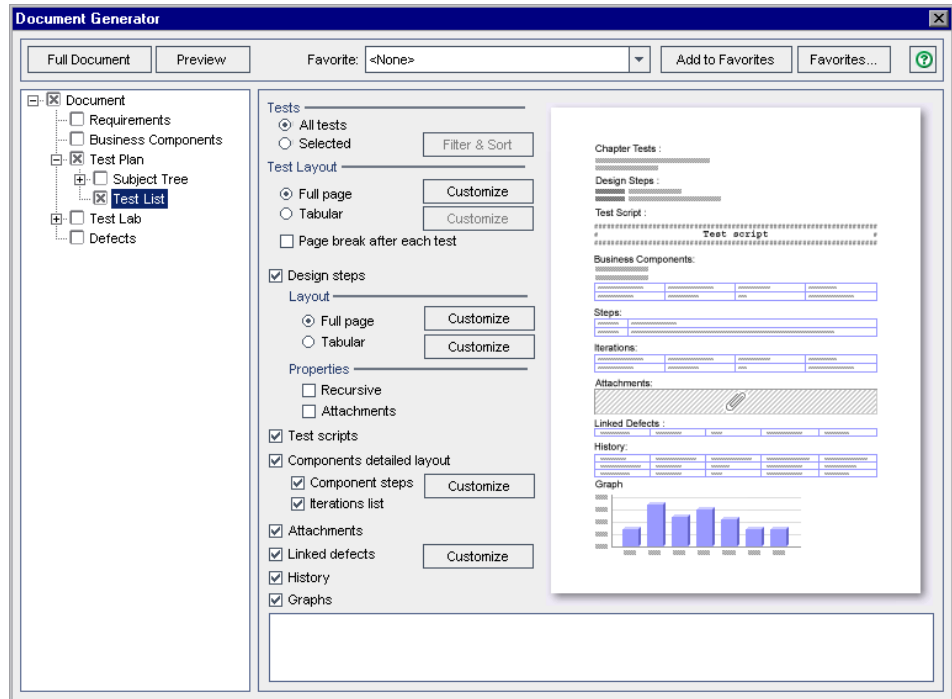
- 11** If you use Business Process Testing, you can include the layout of the components included in the tests. Select **Components detailed layout** and choose what to include in the detailed layout:
  - To include component steps, select **Component steps**. Click the **Customize** button to open the Tabular Layout dialog box to customize the component steps table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions.
  - To include the iteration list, select **Iterations list**.
- 12** To include test attachments in the document, select **Attachments**.
- 13** To display a list of all the changes made to the tests, and which user made each change, select **History**.
- 14** To insert page breaks in the project document after each test, select **Page break after each test**.
- 15** To include a table of linked defects, select **Linked defects**. Click the **Customize** button to open the Tabular Layout dialog box to customize the linked defects table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions. You can also specify whether to display only defects that have been directly linked to tests or to include indirectly-linked defects as well.

### **Specifying Test Plan Module Data from the Test Grid View**

You use the Test List page to specify the tests from the Test Grid that should appear in the project document. For more information about the Test Grid, see Chapter 3, “Working with Quality Center Data.”

To specify Test Plan module data from the Test Grid view:

- 1 Expand the **Test Plan** node in the Document Generator tree. Select the **Test List** check box and click the **Test List** link. The Test List page is displayed.



- 2 Under **Tests**, specify which tests you want to include in the document:

Option	Description
<b>All tests</b>	Includes all the tests from the Test Grid.
<b>Selected</b>	Includes only selected tests. Click the <b>Filter &amp; Sort</b> button to specify the criteria for selecting tests. For more information on using the Filter dialog box, see Chapter 3, "Working with Quality Center Data."

- 3** Under **Test Layout**, specify how the tests will be organized:

Option	Description
<b>Full page</b>	Displays a list of all the tests in the project. Click the <b>Customize</b> button to choose the information to appear in the document.
<b>Tabular</b>	Displays all the tests as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.

- 4** To insert page breaks in the project document after each test, select **Page break after each test**.
- 5** If you selected **Full page** as the Test Layout, you can select **Design steps** to include design steps from the test.

Under **Layout**, specify how design steps will be organized:

Option	Description
<b>Full page</b>	Displays a list of all the design steps in a test. Click the <b>Customize</b> button to choose the information to appear in the document.
<b>Tabular</b>	Displays all the design steps in a test as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.

Under **Properties**, specify what to include from the design steps:

Option	Description
<b>Recursive</b>	Includes called tests from the design steps.
<b>Attachments</b>	Includes all design step attachments.

- 6** If you selected **Full page** as the Test Layout, you can also set the following options:

Option	Description
<b>Test scripts</b>	Includes test scripts in the document.
<b>Components detailed layout</b>	<p>If you use HP Business Process Testing, you can include the detailed layout of the components included in the tests. Choose what to include in the detailed layout:</p> <p><b>Component steps.</b> Includes component steps. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the component steps table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions.</p> <p><b>Iterations list.</b> Includes the iteration list.</p>
<b>Attachments</b>	Includes test run attachments in the document.
<b>Linked defects</b>	Includes a table of linked defects. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the linked defects table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions. You can also specify whether to display only defects that have been directly linked to tests or to include indirectly-linked defects as well.
<b>History</b>	Displays a list of all the changes made to the tests, and who made them.

- 7** To include graphs in the document, select **Graphs** and select graphs from the graph list located at the bottom of the page. Only graphs you saved as favorites are included in the list. For more information on favorite views, see Chapter 6, “Working with Favorite Views.”

## Specifying Test Lab Module Data

You use the Test Lab, Test Sets, Tests, and Runs pages to specify the information from the Test Lab module that should appear in the project document.

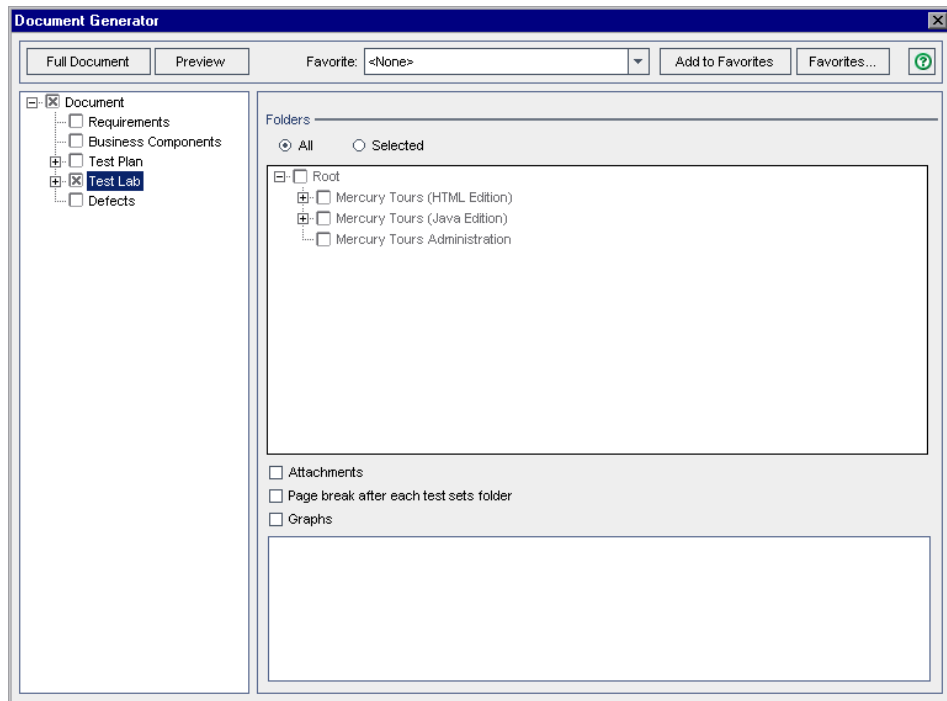
---

**Note:** Microsoft Word is limited to nine header levels in the table of contents. If the test sets tree has more than nine hierarchical levels, these levels will not appear in the table of contents of the generated project document.

---

**To specify Test Lab module data:**

- 1 Select the **Test Lab** check box in the Document Generator tree and click the **Test Lab** link. The Test Lab page opens.



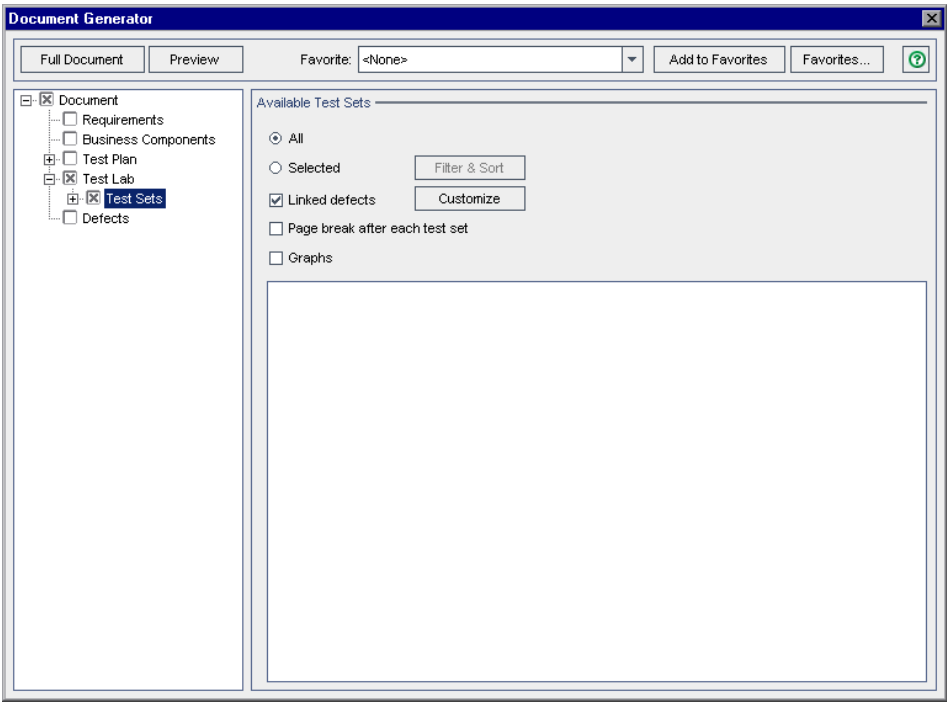
- 2** Under **Folders**, specify which test lab folders you want to include in the document:

Option	Description
All	Includes all the folders in the test sets tree.
Selected	Includes only the folders you choose from the test sets tree. You select the folders from the test sets tree displayed under Folders.

- 3** To include test set attachments, select **Attachments**.
- 4** To insert page breaks in the project document after each test sets folder, select **Page break after each test sets folder**.
- 5** To include graphs in the document, select **Graphs** and select graphs from the graph list located at the bottom of the page. Only graphs you saved as favorites are included in the list. For more information on favorite views, see Chapter 6, “Working with Favorite Views.”

**6** Expand the Test Lab node in the Document Generator tree.

To include test set data in the project document, select the **Test Sets** check box and click the **Test Sets** link in the Document Generator tree. The Test Sets page is displayed.



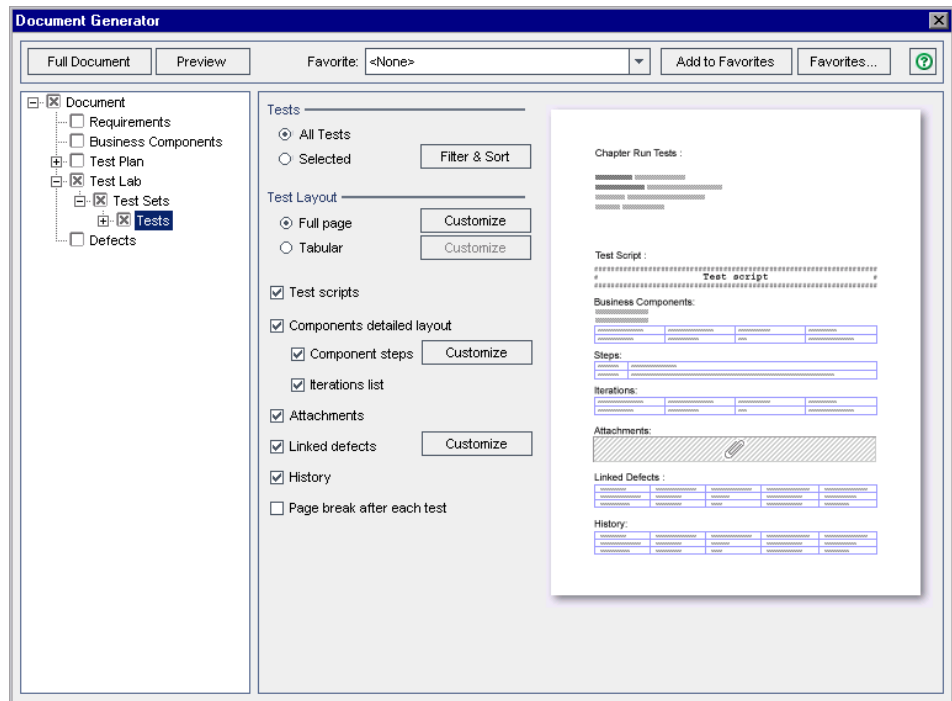
**7** Under **Available Test Sets**, specify which test sets you want to include in the document:

Option	Description
All	Includes all the test sets in the selected test set folder.
Selected	Includes only selected test sets. Click the <b>Filter &amp; Sort</b> button to specify the criteria for selecting the test sets. For more information on using the Filter dialog box, see Chapter 3, “Working with Quality Center Data.”



- 8 To include linked defects, select **Linked defects**. Click the Customize button to customize the linked defects. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions. You can also specify whether to display only defects that have been directly linked to test sets or to include indirectly-linked defects as well.
- 9 To insert page breaks in the project document after each test set, select **Page break after each test set**.
- 10 To include graphs in the document, select **Graphs**, and select graphs from the list. Only graphs you saved as favorites are included in the list. For more information on favorite views, see Chapter 6, “Working with Favorite Views.”
- 11 Expand **Tests Sets** in the Document Generator tree.

To include test data in the project document, select the **Tests** check box and click the **Tests** link. The Test Page is displayed.



**12** Under **Tests**, specify which tests you want to include in the document:

Option	Description
All tests	Includes all the tests in the selected test set.
Selected	Includes only selected tests. Click the <b>Filter &amp; Sort</b> button to specify the criteria for selecting tests. For more information on using the Filter dialog box, see Chapter 3, “Working with Quality Center Data.”

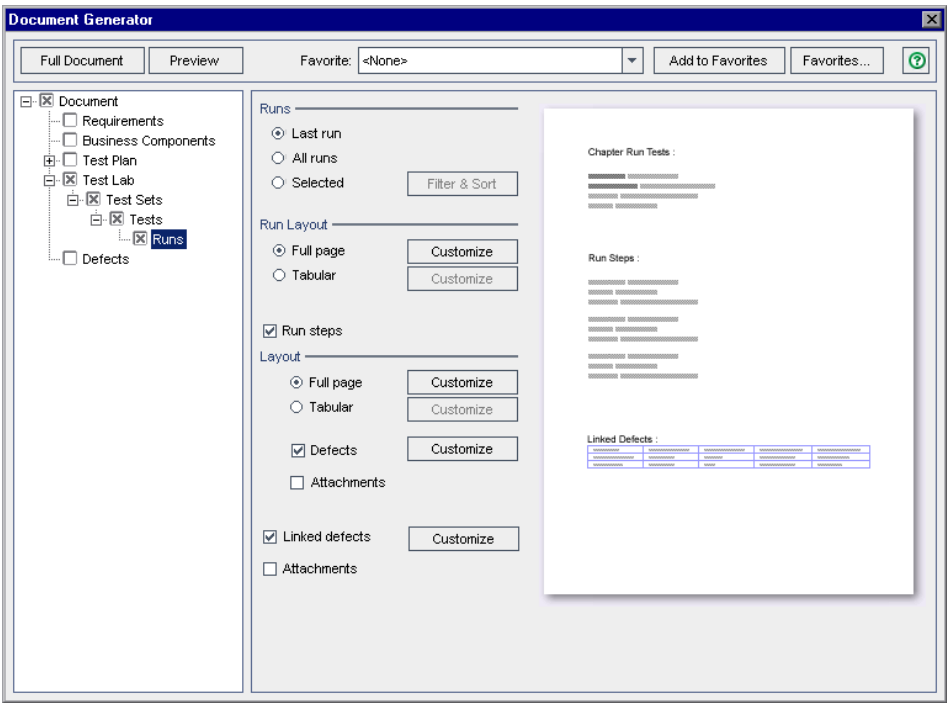
**13** Under **Test Layout**, specify how the tests will be organized:

Option	Description
Full page	Displays test information as a list. Click the <b>Customize</b> button to choose the information to appear in the document.
Tabular	Displays test information as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.  <b>Note:</b> If you select Tabular, you cannot include test runs in the document.

- 14** If you selected **Full page** as the Test Layout, you can also set the following options:

Option	Description
<b>Test scripts</b>	Includes test scripts in the document.
<b>Components detailed layout</b>	<p>If you use HP Business Process Testing, you can include the detailed layout of the components included in the tests. Choose what to include in the detailed layout:</p> <p><b>Component steps.</b> Includes component steps. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the component steps table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions.</p> <p><b>Iterations list.</b> Includes the iteration list.</p>
<b>Attachments</b>	Includes test run attachments in the document.
<b>Linked defects</b>	Includes linked defects as a table. Click the <b>Customize</b> button to customize the linked defects table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions. You can also specify whether to display only defects that have been directly linked to tests or to include indirectly-linked defects as well.
<b>History</b>	Displays a list of all the changes made to the tests, and who made them.
<b>Page break after each test</b>	Inserts page breaks in the project document after each test.

- 15** To include test run data in the project document, expand **Tests** in the Document Generator tree. Select the **Runs** check box and click the **Runs** link. The Runs page is displayed.



- 16** Under **Runs**, choose one of the following options:

Option	Description
<b>Last run</b>	Includes only the last run of the test.
<b>All runs</b>	Includes all runs of the test.
<b>Selected</b>	Includes only selected runs in the document. Click the <b>Filter &amp; Sort</b> button to specify the criteria for selecting tests. For more information on using the Filter dialog box, see Chapter 3, “Working with Quality Center Data.”

