HP IT Executive Scorecard

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Windows ® operating system

Administrator Guide

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- **Recovery.** For details, see "Disaster and Recovery" on page 270.

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Logon

You access the Dashboard, STUDIO, EXPLORER, Finance, and ADMIN tabs from the main logon page.

> **Note:** Only users with the required permissions can view specific tabs.

When you have completed your session, it is recommended that you log out to prevent unauthorized entry.

You access the IT Executive Scorecard application using a supported Web browser, from any computer with a network connection (intranet or Internet) to the servers. It is recommended to restore your browser settings to default.

The level of access granted to a user depends on the user's permissions. For details, see "User Management" on page 79.

You can initially access the ADMIN tab through the IT Executive Scorecard logon page, using your administrator user name and password, created during installation.

⬜ Tasks

This section includes:

Access the logon page

To access the logon page, enter:

- **http://<full resolution host>:<port>/xs**. If you are using a non-default port you must update it in the URL. For details, see "Web Server" on page 30.
- If you are using a default http port, the port can remain empty.

The ADMIN tab is configured by default with Lightweight Single Sign-On (LW-SSO). LW-SSO enables you to log on and automatically have access to LW HP applications, without needing to log on to those applications. For details, see "LW-SSO " on page 22.

Change the default session timeout of the automatic Log out

Executive Scorecard automatically performs a security log out of the XS session. When the application is idle for a set amount of time the session times out, an automatic log out occurs, and the logon screen is displayed within the XS application. The timeout is set by default to 30 minutes and can be configured using:

<Installation directory>\agora\glassfish\glassfish\domains\BTOA\applications\fndwar\WEB-INF\web.xml

```
<session-config>
  <session-timeout>
    30
  </session-timeout>
</session-config>
```

> **Note:** The automatic log out works in conjunction with the Executive Scorecard ping interval, configured in "Website" on page 196. You must select the **Enable Keepalive Session** check box to enable the automatic session timeout. An automatic log out occurs only after the session timeout has been attained and only on a ping request. If the ping mechanism has been turned off, then no automatic log out occurs. If a user-initiated request comes in between the time of the timeout and the ping, then the session idle time will be reset and the timer will start over again.

Configure the default lockout on log on

Executive Scorecard logon allows you, by default, 5 consecutive logon attempts before a 15 minute lockout. You can configure the lockout parameters using the following properties file.

To configure the lockout parameters:

1. Access the following file:
   \<HPXS>\agora\glassfish\glassfish\domains\BTOA\config\conf\bsf.properties.

2. Search for the following parameters:

   - **accountLockoutMaxAttempts=5**

   - **accountLockoutLockoutPeriod=15**

3. Change the default logon attempts and lockout period. **0** means that there is no lockout time configured.

4. Save and restart the Glassfish service.

Access the logon page and all tabs

1. In a Web browser, enter the **http://<server_name>.<domain_name>/XS** URL for the fully qualified machine where XS is installed.

2. Enter the username and password, and click **Log On**. After a successful logon, the user name appears at the top right of the page of the application.

3. Close the original logon window once the application has loaded.

4. Click the ADMIN tab to navigate the admin pages. Only users with the required permissions can view the ADMIN tab.

> **Note:** To log on for the first time, use your administrator password created during installation.

User Authentication

User authentication depends on your configuration. For details, see "Users and authentication when working with SAP BusinessObjects and LDAP or without" on page 91.

User Passwords

Passwords can be changed in the **User Details** pane of the User Management page. Click **Edit Details** to change a user's password. For details, see "User Management" on page 79.

> **Note:** Depending on your configuration (working with or without SAP BusinessObjects and with or without LDAP), the handling of the password can be different. For details, see "Users and authentication when working with SAP BusinessObjects and LDAP or without" on page 91.

A password must contain the following:

- At least 6 characters.
- Characters in upper and lower case or numbers.
- Must be different from username.

  For example: the user name "Jhon" cannot have a "Jhon11" or "11Jhon" password.

> **Note:**
>
> - Logon parameters are case-sensitive.
> - If a password does not follow the correct conventions then the user is still created in SAP BusinessObjects Enterprise, however the password is not valid and must be changed.

Working with Secure Sockets Layer (SSL) in a Production Environment

When you log on to the IT Executive Scorecard application using the **http** or **https** format in a Production environment, the following scenarios can occur:

1. **http.**

   a. When you use the **http** format to access directly the Executive Scorecard application, the authentication transfers you to the Data Warehouse application. A message states that a security certificate is issued. Click the **Continue to this website** link. In the Data Warehouse page, click the Certificate Error button in the browser toolbar. In the Certificate dialog box that opens, click the **View Certificate** link. In the wizard that opens, select the **Place all certificates in the following store**, select the **Trusted Root Certification Authorities** location, and click **OK**. Once you have installed the certificate, and entered your user and password, the Data Warehouse application transfers you back to the Executive Scorecard application.

   b. When you use the **http** format to access directly the Data Warehouse application, a message states that a security certificate is issued. Click the **Continue to this website** link. In the Data Warehouse page, click the Certificate Error button in the browser toolbar. In the Certificate dialog box that opens, click the **View Certificate** link. In the wizard that opens, select the **Place all certificates in the following store**, select the **Trusted Root Certification Authorities** location, and click **OK**. Once you have installed the certificate, and entered your user and password, the Data Warehouse application opens.

2. **https.** When you use the **https** format:

   - **IE and Chrome.**
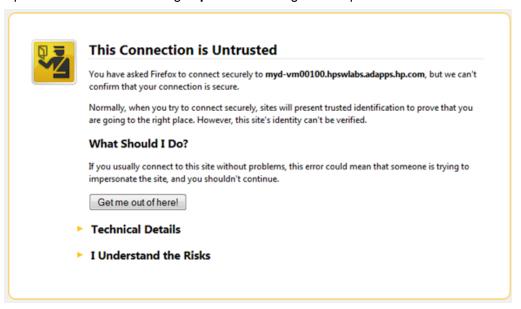
     i. When you use the **https** format to access the Executive Scorecard application, the security certificate issue is displayed. Click the security certificate. In the Certificate dialog box that opens, click the **View Certificate** link. In the wizard that opens, select the **Place all certificates in the following store**, select the **Trusted Root Certification Authorities** location, and click **OK**. Continue running the wizard. This warning message is not displayed again. The Data Warehouse application opens in SSL mode. After performing the logon operation, you can add the Executive Scorecard certificate in the successfully launched Executive Scorecard application page, not in the application page itself. When the **Java security warning** contains the correct publisher (Hewlett-Packard Company) you should accept the **Java security warning** by marking the **Always trust content from this publisher** check box in order for this popup not to be displayed again.

     ii. When you use the **https** format to access directly the Data Warehouse application, a message states that a security certificate is issued. In the Certificate dialog box that opens, click the **View Certificate** link. In the wizard that opens, select the **Place all certificates in the following store**, select the **Trusted Root Certification Authorities** location, and click **OK**. This warning message is not displayed again. The Data Warehouse application opens in SSL mode. When the **Java security warning** contains the correct publisher (Hewlett-Packard Company) you should accept the **Java security**

warning by marking the **Always trust content from this publisher** check box in order for this popup not to be displayed again.

- **Firefox.**

  When you use the **https** format to access directly the Executive Scorecard application or the Data Warehouse application, and you work with Firefox, you must perform the following procedure:

  i. Open each of the servers using **https**. The following screen opens:

  ii. Click **I Understand the Risks.** The following page opens:

iii. Click **Add Exception**. The following screen opens:

iv. Click **Confirm Security Exception**.

Note: When you use the **https** format and you want to access SAP BusinessObjects Enterprise reports, the reports are displayed using the **http** format.

Log out

To log out:

You can log out by clicking **Logout** (in the top right corner of the application). The session closes. To log on again, you must provide the user and password.

Shared Secret Key

Executive Scorecard functionality requires a connection to SAP BusinessObjects Enterprise through a

trusted authentication. In order to configure the trusted authentication policy you must define the shared secret key.

The shared secret key, created in the post-install process, is used by the client and the CMS to create the trusted authentication password. This password is used to establish trust.

> **Note:** To change the shared secret key you must change the key in SAP BusinessObjects Enterprise, run the post-install wizard and enter the new shared secret key. For details, see the *IT Executive Scorecard Installation Guide for a Development/Test/Proof-of-Concept (POC) Environment* or *IT Executive Scorecard Installation Guide for a Production Environment*.

Security Recommendations

Immediately following installation or upgrade procedures, perform the following steps.

For MSSQL Database improved security:

- Disable xs_cmdshell. For details, see http://technet.microsoft.com/en-us/library/ms175046.aspx.

- Revoke the public permissions from xp_instance_regread and xp_regread . For details, see
  http://technet.microsoft.com/en-us/library/ms187719.aspx.

For Database Stored Procedures:

The database contains extended stored procedures that allow read and write capabilities for sensitive data from the Windows registry.

In order to remove an extended stored procedure, use: **sp_dropextendedproc @functname='{name of extended stored procedure}**.

> **Note:** Some applications may not work properly without these stored procedures. Make sure to verify that they are not in use by a production application before removal.

- xp_instance_regaddmultistring
- xp_instance_regdeletekey
- xp_instance_regdeletevalue
- xp_instance_regenumkeys
- xp_instance_regenumvalues
- xp_instance_regread
- xp_instance_regremovemultistring
- xp_instance_regwrite
- xp_regaddmultistring
- xp_regdeletekey
- xp_regdeletevalue
- xp_regenumkeys
- xp_regenumvalues
- xp_regread
- xp_regremovemultistring
- xp_regwrite

For User Management:

- To improve password policy, use LDAP. For details, see "LDAP Management" on page 91.

LW-SSO

HP Lightweight Single Sign-On is a method of access control that enables you to navigate to other HP products that implement LW-SSO without supplying credentials again. A user can log on once and gain access to the resources of HP software systems without being prompted to log on again. The applications inside the configured group of software systems trust the authentication, and there is no need for further authentication when moving from one application to another.

Logs and the LogTool

IT Executive Scorecard records the procedures and actions performed by the various components in log files. The log files are usually designed to serve HP Software Support when Executive Scorecard does not perform as expected. The default severity threshold level for log files differs per log, but is generally set to either Warning or Error.

You can view log files with any text editor.

The LogTool enables you to view, manage, and analyze your logs.

The URL of the LogPortal where you can use the LogTool is:
https://<xs_server_fqdn>:10003/LogPortal.

To access:

The URL of the LogPortal where you can use the LogTool is:
https://<xs_server_fqdn>:10003/LogPortal.

| Learn More | Tasks | UI Description |

Learn More

Common Component Log Files and Their Location

Log Filename	Description	Location: <Installationdirectory>\agora
access.log	Records all requests processed by the web server.	**\webserver\logs**
error.log	The web server error.log is the most important log file. This is the place where Apache httpd sends diagnostic information and records any errors that it encounters when processing requests. It is the first place to look when a problem occurs with starting or operating the Web Server.	**\webserver\logs**
install.log	Installation log	**\webserver\logs**
jk.log	Contains information about communications between the Web Server and the application	**\webserver\logs**

Log Filename	Description	Location: <Installationdirectory>\agora
	server (Glassfish).	
ssl_request.log	Logs records of all secured requests processed by the Web Server.	\webserver\logs
ConfigWizard.log	Logs the post-install flow. Is useful when the post-install configuration wizard fails.	\confwizard\log
FileParser.log	Logs file parsing tasks during post-install configuration wizard.	\confwizard\log
applicationfw.log	Logs application loading and permission enforcement related to the application framework.	\glassfish\glassfish\domains\BTOA\logs
athN.log	Logs requests for authentication and population of user roles and permissions.	\glassfish\glassfish\domains\BTOA\logs
aui.log	Logs user management user interface details.	\glassfish\glassfish\domains\BTOA\logs
bo-services.log	Logs the usage of SAP BusinessObjects services, including issues locating the SAP BusinessObjects CMS.	\glassfish\glassfish\domains\BTOA\logs
bsf.log	The BTO Security Framework (BSF) server-side log records authentication information about authn, LW-SSO, and user mng.	\glassfish\glassfish\domains\BTOA\logs
btoe-services.log	Logs the usage of foundation services.	\glassfish\glassfish\domains\BTOA\logs
datalayer.log	Logs SAP BusinessObjects datalayer transactions such as problems with SAP BusinessObject Universes or queries.	\glassfish\glassfish\domains\BTOA\logs
foundation.log	Foundation core components log.	\glassfish\glassfish\domains\BTOA\logs
hibernate.log	Hibernate log.	\glassfish\glassfish\domains\BTOA\logs
jvm.log	JVM general log.	\glassfish\glassfish\domains\BTOA\logs

Log Filename	Description	Location: <Installationdirectory>\agora
license-services.log	Licensing logs.	**\glassfish\glassfish\domains\BTOA\logs**
properties.log	Properties table logs.	**\glassfish\glassfish\domains\BTOA\logs**
server.log	General GlassFish log.	**\glassfish\glassfish\domains\BTOA\logs**
settings.log	Settings management logs	**\glassfish\glassfish\domains\BTOA\logs**
sso.log	Logs authentication details related to IDM and LW SSO.	**\glassfish\glassfish\domains\BTOA\logs**
uim.log	User Interface mash-up logs.	**\glassfish\glassfish\domains\BTOA\logs**
userMng.log	User Management actions log, including problems with communication to SAP BusinessObjects.	**\glassfish\glassfish\domains\BTOA\logs**
log.txt	MQ Broker service log.	**\glassfish\glassfish\domains\domain1 \imq\instances\imqbroker_host1\log**

Executive Scorecard Log Files and Their Location

Log filename	Description	Location: <Installationdirectory>\agora
dashboard.log	Logs all the dashboard's server side logs.	**\glassfish\glassfish\domains\BTOA\logs**
studio.log	Logs general information for Executive Scorecard Studio, the client module used for tailoring Executive Scorecard.	**\glassfish\glassfish\domains\BTOA\logs**
engine.log	Logs general information about the engine, KPIs, and business context calculation details.	**\glassfish\glassfish\domains\BTOA\logs**
engine_ statistics.log	Provides a summary of calculation cycles, and statistics about KPI engine performance.	**\glassfish\glassfish\domains\BTOA\logs**

Data Warehouse Log Files and Their Location

Log files can be accessed under:

Log	Description	Location
fbi.log	Logs the source extraction information.	<HPXS>\agora\DataWarehouse\logs directory

Log	Description	Location
dwh.log	Logs the DWH management activities.	\<HPXS\>\agora\DataWarehouse\logs directory
dsm.ui.log	Logs Datasource Management UI management activities.	\<HPXS\>\agora\DataWarehouse\logs directory

Tasks

This section includes:

Access the LogTool in the LogPortal

1. Access the LogPortal at: **https://<xs_server_fqdn>:10003/LogPortal**. In a Production environment, you should checks the logs in each server.

2. Enter your user/password:

   - If the installation was successful, the username/password for LogPortal is same as the glassfish admin console (locahost:10001) user/password that you entered during the post-install procedure.

   - If an error occurred during installation:

     ○ **Option 1:** Try try to access the LogPortal (for credentials, use admin for the username, and an empty password). If it is not accessible, then use Option 2.

     ○ **Option 2:** Use a text editor to analyze the logs in the file system.

3. You can now select the product area, the time range, to include the log history or not, select the relevant log to display it in the detail area, and then select the filters to display only the lines that include the filter string.

4. You can also set up, in the **Refresh Rate** field, how often you want the log list and the log viewer to check for updates on the server side .

Downloading the log files
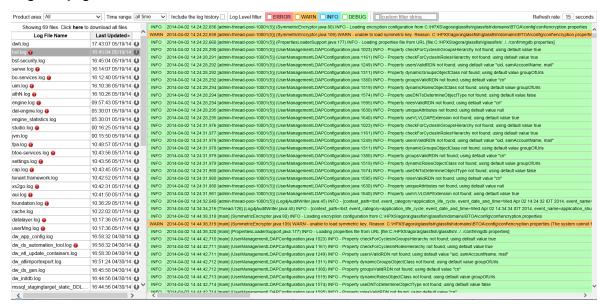
- **Option 1:** Click ⚉ in the relevant log list row to download the corresponding log file.

- **Option 1:** Click **here** in **Click here to download all files**, creates a zip file with all the logs in the selected product area.

Access Data Warehouse log information

1. In the Windows taskbar, click **Start** > **Administrative Tasks** > **Event Viewer**.

2. Expand **Windows Logs**, right-click **Application**, and then click **Filter Current Log**.

3. Select the relevant **Event Levels**, select the relevant **Event Sources**, and then click **OK**.

    All the Data Warehouse Event Sources begin with the DWH string.

UI Description
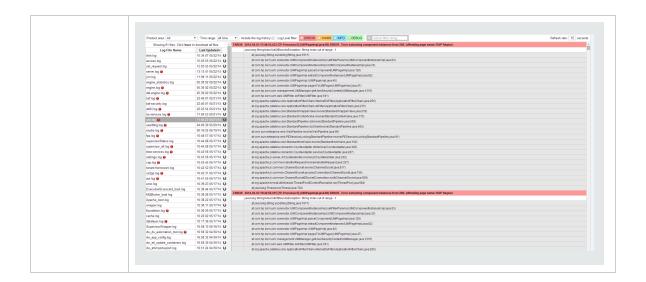
LogTool page

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Product area	Filter the logs by their product area: • **App Server Logs** • **CAP** • **ConfigWizard Logs** • **DWH Logs** • **DWH UI, FBI** • **Dashboard** • **Engine** • **Foundation, BOE**

	Server **Studio** **Supervisor Logs** **User Mgmt** **Webserver Logs** **Note:** You can edit the product area in the **<HPXS>\agora\conf\logGroupsConfig.xml** file.
Time range	Filter the logs that were created in the selected time range: **All**, **1min**, **5 min**, **Last 15 min**, **Last 30 min**, **Last hour**, or **Last day**.
Include the log history	Select to include the log history (the log files that were rotated; for example: <log_name>.log.1, <log_name>.log.2).
Log Level filter	You can filter the log entries to display only the entries that start with the following strings: **ERROR**, **WARN**, **INFO**, **DEBUG**, or your own string. **Note:** The ERROR filter also includes the stack trace of the error.
Refresh rate (in seconds)	The rate of refresh of the log list and the update check interval of the currently opened log file, in seconds. Default: 15
<Message>	**Showing <nn> files.** The message displays the number of logs. **Click here to download all files.** Creates a .ZIP file of all the listed logs.
Log File Name	The log files filtered for the product area and the time range. Click the log name to display its details. 🔴 indicates that the log includes errors within the selected time range. Click the arrow in the column header to sort the list.
Last Updated	The date and time when the log was last updated. Click the arrow in the column header to sort the list. By default, the table is sorted by the **Last Updated** in descending order.
🔽	Click to download the selected log file (not in ZIP format).
<Log details area>	The contents of the selected log. Select the relevant Log Level filter to display only the log entries that start with the string. Example: When you select ERROR, the log details area displays:

Web Server

IT Executive Scorecard uses the Apache web server for securing the application and caching static content in order to improve client performance. The web server is installed and configured in the deployment procedure and does not require any changes or maintenance.

The default ports are listed in the *IT Executive Scorecard Support Matrix*. If you use a non default port for the URL, you must enter the application using **http://<host>:<port number>/xs** or **http://<host>:<port number>/dwh**.

> **Note:** These ports can be configured to any other ports in the deployment procedure.

Cryptography

The encryption properties files are located in **<Installationdirectory>\agora\conf**. The path can be determined by setting the **crypt.conf.dir.path** system property to the relevant path. The management database credentials encrypted locally on each server. You must also store all the relevant configuration for decrypting locally.

The following encryption keys are available:

- **Encryption Key:** Single shared key for all servers shared through the database. Stored on each machine locally in the encryption properties files as part of the post-install procedure.
- **Seed Key:** Key that is generated after each post-install procedure. The main encryption key is stored in the seed key.

IT Executive Scorecard Supervisor

The HP IT Executive Scorecard Supervisor monitors whether the Executive Scorecard server processes are up and running.

The Supervisor consists of two elements:

- The management element manages (starts/stops/monitors) the Web Server, MQ Broker, and Glassfish components that are services. The Supervisor manages them in the following order:
  a. Web Server

  b. MQ Broker

  c. Glassfish

- The watchdog element monitors processes. If a process is down, the Supervisor Watchdog tries to start it automatically.

The Supervisor is a service that works on Windows.

Contact HP Software Support Online web site (**http://www.hp.com/go/hpsoftwaresupport**) if the monitor cannot start the Supervisor process.

Xcelsius

You can use Xcelsius to display Flash reports or dashboards over Executive Scorecard target schemas.

You can create Xcelsius reports based on SAP BusinessObjects Enterprise Webi reports. For details on the pre-defined Webi reports provided with Executive Scorecard, see Xcelsius Reports in the *IT Executive Scorecard Reports Reference Guide*.

You can then add these reports to Dashboard page using the Xcelsius components. For details, see The SWF Report Viewer Component or The Xcelsius Reports Viewer (Flash) Component in the *IT Executive Scorecard Business Analyst Guide*.

The Installation Media for Xcelsius as well as the Xcelsius Installation Guide are provided on a separate installation disc that you can download (TB812-15009.ISO). The disc also includes non-core utilities and 3rd party application that enhance Executive Scorecard.

Glassfish Authentication

The Glassfish Admin Console includes a configuration wizard.

Tasks | **Reference**

⬤ Tasks

Change the admin password for securing the Glassfish admin console

To change the admin password for securing the Glassfish admin console:

1. Execute the following script:
   <HP_XS>\bin\admin-password-change.bat

2. In the prompt:

   - Enter the user name: **admin**.

   - Enter the current password. It is empty (click **Enter**).

   - Enter the new password: enter the admin password, then the new admin password, and then the new admin password once more.

3. Check if the password works:

   a. Copy the link below and paste it in a browser: **http://<localhost>:10001**

   b. Enter the user name and password as set in the above step.

Set Up Java

This section describes how to set up Java so Executive Scorecard displays properly in Internet Explorer or Chrome.

Tasks

Tasks
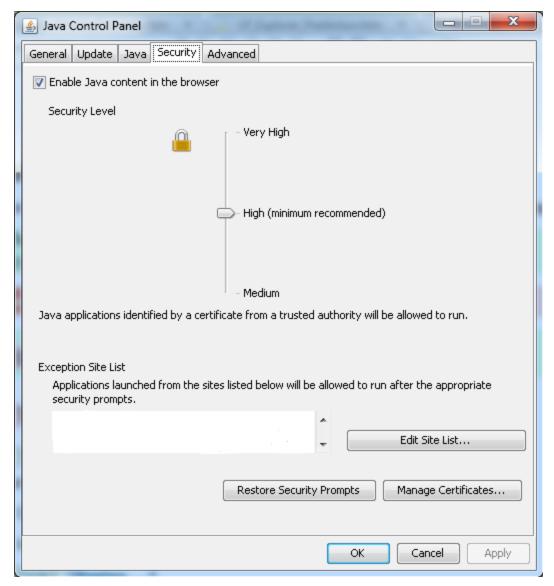
Set Up Java

To set up Java:

1. Click **Start > All Programs > Java > Configure Java**.
2. In the Java Control Panel, click the **Security** tab.

3. Make sure that the **Enable Java content in the browser** option is selected.

4. Set up the security level to **High**.

5. Enter the **http://<FQDN>:8080** site in the **Exception Site List**.

6. Click **OK**.

Start Menu

During the installation, a start menu is added to the settings of the machine on which Executive Scorecard was installed.

You can use the Start menu to perform the following tasks:

Launch Executive Scorecard Using the Start Menu

During the installation, a start menu is added to the settings of the machine on which Executive Scorecard was installed. You can lainch Executive Scorecard using the Start menu.

◼ Tasks

Launch Executive Scorecard

1. To access the IT Executive Scorecard start menu that is added to each machine, select **Start** > **Programs** > **HP Executive Scorecard**.

2. Select **HP Executive Scorecard**.
   This launches IT Executive Scorecard.

Start the Post-Install Wizard Using the Start Menu

During the installation, a start menu is added to the settings of the machine on which Executive Scorecard was installed. You can start the post-install wizard using the Start menu.

◼ Tasks

Start the Post-Install wizard

1. To access the IT Executive Scorecard start menu that is added to each machine, select **Start** > **Programs** > **HP Executive Scorecard**.

2. Select **Configuration Wizard**.

   Follow the steps in the Configuration Wizard that opens.

Renew your License Using the Start Menu

During the installation, a start menu is added to the settings of the machine on which Executive Scorecard was installed. You can renew your license using the Start menu. For details, see "Licenses" on page 46.

Enable or Disable the Glassfish Web Server using the Start Menu

During the installation, a start menu is added to the settings of the machine on which Executive Scorecard was installed. You can enable or disable the Glassfish Web Server using the Start menu.

Tasks

Enable the Glassfish Web server using the Start menu

1. To access the IT Executive Scorecard start menu that is added to each machine, select **Start** > **Programs** > **HP Executive Scorecard**.

2. Select **Enable HP Executive Scorecard**.

   This enables the Glassfish Web server. Users can access IT Executive Scorecard.

Disable the Glassfish Web server using the Start menu

1. To access the IT Executive Scorecard start menu that is added to each machine, select **Start** > **Programs** > **HP Executive Scorecard**.

2. Select **Disable HP Executive Scorecard**.

   This disables the Glassfish Web server. Users cannot access IT Executive Scorecard.

Uninstall HP IT Executive Scorecard Using the Start Menu

During the installation, a start menu is added to the settings of the machine on which Executive Scorecard was installed. You can use the Start menu to uninstall IT Executive Scorecard.

Tasks

Uninstall HP IT Executive Scorecard using the Start menu

1. To access the IT Executive Scorecard start menu that is added to each machine, select **Start** > **Programs** > **HP Executive Scorecard**.

2. Select **Uninstall HP Executive Scorecard**.

   This uninstalls the IT Executive Scorecard on the server.

   IT Executive Scorecard is first uninstalled in silent mode and then the uninstall wizard appears.

Access the Documentation Library and the Installation and Configuration documents using the Start Menu

During the installation, a start menu is added to the settings of the machine on which Executive Scorecard was installed. You can use the Start menu to access the *IT Executive Scorecard Installation Guide for a Development/Test/Proof-of-Concept (POC) Environment* or *IT Executive Scorecard Installation Guide for a Production Environment* and the Online Documentation Library Help Center.

Tasks

Access the HP Executive Scorecard Deployment Guide using the Start menu

1. To access the IT Executive Scorecard Start menu that is added to each machine, select **Start** > **Programs** > **HP Executive Scorecard**.

2. Select **HP Executive Scorecard Deployment Guide**.

   This opens the *IT Executive Scorecard Installation Guide for a Development/Test/Proof-of-Concept (POC) Environment* or *IT Executive Scorecard Installation Guide for a Production Environment*.

Access the Online Documentation Library using the Start menu

1. To access the IT Executive Scorecard Start menu that is added to each machine, select **Start** > **Programs** > **HP Executive Scorecard**.

2. Select **HP Executive Scorecard Documentation Library**.

    This opens the HP Executive Scorecard Documentation Library Help Center in your Web browser.

Restart the XS Application

You can restart the XS application using the Start Menu shortcut. For details, see "Launch Executive Scorecard Using the Start Menu" on page 38.
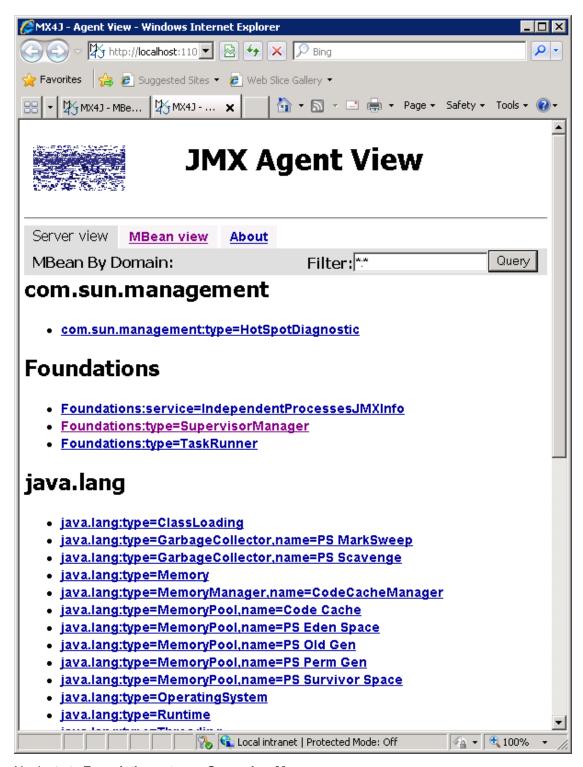
You can also restart the XS application using the Glassfish Admin console. For details, see below.

Tasks
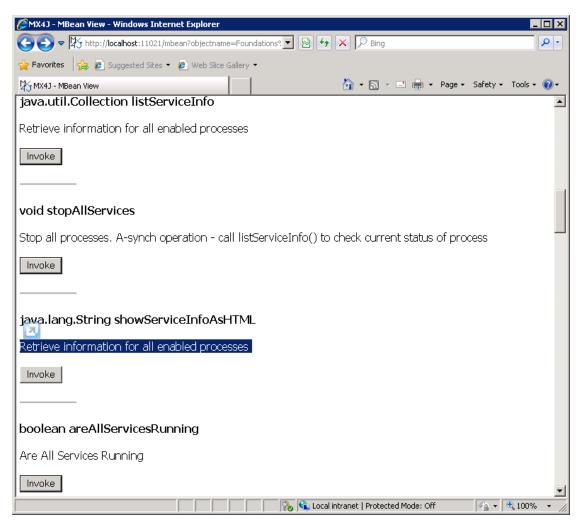
Restart XS using the Glassfish Admin console

1. Open the JMX Web console.

2. On the XS Application Server open Internet Explorer and navigate to **http://localhost:11021/**

   The user name and password are admin and admin.

   The following page opens:

3. Navigate to **Foundations: type= SupervisorManager**.

4. Invoke **show ServiceInfoAsHTML**.

5. Invoke **java.lang.String show ServiceInfoAsHTML**.

6. Restart the service by clicking **Restart** for the line of the Executive Scorecard service.

7. Observe the restart progress by navigating back to **Server View > "Foundations: type= SupervisorManager > java.lang.String show ServiceInfoAsHTML**.

Licenses

This section explains about the types of licenses, how to renew a license using the Start menu and how to check if all your user licenses are valid.

To access:

Click **Help > About** in the upper right corner of the application.

Learn More

License Types

Two types of licenses are available:

- **Power Named User License.** This license is for every type of user with no limitation on the permissions.
- **Casual Named User/Viewer License.** This license is for users with a very limited set of permissions.

You cannot purchase a standalone **Casual Named User/Viewer License**. With the **Casual Named User/Viewer License** you must also purchase at least one **Power Named User License** (you must apply 2 License Keys).

Example

- If you want 50 Viewer users, you must purchase at least 1 **Power Named User License** (Advanced user) and 50 **Casual Named User/Viewer Licenses** (for the Viewer users).
- If you want 10 Advanced users and 15 Viewer users, you must purchase 10 **Power Named User Licenses** (for the Advanced users) and 15 **Casual Named User/Viewer Licenses** (for the Viewer users).

Who is Counted as Power Named Registered Users

In addition to Advanced users (assigned the Power Named User License), users with a set of permissions that is larger than and includes the following permissions: **View Page**, **Cascade Scorecard**, **Explorer Access**, **Forecast**, **View Scorecards**, **Manage Annotation** are also considered Advanced users and are counted accordingly. For details, see "Role Management" on page 63.
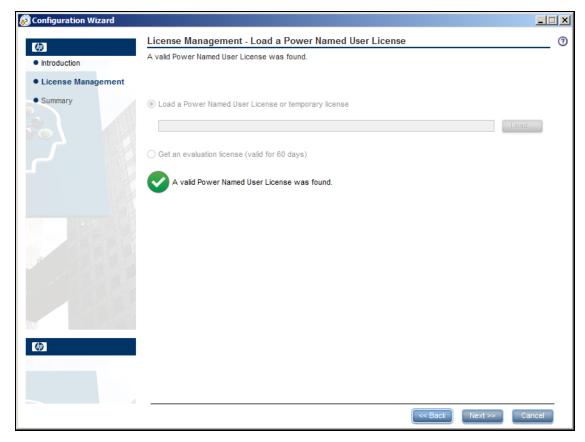
Tasks

This section includes:

Renew your license using the Start menu

1. To access the IT Executive Scorecard start menu that is added to each machine, select **Start** > **Programs** > **HP Executive Scorecard**.
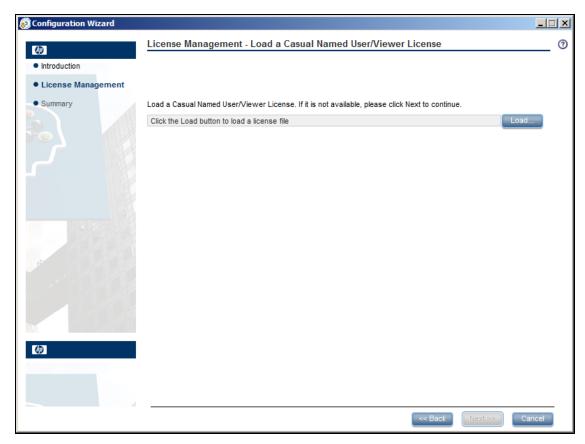
2. In the Administration directory, select **License Renewal**.

   The Introduction page opens.
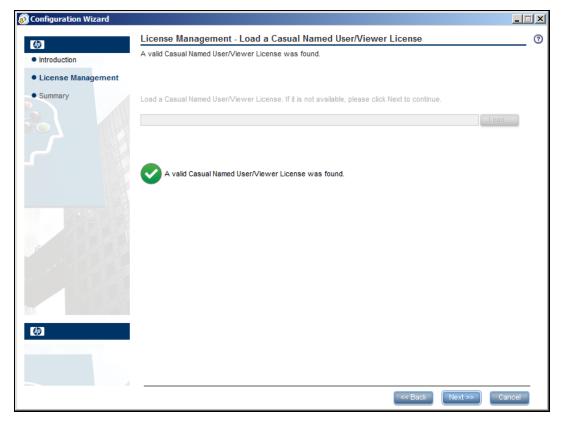
3. Click **Next**. The **License Management - Load a Power Named User License** page opens. If a valid Power Named User License was found, the message **A valid Power Named User License was found** is issued.

4. Click **Next**. The **License Management - Load a Viewer License** page opens.

a. If you have a Casual Named User/Viewer License, click **Load** to load it. When the operation performs successfully, the message **A valid Casual Named User/Viewer License was found** is issued. Click **Next** to complete the renewal.

b. If you do not want a Casual Named User/Viewer License, click **Next** to complete the renewal.

Movie: To display the relevant movie, open the XS application, click **Help** in the top right corner of the application main page and select the **Movies** option. Select the relevant movie. For details, see Access Movies.

Check users licenses

You can check if all the users of the application have valid licenses.

1. **Prerequisites:**

   If you are working with LDAP users, make sure you have performed the appropriate procedures. For details, see "LDAP Management" on page 91.

2. Get the user license information:

   a. Use an authorized HP user to log on to the customer's Executive Scorecard installation.

   b. Click **Help > About** in the top right-hand corner of the application display.

      The type of license (temporary or permanent), the number of registered users and the number of licensed seats (the number of purchased licenses) are displayed.
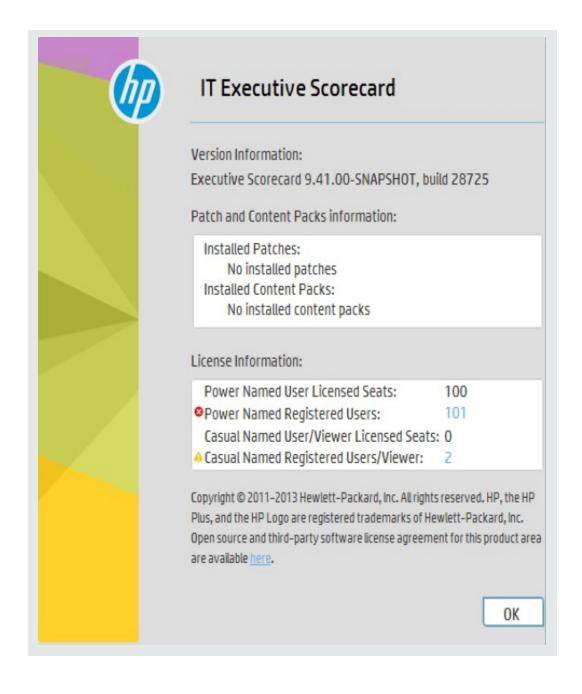
c. Click the number of users to view the details of the users. A list of the users is displayed.

When users do not have a valid license, a red icon is added to the left of the Registered users indication.

For details about who is counted as Power Named Registered Users, see "Who is Counted as Power Named Registered Users" on page 46

Note: An error image to the left of Registered Users and a tooltip indicate if there has been a breach of contract. User that are not part of the Viewer Users Group are considered Advanced Users and are counted accordingly.

Chrome and BOE Reports

If you are using the Chrome browser and your Dashboard pages include SAP BusinessObjects Enterprise (BOE) reports, you are presented with a shield icon in the browser address bar each time you start the application. This creates an extra step to tell the browser to run the content.

 Tasks

You can decide to allow the running of insecure content per session or by default.

This section includes:
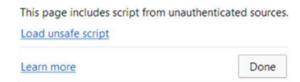
Allow the running of insecure content per session

When you open Executive Scorecard in Chrome and the shield icon appears in the top right corner of your application:

1. Click the shield.

2. In the dialog box that opens, click **Load unsafe script**:

You can now view BOE reports in Dashboard pages.

Allow the running of insecure content by default

To run BOE reports in Dashboard pages in Chrome, you must set Chrome to allow the running of

insecure content by default by adding the **--allow-running-insecure-content** parameter to the start up of the shortcut.

1. Create a Chrome shortcut on the desktop by right-clicking and dragging the Chrome browser from the **Windows> Start** menu to the desktop, and select **Create shortcuts here**.

   You now have a Chrome shortcut on the desktop.

2. Right-click the shortcut and select **Properties**.

3. In the **Target** field, add **--allow-running-insecure-content** at the very end of the string that is already there.