**17** Under **Run Layout**, choose one of the following options:

Option	Description
<b>Full page</b>	Displays a list of all the test runs. Click the <b>Customize</b> button to choose the information to appear in the document.
<b>Tabular</b>	Displays all the test runs as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.

**18** If you selected **Full page** as the Run Layout, you can select **Run steps** to include a list of run steps in the document.

If you are including run steps in the document, choose one of the following options under **Layout**:

Option	Description
<b>Full page</b>	Displays a list of all the steps in a run. Click the <b>Customize</b> button to choose the information to appear in the document.
<b>Tabular</b>	Displays all the steps in a run as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, and set the column order, width, and captions.

You can also select **Defects** to include a table of defects linked with run steps. Click the **Customize** button to open the Tabular Layout dialog box to customize the linked defects table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions. You can also specify whether to display only defects that have been directly linked to run steps or to include indirectly-linked defects as well.

If you are including run steps in the document, you can select **Attachments** to include run steps attachments in the document.

**19** If you selected **Full page** as the Run Layout, you can set the following options:

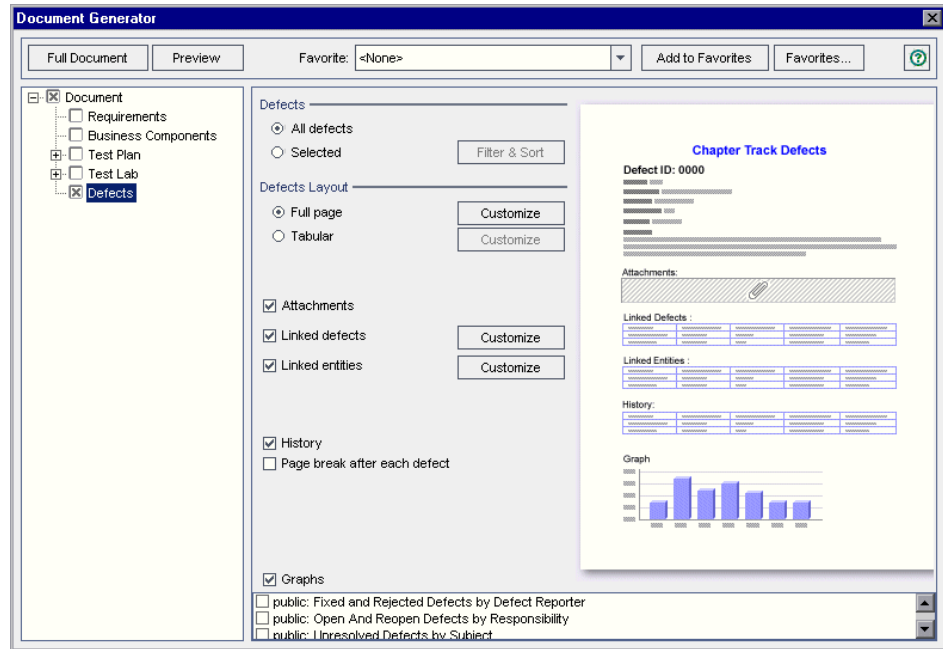
Option	Description
<b>Linked defects</b>	Includes a table of defects linked with test runs. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the linked defects table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions. You can also specify whether to display only defects that have been directly linked to test runs or to include indirectly-linked defects as well.
<b>Attachments</b>	Includes test run attachments in the document.

## Specifying Defects Module Data

You use the Defects page to specify the defect information from the Defects module that should appear in the Track Defects section of the project document.

**To specify Defects module data:**

- 1 To include defect data in the project document, select the **Defects** check box and click the **Defects** link in the Document Generator tree. The Defects page is displayed.



**2** Under **Defects**, choose one of the following options:

Option	Description
All defects	Includes all the defects from the Defects Grid.
Selected	Includes only selected defects. Click the <b>Filter and Sort</b> button to specify the criteria for selecting defects. For more information on using the Filter dialog box, see Chapter 3, “Working with Quality Center Data.”

**3** Under **Defects Layout**, choose one of the following options:

Option	Description
Full page	Displays all the selected defects as a list. Click the <b>Customize</b> button to choose the information to appear in the document.
Tabular	Displays all the selected defects as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the table. Use the Tabular Layout dialog box to choose the columns that will appear in the table, set the column order, width, and captions.

**4** If you selected the **Full page** as the Defects Layout, you can also set the following options:

Option	Description
Attachments	Includes defect attachments in the document.
Linked defects	Includes linked defects as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the linked defects table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions. You can also specify whether only direct links will be displayed.



Option	Description
<b>Linked entities</b>	Includes linked entities as a table. Click the <b>Customize</b> button to open the Tabular Layout dialog box to customize the linked entities table. Use the Tabular Layout dialog box to choose the defect columns that will appear in the table, and to set the column order, width and captions. You can also change the captions and the width of the table columns.
<b>History</b>	Displays a list of all the changes made to the defects.
<b>Page break after each defect</b>	Inserts page breaks in the project document after each defect.

- 5** To include graphs in the document, select **Graphs** and select graphs from the list. Only graphs you saved as favorites are included in the list. For more information on favorite views, see Chapter 6, “Working with Favorite Views.”

## Generating a Project Document

After you set formatting instructions and specify project data, you can generate the project document. You save the document as a Microsoft Word file.

---

**Tip:** You can generate a preview project document that enables you to quickly see how the document will look, without all the detail included. To generate a preview project document, click the **Preview** button. Quality Center opens Microsoft Word and displays the preview project document.

---

**To generate a project document:**

- 1** If there are open project document files from previous runs of the Document Generator, close the files.
- 2** Click the **Full Document** button. The Save As dialog box opens.

- 3** In the **Save As** box, set the location for the document in your network file system.
- 4** In the **File name** box, assign the document a name.
- 5** Click the **Save** button.

Quality Center begins generating the document and a dialog box displays document creation progress. To cancel document generation, click the **Stop** button.

When the process is complete, Microsoft Word opens and displays the document.

If the generated document contains links to attachments, a folder is created in the same location as the document, and the attachment files are copied to this folder. The name of the attachment folder is the name of the document with the suffix “\_Attachments”. If you send the document to someone, you can send the attachment folder along with it so that the recipient can access the attachments by using the links.

# Part IX

---

## Appendixes



# A

---

## Working with VAPI-XP

The VAPI-XP open test architecture API testing tool enables you to create new testing scripts, or edit existing scripts, and integrate them into your application management process.

**This chapter includes:**

- About Working with VAPI-XP on page 686
- Creating VAPI-XP Test Scripts on page 686
- Editing VAPI-XP Test Scripts on page 696
- Using the VAPI-XP API on page 701
- Running VAPI-XP Tests in Debug Mode on page 706
- Running VAPI-XP Tests in Test Mode on page 707
- Debugging VAPI-XP Test Scripts on page 709

## About Working with VAPI-XP

The VAPI-XP testing tool enables you to create new testing scripts using Microsoft VBScript, Microsoft JavaScript (JScript version), PerlScript, and PythonScript, and integrate these scripts into your application management process. Using VAPI-XP test scripts, you can test COM/DCOM servers, SOAP-based Web services, Java APIs (such as Java classes and EJBs), and console applications. You can also use VAPI-XP to create a LoadRunner virtual user.

In addition, VAPI-XP is fully integrated with Quality Center, enabling you to design your VAPI-XP test script to call any Quality Center test or test set, and execute it as part of your own script. This allows you to build a more advanced test set execution flow, in which you can filter tests in a test set during execution, based on the status or type of each test.

VAPI-XP is also fully integrated with the Quality Center Open Test Architecture API. All open test architecture API classes and methods can be referenced from the VAPI-XP user interface so that you can easily include them in your test script.

## Creating VAPI-XP Test Scripts

You create a VAPI-XP test script from the test plan tree in the Test Plan module.



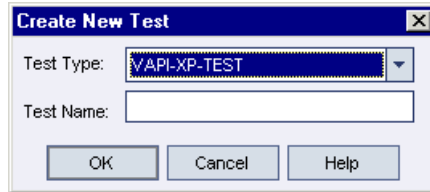
---

**Note:** You can also convert a manual test to a VAPI-XP test. In the **Design Steps** tab, click the **Generate Script** button and select **VAPI-XP-TEST**. Quality Center creates a VAPI-XP test script that includes code for the steps that you defined. It also includes code for called tests that were part of the original manual test. For more information on manual tests, see Chapter 20, “Building Tests.”

---

To create a VAPI-XP test script:

- 1 Choose a subject folder in the test plan tree.
- 2 Click the **New Test** button or choose **Tests > New Test**. The Create New Test dialog box opens.
- 3 In the **Test Type** box, select **VAPI-XP-TEST**.



- 4 In the **Test Name** box, type a name for the test. Note that a test name cannot include the following characters: \ / : " ? < > | \* % '.

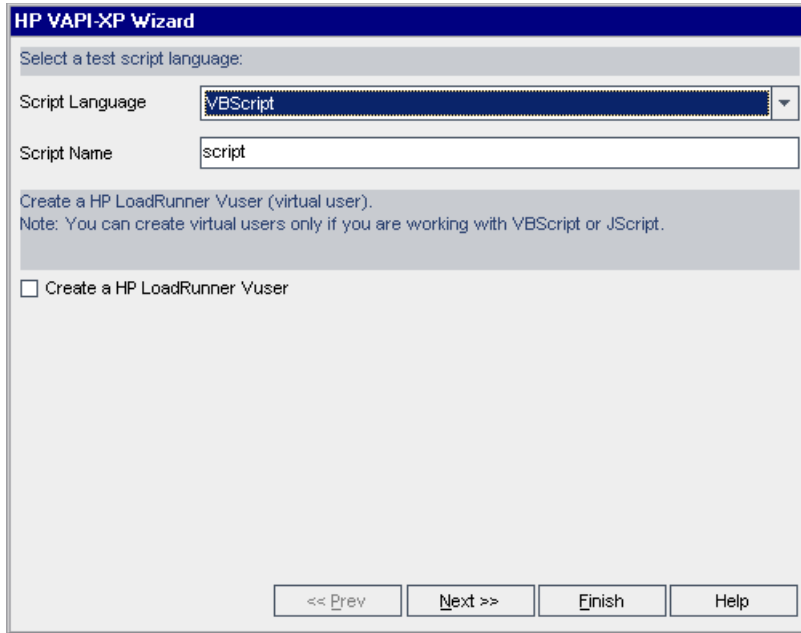
Click **OK**.

---

**Note:** If required test fields were defined in the Project Customization window, the Required Test Fields dialog box opens. Select values for the required fields, and click **OK**.

---

The HP VAPI-XP Wizard opens.



- 5 In the **Script Language** box, select a script language.

---

**Notes:**

- To create a VAPI-XP test script using ActiveState's ActivePython or ActivePerl scripts, you must install the script language on your machine. From the **Help** menu in the Test Script tab, select **ActivePython Home Page** or **ActivePerl Home Page**, and follow the appropriate installation instructions.
  - Microsoft's VBScript and JScript are usually installed with Internet Explorer. If they are not installed on your machine, select **VBScript Home Page** or **JScript Home Page** from the **Help** menu in the Test Script tab, and follow the appropriate installation instructions.
- 

- 6 In the **Script Name** box, type a name for the VAPI-XP test script.



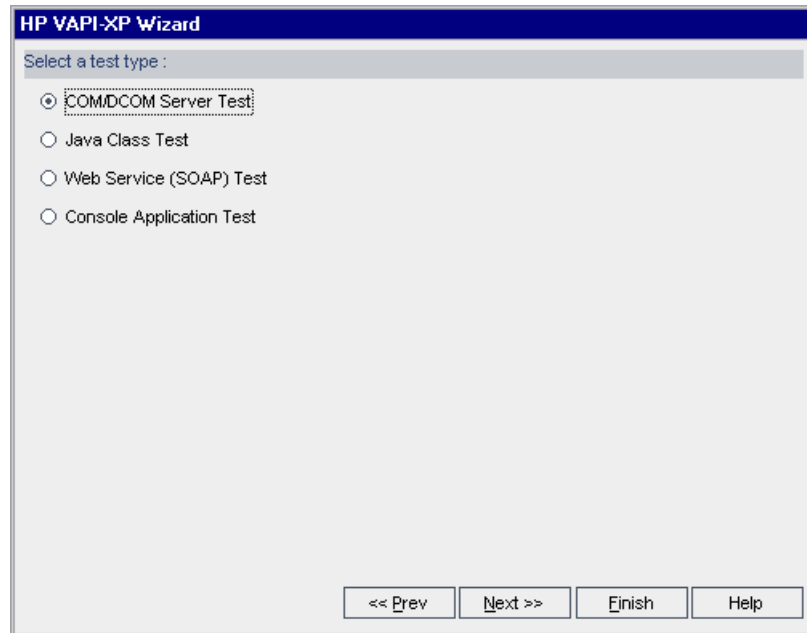
- 7 If you selected VBScript or JavaScript as your test scripting language, you can select **Create HP LoadRunner Vuser** to create a LoadRunner virtual user script that can be run in the LoadRunner Controller.

---

**Note:** To run this virtual user in the Controller, you must install the latest version of the HP Quality Center Connectivity Add-in on your LoadRunner client machine. This add-in is available from the HP Quality Center Add-ins page. For more information, refer to the *HP Quality Center Installation Guide*.

---

- 8 Click **Next** to continue creating the test script using the HP VAPI-XP Wizard. The following dialog box opens.

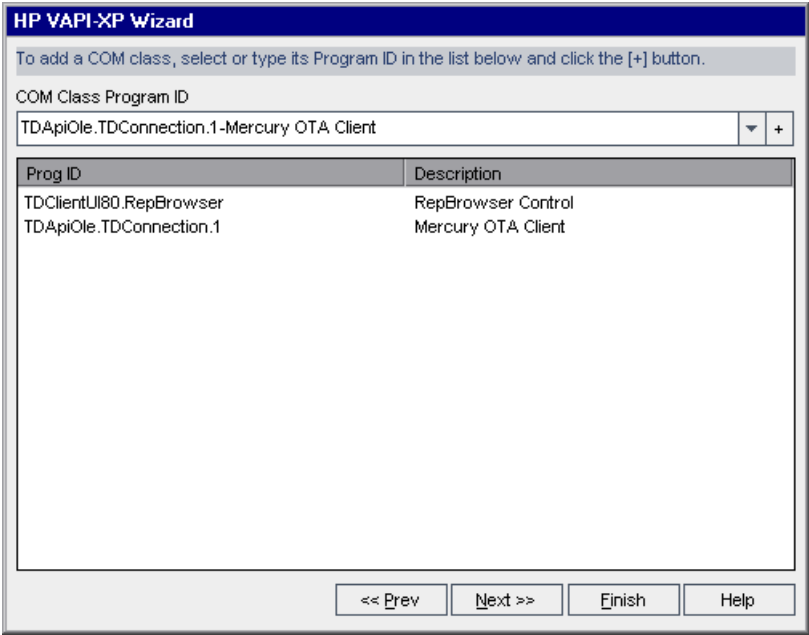


---

**Note:** In each dialog box, you can click **Finish** to close the Wizard and continue creating the test script in the Test Script tab.

---

- 9 Select the type of test you want to create.
- 10 Click **Next** to continue creating the test script using the HP VAPI-XP Wizard.
  - If you selected **COM/DCOM Server Test**, choose the Program IDs of the COM/DCOM objects in your machine’s registry that you want to test, and click the + button. Each selected COM/DCOM object and its description is displayed in the box below.



- If you selected **Java Class Test**, type the full name of the Java class that you want to test in the **Java Class Name** box, and click the + button. The Java class name you typed appears in the text box below.

---

**Note:** You can only use a Java class that has a public constructor that does not take arguments.

---

Under **Java Virtual Machine**, select **Other JVM** if you do not want to use the default Microsoft Java virtual machine, and specify the following:

- **JVM Runtime.** The Java virtual machine runtime executable file (usually **java.exe**).
- **Java Compiler.** The executable file that recompiles the bytecode at the execution platform (usually **javac.exe**).

- **Classpath.** A list of additional (non-standard) Java libraries, separated by semi-colons (;), required to run the specified Java application. Note that if you do not specify the Java classpath, Quality Center uses the environment variable **CLASSPATH**.
- **JVM Parameters.** The parameters for the Java virtual machine run-time executable file.

If the Microsoft Java virtual machine (required to support the debugging of your test script) is not installed on your machine, run the **msjavx86.exe** file located in the Redist directory on your HP Quality Center DVD.

To use other Java virtual machines, install the Bean Scripting Framework (BSF) Java package on the client machine. Unzip the **bsf-bin-22.zip** file located in the Redist directory on your HP Quality Center DVD. In the unzipped file, locate the path of the **bsf.jar** file and add it to the **CLASSPATH** field. Ensure that the **CLASSPATH** environment variable contains a dot (.) to specify the current directory.

When working with other Java virtual machines, add the location of the BSF DLLs to the system path, as follows: In the Control Panel, choose **System > System Properties**, and then click the **Advanced** tab. Click the **Environment Variables** button, and in the **System Variables** area, edit the **Path** parameter by adding the path of the following DLLs: **msvcp60.dll**, **bsfactivscriptengine.dll**, and **bsfactivscriptengine\_g.dll**. Click **OK**.

- If you selected **Web Service (SOAP) Test**, choose the SOAP client library from the **SOAP Client Library** list, and type or select the URL you want to test in the **Web Service Definition** box. Click the + button. The URL you typed appears in the text box below.

The screenshot shows the 'HP VAPI-XP Wizard' dialog box. At the top, a blue title bar contains the text 'HP VAPI-XP Wizard'. Below the title bar, a light gray instruction box contains the text: 'To add a Web service, select a SOAP client library, enter a Web service URL, and click the [+] button.' Below this, there are two main input sections. The first is labeled 'SOAP Client Library' and features a white text box with a dropdown arrow on the right. The second is labeled 'Web Service Definition (WSDL URL)' and features a white text box with a dropdown arrow and a '+' button on the right. Below these sections is a large, empty white rectangular area. At the bottom of the dialog, there is a light gray bar containing four buttons: '<< Prev', 'Next >>', 'Finish', and 'Help'.

---

**Note:** Two SOAP client libraries are supported: Microsoft SOAP SDK and PocketSOAP. Note that even if you choose to work with PocketSOAP, you must install Microsoft SOAP SDK to parse Web services. If Microsoft SOAP SDK is not already installed on your machine, run the **SoapToolkit30.exe** file located in the **Redist** directory on your HP Quality Center DVD.

---

- If you selected **Console Application Test**, type the name of the application file you want to test in the **Application Executable File** box, and its parameters in the **Command Line Parameters** box.

Clear the **Use VAPI-XP Output instead of Standard Output** box if you do not want to replace the standard output with the VAPI-XP output window.

In the **Application Timeout** box, type the time, in milliseconds, for Quality Center to wait for the application to finish running. Note that if the timeout is set to **-1**, Quality Center waits an infinite amount of time for the application to finish running.

Click the **+** button. The data you entered appears in the text box below.

HP VAPI-XP Wizard

To add a console application, enter an application file name and parameters, and click the [+] button.

Console Application

Application Executable File

ping.exe

Command Line Parameters

delta

☐ Use Vapi-XP Output instead of Standard Output.

Application Timeout (in milliseconds, -1 = INFINITE)

-1

Application	Arguments	Timeout	Use Output
ping.exe		-1	true

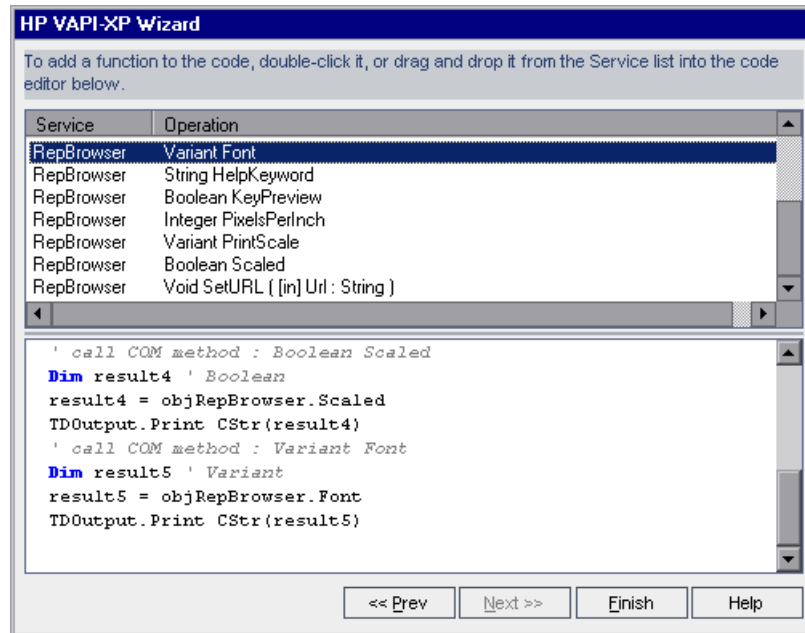
<< Prev

Next >>

Finish

Help

- 11** Click **Next** to continue creating the test script using the HP VAPI-XP Wizard. The following dialog box opens.



- 12** In the **Service** list, select the functions you want to add to your test script. Double-click each function, or drag and drop it, to add it to your script code. The function is added to the box below the Service list.
- 13** If required, enter additional parameters or add extra code to the script in the lower pane.
- 14** Click **Finish**. The new test appears in the test plan tree under the subject folder you selected.

---

**Note:** You can choose to add details and attachments to the VAPI-XP test you created, or define requirements coverage. For information, see Chapter 18, “Developing the Test Plan Tree.”

---

# Editing VAPI-XP Test Scripts

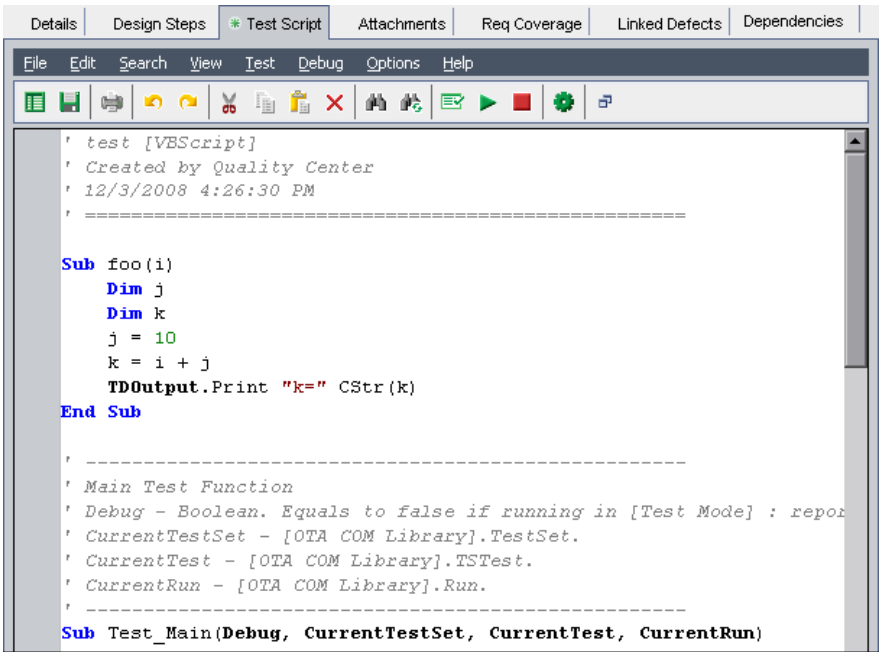
After you have created a VAPI-XP test script using the HP VAPI-XP Wizard, you can edit it in the Test Script tab.



**Tip:** You can display the Test Script tab in a separate window by selecting **View > Window Screen**, or clicking the **Window Screen** button.


To edit a VAPI-XP test script:

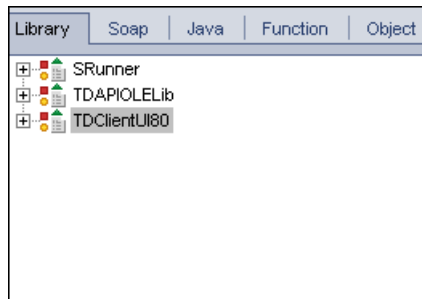
- 1 In the test plan tree, select a VAPI-XP test, and click the **Test Script** tab. The test script is displayed.



**Note:** To view or edit the properties of the test script you created, choose **Test > Properties**.



- 2 To view a list of object definitions, methods, and properties that you can add to your script, select one of the following options:
  - **Test > References > COM Library References.** Opens the References dialog box in which you can choose the COM object definitions, methods, and properties you want to view.
  - **Test > References > SOAP Web Service References.** Opens the Add Web Service Reference dialog box in which you can type the Web service object definition or method you want to view.
  - **Test > References > Java Class References.** Opens the Add Java Class Reference dialog box in which you can type the Java class object definition or method you want to view.
- 3  Select **View > Browsers**, or click the **Show/Hide Browsers** button. The following tabs are displayed.



- **Library tab.** Displays a list of VAPI-XP (SRunner), Quality Center (TDAPIOLELib), and COM/DCOM object definitions, methods, and properties that you can add to your script. For an explanation of VAPI-XP object definitions, methods, and properties, see “Using the VAPI-XP API” on page 701. For an explanation of Quality Center object definitions, methods, and properties, refer to the *HP Quality Center Open Test Architecture API Reference*.
- **Soap tab.** Displays a list of Web service object definitions and methods that you can add to your script.
- **Java tab.** Displays a list of Java class object definitions and methods that you can add to your script.

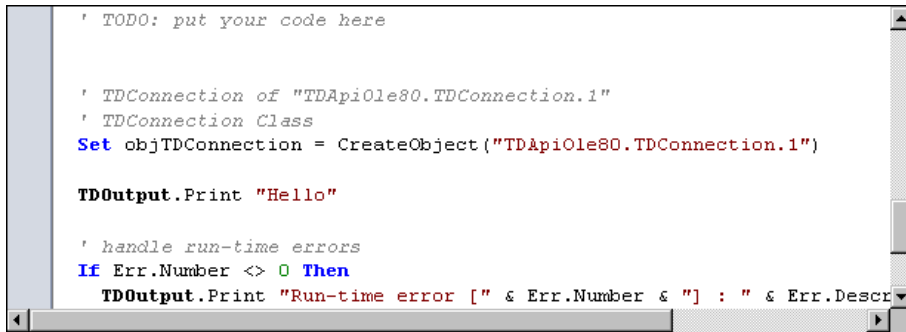
- **Function tab.** Displays a list of functions contained in your script.
- **Object tab.** Displays a list of objects with defined names that you can add to your script.

---

**Note:** For a description of each object definition, method, or property, select **View > Output**, and click the **Help** tab.

---

- 4 To add an object definition, method, or property to the current function in your script, place the cursor in the appropriate place in your code, and double-click the object definition, method, or property in the Library, Soap, or Java tabs.



```
' TODO: put your code here

' TDConnection of "TDApiOle80.TDConnection.1"
' TDConnection Class
Set objTDConnection = CreateObject("TDApiOle80.TDConnection.1")

TDOutput.Print "Hello"

' handle run-time errors
If Err.Number <> 0 Then
    TDOutput.Print "Run-time error [" & Err.Number & "] : " & Err.Descrip
```

- 5** To add an object with a defined name, select the object definition, method, or property in the Library, Soap, or Java tabs, and choose **Test > Add Object**. In the Add Object dialog box, type the name you want to assign to the object and click **OK**. The object is added to the Object tab.

Library   Soap   Java   Function   Object	
Name	ProgID
TDConnection	TDApiOle80.TDConnection
TDHelper	SRunner.TDHelper
TDInput	SRunner.TDInput
<b>TDOutput</b>	<b>SRunner.TDOutput</b>
ThisTest	TDApiOle80.Test
XTools	SRunner.XTools

To add the object to your script, double-click the object, or right-click it and select **Insert into Script**.



- 6** To check the syntax of your code, choose **Test > Check Syntax**, or click the **Syntax Check** button. Select **View > Output** to view the verification results in the **Output** tab.

## Additional Editing Functions

You can also perform the following editing functions in the Test Script tab:



- To undo a previous action, click the **Undo** button. To restore an action that was undone, click the **Redo** button.



- To remove a section of code from one part of your script, and place it in another part of the script, select the section and click the **Cut** and **Paste** buttons.



- To copy a section of code from one part of your script, and place it in another part of the script, select the section and click the **Copy** and **Paste** buttons.



- To delete a section of code, select it and click the **Delete** button.



- To locate specific text within your script, click the **Find in Script** button. In the Find Text dialog box, type the text for which you want to search. Select the options, direction, scope, and origin for your search, and click **OK**.

To find another occurrence of the text within the script, choose **Search > Find Next**.



- To locate specific text within your script and replace it with different text, click the **Replace** button. In the Find Text dialog box, type the text you want to search for in the **Text to find** box. Type the text with which you want to replace this text in the **Replace with** box. Select the options, direction, scope, and origin for your search, and click **OK**. To replace all instances of the text in the script, click the **Replace All** button.

- To locate a specific line number within your script, choose **Search > Go to Line Number**. In the Go to Line Number dialog box, type the line number you want to find, and click **OK**.



- To change the editor options, such as the margins, fonts, and screen/text colors, click the **Editor** button. Set the properties you want in the Editor, Display, and Colors tabs, and click **OK**.



After you have finished editing your script, click the **Save** button to save the changes you made.

## Using the VAPI-XP API

The VAPI-XP tool contains a built-in library of VAPI-XP object definitions that you can reference as you are creating your test script.

### Using the TDHelper Object

The TDHelper object supplies the following functions that you can use to perform Quality Center-related tasks.

#### RunTestSet

Executes the selected test set and returns the accumulated test set execution status.

```
RunTestSet([Name = "default"], [Filter = ""], [Locally = FALSE], [Host = ""],  
[HostGroup = ""])
```

**Name.** Test set name. Optional. Default = "default"

**Filter.** Test filter. Defines tests to run. If empty, instructs Quality Center to run all the tests in a specified test set. Optional. Default = ""

**Locally.** If set to TRUE, instructs Quality Center to run test set locally. Optional. Default = FALSE

**Host.** Host on which test set will be run. Optional. Default = ""

**HostGroup.** Host group in which test set will be run. Optional. Default = ""

#### RunTest

Executes the selected test and returns the test execution status.

```
RunTest(Name, Instance, TestSet, [Locally = FALSE], [Host = ""], [HostGroup = ""])
```

**Name.** Test name.

**Instance.** Test instance.

**TestSet.** Test set name.

**Locally.** If set to TRUE, instructs Quality Center to run test set locally. Optional. Default = FALSE

**Host.** Host on which test set will be run. Optional. Default = ""

**HostGroup.** Host group in which test set will be run. Optional. Default = ""

### **AddDefect**

Adds a new defect to the current test, if the test is being run in debug mode. If the test is being run in test mode, a new defect is added to the current run of the test instance in the current test set. Returns a created defect object.

*AddDefect([Fields], [StepKey])*

**Fields.** Two-dimensional array—the first dimension is for the field name, and the second for the field value. Optional.

**StepKey.** Step ID for step related to new defect. Optional.

### **AddDefectUI**

Adds a new defect to the current test (in debug mode) or the current run (in test mode), using the Quality Center New Defect dialog box.

*AddDefectUI([StepKey])*

**StepKey.** Step ID for step related to new defect. Optional.

### **AddStepToRun**

Adds a new step to the current run. Returns a created step object.

*AddStepToRun(Name, [Desc], [Expected], [Actual], [Status])*

**Name.** Step name.

**Desc.** Step description. Optional.

**Expected.** Expected step result. Optional.

**Actual.** Actual step result. Optional.

**Status.** Step status. Optional.

**DownloadAttachment**

Downloads the attachment associated with a test object. Returns the local path to which the download was performed.

*DownloadAttachment(Name, item)*

**Name.** The attachment name.

**item.** Reference to the object with the attachment.

**UploadAttachment**

Uploads an attachment and associates it with a test object.

*UploadAttachment(path, item)*

**path.** The local path (fully specified file name) of the item to upload.

**item.** Reference to the object to which to associate the attachment.

**Using the TDInput Object**

The TDInput object supplies the following function that you can use to obtain an input value from an end user.

**GetInput**

Displays the Input dialog box, enabling you to obtain an input value from an end user.

*GetInput([Caption],[Name])*

**Caption.** Dialog box caption. Optional.

**Name.** Name of the input value. Optional.

## Using the TDOutput Object

The TDOutput object supplies the following functions that you can use to control the VAPI-XP Output tab.

### Clear Method

Clears the Output tab.

*Clear*

### Print Method

Prints the text message to a new line in the Output tab.

*Print(Msg)*

### HookDebug Property

Sets or removes the hook for the OutputDebugString tab API function.

*HookDebug*

### Text Property

Gets or sets the Output tab text.

*String Text*



## Using the XTools Object

The XTools object supplies the following functions that you can use to perform general tasks.

### **run**

Runs command line with passed attributes.

*run(Command, [Args = ""], [Timeout = -1], [UseOutput = TRUE])*

**Command.** Application executable file.

**Args.** Application arguments. Optional. Default = ""

**Timeout.** Timeout in milliseconds. If this is -1, Quality Center waits an infinite amount of time for the application to finish running.

**UseOutput.** If TRUE, Quality Center replaces the standard output with the VAPI-XP output window.

### **WrapArray**

Creates an array of variants from an array of objects. For example, if a called object returns as a method result an array of strings, none of the supported script engines is able to read the array. Calling the WrapArray function and passing the returned array as a function parameter creates an array of variants that can be understood by the scripting engine.

*WrapArray(array)*

**array.** Array to wrap.

### **Sleep**

Suspends script execution for a specified amount of time.

*Sleep(interval)*

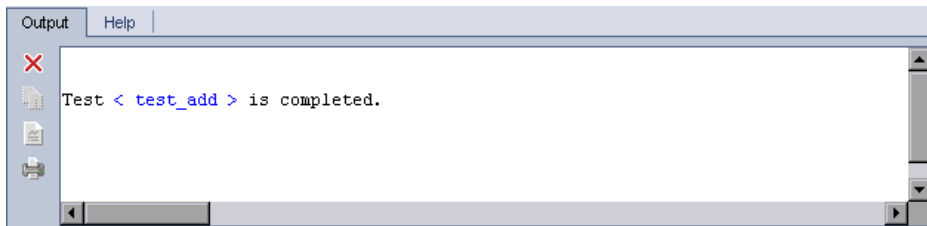
**interval.** Time (in milliseconds) for script execution suspension

## Running VAPI-XP Tests in Debug Mode

Once you have created and edited your VAPI-XP test script, you can run it in debug mode or test mode. Running a VAPI-XP test in debug mode enables you to execute the test without including it in a test set and without creating test run data in the Quality Center project. It is generally recommended that you use the debug mode while you are developing your test, and the test mode once you have completed creating your test.

**To run a VAPI-XP test in debug mode:**

- 1 In the Test Plan module, select a VAPI-XP test from the test plan tree, and click the **Test Script** tab.
- 2 Select **Test > Execute (Debug Mode)**, or click the **Execute Script** button. Quality Center begins executing the test script you selected.
- 3 Select **View > Output** to view the output generated by the test script.



- To clear the Output tab, click the **Clear Output** button.
  - To copy the output text to the clipboard, select it and click the **Copy Selected Text to Clipboard** button.
  - To view the test script output in a Web browser, click the **Open Output Text in Web Browser** button.
  - To print the test script output, click the **Print Output** button.
- 4 To stop executing the VAPI-XP test before it finishes running, select **Test > Stop**, or click the **Stop** button.

## Running VAPI-XP Tests in Test Mode

You can run your VAPI-XP test in test mode once you have added the test to a test set in the Test Lab module. For information on adding tests to test sets, see Chapter 28, “Creating Test Sets.”

Note that when you run a VAPI-XP test in test mode, test run data is created in the Quality Center project.

You can run your VAPI-XP test in test mode from either the Test Plan or Test Lab module.