4. Click **Change Icon**.

5. In the Change Icon dialog box, in the **Look for Icons in this file** field, replace the current directory string with: **%SystemDrive%\HPXS\installation\misc\launcher.ico**. Click **OK**. Click **OK** again to change the icon to the XS launcher icon. Then click **Apply** to apply all of the changes.

6. In the your desktop, double-click the shortcut icon to start the Chrome browser. Then click [≡] and select **Settings**.

7. In the **On Startup** section, select **Open a specific page or set of pages** and click **Set pages**.

8. In the URL box enter the URL for Executive Scorecard, for example: **https://systemFQDN/xs**. Then click **OK** to save the changes.

9. Close the Browser and then restart it to test the changes. You should be presented with an Executive Scorecard logon screen.

10. Log in and test to make sure that the BOE reports are displayed without the security icon.

Users, Roles, Resources, and Permissions

You use users, roles, resources, and permissions to configure who can do what and who can see what data in XS.

Learn More   **Tasks**

Learn More

Resources

A resource is a logical group of one or more XS application data items (for example Dashboard pages, Scorecards, Budgets, or Budget Cost Centers). Once you define resources, you can attach the resource to a permission.

Roles and Permissions

Each role is a set of permissions. Permissions define which actions the user can perform and on which resources. For example, you can create a role that enables its users to create Dashboard pages.

Users and Groups
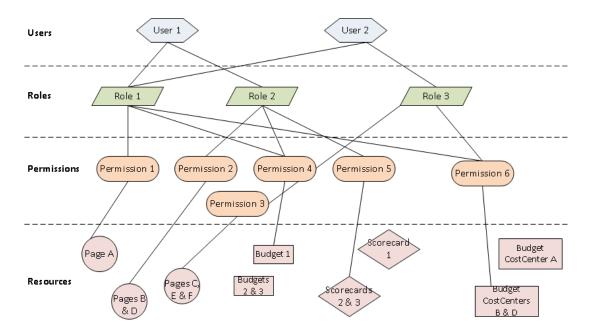
Each user has a list of roles that define their permissions. When you assign a role, that user only has access to specific portions of the application and specific resources that are relevant to their role. You can also define groups of users with the same roles or access rights. When you attach a user or group to a group, the user or group inherits all of the group's roles.

Typical users are:

Term	Description
Viewer Users	Users that have limited permissions and in most cases can only view content in the Dashboard and Explorer without any option to modify it. They will not have access to the STUDIO, FINANCE, and ADMIN tabs. In some cases we refer to them as Viewer users
Advanced Users	All users that are not Viewer users (including users under the Administrator group, Scorecard Administrator Group and users that are not under any group).
Scorecard Administrator	Type of Advanced user with permissions to create Scorecards and Dashboard pages
Super-Admin	Super user, a subset of the Advanced User – normally this user deals with the installation, foundation and permission issues. This user is the Admin user that was created during installation.

Diagram

The following diagram illustrates the relationship between users, groups, roles, permissions, and resources in the ADMIN tab.

Tasks

The Administrator uses the ADMIN tab to define users that have roles, which contain a set of permissions that may contain resources. It is recommended to create resources and attach them to permissions first in the user management process.

1. "Resource Management" on the next page
2. "Role Management" on page 63
3. "User Management" on page 79

Resource Management

The Resource Management page enables you to view resource and resource types, as well as create a resource. You can also select instances or application data or components that comprise a resource.

To access:

Select **Admin** > **Users and Roles** > **Resource Management**.

Learn More	Tasks	UI Description

Learn More

Resources, Instances, and Scorecard Resources

Actions users can perform depend on their roles and permissions. Resources are the basis for user and role management. For each user or group, you assign a set of permissions called 'Role' that allow to perform specific actions on specific resources.

- **Resources.** A resource is a logical group of one or more application data sets or components. Once you define resources, you attach the resource to a permission.
- **Instances.** An instance is an application data or components that can be managed by a user according to the user's permissions.

  Instances are the available application data or components defined in the system.

  > **Note:** Users that are created in the ADMIN tab and require permissions to view reports pages must be assigned those permissions in SAP BusinessObjects Enterprise.

- **Scorecard Resources.** XS enables you assign specific Scorecard resources to a user. Additionally, you can restrict user permissions and only allow then to view Scorecards, Dashboard pages and data that they have been assigned by the Administrator.

Tasks

This section includes:

"Create a resource" below

"Manage instances" on the next page

Create a resource

1. Select **Admin** > **Users and Roles** > **Resource Management**.

2. In the **Resources** area, select the type of resource (**Budget Cost Centers**, **Budgets, Pages**, or **Scorecards**) in the tree, and click **Create resource** ✳ to create a new resource.

3. Enter the name of the resource in **Resource** and a description in **Details**.

4. Click **OK** to save your new resource.

Manage instances

1. Select **Admin** > **Users and Roles** > **Resource Management**.

2. Select a resource in the **Resources** area.

3. In the **Instances** area of the **Resource Details** pane click **Add instances** ➕ to open the Manage Instances dialog box. Instances are the available application data or components defined in the system that are attached to resources.

4. Select the instance from the **Available Instances** list and use the arrows to move the instance to the **Selected Instances** list.

5. Click **OK** to save your changes.

⬤ UI Description

Resource Management Page
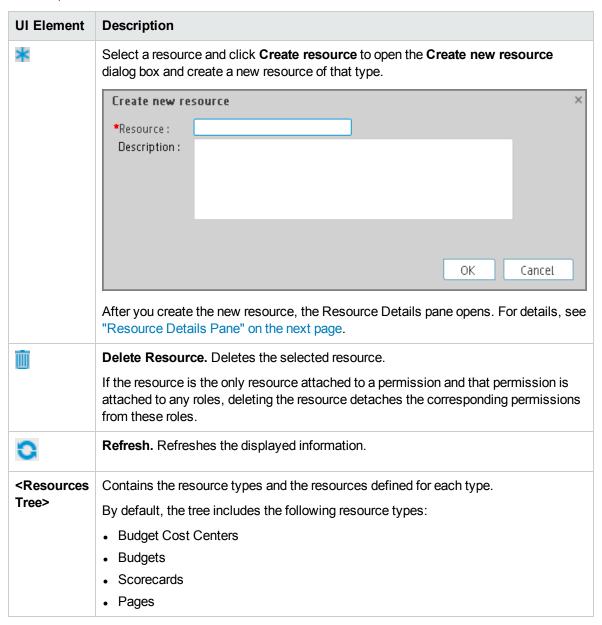
Click 🔄 to refresh the page.

Resources Pane

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
✳	Select a resource and click **Create resource** to open the **Create new resource** dialog box and create a new resource of that type. Create new resource *Resource : Description : OK Cancel After you create the new resource, the Resource Details pane opens. For details, see "Resource Details Pane" on the next page.
🗑	**Delete Resource.** Deletes the selected resource. If the resource is the only resource attached to a permission and that permission is attached to any roles, deleting the resource detaches the corresponding permissions from these roles.
🔄	**Refresh.** Refreshes the displayed information.
<Resources Tree>	Contains the resource types and the resources defined for each type. By default, the tree includes the following resource types: • Budget Cost Centers • Budgets • Scorecards • Pages

<Right pane>

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Resource type name	The name of the selected resource type.
Resource type description	The description of the selected resource type.
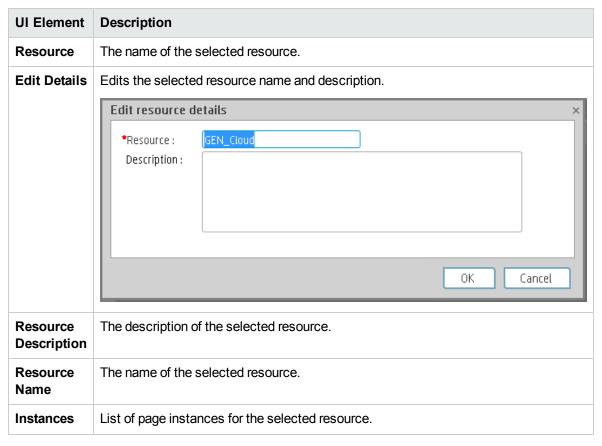
Resource Details Pane

When you select a resource in the **Resources** pane, the details appear in this pane.

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):
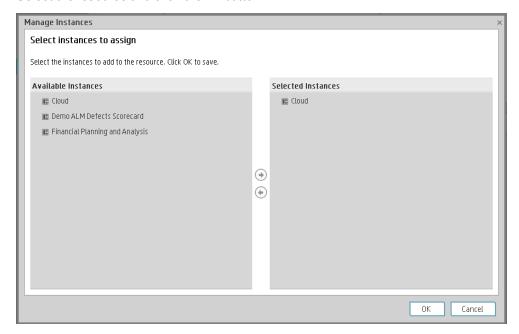
UI Element	Description
Resource type name	The name of the selected resource type. This information is displayed when you set the cursor on one of the resource types in the Resources pane.
Resource type description	The description of the selected resource type. This information is displayed when you set the cursor on one of the resource types in the Resources pane.
➕	**Add Instances.** Adds instances to the selected resource. Opens the Manage Instances dialog box. Each resource can have one or more assigned application data or component instances. In the Manage Instances dialog box, select a page from the **Available Instances** list and use the arrows to move the instance to the **Selected Instances** list. For details, see "Manage Instances Dialog Box" on the next page. These instances are the available pages defined in the system.
🗑	**Remove Instances.** Removes the selected instance from the resource.
Description	The description of the selected resource.

UI Element	Description
Resource	The name of the selected resource.
Edit Details	Edits the selected resource name and description.
Resource Description	The description of the selected resource.
Resource Name	The name of the selected resource.
Instances	List of page instances for the selected resource.

Manage Instances Dialog Box

This dialog box enables you to attach pages to a resource.

Select the resource and click the ➕ button.

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
	Select an instance from the **Available Instances** list and use the arrows to move the instance to the **Selected Instances** list.
Available and Selected Instances	Each resource can have one or more assigned instances.

Role Management

You can define user roles and application permissions in the ADMIN tab. You can also assign resources to specific permissions.

To access:

Select **Admin** > **Users and Roles** > **Role Management**.

Learn More	Tasks	UI Description

Learn More

Roles and Permissions

Each role contains set of permissions. Permissions define which actions can be performed by the user. For example, you can create a role that enables its users to create pages or view specific ones. In some cases, actions can be performed according to the resource attached to a permission.

> **Note:** Users that are created in the ADMIN tab and require permissions to view reports pages, must be assigned those permissions in SAP BusinessObjects Enterprise.

Resources

A resource is a logical group of one or more XS application data items (for example pages or budgets). Once you define resources, you attach the resources to a permission. For example, you can specify that the CIO has View permissions for CIO resources, while the Administrator has View permissions for all resources.

> **Tip:** It is recommended to define resources prior to defining roles. For details, see"Resource Management" on page 57.

Pre-Defined Roles

> **Note:** Every out-of-the-box Scorecard has its own dedicated resource and role.

Executive Scorecard and IT Financial Management roles can be assigned any permissions. Executive Scorecard and IT Financial Management roles are available with the following out-of-the-box permissions:

Pre-Defined Role (from A-Z)	Description	Permissions	Module
Administrator	The application administrator. When a user with the **Administrator** role	All Permissions	IT Executive Scorecard and IT Financial Management

Pre-Defined Role (from A-Z)	Description	Permissions	Module
	activates a CAP, everyone get permissions to view, edit, delete all the Scorecards in the CAP.		
BUDGET_ COORDINATOR	Defines the budget configuration. Notifies the cost center managers to populate the budget line items, follow up with cost center managers for timely update of budgets, and review the input from all included cost centers. Publishes the budget to use in allocation scenarios. This role is related to IT Financial Management.	• **Finance** • **Budget** • **View consolidated budget** • **Manage cost center budget** • **Manage consolidated budget**	IT Financial Management
DWH administrator	N/A		
FINANCIAL ANALYST	Uses published budgets in allocation scenarios. This role is related to IT Financial Management. A FINANCIAL_ ANALYST has the following permissions:	• **Budget** • **Finance** • **Manage Allocation Scenarios** • **Manage Consolidated Budget** • **Manage Cost Center Budget** • **View Consolidated Budget**	IT Financial Management
Scorecard Administrator	Creates and manages specific Scorecards and Pages. Only a user with the Scorecard Administrator role can view the created Scorecard. Once a Scorecard is created, the system automatically generates a resource for the Scorecard and a role called GEN_<Scorecard name>. This Scorecard can then only be managed by the Scorecard creator and	Studio Manage Page Administer Pages Select KPI Explorer Access	IT Executive Scorecard

Pre-Defined Role (from A-Z)	Description	Permissions	Module
	users with the relevant GEN_<Scorecard name> role.		
	In Dashboard, a user can only see a Scorecard when he has the relevant permission. If a component is configured with a specific Scorecard, Perspective, Objective, KPI, or KPI Breakdown, the user cannot see it, and the following message appears: **Data is not displayed because you do not have the correct viewing permissions. Contact your administrator.**		
	When a user with the **Scorecard Administrator** role activates a CAP, only the user gets permissions to view, edit, delete all the Scorecards in the CAP.		
	When a user with the **Scorecard Administrator** role drags a KPI from the **Public Metrics and KPIs** directory into a Scorecard in the Studio, a clone of the KPI is added to the Scorecard and the original KPI remains in the **Public Metrics and KPIs** directory to be available for other Scorecard Administrators. If a user with the **Administrator** role drags a KPI from the **Public Metrics and KPIs** directory into a Scorecard in the Studio, the KPI is added to the Scorecard and		

Pre-Defined Role (from A-Z)	Description	Permissions		Module
	is removed from the **Public Metrics and KPIs** directory.			
Viewer User	**Note:** The Viewer user list of permissions cannot be modified (by any user).	**Permission**	**Viewer user allowed access**	
		Users and roles	N	
		Administer pages	N	
		Edit settings	N	
		Data Source management	N	
		Admin access	N	
		Select KPI	N	
		Manage Allocation scenarios	N	
		View Settings	N	
		Manage page	N	
		View Scorecard	Y The Super Administrator can assign the specific Scorecards the Viewer user can view.	
		View Page	Y The Super Administrator	

Pre-Defined Role (from A-Z)	Description	Permissions		Module
		Permission	**Viewer user allowed access**	
			can assign the specific Dashboard pages the Viewer user can view.	
		View Consolidated budget	N	
		Manage annotations	Y	
		Manage consolidated budget	N	
		context management	N	
		Cascade Scorecard	Y	
		ABC Management	N	
		Explorer access	Y	
		Budget	N	
		Studio	N	
		Content acceleration packs	N	
		Manage cost center budget	N	
		Finance	N	

Pre-Defined Permissions

XS Application Elements	Create and Edit	View
Studio	- To enter the STUDIO tab you need the **Studio** permission - To create Scorecards in the Studio, you need the **Studio** permission. **Note:** The **View Scorecard** permission enables customer with different departments to use XS. Each department can have its own Scorecards that cannot be viewed or used by other departments. This removes the need for each department to install its own XS instance. - To edit relevant Scorecards, you need the **View Scorecard** permission for the relevant Scorecard.	- To view the STUDIO tab you need the **Studio** permission. - To view specific Scorecards (their Perspectives, Objectives, and KPIs) you need the **View Scorecard** permission for the relevant Scorecard. - To view all the standalone KPIs in the Studio, you need the **Select KPI** permission.
Explorer	N/A	- To view the EXPLORER tab you need the **Explorer Access** permission - To view the relevant Scorecards (their Perspectives, Objectives, and KPIs) in Explorer, you need the **View Scorecard** permission. - To view all the standalone KPIs in the Studio, you need the **Select KPI** permission. - To view the prediction analysis, you need the **Forecast** permission.
Finance	To view the FINANCE tab you need the **Finance** permission.	To view the FINANCE tab you need the **Finance** permission.
• Budget	- To view the FINANCE tab you need the **Finance** permission. - To create and edit the life cycle of consolidated budgets, you need the **Manage Consolidated Budget** permission.	- To view the FINANCE tab you need the **Finance** permission. - To view budgets, you need the **Budget** permission. - To view existing consolidated budgets you need the **View Consolidated Budget**

XS Application Elements	Create and Edit	View
	• To create and edit a specific cost center budget, you need the **Manage Cost Center Budget** permission for the specific cost center instance.	permission.
• Allocation	• To view the FINANCE tab you need the **Finance** permission. • To create, edit, and view allocation scenarios you need the **Manage Allocation Scenarios** permission. • To view allocation scenarios using Cost Explorer, you need the **Manage Allocation Scenarios** permission.	
• Cost	N/A	• To view the FINANCE tab you need the **Finance** permission. • To view Cost Explorer, you nee the **Manage Allocation Scenarios** permission.
Admin	• To access the ADMIN tab but not the tabs in the ADMIN tab, you need the **Admin Access** permission.	• To access the ADMIN tab but not the tabs in the ADMIN tab, you need the **Admin Access** permission.

• Users and Roles
  • User Management
  • Role Management
  • Resource Management
	• To view the ADMIN tab you need the **Admin Access** permission.
	• To modify the contents of the Users and Roles accordion tab you need the **Edit Settings** permission.
		• To view the ADMIN tab you need the **Admin Access** permission.
		• To view the Users and Roles accordion tab you need the **Users and Roles** permission.

• Data Source Management	• To view the ADMIN tab you need the **Admin Access** permission. • To access the Data Source Management page and to activate the content packs you need the **Data Source Management** permission.	
• ETL Management	• To view the ADMIN tab you need the **Admin Access** permission. • To monitor and manage the ETL process for Data Warehouse you need the **ABC Management** permission.	

• Foundation
  • Foundation
  • Single Sign-On
  • Pages
	• To view the ADMIN tab you need the **Admin Access** permission.
	• To edit the contents of the Scorecard settings, Foundation settings, and Data
		• To view the ADMIN tab you need the **Admin Access** permission.
		• To view the Scorecard settings, Foundation settings, and Data Warehouse settings accordion

XS Application Elements	Create and Edit	View

• Website
 	
• Data Warehouse
 	
• Scorecard
  • Dashboard Settings
 	
  • Engine Settings
 	
  • Score Thresholds
 	
  • XS Settings
	Warehouse settings accordion tabs you need the **Edit Settings** permission.	tabs you need the **View Settings** permission.

• ITFM	• To view the ITFM tab in the ADMIN tab , you need the **Admin Access** permission.	• To view the ITFM tab in the ADMIN tab , you need the **Admin Access** permission.
• Semantic Layer	• To view the ADMIN tab you need the **Admin Access** permission.	• To view the ADMIN tab you need the **Admin Access** permission. • To use the Context Designer feature you need the **Context Management** permission.
• Content Acceleration Pack	• To view the ADMIN tab you need the **Admin Access** permission. • To view, edit, delete Content Acceleration Packs, you need the **Content Acceleration Pack** permissions.	
Dashboard	• To add pages, view and modify all the pages in the Dashboard (add components, delete components, and even delete components) you need the **Administer Pages** permission.	• To add pages, view and modify all the pages in the Dashboard (add components, delete components, and even delete components) you need the **Administer Pages** permission. • To configure components on the page you need the **Select KPI** permission
• Specific page in Dashboard	• To view and modify (add components, delete components, and even delete) the relevant page in the Dashboard you need the **Manage Page** permission. • To create a new page in Dashboard you need the **Administer Pages** permission.	• To view a specific page in Dashboard you need the **View Page** permission for that page.

XS Application Elements	Create and Edit	View
	Once the page is created and assigned to a user, a user with the **Manage Page** permission can add components to the page, and modify it.	
• Components on a page	• To view Scorecards you need the **View Scorecard** permission. • To view the contents of the Active KPIs area in all the components filters and to be able to move KPIs from the Active KPIs area to the Selected KPIs area in the filter you need the **Select KPI** permission. • If you do not have this permission, you can, in all the component filters, view the contents of the Selected KPIs area, you cannot modify the selection, and cannot view the contents of the Active KPIs area as the contents are grayed out.	• To view the small black arrow (near the Scorecard title) that indicates that the Scorecard has Cascading Scorecards and to be able to click the arrow to display the Cascading Scorecards for which you has permission you need the **Cascade Scorecard** permission. • If you do not have this permission, the small arrow is not displayed and you do not know that Cascading Scorecards are available. • To view specific Scorecards and data you need the **View Scorecard** permission.
Annotations (in Dashboard and Explorer)	• To edit or delete an existing annotation you need the **Manage Annotation** permission.	• If you do not have this permission, you can only view the annotation and the **Edit** and **Delete** buttons of the annotation are hidden.

Tasks

This section includes:

Create a role

1. Select **Admin** > **Users and Roles** > **Role Management**.

2. In the Roles area, click ✳ to create a new role.

3. Enter the name and description for the role.

4. Click **OK** to save your role.

After creating a role, follow the procedure for attaching permissions and resources.

Edit role details

1. Select **Admin** > **Users and Roles** > **Role Management**.

2. In the Roles area, select a role.

3. In the Role Details area, click **Edit Details**.

4. Edit the role as required and click **OK**.

Attach permissions

1. Select **Admin** > **Users and Roles** > **Role Management**.

2. In the Roles area, select a role.

3. In the Role Details area, click ➕. The Assign Permission to Role wizard opens.

4. Select a permission from the list.

5. Attach a resource to the selected permission, if required.

6. Complete the wizard procedure to save your assignments.

7. Log off from Executive Scorecard and log on again to complete the permission assignments.

Add a resource to a permission

1. Select **Admin** > **Users and Roles** > **Role Management**.

2. In the Roles area, select a role.

3. In the Permissions list select a permission.

4. Click ✏ to open the Assign Resources to Permissions page in the Assign Permission to Role wizard.

5. Select a permission and use the arrows to move the required resources from the Available Resources list to the Selected Resources list.
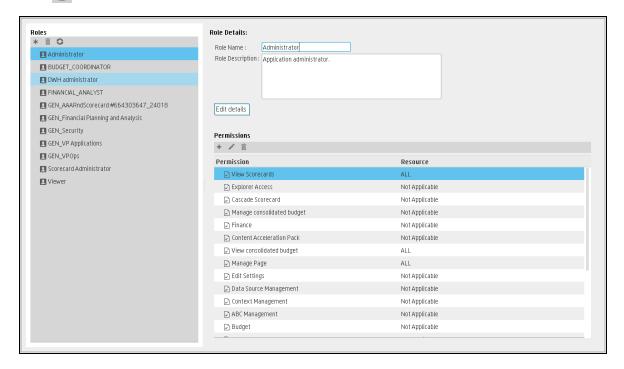
Use Case – Permissions

For details, see Use Case - Permissions in the *Getting Started with IT Executive Scorecard*.

🟢 UI Description
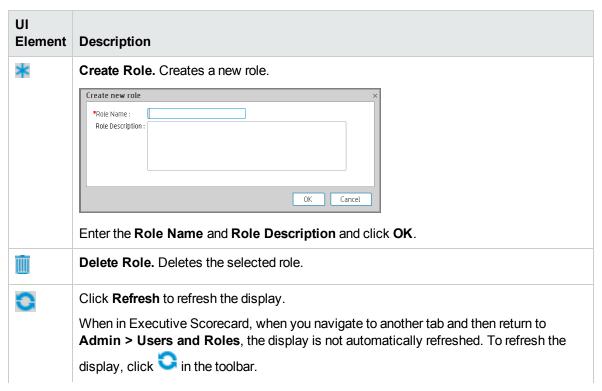
Role Management Page

Click to refresh the page.

Roles Area

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
✳	**Create Role.** Creates a new role. Enter the **Role Name** and **Role Description** and click **OK**.
🗑	**Delete Role.** Deletes the selected role.
🔄	Click **Refresh** to refresh the display. When in Executive Scorecard, when you navigate to another tab and then return to **Admin > Users and Roles**, the display is not automatically refreshed. To refresh the display, click in the toolbar.

UI Element	Description
<Role List>	A list of roles currently defined in the **ADMIN** tab. When you select a role, the details appear in the **Role Details** area and **Permissions** list. For a list of pre-defined roles, see "Pre-Defined Roles" on page 63.

Role Details Area

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Role Name	The name of the selected role.
Role Description	The description of the selected role.
Edit Details	Edits the selected role name and description. Edit role details *Role Name : DWH administrator Role Description : DWH Administrator. OK Cancel
✚	**Attach permission.** Assigns selected permissions to roles. You select permissions using the Assign Permission to Role wizard. For user interface details, see "Assign Permission to Role Wizard" on the next page.
🖊	**Manage permission.** Modifies the selected permission. Opens the Assign Resources to Permissions page in the Assign Permission to Role wizard. For user interface details, see "Assign resources to permissions page" on page 76.
🗑	**Detach permission.** Removes the selected permission from the role.
Permissions List	The list of permissions and resources for the selected role.
Permission	The permission sets and permissions attached to the selected role.
Resources	The list of resources for each permission. **Not Applicable.** None of the available resources apply to this permission. For details, see "Resource Management" on page 57. **<Resource Name>.** The permission is attached to a specific resource.
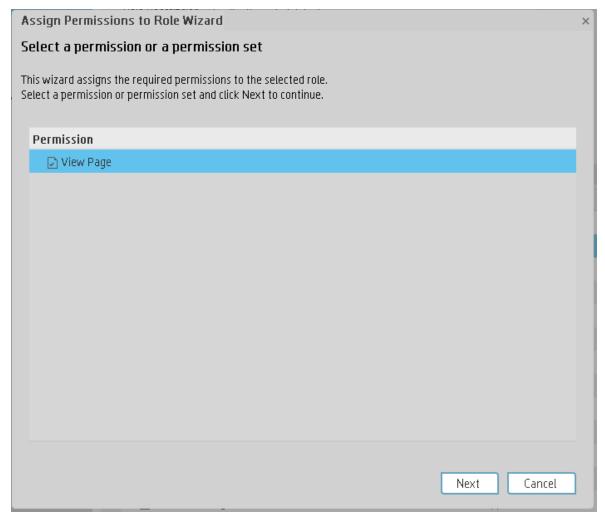
UI Element	Description
	All. The permission is applicable to all resources.

Assign Permission to Role Wizard

This wizard enables you to assign permissions to the selected role, as well as assign resources to the permissions. Click ➕ to access the wizard.

Wizard Map	The Assign Permission to Role wizard contains: **Select Permission Page** > Assign Resources to Permissions Page > Confirmation Page.

Select Permission Page
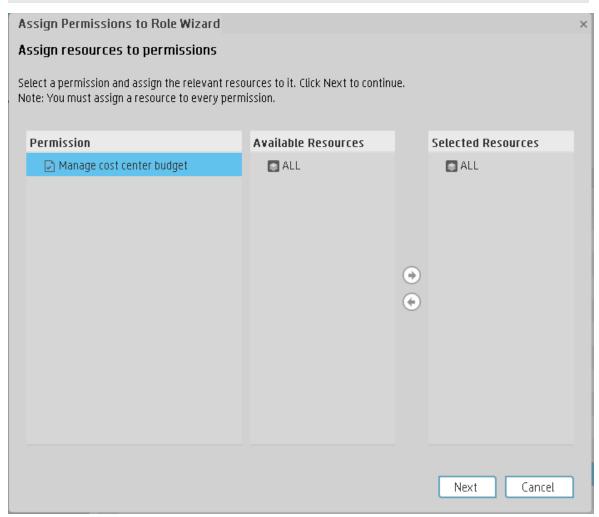
This page may lead directly to the Confirmation page depending on whether the selected permission has resources attached.

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
\<Permissions tree\>	Select a permission from the tree. Displays the pre-defined permissions. For details, see "Pre-Defined Permissions" on page 67.

Assign resources to permissions page
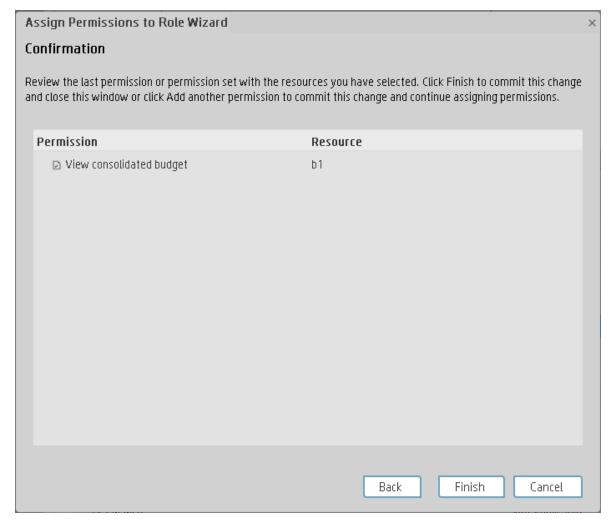
This page only appears if the permissions are applicable for a resource.

Note: Click ✎ to access this page directly.

Assign Permissions to Role Wizard

Assign resources to permissions

Select a permission and assign the relevant resources to it. Click Next to continue.
Note: You must assign a resource to every permission.

Permission	Available Resources	Selected Resources
☑ Manage cost center budget	▤ ALL	▤ ALL

Next   Cancel

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Permission	A tree containing the permissions.
⮕ ⬅	Select a permission and use the arrows to move the required resources from the **Available Resources** list to the **Selected Resources** list.
Available and Selected Resources	Each permission can be applicable for specific resources, for all resources, or not applicable to a resource.

Confirmation Page

Assign Permissions to Role Wizard

Confirmation

Review the last permission or permission set with the resources you have selected. Click Finish to commit this change and close this window or click Add another permission to commit this change and continue assigning permissions.

Permission	Resource
☑ View consolidated budget	b1

Back   Finish   Cancel

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Permission	The permissions assigned to this role.
Resource	The list of resources associated with the each permission.
Add another	Click to commit the current permission and continue in the wizard to add another permission. The "Select Permission Page" on page 75 opens.
Finish	Click to commit the assigned permissions and finish wizard functions.
Cancel	Click to cancel the current assignment. All previous actions in the wizard are still valid.

User Management

The User Management page enables you to add and edit users and groups, as well as add and edit their details.

To access:

Select **Admin** > **Users and Roles** > **User Management** to access the User Management page.

Learn More	Tasks	UI Description

Learn More

Resources, Roles, Permissions, Users, and Groups

- **Resources.** A resource is a logical group of one or more XS application data items (for example application data or components or budgets). Once you define resources, you attach the resource to a permission.
- **Roles and Permissions.** Each role is a set of permissions. Permissions define which actions the user can perform and on which resources. For example, you can create a role that enables its users to create Dashboard pages.
- **Users and Groups.** Each user has a list of roles that define their permissions. When you assign a role, that user only has access to specific portions of the program and specific resources that are relevant to their role. You can also define groups of users with the same roles or access rights. When you attach a user or group to a group, the user or group inherits all of the group's roles.

Managing Users

Users can be managed using either of the following, but not both:

- **Enterprise Users:** Users are created and managed in Executive Scorecard.
- **LDAP Users:** Users are created and managed on your LDAP server which is connected to Executive Scorecard. For details, see "LDAP Management" on page 91.

The Administrator uses the Admin tab to define users that have roles, roles that contain a set of permissions that may contain resources. It is recommended to create resources and attach them to permissions first in the user management process. For details, see "Role Management" on page 63.

Tasks

This section includes:

Search for a user

1. Select **Admin** > **Users and Roles** > **User Management**.

2. In the **Search Users** tab, enter the search criteria.

3. Click **Search**. The relevant users are displayed.

Add a user

When using LDAP for user management, you cannot add LDAP users in Executive Scorecard directly. You must first create them in the LDAP server and then populate them into Executive Scorecard manually. You can remove LDAP users from Executive Scorecard, but they will still exist in the LDAP server.

1. Select **Admin** > **Users and Roles** > **User Management**.

2. In the **Users & Groups** tab, select the group under which you want to add a user and click **Add User** . The Add user dialog box opens.

3. Enter the relevant details.

Add a new group under the root

1. Select **Admin** > **Users and Roles** > **User Management**.

2. In the **Users & Groups** tab, click **Add group under the root** .

3. Enter the **Group Name** and **Group Description** and click **OK**. The group is added under the root.

View permissions and resources for specific users

1. Select **Admin** > **Users and Roles** > **User Management**.

2. Select a user from the **Users & Groups** tab.

3. In the **Roles and Permissions** area, select a role to view the permissions and resources associated with the role.

Assign roles to users or groups

1. Select **Admin** > **Users and Roles** > **User Management**.

2. Select a user or group from the **Users & Groups** tab.

3. In the **Roles and Permissions** area, click **Assign role** ➕. The Assign Roles dialog box opens.

4. Select a role from the **Available Roles** list and use the arrows to move the role to the **Selected Roles** list.

5. Click **OK** to save your selections.

Unassign a role from a group

1. Select **Admin** > **Users and Roles** > **User Management**.

2. Select and expand the **Everyone** group.

3. Delete the role related to your specific Scorecard from the **Everyone** group. This Scorecard can now only be viewed by the Admin.

4. Assign the Manage Scorecards role to the specific users you want to view and manage the Scorecard.

Connect XS Executive Scorecard to an LDAP server

Note: The format of the LDAP folder must be either Microsoft Active Directory or Sun ONE Directory. It cannot be an arbitrary folder structure.

1. In the Management database, in the SETTINGS_MANAGEMENT table, create a new record with the following information:

    - context: **foundation**

    - name: **fnd.uum.type**

    - value: **ldap**

2. Configure the LDAP connection properties and the structure of the LDAP folder using the properties file located at **<installation folder>agora\glassfish\glassfish\domains\BTOA\config\conf\external-ldap.properties**.

    Note:

    - Only connection properties (such as host, port, LDAP version, user, and password) and user/group base dn can be modified.

    - In a Production environment, after you have configured the file external-ldap.properties, you must synchronize the properties file in the XS server and in the DWH server and then

> restart both servers.

3. If SSL is used to access LDAP, certificates must be imported.

Add Additional Pages to Dashboard and Grant Permissions

Users can be granted permissions to perform the following operations on user-defined pages and components: **View page**, **Manage Page** (change and delete specific page) and **Administrate pages** (add pages and full control on all pages in the system).

To create a new page in the Dashboard , contact your administrator. The administrator should:

1. Create the relevant page in HP IT Executive Scorecard.

2. Define the page Instance and Resource. For details, see "Resource Management" on page 57.

3. Give you (the Business Analyst - Dashboard Designer) the needed permissions to update the page. For details, see "Role Management" on page 63.

4. Give the relevant user (executive) the needed permissions to view the page. For details, see"Role Management" on page 63.

Configure User Permissions in Dashboard

Permissions to work with Dashboard components and pages are defined in **Admin > Users and Roles > User Management**.
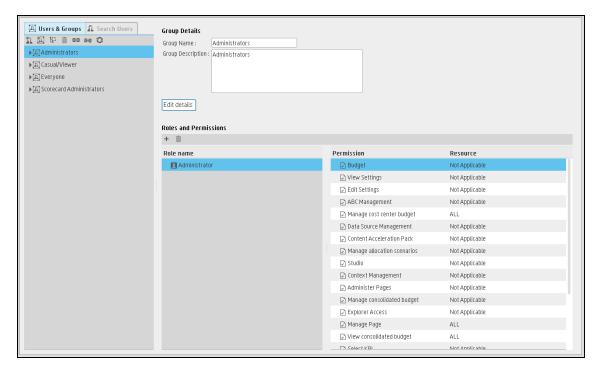
The operations that can be defined for a user are dependent on the area within Dashboard, as follows:

- **Predefined Pages.** These pages are defined out-of-the-box. They have a pre-defined layout but entities are not selected. Users with the relevant permissions can select the relevant entities using the component filters. Depending on their permissions, users can change the component layout in the page and the selections in the component filters. Note that out-of-the-box pages cannot be deleted. More information about the permissions is available in "Role Management" on page 63.

- **User Pages and User Components.** Users can be granted permissions to perform the following operations on user-defined pages and components: **View page**, **Manage Page** (change and delete specific page) and **Administrate pages** (add pages and full control on all pages in the system).

UI Description

User Management Page
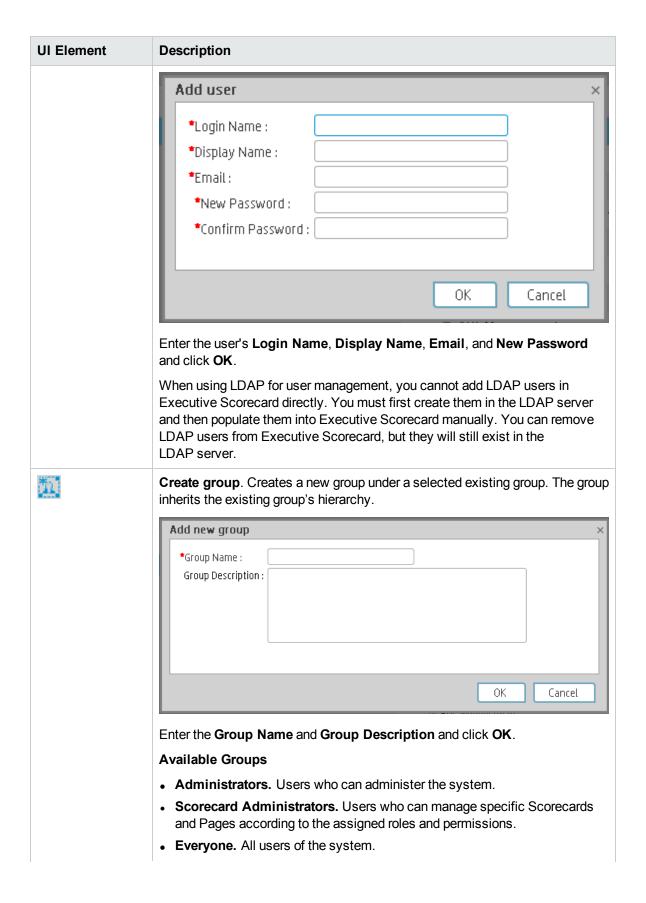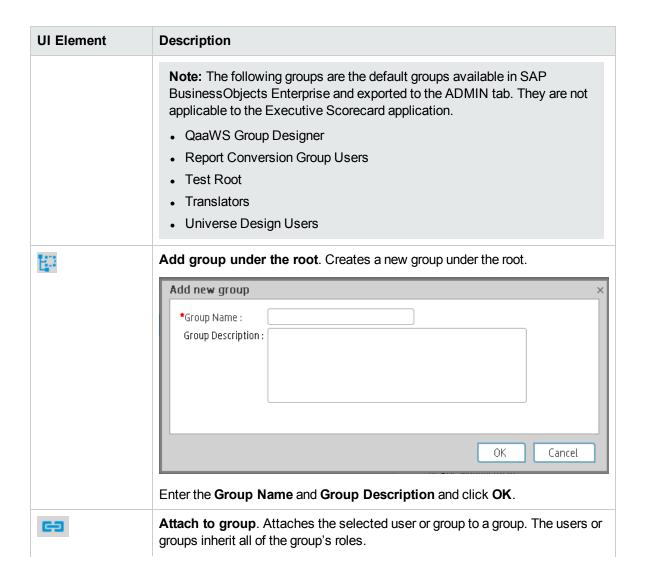
Click to refresh the page.

Users & Groups Tab

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):
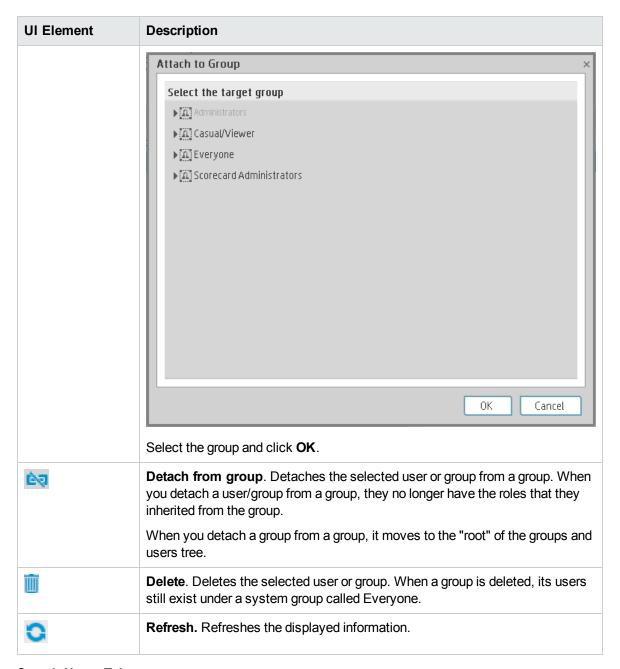
UI Element	Description
Users and Groups tree	A tree containing all of the existing groups and users attached to those groups. To find users that are not attached to a specific group, but are under the group **Everyone**, use the **Search Users** tab. For details, see "Search Users Tab" on page 86. When a user is added to LDAP, it is displayed in the Users and Groups tree after you log on to HP IT Executive Scorecard."Search Users Tab" on page 86
	Create User. Adds a new user under the selected group. The user inherits the group's roles.

UI Element	Description
	Enter the user's **Login Name**, **Display Name**, **Email**, and **New Password** and click **OK**. When using LDAP for user management, you cannot add LDAP users in Executive Scorecard directly. You must first create them in the LDAP server and then populate them into Executive Scorecard manually. You can remove LDAP users from Executive Scorecard, but they will still exist in the LDAP server.
	Create group. Creates a new group under a selected existing group. The group inherits the existing group's hierarchy. Enter the **Group Name** and **Group Description** and click **OK**. **Available Groups** • **Administrators.** Users who can administer the system. • **Scorecard Administrators.** Users who can manage specific Scorecards and Pages according to the assigned roles and permissions. • **Everyone.** All users of the system.

UI Element	Description
	Note: The following groups are the default groups available in SAP BusinessObjects Enterprise and exported to the ADMIN tab. They are not applicable to the Executive Scorecard application. • QaaWS Group Designer • Report Conversion Group Users • Test Root • Translators • Universe Design Users
	Add group under the root. Creates a new group under the root. **Add new group** ✕ *Group Name : Group Description : OK Cancel Enter the **Group Name** and **Group Description** and click **OK**.
	Attach to group. Attaches the selected user or group to a group. The users or groups inherit all of the group's roles.

UI Element	Description
	Attach to Group × Select the target group ▶ Administrators ▶ Casual/Viewer ▶ Everyone ▶ Scorecard Administrators OK Cancel Select the group and click **OK**.
	Detach from group. Detaches the selected user or group from a group. When you detach a user/group from a group, they no longer have the roles that they inherited from the group. When you detach a group from a group, it moves to the "root" of the groups and users tree.
	Delete. Deletes the selected user or group. When a group is deleted, its users still exist under a system group called Everyone.
	Refresh. Refreshes the displayed information.

Search Users Tab

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Search Users	The search criteria.

UI Element	Description
	  To search for users, enter some or all of the user details: **Login Name, Display Name, Email**.
Search	**Search**. Click to search for users that match the criteria entered in the **Search Users** tab.
User Name	A list of all users that match the search criteria.

User Details Pane

Select a user and click **User Details**.

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Login Name/ Group Name	The name of the selected user or group.
Display Name/ Group Description	The description of the selected user or group.
Edit Details	Edits the selected user or group details. Enables you to change a user password.

UI Element	Description
	Update user details ✕ *Login Name : `Hila` *Display Name : `Hila` *Email : `Hila.c@hp.com` New Password : Confirm Password : OK Cancel
Roles and Permissions	The assigned roles and corresponding permissions and resources for the selected user or group.
➕	**Assign role**. Opens the Assign Roles dialog box that enables you to assign a role to the selected user or group.
🗑	**Remove role**. Removes the selected role from the user or group.
Role name	The role assigned to the selected user or group.
Permission	List of permission names contained in the selected role.
Resource	The resource attached to the permission of the selected role. **N/A.** Not Applicable. None of the available resources apply to this permission. **<Resource Name>.** The permission is attached to a specific resource. **All.** The permission is applicable to all resources. For details, see "Resource Management" on page 57.

Assign Roles Dialog Box

Select a role in Roles and Permissions, and click ➕.

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
	Select a role from the **Available Roles** list and use the arrows to move the role to the **Selected Roles** list.
Available and Selected Roles	Each user or group can have one or more assigned roles.
Permission details	The read-only details about the permissions and corresponding resources for the selected role.
Resource	The list of resources for each permission: • **Not Applicable.** Used for permissions that do not require a specific resource setting.

UI Element	Description
	• **<Resource Name>.** The permission refers to a specific resource. • **All.** The permission is applicable to all resources.

LDAP Management

The LDAP Management page enables you to add and edit users and groups, as well as add and edit their details.

Users can be managed using either of the following, but not both:

- **Enterprise Users:** Users are created and managed in Executive Scorecard.

- **LDAP Users:** Users are created and managed on your LDAP server which is connected to Executive Scorecard. For details, see "LDAP Management" above.

The Administrator uses the Admin tab to define users that have roles, roles that contain a set of permissions that may contain resources. It is recommended to create resources and attach them to permissions first in the user management process. For details, see "Role Management" on page 63.

To access:

Select **Admin** > **Users and Roles** > **LDAP Management** to access the LDAP Management page.

| Learn More | Tasks | UI Description |

Learn More

Users and authentication when working with SAP BusinessObjects and LDAP or without

The users and authentication when working with or without SAP BusinessObjects and LDAP is as follows:

Operation	Working without SAP BusinessObjects and without LDAP	Working with SAP BusinessObjects and without LDAP	Working with SAP BusinessObjects and with LDAP
Manage users (create, remove, update)	In Executive Scorecard, in **Admin > Users and Roles**.	Users are created in Executive Scorecard, in **Admin > Users and Roles**. Users created in Executive Scorecard are automatically transferred to SAP BusinessObjects. If a user is created in SAP BusinessObjects, it does not appear in the list of users in Executive Scorecard.	Users are created in LDAP. If LDAP configures successfully, XS loads all the user information from LDAP automatically .
Passwords	Passwords can be changed	Passwords can be changed	Passwords are created

Operation	Working without SAP BusinessObjects and without LDAP	Working with SAP BusinessObjects and without LDAP	Working with SAP BusinessObjects and with LDAP
	in the **User Details** pane of the User Management page in Executive Scorecard. Click **Edit Details** to change a user's password.	in the **User Details** pane of the User Management page in Executive Scorecard. Click **Edit Details** to change a user's password. A password created in Executive Scorecard is automatically transferred to SAP BusinessObjects for the relevant user.	and stored in LDAP.
Roles, permissions, and groups	In Executive Scorecard, in **Admin > Users and Roles**.	In Executive Scorecard, in **Admin > Users and Roles**.	In Executive Scorecard, in **Admin > Users and Roles**.

Note:

- The format of the LDAP directory must be either Microsoft Active Directory or Sun ONE Directory. It cannot be an arbitrary directory structure.

- Active Directory provides two password options:

  - Option 1 - You must change the password at the next log on.

  - Option 2 - Password never expires.

  HP IT Executive Scorecard only supports the second option. If you want to use the first option, you must log on to another system (not HP IT Executive Scorecard) the first time to change the password, and then use the new password to log on HP IT Executive Scorecard.
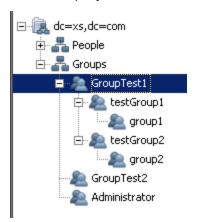
- When a user is added to LDAP, it is displayed in the Users and Groups tree after you log on to HP IT Executive Scorecard.

- When working with LDAP, you must make sure that LDAP is connected to Executive Scorecard and to SAP BusinessObjects. For details, see "Create a connection" on page 94.

- Executive Scorecard only supports the LDAP tab with Active Directory as a server type on that tab. Active Directory authentication via the active directory tab is not supported. For details, see "Manage users using LDAP - Manual Procedure" on page 98.

- We recommend to use LDAP for secure passwords and better password validation.

Searches for LDAP user groups

The root group filter specifies the groups that will be listed as the root group in XS. The group filter specifies the child groups that will be listed under the root groups.

The group scope should include the root groups and some of the child groups listed under the root group.

If, for example,you have the following configuration in the LDAP server:
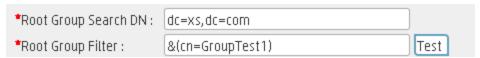
And you want to display the below group in XS:
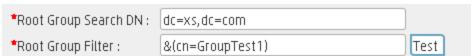
- If you click **Test** for the **Root Group Filter**, you only need to specify the **Root Group Search DN** and the **Root Group Filter** values.

  The **Root Group Search DN** is the starting search node and **dc=hpxs,dc=com** points to the root node. The Root Group Filter is used to locate the specific node: **GroupTest1**.
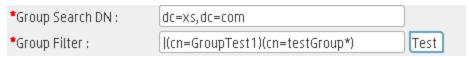
- If you click **Test** for the **Group Filter**, you must specify the **Root Group Search DN**, the **Root Group Filter**, the **Group Search DN**, the **Group Filter**values. In such a case make sure that the Group scope includes the Root Group scope.

  The **Root Group Search DN** is the starting search node and **dc=hpxs,dc=com** points to the root node. The Root Group Filter is used to locate the specific node: **GroupTest1**.

  Then the **Group Search DN** must include the root group value specified in the **Root Group Search DN** and the relevant child groups under the root group.

  In our example, the **Group Filter** should contain the root group: **GroupTest1** and the child groups: **testGroup1** and **testGroup2**.

LDAP and the Licenses

LDAP support the XS license set up. For details, see "Licenses" on page 46.

You create and manage users on your LDAP server which is connected to Executive Scorecard. The XS Administrator uses the ADMIN tab to define users that have roles, roles that contain a set of permissions that may contain resources. It is recommended to create resources and attach them to permissions first in the user management process. For details, see "Role Management" on page 63.

Tasks

This section includes:

Check if LDAP mode is enabled

1. In the XS application, click **Admin > Users and Roles > LDAP Management**.
2. If the LDAP configuration has already been updated, a Warning message: **You have updated the LDAP configuration. Restart the server.** is displayed. Restart the server.

   If the configuration is not complete, enter the relevant values in the fields, and click **Save**. Then restart the server.

Create a connection

Note:

If you work in a Development/Test/POC environment, configure LDAP to connect separately with:

- the Executive Scorecard server.
- the SAP BusinessObjects Enterprise server.

If you work in a Production environment, configure LDAP to connect separately with:

- the Executive Scorecard server.
- the Data Warehouse server.
- the SAP BusinessObjects Enterprise server.

You create a connection and verify that the server information is correct.

1. After you enter the server information in the LDAP Management page, click **Connect**.

2. If the connection is created successfully, the server information fields are locked. You can then:

   a. Enter the information in the remaining fields

   b. Click **Disconnect** to input different information in the server information fields.

3. When you check the **SSL** mode, the XS server attempts to connect with the LDAP server.

   If the server cannot perform the connection, the following error message is issued:
   The XS server cannot connect to the LDAP server.
   Make sure all the relevant certificates are imported.
   After the relevant certificates are imported, restart the XS server.

   In such a case, make sure that the relevant certificates are imported. After the import of the relevant certificates completes, restart the server.

4. If you need to import a certificate from a third-party Certificate Authority (CA) or if you need to generate a self-certificate:

   a. Make sure the certificate is supported by the LDAP server.

   b. Import the certificate using the following command:

      <HPXS>\agora\jdk\bin\keytool -import -trustcacerts -alias hpxsldap-ssl -file <Certificate File Path> -keystore <HPXS>\agora\jdk\jre\lib\security\ cacerts

   c. At the **Enter keystore password:** prompt, enter **changeit**.

   d. Enter **yes** to continue.

   e. Expand **HP Executive Scorecard > Administration**, click **Disable HP Executive Scorecard**, and then click **Enable HP Executive Scorecard**.

Test the input fields

After verifying that the server information is correct and enables the connection to the server, test users with the Admin role.

1. After you enter the base and filter values for the root group, group, or user, click the relevant **Test** button to see whether there are results or not.

   - Root group info should only show the root group.

   - Group info should only show the group tree.

   - User info should show all users.

For additional information, see .

2. You can also select some of the LDAP users. These users will be assigned the Admin role, in the XS application, to these users.

Save and disable an LDAP configuration

After you have saved the LDAP configuration, the status of the LDAP changes to **Enabled** and displays a warning message: **You have updated the LDAP configuration. Restart the server.**

After the LDAP Admin disables the LDAP mode:

- The users and groups used by XS are loaded from the XS local database and not from the LDAP server anymore.

- The LDAP Admin must create a new XS Admin user.

  If the XS Administrator name is the same as the BOE Administrator name (BOE Administrator was created during the installation of XS), then the BOE Administrator password is the same as the XS Admin password.

Configure LDAP

1. In the XS application, click **Admin > Users and Roles > LDAP Management**.

2. In the LDAP Management page, enter the server information. Click **Connect**.

3. Enter all the DN and filter fields, and click **Test** in turn for the Test Root Group, the Test group, the Test Users, and then click **...** to select the users.

4. Click **Save**. A warning to restart the server is issued. Click **OK** to do so.

Configure BOE to work with LDAP

Make sure you use the LDAP Authentication option:

1. From the Windows Start menu, click **Programs > BusinessObjects XI 3.1 > BusinessObject Enterprise > BusinessObjects Enterprise Central Management Console**.

2. Log on to the Central Management Console as an administrator.

3. Click **Authentication**, then click the **LDAP** tab.

4. Click **Start LDAP Configuration Wizard**.

5. In the **Add LDAP Host** (hostname: port) field, type your host and port information.

6. Click **Add**.

7. Click **Next**.

8. In the **LDAP Server Type** drop-down list, select your LDAP server, and click **Next**. This is where you select the type of server you are using: **Sun One** or **Active Directory**.

    a. If you select **Active Directory**, click **Show Attribute Mappings**.

    b. Then, in the **Default User Search Attribute** field, change the value from **cn** to **sAMAccountName**.

    c. Then, in the **User Name** field, change the value from **cn** to **sAMAccountName**.

9. In the **Base LDAP Distinguished Name** field, type the distinguished name, and click **Next**.

10. Type the LDAP host credentials:

    a. **LDAP Server Administration Credentials:** Enter the name and password for a user account that has rights to administer your LDAP server.

    b. **LDAP Referral Credentials:** Enter the same name and password you entered for LDAP Server Administration Credentials.

11. In the **Maximum Referral Hops** field, type the number of referral hops to limit forwarding the credential request. If you set this field to zero, no referral hops are allowed.

12. Click **Next**.

13. In the **Type of SSL** authentication drop-down list, select **Basic (no SSL)** and click **Next**.

14. In the **Authentication** drop-down list, select **Basic (no SSO)** and click **Next**.

15. Select the following LDAP options:

    a. **Create a new account for every added LDAP alias**

    b. **Create new aliases when Alias Update occurs**

    c. **New users are created as named users**

16. Click **Next**.

17. Click **Finish**.

Set up so XS users can use and view BOE reports in the XS application

To set up so XS users can use and view BOE reports in the XS application, the Admin must join a LDAP group to the group in the BOE that has permission to see the Reports. Then all the users in this LDAP group will have permission to use and see the BOE reports.

1. a. From the Windows Start menu, click **Programs > BusinessObjects XI 3.1 > BusinessObject Enterprise > BusinessObjects Enterprise Central Management Console**.

    b. Log on to the Central Management Console as an administrator.

    c. Click **Authentication**, then click the **LDAP** tab.

2. Locate the **Add LDAP group (by cn or dn)** field in the LDAP screen. Enter the Group Name configured in the LDAP Server, and click **Add**. Scroll downwards and click **Update**.

3. Navigate to **Home > Group List**, right-click the group added in the previous and select **Member Of**. The Member Of dialog box opens.

4. Click **Join Group**.

5. Navigate to **Group List**, select a group that has authority to view the BO reports, and then click

the right arrow (**>**) to add it to the **Destination Group**.

6. Click **OK**.

Manage users using LDAP – Manual Procedure

1. To assign roles and permissions to LDAP users:

   a. To add users with the ADMIN role, run the following script:

      <HPXS ROOT>\agora\glassfish\glassfish\domains\BTOA\config\population\populate-admin-detail.bat
      <user_ID><password> <firstname> <lastname> <e-mail>

   b. To add users with the EVERYONE role, run the following script:

      <HPXS ROOT>\agora\glassfish\glassfish\domains\BTOA\config\population\populate-user-detail.bat
      <user_ID><password> <firstname> <lastname> <e-mail>

   c. To add users as ADMIN role without password, run the following script:

      <HPXS ROOT>\agora\glassfish\glassfish\domains\BTOA\config\population\populate-admin-detail-noPwd.bat <user_ID <firstname> <lastname> <e-mail>

   d. To add users as EVERYONE role without password, run the following script:

      <HPXS ROOT>\agora\glassfish\glassfish\domains\BTOA\config\population\populate-user-detail-noPwd.bat
      <user_ID><firstname> <lastname> <e-mail>

      Where:

      ○ **<user_ID>** and **<password>** are the LDAP user name and password.

      ○ **<firstname>, <lastname>** are the user names displayed in XS. You can assign permissions, or delete the users in the **Admin** > **Users and Roles** > **Role Management**. For details, see "Role Management" on page 63.

      ○ **<email>** is the email of the user.

   > **Tip:**
   >
   > • It is recommended to create the users without password as such users can only log on under LDAP mode. Users defined with passwords can log on using the password even when LDAP is off.
   >
   > • At least one administrator user should be created to be used to perform the administration work.

2. If SSL is used to access LDAP, you must import the relevant certificates.

Configure XS to work with LDAP – Advanced LDAP Configuration

> **Note:** Use this advanced procedure only if the wizard described in the UI Description section is not sufficient for your purposes. For details, see " UI Description" on page 117.

To configure XS to work with LDAP:

1. **Database changes.** In the Management database, in the SETTINGS_MANAGEMENT table create a new record with:

   - **context=foundation**

   - **name=fnd.uum.type**

   - **value=ldap**

2. **external-ldap.properties.** Define groups and users in LDAP. In the **<HPXS>\agora\glassfish\glassfish\domains\BTOA\config\conf\external-ldap.properties** file, enter the relevant parameter values or use the provided default:

Parameter	Description
ldapversion	**3** - LDAP V3. **2** - LDAP V2. **Default:** 3 **Example:** ldapVersion = 3
ldapHost	The name of the machine running the LDAP server. **Default:** localhost **Example:** ldapHost = ldap.hp.com
ldapPort	The port number of the machine running the LDAP server. **Default:** 389 **Example:** ldapPort = 636
useAdministrator	**true.**The LDAPConnection is created with the provided Administrator username and password. **false.** The LDAPConnection is created without username/password. **Default:** false

Parameter	Description
	Note: If you work with LDAP V2, the LDAP connection must be created with the administrator username and password, so you must set useAdministrator = true.
	Example: useAdministrator = true
ldapAdministrator	The Administrator logon name used for creating the initial LDAP connection. The parameter is ignored if useAdministrator=false. **Default:**CN=Administrator
	Example: ldapAdministrator = CN=Administrator
ldapAdministrator Password	The Administrator logon password used for creating initial LDAPConnection. The parameter is ignored if useAdministrator=false. **Default:** <empty_value>
enableSSL	**true** - If the customer requires the SSL connection to LDAP. The SSL connection to the port defined in ldapPort property is attempted. **false** - Default. **Default:** false
	Example: enableSSL = false
baseDistinguish NameDelimiter	The regular expression used to separate names in parameters that accept a number of different names, like **usersBase**, **groupsBase**, and more. **Default:** \\s*;\\s*
	Example: baseDistinguishNameDelimiter = \\s*;\\s*
scopeDelimiter	The regular expression used to separate search scope string (SCOPE_SUB, SCOPE_ONE, SCOPE_BASE) in parameters that accept a number of different search scopes, like **usersScope**, **groupsScope**, and more. **Default:** \\s*,\\s*
	Example: scopeDelimiter = \\s*,\\s*
usersBase	The base DN (distinguished name) for users search.

Parameter	Description
	Default: dc=example, dc=com
	Example: usersBase = ou=People,dc=hp, dc=com
usersScope	**SCOPE_SUB** - The user search is a recursive search in the tree defined in **usersBase** property.
	SCOPE_ONE - The user search is performed across one level (direct children only) in the tree defined in **usersBase** property.
	SCOPE_BASE - The user search returns one entry maximum, as indicated in the **usersBase** property.
	Default: SCOPE_SUB
	Example: usersScope = SCOPE_SUB, SCOPE_SUB
usersFilter	The search filter, indicating what instances should be returned from the LDAP search.
	Default: (&(uid=*)(objectclass=inetOrgPerson))
	Example: usersFilter = (&(uid=*) (objectclass=inetOrgPerson))
enableNestedGroups	**true** - The users and groups search works recursively and looks for all users in subgroups returned by the groups search filter.
	false - The users and groups search looks for users in the results by the groups search filter (it does not include subgroups.
	Default: true
	Example: enableNestedGroups = true
maximalAllowedGroups HierarchyDepth	The maximum allowed groups hierarchy depth.
	This parameter is relevant only if **enableNestedGroups=true**.
	A negative value allows unlimited depth.
	Default: 10
	Example: maximalAllowedGroupsHierarchyDepth = 10
enableDynamicGroups	**true**- The search executes a URL query to bring all users for dynamic groups.

Parameter	Description
	false - The dynamic groups URLs are ignored by the URL query. **Default:** false **Example:** enableDynamicGroups = true
groupsBase.	The base dn (distinguished name) for groups search. **Default:** <userBase value> **Example:** groupsBase = ou=Groups,dc=hp, dc=com
groupsScope	**SCOPE_SUB** - The group search is a recursive search in the tree defined in **groupsBase** property. **SCOPE_ONE** - The group search is performed across one level (direct children only) in the tree defined in **groupsBase** property. **SCOPE_BASE** - The group search returns one entry maximum, as indicated in the **groupsBase** property. **Default:**SCOPE_SUB **Example:** groupsScope = SCOPE_SUB
groupsFilter	The search filter, indicating what instances should be returned from the LDAP search. **Default:** (|(objectclass=groupOfNames)(objecclass=groupOfUniqueNames)(objectclass=groupOfUrls)(objectclass=accessGroup)(objectclass=accessRole)) **Example:** groupsFilter = (|(objectclass=groupOfNames)(objectclass=groupOfUniqueNames)(objectclass=groupOfUrls)\ (objectclass=accessGroup)(objectclass=accessRole))
rootGroupsBase	The base dn (distinguished name) for root groups search. **Default:**<usersBase value> **Example:** rootGroupsBase = ou=People,dc=hp, dc=com

Parameter	Description
groupsScope	**SCOPE_SUB** - The root group search is a recursive search in the tree defined in **groupsBase** property.
	SCOPE_ONE - The root group search is performed across one level (direct children only) in the tree defined in **groupsBase** property.
	SCOPE_BASE - The root group search returns one entry maximum, as indicated in the **groupsBase** property.
	Default:SCOPE_SUB
	Example: rootGroupsScope = SCOPE_SUB
rootGroupsFilter	The search filter, indicating what instances should be returned from the LDAP search.
	Default:
	(|(objectclass=groupOfNames)(objecclass=groupOfUniqueNames)(objectclass=groupOfUrls)(objectclass=accessGroup)(objectclass=accessRole))
	Example: rootGroupsFilter = (|(objectclass=groupOfNames)(objectclass=groupOfUniqueNames)(objectclass=groupOfUrls)\(objectclass=accessGroup)(objectclass=accessRole))
rolesBase	The base dn (distinguished name) for roles search.
	Default: <usersBase value>
	Example: rolesBase = ou=People,dc=hp, dc=com
rolesScope	**SCOPE_SUB** - Theroles search is a recursive search in the tree defined in **rolesBase** property.
	SCOPE_ONE - The roles search is performed across one level (direct children only) in the tree defined in **rolesBase** property.
	SCOPE_BASE - The roles search returns one entry maximum, as indicated in the **rolesBase** property.
	Default: SCOPE_SUB
	Example: rolesScope = SCOPE_SUB
rolesFilter	The search filter, indicating what instances should be

Parameter	Description
	returned from the LDAP search. **Default:** (|(objectclass=groupOfNames)(objecclass=groupOfUniqueNames)(objectclass=groupOfUrls)(objectclass=accessGroup)(objectclass=accessRole)) **Example:** rolesFilter = (|(objectclass=groupOfNames)(objectclass=groupOfUniqueNames)(objectclass=groupOfUrls)\(objectclass=accessGroup)(objectclass=accessRole))
rootRolesBase	The base dn (distinguished name) for root roles search. **Default:**<usersBase value> **Example:** rootRolesBase = ou=People,dc=hp, dc=com
rootRolesScope	**SCOPE_SUB** - The root groups search is a recursive search in the tree defined in **groupsBase** property. **SCOPE_ONE** - The root groups search is performed across one level (direct children only) in the tree defined in **groupsBase** property. **SCOPE_BASE** - The root groups search returns one entry maximum, as indicated in the **groupsBase** property. **Default:** SCOPE_SUB **Example:** rootRolesScope = SCOPE_SUB
rootRolesFilter	The search filter, indicating what instances should be returned from the LDAP search. **Default:** (|(objectclass=groupOfNames)(objecclass=groupOfUniqueNames)(objectclass=groupOfUrls)(objectclass=accessGroup)(objectclass=accessRole)) **Example:** rootRolesFilter = (|(objectclass=groupOfNames)(objectclass=groupOfUniqueNames)(objectclass=groupOfUrls)\(objectclass=accessGroup)(objectclass=accessRole))

Parameter	Description
enableDynamicRoles	**true**- The search executes a URL query to bring all users for dynamic groups. **false** - The dynamic groups URLs are ignored by the URL query. **Default:** false **Example:** enableDynamicRoles = true
enableNestedRoles	**true**- The users and groups search are recursive and looks for all users in subgroups returned by the group search filter. **false** - The users and groups search looks for users in the results by the group search filter (it does not include subgroups. **Default:** true **Example:** enableNestedRoles = true
maximalAllowedRoles HierarchyDepth	The maximum allowed groups hierarchy depth. This parameter is relevant only if **enableNestedGroups=true**. A negative value allows unlimited depth. **Default:** 10 **Example:** maximalAllowedRolesHierarchyDepth = 10
SIZELIMIT	This variable limits the total number of results, returned from LDAP by one search. **0** - no limit. LDAP may be (and usually is) configured to limit this number for non-administrators. In this case, the application may receive less results then expected. The usual limit is **1000**. **Default:** 0 **Example:** SIZELIMIT = 0
TIMELIMIT	This variable limits the total number of times spent by LDAP on one search. **0** - no limit. LDAP may be (and usually is) configured to limit this number for non-administrators. In this case, the application may

Parameter	Description
	receive less results then expected. **Default:** 0 **Example:** TIMELIMIT = 0
REFERRALS	Some objects in LDAP may be just referrals to another LDAP that contains the required information. **true** - The search follows the references automatically, till the number indicated by the **REFERRALS_HOP_LIMIT** property. **false** - The search may not return all required results. This also happens when the number of HOPs is exceeded. **Default:** true **Example:** REFERRALS = false
REFERRALS_HOP_LIMIT	The number of times the referrals are followed, until the exception is thrown terminating the search. **Default:** 10 **Example:** REFERRALS_HOP_LIMIT = 10
ldapReferralHost	Referrals credentials (if needed). If ldapHost is defined as: - An IP, set ldapReferralHost as an IP. - A DNS name, set ldapReferralHost as a DNS name. - A string, for example LDAP host = ldap://test.net, port=389, set "ldapReferralHost = test.net", and set "ldapReferralPort = 389". **Example:** ldapReferralHost = test.net
ldapReferralPort	LDAP connections are to port 389, or 636 for secure connections. This searches the Active Directory (AD) Domain. For Active Directory: Use an LDAP search port and not a Global Catalog search port. **Default:** 389 (636 for secure connections) **Tip:** It is not recommended to use the Global Catalog

Parameter	Description
	LDAP connections: 3268 and 3269 (secure) that perform Forest wide searches (multiple domain searches). **Example:** ldapReferralPort = 389
ldapReferralUser	The username (used for creating referral LDAP Connection). **Default:** cn=Directory Manager **Example:** ldapReferralUser cn=Directory Manager
ldapReferralPassword	The password (used for creating referral LDAPConnection). **Default:** <empty password> **Example:** ldapReferralPassword = mercurypw
baseReferralDelimiter	The regular expression used to separate values in above referral parameters. **Example:** baseReferralDelimiter = \\s*;\\s*
ldapAuthNUsers ReferralBase	The base for authentication with users from referral. Specify only if you want to authenticate with users from the referred LDAP. **Example:** ldapAuthNUsersReferralBase = dc=test,dc=net
BATCHSIZE	The minimal size of chunks that must be received before the result may be processed. This parameter influences only the efficiency of lazy reading of the search results. **Default:** 1 **Example:** BATCHSIZE = 1
MAXBACKLOG	The size of queue, waiting for BATCH results, if BATCHSIZE is not 0. This parameter influences only the efficiency of lazy reading of the search results. **Default:** 1000

Parameter	Description
	Example: MAXBACKLOG = 1000
attributeValuesDelimiter	The regular expression used to separate attribute names in parameters that accept a number of different attribute names, as **usersObjectClass**, **usersUniqueIDAttribute**, and more. **Default:** \\s*;\\s* **Example:** attributeValuesDelimiter = \\s*;\\s*
usersObjectClass	The object class used for storing the users information. **inetOrgPerson** - for SunOne Directory. **user** - for Microsoft Active Directory. **Default:** inetOrgPerson **Example:** usersObjectClass = inetOrgPerson
usersUniqueIDAttribute	The unique ID attribute. This attribute should store the actual login name of the user. The dn search and authentication functions suppose that this attribute is unique. **uid** - for SunOne Directory. **sAMAccountName** - for Microsoft Active Directory. **Default:** uid **Example:** usersObjectClass = inetOrgPerson
usersDisplayName Attribute	The attribute used to store the user's display name. The uniqueness of this attribute is not required. **cn** - for SunOne Directory. **cn** - for Microsoft Active Directory. **Default:** cn **Example:** usersDisplayNameAttribute = cn
usersLoginNameAttribute **usersFirstNameAttribute** **usersLastNameAttribute** **usersEmailAttribute** **usersPreferredLanguage Attribute**	The default attributes that are supported ad hoc in the BSFPrincipal object. **Default:**Defaults are given for the SunOne directory server. usersLoginNameAttribute = **uid** usersFirstNameAttribute = **givenName** usersLastNameAttribute = **sn**

Parameter	Description
usersPreferredLocation Attribute **usersTimeZoneAttribute** **usersDateFormatAttribute** **usersNumberFormatAttribute** **usersWorkWeekAttribute** **usersTenantIDAttribute**	usersEmailAttribute = **mail** usersPreferredLanguageAttribute = **preferredLanguage** usersPreferredLocationAttribute = **l** usersTimeZoneAttribute = **undefinedAttribute** usersDateFormatAttribute = **undefinedAttribute** usersNumberFormatAttribute = **undefinedAttribute** usersWorkWeekAttribute = **undefinedAttribute** usersTenantIDAttribute = **undefinedAttribute**
groupsObjectClass	The object class used for storing the static group information. **groupOfUniqueNames** - for SunOne Directory. **group** - for Microsoft Active Directory. **Default:** groupOfUniqueNames **Example:** groupsObjectClass = groupOfUniqueNames
groupsMembersAttribute	Attribute used to store the group's member information. **uniqueMember** - for SunOne Directory. **member** - for Microsoft Active Directory. **Default:** uniqueMember **Example:** groupsMembersAttribute = uniqueMember, member
groupsNameAttribute	Attribute used to store the group name. The uniqueness of this attribute is not required. **cn** - for SunOne Directory. **cn** - for Microsoft Active Directory. **Default:** cn **Example:** groupsNameAttribute = cn
groupsDisplayName Attribute	Attribute used to store the group's display name. The uniqueness of this attribute is not required. **cn** - for SunOne Directory. **cn** - for Microsoft Active Directory. **Default:** cn **Example:** groupsDisplayNameAttribute = cn

Parameter	Description
groupsDescription Attribute	Attribute used to store the group's description. The uniqueness of this attribute is not required. **description** - for SunOne Directory. **description** - for Microsoft Active Directory. **Default:** description **Example:** groupsDescriptionAttribute = description
dynamicGroupsClass	The object class used for storing the dynamic groups information. **groupOfUrls** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:** groupOfUrls **Example:** dynamicGroupsClass = groupOfUrls
dynamicGroupsMember Attribute	Attribute used to store the search URL, defining the members of the dynamic group. **memberUrl** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:** memberUrl **Example:** dynamicGroupsMemberAttribute = memberUrl
dynamicGroupsName Attribute	Attribute used to store the dynamic group name. The uniqueness of this attribute is not required. **cn** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:** cn **Example:** dynamicGroupsNameAttribute = cn
dynamicGroupsDisplay NameAttribute	Attribute used to store the dynamic group's display name. The uniqueness of this attribute is not required. **cn** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:** cn **Example:** dynamicGroupsDisplayNameAttribute = cn

Parameter	Description
dynamicGroups DescriptionAttribute	Parameter used to store the dynamic group's description. The uniqueness of this attribute is not required. **description** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:** description **Example:** dynamicGroupsDescriptionAttribute = description
useBottomUpAlgorithm ForFindParent GroupsOfUserPlain	This parameter is used for optimization of function **FindParentGroupsOfUserPlain**. **true** - The algorithm should be the false, but for some LDAP Configurations it is possible that value false will be better. **false** - Change to **false** only if you experience performance issues with this specific function. **Default:**true **Example:** useBottomUpAlgorithmForFindParent GroupsOfUserPlain = true
notAGroupAttribute	When the search group is from LDAP, if the DN (distinguished name) includes these values, it is filtered and not treated as a group type. **Default:**uid, samaccountname **Example:** notAGroupAttribute = uid, samaccountname
rolesObjectClass	Object class used for storing the static role information. **Default:**groupOfUniqueNames **Example:** rolesObjectClass = groupOfUniqueNames, groupOfNames
rolesMembersAttribute	Attribute used to store the role's member information. **uniqueMember** - for SunOne Directory. **member** - for Microsoft Active Directory. **Default:**uniqueMember **Example:** rolesMembersAttribute = uniqueMember, member

Parameter	Description
rolesNameAttribute	Attribute used to store the role name. The uniqueness of this attribute is not required. **cn** - for SunOne Directory. **cn** - for Microsoft Active Directory. **Default:** cn **Example:** rolesNameAttribute = cn
rolesDisplayName Attribute	Attribute used to store the role display name. The uniqueness of this attribute is not required. **cn** - for SunOne Directory. **cn** - for Microsoft Active Directory. **Default:** cn **Example:** rolesDisplayNameAttribute = cn
rolesDescriptionAttribute	Attribute used to store the role description. The uniqueness of this attribute is not required. **description** - for SunOne Directory. **description** - for Microsoft Active Directory. **Default:** description **Example:** rolesDescriptionAttribute = description
dynamicRolesClass	Object class used for storing the dynamic roles information. **groupOfUrls** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:** groupOfUrls **Example:** dynamicRolesClass = groupOfUrls
dynamicRolesMember Attribute	Attribute used to store the search URL, defining the members of the dynamic role. **memberUrl** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:**memberUrl **Example:** dynamicRolesMemberAttribute = memberUrl
dynamicRolesName	Attribute used to store the dynamic role name. The

Parameter	Description
Attribute	uniqueness of this attribute is not required. **cn** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:**cn **Example:** dynamicRolesNameAttribute = cn
dynamicRolesDisplay NameAttribute	Attribute used to store the dynamic role display name. The uniqueness of this attribute is not required. **cn** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:**cn **Example:** dynamicRolesDisplayNameAttribute = cn
dynamicRoles DescriptionAttribute	Parameter used to store the dynamic role description. The uniqueness of this attribute is not required. **description** - for SunOne Directory. Microsoft Active Directory is not supported. **Default:**description **Example:** dynamicRolesDescriptionAttribute = description
notARoleAttribute	When the search group is from LDAP, if the DN (distinguished name) includes these values, it is filtered and not treated as a role type. **Default:** uid, samaccountname **Example:** notARoleAttribute = uid, samaccountname
vlvUsersBase	Base dn (distinguished name) for users search for Virtual List View (VLV) API. **Default:**dc=example, dc=com **Example:** vlvUsersBase = ou=People,dc=hp, dc=com
vlvUsersScope	**SCOPE_SUB** - The users search for Virtual List View (VLV) API is a recursive search in the tree defined in **usersBase** property. **SCOPE_ONE** - The users search for Virtual List View (VLV)