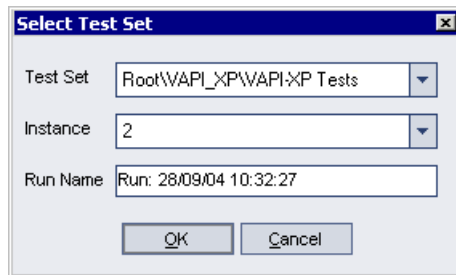
---

**Note:** To run VAPI-XP tests remotely, you must install the HP Quality Center Client Side Setup Add-in and the HP Quality Center Connectivity Add-in on the host machine on which the tests are executed. For more information on HP Quality Center add-ins, refer to the *HP Quality Center Installation Guide*.

---

**To run a VAPI-XP test in test mode from the Test Plan module:**

- 1** Select a VAPI-XP test from the test plan tree, and click the **Test Script** tab.
- 2** Select **Test > Execute (Test Mode)**. The Select Test Set dialog box opens.



- 3** In the **Test Set** box, select the test set containing the current VAPI-XP test.
- 4** In the **Instance** box, select the test instance that you want to run.
- 5** In the **Run Name** box, type the name you want to assign to the test run.
- 6** Click **OK**. Quality Center begins executing the test you selected.

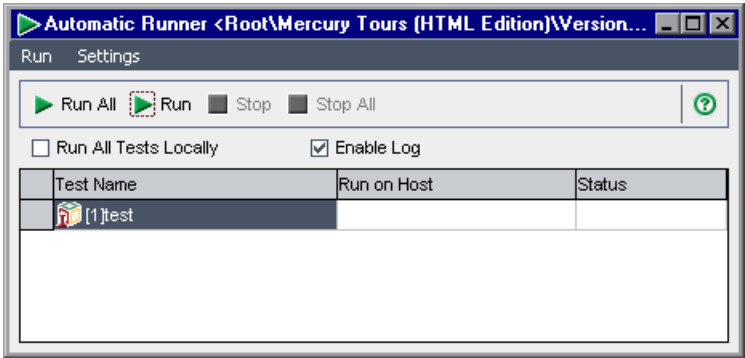
- 7 To view the output generated by the test script, select **View > Output**. For an explanation of the Output tab, see “Running VAPI-XP Tests in Debug Mode” on page 706.



- 8 To stop executing the VAPI-XP test before it finishes running, select **Test > Stop**, or click the **Stop** button.

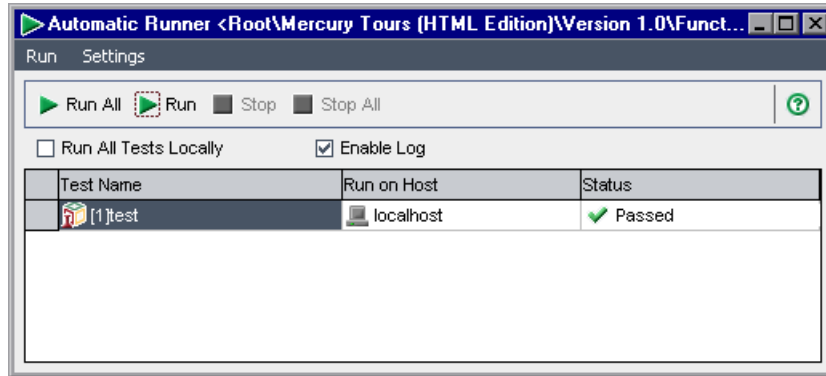
**To run a VAPI-XP test in test mode from the Test Lab module:**

- 1 From the **Test Sets** list, select the test set containing the VAPI-XP test you want to run.
- 2 In the **Execution Grid**, select the test you want to run, and click the **Run** button. The Automatic Runner dialog box opens, displaying the selected test.



- 3 In the **Run on Host** column, select a host machine on which to run the VAPI-XP test, or choose **Run All Tests Locally** to run the test on your local machine.

- Click the **Run** button. The VAPI-XP Test Script window opens as Quality Center begins executing the selected VAPI-XP test. When Quality Center finishes executing the test, the Automatic Runner dialog box displays the status of the test run.



## Debugging VAPI-XP Test Scripts

If your test run was not successfully completed, you can use VAPI-XP's Integrated Debugger to assist you in debugging your VAPI-XP test script.

---

**Note:** You cannot use the Integrated Debugger to debug PerlScript or PythonScript test scripts.

---

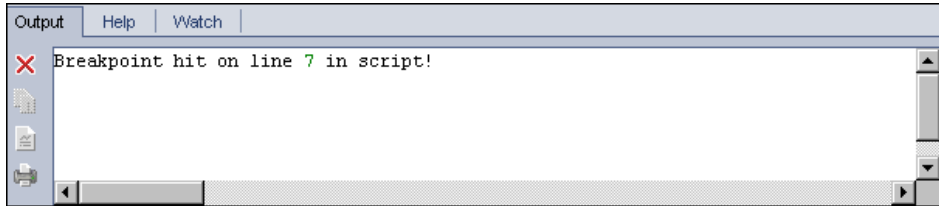
**To debug a VAPI-XP test script:**

- In the **Test Script** tab of the Test Plan module, select **Debug > Integrated Debugger**. Additional buttons controlling the debugging process are displayed on the toolbar.
- To set a breakpoint in a script, select the line in the script where you want to set the breakpoint, and choose **Debug > Toggle Breakpoint** or click the **Toggle Breakpoint** button. Alternatively, click the gray margin next to the line in the script. The line you selected is highlighted in red.

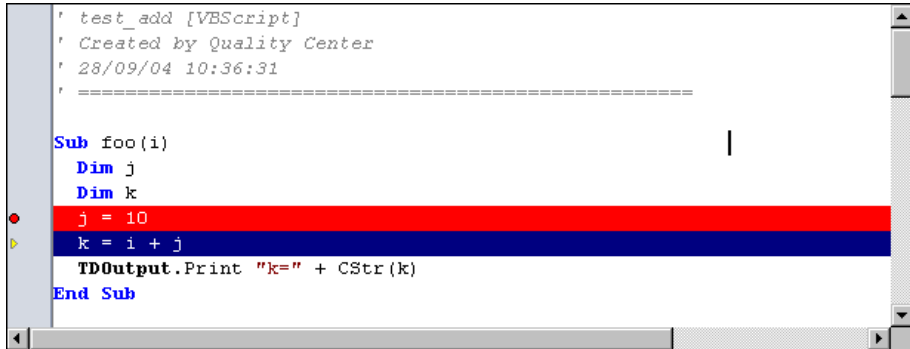




- 3 Click the **Execute Script** button. Quality Center begins executing the script, stopping at the defined breakpoint. The Output tab displays the following message.



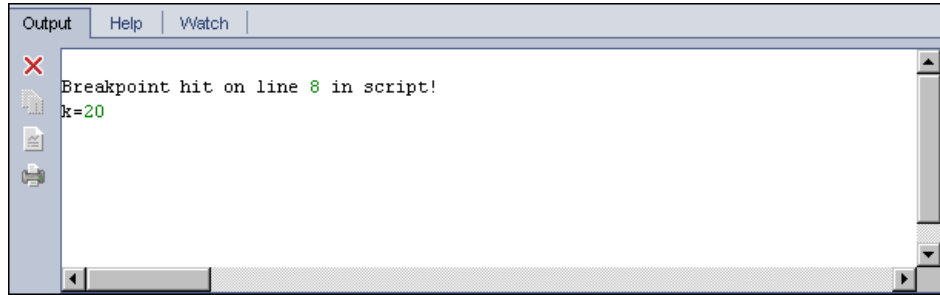
- 4 To instruct Quality Center to enter the script after the breakpoint, choose **Debug > Step Into** or click the **Step Into** button. The line in the script that follows the breakpoint is highlighted in blue.



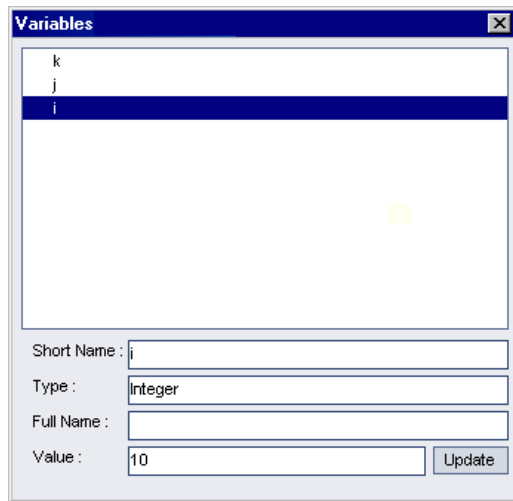
- 5 To instruct Quality Center to step over a line in the script, click the **Step Over** button or choose **Debug > Step Over**.



- 6 To instruct Quality Center to execute the script, choose **Debug > Step Out** or click the **Step Out** button. The output is displayed in the **Output** tab.



- 7 To view or edit the value of each variable in the script, choose **Debug > Variables** or click the **Show Variables** button. The Variables dialog box opens, displaying the variables available in the current script. Select a variable to view its properties.



To change a variable's value, type the new value you want to assign to it in the **Value** box and click **Update**. Click **OK** to save your changes and close the Variables dialog box.



- 8 To view information about a specific variable while debugging, choose **Debug > Watch** or click the **Show Watch Window** button to display the Watch tab.

To add a variable to the Watch tab, click **+**, type a variable name in the **Prompt** box, and click **OK**. The variable and its values are displayed in the Watch tab.

Output   Help   Watch		
<div><div>+</div><div>-</div></div>		
i	Name	Value
	Short Name	i
	Type	Integer
	Full Name	
	Value	10
	Attributes	Public



**9** To instruct Quality Center to resume executing the script, choose **Debug > Resume Execution** or click the **Resume Execution** button.



**10** Choose **Debug > Stop Debugging**, or click the **Stop Debugging** button to stop the Integrated Debugger from debugging your script.



# B

---

## Quality Center Keyboard Shortcuts

You can navigate Quality Center, and perform many Quality Center commands by using shortcut keys.

**This chapter includes:**

- Switching Between Quality Center Modules on page 714
- General Keyboard Shortcuts on page 714
- Attachments Shortcuts on page 716
- Send Email Dialog Box Shortcuts on page 716
- Management Module Shortcuts on page 717
- Requirements Module Shortcuts on page 717
- Test Plan Module Shortcuts on page 718
- Test Resources Module Shortcuts on page 719
- Test Lab Module Shortcuts on page 719
- Defects Module Shortcuts on page 720
- Dashboard Module Shortcuts on page 721

## Switching Between Quality Center Modules

You can switch between the Quality Center modules using CTRL+SHIFT+<number> shortcut keys. The number represents the sequential order in which the module is displayed in the module sidebar, starting with “0”. For example, if Requirements is the first module, press CTRL+SHIFT+0. If Business Components is the second module, press CTRL+SHIFT+1.

## General Keyboard Shortcuts

You can navigate Quality Center, and perform common commands by pressing the following shortcut keys:

Shortcut Key	Function
DOWN ARROW or UP ARROW	Selects the previous and next item respectively.
LEFT ARROW or RIGHT ARROW	In the tree folders, collapses or expands the folders respectively.  In the grid view, selects the previous and next grid column respectively.
TAB	Selects the next data box in a tab or dialog box.
SHIFT+TAB	Selects the previous data box in a tab or dialog box.
CTRL+SHIFT+<sequence number>	Switches between the sidebar views in the Requirement Details, Defect Details, and Test Instance Properties dialog boxes.
CTRL+TAB	Moves forward through the tabs.
CTRL+SHIFT+TAB	Moves backward through the tabs.
F9 or ALT	Focuses on the module menu options. Press LEFT ARROW, RIGHT ARROW, DOWN ARROW or UP ARROW to navigate the menus.
ALT+DOWN	Opens the drop-down lists for list boxes. Press DOWN ARROW or UP ARROW to select a list value.

Shortcut Key	Function
LEFT ARROW	Expands a folder that contains sub-folders in the tree view (if it is collapsed).
RIGHT ARROW	Collapses a folder that contains sub-folders in the tree view (if it is expanded).
ALT+G	Goes to the selected entity.
ALT+HOME/END	Displays the first or last entity respectively in the Requirement Details, Defect Details, or Test Instance Properties dialog box.
ALT+LEFT/RIGHT ARROW	Displays the previous or next entity respectively in the Requirement Details, Defect Details, or Test Instance Properties dialog box.
CTRL+F	Opens a Find dialog box that helps you search for specified text.
CTRL+C	Copies the selected item and puts it on the Clipboard.
CTRL+V	Pastes the contents of the Clipboard to the selected location.
CTRL+X	Cuts the selected item and puts it on the Clipboard.
CTRL+Z	Undoes the last action.
CTRL+A	Selects all items.
F1	Displays help for the selected dialog box.
F2	Renames an entity.
F5	Refreshes all data in the selected tree, grid, or folder.
F7	Spell checks the selected word or text box.
SHIFT+F7, SHIFT+CTRL+F7	Opens the Thesaurus dialog box and displays a synonym, antonym, or related word for the selected word.
CTRL+SHIFT+T OR CTRL+T	Creates a tab for memo fields.

## Attachments Shortcuts

You can perform the following commands in the Attachments tab/dialog box by pressing the corresponding shortcut keys:

Shortcut Key	Function
CTRL+F	Attaches a file.
CTRL+W	Attaches a URL.
CTRL+P	Attaches a snapshot.
CTRL+I	Attaches system information.
CTRL+B	Attaches Clipboard content.
SPACE	Downloads and opens an attachment.
CTRL+U	Uploads an attachment.
CTRL+S	Saves an attachment.
CTRL+DELETE	Deletes an attachment.

## Send Email Dialog Box Shortcuts

You can perform the following commands in the Send Email dialog box by pressing the corresponding shortcut keys:

Shortcut Key	Function
ALT+C OR ALT+T	Opens the Select Recipients dialog box.
ALT+S	Sends the email.
CTRL+ALT+O	Opens the Spelling Options dialog box.
CTRL+ALT+T	Opens the Thesaurus dialog box.

## Management Module Shortcuts

You can perform the following commands in the Management module by pressing the corresponding shortcut keys:

Shortcut Key	Function
ALT+B	Adds a new baseline.
ALT+M	Imports a library.
CTRL+ALT+N	Adds a new library folder.
ALT+N	Adds a new library.
CTRL+N	Creates a new release folder.
CTRL+R	Creates a new release.
CTRL+Y	Creates a new cycle.
CTRL+D	Creates a copy of a cycle.

## Requirements Module Shortcuts

You can perform the following commands in the Requirements module by pressing the corresponding shortcut keys:

Shortcut Key	Function
CTRL+ALT+N	Creates a new folder.
ALT+G	Opens the Create New Requirement dialog box.
ALT+N	Creates a new requirement.
CTRL+I	Zooms in.
CTRL+O	Zooms out one level.
SHIFT+CTRL+O	Zooms out to root level.

Shortcut Key	Function
CTRL+A	Adds test to coverage.
CTRL+M	Sends requirement by email (from Requirement Details dialog box).

## Test Plan Module Shortcuts

You can perform the following commands in the Test Plan module by pressing the corresponding shortcut keys:

Shortcut Key	Function
ALT+G	Opens the Go To Test dialog box.
ALT+N	Creates a new step (from Design Steps tab).
CTRL+P	Inserts a parameter (from Design Steps tab).
SHIFT+ALT+A	Adds attachments (from Design Steps tab).
CTRL+L	Adds a call to manual test (from Design Steps tab).
CTRL+S	Saves a step (from Design Steps tab).
ALT+N	Creates a new parameter (from Test Parameters tab).
CTRL+DELETE	Deletes a parameter (from Test Parameters tab).
ALT+R	Removes a requirement from coverage (from Req Coverage tab).

## Test Resources Module Shortcuts

You can perform the following commands in the Test Resources module by pressing the corresponding shortcut keys:

Shortcut Key	Function
CTRL+N	Creates a new test resource folder.
CTRL+R	Creates a new test resource.

## Test Lab Module Shortcuts

You can perform the following commands in the Test Lab module by pressing the corresponding shortcut keys:

Shortcut Key	Function
ALT+N	Creates a new test set.
ALT+G	Opens the Go To Test Set dialog box.
CTRL+A	Adds test to test set.
CTRL+F9	Runs test.
CTRL+ALT+F9	Runs test manually.
CTRL+SHIFT+F9	Continues manual run.
ALT+F9	Runs test set.
CTRL+DELETE	Removes selected test instances from test set (from Execution Grid tab).

You can perform the following commands in the Manual Runner dialog box by pressing the corresponding shortcut keys:

Shortcut Key	Function
CTRL+R	Begins the run.
CTRL+Q	Ends the run.

Shortcut Key	Function
CTRL+K	Cancels the run.
CTRL+U	Opens the Attachments dialog box.
CTRL+B	Adds a new defect.
CTRL+S	Adds attachments to the test step.
CTRL+P	Passes the selected test run steps.
CTRL+F	Fails the selected test run steps.
CTRL+A	Passes all the test run steps.
CTRL+G	Fails all the test run steps.
CTRL+UP ARROW/ CTRL+DOWN ARROW	Selects the previous or next test step.

## Defects Module Shortcuts

You can perform the following commands in the Defects module by pressing the corresponding shortcut keys:

Shortcut Key	Function
ALT+N	Adds a new defect.
ALT+G	Opens the Go To Defect dialog box.
CTRL+DELETE	Deletes the selected defects.
CTRL+ALT+G	Finds similar defects.
CTRL+ALT+F	Finds similar text.
CTRL+L	Finds the next instance of the specified text.
CTRL+M	Sends defect by email (from Defect Details dialog box).
CTRL+N	Clears all fields in the New Defect dialog box.



## Dashboard Module Shortcuts

You can perform the following commands in the **Analysis View** tab of the Dashboard module by pressing the corresponding shortcut keys:

Shortcut Key	Function
ALT+A	Opens the Set Graph Appearance dialog box.
ALT+F	Displays the graph in full screen mode.
ALT+C	Copies graph to clipboard, in color.
ALT+F	Displays graph or standard reports in full screen.
ALT+G	Generates selected graph or standard report and displays it the View tab.
ALT+I	Displays summary graphs in pie chart format.
ALT+L	Displays progress graphs in line chart format.
ALT+M	Copies graph to clipboard, in monochrome.
ALT+O	Displays the graph in bar chart format.
ALT+P	<b>In graphs:</b> Prints graph in color. <b>In standard reports:</b> Prints current page.
ALT+Q	Opens the Excel Report Query Builder dialog box, when in the Query tab.
ALT+R	Displays the graph as a data grid.
ALT+S	<b>In graphs:</b> Saves graph image. <b>In standard reports:</b> Saves current page.
ALT+T	In progress graphs, shows/hides total values.
ALT+U	Opens Edit Group By Categories dialog box.
ALT+V	Resets group by categories.
ALT+X	Opens Edit X-Axis Categories dialog box.
ALT+Y	Resets x-axis categories.