Parameter	Description
	API is performed across one level (direct children only) in the tree defined in **usersBase** property. **SCOPE_BASE** - The users search for Virtual List View (VLV) API returns one entry maximum, as indicated in the **usersBase** property. **Default:**SCOPE_SUB **Example:** vlvUsersScope = SCOPE_SUB
vlvUsersFilter	Search filter, indicating what instances should be returned from the LDAP search for Virtual List View (VLV) API. **Default:**(&(uid=*)(objectclass=inetOrgPerson)) **Example:** vlvUsersFilter = (&(uid=*)(objectclass=inetOrgPerson))
vlvGroupsBase	Base dn (distinguished name) for groups search for Virtual List View (VLV) API. **Default:**dc=example, dc=com **Example:** vlvGroupsBase = ou=Groups, dc=hp, dc=com
vlvGroupsScope	**SCOPE_SUB** - The groups search for Virtual List View (VLV) API is a recursive search in the tree defined in **vlvGroupsBase** property. **SCOPE_ONE** - The groups search for Virtual List View (VLV) API is performed across one level (direct children only) in the tree defined in **vlvGroupsBase** property. **SCOPE_BASE** - The groups search for Virtual List View (VLV) API returns one entry maximum, as indicated in the **vlvGroupsBase** property. **Default:**SCOPE_SUB **Example:** vlvGroupsScope = SCOPE_SUB
vlvGroupsFilter	Search filter, indicating what instances should be returned from the LDAP search for Virtual List View (VLV) API. **Default:**(&(uid=*)(objectclass=inetOrgPerson)) **Example:**

Parameter	Description
	vlvGroupsFilter = (|(objectclass=groupOfNames) (objectclass=groupOfUniqueNames) (objectclass=groupOfUrls)\ (objectclass=accessGroup) (objectclass=accessRole))
vlvRolesBase	Base dn (distinguished name) for users search. **Default:**dc=example, dc=com **Example:** vlvRolesBase = ou=People,dc=hp, dc=com
vlvRolesScope	**SCOPE_SUB** - The roles search for Virtual List View (VLV) API is a recursive search in the tree defined in **usersBase** property. **SCOPE_ONE** - The roles search for Virtual List View (VLV) API is performed across one level (direct children only) in the tree defined in **usersBase** property. **SCOPE_BASE** - The roles search for Virtual List View (VLV) API returns one entry maximum, as indicated in the **usersBase** property. **Default:** SCOPE_SUB **Example:** vlvGroupsScope = SCOPE_SUB
vlvRolesFilter	Search filter, indicating what instances should be returned from the LDAP search for Virtual List View (VLV) API. **Default:** (&(uid=*)(objectclass=inetOrgPerson)) **Example:** vlvRolesFilter = (|(objectclass=groupOfNames) (objectclass=groupOfUniqueNames) (objectclass=groupOfUrls)\(objectclass=accessGroup) (objectclass=accessRole)) usersCreationBase = ou=People,dc=hp, dc=com groupsCreationBase = ou=Groups, dc=hp, dc=com rolesCreationBase = ou=People,dc=hp, dc=com
uumUserCreationAnd DeletionAllowed **uumUserEditingAllowed** **uumGroupCreationAnd DeletionAllowed**	UUM Metadata **Default:** uumUserCreationAndDeletionAllowed = **true** uumUserEditingAllowed = **true** uumGroupCreationAndDletionAllowed = **true**

Parameter	Description
uumGroupEditingAllowed **uumRoleCreationAnd DeletionAllowed** **uumRoleEditingAllowed**	uumGroupEditingAllowed = **true** uumRoleCreationAndDeletionAllowed = **true** uumRoleEditingAllowed = **true**
usersPasswordAttribute	The user password attribute. **Example:** usersPasswordAttribute = userPassword
ldapUseCache	**true** - LDAP must use a cache. **false** - LDAP should not use a cache. **Default:** true **Example:** ldapUseCache=true
ldapCacheSize	The LDAP connection cache size in bytes. It represents an in-memory cache that can be used to reduce the number of search requests sent to the LDAP server. **Default:** 1000000 **Example:** ldapCacheSize=1000000
ldapCacheTTL	The LDAP connection cache life-time in seconds. **Default:** 3600 **Example:** ldapCacheTTL=3600
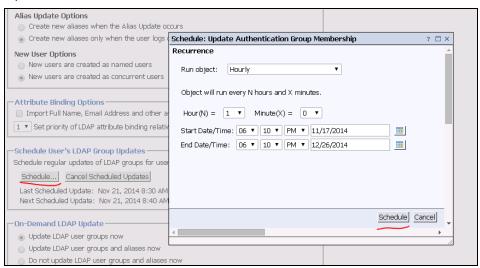
3. **bsf.properties.** In the **<HP_XS>\ agora\glassfish\glassfish\domains\BTOA\config\conf\bsf.properties** file, change:

From:	To:
personalization.provider=EXTERNAL	personalization.provider=SHARED
users.provider=EXTERNAL	users.provider=SHARED
groups.provider=EXTERNAL	groups.provider=SHARED

4. **User synchronization.** To improve the synchronization of users, perform the following:

   a. The synchronization of LDAP users, and Executive Scorecard and SAP BusinessObjects users is performed by default every **60 minutes** (this is the recommended value). To change the periodicity, click **Admin > Scorecard > XS Settings**, and enter a new value in the **Users Info Reload Rate (minutes)** in the Studio update area. Because each synchronization lasts a few minutes, it is recommended to set the default synchronization period so there is no overlap with the synchronization itself. For details, see "XS Settings" on

.

b. To make sure that the synchronization is only performed on the relevant users (for performance purposes). Make sure to add to the **external-ldap.properties** file located at **<HPXS>\agora\glassfish\glassfish\domains\BTOA\config\conf**, the **(groupfilter=(& (objectClass=group)(cn=g-s-rbap-t-hpxs*))** so that only the users needed for Executive Scorecard are synchronized.

c. Synchronize the LDAP users with SAP BusinessObjects, using one of the options below:

   i. Option 1:

     A. Log on to SAP 'BusinessObjects BI platform Central Management Console', and select **Authentication**> **LDAP**.

     B. Check **Update LDAP user groups and aliases now**.

     C. Click the **Update** button.

   ii. Option2: create a schedule to schedule regular updates of LDAP groups for users:

     A. Log on to SAP 'BusinessObjects BI platform Central Management Console'', and select **Authentication**> **LDAP**.

     B. Click the **Schedule…** button.

     C. Input the schedule information.
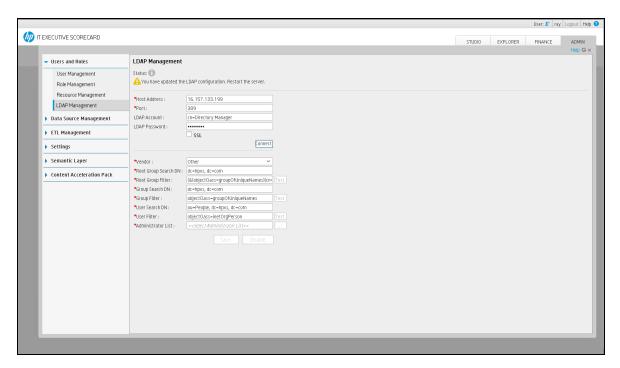
     D. Click the **Schedule…** button.

UI Description

LDAP Management Page

> **Note:** You can combine using the LDAP Management user interface and the external-ldap.properties file to specify the parameters you need in order to work with LDAP.
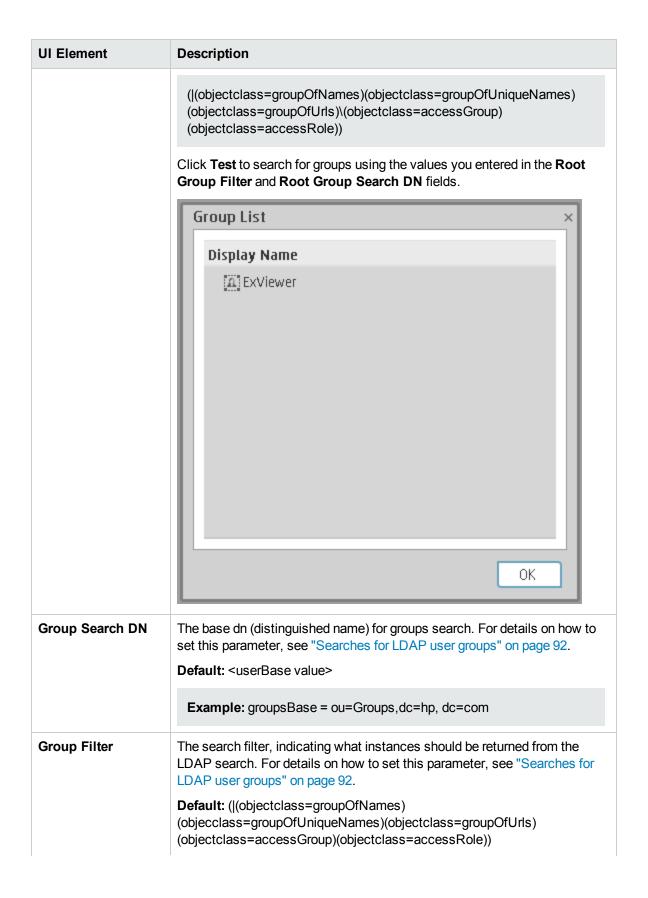
Click ⟳ to refresh the page.
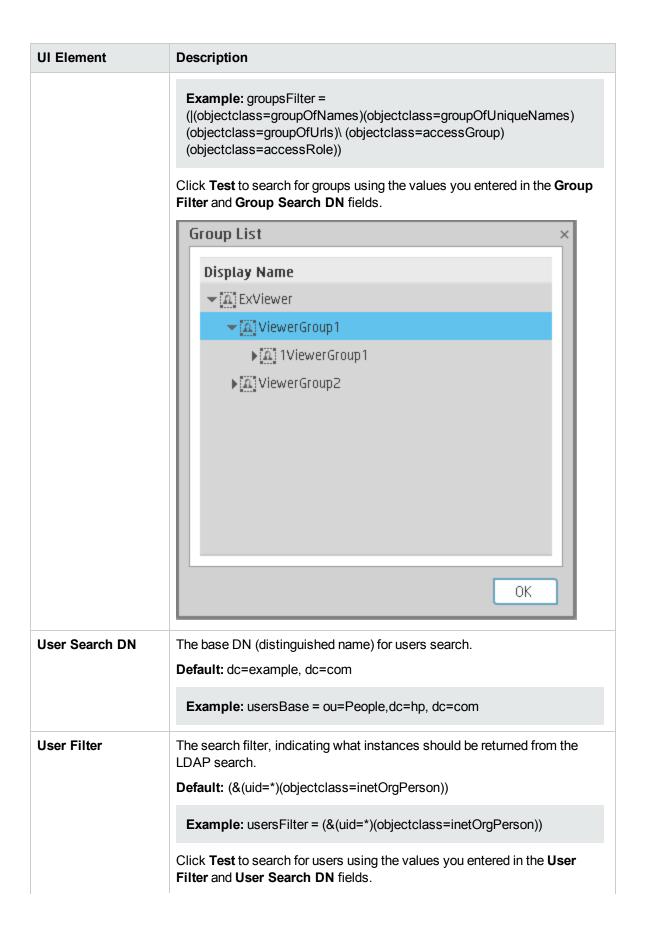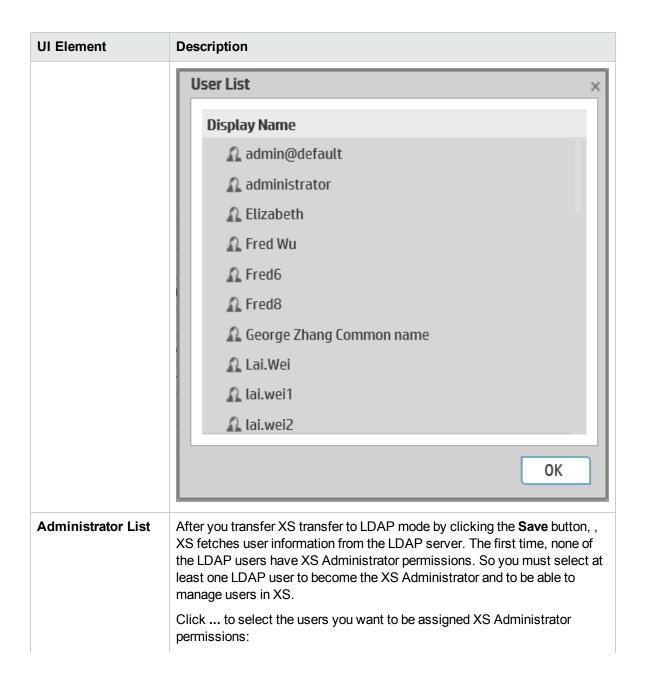
User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):
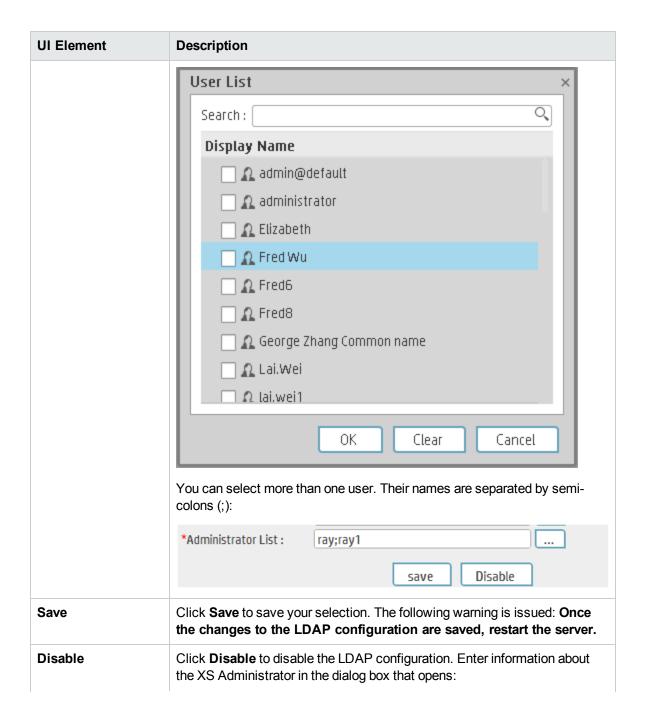
UI Element	Description
Status	The configuration is **Enabled**. The configuration is **Disabled**.
Host Address	The name of the machine running the LDAP server. **Default:** localhost **Example:** ldap.hp.com
Port	The port number of the machine running the LDAP server. **Default:** 389 **Example:** 636
LDAP Account	The Administrator logon name used for creating the initial LDAP connection. If the field is left empty, LDAP is access by anonymous user. There is no default Administrator user. **Defaut:** CN=Administrator **Example:** CN=Administrator
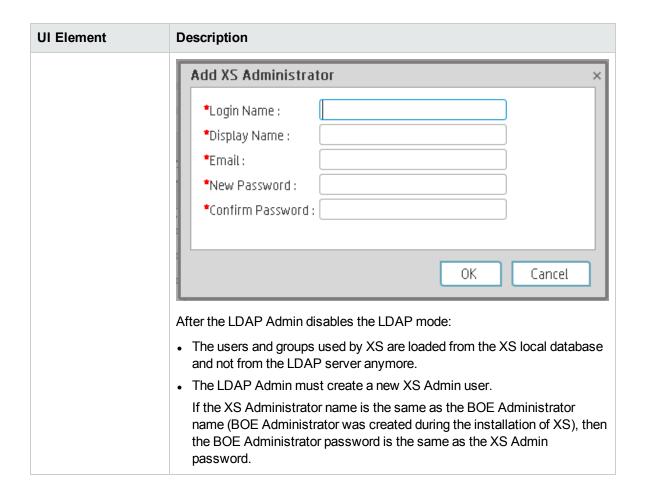
UI Element	Description
LDAP Password	The Administrator logon password used for creating initial LDAPConnection. If the field is left empty, LDAP is access without a password. There is no default Administrator user password. **Default:** <empty_value>
SSL	Select if the customer requires the SSL connection to LDAP. The SSL connection to the port defined in ldapPort property is attempted. **If the server cannot perform the connection, the following error message is issued:** **The XS server cannot connect to the LDAP server.** **Make sure all the relevant certificates are imported.** **After the relevant certificates are imported, restart the XS server.** In such a case, make sure that the relevant certificates are imported. After the import of the relevant certificates completes, restart the server. **Default:** unselected
Connect/Disconnect	Click to enable the Filter field test buttons as well as the Save button in the lower area of the page.
Vendor	Select the relevant vendor: - OpenLDAP Directory - Microsoft Active Directory - Sun One Directory - Netscape - Novell - Other Only the above vendors are supported.
Root Group Search DN	The base dn (distinguished name) for root groups search. For details on how to set this parameter, see "Searches for LDAP user groups" on page 92. **Default:** <usersBasevalue> **Example:** rootGroupsBase = ou=People,dc=hp, dc=com
Root Group Filter	The search filter, indicating what instances should be returned from the LDAP search. For details on how to set this parameter, see "Searches for LDAP user groups" on page 92. Default: (|(objectclass=groupOfNames)(objecclass=groupOfUniqueNames)(objectclass=groupOfUrls)(objectclass=accessGroup)(objectclass=accessRole)) **Example:** rootGroupsFilter =

UI Element	Description
	(|(objectclass=groupOfNames)(objectclass=groupOfUniqueNames)(objectclass=groupOfUrls)\\(objectclass=accessGroup)(objectclass=accessRole)) Click **Test** to search for groups using the values you entered in the **Root Group Filter** and **Root Group Search DN** fields.
Group Search DN	The base dn (distinguished name) for groups search. For details on how to set this parameter, see "Searches for LDAP user groups" on page 92. **Default:** \<userBase value\> **Example:** groupsBase = ou=Groups,dc=hp, dc=com
Group Filter	The search filter, indicating what instances should be returned from the LDAP search. For details on how to set this parameter, see "Searches for LDAP user groups" on page 92. **Default:** (|(objectclass=groupOfNames)(objecclass=groupOfUniqueNames)(objectclass=groupOfUrls)(objectclass=accessGroup)(objectclass=accessRole))

UI Element	Description
	Example: groupsFilter = (|(objectclass=groupOfNames)(objectclass=groupOfUniqueNames)(objectclass=groupOfUrls)\ (objectclass=accessGroup)(objectclass=accessRole)) Click **Test** to search for groups using the values you entered in the **Group Filter** and **Group Search DN** fields.
User Search DN	The base DN (distinguished name) for users search. **Default:** dc=example, dc=com **Example:** usersBase = ou=People,dc=hp, dc=com
User Filter	The search filter, indicating what instances should be returned from the LDAP search. **Default:** (&(uid=*)(objectclass=inetOrgPerson)) **Example:** usersFilter = (&(uid=*)(objectclass=inetOrgPerson)) Click **Test** to search for users using the values you entered in the **User Filter** and **User Search DN** fields.

UI Element	Description

	User List ✕
	
	Display Name
	  👤 admin@default
	  👤 administrator
	  👤 Elizabeth
	  👤 Fred Wu
	  👤 Fred6
	  👤 Fred8
	  👤 George Zhang Common name
	  👤 Lai.Wei
	  👤 lai.wei1
	  👤 lai.wei2
	
	                                    OK

Administrator List	After you transfer XS transfer to LDAP mode by clicking the **Save** button, , XS fetches user information from the LDAP server. The first time, none of the LDAP users have XS Administrator permissions. So you must select at least one LDAP user to become the XS Administrator and to be able to manage users in XS. Click **...** to select the users you want to be assigned XS Administrator permissions:

UI Element	Description
	You can select more than one user. Their names are separated by semi-colons (;):
Save	Click **Save** to save your selection. The following warning is issued: **Once the changes to the LDAP configuration are saved, restart the server.**
Disable	Click **Disable** to disable the LDAP configuration. Enter information about the XS Administrator in the dialog box that opens:

UI Element	Description
	  After the LDAP Admin disables the LDAP mode: - The users and groups used by XS are loaded from the XS local database and not from the LDAP server anymore. - The LDAP Admin must create a new XS Admin user. If the XS Administrator name is the same as the BOE Administrator name (BOE Administrator was created during the installation of XS), then the BOE Administrator password is the same as the XS Admin password.

LDAP in BusinessObjects

This section describes how to configure SAP BusinessObjects Enterprise internal LDAP.

Tasks
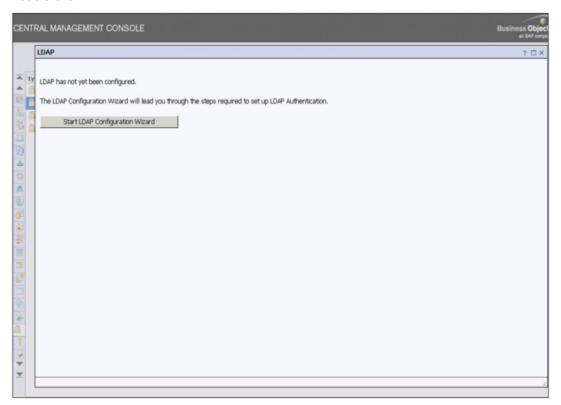
Setting Up LDAP Authentication in BusinessObjects

To configure the LDAP Server settings in BusinessObjects:

1. Log on to BusinessObjects Central Management Console using the administrator name and password.

2. Click **Authentication** to access the authentication options in BusinessObjects.

3. Double-click **LDAP**.
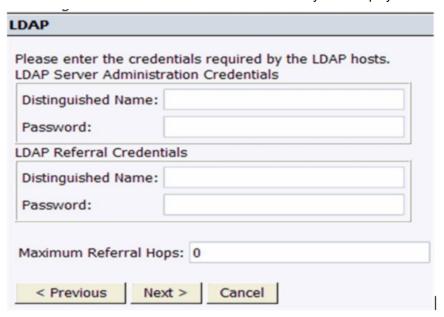
4. Click **Start LDAP Configuration Wizard**. The system displays the following screen:

LDAP

Please enter the LDAP hosts you are using.

Add LDAP host (hostname:port): [   ] Add

| 10.178.90.149 | Delete |

Next >   Cancel
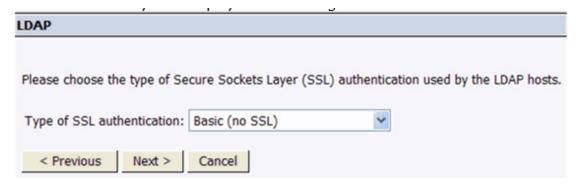
5. Add the IP address and port number for the LDAP server. Click **Next**. The system displays the following screen:

LDAP

Choose the type of the LDAP directory you are using. You can customize the server parameters if required.

LDAP Server Type: [Sun Directory Server ▼]   Show Attribute Mappings

< Previous   Next >   Cancel
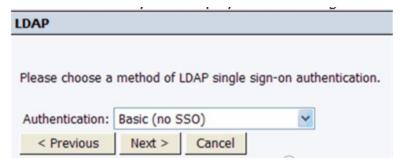
6. Click **Next**.

7. Enter a name for the base LDAP and click **Next**. The system displays the following screen:

LDAP

Please enter the credentials required by the LDAP hosts.
LDAP Server Administration Credentials

Distinguished Name: [   ]

Password: [   ]

LDAP Referral Credentials

Distinguished Name: [   ]

Password: [   ]

Maximum Referral Hops: [0   ]

< Previous   Next >   Cancel

8. Click **Next**.

LDAP

Please choose the type of Secure Sockets Layer (SSL) authentication used by the LDAP hosts.

Type of SSL authentication: Basic (no SSL)

< Previous   Next >   Cancel

9. Click **Next**.

LDAP

Please choose a method of LDAP single sign-on authentication.

Authentication: Basic (no SSO)

< Previous   Next >   Cancel

10. Click **Next**.

LDAP

Please configure how new LDAP users and aliases are created by BusinessObjects Enterprise.

New Alias Options

  ⦿ Assign each added LDAP alias to an account with the same name
  ○ Create a new account for every added LDAP alias

Alias Update Options

  ○ Create new aliases when the Alias Update occurs
  ⦿ Create new aliases only when the user logs on

New User Options

  ⦿ New users are created as named users
  ○ New users are created as concurrent users

< Previous   Next >   Finish

11. Select the relevant New User Options:

- **New users are created as named users**

- **New users are created as concurrent users**

12. Click **Next**. The wizard reports when it has collected all the required information.

LDAP

The wizard has now collected all the information it needs.

Use the Finish button to save your LDAP settings.

[< Previous] [Finish] [Cancel]
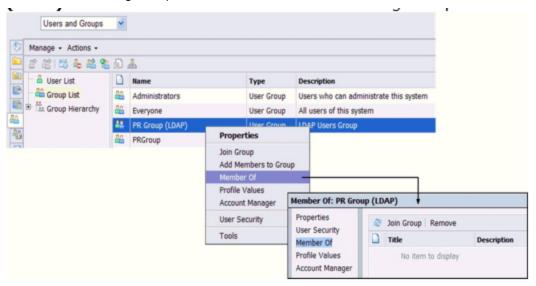
13. Click **Finish**.

14. Wait until the system displays the LDAP screen.

15. Locate the **Add LDAP group (by cn or dn)** field in the LDAP screen. Type the Group Name configured in LDAP Server, and click **Add**.

LDAP

☑ LDAP Authentication is enabled
Synchronize Data Source Credentials with Log On
☐ Enable and update user's Data Source Credentials at logon time
LDAP Server Configuration Summary

To change a setting, click on the value to start the LDAP Configuration Wizard.

LDAP Hosts:	10.178.90.150:40753
LDAP Server Type:	Sun Directory Server
Base LDAP Distinguished Name:	dc=oracle,dc=com
LDAP Server Administration Distinguished Name:	" "
LDAP Referral Distinguished Name:	" "
Maximum Referral Hops:	0
SSL Type:	Basic (no SSL)
Single Sign-On Type:	None

Mapped LDAP Member Groups

Add LDAP group (by cn or dn): [   ]   [Add]
PR Group   [Delete]

New Alias Options
◉ Assign each added LDAP alias to an account with the same name
○ Create a new account for every added LDAP alias
Alias Update Options
○ Create new aliases when the Alias Update occurs
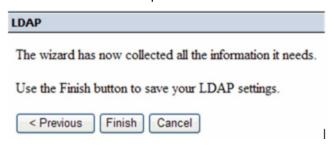◉ Create new aliases only when the user logs on
New User Options
◉ New users are created as named users
○ New users are created as concurrent users
Attribute Binding Options

16. Scroll downwards and click **Update**.

17. Map the LDAP member group whose users you want to authenticate through LDAP.

   For example, PR Group is the member group whose users are part of Argus Insight and use LDAP authentication for access to BusinessObjects.

18. Select **Create a new account for every added LDAP alias** under the New Alias Options on the

LDAP window.

19. Close the window.

20. Navigate to **Home**, **Group List**, and then right-click PR Group (LDAP) and select **Member Of**. The Member Of dialog box opens.

21. Click **Join Group**.

22. Navigate to **Group List**, select **PRGroup**, and then click the right arrow (>) to add the PRGroup into the Destination Group.

23. Click **OK**. Note that PR Group (LDAP) is now a member of the PRGroup.

Data Source Management

The Data Warehouse can connect to other products (data sources) and gather data about these products. An integration is available for each product (data source). The connection from the data source to the DWH is called a content pack. FBI extracts the data from the specific data source. Content packs contain all the artifacts needed to connect to the relevant data source and gather data from that data source.

Data Source Management enables you to manage the integration of data into the data warehouse through the activation of data sources. The available data source content packs are registered in the deployment process and can then be activated in the Data Source Management page.

To access:

Select **Admin** > **Data Source Management** then click **Add data source**.

> **Note:** For details on activating Content Packs created in the IDE, see Activate New Content in the *IT Executive Scorecard Content Extension Guide*.

Learn More	Tasks	UI Description

Learn More

Content Packs

The Data Warehouse can connect to other products (data sources) and gather data about these products. An integration is available for each product (data source). A Content Pack is a set a files which defines the execution of an ETL along with all its parameters.

The connection from the data source to the DWH is called an integration content pack (i-CP). Each content pack uses an extractor in order to extract the data from the specific data source and contains all the artifacts needed to connect to the relevant data source and to gather data from that data source. Content packs include:

- The definition of the data model used for the connection.
- The type of data gathered from the data source.
- The ETL definitions.
- The definition files.
- The configuration files.
- The scripts that help build and define the Data Warehouse.

The mapping between the raw data from the data source and the target database in the Data Warehouse is included in the ETL. The Executive Scorecard runs the KPI engine that reads the data from the target database, creates the relevant KPIs from that data, calculates the value, and status of the KPI and displays the relevant information in the Dashboard.

You must run the Data Source Management wizard to configure and activate the content packs, depending on the products you want to integrate with.

The out-of-the-box content packs are:

- CORE content pack. This is the central content pack that is automatically installed during the post-installation process. It takes consolidated data to the target schema. It includes all the dimensions, and entities of the Data Warehouse. It also provides the organization of definitions and hierarchies. All the other integrations depend on the CORE content pack.
- ALM
- AM
- AWS
- AWSCW
- BSM
- CSA
- DP
- FPA
- HPV
- IC
- NA
- NNM
- OO
- PPM
- SA
- SE
- SM
- UCMDB
- VCM

Context

A context is the result of a semantic layer of metadata that creates a business oriented view of the data. The context contains a schema of the tables that make up the dimension and measurement objects. The context is an interface between the data warehouse and the analytics that display the data. It then corresponds to the business contexts used in HP IT Executive Scorecard.

Multiple Integration Content Pack Instances

Multiple Integration Content Packs (M-iCP) provide multiple instances of the same data source or product type. This allows for data source configuration per instance, as opposed to a single activation for the data source. Each instance has its own version and product type. The M-iCP source extraction is based on the FBI extractor technology, and consolidation is enabled between instances.

You can add an instance using the Data Source Management page or using the Automation tool. For back-end tool details, see .

File Based Integration (FBI)

File Based Integration (FBI) enables you to extract data from a specific data source according to a set

of instructions. It consists of a plug-able extractor framework for each data source. The extractor gathers data according to the specific instructions it receives, placing it into a relevant txt file. Each supported data source has a corresponding extractor (or multiple extractors) capable of extracting data out of it according to specified instructions. All available Content Packs use FBI.

- **Extraction Mechanism.** The extraction is based on a set of parameters kept in the **dwabc.INSTRUCTION** table in the staging database. The instruction parameters are set by the BODS workflow during the Source Extract.

- **Extraction Methodology.** The extraction is done using Enterprise JavaBeans (EJBs) running on the application container of the Data Warehouse. The EJBs use various technologies (for example, JDBC, Web Services, Remote EJB objects, data files, and other kinds of http requests) to extract the data from the data source.

- **ETL Source Extract.** The first stage of the ETL is the Source Extract. In this phase, the BODS workflow inserts an instruction to the INSTRUCTION table and then invokes a batch file with the instruction ID as a parameter. The batch file calls a JAVA program which performs an http request that activates the relevant extractor. Using the instruction ID, the extractor fetches the relevant parameters from the INSTRUCTION table.

The FBI extractor extracts the data from the data source into BODS data stores. All Content Packs integrate using FBI, where data is extracted from the data source into txt files with well defined standard structure.

The following extractors are available for each source product:

Product	Extractor
ALM	ALM11, ALM11.5/12
AM	MSSQL, Oracle
AWS	aws_s3
AWSCW	AWSCW
BSM	BSM, GDE, UCMDB
CSA	CSA
DP	DP
FPA	FPA
IC	MSSQL, Oracle, PostgreSQL
NA	MSSQL, Oracle, MySQL
NNM	NNM
OO	MSSQL, Oracle, MySQL
PPM	Oracle
SA	SA

Product	Extractor
SE	Oracle
SM	MSSQL, Oracle
UCMDB	UCMDB
VCM	script(groovy)

- **Troubleshooting Logs.**

  - **<agora>\glassfish\glassfish\domains\BTOA\logs\fbi.log**: This log describes all of the current activity of the file based framework as well as the activity of the extractors themselves.

  - **<HP_XS>\agora\DataWarehouse\log\dw_fbi_client.log**: This log describes the activity of calling the FBI url from a batch file (which is invoked by a BODS workflow during the ETL source extract).

Learn more about each data source integration

XS integrates with the following data sources:

- ALM Data Source - Integration, Associated Contexts, KPIs, Metrics, Data Lineage, and Reports in the *IT Executive Scorecard Content Reference Guide for the Integration of HP Application Lifecycle Management*

- AWS Data Source - Integration, Associated Context, KPIs, Metrics, and Data Lineage in the *IT Executive Scorecard Content Reference Guide for the Integration of Amazon Web Services*

- AWSCW Data Source - Integration, Associated Context, KPIs, Metrics, and Data Lineage in the *IT Executive Scorecard Content Reference Guide for the Integration of Amazon Web Service CloudWatch*

- CSA Data Source - Integration, Associated Context, KPIs, Metrics, and Data Lineage in the *IT Executive Scorecard Content Reference Guide for the Integration of HP Cloud Service Automation*

- PPM Data Source - Integration, Associated Contexts, KPIs, Metrics, and Data Lineage in the *IT Executive Scorecard Content Reference Guide for the Integration of HP Project and Portfolio Management*

- SM Data Source - Associated Contexts, KPIs, Metrics, Data Lineage, and Reports in the *IT Executive Scorecard Content Reference Guide for the Integration of HP Service Manager*

- Alternate Source Integration in the *IT Executive Scorecard Content Reference Guide for the Integration of Alternate Data Sources*

Tasks

This section includes:

Add and activate a new data source instance

The process of integrating a data source into the Data Warehouse is done through activation of the source instance.

1. Select **Admin** > **Data Source Management**.
2. Click the **Add data source** to open the Data source wizard. The Add Data Source page opens.
3. Select the data source type and click **Next**.

   The relevant data source page opens.
4. Enter and select the configuration parameters.
5. Complete the wizard.

   The data source instance is activated.

   > **Note:** If the first time activation of a data source instance fails, the instance is displayed in the source list with an **Error** status. You can then activate the data source by clicking **Edit Settings** and completing the configuration and activation.

Reactivate an existing data source instance

1. Select **Admin** > **Data Source Management**.

2. Click ▶ next to the specific source and the source is activated.

   > **Note:** Before reactivating the BSM data source, click **Edit Settings** and enter the **RTSM Username** and **RTSM Password**.
   >
   > Before reactivating the UCMDB data source, click **Edit Settings** and enter the **Username** and **Password**.

Deactivate a data source instance

You can deactivate the source and stop the integration process, in order to change configuration details.

1. Select **Admin** > **Data Source Management**.

2. Click [icon] and the deactivation warning opens.

3. Click **OK**.

View data source configuration settings

1. Select **Admin** > **Data Source Management**.

2. Click **View Settings** and the relevant data source page opens.

Edit data source settings and test the connection

1. Select **Admin** > **Data Source Management**.

2. If necessary, deactivate the data source by clicking [icon].

3. Click **Edit Settings** and edit the configuration parameters.

4. Click **Next** to validate your changes and test the connection to the data source.

Add a new data source to the integration mechanism

For details, see "Add Additional Data Sources" on page 292.

Configure admin tasks using the command line

For details, see "Data Warehouse Command Reference" on page 302

Use the FBI Verification Extractor

FBI also supplies an extractor within the FBI framework that can verify and validate the flat file output you have.

To utilize the extractor:

1. Place the Flat File (FF) in a specific directory with a specific name in the **RESULT_FILE_NAME** column in the **Instruction** table. The name and directory are defined by the ETL developer.

2. The delimiters in FF should be the same as the ones defined in the delimiters columns (**FIELD_ DELIMITER** and **ROW_DELIMITER**).The FF must contain the list of fields in the first line with all the relevant delimiters.

3. Make sure the order and the name of the fields in the FF are the same as the ones defined in the **SourceModelMetadata**.

To activate the extractor:

1. Define the **productType** attribute in the **datasource.xml** as **file** (productType="file").

2. You can also override the defined extractor by adding a new entry into the connection detail (in the **datasource.xml**), as follows:
<dw:GenericProperty propertyName="overrideextractor" propertyValue="file" propertyType="string"/>

Configure FBI Properties

In data source activation, each source that is extracted with FBI must have the following properties configured.

1. Navigate to: **<HP_XS>\DataWarehouse\conf\fbi.properties**.

2. If multiple extractors are running simultaneously, you may need to configure the following:
fbi.max.number.of.threads =5

3. If you experience problems with languages that do not work with UTF 16 you can change the following:
fbi.flat.file.encoding =UTF-16.

Example

- **Sample Integration Activation Using the UI**

  Activate the Integration (Sample)

  a. **Prerequisites:** Make sure all of the required prerequisites have been met.

  b. Select **Admin** > **Data Source Management** then click **Add data source**.

  c. Select the data source type.

  d. Select or enter the configuration parameters.

  e. Click **Next** to proceed to the validation page.

- **Sample Integration Activation Using the Automation Tool**

  If you experience errors or problems with the Data Source Management UI, you can activate the sources using DWH back-end tools.

  Activate the Integration (Sample-AM Oracle server)

  a. **Prerequisites:** Make sure all of the required prerequisites have been met.

  b. Enter the product name, product version, time zone, and product type of the data source, and the configuration parameters in the datasource.xml file as follows:

- **server.** The data source server.

- **user.** The user required for authenticating to the data source server.

- **password.** The password required for authenticating to the data source server.

- **host.** The remote server on which the data source server resides.

- **port.** The port in the data server. By default, the port number is 1521 for Oracle database and 1433 for SQL Server database.

- **sid.** The unique name of the database.

- **servicename.** The alias used when connecting.

- **initial load period.** The number of months from which you want the data loaded.

Note: Each Content Pack contains a sample xml file for
<Installation directory>\agora\ContentPacks\SA\conf\dataSources.xml.