Shortcut Key	Function
ALT+RIGHT ARROW	<b>In graphs:</b> Scrolls graph to the right, when zoom is active. <b>In standard reports:</b> Displays last page.
ALT+LEFT ARROW	<b>In graphs:</b> Scrolls graph to the left, when zoom is active. <b>In standard reports:</b> Displays first page.
ALT+UP ARROW	<b>In graphs:</b> Increases zoom level. <b>In standard reports:</b> Displays next page.
ALT+DOWN ARROW	<b>In graphs:</b> Decreases zoom level. <b>In standard reports:</b> Displays previous page.
ALT+SPACE	Resets graph zoom.
CTRL+E	Opens the New Excel Report dialog box.
CTRL+G	Opens the New Graph dialog box.
CTRL+R	Opens the New Standard Report dialog box.
CTRL+W	Opens the Graph Wizard.
CTRL+DELETE	Deletes the selected folder, or analysis item.
CTRL+ALT+C	Copies full-screen graph to clipboard, in color.
CTRL+ALT+F	Opens the New Folder dialog box.
CTRL+ALT+M	Copies full-screen graph to clipboard, in monochrome.
CTRL+ALT+P	<b>In graphs:</b> Prints graph in monochrome. <b>In standard reports:</b> Prints all pages.
CTRL+ALT+S	Saves all standard reports pages.

You can perform the following commands in the **Dashboard View** tab of the Dashboard module by pressing the corresponding shortcut keys:

Shortcut Key	Function
ALT+A	Goes to the selected graph in the analysis tree.
ALT+F	Displays the selected graph in full screen.
ALT+G	Generates selected dashboard page and displays it in the View tab.
ALT+I	Generates the selected graph.
CTRL+P	Opens the New Dashboard Page dialog box.
CTRL+DELETE	Deletes the selected folder or dashboard page.
CTRL+ALT+F	Opens the New Folder dialog box.
UP ARROW	Moves selected graph placeholder to row above.
DOWN ARROW	Moves selected graph placeholder to row below.
LEFT ARROW	Moves selected graph placeholder to the left, if vacant.
RIGHT ARROW	Moves selected graph placeholder to the right, if vacant.
BACKSPACE	Removes selected graph placeholder from dashboard page.
DELETE	Removes selected graph placeholder from dashboard page.
SPACE	Expands/reduces selected graph placeholder.
ENTER	Adds selected graph to the dashboard page.



# C

---

## Quality Center Editions

Quality Center is available in three different editions — Starter, Enterprise and Premier. This section explains what functionality is provided in each edition.

**This chapter includes:**

- About Quality Center Editions on page 725
- Quality Center Functionality by Edition on page 726

### About Quality Center Editions

The following Quality Center editions are available:

- **Quality Center Starter Edition.** Existing Quality Center edition for application teams managing small releases with a maximum of five concurrent users.
- **Quality Center Enterprise Edition.** Existing Quality Center edition for application teams managing medium to large releases. Formerly TestDirector for Quality Center.
- **Quality Center Premier Edition.** New Quality Center edition for mature Center of Excellence (CoE) organizations managing enterprise releases.

## Quality Center Functionality by Edition

The following table indicates the availability of Quality Center functionality according to editions. Further information on each function is provided below.

Functionality	Starter Edition	Enterprise Edition	Premier Edition
Licensing	✓ up to five	✓	✓
Modules	✓ some exclusions	✓	✓
Excel Reporting	✓	✓	✓
Test Resources	✓	✓	✓
Versioning	✓ single entity	✓	✓
Point and Click Installation	✓	✗	✗
Multiple Requirement Types	✗	✓	✓
Requirement to Requirement Traceability	✗	✓	✓
Release Management	✗	✓	✓
Risk-based Quality Management	✗	✓	✓
Sharing Requirements and Tests	✗	✗	✓

Functionality	Starter Edition	Enterprise Edition	Premier Edition
Sharing Defects	✗	✗	✓
Cross Project Customization	✗	✗	✓
Cross Project Reporting	✗	✗	✓
Extra Options	✗	✓	✓
Upgrading Editions	✓	✓	—

## Licensing

Quality Center Starter Edition enables a maximum of five concurrent licenses. For Quality Center Enterprise Edition and Quality Center Premier Edition, licensing is determined according to your purchase agreement.

The site administrator can monitor the license usage from Site Administration. For more information, refer to the *HP Quality Center Administrator Guide*.

## Modules

Quality Center Enterprise Edition and Quality Center Premier Edition enable access to all Quality Center modules. Quality Center Starter Edition allows for access to the following modules: Requirements, Test Plan, Test Resources, Test Lab, Defects and Dashboard.

## Excel Reporting

All editions enable exporting Quality Center data to Excel for reporting. For more information, refer to Chapter 43, “Generating Excel Reports.”

## **Test Resources**

All editions include the Test Resources module for managing resources used by your tests. For more information, refer to Chapter 24, “Managing Test Resources.”

## **Versioning**

All editions allow for single entity versioning of your Quality Center projects. For more information, refer to Chapter 7, “Working with Version Control.”

Quality Center Enterprise Edition and Quality Center Premier Edition also include baselining of multiple entities in a library. For more information, refer to Chapter 38, “Libraries and Baselines.”

## **Point and Click Installation**

Quality Center Enterprise Edition and Quality Center Premier Edition require a full installation over a supported database.

Quality Center Starter Edition is installed on Windows XP with a simple point and click wizard. This includes automatic installation of a JBoss application server, JBoss web server, and SQL 2005 Express.

For more information on installation and supported environments, refer to the *HP Quality Center Installation Guide*.

## **Multiple Requirement Types**

Quality Center Enterprise Edition and Quality Center Premier Edition include support for multiple requirement types. For more information on requirement types, refer to “The Requirement Fields” on page 171. Quality Center Starter Edition does not support multiple requirement types.

## **Requirement to Requirement Traceability**

Quality Center Enterprise Edition and Quality Center Premier Edition include support for defining links between requirements. For more information on requirements traceability, refer to Chapter 14, “Tracing Requirements.” Quality Center Starter Edition does not support requirements traceability.



## Release Management

Quality Center Enterprise Edition and Quality Center Premier Edition include the Releases module. For more information on the Releases module, refer to Chapter 8, “The Release Management Workflow.”

Quality Center Starter Edition does not support release management. If you are working with this edition, fields and commands related to cycles and releases are not available in Quality Center. For example, Target Cycle and Target Release are not available.

## Risk-based Quality Management

Quality Center Enterprise Edition and Quality Center Premier Edition include risk-based quality testing. For more information on risk-based quality management, refer to Chapter 15, “Calculating Requirement Risks.”

In the Quality Center Starter Edition, the **Risk** tab is unavailable in the Requirements module. In addition, any risk related fields are not available in Quality Center.

## Sharing Requirements and Tests

Quality Center Starter Edition and Quality Center Enterprise Edition do not include reuse of requirements, tests and test resources. In the Quality Center Starter Edition, the Libraries module is unavailable. In the Quality Center Enterprise Edition, you can use the Libraries module to create and compare baselines made up of requirements, tests and test resources. In the Quality Center Premier Edition, you can use the Libraries module to create and compare baselines, in addition to importing, synchronizing and comparing libraries across multiple projects.

For more information on the Libraries module, refer to Chapter 37, “The Libraries Module at a Glance.”

## Sharing Defects

With the Quality Center Premier Edition, you can share defects across multiple Quality Center projects. You share and synchronize defects using the *HP Quality Center Synchronizer*. For more information, see the *HP Quality Center Synchronizer User Guide*, available from the Quality Center Add-ins Page.

### **Cross Project Customization**

Quality Center Premier Edition includes cross project customization, enabling you to work with template projects. For more information, refer to the *HP Quality Center Administrator Guide*.

### **Cross Project Reporting**

When you create graphs in Quality Center Premier Edition, you can combine and compare data from multiple projects. For more information on the Quality Center reports and graphs, refer to Chapter 40, “The Dashboard Module.”

### **Extra Options**

The following extra options are available with Quality Center Enterprise Edition and Quality Center Premier Edition: Business Process Testing (BPT), Service Test Management (STM) and Change Impact Testing (CIT).

### **Upgrading Editions**

You can upgrade Quality Center 10.00 to another edition. You can upgrade Quality Center Starter Edition to Quality Center Enterprise Edition or Quality Center Premier Edition. Likewise, you can upgrade Quality Center Enterprise Edition to Quality Center Premier Edition.

For more information on upgrading, refer to the *HP Quality Center Installation Guide*.

---

# Glossary

This glossary lists terminology that is used throughout Quality Center.

## A

### alert

A notification that informs specified users of changes in requirements, tests or defects. An alert can be triggered as a result of automatic notification rules or as a follow up reminder that you set up for yourself.

### associated libraries

Two libraries in the same project or in different projects, in which one library, the **source library**, was used as the basis for creating the other, **imported library**. You can compare associated libraries to track changes over time, or synchronize libraries to update one library with changes made to the other library.

## B

### baseline

A snapshot of a **library** at a specific point in time. It includes all the entities defined in the library and the relationships between them, such as **coverage** and **requirements traceability**. You can compare baselines to track changes in a project over time, or use a baseline to reuse or share the entities in a library.

## Business Components module

Functional area of Quality Center accessible by selecting the Business Components button in the sidebar. This module enables subject matter experts to work with Business Process Testing (BPT), the HP test automation solution. You use reusable business process components and flows to create business process tests. You can also combine manual components to manually test your application. Access to this module is dependent on your Quality Center license.

## Business Criticality

A **risk-based quality management (RBQM)** category that measures how crucial a requirement is for the business. Risk is calculated based on the combined results of the Business Criticality and the Failure Probability assessment.

## C

### check in

When using **version control**, the process in which a new, updated version of an entity is created and made available to other users. After you **check out** the entity and make changes, you check in a new version of the entity.

### check out

When using **version control**, the process in which you lock an entity to make changes, preventing other users from overwriting your changes. The checked out version of an entity is not visible to other users.

### coverage

The links you create to keep track of the relationship between your requirements and tests. In the Test Plan module, you create **requirements coverage** by selecting requirements to link to a test. Alternatively, in the Requirements module, you create **test coverage** by selecting tests to link to a requirement. A test can cover more than one requirement, and a requirement can be covered by more than one test.

**cross filter**

An advanced, second-level filter on an associated item, such as requirements, tests, test sets, or defects. For example, in the Requirements module, you can define a cross filter to exclude requirements whose covering tests have the **Passed** status.

**cross project customization**

The process of customizing a template project to define and maintain a common set of project customizations for multiple Quality Center projects. You link a template project to one or more other projects. You then customize the template and apply customization to the linked projects. Template customization applied to linked projects can include user groups and permissions, project entities, requirement types, lists, and workflow.

**cycle**

A set of development and quality assurance efforts performed to achieve a common goal based on the release timeline. After you define a **release**, you add cycles to the release. You can then assign requirements, defects, and test set folders to the cycles.

**D****Dashboard module**

Functional area of Quality Center accessible by selecting the Dashboard button in the sidebar. This module enables you to analyze Quality Center data by creating, viewing and managing graphs, standard reports, and Excel reports. You also create dashboard pages that display multiple graphs side-by-side.

**dashboard page**

A selection of graphs that you view in a single display. You design and view dashboard pages in the Dashboard View tab of the Dashboard module.

**defect**

A problem detected in the project application during any phase of the application management process. You can link defects to other project entities, such as requirements, tests, or other defects. A defect can be linked directly or indirectly to other entities. When you add a defect link to an entity, Quality Center adds a direct link to this entity and indirect links to other related entities.

**Defects module**

Functional area of Quality Center accessible by selecting the Defects button in the sidebar. This module enables you to submit and track defects, determine repair priorities, and analyze the data.

**domain**

Quality Center projects are grouped by domain. A domain contains a group of related Quality Center projects and assists you in organizing and managing a large number of projects. Each domain contains a Projects folder and a Template Projects folder to organize your Quality Center projects and template projects.

**E**

**entity**

A data set in a Quality Center project that works as a unit, such as the requirement entity which stores data on all Quality Center requirements. Entities contain data entered by users for a specific application management process and the data is stored in tables. Each entity can contain system fields and user-defined fields.

Alternatively, an individual record containing unique data, such as a single requirement in the Requirements module. You can create and modify an entity, mail an entity, maintain a history of changes made to an entity, or create links between entities.

**Excel Add-in**

You can import requirement, test plan, or defect data from a Microsoft Excel worksheet to a Quality Center project. To import from Excel, you first install the HP Quality Center Microsoft Excel Add-in on your client machine.

**F****Failure Probability**

A **risk-based quality management (RBQM)** category that indicates how likely a test based on the requirement is to fail. Risk is calculated based on the combined results of the Failure Probability and the Business Criticality assessment.

**Functional Complexity**

A **risk-based quality management (RBQM)** category that indicates the complexity of the requirement's implementation.

**I****imported library**

You can create a new **library** by importing an existing library. An imported library is a library that you create by importing an existing library from the same project or from a different project.

**L****Libraries module**

Functional area of Quality Center accessible by selecting the Management button in the sidebar, and then clicking the Libraries tab. This module enables you to define and create libraries and baselines to track changes in your project, reuse entities in a project, or share entities across multiple projects.

**library**

A defined set of entities in a project and the relationships between them, such as **coverage** and **requirements traceability**. The entities in a library can include requirements, tests, test resources, and business components. After you define a library, you then create a **baseline**, enabling you to track changes in a project over time, reuse the entities in a project, or share entities across multiple projects.

**linked project**

A project connected to a **template project**. You apply template customization updates to the linked project as a part of **cross project customization**.

## **M**

### **Management module**

Functional area of Quality Center accessible by selecting the Management button in the sidebar. This module includes two sub-modules: **Releases module** and **Libraries module**.

## **P**

### **pinned test set**

A test set that is linked to a **baseline**. In the Test Lab module, after you create a test set, you can link the test set to a baseline that you specify. When you run the test set, Quality Center runs only the versions of the test stored in the baseline.

### **project**

Collects and stores data relevant to the application life cycle management process, including requirements, tests, defects, and additional resources. Projects are stored in the Quality Center project repository on the application server's file system.

### **Project Customization**

The process of adapting a project to meet the specific needs of your organization. Using the Project Customization window, you can control access to a project by defining the users who can access the project, determining the types of tasks each user can perform, and adding and modifying fields.



**Q****Quality Center Editions**

Quality Center is available in three different editions - Starter, Enterprise, and Premier. The functionality available varies for each edition.

**Quality Center Starter Edition:** For application teams managing small releases with a maximum of five concurrent users, and has limited capabilities.

**Quality Center Enterprise Edition:** For application teams managing medium to large releases.

**Quality Center Premier Edition:** For mature Center of Excellence (CoE) organizations managing enterprise releases.

**R****release**

A group of changes to the application that will be available for distribution at the same time. You can divide a release into cycles. You can then assign requirements and defects to the release and cycles.

**Releases module**

Functional area of Quality Center accessible by selecting the Management button in the sidebar, and then clicking the Releases tab. This module allows you to organize and track your upcoming releases by defining releases and cycles for the application management process.

**requirement**

A detailed description of a specific objective of your application under development. You organize your requirements in a requirements tree, a hierarchical structure in which you can group your application's requirements according to function or objective. You can link a requirement to releases and cycles in the Releases module. You can also create links between a requirement and other requirements, tests, and defects.

**requirements coverage**

The links you create to keep track of the relationship between your requirements and tests. In the Test Plan module, you create requirements coverage by selecting requirements to link to a test. Requirements coverage assists you in assessing the impact of a change in the test or requirement. A test can cover more than one requirement. The direct cover status of a requirement reflects the execution status of the tests covering the requirement.

**Requirements module**

Functional area of Quality Center accessible by selecting the Requirements button in the sidebar. This module enables you to create, manage and analyze requirements in a hierarchical tree-structure. You can also create links between requirements and other requirements, tests, or defects.

**requirements traceability**

A link you create to establish a relationship between requirements. When analyzing the impact of a proposed change in a requirement, traceability identifies other requirements that may be affected by the change. You define traceability relationships in the Requirements Traceability tab of the Requirements module. You can add traceability links to and from a selected requirement.

**requirement type**

A category for a requirement that describes the purpose of the requirement, such as a functional requirement, or a testing requirement. You assign each requirement to one of the Quality Center default requirement types, or to a customized requirement type that the project administrator can create.

**risk-based quality management (RBQM)**

A feature that assists you in determining a testing strategy for your requirements, based on risk and functional complexity, testing time, and the resources you have available. You work with risk-based quality management in the Risk tab of the Requirements module.

**S****source library**

You can create a new **library** by importing an existing library from the same project or from a different project. A source library is a library used as the basis for creating another library.

**system field**

A Quality Center default field for entering data in a Quality Center project. System fields cannot be added or deleted, only modified.

**T****template project**

A customized project used to apply a common set of project customizations to other projects as a part of **cross project customization**. Enables you to standardize policies and procedures across projects in your organization.

**template test**

A test that includes common steps you often want to perform as part of other tests. You can mark a manual test in the test plan tree as a template test so that you can easily select it for calling from another test.

**test**

One or more steps you define to verify a specific function or requirement of your application. You can create manual tests, or automated tests that are executed by a testing tool. You organize your tests in a test plan tree, a hierarchical structure that divides your application into testing units, or subjects.

**test coverage**

The links you create to keep track of the relationship between your requirements and tests. In the Requirements module, you create test coverage by selecting tests to link to a requirement. Test coverage assists you in assessing the impact of a change in the test or requirement. A requirement can be covered by more than one test.

**test instance**

A test that is included in a **test set**. Each test that you add to a test set is known as a test instance. You can add more than one instance of a test to a test set. You can also include the same test in multiple test sets.

**Test Lab module**

Functional area of Quality Center accessible by selecting the Test Lab button in the sidebar. This module enables you to create and manage test sets, and perform test runs. You can schedule tests to run either manually or automatically.

**Test Plan module**

Functional area of Quality Center accessible by selecting the Test Plan button in the sidebar. This module enables you to develop and manage tests in a hierarchical tree-structure. Tests can be linked to requirements and defects.

**test resource**

Test resources are files or folders stored in the Quality Center repository that are used by tests. A test resource can be used by one or more tests. For example, a test resource can be a data file containing data needed as input for a number of tests.

**Test Resources module**

Functional area of Quality Center accessible by selecting the Test Resources button in the sidebar. This module enables you to manage test resources in a hierarchical tree-structure. Test resources can be associated with tests.

**test run**

The execution of a **test instance** in a **test set**. You run tests in the Test Lab module. You can run tests manually or automatically, schedule the date and time of test runs, and set the conditions for when a test can be run. You can view results for a single test run, or view and compare details of all the runs for a selected test instance.

**test set**

A group of tests in a Quality Center project designed to achieve a specific testing goal, such as sanity or regression testing. Grouping the tests in your project into test sets helps you organize test execution to meet your testing goals. You can assign test set folders to cycles.

**test step**

Detailed instructions on how to execute a test. Can include the action to perform on your application, the input to enter, or the expected outcome.

**U****user-defined field (UDF)**

Data fields that you can add to a Quality Center project. You can customize user-defined fields to meet the specific needs of your organization.

**V****version control**

Tracks changes made to entities in your project, by maintaining previous versions of entities. In a version control enabled project, version history is maintained for entities, including requirements, tests, test resources, and business components. You can view and compare previous versions of an entity, or restore a previous version.

**W****Word add-in**

You can import requirement or test plan data from a Microsoft Word document to a Quality Center project. To import from Word, you first install the HP Quality Center Microsoft Word Add-in on your client machine.

**workflow**

A feature that offers tools to generate or edit scripts used to customize fields and values of the Quality Center modules, and to control the actions that users can perform. You can customize workflow from the Workflow page, available from the Project Customization window.



---

# Index

## A

- Actual execution rate, Progress tab 138, 139
- Actual Fix Time, Defects Grid 474
- actual value, test parameters 322
- Add and Link Defect button 501
- Add Comment button 486
- Add Entity to Query button 629
- Add Favorite dialog box 94, 96
- Add Graph link 639
- Add Graph to Dashboard Page button 563
- Add Host to Host Group button 439
- Add Object command 699
- Add Object dialog box 699
- Add Parameter to Query button 633
- Add Query button 629
- Add report as attachment check box 235
- Add Requirement Traceability button 211, 212
- Add Step button, manual test run 428
- Add Sub Report button 618
- Add Tests to Test Set button 388, 389
- Add Time Dependency To Flow button 413
- Add to Coverage button
  - Req Coverage tab 293
  - Test Coverage tab 297
- Add to Favorites command 94, 96
- Add to Traceability button 212
- AddDefect VAPI-XP function 702
- AddDefectUI VAPI-XP function 702
- Add-ins Page command 22
- AddStepToRun VAPI-XP function 702
- Adjust Rows Height button 311
- Adobe Reader 19
- advanced filters 61
- advanced test set 382
- alerts 75
- Alerts button 80, 486
- Alerts dialog box 81
- Alerts flag 80
- All Runs view 449
- Analysis command
  - Graph Wizard 570
  - Graphs 575
  - Reports 608
- Analysis Results tab 237
- analysis tree 559
- Analysis View tab 560
- analyzing projects
  - Document Generator 647
  - Live Analysis graphs 637
- Arrange Layout button, Execution Flow 418
- ASCII sort order 65
- Assign To Cycle dialog box 183, 385
- Assign To Release dialog box 183
- Assigned requirements, Progress tab 140
- Assigned To, Defects Grid 474
- attachments
  - attaching a file 87
  - attaching a snapshot 88
  - attaching a URL 87
  - attaching items from Clipboard 90
  - attaching system information 89
  - deleting 92
  - modifying 91
  - saving 91
  - viewing 90
- Attachments dialog box 86
- Attachments tab, Defect Details dialog box 486
- Attachments tab, Defects Grid 470
- Attachments view, Requirement Details dialog box 186
- Authenticate button 40
- Author, Requirements module 171

- Auto Complete Children check box 203
- Automated tab, Test Instance Properties dialog box 454
- automated tests
  - generating test script 328
  - running 431
  - running manually 421
  - when not to automate 328
  - when to automate 327
- Automatic Runner dialog box 434
- Automation tab
  - Notifications 391
  - On Failure 392
- Available Columns list 53
- Available Fields list 66

## **B**

- Back button 45
- Back to Steps Grid button 426
- Bar Chart button 584
- Baseline ID, Libraries module 508
- Baseline Name, Libraries module 543
- baselines
  - comparing 518
  - configuring comparison settings 522
  - creating 515
  - examples 515
  - pinning a test set 525
  - viewing baseline history 524
- Begin Run button 425
- Broken Links Verification dialog box 517
- Browsers command 697
- Business Components module 45
- Business Criticality tab 225
- Business Criticality, definition 224
- Business Process Testing 45
- Business Process, test type definition 268
- By ID (Trace From) command 212
- By ID (Trace To) command 212

## **C**

- Call to Test button 308
- calling manual tests 307
- camera icon 88

- Cancel Run button, manual test run 425
- Change Password dialog box 48
- Change Project command 46
- Check In button 109
- Check In command 107
- Check In dialog box 107
- Check Out button 112
- Check Out command 106
- Check Out dialog box 105, 106
- Check Spelling button
  - New Defect 181, 480
  - Send Mail 196, 277, 493
- Check Spelling command 46
- Check Syntax command 699
- checking in entities 106
- checking out entities 104
- checkout
  - automatic 105
  - manual 105
- Choose Type of Purge dialog box 406
- Clear All button 81
- Clear button, New Defect dialog box 480
- Clear button, New Requirement dialog box 181
- Clear Filter button 71
- Clear Filter/Sort button 71, 450
- Clear Filter/Sort, Test Coverage tab 295
- Clear Method, VAPI-XP 704
- Clear Output button 706
- Clear Pinned Baseline command 526
- Clear Test Sets Filter/Sort command 71
- Clear Tests Filter/Sort command 71
- clearing history 49
- Clipboard button 90
- Closed in Version, Defects Grid 474
- Closing Date, Defects Grid 474
- Collapse command
  - requirements tree 192
  - test plan tree 272
- Comments
  - Requirements module 171
  - Test Grid 260
- Comments pane, Defects Grid 470, 474, 486
- Comments tab, test plan tree 270
- Comments, test resource tree 345
- Compact View button, manual test run 426



- Compare Baselines Tool dialog box 520
- Compare button 111, 525
- Compare Entities button 547
- Compare Entities dialog box 528
- Compare Libraries Tool dialog box 545
- Compare To button 519, 544
- Compare To Source button 544
- comparing defects 481
- Comparison Settings button 523, 547
- Comparison Settings dialog box 523
- condition, setting for a test run 411
- Configuration tab, dashboard pages 562
- Configuration tab, Excel reports 626
- Configuration tab, graphs 578
- Configuration tab, standard reports 615
- Configuration view, Test Instance Properties dialog box 452
- Confirm Purge Request dialog box 407
- Confirm Reset Test Set dialog box 404
- Considered Fields list 523
- Continue button, All Runs view 450
- Continue Manual Run command 429
- Contract button, dashboard pages 563
- Convert all requirements to subjects 201
- Convert lowest child requirements
  - to design steps 201
  - to tests 201
- Convert to Tests command 201
- Copy button
  - requirements tree 197
  - VAPI-XP 700
- Copy Filter Settings button 71
- Copy From button 329
- Copy Graph To Clipboard button,
  - Dashboard module 585
- Copy Selected Text to Clipboard button 706
- Copy Steps button, Design Steps tab 312, 313
- Copy Test Settings button 395
- Copy to Clipboard command 419
- Copy URL command 198, 283, 350, 402, 494
- copying
  - defects 493
  - design steps, across projects 313
  - design steps, same project 312
  - requirements 197
  - test resources, across projects 349
  - test resources, same project 348
  - test sets, across projects 400
  - test sets, same project 400
  - tests, across projects 281
  - tests, same project 281
  - URL of a defect 494
  - URL of a requirement 198
  - URL of a test 283
  - URL of a test resource 350
  - URL of a test set 402
- coverage
  - analyzing 298
  - requirements 290
  - tests 294
- Coverage Analysis 298
- Coverage Analysis button 299
- Coverage Analysis dialog box 298, 660
- Coverage Analysis view 165
- Coverage calculation by cycle box 299
- Coverage Chart 295
- coverage grid
  - Req Coverage tab 290
  - Test Coverage tab 294
- Coverage Type
  - Req Coverage tab 290
  - Test Coverage tab 294
- Create Baseline button 516
- Create Baseline log 518
- Create Library dialog box 514
- Create New Requirement dialog box 180
- Create New Requirement Folder dialog box 179
- Create New Test dialog box 267
- Create Report For This Defect button 486
- Create Test Instance dialog box 389, 390
- Created By, Libraries module 508
- Created By, Linked Defects Grid 499
- Created By, test resource tree 345
- Created By, Traceability Grid view 213
- Creation Date
  - Libraries module 508
  - Linked Defects Grid 499
  - Requirements module 171
  - Test Grid 260
  - test plan tree 270

- test resource tree 345
- Traceability Grid view 213
- Creation Time, Requirements module 171
- Cross filter by section 64
- Cross Filter dialog box 64
- cross filters 61
  - filtering tests not in any test set 64
  - filtering tests with no requirement coverage 64
- cross-project graphs 581
- Custom button 196, 277, 493
- Custom Sort option, test plan tree 283
- Custom Zoom dialog box 419
- Customization tab, Document Generator 655
- Customize command 46, 47
- Cut button, Releases module 144
- Cycle ID 124
- cycles. *See* releases tree

## D

- Dashboard module
  - at a glance 558
  - creating analysis item 560
  - dashboard pages 561
  - developing trees 559
  - Excel reports 623
  - graphs 569
  - managing items and folders 565
  - standard reports 612
- dashboard pages
  - configuring 562
  - creating 561
  - overview 561
  - viewing 563
- dashboard tree 559
- Dashboard View tab 561
- Data Grid button, Dashboard module 584
- Database Type button 628
- databases supported by Quality Center 35
- date, specifying for a test run 411
- Days progress bar, Progress tab 139
- Debug Mode, VAPI-XP tests 706
- Defect Details dialog box 485

- Defect ID
  - Defects Grid 474
  - Linked Defects Grid 499
- defect links
  - adding 501
  - direct 497
  - indirect 497
  - overview 497
  - removing 502
  - viewing 500
- Defect Opening Rate graph, Quality tab 141, 142
- Defects button 468
- Defects button, All Runs view 450
- Defects check box, Document Generator 679
- Defects Grid
  - adding defects 479
  - column definitions 474
  - copying 493
  - copying URL 494
  - deleting defects 495
  - finding and replacing 487
  - mailing defects 490
  - matching defects 481
  - matching text 481
  - printing defects 494
  - updating defects 485
  - updating multiple records 489
  - viewing defect history 489
- Defects link, Document Generator 679
- Defects menu, Defects module 471
- Defects module
  - at a glance 467
  - column definitions 474
  - Defects Grid 477
  - generating project documents 679
  - graphs 593
  - main window 468
  - menu bar 471
  - overview 478
  - standard reports 607
  - toolbar 472
  - workflow 463
- Delete Alert button 81
- Delete button
  - All Runs view 450

- folders in Test Lab module 403
  - Releases module 145
  - test plan tree 285
  - test sets in Test Lab module 404
  - VAPI-XP 700
- Delete command
  - Defects Grid 495
  - requirements tree 199
- Delete Host button 439
- Delete Host Group button 439
- Delete Resource dialog box 355
- Delete Selected button
  - attachments 92
  - Design Steps tab 312
  - manual test run 428
- Delete Selected Tests button, Test Grid 259
- Delete Sub-Report button 618
- Delete Test dialog box 286
- demonstration project 41
- dependencies
  - Dependencies tab 357
  - Used By grid 358
  - Using grid 358
  - viewing 357
- Dependencies tab
  - Test Plan module 253
  - Test Resources module 348
- Description
  - Defects Grid 474
  - details of test run 448
  - Libraries module 508
  - Releases module 124
  - releases tree 134, 135
  - Requirements module 171
  - Test Grid 260
  - test resource tree 345
- Description command 203
- Description of Criterion box 225, 226, 228
- Description tab
  - Defects Grid 470
  - Requirements module 157, 160, 163, 166
  - test plan tree 270
- Design Step Editor 303
- design steps
  - adding 305
  - arranging columns 312
  - calling manual tests 307
  - copying, across projects 313
  - copying, same project 312
  - definition 303
  - deleting 312
  - finding and replacing 314
  - modifying 309
  - renumbering 311
  - reordering 311
  - resizing 311
- Design Steps tab, Test Plan module 253, 304
- Designer
  - Test Grid 260
  - test plan tree 270
- Details tab
  - Defect Details dialog box 486
  - Releases module 134, 135
  - Requirements module 160
  - Test Plan module 252, 270
- Details tab, Test Lab module 387
- Details tab, Test Resources module 342, 344
- Details view
  - Requirement Details dialog box 186
  - Test Instance Properties dialog box 447
- Detected By, Defects Grid 474
- Detected in Cycle, Defects module 474
- Detected in Release, Defects module 474
- Detected in Version, Defects Grid 475
- Detected on Date, Defects Grid 475
- Direct Cover Status, Requirements module 171
- Document Generator 647
  - Document Generator tree 657
  - formatting project documents 651
  - generating and viewing project documents 681
  - launching 650
  - overview 648
  - project data 657
  - specifying Defects module data 679
  - specifying Requirements module data 658
  - specifying Test Grid data 666
  - specifying Test Lab module data 670

- specifying Test Plan module data 662
- Document Settings tab, Document Generator 651
- Documentation Library 19
- documentation updates 22
- Domain list, Login window 41
- Domain, Libraries module 543
- Download and Open button, attachments 90
- DownloadAttachment VAPI-XP function 703
- Drill Down Results dialog box 641, 644
- drill down, graphs 585
- Duplicate Cycle button 144

## E

- Edit Categories button 588
- Edit Group By Categories dialog box 588
- Edit menu
  - Test Lab module 370
  - Test Plan module 254
- Edit Parameter button, Excel reports 633
- Edit Step button 310
- Edit X-Axis Categories dialog box 588
- editions, Quality Center 725
- Editor button 700
- Enable Log check box, Automatic Runner dialog box 434, 436
- Enable Manual Test Run Confirmation command 423
- End Date
  - Releases module 124
  - releases tree 134, 135
- End Run button, manual test run 425, 427, 428
- Enterprise Edition, defined 725
- entities
  - copying test sets or test set folders
    - between projects 400
  - copying tests or subject folders
    - between projects 281
  - deleting tests 285
- Entities pane, Excel reports 628
- entity dependencies
  - copying test sets or test set folders
    - between projects 400
  - copying tests or subject folders
    - between projects 281
  - deleting tests 285
- Entity Name
  - Req Coverage tab 290
  - Test Coverage tab 294
- Entity Status
  - Req Coverage tab 290
  - Test Coverage tab 294
- Estimated development time box 223
- Estimated DevTime, Test Grid 260
- Estimated Fix Time, Defects Grid 475
- Excel
  - exporting grid data from Quality Center 74
  - importing to Quality Center 36
- Excel reports
  - adding parameters 630
  - creating 625
  - creating SQL queries 626
  - post-processing script 634
  - running 635
  - security settings 634
- Exclude command 203
- Exclude from Analysis check box 223
- Exec Date
  - details of test run 448
- Execution Grid 376
- Execute (Debug Mode) command 706
- Execute (Test Mode) command 707
- Execute Script button 706, 710
- Executed coverage, Progress tab 140
- executing test sets 431
- executing tests
  - automatically 431
  - manually 421
- Execution Condition dialog box 414
- Execution Conditions tab, Run Schedule of Test dialog box 411
- execution conditions, setting 411
- Execution Flow 409
  - adding a condition 412
  - adding time dependency 411
  - adding time dependency to flow 413
  - arranging tests sequentially 417
  - at a glance 378

- changing the magnification level 419
- deleting all conditions and dependencies 416
- deleting conditions 415
- deleting time dependency 416
- editing conditions 414
- editing time dependency 415
- finding a test 418
- overview 409
- running tests automatically 431
- running tests manually 421
- showing full test names 419
- test sets 381
- toolbar 379
- viewing test results 443
- viewing tests in hierarchical layout 418
- viewing the Execution Log 436
- zooming in 418
- zooming out 419
- Execution Flow tab 369
- Execution Grid
  - at a glance 373
  - column definitions 376
  - finding and replacing 441
  - ordering tests 439
  - replacing field values 399
  - running tests automatically 431
  - running tests manually 421
  - test sets 381
  - toolbar 374
  - viewing test results 443
  - viewing the Execution Log 436
- Execution Grid tab 369
- Execution Log 436
- Execution Report link, Defect Details dialog box 486
- Execution Status, Test Grid 260
- exiting Quality Center 41, 44
- Expand All command, requirements tree 192
- Expand button, dashboard pages 563
- Expand command, test plan tree 272
- Export All Grid Data dialog box 74
- Export command 74
- Export Selected Grid Data dialog box 74
- Export Word Document command 302
- exporting grid data 74
- F**
  - Fail All command 427
  - Fail Selected button, manual test run 427
  - Failed requirement status 171
  - Failure Probability tab 226
  - Failure Probability, definition 224
  - Favorite Bar command 95
  - favorite views 93
    - adding 94
    - changing properties 96
    - definition 93
    - deleting 96
    - loading 95
    - private folder 93
    - public folder 93
    - recently used 95
    - updating 95
  - File button 87
  - filter box in a grid 60
  - Filter Condition box 58
  - Filter dialog box
    - Filter tab 57
    - Group tab 69
    - View Order tab 66
    - with advanced filters 63
  - Filter/Sort command 57, 66, 71
  - filters
    - advanced/cross 61
    - clearing 71
    - copying 71
    - drop-down user list 55
    - filtering tests not in any test set 64
    - filtering tests with no requirement coverage 64
    - grouping users 55
    - refreshing 71
    - searching users 55
    - setting 56
    - viewing user groups 55
  - Find button
    - Req Coverage tab 292
    - Requirements Traceability tab 211
    - Test Coverage tab 297