Sample xml configuration (Advanced configuration)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dw:DataSourceConnections version="1.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://schemas.hp.com/bto/dwh/v1/dw_
dataSources ..\xmlSchemas\dw_dataSources.xsd"
  xmlns:dw="http://schemas.hp.com/bto/dwh/v1/dw_dataSources">
<dw:DataSourceConnection productName="AM" productVersion="5.2"
timeZone="Asia/Shanghai" productType="oracle">
  <dw:GenericProperty propertyName="server" propertyValue=""
propertyType="string"/>
  <dw:GenericProperty propertyName="user" propertyValue=""
propertyType="string"/>
  <dw:GenericProperty propertyName="password" propertyValue=""
propertyType="password"/>
  <dw:GenericProperty propertyName="port" propertyValue="1521"
propertyType="string"/>
  <dw:GenericProperty propertyName="sid" propertyValue=""
propertyType="string"/>
  <dw:GenericProperty propertyName="servicename" propertyValue=""
propertyType="string"/>
  <dw:GenericProperty propertyName="dwh.etl.initialloadmonths"
propertyValue="6" propertyType="string"/>
</dw:DataSourceConnection>
</dw:DataSourceConnections>
```

Note: In order to verify that the connection details added in the datasources.xml file are correct, it is recommended to test the connection to the data source before running the configuration. For details, see "The Automation Tool" on page 319.

c. **Register Instance:**

To add an additional data source instance enter: **dw_cp_register.bat -addInstance –name <CP_NAME>**

The Data Warehouse then looks for the CP in the Content Packs Folder. The instance ID is displayed in the output."Instance ID: XX has been added to Content Pack: <CP_NAME>"

It is also added to the CONTENT_PACK table.

d. **Configuration:**

For first time activation, enter the following: **dw_ds_automation.bat -task ConfigureInitial -cp <content pack name> -instance <INSTANCE_ID> -xmlFilePath** [Path to datasources.xml file].

For all subsequent activations, enter the following: **dw_ds_automation.bat -task Configure -cp <content pack name>-instance <INSTANCE_ID> -xmlFilePath** [Path to datasources.xml file].

> **Note:** After you have configured dw_ds_automation.bat -task ConfigureInitial or dw_ds_automation.bat -task Configure, delete the value in the propertyValue field of the password from the dataSources.xml file, as follows:
> **<dw:GenericProperty propertyName="password" propertyValue="" propertyType="password" />**
>
> For details, see "The Automation Tool" on page 319.

e. **Deployment:**

Enter the following: **dw_ds_automation.bat -task Deploy -cp <content pack name>-instance <INSTANCE_ID>**.The content pack is initialized.
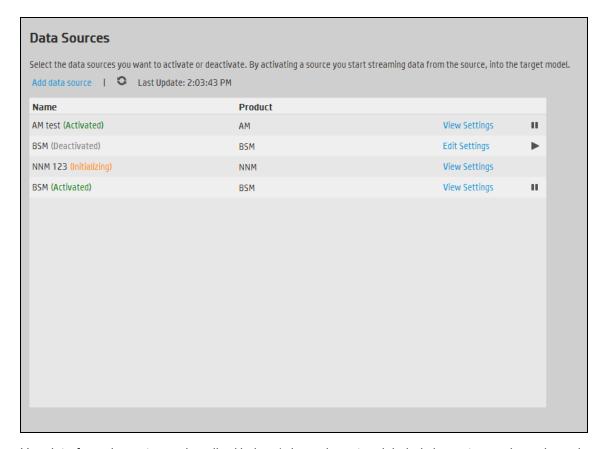
f. **Activate the data source:**

Enter the following: **dw_ds_automation.bat -task Activate -cp <content pack name> -instance <INSTANCE_ID>**.

⬤ UI Description
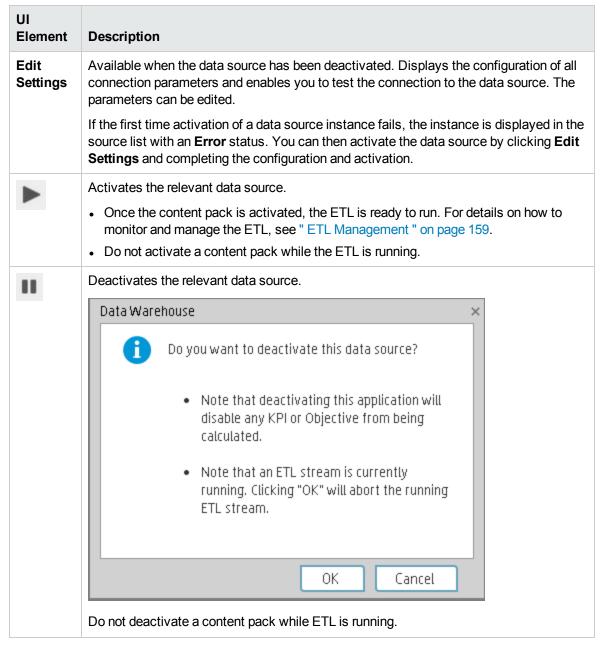
Data Source Management Page

The Data Source Management page enables you to select from a list of Integration Content Packs recognized by the data warehouse. Additionally, it enables you to activate the integration of the data sources, as well as deactivate and make configuration changes.

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Add data source	Click to open the Data Source wizard. For details, see "Data Source Wizard" on the next page.
<Data Sources>	A list of sources, by **Name** (instance name) and **Product** (data source product), that have been added to the data warehouse. The current status of the data source is displayed next to the instance name: • Activated • Deactivated • Error • Initializing: Data source is currently being activated. Relevant only for first time activation.
View Settings	Available when the data source has been activated. Displays the read-only configuration of all connection parameters. **Note:** All connection settings are run-time related. You must deactivate the connection to the data source in order to change the settings.

UI Element	Description
Edit Settings	Available when the data source has been deactivated. Displays the configuration of all connection parameters and enables you to test the connection to the data source. The parameters can be edited.
	If the first time activation of a data source instance fails, the instance is displayed in the source list with an **Error** status. You can then activate the data source by clicking **Edit Settings** and completing the configuration and activation.
▶	Activates the relevant data source.
	• Once the content pack is activated, the ETL is ready to run. For details on how to monitor and manage the ETL, see " ETL Management " on page 159.
	• Do not activate a content pack while the ETL is running.
⏸	Deactivates the relevant data source.
	Do not deactivate a content pack while ETL is running.

Data Source Wizard

The Data Source wizard enables you to add and activate a selected data source instance.

To access	Select **Admin** > **Data Source Management** and then click **Add data source**.
	Select the data source type to activate the integration processes.
Important Information	The UI elements of the wizard differ according to the selected data source.
	You can also add additional data sources. For details see "Add Additional Data Sources" on page 292.
	For configuration parameter details, see:

	• ALM Data Source - Integration, Associated Contexts, KPIs, Metrics, Data Lineage, and Reports in the *IT Executive Scorecard Content Reference Guide for the Integration of HP Application Lifecycle Management*
	• AWS Data Source - Integration, Associated Context, KPIs, Metrics, and Data Lineage in the *IT Executive Scorecard Content Reference Guide for the Integration of Amazon Web Services*
	• AWSCW Data Source - Integration, Associated Context, KPIs, Metrics, and Data Lineage in the *IT Executive Scorecard Content Reference Guide for the Integration of Amazon Web Service CloudWatch*
	• CSA Data Source - Integration, Associated Context, KPIs, Metrics, and Data Lineage in the *IT Executive Scorecard Content Reference Guide for the Integration of HP Cloud Service Automation*
	• PPM Data Source - Integration, Associated Contexts, KPIs, Metrics, and Data Lineage in the *IT Executive Scorecard Content Reference Guide for the Integration of HP Project and Portfolio Management*
	• SM Data Source - Associated Contexts, KPIs, Metrics, Data Lineage, and Reports in the *IT Executive Scorecard Content Reference Guide for the Integration of HP Service Manager*
	• Alternate Source Integration in the *IT Executive Scorecard Content Reference Guide for the Integration of Alternate Data Sources*
	For each source, enter the relevant information and click **Next** to proceed to the validation page.
	Note: If the activation process is taking more than one hour, you can change the status of the CP in the CONTENT_PACK table to "ERROR" and then activate the CP again.
Wizard Map	The Data Source wizard contains: **Add Data Source Page** > **Configuration Parameters Page** > **Validation Page**
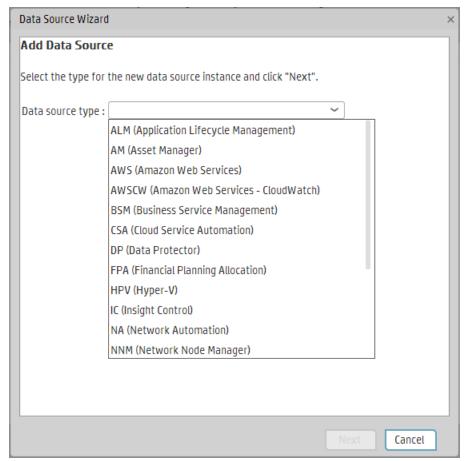
Add Data Source Page

Click **Next** to move to the next page of the wizard..

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):
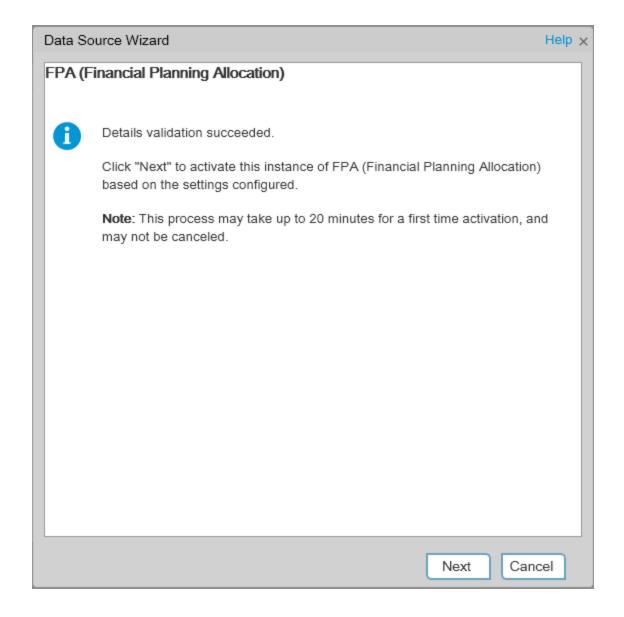
UI Element	Description
Data source type	Select the data source type you want to activate.
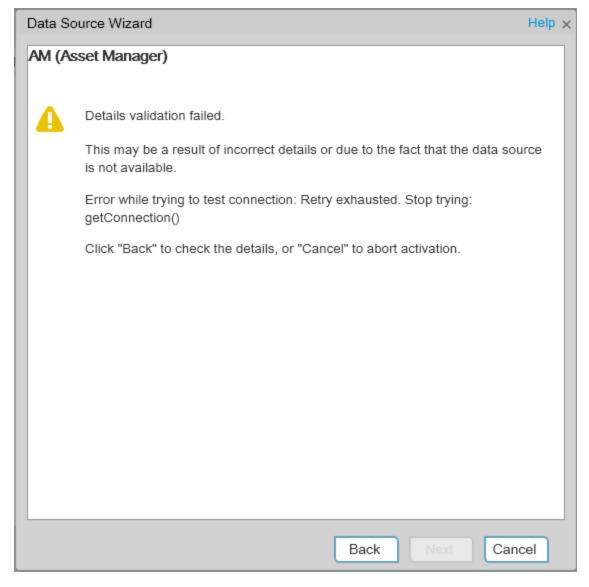
Configuration Parameters Page

Each Configuration Parameters page displays parameters specific for the data source. For details, see the *IT Executive Scorecard Content Reference Guide* relevant to your data source.

Validation Page

This validation page displays activation status information pertaining to the selected data source.

Data Source Wizard Help ✕

FPA (Financial Planning Allocation)

ⓘ Details validation succeeded.

Click "Next" to activate this instance of FPA (Financial Planning Allocation) based on the settings configured.

Note: This process may take up to 20 minutes for a first time activation, and may not be canceled.

[Next] [Cancel]

A message displays the data source status information.

Click **Finish** to complete the wizard activation process.

Consolidation Management (On-Demand Consolidation)

The Consolidation Management feature enables you to consolidate an entity that appears in different data sources, to prioritize the data sources, to select the relevant entity dimensions (columns) and their priorities, and to select when to use the consolidation.

Manage your Consolidations

The Consolidation Management feature enables you to consolidate an entity that appears in different data sources, to prioritize the data sources, to select the relevant entity dimensions (columns) and their priorities, and to select when to use the consolidation.

To access:

Click **Admin > Data Consolidation Management > Data Consolidation Management**.

Learn More	Tasks	UI Description

Learn More

About consolidation

When XS integrates with several data sources, overlapping information might appear, for the same entity (for example: Customer,) in different data sources (S1, S2, and S3). If the information is not consolidated, this might cause the import of additional and confusing data for the entity. For example you might get for the same Customer: the Customer Name, Customer ID, Address, ZIP code, and Country provided by S1, the Customer Name, Customer ID, and Domain provided by S2, and the Customer Name, Customer ID, and the Billing information from S3.

To consolidate the information, you first select the entity that you want to consolidate (for example Customer) and you then select the priority order of the data sources (S1, S3, and then S2) in the **Entity and Priorities** page of the Consolidation wizard. This means that XS checks if the entity (Customer) in the first data source (S1) includes data. If there is data, it is imported into XS. If there is no data, XS checks the entity for data in the second data source (S3). If there is data, it is imported into XS. If not,

the procedure continues until data is found in one of the data sources in the priority order list or no data has been found at all.

Each entity has dimensions (table columns). To construct a unique key for the consolidation you select the dimensions that will be used as keys (for example Customer ID), in the **Consolidation Rule** page in the Consolidation wizard.

For details on the Consolidation wizard, see "Configure your Consolidations" on the next page.
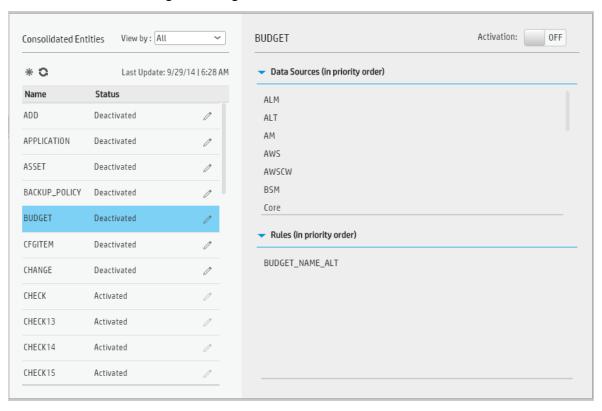
Tasks

Activate/Deactivate a Consolidation Entity

1. Click **Admin > Data Consolidation Management > Data Consolidation Management**.
2. Select the relevant entity, and click the **Activate/Deactivate** toggle button. The entity consolidation is activated/deactivated.

UI Description

Data Consolidation Management Page

Consolidated Entities

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
✳	**Add new configuration entity.** Click to open the Consolidation wizard. For details, see "Configure your Consolidations" below.
🔄	**Refresh.** Click to refresh the list of consolidation entities.
Last Update <timestamp>	Displays the date and time when the last update to the list of consolidation entities was performed.
Name	The name of the entity with a consolidation configuration.
Status	**Activated.** The consolidation entity is activated. This means that the consolidation occurs when the conditions are fulfilled. **Deactivated.** The consolidation entity is deactivated. This means that the consolidation does not occur.
✏	**Edit Settings.** The button is enabled only when the consolidation of the entity is deactivated. Click to open the Consolidation wizard. For details, see "Edit your Consolidations" on page 154.

<entity_name> area

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Activation	Click **ON** or **OFF** to activate or deactivate the consolidation of the selected entity.
Data Sources (in priority order)	The list of data sources for the consolidated entity in the selected priority order.
Rules Sources (in priority order)	The list of selected columns for the consolidated entity in the selected priority order.

Configure your Consolidations

The Consolidation Management feature enables you to consolidate an entity that appears in different data sources, to prioritize the data sources, to select the relevant entity dimensions (columns) and their priorities, and to select when to use the consolidation.

To access:

Click **Admin > Data Consolidation Management > Data Consolidation Management** and click ✳ (**Add new configuration entity**).

Learn More   **Tasks**   **UI Description**

Learn More

About consolidation

When XS integrates with several data sources, overlapping information might appear, for the same entity (for example: Customer,) in different data sources (S1, S2, and S3). If the information is not consolidated, this might cause the import of additional and confusing data for the entity. For example you might get for the same Customer: the Customer Name, Customer ID, Address, ZIP code, and Country provided by S1, the Customer Name, Customer ID, and Domain provided by S2, and the Customer Name, Customer ID, and the Billing information from S3.

To consolidate the information, you first select the entity that you want to consolidate (for example Customer) and you then select the priority order of the data sources (S1, S3, and then S2) in the **Entity and Priorities** page of the Consolidation wizard. This means that XS checks if the entity (Customer) in the first data source (S1) includes data. If there is data, it is imported into XS. If there is no data, XS checks the entity for data in the second data source (S3). If there is data, it is imported into XS. If not, the procedure continues until data is found in one of the data sources in the priority order list or no data has been found at all.

Each entity has dimensions (table columns). To construct a unique key for the consolidation you select the dimensions that will be used as keys (for example Customer ID), in the **Consolidation Rule** page in the Consolidation wizard.

For details on the Consolidation wizard, see "Configure your Consolidations" on the previous page.

Tasks

Add an entity as a consolidated entity

1. Click **Admin > Data Consolidation Management > Data Consolidation Management** and click ❋ (**Add new configuration entity)**.

2. In the **Configure a new Consolidation Entity** wizard:

   a. In the **Entity Name** list, select the entity you want to consolidate.

   b. In the **Data Sources** page, prioritize the data sources.

   c. In the **Consolidation Rules** page, select the relevant dimensions (columns) and prioritize them.

   d. In the **Summary** page, check that the consolidation is configured properly and click **Create**.

      The consolidated entity is created, added to the list in the Consolidation Management page, and its status is set to **Deactivate**. You can now activate the consolidated entity.

See also Use Case – Add Service Entity as a Consolidation Entity in the *Getting Started with IT Executive Scorecard*.

UI Description
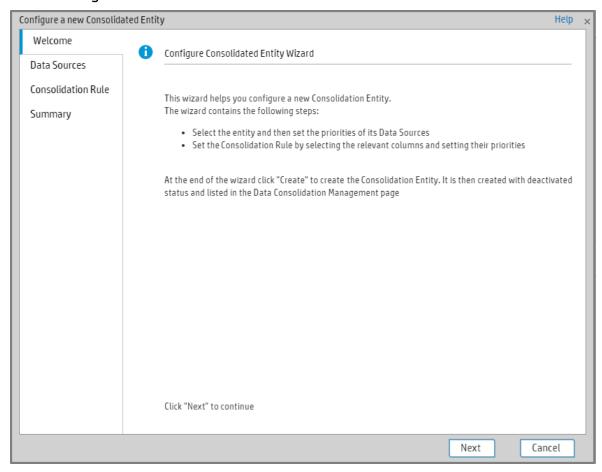
Configure a new Consolidated Entity
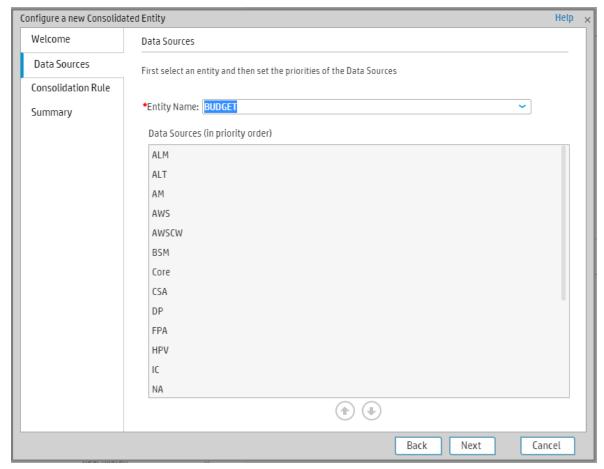
The wizard pages are as follows:

Welcome Page

Configure a new Consolidated Entity	Help ✕
Welcome	ⓘ Configure Consolidated Entity Wizard
Data Sources	
Consolidation Rule	This wizard helps you configure a new Consolidation Entity. The wizard contains the following steps:
Summary	• Select the entity and then set the priorities of its Data Sources • Set the Consolidation Rule by selecting the relevant columns and setting their priorities
	At the end of the wizard click "Create" to create the Consolidation Entity. It is then created with deactivated status and listed in the Data Consolidation Management page
	Click "Next" to continue
	Next Cancel

Data Sources Page

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Entity Name	Click **V** to select the entity that you want to consolidate and select the relevant entity in the list that opens.
Data Sources (in priority order)	Move the data sources in the relevant priority order using the ⬆ ⬇ arrows. You can also drag and drop the data sources to set their priority order.

Consolidation Rule page

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Entity Name	The name of the entity you are currently consolidating.
Available Columns	The list of columns of the entity you are currently consolidating.
<Search>	Enter a string and click the 🔍 icon to search for entities with names that include the string.
Selected Columns (in priority order)	The list of columns you have selected to be included in the consolidation. Use the ⬆ ⬇ arrows to order the columns. You can also drag and drop the columns to set their priority order.

Summary page

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Entity Name	The name of the entity you are currently consolidating.
Data Sources (in priority order)	The list of data sources in the relevant priority order.
Rules (in priority order)	The list of rules (entity columns) in the relevant priority order.
Create	Click to create the entity consolidation. The consolidated entity is then placed in the list of entities in the Configuration Management page and the entity status is set to **Deactivated**.

Edit your Consolidations

You can edit your consolidated entities by changing their data sources, the priority of their data sources, or the columns you want to use in the consolidation rules.

To access:

Click **Admin > Data Consolidation Management > Data Consolidation Management**, select an entity, and click ✎ .

| Learn More | Tasks | UI Description |

🔴 Learn More

About consolidation

When XS integrates with several data sources, overlapping information might appear, for the same entity (for example: Customer,) in different data sources (S1, S2, and S3). If the information is not consolidated, this might cause the import of additional and confusing data for the entity. For example you might get for the same Customer: the Customer Name, Customer ID, Address, ZIP code, and Country provided by S1, the Customer Name, Customer ID, and Domain provided by S2, and the Customer Name, Customer ID, and the Billing information from S3.

To consolidate the information, you first select the entity that you want to consolidate (for example Customer) and you then select the priority order of the data sources (S1, S3, and then S2) in the **Entity and Priorities** page of the Consolidation wizard. This means that XS checks if the entity (Customer) in the first data source (S1) includes data. If there is data, it is imported into XS. If there is no data, XS checks the entity for data in the second data source (S3). If there is data, it is imported into XS. If not, the procedure continues until data is found in one of the data sources in the priority order list or no data has been found at all.

Each entity has dimensions (table columns). To construct a unique key for the consolidation you select the dimensions that will be used as keys (for example Customer ID), in the **Consolidation Rule** page in the Consolidation wizard.

For details on the Consolidation wizard, see "Configure your Consolidations" on page 148.

🔵 Tasks

Edit a consolidated entity

To edit a consolidated entity:

1. Click **Admin > Data Consolidation Management > Data Consolidation Management**, select an entity, and click ✎ .

The Edit Consolidated Entity wizard opens.

2. Edit the data sources and their priority in the **Data Sources** page, and click **Next**.

3. Edit the entity columns and their priority in the **Consolidation Rule** page, and click **Next**.

4. Click **Next**.

The entity is updated and listed in the Consolidation Management page. Its status is **Deactivated**.

See also Use Case – Add Service Entity as a Consolidation Entity in the *Getting Started with IT Executive Scorecard*.

UI Description
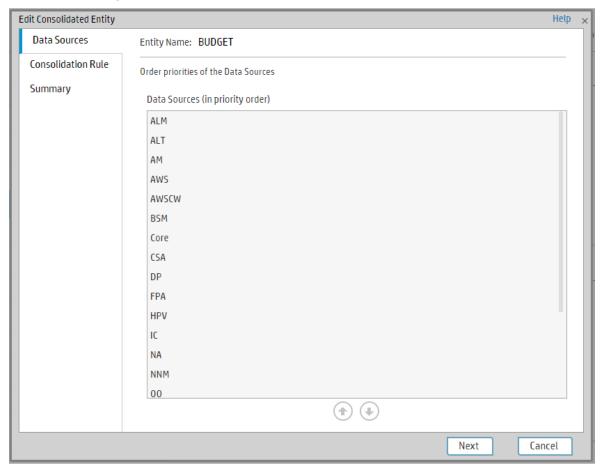
Edit consolidated entities

The wizard pages are as follows:

Data Sources Page
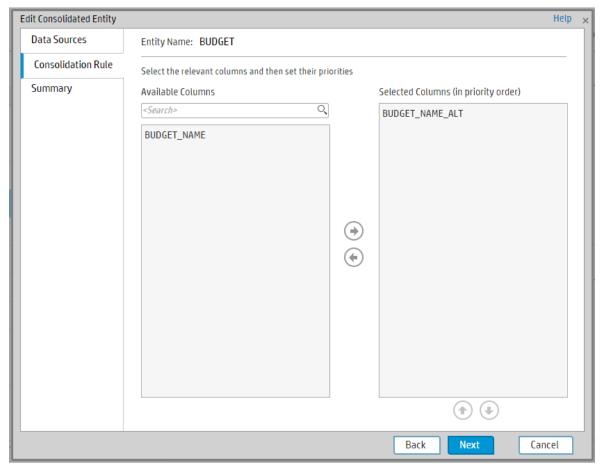
User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Data Sources (in priority order)	Move the data sources into the relevant priority order using the ⬆ ⬇ arrows. You can also drag and drop the data sources to set their priority order.

Consolidation Rule Page

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):
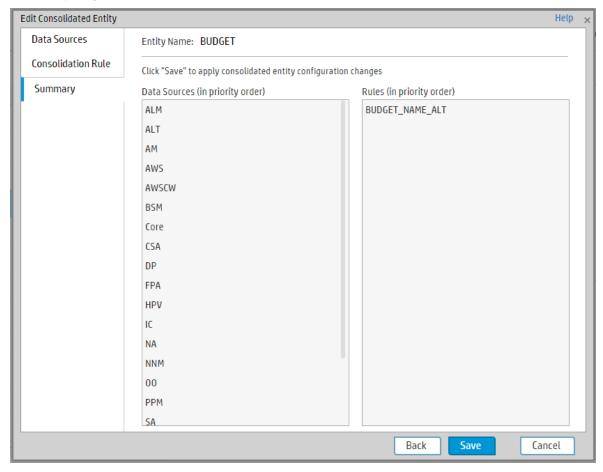
UI Element	Description
Entity Name	The name of the entity you are currently editing.
Available Columns	The list of columns (dimensions) of the entity.

|	Select or unselect the columns using the horizontal arrows.
Selected Columns (in priority order)	The list of columns you have selected in the relevant priority order. Select or unselect the columns using the horizontal arrows. Change the priority order using the vertical arrows. You can also drag and drop the columns to change their priority order.

Summary page

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Entity Name	The name of the entity you are currently consolidating.
Data Sources (in priority order)	The list of data sources in the relevant priority order.

Rules (in priority order)	The list of rules (entity columns) in the relevant priority order.
Save	Click to save the changes. The consolidated entity is then placed in the list of entities in the Configuration Management page and the entity status is set to **Deactivated**.

ETL Management

The ETL Management tab displays the DW ABC Streams Management UI which enables you to perform the essential tasks related to ETL and stream functionality. It displays the state of active streams, and enables you to schedule and control stream activity. It also allows you to view the historical data and the archived stream definitions. All ETL management and functionality is accessed and performed through this UI.

To access:

Select Admin > **ETL Management**.

Learn More	Tasks	UI Description

Learn More

ETL

The Extract, Transform, and Load (ETL) process is an end-to-end transfer of external source data through several staging layers and into the target layer of the data warehouse. The source data can reside in a single database or multiple databases. The data warehouse uses the ETL process to extract, consolidate, and transform the source data into a meaningful target model that populates relevant business analytics.

The ETL process comprises eight primary stages. The stages of this process depend on metadata and the nature of the sources.

The ETL is monitored and managed through the DW ABC Streams Management User Interface.

ETL Stream Management and Monitoring

The Audit Balance and Control Management user interface performs all of the back-end configuration and supports full ABC functionality in the ETL. The UI enables you to view the active stream and all of the nodes containing the stream steps. This allows you to pinpoint exactly which steps have failed when the stream has been stopped. You can also view the history of the stream as well as inactive streams.

- **Stream.** A stream represents the definition of what should run in the ETL, for example, Upstream. It is a set of a flow of ETL steps. The DW ABC Streams Management UI displays any stream that is defined, along with the historical data and archived stream information for that stream.
- **Batch.** A batch is a particular run-time instance of the stream. There is a new batch ID for each run of the batch. Each time you load a batch, you are creating a run-time instance of the current stream definition.
- **Step.** Any type of execution that you want to run in the ETL. The step is defined in a stream.
- **Node.** A group of steps that run in parallel and are independent of each other. A node is meant to simplify the display of the stream and to indicate whether a stream is blocked. The node indicates whether the batch can progress to the next node. If one step has failed, even if all other steps in the

node are successful, the execution of the ETL will not progress to the next node.

The DW ABC Streams Management UI provides visibility and management of:

- Multiple streams

- Stream progress

- Stream execution history

- Archiving

- Batch scheduling

Audit, Balance, and Control

Audit, Balance, and Control (ABC) is a set of functions based on data warehousing best practices. Although SAP BusinessObjects Data Services manages the ETL workflow, ABC ensures work flow integrity. It controls the overall ETL execution, provides error handling, and collects job progress statistics. ABC's ETL streams and functions can be viewed and managed through the DW ABC Streams Management User Interface, as well as the CLI. Other ABC features are:

- Job stream management
- Command line administration tools
- Generated ABC operational system reports
- Generated ABC historical system reports

    For report details, see ABC Operational Reports and Data Model Reports.

🔲 Tasks

This section includes:

View active streams

1. Select **Admin** > **ETL Management**.

2. In the DW ABC Streams Management UI page the stream information is displayed.

Display hidden streams

The DW ABC Streams Management UI enables you to view streams that are hidden and used only for back-end maintenance.

1. Select **Admin** > **ETL Management** and select **Show Hidden Streams**.

2. The hidden ETL streams are displayed.

3. You can then schedule the run-steps command and load the batches, as needed.

4. Click ▶ to load and run the batch.

5. Click ⟳ to refresh and check the running status of the ETL.

For details, see "Enterprise Readiness (ER) Tools" on page 237.

Verify or schedule the run_steps command

Run_steps is automatically scheduled after deployment in the post-install. It schedules steps for each defined stream. The run_steps Scheduler dialog box enables you to verify or change the settings. The ABC Web Services server automatically creates a schedule for each active stream (Upstream). Run_steps executes every five minutes, or whatever interval you have set in the DWH settings for the value run_steps scheduler interval. For details see "Data Warehouse" on page 177. The stream will only run once you have loaded a batch.

> **Note:** If you add a new stream definition, you must manually define a run_steps schedule.

1. Select **Admin** > **ETL Management** and click ▦ in the Stream Information area.

2. The Stream Scheduler dialog box opens.

3. Select the **Run-Steps Scheduler** tab.

4. Click **Add New** to create a new schedule for a specific stream.

5. Click **Save**.

6. Click **Delete** to delete a displayed schedule. You can then add a new one to replace it.

View stream attributes

1. Select **Admin** > **ETL Management** and click **More Info** in the Stream Information area.
2. The Stream Attributes dialog box opens, displaying the various read-only stream details.

Schedule a batch job

1. Select **Admin** > **ETL Management** and click [icon] in the Stream Information area.
2. The Stream Scheduler dialog box opens.
3. Select the **Load -Batch Scheduler** tab.
4. Select the relevant **Schedule Type** and times and click **Save**.

Load or resume a batch job

1. Select **Admin** > **ETL Management** .
2. When there is no running batch (stream state is **None**) or the running batch is in a suspended state (stream state is **Suspended**), click [icon] to load or resume a batch.

Suspend a stream

When the stream is running and the state is Active, you can suspend the stream to allow no action to happen.

- Select **Admin** > **ETL Management** and click [icon] in the Stream Information area.

Abort a stream

When you abort, the batch cannot be run again, when you load, it will start a new batch.

- Select **Admin** > **ETL Management** and click [icon] in the Stream Information area.

View node information

1. Select **Admin** > **ETL Management** and click a node in the Stream Information area.
2. The Node Step list opens with the step information displayed.

View step attributes

1. Select **Admin** > **ETL Management** and click **More Info** in a specific node.
2. The Step Attributes dialog box opens, displaying the various read-only step details.

Refresh stream data

- Select **Admin** > **ETL Management** and click ⟳ in the Stream Information area.

View historical data

The most recent batch history of the stream is displayed first. You can navigate through the pages of the various batches. You can view up to five batches at a time.

1. Select **Admin** > **ETL Management** and click Historical Data in the Stream Information area.
2. The Historical Data page opens.
3. Select **Next** to view the other batches in the stream's history. All fields are read only.

View archived data

You can view previous stream definitions and the historical data for each. The historical data is the batch history for that particular definition. When you add a data source it changes the stream definition. The new definition has no historical data, you can only view the archived stream and see the historical data of the previous definitions. All fields are read only.

1. Select **Admin** > **ETL Management** and click **Archived Streams** in the Stream Information area.
2. The Archived Stream Definition page opens.

Automatically retry steps

There is an automatic retry for attempting to fix step errors. A step that has an error it will not necessarily remain and can resolve itself.

There is a configurable automatic retry mechanism which is set by default to four times. For details on changing the amount of automatic retries, see "Change the Number of Retries for a Failed ETL Step" on page 326.

Manually retry steps
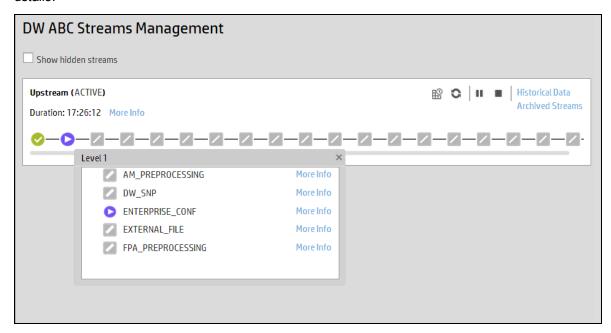
The retry image appears when there has been a failure on a step.

1. Select **Admin** > **ETL Management** and click an error node in the Stream Information area.

2. The Node Step list opens with the step information displayed.

3. If all of the retries have been exhausted, and the Retry icon 🎧 appears.

4. Click ⏸ in the Stream Information area to suspend the stream.

5. Fix the problem, and manually retry by clicking 🎧.

6. Once the error is resolved, click ▶ to resume the stream.

🟢 UI Description

DW ABC Streams Management Page

You can view and manage ETL stream functions and run-time information through the DW ABC Streams Management UI. The active stream and details are displayed as well as the node and step details.
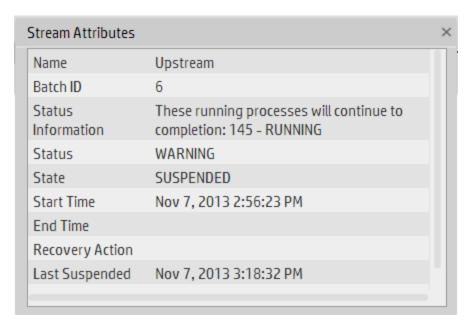
<Stream Display>

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

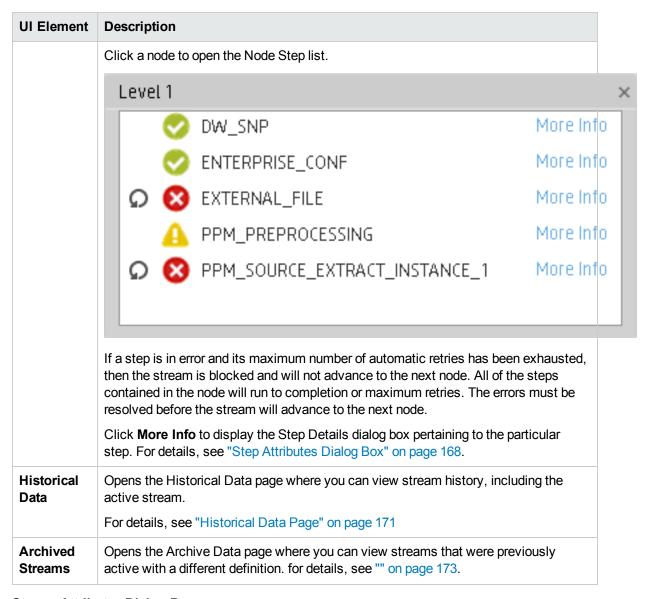| UI Element	Description
<Stream Information>	Displays the following stream details: • Stream Name • Status: Active or Suspended or None • Duration • Date
Show Hidden Streams	Click to display the hidden ETL streams.
⟳	Refreshes the stream information. There is an automatic refresh of the stream information every two minutes.
More Info	Opens the Stream Attributes dialog box. For details, see "Stream Attributes Dialog Box" on the next page.
▶	**Load Batch/Resume.** Starts or resumes the running of the specific batch of ETL stream.
⊞	Opens the Stream Scheduler dialog box. Enables you to schedule the load batch and run_steps commands. For details, see "Stream Scheduler Dialog Box" on page 169.
❚❚	**Suspend Stream.** Temporarily suspends the stream.
■	**Abort Stream.** Stops the stream that is running.
<Node Display>	Displays the nodes representing the groups of steps within one level of execution of an ETL run, the steps that can run in parallel. A node is a collection of steps that all run in parallel. The icon for each node represents the worst status of all of the steps in the node. ✅ Indicates that the particular step or all steps in the node have finished successfully in the execution. ▶ Indicates that a step or a step in the node is currently running ❌ Indicates an error in one of the steps. The step is automatically retried four times by default. Click the Error node to display the Node Step List in order to retry steps. Click ↻ to retry the step. ⚠ Indicates a warning in one of the steps.

UI Element	Description
	Click a node to open the Node Step list.

If a step is in error and its maximum number of automatic retries has been exhausted, then the stream is blocked and will not advance to the next node. All of the steps contained in the node will run to completion or maximum retries. The errors must be resolved before the stream will advance to the next node.

Click **More Info** to display the Step Details dialog box pertaining to the particular step. For details, see "Step Attributes Dialog Box" on page 168. |
| **Historical Data** | Opens the Historical Data page where you can view stream history, including the active stream.

For details, see "Historical Data Page" on page 171 |
| **Archived Streams** | Opens the Archive Data page where you can view streams that were previously active with a different definition. for details, see "" on page 173. |

Stream Attributes Dialog Box

This dialog box enables you to view the attributes of the displayed stream.

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

All fields are read-only.
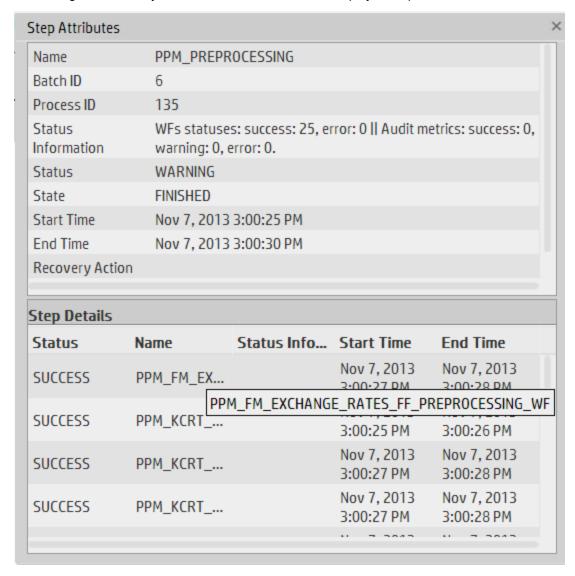
UI Element	Description
Name	Stream name.
Batch ID	The ID of the specific batch job of the stream.
Status Information	Provides details about the status of the stream.
Status	Displays the status of the batch: • **OK** • **Warning** • **Error**
State	Displays the state of the batch: • **Active** • **Suspended** • **Finished** • **Aborted**
Start Time	The date and time of the start of the batch job.
End Time	The date and time of the end of the stream batch job.
Recovery Action	Displays any information about recovery actions if the stream was suspended or stopped.

UI Element	Description
Last Suspended	The date and time the stream was suspended.
Last Resumed	The date and time the stream was resumed.
Aborted	The date and time the stream was aborted.

Step Attributes Dialog Box

This dialog box enables you to view the attributes of the displayed step.

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):
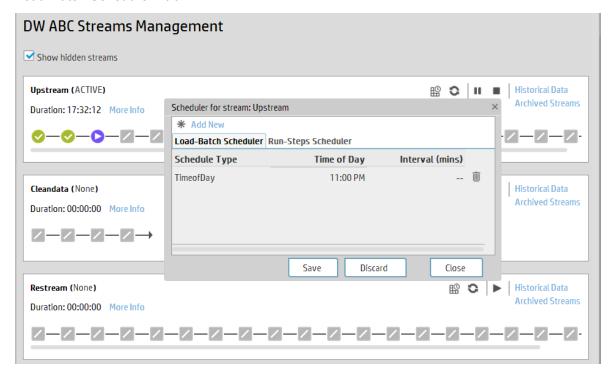
All fields are read-only.

UI Element	Description
Name	Step name.
Process ID	The ID of the specific run of the step.
Batch ID	The ID of the specific batch job of the stream.
Status Information	Provides details about the status of the step.
Status	Displays the status of the step: • **NA** • **SUCCESS** • **WARNING** • **ERROR** • **MAX_EXECUTION_TIME_EXCEEDED**
State	Displays the state of the step: • **WAITING** • **RUNNING** • **STARTING** • **FINISHED**
Start Time	The date and time of the start of the run.
End Time	The date and time of the end of the run.
Job Name	The BODS job name.
Retry Sequence	The number of automatic retries.
Recovery Action	Displays any information about recovery actions if the step failed.
Schedule Time	The date and time the batch was loaded.
WS Call Time	The date and time that ABC makes the call to execute. Indicates if there is a problem in the execution.
Step Details	BODS Jobs: The workflows for the BODS jobs associated with each step. Other executables: Sub-processes of the step.

Stream Scheduler Dialog Box

This dialog box enables you to schedule a specific batch job and schedule a run_steps command.
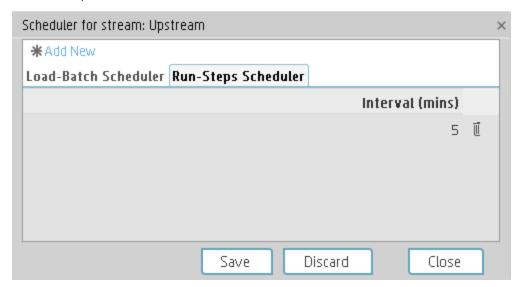
Load Batch Scheduler Tab

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Schedule Type	Select either: • **Interval:** Timeframe in minutes. • **Time of day:** Time according to 24 hour clock. Enter the required schedule time in the relevant row.
🗑	**Delete.** Deletes the adjacent schedule time.
Add New	Creates a new schedule. The new schedule is displayed in blue. When the schedule is saved to the server, the schedule is displayed in black.
Save	Saves all changes to the server.
Discard	Discards all changes without saving them to the server.
Close	Closes the Load Batch Scheduler dialog box.

Run_Steps Scheduler Tab

This sets the frequency that the ETL Management runs all of the executables for the stream. This includes steps that are loaded as well as the batches created.
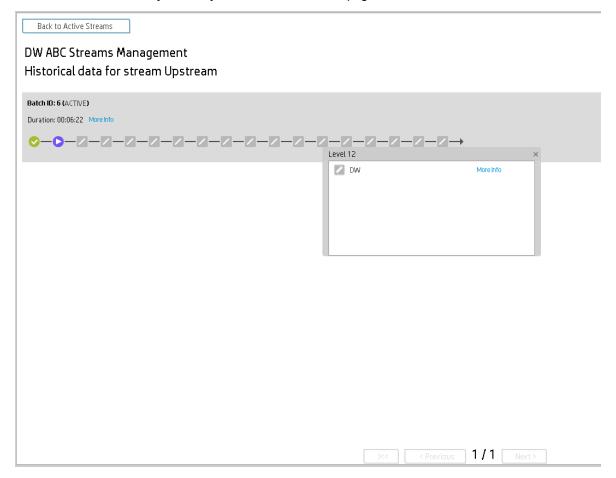

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Interval (mins)	Enter the interval at which you want to schedule the run_steps command. The default run_steps interval is initially set at 5 minutes in the Data Warehouse page of the ADMIN tab, but it is recommended to only make changes to the run_steps interval in this scheduler.
Add New	Enables you to add a new schedule for the run_steps command.
Save	Saves all changes to the server.
Discard	Discards all changes without saving them to the server.
Close	Closes the run-steps Scheduler dialog box.
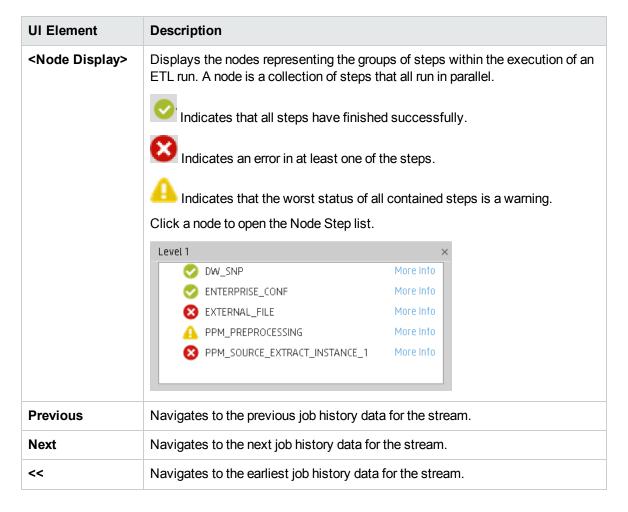
Historical Data Page

You can view a stream's job history on the Historical Data page..
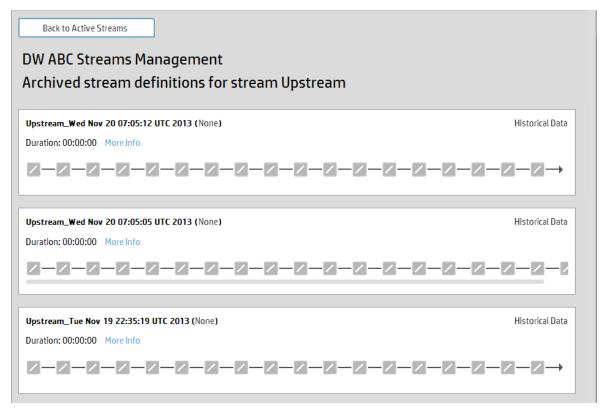
<Stream Display>

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Back to Active Streams	Opens the DW ABC Streams Management UI main page.
<Stream Information>	Displays the following stream details: • Batch ID Number • Status: Active, Suspended or Aborted • Duration • Date
More Info	Opens the Stream Details dialog box. For details, see "Stream Attributes Dialog Box" on page 166.

UI Element	Description
<Node Display>	Displays the nodes representing the groups of steps within the execution of an ETL run. A node is a collection of steps that all run in parallel. ✅ Indicates that all steps have finished successfully. ❌ Indicates an error in at least one of the steps. ⚠️ Indicates that the worst status of all contained steps is a warning. Click a node to open the Node Step list.
Previous	Navigates to the previous job history data for the stream.
Next	Navigates to the next job history data for the stream.
<<	Navigates to the earliest job history data for the stream.

Archived Streams Page

This page enables you to view stream definitions that have been changed and archived..

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

All fields are read-only.

UI Element	Description
Back to Active Streams	Opens the DW ABC Streams Management UI main page.
<Stream Information>	Displays the following stream details: • Stream Name • Status: Active or Suspended • Duration • Date
More Info	Opens the Stream Attributes dialog box. For details, see "Stream Attributes Dialog Box" on page 166.
Historical Data	Opens the Historical Data Page where you can view the archived stream history. For details, see "Historical Data Page" on page 171.
Back to Active	Opens the DW ABC Streams Management UI main page.

UI Element	Description
Streams	
<Node Display>	Displays the nodes representing the groups of steps within the execution of an ETL run. A node is a collection of steps that all run in parallel.

Perform Administration Tasks for Foundation

Foundation settings enables you to define various system settings for the administration of the product. The Foundations Settings includes the following:

Data Warehouse

Data Warehouse Settings enables you to define settings for various parts of the data warehouse structure.

To access:

Select **Admin** > **Data Warehouse**.

Learn More
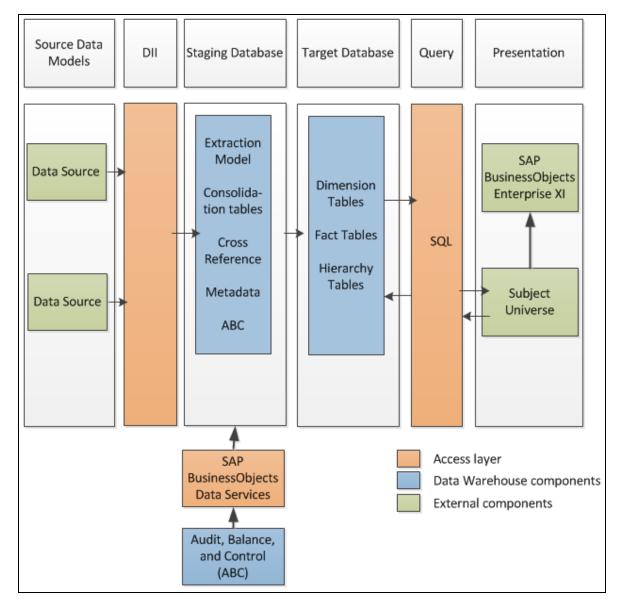
Model

The data warehouse model is an end-to-end solution for extracting source data and consolidating disparate source data models into a consolidated data model. The data organized to reflect this model resides in target tables that become the source for Executive Scorecard.

The data warehouse relies on an external RDBMS to provide daily maintenance and backup support, SAP BusinessObjects Data Services to assist with ETL, an ABC infrastructure of utilities and processes to govern regularly scheduled ETL jobs, and internal data warehouse utilities to create the data warehouse and maintain data integrity.

The figure below shows the principal data warehouse components and how they interact. Read the following sections for more information about each component, its role, and responsibilities.

Source data models

Source data originates in external application repositories. Data generated by an external application can be rich in business information, but unless you can integrate it with equally important business information generated by other applications, it is difficult to get a complete view of operational information.

The source data models describe the source and extraction format so that the data warehouse can consume this data and integrate it into a common view that you can use to populate comprehensive business intelligence reports and dashboards.

Data Integration Interface

The data integration interface (DII) is the access layer that stands between the source database models and the extraction models in the staging database. The DII uses a mapping model that transforms the source data to fit into extraction work tables. The DII can accommodate minor variations in the source model schemas from one version to another.

> **Note:** This interface requires access to the source systems.

SAP BusinessObjects Data Services

SAP BusinessObjects Data Services is the access mechanism that performs the physical data extraction from the source repository to the staging database. Each stage of the ETL is embodied in a Data Services job, from the extraction of source data to the target database.

Audit, Balance, and Control

Audit, Balance, and Control (ABC) processes ensure that source data is not corrupted in the extraction process, and that the integrity of the extracted data is maintained as it progresses from the initial source extraction through the logical and physical transformation into target tables. SAP BusinessObjects Data Services can move the data but does not evaluate whether the final result is correct. ABC establishes checkpoints and provides feedback on each step to guarantee that each step is valid before the next step begins.

The Audit component ensures consistency during ETL processing. It measures the number of records in and the number of records out for each step and displays these runtime statistics in a collection of audit reports.

Balance verifies that data in the data warehouse matches data in the source system.

> **Example** If the data warehouse stores project dollar amounts then the balance process verifies that the aggregate project dollars in the data warehouse matches the aggregate project dollars in the source application data.

Control governs the order of execution of ETL processes. Control makes sure that there is a proper restart and recovery when a system error occurs. Control also manages job dependencies at runtime.

ABC utilities are applications that you can invoke automatically or manually to run ETL, solve problems, and perform ETL-related tasks.

Staging database

The staging database contains tables and snapshots that are critical to the ETL process. Metadata describes these tables. Executive Scorecard processes data in the staging database before loading it into the final target tables in the target database.

- **Extraction (EXT) tables** contain the initial version of source data. EXT tables are used during the stage of ETL when Executive Scorecard loads data from the extract flat files into the staging database.
- **Validation failure (VALF) tables** are used during the data validation process that ensures all of the data is usable. VALF tables store source data that is rejected by the ETL process due to validation failure. Data validation is part of the process to load the EXT tables.
- **Identification (SSI and MSI) tables** restructure the diverse source system data into a conformed structure. Executive Scorecard uses SSI and MSI tables to standardize the data and add an enterprise key.
- **Consolidation (MSC) tables** integrate disparate source data into a consolidated entity. The MSC tables contain the uniform structure that Executive Scorecard uses to load the data into the target tables.
- **Transformation (XFR) tables** are load-ready tables that match the internal structure of the target

tables. Executive Scorecard uses XFR tables while preparing the data to be loaded into the target tables in the target database.

- **Lookup (LOOKUP) tables** store durable keys and surrogate keys. Executive Scorecard uses these tables to establish dimension-to-dimension references in dimension tables and foreign key references in fact tables.

- **Snapshot (TSNP, SSNP, and CSNP) tables** are the persistent storage for ETL staging data. These snapshot tables capture the changed data and support the data warehouse recovery process. The data warehouse uses TSNP tables for source extraction staging, SSNP tables for single source integration staging, and CSNP tables for multiple source consolidation staging. The final ETL stage captures the snapshot data.

- **Cross Reference (XREF) tables** support the data integration processes that combine records from multiple sources into a single record in the consolidation model.

- **Cross Reference Generator (XREFGEN) tables** support data matching and cross reference inputs for the consolidation models.

- **Metadata tables** contain a logical model and describe how to translate that model into the physical implementation of tables and views.

- **ABC tables** support the ETL workflow and enable job control and sequencing. They also host audit information to ensure data quality.

Target database

The target data models describe the format of the data that produces business intelligence analytics. The instantiated data models are dimension, fact, and hierarchy tables populated with data obtained through ETL processes.

Dimension tables contain the data model to be queried and presented by Executive Scorecard in a variety of reports and analytics.

Fact tables contain data that describes events, transactions, or other granular information.

Fact snapshots tables are fact tables that describe the state of things in a particular instance of time, and usually includes more semi-additive and non-additive facts.

- **Semi-Additive:** Semi-additive facts are facts that can be summed up for some of the dimensions in the fact table, but not the others.

- **Non-Additive:** Non-additive facts are facts that cannot be summed up for any of the dimensions present in the fact table.

Hierarchy tables capture hierarchical relationships among levels of data.

Queries

You can use structured query language (SQL) to create a primary abstraction layer of data from the target tables and use that data to populate reports, dashboards, or resolve business questions. The SAP BusinessObjects Enterprise XI 3.1 suite of business tools simplify accessing this information and storing it in business-oriented views.

Presentation

SAP BusinessObjects Enterprise XI 3.1 uses a universe abstraction layer to organize data for presentation in out-of-box or user-designed analytics. The universe provides a business oriented view of the data that resides in the data warehouse target tables.

Tasks

Define the settings

1. Select **Admin** > **Data Warehouse**.
2. Click the relevant field in the **Value** column and enter the value.
3. Click **Save** to save your settings.

UI Description

Data Warehouse Page

This page enables you to configure the Data Warehouse settings.

Data Warehouse Table

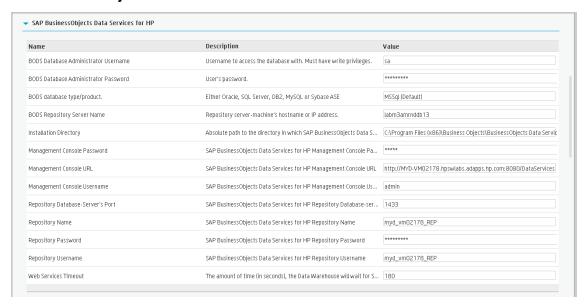| Name	The name of the Data Warehouse field.
Description	The description of the Data Warehouse field.
Value	The current Data Warehouse field value. Click the relevant row and enter a value.

General Table

UI Element	Description
BODS Cleanup Days of Week	The days of the week when you want to perform the cleanup of the BODS dump. Select: 0 or 7 for Sunday is, 1 for Monday, 2 for Tuesday, 3 for Wednesday, 4 for Thursday, 5 for Friday, and 6 for Saturday, or use the first three letters of the day name. SAP BusinessObjects Data Services creates dump files whenever it runs into a problem. These dumps are usually large and are not removed automatically , causing the file system to eventually run out of disk space. When the scheduled cleanup of the dump files is executed, it first cleans up the dump files, and then it examines the schedule settings and update its schedule if needed. So, if you've scheduled the cleanup for once a day Sunday – Thursday, and you want to change it to once a week, simply change the days of week value and the next time the cleanup is triggered, the new schedule will go into effect. **Example** If you want to schedule the cleanup every Sunday, you can enter any of the following in the BODS Cleanup Days of Week setting value: • **"Sun"** • **0** • **7** If you want to schedule the cleanup every Monday – Friday, you can enter any of