- Find command
  - Defects Grid 487
  - Execution Grid 441
  - requirements grid 188
  - requirements tree 187
  - Test Grid 279
- Find dialog box 188, 279, 487
  - Defects Grid 487
  - Design Steps tab 315
  - Execution Grid 441
- Find Folder/Test dialog box 278
- Find Folder/Test Set command 397
- Find in Script button 700
- Find Next command
  - Defects Grid 487
  - requirements grid 188
  - Test Grid 279
  - VAPI-XP 700
- Find Requirement dialog box 187
- Find Similar Defects button 482, 483
- Find Similar Text dialog box 483
- Find Test dialog box, Execution Flow 418
- Find Test In Flow button 418
- Find Text button 315
- Find/Replace dialog box 190, 280, 399
  - Defects Grid 190, 280, 399, 488
  - Execution Grid 442
- Find/Replace Text button 316
- First Page button, standard reports 620
- Fit Picture In Window button, Execution Flow 419
- Fixed Columns, Select Columns dialog box 54
- Flag for Follow Up button 83, 486
- Flag for Follow Up dialog box 83
- flags for follow up
  - creating 83
  - modifying and deleting 83
  - overview 82
- Flow, test type definition 268
- Folder ID, test resource tree 345
- follow up flags
  - creating 83
  - modifying and deleting 83
  - overview 82
- Forgot Password link 42

- Forward button 45
- Full Coverage check box, Test Coverage tab 295
- Full Document button 681
- Full Screen View button 640
- function test set 382
- Functional Complexity tab 228
- Functional Complexity, definition 227

## G

- Generate All Graphs in Page button 564
- Generate button, dashboard pages 564
- Generate button, Excel reports 636
- Generate button, graphs 584
- Generate Report button 235
- Generate Script button 328
- Generate Test dialog box 205
- generating automated test scripts 328
- Get Hosts on the Network button 438
- Get Net button 438
- GetInput VAPI-XP function 703
- Getting Started 19
- Global Parameter check box 632
- Glossary 731
- Go To Defect button 486
- Go to Defect command 470
- Go to Entity button 74
- Go To Graph in Analysis Tree button 564
- Go to Line Number command, VAPI-XP 700
- Go to Next Change button 521, 547
- Go to Previous Change button 521, 547
- Go to Requirement command
  - Coverage Analysis view 167
  - Requirement Details view 161
  - Requirements Grid view 164
  - Requirements Tree view 158
  - Test Lab module 372
- Go To Requirement in Requirements Tree command 291
- Go to Test command
  - Test Grid 259
  - Test Lab module 372
  - test plan tree 254
- Go to Test in Test Plan Tree button, Test Grid 259

- Go to Test in Test Plan Tree command 295
  - Test Lab module 369
- Go to Test in Test Set command 295
  - Test Plan module 273
- Graph Appearance dialog box
  - graphs 587
  - Live Analysis graphs 645
- graph categories 588
- graph wizard 570
- graphs
  - configuring 578
  - creating graphs manually 576
  - creating quick graphs 575
  - creating with graph wizard 570
  - cross-project graphs 581
  - customizing appearance 587
  - customizing appearance for Live Analysis 645
  - Defects - Age Graph 605
  - Defects - Progress Graph 604
  - Defects - Summary Graph 603
  - Defects - Trend Graph 606
  - drilling down 585
  - editing categories 588
  - graph types 591
  - Live Analysis graphs 637
  - Live Analysis, test set folder 641
  - Live Analysis, test subject folder 638
  - overview 569
  - Requirements - Coverage Graph 596
  - Requirements - Progress Graph 595
  - Requirements - Summary Graph 594
  - Requirements - Trend Graph 597
  - Test Execution - Progress Graph 602
  - Test Execution - Summary Graph 601
  - Test Planning - Progress Graph 599
  - Test Planning - Summary Graph 598
  - Test Planning - Trend Graph 600
  - viewing 583
- grid filter box 60
- Grid Filters command 61
- group criteria
  - copying 71
  - setting 67
- Group tab, Filter dialog box 69
- grouping grid records 67

## H

- Help button 46
- Help on this page command 19
- Hide On Run check box 632
- Hide Risk-Based Quality Management
  - Columns check box 58, 66, 69
- history
  - clearing 49
- History tab
  - Defect Details dialog box 487
  - Defects Grid 470, 489
  - requirements tree 193
  - Test Grid 258
  - version history 110
- History view, Requirement Details dialog box 186
- History view, Test Instance Properties dialog box 458
- HookDebug Property, VAPI-XP 704
- Host Manager 437
- hosts 437
  - adding host group 439
  - adding to host group 439
  - definition 431
  - deleting host 439
  - deleting host group 439
  - removing from host group 439
- HP Software Support Web site 21
- HP Software Web site 22
- HTML Document, exporting grid data 74

## I

- icons for tests 271
- Ignored Fields list 523
- images, attaching 88
- Impact Analysis tab, Requirements
  - Traceability 215
- Import Library button 538
- Import Library log 539
- Imported By tab 541
- Imported From tab 543
- Imported Library icon 536
- importing to Quality Center
  - from Excel 36
  - from Word 36

Indicator Columns command  
    Defects module 469  
    Execution Grid 258, 373  
    Requirements Grid 160, 163, 166  
    Test Grid 157

Information Panel command  
    Coverage Analysis view 166  
    Defects Grid 470, 489  
    Requirements Grid 163  
    Requirements Tree view 157

Insert Parameter button, test parameters 306

Insert Parameter dialog box, test parameters 321

Integrated Debugger, VAPI-XP 709

ITG Request Id 388

## K

keyboard shortcuts 713

Knowledge Base 21

## L

Last Page button, standard reports 621

Last Run Results pane, Execution Grid 373

Last Synchronization 544

Launch button 330

libraries

- comparing 544
- creating 513
- importing
- synchronizing 547

Libraries module

- at a glance 506
- baseline examples 515
- comparing baselines 518
- comparing libraries 544
- configuring comparison settings 522
- creating baselines 515
- creating libraries 513
- deleting baselines 527
- deleting libraries 527
- examples 534
- field definitions 508
- Imported By tab 541
- Imported From tab 543

Imported Library icon 536

importing a library 536

mailing libraries 550

menu bar 507

moving libraries 526

overview 512

renaming baselines 526

renaming libraries 526

synchronizing libraries 547

toolbar 507

libraries tree. *See* Libraries module

Library ID 508

Library Name 543

Library Verification dialog box 538

Line Chart button 584

Link Comment, Linked Defects Grid 499

Link Entity Type, Linked Defects Grid 499

Link Existing Defect button 501

Link ID, Linked Defects Grid 499

Link Type, Linked Defects Grid 499

Linkage and Coverage view, Test Instance

- Properties dialog box 457

Linked By Status, Linked Defects Grid 499

Linked Defects dialog box 498

Linked Defects dialog box, for a test run 451

Linked Defects tab 369, 498

- Test Instance Properties dialog box 457

- Test Plan module 253

Linked Defects view, Requirement Details dialog box 186

Linked Entities tab

- Defect Details dialog box 486

Linked Entity ID, Linked Defects Grid 499

Linked Entity Name, Linked Defects Grid 499

linking defects

- adding links 501

- directly 497

- indirectly 497

- overview 497

- removing links 502

- viewing links 500

Live Analysis graphs

- creating in test set folder 641

- creating in test subject folder 638



- customizing appearance 645
  - deleting 644
- Live Analysis tab 638, 641
- Load from File button, Document Generator 654
- Load from Saved button, Document Generator 654
- load testing 246
- LoadRunner Scenario, test type definition 267
- Login button 41
- Logo tab, Document Generator 654
- Logout button 41, 44

## M

- Mail Requirement button 194
- Management button 122
- Manual Parameters tab, Test Instance Properties dialog box 453
- Manual Runner - Step Details dialog box 426
- Manual Runner dialog box 424
- manual tests
  - converting to VAPI-XP 686
  - running 421
- Manual, test type definition 267
- Mark as Template Test command 269, 307
- matching defects 481
- Maximize Content button 183
- Mercury Quality Center Login window 40
- Mercury Quality Center Options window 38
- Microsoft Excel
  - exporting grid data from Quality Center 74
  - importing to Quality Center 36
- Microsoft Word
  - exporting grid data from Quality Center 74
  - generating project documents 681
  - importing to Quality Center 36
  - rich text 183
- missing assessment link 233
- Modified
  - Defects Grid 475
  - Execution Grid 376
  - Libraries module 508

- Requirements module 171
  - Test Grid 260
  - Traceability Grid view 213
- Move Field Down button, Filter dialog box 67
- Move Field Up button, Filter dialog box 67

## N

- Name
  - Libraries module 508
  - Releases module 124
  - Requirements module 171
- Name, test resource tree 345
- New Baseline dialog box 517
- New Cycle button 134
- New Dashboard Page dialog box 561
- New Defect button, manual test run 427
- New Defect command 46
- New Execution Condition dialog box 412
- New Folder button 179, 384, 513
- New Folder dialog box 266, 384
- New Host button 438
- New Host dialog box 438
- New Host Group button 439
- New Host Group dialog box 439
- New Item button, Excel reports 625
- New Item button, graph wizard 570
- New Item button, graphs 576
- New Item button, standard reports 613
- New Library Folder dialog box 513
- New Page button 561
- New Parameter dialog box, test parameters 319
- New Query Parameter button, Excel reports 632
- New Release button 134
- New Release Folder button 133
- New Requirement button 180
- New Resource button 343
- New Resource dialog box 343
- New Resource Folder button 342
- New Resource Folder dialog box 342
- New Step button 305
- New Test button 267
- New Test Set button 386

- New Test Set dialog box 386
- Next Page button, standard reports 621
- No Run requirement status 171
- No. of Requirements per Risk Category graph 233
- Normal magnification level 419
- not assessable link 233
- Not Completed requirement status 171
- Not Covered requirement status 171
- Notifications link 391

## O

- Old Type (obsolete), Requirements module 172
- On Failure link 392
- On Test Failure dialog box 394
- Open button, attachments 90
- Open Output Text in Web Browser button 706
- Options tab, Document Generator 652
- Order Tests dialog box
  - Execution Flow 417
  - Execution Grid 439
- Organize Favorites dialog box 96
- Output command 699
- Output tab 699
- Outstanding Defects graph, Quality tab 141, 142
- Owner Description, Used By grid 359
- Owner ID, Used By grid 359
- Owner Name, Used By grid 359
- Owner Type, Used By grid 359

## P

- packaging, Quality Center 725
- Page Setup button, Document Generator 655
- Page Setup dialog box, Document Generator 656
- Parameter details dialog box, Test Plan module 320
- Parameters of Test dialog box 323
- parameters, in Excel reports 630
- parameters, manual tests 317
- Pass All command 427

- Pass Selected button, manual test run 427
- Passed coverage, Progress tab 140
- Passed requirement status 171
- password
  - changing 47
  - reset 42
- Paste button, VAPI-XP 700
- Paste command, releases tree 144
- Paste command, requirements tree 198, 199
- Paste Design Steps to Target Project dialog box 314
- Paste Filter Settings button 71
- Paste Resources to Target Project dialog box 350
- Paste Steps button, Design Steps tab 313, 314
- Paste Test Sets/Test Set Folders to Target Project dialog box 401
- Paste Test Settings button 395
- Paste Tests/Subject Folders to Target Project dialog box 282
- pasting release folders, releases, and cycles 144
- pasting requirements 198, 199
- Path, Test Grid 261
- Pending Check In command 108
- Pending Check In dialog box 108
- Percent of Similarity box 484
- Perform Risk Analysis button 233
- performance testing 246
- Pie Chart button 584
- Pin to Baseline command 525
- Pinned to Baseline dialog box 525
- Planned Closing Version, Defects Grid 475
- Planned coverage, Progress tab 140
- Planned Exec Date
  - details of test run 448
  - Execution Grid 376
- Planned Exec Time
  - details of test run 448
  - Execution Grid 376
- Planned Host Name
  - details of test run 449
  - Execution Grid 376
- post-processing script, Excel reports 634
- Premier Edition, defined 725
- Preview button, Document Generator 681

- Previous Page button, standard reports 620
- Print command, in Defects Grid 494
- Print Graph button, graph toolbar 585
- Print Method, VAPI-XP 704
- Print Output button 706
- Priority
  - Defects Grid 475
  - Requirements module 172
- private folder, in favorites 94, 97
- privileges 35
- Product, Requirements module 172
- Progress tab, Releases module 137
- project databases 35
- Project list, Login window 41
- Project, Defects Grid 475
- Project, Libraries module 543
- Properties dialog box 96
- properties, changing 47
- public folder, in favorites 94, 97
- Purge Runs command 405

## Q

- QAInspect Test 268
- Quality Center
  - changing projects 46
  - editions 725
  - exiting 41, 44
  - keyboard shortcuts 713
  - Login window 40
  - main window 43
  - Options window 38
  - overview 25
  - Quality Center URL 38
  - starting 38
- Quality tab, Releases module 141
- QualityCenter\_Demo project 41
- Query Builder 626
- Query Parameters tab 628
- Query Results tab 628
- quick graphs 575
- quick standard reports 608
- QuickTest Professional, test type definition 268

## R

- RBQM Business Impact 172
- RBQM Custom Business Impact 172
- RBQM Custom Failure Probability 172
- RBQM Custom Functional Complexity 172
- RBQM Custom Risk 172
- RBQM Custom Testing Hours 172
- RBQM Custom Testing Level 172
- RBQM Date of Last Analysis 173
- RBQM Effective Business Impact 173
- RBQM Effective Failure Probability 173
- RBQM Effective Functional Complexity 173
- RBQM Effective Risk 173
- RBQM Estimated RnD Effort 173
- RBQM Exclude from Analysis 173
- RBQM Failure Probability 173
- RBQM Functional Complexity 173
- RBQM Risk 173
- RBQM Testing Hours 173
- RBQM Testing Level 174
- RBQM Use Custom Business Impact 174
- RBQM Use Custom Failure Probability 174
- RBQM Use Custom Functional Complexity 174
- RBQM Use Custom Results 174
- RBQM Use Custom Risk 174
- Readme 19
- Refresh All button
  - Releases module 140, 143
  - Req Coverage tab 292
  - Requirements module 192
  - Select a Test dialog box 308
  - Test Coverage tab 212
  - test plan tree 272
- Refresh All command
  - Req Coverage tab 292
- Refresh button, Test Coverage tab 297
- Refresh Filter/Sort button 71
- Refresh Test Sets Filter/Sort command 71
- Refresh Tests Filter/Sort command 71
- regression test set 382
- Related Description, Using grid 360
- Related ID, Using grid 359
- Related Name, Using grid 360
- Related Type, Using grid 359

- Relationships tab, Requirements Traceability 213
- Release ID 124
- Releases module 122
  - adding cycles 134
  - adding releases 134
  - assigning requirements 182
  - assigning test set folders to cycles 385
  - at a glance 121
  - field definitions 124
  - menu bar 123
  - modifying the tree 143
  - pasting folders, releases, and cycles 144
  - Progress tab 137
  - Quality tab 141
  - releases tree 127
  - statistics 136
  - toolbar 123
  - viewing assigned requirements 136
  - viewing assigned test set folders 136
  - viewing coverage progress 137
  - viewing defects 141
  - workflow 115
- Releases tab 122
- releases tree 127
  - adding cycles 134
  - adding releases 134
  - deleting folders, releases, and cycles 145
  - duplicating cycles 144
  - modifying 143
  - moving folders and releases 144
  - overview 128
  - renaming folders, releases, and cycles 143
  - root folder 133
  - statistics 136
  - viewing assigned requirements 136
  - viewing assigned test set folders 136
  - viewing coverage progress 137
  - viewing defects 141
- Remaining days in cycle, Progress tab 139
- Remaining days in release, Progress tab 138
- Remaining test instances to run, Progress tab 138, 139

- remote execution 431
- remote hosts, setting up 437
- Remove All Execution Conditions dialog box 416
- Remove button, dashboard pages 563
- Remove Execution Condition command 415
- Remove From Coverage button, Test Coverage tab 297
- Remove from Traceability button 217
- Remove Graph button 644
- Remove Host From Host Group button 439
- Remove Link button 502
- Remove Saved button, Document Generator 654
- Remove Selected button, Req Coverage tab 293
- Remove Test's Execution Conditions command 415
- Remove Tests from Test Set button 400
- Remove Time Dependency command 416
- Rename command
  - Releases module 143
  - requirements tree 197
  - test plan tree 285
  - test resources 354
  - test set 403
- Renumber Steps button 311
- reordering design steps 311
- Replace All button, VAPI-XP 700
- Replace button, VAPI-XP 700
- Replace command
  - Defects Grid 190, 280, 399, 488
  - Execution Grid 399, 442
  - requirements tree 189
- Report Selected command 609
- Report Selected with Children command 609
- reporting defects
  - adding defects 479
  - at a glance 467
  - Defects Grid 474
  - deleting defects 495
  - finding and replacing 487
  - mailing defects 490
  - matching defects 481
  - matching text 481
  - updating defects 485

- viewing defect history 489
- workflow 463
- reports
  - Excel reports 623
  - generating project documents 647
- reports. *See* standard reports
- Reproducible, Defects Grid 475
- Req ID, Requirements module 174
- Req Parent, Requirements module 174
- Reqs Coverage tab, Test Plan module 253
- Required execution rate, Progress tab 138, 139
- Requirement Details button 185
- Requirement Details dialog box 185
- Requirement Details view 159
- Requirement Trace ID, Traceability Grid view 214
- Requirement Type, Requirements module 175
- requirements
  - adding traceability 211
  - finding 187
  - finding in grid 188
  - finding in tree 187
  - removing traceability 217
  - replacing field values in grid 190
  - trace from links 208
  - trace to links 208
  - updating multiple records 198
  - viewing traceability 213, 215
- Requirements button 155
- Requirements check box, Document Generator 659
- requirements coverage 290
  - adding requirements 291
  - analyzing 298
  - example 288
  - overview 287
  - removing requirements 293
  - viewing 291
- requirements grid
  - copying URL 198
  - field definitions 171
  - finding requirements 188
- Requirements Grid view 162
- Requirements link, Document Generator 659
- Requirements module
  - assigning requirements to releases or cycles 182
  - coverage 294
  - Coverage Analysis 298
  - Coverage Analysis view 165
  - creating requirements 179
  - field definitions 171
  - generating project documents 658
  - graphs 591
  - mailing a requirement 194
  - menu bar 167
  - pasting requirements 198, 199
  - Requirement Details view 159
  - Requirements Grid view 162
  - Requirements Tree view 156
  - standard reports 607
  - toolbar 169
- requirements traceability 207
  - adding 211
  - removing 217
  - trace from links 208
  - trace to links 208
  - viewing 213, 215
- Requirements Traceability view 186
- requirements tree
  - assigning requirements to releases or cycles 182
  - copying a requirement 197
  - copying URL 198
  - creating 179
  - creating tests from 200
  - deleting a requirement 199
  - expanding and collapsing 192
  - field definitions 171
  - filtering 192
  - finding requirements 187
  - mailing a requirement 194
  - moving a requirement 199
  - overview 178
  - refreshing 192
  - renaming a requirement 197
  - replacing field values 190
  - replacing values 189

- showing in Test Plan module 292
  - tests coverage 294
  - viewing requirement history 193
  - zooming out 192
- Requirements Tree view 156
- requirements, replacing values in tree 189
- reset password 42
- Reset Test Set command 404
- Reset Titles button 587, 645
- Resource ID, test resource tree 345
- Resource Viewer tab 347
- Resources root folder, test resource tree 342
- resources. *See* test resources
- Responsible Tester
  - details of test run 448
  - Execution Grid 376
- Restrict to current filter check box 73
- results for test run 443
- Resume Execution button, VAPI-XP 712
- Reviewed, Requirements module 175
- rich text 183
- RichContent tab, Requirement module 183
- Risk Assessment tab 223, 225
- Risk Category, determining 224
- Risk tab, Requirement Details view 223, 230, 232, 235
- Risk view, Requirement Details dialog box 186
- risk-based quality management 219
  - defining settings 229
  - determining Risk Category 224
  - example 239
  - finalizing testing policy 231
  - restoring default constants 231
- risk-based quality management report 234
- Run All Tests Locally check box 434
- Run button
  - Execution Flow tab 423, 433
  - Execution Grid tab 423, 433
- run conditions, setting 411
- Run Events view, Test Instance Properties dialog box 455
- Run Manually button
  - Execution Flow tab 423
  - Execution Grid tab 423

- Run on Host, Automatic Runner dialog box 434
- Run post-processing check box 635
- Run Query button 630
- Run Schedule of Test dialog box
  - Execution Conditions tab 411
  - Time Dependency tab 413
- Run Steps dialog box 451
- Run Test Set button
  - Execution Flow tab 433
  - Execution Grid tab 433
- run VAPI-XP function 705
- Run VC Status 102
- Run VC User 102
- Run VC Version 102
- running test sets 431
- running tests
  - automatically 431
  - manually 421
- Runs check box, Document Generator 676
- Runs link, Document Generator 676
- RunTest VAPI-XP function 701
- RunTestSet VAPI-XP function 701

## S

- sanity test set 382
- Save and Apply to Children button 234, 235
- Save button, Document Generator 654
- Save Graph Data button 584
- Save Steps button 306
- scheduling test execution 409
- scope 150
- script, generating 328
- Scroll To The Left button, graph toolbar 584
- Scroll To The Right button, graph toolbar 584
- Search Results dialog box
  - Execution Flow 418
  - requirements tree 187
  - test plan tree 278
  - test sets tree 397
- search text 72
- Searchable Fields Information button 74
- security testing 246
- Select a Test dialog box 308

- Select Cleanup Test dialog box 392, 456
- Select Columns button, Design Steps tab 312
- Select Columns command, Design Steps tab 312
- Select Columns dialog box 53
- Select Destination Subject dialog box 204
- Select Fields dialog box 196, 277, 493
- Select Filter Condition dialog box 58
- Select Host dialog box 434
- Select Projects button 581
- Select Recipients dialog box 195, 276, 353, 492
- Select Req button 292
- Select Test Set dialog box 707
- Select Test Sets to Purge dialog box 405
- Select Tests button, Test Coverage tab 296
- Select Tests button, test plan tree 388, 389
- Send by E-mail button
  - defects 491
  - tests 275
- Send E-mail dialog box
  - defects 490
  - requirements 194
  - test resources 352
  - tests 275
- Set Filter/Sort button 57, 66, 450
- Set Filter/Sort button, Requirements module 192
- Set Filter/Sort, Requirements Traceability tab 212
- Set Filter/Sort, Test Coverage tab 295, 297
- Set Graph Appearance button 587, 641, 644, 645
- Set Test Sets Filter/Sort command 57, 66
- Set Tests Filter/Sort command 57, 66
- Set to Default button 395
- Settings per test button 394
- Severity, Defects Grid 475
- sharing. *See* importing libraries
- shortcuts 713
- Show Advanced Filter arrow 63
- Show All button, graph toolbar 584
- Show Full Path command 291
- Show Full Test Names command 419
- Show Last Run Results command 373
- Show only Template Test check box 308
- Show Parameters button, test parameters 426
- Show Requirements command 136, 137
- Show Run Steps button, All Runs view 450
- Show Test Set Folders command 137
- Show Variables button 711
- Show/Hide Browsers button 697
- Show/Hide Total Values button 584
- Similar Defects dialog box 482
- Site Administrator, viewing messages from 50
- Sleep VAPI-XP function 705
- Snapshot button, Attachments dialog box 88
- Snapshot dialog box, Attachments dialog box 88
- Sort Ascending button, Filter dialog box 67
- sort criteria
  - clearing 71
  - copying 71
  - refreshing 71
- Sort Descending button, Filter dialog box 67
- Sort Folders button 283
- Sort Folders in Test Plan Tree dialog box 283
- Sorted Fields list 66
- Source Library Owner, Libraries module 544
- Spelling and Grammar command
  - Check Spelling 46
  - Spelling Options 46
  - Thesaurus 46
- Spelling Options button
  - New Defect 181, 480
  - Send Mail 196, 277, 493
- Spelling Options command 46
- SQL pane 629
- SQL queries, Excel reports 626
- standard reports
  - adding sub-reports 617
  - configuring 615
  - creating in Dashboard module 612
  - creating quick reports 608
  - overview 607
  - predefined reports 610
  - report types 614
  - viewing 620
- Start Date
  - Releases module 124
  - releases tree 134, 135

## Index

- Starter Edition, defined 725
- starting Quality Center 38
- Statistics, Releases module 124
- Status
  - Defects Grid 475
  - details of test run 449
  - Execution Grid 376
  - Test Grid 261
  - test plan tree 270
- Status Filter list, Test Coverage tab 295
- Step command 203
- Step Into button 710
- Step Out button 711
- Step Over button 710
- steps, test steps 303
- Stop button
  - Automatic Runner dialog box 435
  - Document Generator 682
  - VAPI-XP 706
- Stop Debugging button 712
- stress testing 246
- Subject
  - Defects Grid 475
  - Test Grid 261
- Subject command 203
- subject folders
  - adding to test plan tree 265
  - definition 264
  - deleting 285
  - finding in test plan tree 278
  - renaming 285
  - sorting in test plan tree 283
- Subject Tests check box, Document Generator 664
- Subject Tests link, Document Generator 664
- Subject Tree check box, Document Generator 662
- Subject Tree link, Document Generator 662
- sub-reports 617
- Summary pane, Defects Grid 470
- Summary, Defects Grid 475
- Synchronize button 550
- Syntax Check button 699
- System Info button 89
- System Information dialog box 89
- System Test, test type definition 268

System tests 331

## T

- Take Default Values button 323, 453
- Target Cycle
  - Defects module 476
  - Execution Grid 376
  - Requirements module 175
- Target Release
  - Defects module 476
  - Requirements module 175
- TDHelper Object, VAPI-XP 701
- TDInput Object, VAPI-XP 703
- TDOutput Object, VAPI-XP 704
- template test 307
- Template Test command 269
- Template, Test Grid 261
- Test command 203
- test coverage
  - removing test instances from 297
  - removing tests from 297
  - viewing 295
- Test Coverage view, Requirement Details dialog box 186
- test execution
  - automatically 431
  - manually 421
  - test sets 431
- Test Grid 257
  - column definitions 260
  - copying URL 283
  - deleting tests 259
  - finding a test 279
  - generating project documents 666
  - mailing a test 275
  - main window 257
  - replacing field values 280
  - toolbar 259
  - updating multiple records 281
- Test ID, Test Grid 261
- Test Instance Properties dialog box 443
  - All Runs view 449
  - Automated tab 454
  - Configuration view 452
  - Details view 447



- History view 458
- Linkage and Coverage view 457
- Linked Defects tab 457
- Manual Parameters tab 453
- Run Events view 455
- Test Instance Runs progress bar, Progress tab 139
- test instances, linking to a requirement 294
- Test Lab button 368
- Test Lab check box, Document Generator 670
- Test Lab link, Document Generator 670
- Test Lab module
  - assigning test set folders to cycles 385
  - at a glance 367
  - Automation tab 369
  - Execution Flow tab 369
  - Execution Grid tab 369
  - generating project documents 670
  - graphs 592
  - Linked Defects tab 369
  - Live Analysis graphs 641
  - main window 368
  - menu bar 370
  - running tests automatically 431
  - running tests manually 421
  - Select Tests toolbar 372
  - standard reports 607
  - Test Set toolbar 371
  - test sets 381
  - viewing test results 443
  - workflow 363
- Test List check box, Document Generator 667
- Test List link, Document Generator 667
- test management process 27
  - planning tests 31
  - running tests 33
  - specifying requirements 29
  - tracking defects 34
- Test Name, Test Grid 261
- test parameters
  - assigning actual values 322
  - defining 319
  - inserting in design step 321
  - setting parameter values for manual test instances 452
- Test Plan
  - Dependencies tab 357
- Test Plan button 252
- Test Plan module
  - at a glance 251
  - automating tests 327
  - generating project documents 662
  - graphs 592
  - Live Analysis graphs 638
  - main window 252
  - menu bar 254
  - requirements coverage 290
  - standard reports 607
- Test Grid 257
  - test parameters 317
  - test plan tree 263
  - test steps 303
  - toolbar 255
  - workflow 245
- test plan tree 263
  - adding tests 266
  - copying URL 283
  - creating 265
  - deleting folders or tests 285
  - expanding and collapsing 272
  - finding a folder or test 278
  - mailing a test 275
  - overview 264
  - refreshing 272
  - renaming folders or tests 285
  - requirements coverage 290
  - showing in Requirements module 296, 297
  - showing in Test Lab module 388, 389
  - sorting folders 283
  - test icons 271
  - viewing 272
- Test Query button 630
- test resources
  - adding a resource file 342
  - adding a resource folder 342
  - copying URL 350
  - copying, across projects 349
  - copying, same project 348

- creating a tree 342
- deleting 355
- downloading 347
- filtering 351
- finding 351
- mailing 352
- managing 339
- moving 354
- renaming test resources 354
- Resources root folder 342
- uploading 346
- viewing dependencies 348
- viewing history 356
- Test Resources button 341
- Test Resources module, Dependencies tab 357
- Test Run Schedule command 411
- Test Script tab 253, 329
- test script, generating 328
- test sets 381
  - adding 386
  - adding tests to 388
  - assigning folders to cycles 385
  - copying, across projects 400
  - copying, same project 400
  - definition 381
  - deleting folders 403
  - deleting test sets 404
  - finding in tree 397
  - overview 382
  - pinning to a baseline 525
  - purge runs 405
  - removing tests from 400
  - renaming 403
  - resetting 404
  - running tests 431
  - setting notifications 390
  - setting On Failure rules 392
  - types 382
- Test Sets check box, Document Generator 672
- Test Sets Filter/Sort button 57, 66
- Test Sets Grid command 386
- test sets grid, copying URL 402
- Test Sets link, Document Generator 672
- Test Sets menu, Test Lab module 370
- test sets tree
  - assigning folders to cycles 385
  - copying URL 402
- Test Sets Tree command 384, 386
- test sets tree, tests coverage 294
- test steps 303
- test steps, editing during test run 428
- Test Type list, Test Plan module 267
- TestDirector, see Quality Center
- Tester
  - details of test run 449
  - Execution Grid 376
- Testing Level 229
- testing policy
  - defining settings 229
  - finalizing 231
- Testing Policy grid 231
- Testing Time 229
- tests
  - adding to test plan tree 266
  - automating 327
  - continuing manual run 429
  - copying, across projects 281
  - copying, same project 281
  - creating from requirements tree 200
  - creating test steps 303
  - deleting from test plan tree 285
  - finding in Test Grid 279
  - finding in test plan tree 278
  - linking requirements to a test 290
  - linking tests to a requirement 294
  - renaming in test plan tree 285
  - replacing field values in grid 399
  - running automatically 431
  - running locally 434
  - running manually 421
  - running remotely 434
  - scheduling test runs 409
  - test sets 381
  - types 267
  - viewing all 257
  - viewing run results 443
- Tests check box, Document Generator 673
- tests coverage 294
  - adding test instances 296
  - adding tests 296

- analyzing 298
  - example 289
  - overview 287
  - Tests Coverage Chart 301
  - Tests Coverage dialog box 302
  - Tests Filter/Sort button 57, 66
  - Tests link, Document Generator 673
  - Tests menu
    - Test Lab module 370
    - Test Plan module 254
  - Text Property, VAPI-XP 704
  - text search 72
  - Text Search button 73
  - Thesaurus button
    - New Defect 181, 480
    - Send Mail 196, 277, 493
  - Thesaurus command 46
  - Time
    - Execution Grid 376
    - specifying for a test run 411
  - Time Dependency icon 415
  - Time Dependency of Test dialog box 415
  - Time Dependency tab, Run Schedule of Test dialog box 413
  - Time, details of test run 449
  - Toggle Breakpoint button 709
  - Toggle Breakpoint command 709
  - toolbars
    - Defects module 472
    - Execution Flow 379
    - Execution Grid 374
    - Releases module 123
    - Requirements module 169
    - Select Tests 372
    - Test Grid 259
    - Test Plan module 255
    - Test Set 371
  - Tools button 45
    - Customize command 46
    - Document Generator command 650
    - New Defect command 46
  - Total allocated testing time box 233
  - Total days in cycle, Progress tab 139
  - Total days in release, Progress tab 138
  - Total test instances for cycle, Progress tab 139
  - Total test instances for release, Progress tab 138
  - Total Testing Time per Risk Category graph 233
  - Trace Comment, Traceability Grid view 214
  - Trace Existing Requirement dialog box 212
  - trace from links 208
  - Trace From Tree view 215
  - trace to links 208
  - Trace To Tree view 215
  - Traceability Grid view 213
  - traceability, requirements 207
    - adding 211
    - removing 217
    - trace from links 208
    - trace to links 208
    - viewing 213, 215
  - tracking defects
    - adding defects 479
    - at a glance 467
    - Defects Grid 474
    - deleting defects 495
    - finding and replacing 487
    - mailing defects 490
    - matching defects 481
    - matching text 481
    - updating defects 485
    - viewing defect history 489
    - workflow 463
  - Troubleshooting and Knowledge Base 21
  - Type, Test Grid 261
  - Type, test resource tree 345
- ## U
- Unattached folder, test plan tree 285
  - Undo Check Out button 109
  - Undo Check Out command 108
  - Unload button, Document Generator 654
  - Update Selected command 70, 198, 281, 489
  - updates, documentation 22
  - updating multiple records 70
  - Upload Selected button, attachments 91
  - UpLoadAttachment VAPI-XP function 703
  - URL button 87
  - URL for Quality Center 38

## Index

- URL, copy 198, 283, 350, 402, 494
- Use custom Business Criticality check box 226
- Use custom Failure Probability check box 227
- Use custom Functional Complexity check box 228
- Use custom Risk check box 227
- Used By grid 358
- user groups 35
- user privileges 35
- User Properties link 48
- User Properties window 48
- user properties, changing 47
- users
  - grouping 55
  - searching 55
  - selecting 55
  - sorting 55
- Using grid 358

## V

- VAPI-XP
  - API 701
  - test type definition 268
- VAPI-XP tests 685
  - creating 686
  - debugging 709
  - editing 696
  - running in debug mode 706
  - running in test mode 707
- Variables command 711
- Version Check Out Date, Requirements module 176
- Version Check Out Time, Requirements module 176
- Version Checked Out By, Requirements module 176
- version control
  - automatic checkout 105
  - cancel changes 107
  - checking in entities 106
  - checking out entities 104
  - examples 103
  - manual checkout 105

- non-versioned fields 103
- overview 100
- undoing checkout 107
- viewing checked out entities 108
- viewing version history 109
- working with 99
- Version Date, Test Plan module 262
- version history 109
- Version Number
  - Requirements module 176
  - Test Plan module 262
  - test resource tree 345
- Version Owner, Test Plan module 262
- Version Status
  - Requirements module 176
  - Test Plan module 262
- Version Time, Test Plan module 262
- Versions and Baselines tab 110
- View By Group check box 56
- View Graph in Full Screen button 564
- View menu
  - Test Lab module 370
  - Test Plan module 254
- View Order tab, Filter dialog box 66
- View Page in Full Screen button 564
- View Runs list, All Runs view 450
- View tab, dashboard pages 563
- View tab, graphs 583
- View tab, standard reports 620
- viewing site administrator messages 50
- views, favorite 93
- Visible Columns list 53
- Visual Basic script, Excel reports 634

## W

- Warn Before Check Out command 105
- Web page, attaching 87
- Welcome Page 41
- What's New command 19
- Window Screen button 696
- WinRunner Automated, test type definition 267
- WinRunner batch test 272, 432
- WinRunner parameters 454

**Word**

- exporting coverage analysis to 302
  - exporting grid data from Quality Center 74
  - generating project documents 681
  - importing to Quality Center 36
- Word Document, Export command 302
- WrapArray VAPI-XP function 705

**X**

- XML document, exporting grid data 74
- XTools Object, VAPI-XP 705

**Z**

- Zoom In button, Execution Flow 418
- Zoom In button, graph toolbar 584
- Zoom Out button, Execution Flow 419
- Zoom Out button, graph toolbar 584
- Zoom Out One Level button 192
- Zoom Out To Root button 192