UI Element	Description
	the following in the BODS Cleanup Days of Week setting value: • "Mon" – "Fri" • 1-5 • 1,2,3,4,5 • "Mon", "Tues", Wed", "Thurs", "Fri" The value is simply used to set the dayOfWeek field in the javax.ejb.ScheduleExpression and the ScheduleExpression performs the validation of the value.
BODS Cleanup Time of Day	The time (hours and minutes) when you want to perform the cleanup of the BODS dump. The format is: HH:MM for a 24 hour clock (for example: 16:00). The hour is according to the server time zone, not to the client time zone.
Data Warehouse Port	The Data Warehouse web server port. This field is read-only.
Data Warehouse Server Name	The Data Warehouse server machine hostname or IP address. This field is read-only.
External Source File Location	The directory where the external source files used by the Data Warehouse are stored.
First year handled by DWH dates	The first available year for Data Warehouse dates. This includes period, time zones or DST.
Fiscal month of year	The first month of the fiscal year. This field is read-only.
Last year handled by DWH dates	The last available year for Data Warehouse dates. This includes period, time zones or DST.
Scheduler Run-steps Interval	The interval value in minutes that you want the run_steps command to automatically execute. This is the default value for initial execution. All changes in interval should be made in the DW ABC Streams Management UI. For details, see " ETL Management " on page 159. A run-steps schedule configured in Data Warehouse Settings does not affect the existing running batch schedule. It is recommended to only change the run-steps

UI Element	Description
	interval schedule in the ETL Management tab DW ABC Streams Management UI.
	To enable a new run-steps schedule configured in Data Warehouse Settings on existing defined streams you can:
	• Restart the XS server.
	• Reload the dw-abc-services application: **Glassfish Admin Console** > **Applications**, and click **Reload** for the dw-abc-services application.
	• Redeploy the application
	In these cases you would now have two scheduled intervals. Delete one in the DW ABC Streams Management UI.
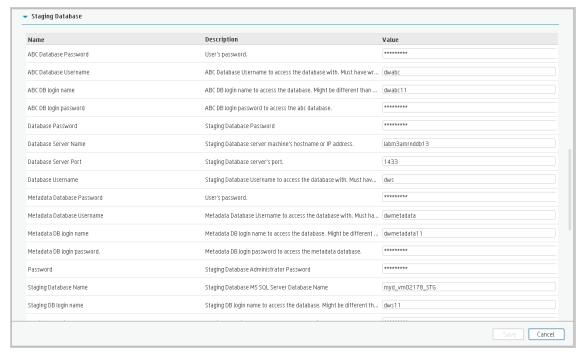
SAP BusinessObjects Data Services for HP XS Table

UI Element (in alphabetical order)	Description
BODS Database Administrator Username	The username to access the SAP BusinessObjects Data Services database. Must have write permissions.
BODS Database Administrator Password	The user's password to access the SAP BusinessObjects Data Services database.
BODS database type/product	The database type: Oracle, SQL Server, DB2, MS SQL, or Sybase ASE. This field is read-only. **Note:** Currently only MS SQL is supported.

UI Element (in alphabetical order)	Description
BODS Repository Server Name	The SAP BusinessObjects Data Services repository server machine's host name or IP address.
Installation Directory	The absolute path to the SAP BusinessObjects Data Services and HP XS installation directory. This field is read-only.
Management Console Password	The SAP BusinessObjects Data Services management console password.
Management Console URL	The SAP BusinessObjects Data Services management console URL. This field is read-only.
Management Console Username	The SAP BusinessObjects Data Services management console username.
Repository Database-Server's Port	The SAP BusinessObjects Data Services repository database server's port. This field is read-only.
Repository Name	The SAP BusinessObjects Data Services repository name. This field is read-only.
Repository Password	The SAP BusinessObjects Data Services repository password.
Repository Username	The SAP BusinessObjects Data Services repository username. This field is read-only.
Web Services Timeout	The amount of time, in seconds, that Data Warehouse waits for a SAP BusinessObjects Data Services to respond to a web services request before a timeout.

Staging Database Table
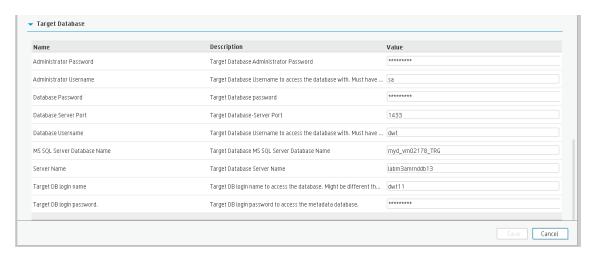
UI Element (in alphabetical order)	Description
ABC Database Password	The ABC database password.
ABC Database Username	The ABC database username. This field is read-only.
ABC DB login name	ABC logon name used to access the database.
ABC DB login password	ABC logon password used to access the database.
Database Password	The staging database password.
Database Server Name	The staging database server machine hostname or IP address.
Database Server Port	The staging database server port.
Database Username	The staging database username. This field is read-only.

UI Element (in alphabetical order)	Description
Metadata Database Password	The metadata database password.
Metadata Database Username	The metadata database username. This field is read-only.
Metadata DB login name	Metadata logon name used to access the database.
Metadata DB login password	Metadata logon password used to access the database.
Password	The staging database administrator password.
Staging Database Name	The name of the staging database on the MS SQL server. This field is read-only.
Staging DB login name	Staging database logon name used to access the database.
Staging DB login password	Staging database logon password used to access the database.
Staging Target DB Database Password	The staging target database password.
Staging Target DB Database Username	The staging target database username. This field is read-only.
Staging Target DB login name	Staging Target database logon name used to access the database.
Staging Target DB login password	Staging Target database logon password used to access the database.
Time Dimension Granularity	The granularity of time, in minutes, of the time dimension. This field is read-only.
Username	The staging database administrator username. This user must have write permissions. This field is read-only.

Target Database Table

UI Element (in alphabetical order)	Description
Administrator Password	The target database administrator password.
Administrator Username	The username used to access the target database. This user must have write privileges. This field is read-only.
Database Password	The target database password.
Database Server Port	The target database server port. This field is read-only.
Database Username	The target database username. This user must have write permissions. This field is read-only.
MS SQL Server Database Name	The target database MS SQL server name. This field is read-only.
Server Name	The target database server name. This field is read-only.
Target DB login name	The logon name for the target database. May be different than the fixed user and schema name.
Target DB login password	The target database logon password used to access target database metadata.

Foundation

Enables you to configure foundation settings in Executive Scorecard.

To access:

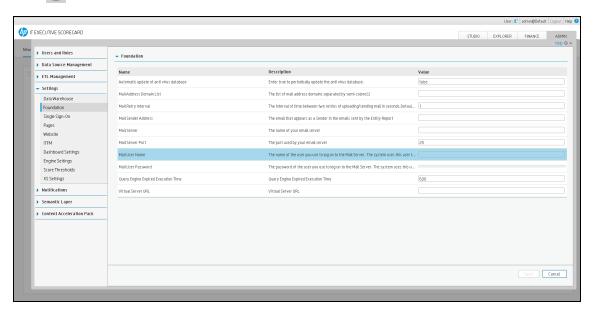Select **Admin** > **Foundation** > **Foundation**.

Tasks

Configure the Foundation settings

1. Select **Admin** > **Foundation** > **Foundation**.
2. Click the relevant row and enter the required setting.
3. Click **Save** to save your settings.

UI Description

Foundation

This page enables you to configure the Pages settings.

Click to refresh the page.

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Automatic update of anti virus database	Set to **true** to periodically update the anti virus database. The update occurs every Sunday at 12:00 am (midnight). Default: **false**
Mail Address Domain List	The list of mail address domains separated by semi-colons (;).
Mail Retry Interval	The interval of time between two retries of uploading/sending mail in seconds. Default: 10 seconds.
Mail Sender Address	The email that appears as a Sender in the emails sent by the Entity Report. For details, see "Notifications - Entity Report" on page 210.
Mail Server	The name of your email server.
Mail Server Port	The port used by your email server.
Mail User Name	The name of the user you use to log on to the Mail Server. The system uses this user to send the notification emails.
Mail User Password	The password of the user you use to log on to the Mail Server. The system uses this user to send the notification emails.
Query Engine Expired Execution Time	If the SQL executing time exceeds the value of the setting, the allocation of ITFM returns an error. You may need to increase the value if your allocations have many stages or if your database includes many cost data. The unit is seconds. Default: **600**.
Virtual Server URL	The URL of the virtual server.

Single Sign-On

HP Lightweight Single Sign-On is a method of access control that enables you to navigate to other HP products that implement LW-SSO without supplying credentials again. A user can log on once and gain access to the resources of HP software systems without being prompted to log on again. The applications inside the configured group of software systems trust the authentication, and there is no need for further authentication when moving from one application to another.

The Single Sign-On page enables you to configure Single Sign-On (SSO) requirements.

To access:

Select **Admin** > **Settings** > **Single Sign-On**.

Learn More

HP Lightweight Single Sign-On is a method of access control that enables you to navigate to other HP products that implement LW-SSO without supplying credentials again. A user can log on once and gain access to the resources of HP software systems without being prompted to log on again. The applications inside the configured group of software systems trust the authentication, and there is no need for further authentication when moving from one application to another.

Tasks
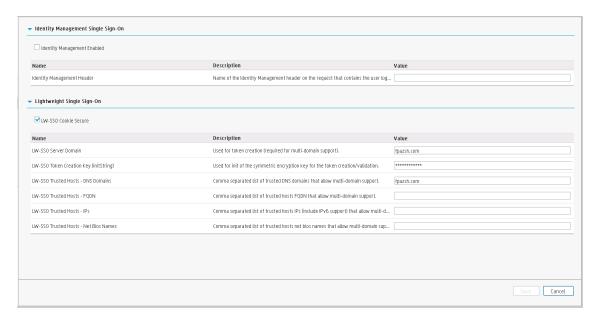
Add or change SSO values

1. Select **Admin** > **Foundation** > **Single Sign-On**.
2. Click the relevant field in the **Value** column and enter the value.
3. Click **Save** to save your settings.

UI Description

Single Sign-On Page

This page enables you to configure the SSO settings to log on of all HP products.

Click to refresh the page.

Identity Management Single Sign-On Table

UI Element	Description
Identity Management Enabled	Select the check box and enter the name of the IDM header (the header that contains the user logon name) in the **Value** field of the **Identity Management Header** setting.
Identity Management Header	The name of the IDM header (the header that contains the user logon name).

Lightweight Single Sign-On Parameters

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
LW-SSO Cookie Secure	Select to make sure that the cookie is always encrypted when transmitting from client to server.
LW-SSO Server Domain	The domain used for token creation. This value is required in cases of multi-domains.
LW-SSO Token Creation Key (initString)	The string used as the encryption key for token creation and validation.
LW-SSO Trusted Hosts - DNS Domains	The list of trusted DNS domains that allow multi-domain support (must be separated by commas).
LW-SSO Trusted Hosts - FQDN	The list of trusted hosts' FQDN that allow multi-domain support (must be separated by commas).

UI Element	Description
LW-SSO Trusted Hosts - IPs	The list of trusted hosts' IPs that allow multi-domain support (must be separated by commas).
LW-SSO Trusted Hosts - Net Bios Names	The list of trusted hosts' net bios names that allow multi-domain support (must be separated by commas).

Pages

Enables you to configure the Dashboard page settings in Executive Scorecard.

To access:

Select **Admin** > **Foundation** > **Pages**.

| Learn More | Tasks | UI Description |

Learn More

For more information about Executive Scorecard pages, see Page Layout and Components in the *IT Executive Scorecard Business Analyst Guide*.

Tasks

This section includes:

- Configure the page settings 194
- Modify the maximum number of open pages 194
- Modify the maximum number of active pages 195

Configure the page settings

1. Select **Admin** > **Foundation** > **Pages**.
2. Click the relevant row and enter the required setting.
3. Click **Save** to save your settings.

Modify the maximum number of open pages

By default, an unlimited number of pages can be open at the same time. If you have multiple pages open, up to 5 of the most popular pages are immediately available for display when you switch to them. The other pages are least viewed pages, meaning that are silently deactivated in the background. When you select them, it might take a few seconds until they load and display their content.

Note that if you increase these limits, performance may be impaired.

To modify the maximum number of open pages:

1. Select **Admin > Foundation > Pages**.
2. Modify the **Maximum number of open pages** entry as needed.

For details, see "Perform Administration Tasks for Foundation" on page 176.

Note that if you increase the maximum number of pages, performance may be impaired.

Modify the maximum number of active pages

By default, an unlimited number of pages can be open at the same time. If you have multiple pages open, up to 5 of the most popular pages are immediately available for display when you switch to them. The other pages are least viewed pages, meaning that are silently deactivated in the background. When you select them, it might take a few seconds until they load and display their content.

Note that if you increase these limits, performance may be impaired.

To modify the maximum number of active pages:

1. Select **Admin > Foundation > Pages**.
2. Modify the **Maximum number of loaded pages** entry as needed.

For details, see .

UI Description

Pages Settings

This page enables you to configure the Pages settings.

Click to refresh the page.

Pages Configuration		
Name	**Description**	**Value**
Max loaded pages	The maximum number of open pages that are currently loaded (0-un...	5
Max open pages	The maximum number of open pages (0 - unlimited)	8

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Max loaded Pages	The maximum number of open pages that are currently loaded in Executive Scorecard. The options are any valid number or 0 for unlimited.
Max open pages	The maximum number of open pages in Executive Scorecard. The options are any valid number or 0 for unlimited.

Website

The Website page enables you to configure ping time intervals for refreshing the browser automatically

To access:

Select **Admin > Foundation > Website**.

Tasks

Set the ping interval

1. Select **Admin > Foundation > Website**.
2. Select the check box to enable the ping feature. De-select the check box to disable the ping feature. The browser will then time out.
3. Click the **Ping time interval** row and enter the required time in seconds.
4. Click **Save** to save your settings.

UI Description

Website Page

This page enables you to configure the Website settings.

Click ⟳ to refresh the page.

Timing		
☑ Enable Session Keepalive		
Name	**Description**	**Value**
Ping time interval	Define time interval (in seconds) of ping to server, note that the chan...	120

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Enable Session Keepalive	Select to enable the ping feature.

UI Element	Description
Ping time interval	The amount of time (in seconds) between browser refresh. This ensures that the application does not time out. **Note:** Changes will only take effect in the next logon.

ITFM

Enables you to configure the settings for the IT Financial Management module.

To access:

Select **Admin > ITFM > ITFM**.

| Tasks | UI Description |

Tasks

This section includes:

Configure the ITFM settings

1. Select **Admin** > **ITFM > ITFM**.
2. Click the row of the relevant setting and enter the value or select the option.
3. Click **Save** to save your settings.

Configure ITFM Users, Roles, and Permissions

Roles and permissions for users is managed through the ADMIN tab, enabling you to specify permissions for each role. Additionally, you can attach instances to a permission, so that the user can only access certain budgets or allocations. This model is based on:

- The permissions of each user, instead of relying on the user's roles. The permissions are final and cannot be modified or deleted, allowing the flexibility to grant users access to different ITFM features, while assigning them to different roles.

- Budget related operations according to each user's scope (instance level permissions).

Two out-of-the-box roles are available: BUDGET_COORDINATOR and FINANCIAL_ANALYST. For details, see "Role Management" on page 63.

Change the currency of the ITFM

The default currency for all IT Financial Management KPIs is $.

During the post-installation process, if you have changed the currency in the **Data Warehouse - Currency Configuration** page of the post-install wizard, you must change the currency in each one of the KPIs to match your selection, as follows:

1. In the application, click **Studio**.

2. In the Active KPIs pane, for each KPI under the **Financial Planning Analysis Scorecard**, and in the **Configuration details** tab, select the relevant unit in the **Unit** drop down list.

3. Click **Save**.

UI Description

ITFM Page

This page enables you to configure specific IT Financial Management-related settings .

Click to refresh the page.

General		
Name	**Description**	**Value**
Interval for clearing FPA cache	Interval for clearing FPA cache	10,800,000
Polling interval for FPA's process new data monitor	Polling interval for FPA's process new data monitor	300,000

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Interval for clearing FPA cache	How long the system should save the objects loaded from the database during the allocation scenario calculations. **Note:** Do not modify this parameter.
Polling interval for FPA's process new data monitor	Specifies the execution interval of the IT Financial Management procedure that checks whether new data was loaded using ETL, and recalculates allocation scenarios accordingly. **Note:** Do not modify this parameter.

Dashboard Settings

Enables you to set the settings for the Dashboard, where an executive can view the progress of the required objectives.

To access:

Select **Admin > Scorecard > Dashboard Settings**.

Learn More	Tasks	UI Description

⬤ Learn More

For more Executive Scorecard dashboard information, see "Prepare the Dashboard Display".
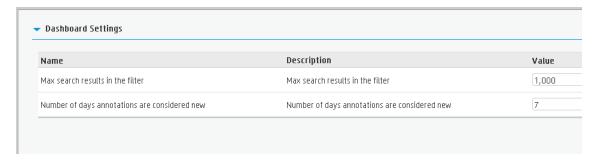
⬤ Tasks

Configure the Dashboard Settings

1. Select **Admin** > **Scorecard** > **Dashboard Settings**.
2. Click the row of the relevant setting and enter the value.
3. Click **Save** to save your settings.

⬤ UI Description

Dashboard Settings Page

This page enables you to configure specific dashboard settings.

Click ⟳ to refresh the page.

▼ Dashboard Settings

Name	Description	Value
Max search results in the filter	Max search results in the filter	1,000
Number of days annotations are considered new	Number of days annotations are considered new	7

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Max search results in the filter	The maximum number of search results allowed in the filter. The default value is **1000**.
Number of days annotations are considered new	The number of days annotations are considered new. The default value is **7**.

Engine Settings

Enables you to configure settings for the HP IT Executive Scorecard KPI engine, which performs discovery on data coming from contexts (data sources).

To access:

Select **Admin** > **Scorecard** > **Engine Settings**.

Tasks

Configure the Engine Settings

1. Select **Admin** > **Scorecard** > **Engine Settings**.
2. Click the row of the relevant engine function and enter the value in milliseconds.
3. Click **Save** to save your settings.

UI Description

Engine Settings Page

This page enables you to configure the engine settings for HP IT Executive Scorecard.

Click to refresh the page.

Engine Settings

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Engine Health Timer	The amount of time in milliseconds, after which, if the calculation result is not received for the KPI, a new calculation attempt is started. The default value is 600,000, which equals 10 minutes.

Recalculate Settings

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Max number of days to recalculate for Daily KPIs	The maximum number of days used in recalculations for KPIs and Metrics with a Calculation Period set to **Daily**. Default: 30. For details, see Recalculation in the *IT Executive Scorecard Business Analyst Guide*.

Score Thresholds

Enables you to set the score thresholds for the KPIs in the HP IT Executive Scorecard.

To access:

Select **Admin** > **Scorecard** > **Score Thresholds**.

| Learn More | Tasks | UI Description |

Learn More

For more score threshold information, see "Learn About KPI Formula and Filter, Threshold, Value, Trend, and Score" in the *IT Executive Scorecard Business Analyst Guide*.
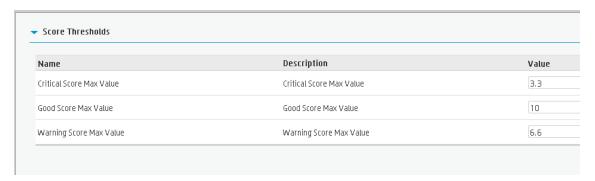
Tasks

Configure the Score Thresholds

1. Select **Admin** > **Scorecard** > **Score Thresholds**.
2. Click the row of the relevant score threshold and enter the value.
3. Click **Save** to save your settings.

UI Description

Score Thresholds Page

This page enables you to configure the score threshold settings for the KPIs in HP IT Executive Scorecard.

Click to refresh the page.

▼ Score Thresholds		
Name	**Description**	**Value**
Critical Score Max Value	Critical Score Max Value	3.3
Good Score Max Value	Good Score Max Value	10
Warning Score Max Value	Warning Score Max Value	6.6

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

Note: Each **Score Max Value** must be greater than 0 and less than the next one (**Error Score Max Value** < **Warning Score Max Value** < **Good Score Max Value**)

UI Element	Description
Critical Score Max Value	The maximum value on the KPI scale, below which the value is scored as an error. KPIs that score values equal to or below this value, receive an error score. **Example** If the maximum error score is 3.3, then a score on the scale from 0 - 3.3 is an error. Default: **3.3**
Good Score Max Value	The maximum value on the KPI scale, below which the value is scored as good. KPIs that score values equal to or below this value, receive a good score. **Example** If the maximum good score is 10, then a score on the scale from 6.6 - 10, is good. Default: **10**
Warning Score Max Value	The maximum value on the KPI scale, below which the value is scored as a warning. KPIs that score values equal to or below this value, receive a warning score. **Example** If the maximum warning score is 6.6, then a score on the scale from 3.3 - 6.6, is a warning. Default: **6.6**

XS Settings

Enables you to set various scorecard settings.The HP IT Executive Scorecard is a way to map and translate complex business information into something that's understandable to everyone.

To access:

Select **Admin** > **Scorecard** > **XS Settings**.

Tasks   UI Description

Tasks

This section includes:

Configure the XS settings

1. Select **Admin** > **Scorecard** > **XS Settings**.
2. Click the row of the relevant setting and enter the value.
3. Click **Save** to save your settings.

Show or hide the Debug Properties

The maintenance of HP IT Executive Scorecard is performed using the ADMIN tab.

To display or hide the debug properties (ID and Type) displayed in the Configuration details tab for all templates or active nodes, select **Admin > Scorecard > XS Settings > Debug Mode**, and:

- Select the **Application Debug Mode** option to display the debug information in the Configuration details tabs.
- Clear the **Application Debug Mode** option to hide the debug information in the Configuration details tabs.

UI Description

XS Settings Page

This page enables you to configure specific XS settings.

Click ⟳ to refresh the page.

Context Designer

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Maximum size of .CSV file (MB)	The maximum size of a .CSV file that can be imported into the Context Designer. The default value is 20 MB.

Debug Mode

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Application Debug Mode	Select to activate the debug mode.

Studio Update

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
Meta Data reload rate (Days)	The number of days after which the meta data is reloaded. If you configure Executive Scorecard to work with the SAP BusinessObjects Enterprise universes, every X days (where X corresponds to what you specified in **Meta Data reload rate (Days)**), Executive Scorecard reloads all the universes metadata from the SAP BusinessObjects Enterprise. The default value is **7** days.

UI Element	Description
Users Info reload rate (Minutes)	The number of minutes after which user info is reloaded. The default value is **60** minutes.

Semantic Layer – Contexts and Universes

Executive Scorecard semantic layer includes Contexts and universes.

The Context Designer feature enables you to create and manage Contexts (universes). The Contexts can be based on your target schema tables or on Excel (or .CSV) files that can be uploaded to the target schema using the Data Loader.

Context Designer can be used to upload data and create contexts based on the data, when you want to work with the Executive Scorecard and IT Financial Management applications without using Data Warehouse and SAP BusinessObjects Enterprise. It is a direct way to upload data into the Executive Scorecard Studio using files without performing integrations to external sources or to other HP products. It can be used, to integrate third party data, testing, or for Proof of Concept (POC) sessions. It can also be used as a component of Executive Scorecard to integrate third party data.

Context Designer provides KPI results based on your real data.

For general information about the Semantic Layer (contexts and universes), see the *IT Executive Scorecard Content Reference Guide*.

For details about the contexts, KPIs, Metrics, and integration with a specific data source, see see the *IT Executive Scorecard Content Reference Guide* relevant to the data source.

Notifications – Entity Report

You use the Entity Report to view the changes to the values or states of the XS entities.

You can schedule to automatically generate the Entity Report for selected Scorecards, Perspectives, Objectives, KPIs, Metrics, KPI Breakdowns, and Metric Breakdowns and to send selected users email notification that include the Entity Report.

To access:

Click **Admin > Notifications > Entity Notification**.

| Learn More | Tasks | UI Description |

Learn More

The Entity report

You can configure a single report for more than one entity.

If you select to display the Scorecards, Perspectives, or Objectives entities in the report, all the children entities under the selected entities are also displayed in the report. If you select KPIs or Metrics, their Breakdowns are also displayed in the report.

The report displays both the current status and the change in status for the last closed period (not since the last time the report was scheduled). For example, you create a daily scheduled report for a monthly KPI. The report shows the KPI current value, the trend that compares the current value and the value for the last closed period (previous month), the status, the last calculation time, and the KPI threshold.

You can schedule to send the report every day, week, month, or quarter at a specific time.

The report displays the following information:

Entity Type	Name of Entity	Current Status of Entity	Current Value of Entity	Current Score of Entity	Trend	Last Calculation Date	Entity Children Data
Scorecard	V	-	-	-	-	-	V
Perspective	V	-	-	-	-	-	V
Objective	V	V	-	V	V	V	V
KPI	V	V	V	-	V	V	By choice
KPI Breakdown	V	V	V	-	V	V	By choice
Metric	V	-	V	-	V	V	By choice
Metric Breakdown	V	-	V	-	V	V	By choice

Tasks

This section includes:

Configure the Notification settings

Before you can create and schedule Entity Reports, you must configure the email settings in **Admin > Settings > Foundation**. For details, see "Foundation" on page 189.

Create an Entity Report

You want to get a scheduled report on the current status (value, status, trend) of specific entities. Depending on your permissions:

1. Log into XS.

2. Click **Admin > Notifications > Entity Notification**.

3. Click **New** to create a new notification.

4. In the New Notification dialog that appears, select **Entity Report**, and enter the notification name, description, select the relevant entities from the entities list, set the scheduling time when the report is to run, select the relevant recipients, select the Active notification status, and test the report or save.
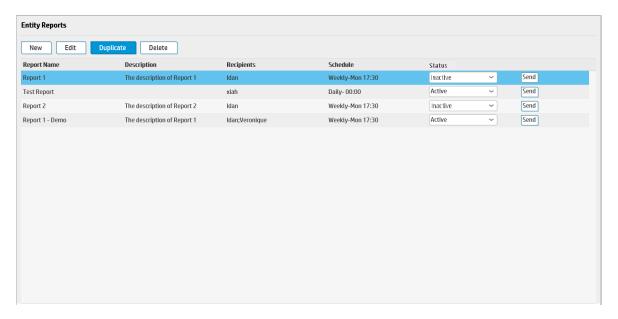
Add recipients to an Entity Report

You have scheduled an entity report and the report is sent according to schedule to a list of specific emails. You want to schedule the same report to be sent to other emails:

1. Click **Admin > Notifications > Entity Notification**.

2. Select the relevant entity report, and click **Edit**.

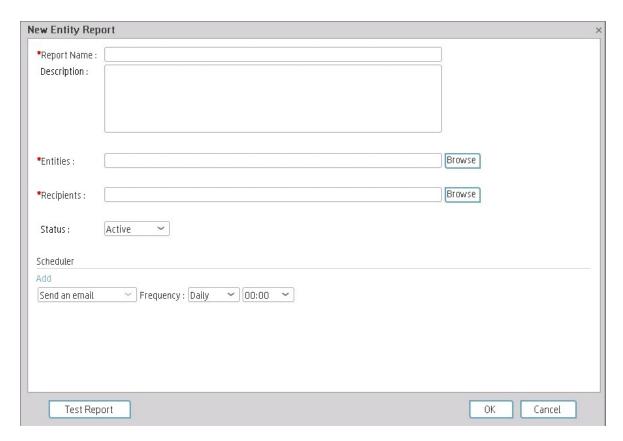3. In the Edit Notification dialog that appears, select the Recipients, test the report, or save.
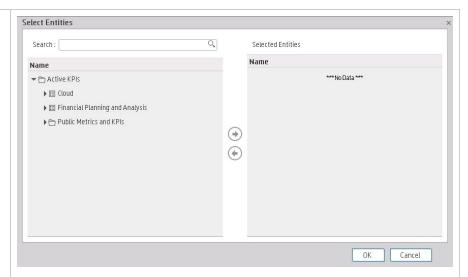
UI Description

Entity Reports page

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
New	Click to create a new report. The New Entity Report dialog box opens. For details, see "New/Edit Entity Report dialog box" below.
Edit	Click to edit the selected report. The Edit Entity Report dialog box opens. For details, see "New/Edit Entity Report dialog box" below.
Duplicate	Click to duplicate the selected report. The select report opens in the Edit Entity Report dialog box. Modify the report and save.
Delete	Click to delete the selected report.
Report Name	The name of the report.
Description	The description of the report.
Recipients	The recipients of the scheduled report.
Schedule	The date and time when the report is scheduled to run.
Status	**Active** if the notification is activated or **Inactive** if the notification is deactivated.
Test report	Click to test the report.

New/Edit Entity Report dialog box

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

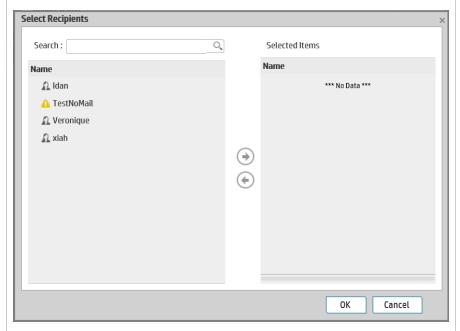| UI Element	Description
Report Name	The name of the report.
Description	The description of the report.
Entities	The list of selected entities. Click **Browse** to select the relevant entities.

Select the relevant entities in the tree in the left side and use the arrows to move the entities to the **Selected Entities** area.

> **Note:** If you select an Objective, and all its KPIs are moved to the selected panel, you can then remove some of these KPIs by selecting them in the **Selected Entities** area and using the back arrow.

| **Recipients** | Select the recipients of the scheduled email. You can enter additional emails separated by commas (,) or click **Browse** to select more recipients. |

Select the relevant recipients in the left side area and use the arrows to move the recipients to the **Selected Recipients** area.

You can also use the search feature.

You can also deselect recipients by removing them from the **Selected**

	Recipients area using the back arrow.
Schedule	Select to send an email to the selected recipients once a **Daily**, **Weekly**, or **Monthly**, at a specific time (24 hours format). Click **Add** to add more schedules.
Notification status	Select **Active** to activate the notification or **Inactive** to deactivate the notification.
Test report	Click to test the report. • The test report is as follows for Objectives and Scorecards: The report displays the tree of child items of the selected item. For each item in the tree, you can see the entity type (icon), the name of the entity, the current value, the current period, the current status, the current trend, the last calculation period, and the value during the previous period. • The test report is as follows for a KPI:

The report displays:

- The entity type (icon), the name of the entity, and the current period.

- The current value.

- The threshold, the current status, the current trend, the last period, and the value during the last period.

About Content Acceleration Packs (CAPs)

Content Acceleration Packs (CAPs) are ready-to-import packages that include Dashboard pages that display Scorecards and components, KPIs, Metrics, Contexts (universes), data (from data sources), and documentation for the CAP.

CAPs describe typical stories that show how the correct implementation of Executive Scorecard drives Performance Improvement and Cost Reduction for the IT organization.

CAPs demonstrate Executive Scorecard capabilities, and helps you add basic elements that can be used to customize your Dashboard.

For details about the Content Acceleration Packs (CAPs), see Content Acceleration Pack (CAP) Management in the *Content Acceleration Packs Guide*.

Partitioning

Partitioning provides a performance improvement for very large tables and indexes used in daily operations performed by the allocation engine, the KPI Engine, and other queries.

Partitioning is triggered by the ETL.

Learn More   **Tasks**

Learn More

Partitioning in XS

XS expects tables to grow to hundreds of GB or more. Such large tables cause performance issues are they make it difficult to load and manipulate data, to remove old data, and to maintain indexes.

Partitioning tables and their indexes divides the object into smaller segments, so that maintenance operations can be done on a single segment at-a-time, rather than on the entire table. Partitioning the table can also automatically direct queries to the appropriate partition, which reduces the amount of records to scan and speeds up the queries.

The tables that are partitioned by default are all the FACT tables in the Target database and the SNAPSHOT tables in the Staging database.

Benefits

The benefits of using partitioning are:

- The SQL Server automatically manages the placement of data into the correct partition.
- The partitioning of tables and indexes is transparent to the application.
- The loading is faster and easier.
- The performance of the allocation engine, KPI engine, and other queries is improved.
- The Locks, Compressions and Read-Only are controlled at partition level.

Limitations

The limitations are:

- To work with partitioning you must install the SQLServer 2008 Enterprise Edition.
- XS supports a maximum of 1000 partitions per table.
- Partition Operations like (Split, Merge and Switch) can be blocked by other Data Manipulation Language (DML) statements like SELECT, UPDATE, or INSERT that are ran on the table at the same time.
- Rebuilding Indexes cannot be implemented online, the main reason for that is that the whole table will be locked during this action
- Once the partitioning column(s) is set, it is not possible to change it.
- Changing the sliding windows scenarios can be difficult.

- Switch Partition mainly for Archive proposes have to reside on the same database.
- In a CLUSTERED table, the Column Partition MUST be part of Primary Key or CLUSTERED INDEX.

⬤ Tasks

Deactivate Partitioning

Partitioning is activated by default.

To deactivate partitioning, proceed as follows:

1. In the Staging database, locate the Configuration table (for details, see "Configuration Table" on page 221) and change the **Activation Status** from **True** to **False**.
2. In the Target database, locate the Configuration table (for details, see "Configuration Table" on page 221) and change the **Activation Status** from **True** to **False**.

⬤ Reference

Partitioning New Objects

- **Store Procedures**

  The XS Store procedures that are responsible for partitioning are as follows:

  - **CreateTBLPartition_P** – This Store Procedure is responsible for converting existing Tables/Indexes into Partition Objects. It is executed from Init DB, or from a customization script in Upgrade. It reads the list of tables from the configuration table, and partitions the given table and it indexes one by one.

    Format:
    CREATE PARTITION FUNCTION <TABLE_NAME>_PF AS RANGE RIGHT FOR VALUES (List of Dates, or Integer Boundary)

    CREATE PARTITION SCHEME <TABLE_NAME>_PS AS PARTITION TABLE_NAME>_PF ALL TO (<FILE GROUP>)

    > **Example**
    >
    > CREATE PARTITION FUNCTION NODE_FACT AS RANGE RIGHT FOR VALUES (…'01-feb-2012','01-mar-2012'….)

    - **Partitioning indexes:**

      If Primary KEY exists, the procedure will drop it and recreate new clustered unique index using the primary key plus the new partition column.

Format:
DROP INDEX <Constraint_Name> ON <Table_Schema>.<Table_name>
WITH (Move To <PS_Name> (<Partition_Columns>))

For every existing index, it will add this partition column, and partition the index:
CREATE INDEX <Previous_Index_Name> ON <SCHEMA>.<TABLE_NAME> (List of
Columns) ON <Partition Scheme> (Partition Column)

- **Check_Configuration_Partition_fnc** – The function that checks and validates records in the **configuration_partition** before starting the actual partitioning procedure. This function is the first step of **CreateTBLPartition_P**.

- **ADDPartition_P** – The procedure adds a partition when needed, according to the partitioning methods. It creates new Partitions for a given Object that is already partitionned. It executes as one of the last step in XS ETL run.

  - Date_boundary

  - Integer_Boundary

  - Period_Boundry

  If the SP fails it writes the errors into APPLICATION_ERROR_LOG table.

> **Note:**
>
> - Snapshots partitioning is done automatically. When each Staging ETLis running, the Create Partitioning procedure is running. It searches for new Snapshots tables in Staging: if there are new tables it will insert their names/details into the Configuration_Partition table.
>
> - For **Snapshot_Boundary** (TSNP, SSNP staging tables) the portioning is fixed (0-9 and A-Z), so no need to add partition.
>
> - For Snapshot with CSNP tables the partition column is **MD_BUSSINES_KEY** and the partitioning method is **Integer_Boundary**.

- **Tables**

  - **Configuration_Partition** – The configuration table that includes the list of candidates Objects for partitioning.

  - **APPLICATION_ERROR_LOG** – The auditing and error log table. The procedures above write the errors into this table in case of failure.

> **Note:**
>
> - The tables above are created as part of the **Init_DB** or **Upgrade** processes.
>
> - The **CreateTBLPartition_P** and **Check_Configuration_Partition_fnc** procedures are executed at the last step in XS ETL run.

- Table Partitioning

  XS partition supports (right now) four ways of partitioning, all RIGHT range partition:

- Date Boundary Range

- Integer Boundary Range

- Period Boundary Range

- Snapshot Boundary Range – Fixed Range (0-9 , A-Z)

- Configuration Table

  This table is provided out-of-the-box.

Column Name	Description
Entity_Name	Services, Person, Projects, SLA….
Entity_Type	**Target_core** or **Snapshot** Snapshots are located in staging DB(SSNP,TSNP)or in target (CSNP)
Table_Name	The name of the Partition Table.
Table_Schema	**dwt**, **dws**, or **itaapp**
Partition_Method	Date_Boundary, Integer_Boundary, Snapshot_Boundary, Period_Boundary
Partition_Policy	Date_Boundary (Month) Integer_Boundary (NULL) Snapshot_Boundary (NULL) Period_Boundary (Month)
Partition_Columns	MUST be DATETIME or Integer types
Amount_of_Records_Per_ Partition	Amount_of_Records_Per_Partition (minimum of 1,000,000) Active only for Integer_Boundary
Retention_Policy	In Days, how long to keep the data, default 36,525= 100 years
Partition_Status	**Normal** - For new not partitioned tables. **Partitioned** - For partitioned tables.
Activation_Status	**True**. Continue the partitioning of the object. Default. **False.** Stop the partitioning of the object.
Archive_Status	This is for future use. **True**. The table is to be archived. **False.** The table is not to be archived. Default.

4 Servers Configuration - Server Connection

When you are configuring an allocation scenario and you mark it as **Affect Dashboard**, all the KPI calculations based on the FinancialManagement context run on the allocated data.

To make sure that the data is extracted using the correct schema, when you work in a 4 Servers configuration, you must make sure that the server on which XS is installed and the server on which Data Warehouse (DWH) is installed are connected via the network using **port 10002**.

In addition, you must make sure that this setting (connection using **port 10002**) is reestablished every time the session is restarted.

This connection enables the Dashboard to pull data from the COST_FACT_V view:

- Using the ITAAPP schema when the **Affect Dashboard** option has been selected for an allocation.
- Using the DWH schemas when the **Affect Dashboard** option has **not** been assigned.

For details about allocations, see Allocation Management in the *IT Executive Scorecard Financial Analyst Guide*.

About KPI and Metric Data Lineage

The data lineage of a KPI or a Metric enables you to see, in graphical format, for a specific KPI or Metric, the chain of entities, fields, views, tables, and contexts that are used to obtain data from the data source, import it into the Data Warehouse, and calculate the value, status, and trend of the KPI or Metric.

For details about the KPIs, Metrics, and their data lineages, see the *IT Executive Scorecard Content Reference Guide* for the relevant data source.

Work with Enhanced Telecom Operations Map KPIs

The eTOM (enhanced Telecom Operations Map), published by the TM Forum, is a guidebook that defines the most widely used and accepted standard for business processes in the telecommunications industry. The eTOM model describes the full scope of business processes required by a service provider and defines key elements and how they interact. As a not-for-profit organization, TM Forum is driven by a Board of senior executives from across the industry.
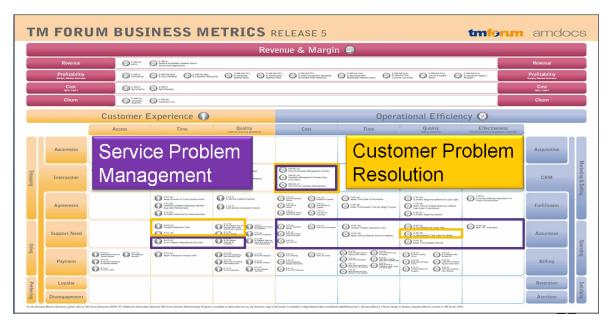
Learn More   **Tasks**   **Reference**

Learn More

More information about eTOM's Business Metrics and Benchmarking Programs

Developed by service providers, for service providers, eTOM's Business Metrics and Benchmarking Programs define and gather quantitative metrics ranging from tactical to business performance data and conduct qualitative surveys on topics of service provider interest. There are two primary aspects to Business Metrics Automation (BMA): Inclusion of the appropriate, standard eTOM Business Metrics in products and systems used by service providers and support for the programmatic interface into the Forum's secure Benchmarking Database, via controlled, secure data transfer. Service providers can also implement these aspects directly in their internal systems and can then work with the BMA interface.

The following figure presents the complete set of eTOM Business metrics in release 5. The 2 groups currently implemented in Executive Scorecardhave been highlighted.

How does it work?

For many service providers, the easier approach is simply to use products from suppliers who have added the Business Metrics and BMA interface to their commercial off the shelf (COTS) products. These products bear a mark indicating that they have been tested for their inclusion of the appropriate group of metrics (such as the set of revenue assurance metrics for a revenue assurance product) and the BMA interface functionality. Service providers can ensure consistent, accurate, and apples-to-apples comparisons for both benchmarking studies and internal dashboards by procuring products with TM Forum Business Metrics built in. eTOM's Business Benchmarking Program manages and delivers metric-based business performance benchmarking studies on topics including Broadband, Mobile, Business IP Services, and Self-Service.

HP IT Executive Scorecard is certified (from this version and above) in the following areas: **Customer Problem Resolution** and **Service Problem Management**.The certification provides a secure interaction with the eTOM Business Benchmarking database, including uploading data for the specified standard metrics in the correct format, generating queries, and downloading the query results.

HP IT Executive Scorecard offers the standard metrics in the following areas: **Customer Problem Resolution** and **Service Problem Management**.

A special tool extracts the results from the eTOM-related KPIs from the Results database, the values extracted are mapped to TM Forum business metrics and business metrics details.This information is then structured as XML and changed into an XML file and the XML files are sent to the eTOM Benchmarking database via the eTOM secure Web Portal.

eTOM-Related KPIs Location in the Studio

After they have been imported, the eTOM-related KPIs are listed in the Active KPIs pane, in the **Industry Standards** Scorecard, in the **eTOM** Perspective, and are distributed under two Objectives: **Customer Problem Resolution** and **Service Problem Management**.

Tip: Though these KPIs also appear by default in the KPI Template pane, it is recommended not to drag and drop these KPIs from the KPIs Template pane to the Active KPIs pane to activate them, because in such a case, the KPI Breakdowns do not appear in the Active KPIs pane and these KPI Breakdowns are important for TMF. It is recommended instead to import the TMF-related tree of Scorecards, Perspectives, Objectives, KPIs, and KPI Breakdowns directly as described below into the Active KPIs pane.

eTOM-Related KPIs

A directory of XML files is available to be imported into the Studio to provide the relevant components needed to create the corresponding eTOM-related KPIs.

Each file corresponds to a KPI.

Data Displayed by the eTOM-Related KPIs

The data displayed by the eTOM-related KPIs is extracted from the Incident and Interaction Data in the IT Infrastructures Library (ITIL) of HP Service Manager related to SQM or CME.

Tasks

This section includes:

View the eTOM-Related KPIs in the Dashboard

1. Make sure that the integration with the HP Service Manager data source has been performed

   For details, see SM Data Source in the *IT Executive Scorecard Content Reference Guide for the Integration of HP Service Manager*.
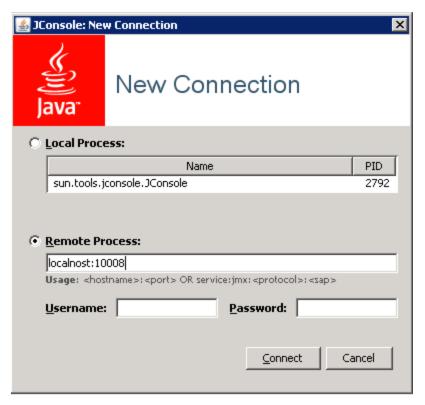
2. Import Source Data using ETL tool

   Import the source data into the Studio using the ETL tool. For details, see ETL Management in the *IT Executive Scorecard Administrator Guide*.

3. Import the TM Forum-related KPIs into the Active KPIs pane in the Studio

   a. Copy the files from the **<install-root>\tools\TMF\ContentApp** directory in the Executive Scorecard DVD to the following directory:
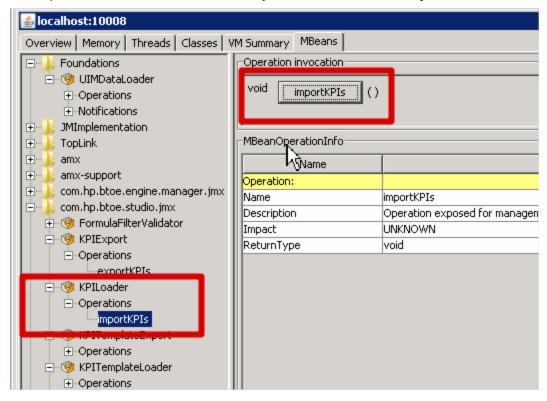   **<HP_XS>\agora\glassfish\glassfish\domains\BTOA\config\kpiconfiguration\import\load**

   b. Activate **<HP_XS>\agora\jdk\bin\j-Console.exe.**

   c. Select **Remote process** and enter **localhost:10008** in the field below.

d. Click the **MBeans** tab.

e. Expand the **KPILoader** and click the **importKPIs** button. Close the j-Console.

4. Calculate All Breakdown Paths

In the Active KPI Pane in the Studio, under the Industry Standards Scorecard, under the TM Forum Perspective, the KPIs are distributed between the Customer Problem Resolution Objective and the Service Problem Management Objective.

Click the TM Forum Perspective, and click **Preferences** and select the **Calculate now** option, and in the Calculate now dialog box, select the ServiceDesk universe. This operation calculates the values, statuses, and trends of all the KPIs and KPI Breakdowns as well as the values of the related Objectives, Perspectives, and Scorecards and displays the relevant data in the Dashboard.

For details on calculating KPIs, see Calculation.

5. Generate XML Data and Send the Data to the BMA Portal for Certification

a. Set the XS server information and BMA web service information in the **xmlTemplateConfig.properties** file. The file is used to store information about the XS server and the BMA web service.

```
#CPR --- Customer Problem Resolution
CPR = CPR-BB-Max-Data,CPR-IP-Min-Short-Data
CPR_Data = CPR-BB-Max-Data,CPR-IP-Min-Short-Data
CPR_App = CPR-BB-Max-App,CPR-BB-Min-App
#SPM --- Service Problem Management
SPM = SPM-BB-Max-Data,SPM-IP-Min-Short-Data
SPM_Data = SPM-BB-Max-Data,SPM-IP-Min-Short-Data
SPM_App = SPM-BB-Max-App,SPM-BB-Min-App
#All metric names - the names of the separate Metric XML files that are
created by the import operation.
#batch file and that are sent to the BMA site.
Metric_All = CPR-BB-Max-Data,CPR-IP-Min-Short-Data,CPR-BB-Max-App,CPR-BB-
Min-App,
SPM-BB-Max-App,SPM-BB-Max-Data,SPM-BB-Min-App,SPM-IP-Min-Short-Data
#Periods (Don't change the Periods name) - The periods for which you want to
calculate the metrics.
Periods = FY2011/04(Apr),FY2011/05(May),FY2011/06(Jun)
#Logon TMF info (Don't change the key name) - the username and password are
provided by BMA:                                          #BMA WS
logon name:
ws_name = xyz
#BMA Web Service logon password:
ws_password = xyz
#BMA Web Service URL:
ws_url = http://
#BMA Web Service port:
ws_port =
# The host name of the XS Server:
server = xyz
# The port of the Executive Scorecard server:
port = 10004
```

b. For each metric group, generate the relevant XML file based on the templates using the command:

java -jar BMA_16.jar <metric_group_code> <research_stream> 0

where metric_group_code can be:

- **CPR** - Customer Problem Resolution
- **SPM** - Service Problem Management

and <research_stream>. For certification, TM Forum has defined Research Streams which corresponds to different types of industry. Current research streams are:

- **BB** (Broadband) - Includes xDSL, cable fiber and satellite.
- **Mobile** - Includes 2G, 3G and 4G. It represents network equipment used to be provide the service.
- **IP** - IP Business Services.

> **Example** java -jar BMA_16.jar CPR BB 0

c. For each metric group, send the relevant XML file to the BMA web service using the command:
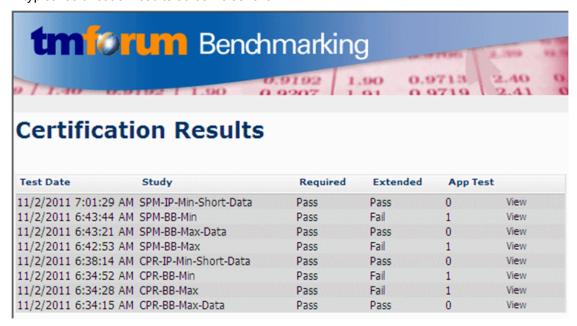
java -jar BMA_16.jar <metric group code> BB 1

> **Example** java -jar BMA_16.jar CPR BB 1, where CPR represents the Customer Problem Resolution metric group and BB means Broadband.

6. Check Certification Results in BMA Portal

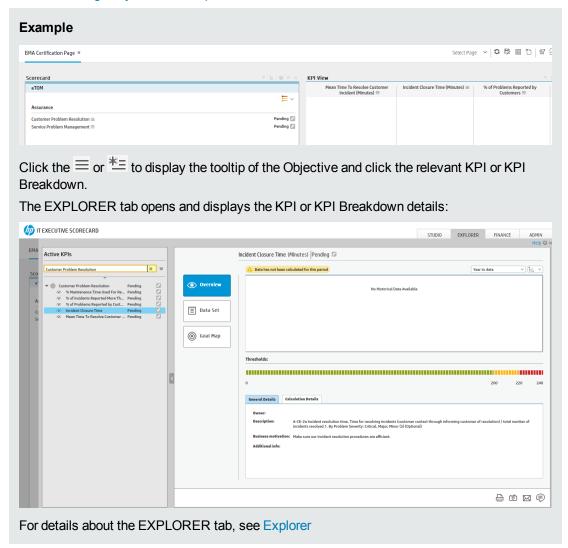Access the BMA portal and check the certification results.

A typical certification results screen is as follow:

The failed tests in the above picture, are due to optional (Extended) Business Metrics not supported by HP Service Manager.

7. View the eTOM-Related KPIs in the Dashboard

Create a page in Dashboard to display components that include the eTOM-Related KPIs. For details, see Page Layout and Components.

Example

Click the ☰ or ⁂ to display the tooltip of the Objective and click the relevant KPI or KPI Breakdown.

The EXPLORER tab opens and displays the KPI or KPI Breakdown details:

For details about the EXPLORER tab, see Explorer

Reference

eTOM–Related KPIs

Customer Problems Resolution

The Metric IDs are standard in eTOM.

Metric ID	KPI Name	Description
A-CE-2a	Incident Closure Time KPI	Time for resolving incidents (customer contact through informing customer of resolution) / total number of incidents resolved. 1. By Problem Severity: Critical, Major, Minor (3) (Optional)
A-CE-2b	Mean Time To Resolve Customer Incident KPI	Time for resolving incidents (customer contact through informing customer of resolution) / total number of incidents resolved. 1. By Customer Segment: Consumer & SME, Large Enterprise & Government (2) (Optional) 2. By Service Component: Voice Services, Data Services (2) (Optional)
A-CE-4a	% of Incidents Reported More Than Once By Customer KPI	Number of incident re-reports / total number of customer reported incidents 1. By Customer Segment: Consumer & SME, Large Enterprise & Government (2) (Optional)
A-CE-4c	% Of Problems Reported By Customers KPI	Total number of problems reported by CUSTOMERS / Total number of problems reported 1. By Problem Severity: Critical, Major, Minor (3) (Optional)
A-OE-3b	% Maintenance Time Used For Repair KPI	Repair time / Total assurance time (Maintenance + Repair)

Service Problem Management

The Metric IDs are standard in TM Forum.

Metric ID	KPI Name	Description
A-CE-2c	% Of Problems Resolved By Due Date KPI	Number of problems resolved to customer satisfaction by committed date / total number of problems occurring during the reporting period
A-CE-4c	% Of Problems Reported By Customers KPI	Total number of problems reported by CUSTOMERS / Total number of problems reported 1. By Problem Severity: Critical, Major, Minor (3) (Optional)
A-OE-2a	Service Problem Resolution Time KPI	Aggregate time to resolve SO service problems for Assurance Meta Process Blocks (1-4) inclusive / number of closed problem reports 1. By Problem Severity: Critical, Major, Minor (3) (Optional) 2. By Customer Segment: Consumer & SME, Large Enterprise & Government (2) (Optional)

Metric ID	KPI Name	Description
A-OE-2b	Mean Time To Resolve Service Problems KPI	Time to resolve SO Service Problems by process block (Meta Blocks 1-4) / Number of Service Problems closed within period 1. By META process blocks: resource data collection and processing, service problem management, resource trouble detection/handling, customer QoS/SLA management (4) 2. By Customer Segment: Consumer & SME, Large Enterprise & Government (2) (Optional) 3. By Problem Severity: Critical, Major, Minor (3) (Optional)
A-OE-3a	% of Problems By Cause Type KPI	Number of problem reports of type X / Total number of problem reports 1. By Cause Type: customer caused, technology caused, workforce caused, data mismatch problems for internal systems, other (5)
A-OE-3b	% Maintenance Time Used For Repair KPI	Repair time / Total assurance time (Maintenance + Repair)
A-OE-3c	Mean Time Between Failures KPI	((Revenue System Size) - (MTTR*number of trouble tickets closed in month)) / number of trouble tickets closed in month
A-OE-6a	NOC FTE Efficiency KPI	Total Number of problem reports resolved / Total number of NOC FTEs working on problem resolution

Localization and Globalization

You can localize and globalize Executive Scorecard. The user interface of HP Executive Scorecard supports multiple languages.

◻ Tasks

Localize the out-of-the-box KPI Library pane contents

The localized installation adds the language libraries of XML files in specific directories. You copy and then import these files to display the out-of-the-box template Scorecards, Perspectives, Objectives, Folders, and KPIs in the KPI Library in the selected language.

To localize the out-of-the box content of the KPI Library: Scorecards, Perspectives, Objectives, and KPIs, proceed as follows:

1. In the Executive Scorecard server, locate the
   **<HP_XS>\agora\glassfish\glassfish\domains\BTOA\config\
   kpitemplates\import\languages\<language_code>_<country_code>** directory relevant for the
   language you want to use in the application. The .xml files in the directory represent both KPIs and
   KPI directories.

   The language code and country codes are as follows:

Language	Language Code	Country Code
Brazilian Portuguese	pt	BR
French	fr	FR
Spanish	es	ES
German	de	DE
Japanese	ja	JP
English	en	US
Dutch	nl	NL

Language	Language Code	Country Code
Italian	it	IT
Simplified Chinese	zh	CN
Korean	ko	KR
Russian	ru	RU
Turkish	tr	TR

2. Copy these .xml files to the **<HP_ XS>\agora\glassfish\glassfish\domains\BTOA\config\kpitemplates\import\load** directory.

> **Tip:**
>
> If the directory contains other sets of files (for different languages), it is recommended to keep in the directory only the required set of language files and to move the other files outside the directory to prevent the loading of both set of language files and an unknown result.

3. Import the out-of-the-box language files using the **KPILoader** > **importKPIs()** procedure described in "Migrate Trees, Metrics, and Unassigned KPIs" on page 251 in the *IT Executive Scorecard Administrator Guide*.

Localize the out-of-the-box Dashboard content (pages and components)

The localized installation adds the language libraries of XML files in specific directories. You copy and then import these files to display the out-of-the-box template pages and components in the selected language, in the Dashboard.

To localize the out-of-the box pages and components, proceed as follows:

1. **Prerequisite**

   You have performed the installation and post-installation procedures or the upgrade to the current version.

2. **Copy the libraries**

   a. In the Executive Scorecard server, locate the **<XS server>\agora\glassfish\glassfish\domains\BTOA\config\ uimashup\import\languages\<language_code>_<country_code>** directory relevant to the language you want to install. These .uim.xml files represent the components and the pages used in the Dashboard.

   b. The language code and country codes are as follows:

      ○ **Components_<lang>_<country_code>.uim.xml**

      ○ **Pages_<lang>_<country_code>.uim.xml**,

      where **lang** is the language code and **country_code** is the code of the country:

Language	Language Code	Country Code
Brazilian Portuguese	pt	BR
French	fr	FR
Spanish	es	ES
German	de	DE
Japanese	ja	JP
English	en	US
Dutch	nl	NL
Italian	it	IT
Simplified Chinese	zh	CN
Korean	ko	KR
Russian	ru	RU
Turkish	tr	TR

c. Copy these files to the
   <XS_server>\agora\glassfish\glassfish\domains\BTOA\config\uimashup\ import\toload directory.

   Tip:

   If the directory contains several sets of files (for different languages), it is recommended to keep in the directory only the required set of language files and to move the other files outside the directory to prevent the loading of both set of language files and an unknown result.

d. Import the out-of-the-box language files (**only for the pages and components - events are not localized**) using the relevant procedure described in "Migrate User-defined Pages or Components" on page 254 in the *IT Executive Scorecard Administrator Guide*.

Enterprise Readiness (ER) Tools

The ER tools provide better manageability and awareness of processes in the system, and enable you to clean problematic entities or all data, as well as re-stream existing data with problematic logic according to batch or specific date. The Restream and CleanData streams are hidden by default. However, they can be managed, as any other stream, in the ETL Management tab.

When you have specific KPI and data problems in Executive Scorecard, or after you run the ETL, check the Target tables for any issues. If you find a problem with specific entities, note the specific batch ID or the specific load date in the Target tables. Depending on the issue, you will need to either clean or restream the data to fix the issues.

To access:

To access the CleanData and Restream streams, click **Admin** > **ETL Management** and select the **Show Hidden Streams** checkbox.

For ETL stream details, see .

| Learn More | Tasks | UI Description |

Learn More

CleanData

Note: The CleanData stream is an advanced ETL tool. Running the CleanData stream erases all existing data in the Staging tables.

CleanData does not clean historical data in the Target tables.

The DW ABC Streams Management User Interface enables you to clean corrupted data by specific criteria and then reload data from the source by running the Upstream ETL stream.

CleanData is used to enable the data in DWH to be restored to a specific version, as follows:

- CleanData by batch, entity or all entities.
- CleanData by date, entity or all entities.

Note: Running the CleanData stream may not recover all existing data.

Restream

The DW ABC Streams Management User Interface enables you to manage re-streaming the entire ETL loading process. This functionality allows you to re-stream the entire ETL stream from a previous batch to the latest batch, as well as revise incorrect data in the DWH Target.

Restream is used to re-stream the entire ETL loading from a specific batch point to the latest point, as follows:

- Re-stream by batch, entity or all entities.

Command Line Interface Tool

To run the ER tools in ETL Management you must first use command line batch files to set the stream parameters. The two batch files are found in the DWH/bin directory.

The log information is in **DWH/log/dw_abc.log**.

The log level can be modified in **DWH/conf/abc-log4j.xml**.

> **Note:** The arguments are populated into an ABC table called CONTROL_ARGS. If there are unexecuted commands in CONTROL_ARGS, the batch files cannot insert new records into the CONTROL_ARGS table.

CleanData Command

dw_abc_cleandata

[-batch <batch_id>] [-entity <entity_name>] [-inputdate <input_date_of_batch>] [-display] [-delete] [-help]

Options:

- -batch: The batch ID of the point in DWH from which you want the data to be cleaned.

  > **Example** If the DWH system has 5 batches, and the problem is with batch 2, then it will delete batch numbers 2, 3, 4, and 5.

- -entity: The model name of the entity that you want cleaned.
- -inputdate: The date of the restore point in DWH from which you want data cleaned.
- -display: Display all existing commands.
- -delete: Delete the unexecuted commands.
- -help: Print the help message.

> **Example**
>
> ```
> dw_abc_cleandata -batch 1 -entity LOCATION
> dw_abc_cleandata -batch 1 -entity LOCATION,SERVICE,ORG
> dw_abc_cleandata -batch 1 -entity ALL
> dw_abc_cleandata -inputdate 2012-09-30 -entity LOCATION,SERVICE,ORG
> dw_abc_cleandata -inputdate 2012-09-30 -entity ALL
> dw_abc_cleandata -help
> dw_abc_cleandata -display
> dw_abc_cleandata –delete
> ```

Returns:

- **0** success
- **1** success with warnings
- **>1** errors present

Restream Command:

dw_abc_restream

restream. bat [–batch <batch_id>] [-entity <entity_name>] [-full <full_restream>] [-display] [-delete] [-help]

Options:

- -batch: The batch ID of the point in DWH from which you want the batch re-streamed.

  > **Example** If the DWH system has 5 batches, and the problem is with batch 2, then it will re-stream batch numbers 2, 3, 4, and 5.

- -help: Print the help message.
- -entity: The model name of the entity you want re-streamed.
- -full: The flag of the re-stream indicator that allows only re-streaming the error data from the VALF table when it is equal to N, otherwise it re-streams all data.
- -display: Display all existing commands.
- -delete: Delete the unexecuted commands.
- -help: Print the help message.

Example

```
dw_abc_restream -batch 1 -entity LOCATION -full Y
dw_abc_restream -batch 1 -entity LOCATION,SERVICE,ORG -full Y
dw_abc_restream -batch 1 -entity ALL -full Y
dw_abc_restream -batch 1 -entity LOCATION -full N
dw_abc_restream -batch 1 -entity LOCATION,SERVICE,ORG -full N
dw_abc_restream -batch 1 -entity ALL -full N
dw_abc_restream -help
dw_abc_restream -display
dw_abc_restream –delete
```

Returns:

- **0** success
- **1** success with warnings
- **>1** errors present

⬛ Tasks

This section includes:

Utilize the Restream or CleanData streams

1. Run the following command line batch files found in the DWH/bin directory to set the stream parameters.
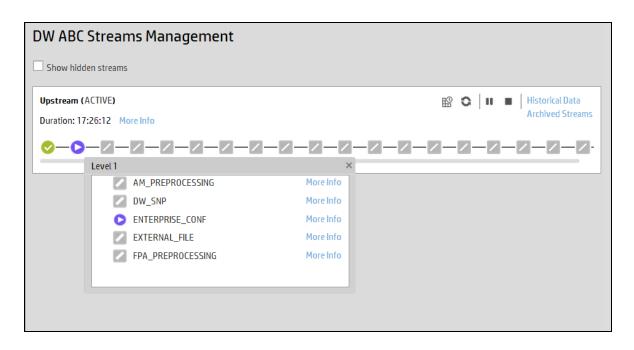
   dw_abc_cleandata

   dw_abc_restream

2. After you run the command line batch files, access the ER tools and run the Restream or CleanData streams.

Display hidden streams

1. Select **Admin** > **ETL Management** and select **Show Hidden Streams**.

2. The hidden ETL streams are displayed.

3. You can then schedule the batches, as needed.

4. Click ▶ to load and run the batch.

5. Click ⟳ to refresh and check the running status of the ETL.

6. Once the ETL is running successfully, re-run the Upstream stream.

   For ETL Management details, see " ETL Management " on page 159.

⬤ UI Description

DW ABC Streams Management

<Stream Display>

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
<Stream Information>	Displays the following stream details: • Stream Name • Status: Active or Suspended or None • Duration • Date
Show Hidden Streams	Click to display the hidden ETL streams.
⟳	Refreshes the stream information. There is an automatic refresh of the stream information every two minutes.
More Info	Opens the Stream Attributes dialog box. For details, see "Stream Attributes Dialog Box" on page 166
▶	**Load Batch/Resume.** Starts or resumes the running of the specific batch of ETL stream.
🗓	Opens the Stream Scheduler dialog box. Enables you to schedule the load batch and run_steps commands. For details, see "Stream Scheduler Dialog Box" on page 169.

UI Element	Description
⏸	**Suspend Stream.** Temporarily suspends the stream.
■	**Abort Stream.** Stops the stream that is running.
<Node Display>	Displays the nodes representing the groups of steps within one level of execution of an ETL run, the steps that can run in parallel. A node is a collection of steps that all run in parallel. The icon for each node represents the worst status of all of the steps in the node.

Indicates that the particular step or all steps in the node have finished successfully in the execution.

Indicates that a step or a step in the node is currently running

Indicates an error in one of the steps. The step is automatically retried four times by default.

Click the Error node to display the Node Step List in order to retry steps. Click to retry the step.

Indicates a warning in one of the steps.

Click a node to open the Node Step list.

Level 1		×
✓ DW_SNP		More Info
✓ ENTERPRISE_CONF		More Info
↻ ✗ EXTERNAL_FILE		More Info
⚠ PPM_PREPROCESSING		More Info
↻ ✗ PPM_SOURCE_EXTRACT_INSTANCE_1		More Info

If there is an error in any of the steps, then all steps in the execution of the stream are stopped. In order to move to the next node, the error must be resolved.

Click **More Info** to display the Step Details dialog box pertaining to the particular step. For details, see "Step Attributes Dialog Box" on page 168.

For more details on managing ETL streams, see " ETL Management " on page 159.

Migrate from Development or Test Environment to Production

This section lists the tasks involved in moving from a Development or Test environment to a Production environment.

This section includes:

Change Data Sources

If you changed one or more of the data sources (for example moving from one version of a data source to a higher version of the data source in the Development or Testing environment, you must modify the data source settings in the Data Source Management page in the Production environment. Click **Admin** > **Data Source Management** and make your changes.

For details, see "Data Source Management" on page 131.

Restore from Backup

To restore your system from backup follow the backup instructions. For details, see "Executive Scorecard Back Up " on page 268.

Migrate the Data Services

SAP BusinessObjects Data Services is the access mechanism that performs the physical data extraction from the source repository to the staging database. Each stage of the ETL is embodied in a Data Services job, from the extraction of source data to the target database.

To migrate the Data Services from the Development/Testing environment to the Production environment:

1. In the Development/Testing environment, export the Data Services files using the **dw_etl_export** command. For details, see "dw_etl_export" on page 313.

2. In the Production environment, import the Data Services files you exported, using the **dw_etl_ import** command. For details, see "dw_etl_import" on page 314.

Activate the Data Sources

In the XS application , activate the relevant data sources:

1. Select **Admin** > **Data Source Management**.

2. The Data Sources page opens. Click the **Activate** ▶ button for the relevant data source.

Run the ETLs to Pull Data from the Data Sources

In the Production environment, run the relevant ETLs to pull data from the data sources.

For details, see " ETL Management " on page 159.

Migrate contexts

To migrate the contexts, proceed as follows:

1. **Prerequisite:** Make sure your schemas are the same in the Development or Testing environment and in the Production environment.

2. Create a CAP that only includes the contexts you created or modified in the Development or Testing environments. For details, see Create a CAP with the Executive Scorecard application data.

   > **Note:** You can migrate Contexts, trees, KPIs, Metrics, user-defined pages, or components using one CAP per type of item or one CAP for all the items you want to export/import/migrate.

   > **Note:** You can select to perform a recalculation during the CAP activation by specifying a recalculation date when you create the CAP.
   > You can also perform the calculation after all the items are migrated. For details, see "Perform the calculation" on page 257.

3. Export the CAP you created. For details, see Download a CAP to the user's local system.

4. Copy the CAP you downloaded from the Development or Testing environment to the Production environment or from the user's local system to the system where you want to import the item.

5. Upload the CAP to the Production environment. For details, see Upload a CAP from the user's local system to the Executive Scorecard application.

6. Activate the CAP in **Admin > Content Acceleration Pack**. For details, see Activate a CAP.

7. Verify the upload by accessing the contexts in **Admin > Semantic Layer**. For details, see View existing out-of-the-box Contexts (universes).

> **Note:** If the context you import already exists in the Production environment, it is deleted and replaced by the context imported using the CAP.

Migrate Data Imported using .CSV files

To migrate data imported into Executive Scorecard using .CSV files, proceed as follows:

1. Create a CAP that only includes the contexts used to import the .CSV files you created or modified in the Development or Testing environments. For details, see Create a CAP with the Executive Scorecard application data.

   > **Note:** You can migrate Contexts, trees, KPIs, Metrics, user-defined pages, or components using one CAP per type of item or one CAP for all the items you want to export/import/migrate.

   > **Note:** You can select to perform a recalculation during the CAP activation by specifying a recalculation date when you create the CAP.
   > You can also perform the calculation after all the items are migrated. For details, see "Perform the calculation" on page 257.

2. Export the CAP you created. For details, see Download a CAP to the user's local system.

3. Copy the CAP you downloaded from the Development or Testing environment to the Production environment or from the user's local system to the system where you want to import the item..

4. Upload the CAP to the Production environment. For details, see Upload a CAP to the Executive Scorecard application.

5. Activate the CAP in **Admin > Content Acceleration Pack**. For details, see Activate a CAP.

6. Verify the upload by accessing the contexts in **Admin > Semantic Layer**. For details, see View existing out-of-the-box Contexts (universes).

7. Reimport the data by accessing the relevant context in **Admin > Semantic Layer**. For details, see Semantic Layer - Context Management.

8. Perform the calculation for the relevant contexts in the Studio. For details, see Calculation in the *IT Executive Scorecard Business Analyst Guide*.

> **Note:** If the context you import already exists in the Production environment, it is deleted and replaced by the context imported using the CAP.

Migrate Trees, Metrics, and Unassigned KPIs

You can export complete trees (with their Scorecards, Perspectives, Objectives, and KPIs) from the Active KPIs pane.

You can import existing template trees or sub-trees, active trees, active sub-trees, Metrics, or Unassigned KPIs into the Active KPIs pane.

The import or export flows are meant to be used when moving from staging to production and not as a way to update system configuration. If you want to use the import or export flows to update the system configuration, you must delete all the nodes in the active KPIs pane, before performing the import operation.

The export and import flows are also meant to be used for localization purposes, when you want to work with other languages than English.

Learn More **Tasks**

Learn More

About Exporting or Importing Trees

You use the export or import feature when you want to import or export out-of-the-box templates, automatically update existing templates, or import new templates, or active trees into the Executive Studio.

The export and import feature is the process used to move from staging environment to production.

The export feature collects the contents of the Active KPIs tree (Scorecards, Perspectives, Objectives, KPIs, Metrics, and Unassigned KPIs). It converts the contents to a **configuration.xml** file that describes the structure of the active tree or to a **<Scorecard_name>.xml** file for each Scorecard. These files include the UUID, KPI name of the KPIs, and Metrics name of the Metrics included in the trees. In addition, the process creates a **<kpi_or_metric_name>.xml** file per KPI or Metric in the system; that file describes the configuration of the KPI or Metric. The XML files are created in a specific directory on the machine.

The import feature collects the content of a specific directory on the machine. The directory can include **configuration.xml** files, and **<kpi_or_metric_name>.xml** files according to the same format used by the export feature or can include .xml files with other names. The import feature uses these files to upload the information in the specific area in the Active KPIs tree.

The export and import operations work with XML files with a specific structure. Each configuration.xml file includes information about the hierarchy from the lowest node to the tree root. That information is used to add the new node is added to the relevant location in the relevant tree, or the imported node overrides the relevant node. Each **<KPI_or_Metric_name>.xml** file includes information about the KPI or Metric configuration. That information is used so that the relevant configuration and calculation details are added to the relevant KPI or Metric.

The export operation uses the KPI or Metric UUID to identify the KPI or the Metric.

In addition, you can import KPIs from Excel files. You can use this capability to import KPIs without consideration about their location in the tree. You can also create an .xml file that provides information about a tree structure and that refers to KPIs that are imported from the Excel file. The import feature uses these files to upload the information in the specific area in the Active KPIs tree.

> **Note:** When the server on which the Executive Studio is located starts, if the system detects files in the
> **<XS_server>\agora\glassfish\glassfish\domains\Config\KPI Template\ Import** directory, it automatically uploads that information. This feature is used when you log on to the Executive Studio for the first time, to upload the out-of-the-box templates.

Tasks

This section includes:

Migrate Scorecards, Perspectives, Objectives, Metrics, and KPIs

Export complete trees (with their Scorecards, Perspectives, Objectives, and KPIs), Metrics, or Unassigned KPIs from the Active KPIs pane of the Development/Test environment. For details, see "Export nodes using CAPs" below.

Import these template trees or sub-trees, active trees, active sub-trees, Metrics or Unassigned KPIs into the Active KPIs pane of the Production environment. For details, see "Import nodes using CAPs" on the next page.

Export nodes using CAPs

To export nodes and hierarchical structure (trees and their Scorecards, Perspectives, Objectives, and KPIs, Unassigned KPIs or Metrics), proceed as follows:

1. Create a CAP that only includes the items you want to export. For details, see Create a CAP with the Executive Scorecard application data.

> **Note:** You can migrate Contexts, trees, KPIs, Metrics, user-defined pages, or components using one CAP per type of item or one CAP for all the items you want to export/import/migrate.

> **Note:** You can select to perform a recalculation during the CAP activation by specifying a recalculation date when you create the CAP.
> You can also perform the calculation after all the items are migrated. For details, see "Perform

the calculation" on page 257.

2. Export the CAP you created to the user local system. For details, see Download a CAP to the user's local system.

   You can now copy the CAP to the another server (for example to the Production server) and then import it into the application. For details, see "Import nodes using CAPs" below.

Import nodes using CAPs

To import nodes, proceed as follows:

1. Copy the relevant CAP from the Development or Testing environment to the Production server or from the user's local system to the system where you want to import the item.

2. Upload the CAP to the application. For details, see Upload a CAP from the user's local system to the Executive Scorecard application.

3. Activate the CAP in **Admin > Semantic Layer**. For details, see Activate a CAP.

4. Verify the upload by accessing Studio and checking that all the items you wanted to import appear in the Active KPIs.

Migrate User-defined Pages or Components

You can export or import user-defined pages and components from or into the Dashboard page.

You use the import or export flows for localization purposes (when you want to work with other languages than English) or when moving from staging to production and not as a way to update system configuration.

Learn More   **Tasks**

Learn More

About importing or exporting user-defined Pages and Components

Pages are available or created in the Dashboard. Pages can include components. Components in a page can be wired and can interact with each other using events. For details, about the Dashboard, see Dashboard Display in the *IT Executive Scorecard Business Analyst Guide*.

The export operation collects the contents of user-defined pages and components. It converts the contents to **components.uim.xml**, and **pages.uim.xml** files that describes the structure and content of the pages and components . These files include the universally unique identifier (UUID) of the pages and components.

The export operation uses the page and component UUID to identify the page or component .

The import operation collects the contents of a specific directory on the machine. The directory can include **components.uim.xml** and **pages.uim.xml** files according to the same format used by the export feature. The import feature uses these files to upload the information into the database. After the import operation, the file is moved to the **Loaded** directory if the import operation succeeds, or to the **Errors** directory if the import operation fails.

> **Note:** When the server on which the Dashboard is located starts and detects files in the **<XS_server>\agora\glassfish\glassfish\domains\BTOA\uimashup\import\toload** directory, it automatically uploads that information.

Tasks

This section includes:

Migrate user-defined Dashboard pages and components, and events

1. Export user-defined pages and components from the Dashboard page of the Development/Test environment. For details, see "Export user-defined pages and components and eventsusing CAPs" below.
2. Import these user-defined pages and components into the Dashboard page of the Production environment. For details, see "Import user-defined pages and components and events using CAPs" below.

Export user-defined pages and components and eventsusing CAPs

To export user-defined pages and components , proceed as follows:

1. Create a CAP that only includes the user-defined pages and components you want to export. For details, see Create a CAP with the Executive Scorecard application data.

   > **Note:** You can migrate Contexts, trees, KPIs, Metrics, user-defined pages, or components using one CAP per type of item or one CAP for all the items you want to export/import/migrate.

   > **Note:** You can select to perform a recalculation during the CAP activation by specifying a recalculation date when you create the CAP.
   > You can also perform the calculation after all the items are migrated. For details, see "Perform the calculation" on page 257.

2. Export the CAP you created to the user local system or to the Production environment. For details, see Download a CAP to the user's local system.

   You can now copy the CAP to the another server (for example to the Production environment) and then import it into the application. For details, see "Import user-defined pages and components and events using CAPs" below.

Import user-defined pages and components and events using CAPs

To import user-defined pages and components , proceed as follows:

1. Copy the relevant CAP from the Development or Test environment to the Production environment or from the user local system to the server where you want to import the items.
2. Upload the CAP to the application. For details, see Upload a CAP to the Executive Scorecard application.

3. Activate the CAP in **Admin > Semantic Layer**. For details, see Activate a CAP.

4. Verify the upload by accessing the Dashboard and checking that all the user-defined pages and components that you wanted to import appear in the Dashboard.

Perform the calculation

In the Production environment, perform the calculation to populate the KPIs, Objectives, Perspectives, Scorecards, and Dashboard pages with data.

> **Note:** You can select to perform a recalculation during the CAP activation by specifying a recalculation date when you create the CAP.
> You can also perform the calculation after all the items are migrated. For details, see "Perform the calculation" above.

Tasks

Calculate for the current period

When you change the definition of a KPI (formula or threshold), the change impacts the KPI's value and impacts the Objectives related to the KPI. You may want to perform the calculation for each KPI in the selected business context for the period specified in the KPI configuration, so the impact of the change is felt immediately in the results displayed in the Dashboard.

To calculate the current data:

1. In the Active KPIs pane, click the **Calculation options** button in the Active KPIs toolbar, and select the **Calculate now** option.

2. In the Calculate Now dialog box that opens:

   - In **Universe/context for recalculation**, select the relevant context (data source) you want to use for the recalculation.

   - Select the **I understand the implications of this process and would like to proceed with the calculation** option to proceed with the calculation.

   > **Limitations:** You perform the calculation for the current period of each KPI within the selected business context.

3. Click **Calculate**.

4. Select the **I understand the implications of this process and would like to proceed with the calculation** option to proceed with the calculation.

   The calculation is performed for all KPIs and Objectives with the selected context (universe).

   > **Note:**
   > - The calculation deletes the data that was available for the same period as the period selected for the calculation.

- No backup is available.
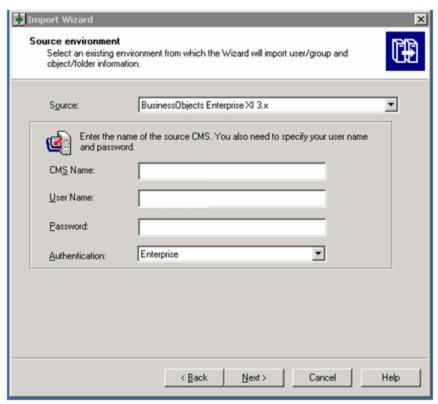
For details, see Calculation in the *IT Executive Scorecard Business Analyst Guide*.

Migrate the SAP BusinessObjects Enterprise reports and BIAR files
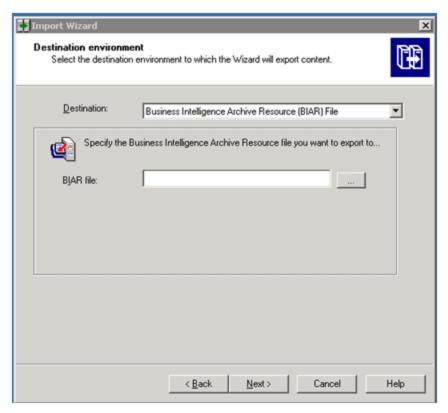
You export the relevant BIAR files from the Development/Test environment, and then import it in the Production environment.

⬤ Tasks
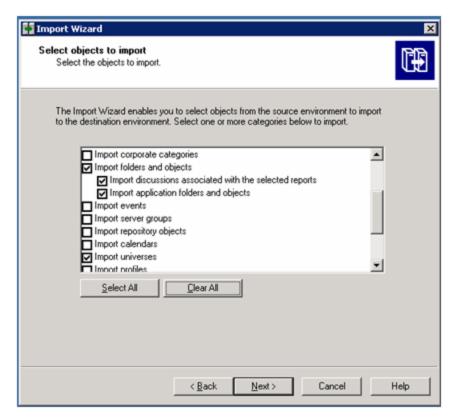
1. **Export BOE data to BIAR file**

   a. Open **Import Wizard** under BusinessObjects 3.1 of the Development/Test environment. Click **Next**.

   b. The **Source environment** page of the Import Wizard opens. Select your BOE source and enter the CMS Name, User Name and Password. Click **Next**.

   c. The **Destination environment** page opens. Select the relevant BIAR file option from the **Destination** list. Click [...] and select the file name and location of the BIAR file. Click **Next**.

d. The **Select objects to import** page opens. Click **Clear All** and select the options as shown below:
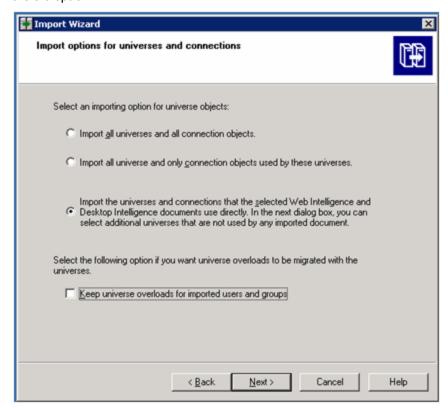
e. Click **Next** until the **Folders and objects** page opens and check the relevant directories and object:

f. Click **Next** until the **Import options for universes and connections** page opens and select
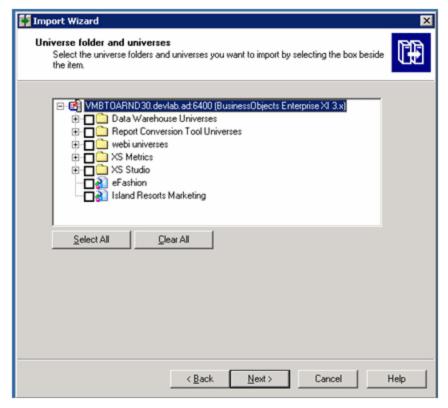
the 3rd option:

g. Click **Next** until the **Universes directory and universes** page opens and select the relevant universes (universes related to objects selected before are automatically checked):

h. Click **Next** until the **Ready to import** page opens, where you can see what is included in the
    BIAR file and if the content is OK, click **Finish**.

      i. The creation of the file begins. When it is completed, click **Done** or **View detail log** to see the list of objects that were not transferred and the reason why, and then click **Done**.

2. **Import data from BIAR file to BOE system**

In the BusinessObjects 3.1 of the Production environment proceed as above but with the source being the BIAR file and the destination being the existing BOE installation.

Data Warehouse Back Up

It is critical that you backup Data Warehouse so that you can rebuild your Data Warehouse infrastructure and content in disaster scenarios such as the following:

- In a total disaster recovery scenario.
- The RDBMS server failed but all Executive Scorecard component servers are fully functioning.
- When the Data Warehouse server failed, but the RDBMS server and its databases are intact.
- When a Data Warehouse database is corrupt.
- When an ETL is deleted.
- When an ETL job fails.

This section includes:

- "What to Back Up" below
- "General Backup Guidelines" on the next page
- "Files to Back Up" on the next page

What to Back Up

It is strongly recommended that you back up the following resources that may be used if one of the above scenarios occurs.

1. Microsoft SQL Server 2008 enterprise SP2 databases
   a. Target database
   b. SAP BusinessObjects Data Services database
   c. SAP BusinessObjects CMS database, and if necessary the Audit database.
   d. Management database
   e. Executive Scorecard database

   > **Note:** The host and database names can be found in the Management database configured in the Executive Scorecard Configuration wizard.

2. Staging database
3. It is highly recommended that you keep the passwords for the Staging, Target and SAP BusinessObjects Data Services database logon users in a safe place for usage in disaster recovery situations.
4. External source files that can be found in the external source file location configured in the Executive Scorecard Configuration wizard.
   a. If the default external source file location was configured in the wizard, the Content Pack flat files created during the ETL process can be found in:
   <Installation Directory>\agora\DataWarehouse\ExternalSources\<Content pack name>

   > **Example** The BSM content pack flat file would therefore located in the following

> directory:
> **<Installation Directory>\agora\DataWarehouse\ExternalSources\BSM**

5. Data Warehouse Configuration files.

General Backup Guidelines

It is recommended that you use the following backup and restore guidelines:

- A best practice for data warehouse administrators is to back up critical data on a regular basis.

- Database backups should consist of a weekly full database backups, and daily differential backups.

- Backups should be periodically verified by restoring a copy onto a test system.

- External source files and Data Warehouse configuration files should be backed up as required.

- Although out of scope for this document, regular backups should be taken of all source databases.

- Start scheduled backups before running the daily ETLs.

- Use backup compression.

- Perform full backups in off-peak times.

- Maintain the External Source Directory.

  In the <ExternalSource> directory , there are folders that contain extracted data from each data source.

  This data is infinitely accumulated and is never cleaned by the Data Warehouse. You are required to periodically backup and remove old files from those folders in order to free disk space if available disk space is low on the Data Warehouse platform machine.

Files to Back Up

The contents of the following directories and their sub-directories should be included in the backup schedules:

Directory Name	Backup Frequency	Description of files
<HP_ XS>\Agora\DataWarehouse\<ExternalSourceslocation>	Daily	.xls, and the ETL flat files
<HP_XS>\Agora\DataWarehouse\Conf	When configuration changes are made	Configuration files
<HP_XS>\Agora\DataWarehouse\etc	After the installation, and when configuration changes are made. When you recover from a Data Warehouse server failure, it is important that this directory and it's sub-directories are restored.	Configuration files

<HP_XS>\Agora\DataWarehouse\log	Daily	Log files
<HP_XS>\Agora\ContentPacks	Before activating or deactivating a content pack in the Executive Scorecard Admin application, or when changes are made to content packs	Content pack configuration files
<HP_XS>\Agora\DataWarehouse\etc\ABC		

Executive Scorecard Back Up

It is critical that you backup your databases, configuration files, logs and configuration settings so that you can rebuild your IT Executive Scorecard solution and content in circumstances such as the following:

- When you need to recover from a total disaster recovery scenario.
- The RDBMS server failed but all HP Executive Scorecard component servers are fully functioning.
- When a database is corrupted.
- When a component server fails, but the RDBMS server and it's databases are intact.

The section includes the following topics:

- "What to Back Up" below
- "General Backup Guidelines" on the next page

What to Back Up

HP recommends that you back up the following resources that may be used when one of the above scenarios occurs.

1. Microsoft SQL Server 2008 enterprise SP2 databases
   a. Staging database
   b. Target database
   c. SAP BusinessObjects Data Services database
   d. SAP BusinessObjects CMS database, and if necessary the Audit database.
   e. Management database
   f. Executive Scorecard database

   > **Note:** The host and database names can be found in the Management database configured in the Executive Scorecard Configuration wizard.

2. Data Warehouse Configuration files. For more information, see "Data Warehouse Back Up " on page 265.

3. SAP BusinessObject Enterprise configuration. This can be backed up with the BusinessObjects Enterprise XI 3.1 Import Wizard. For more information, see Chapter 7 of the BusinessObjects Enterprise XI 3.1 Import Wizard Guide at http://help.sap.com/businessobject/product_guides/boexir31/en/xi3-1_bip_importwiz_en.pdf.

4. It is highly recommended that you keep the passwords for the Staging, Target and SAP BusinessObjects Data Services databases in a safe place for usage in disaster recovery situations.

5. Back up **<agora>\dat\Version.txt** (you may need to restore it later).

General Backup Guidelines

It is recommended that you use the following backup and restore guidelines:

- Your database administrator should back up critical data and configuration settings on a regular basis.

- Database backups should consist of a weekly full database backups, and daily differential backups.

- Backups should be periodically verified by restoring a copy onto a test system.

- External source files and Data Warehouse configuration files should be backed up as required.

- Although out of scope for this document, regular backups should be taken of all source file databases.

- Start scheduled backups before running the daily ETLs.

- Use backup compression.

- Perform full backups in off-peak times.

Disaster and Recovery

The HP IT Executive Scorecard, Data Warehouse, or SAP BusinessObjects Data Services servers have become unusable, for example the hard disk has crashed. The following procedure describes how to recover the XS, DWH, and Database servers.

When you start the recovery process, you must have complete backups of the relevant databases, configuration files and settings that are readily available. It is possible that you will lose history data. For details about the backups, see "Executive Scorecard Back Up " on page 268and "Data Warehouse Back Up " on page 265.

The following scenarios are independent from the external data sources and entities. Recovering from a scenario means that the component returns to a stable state.

About the recovery procedure

This section is a reference for the HP IT Executive Scorecard recovery process. The recovery process for your environment may vary according to your business needs and may require customization. Verify that the following processes are consistent with your architecture and environment before you proceed with real data.

Recovery for BOE server failure when BO was not installed using XS for a 4 Servers configuration

To recover from a major SAP BusinessObjects Enterprise server failure where SAP BusinessObjects Enterprise was not installed using Executive Scorecard, follow the instructions in the SAP BusinessObjects Enterprise Disaster Recovery documentation.

Recovery for a DWH server failure in a 4 Servers environment

The following procedure describes how to recover from a DWH server failure in a 4 Servers environment.

1. Back up the external sources directory contents and the external sources archive directory from the disaster DWH machine.
2. **On a clean machine where you want to install a new DWH server in a 4 Servers**

environment:

a. Run the XS 9.50 installer.

b. When the post-install wizard pops up, restore the external sources directory contents and the external sources archive directory that were backed up prior to the disaster.

c. Run the following SQL statement:
USE <Mng_Db_Name>
delete dbo.SETTINGS_MANAGEMENT
where NAME = **'dwh.is.installed'** or NAME =' **fnd.dbverify.done**' or NAME = '
bods.db.name'

d. On the BOE server, navigate to **Start > SAP Business Intelligence > SAP BusinessObjects BI platform Central Management Console**, logon to the console, navigate to **Data Services > Repositories**, and delete the old repository.

e. Activate the post-install wizard:

   i. In the **Management Database - Configure Management Database Settings** page, connect to your existing Configure Central Management (CCM) database.

   ii. In the **SAP BusinessObjects Data Services for HP XS** page, enter a new bods DB name to create a new BODS database..

   iii. In the **Configure Target DatabaseSettings** page, if displayed, choose to use the existing target database.

   iv. In the **Data Warehouse - Define Staging Database Logins** page, provide the original logons.

   v. In the **Data Warehouse - Define Target Database Login** page, provide the original logons.

   vi. When the post-install wizard is successfully completed, click **Finish**.

f. Redeploy the Core Content Pack (CP) manually by executing: **dw_ds_automation.bat -task Redeploy -cp Core**

g. Redeploy all the CPs that were activated before the disaster, by executing:
dw_ds_automation.bat –task Redeploy –cp <Content_Pack_Name>

h. For each CP activated before the disaster, execute:
dw_ds_automation.bat –task Activate -cp <Content_Pack_Name>

3. **On the old XS App server, reconfigure the URLs for the data source management (DSM) page and ETL management page as follows:**

a. Disable Executive Scorecard.

b. Open **<agora>\agora\glassfish\glassfish\domains\BTOA\config\appFW\applications**.

c. Edit the **dwh.xml** file:

d. For the DSM page, change:
https://[OLD DWH server: port]/dw-web/DataSourceManagement.jsp
to
https://[NEW DWH server: port]/dw-web/DataSourceManagement.jsp

e. For the ETL management page, change:
https://[OLD DWH server: port]/dw-abc-web/abc.jsp
to
https://[NEW DWH server: port]/dw-abc-web/abc.jsp

     f. Open **\<agora\>\glassfish\glassfish\domains\BTOA** and delete the **generated** and **osgi-cache** directories if they exist.

     g. Open **\<agora\>\glassfish\glassfish\domains\domain1\imq** and delete the **instances** directory if it exists.

     h. Enable HP Executive Scorecard.

  4. Continue to run your ETLs on the new DWH server.

Recovery from a XS server failure in a 4 Servers environment

The following procedure describes how to recover from an XS server failure in a 4 Servers environment.

  1. **On a clean machine where you want to install a new XS server in a 4 Servers environment:**

     a. Run the XS 9.50 installer.

     b. When the post-install wizard pops up, run the following SQL statement:
        USE \<Mng_Db_Name\>
        delete dbo.SETTINGS_MANAGEMENT
        where NAME = '**xs.is.installed**'.

     c. Run the following SQL statement:
        USE \<Mng_Db_Name\>
        UPDATE [dbo].[SYS_VER] SET [MN] = 41
        truncate table [dbo].[DB_UPGRADE]

     d. Activate the 9.50 post-install wizard:

        i. In the **Management Database - Configure Management Database Settings** page, connect to your existing Management database.

        ii. In the **SAP BusinessObjects Enterprise Configure Central Management Server (CMS) Database** page, if displayed, connect to your existing central management database.

        iii. In the **Configure Target Database Settings** page, if displayed, choose to use the existing target database.

        iv. In the **Data Warehouse - Define Staging Database Logins** page, provide the original logons.

        v. In the **Data Warehouse - Define Target Database Login** page, provide the original logons.

        vi. In the **Executive Scorecard - Configure Executive Scorecard Database** page, select to connect to an existing database.

        vii. When the post-install wizard is successfully completed, click **Finish**.

Recovery from the DWH, XS app, and BOE server failure in a 2 Servers environment

The following procedure describes how to recover from a DWH, XS application, and BOE server failure in a 2 Servers environment.

1. Back up the external sources directory contents and the external sources archive directory from the disaster server machine.

2. **On the clean machine where you want to install XS in a 2 Servers environment:**

   a. Run the XS 9.50 installer.

   b. When the post-install wizard pops up, restore the external sources directory contents and the external sources archive directory that were backed up prior to the disaster.

   c. Run the following SQL statement:
   USE <Mng_Db_Name>
   delete dbo.SETTINGS_MANAGEMENT
   where NAME = '**dwh.is.installed**'
   or NAME =' **fnd.dbverify.done**'
   or NAME = '**xs.is.installed**'
   or NAME = '**bo.engine.is.installed**'
   or NAME='**bo.in.use**'
   or NAME='**bods.ds.name**'.

   d. Activate the post-install wizard:

      i. In the **Management Database - Configure Management Database Settings** page, connect to your existing Management database.

      ii. In the **SAP Business Objects Enterprise - Configure Central Management Server (CMS) Database** page, create new CMS table and Audit table (the Audit can be inside the CMS)..

      iii. In the **Configure Target Database Settings** page, if displayed, choose to use the existing target database.

      iv. In the **Data Warehouse - Define Staging Database Logins** page, provide the original logons.

      v. In the **Data Warehouse - Define Target Database Login** page, provide the original logons.

      vi. In the **Executive Scorecard - Configure Executive Scorecard Database** page, select to connect to an existing database.

      vii. When the post-install wizard is successfully completed, click **Finish**.

   e. Redeploy the Core Content Pack (CP), and all the CPs that were activated before the disaster.

      i. For the Core CP, execute: **dw_ds_automation.bat -task Redeploy -cp Core**

      ii. For each content CP activated before the disaster, execute:
      dw_ds_automation.bat -task DeActivate -cp >Content_Pack_Name>
      dw_ds_automation.bat -task Redeploy -cp >Content_Pack_Name>

dw_ds_automation.bat –task Activate -cp >Content_Pack_Name>

> **Note:** You must check the dws.content_pack table in the Staging database.

3. Continue to run your ETLs on the new DWH server.

Recovery of a database server failure in a 2 Servers or a 4 Servers environment

The following procedure describes how to recover from a database server failure.

1. Verify that XS is stopped.

2. Restore the databases from the backup (CMS, MNG, REP, RES, STG, TRG) into the new dbServer.

> **Note:** The new dbServer must use same IP and name as the disaster dbServer.

3. Change the settings as follows.

> **Note:** Passwords, including the admin password, in the new server cannot be changed. You can change them once XS is up and running again.

```
UPDATE [<new_mng_database_name>].[dbo].[SETTINGS_MANAGEMENT]
SET VALUE =
CASE
WHEN NAME = 'new.tenant.db.host.name' THEN '<mng_new_db_server>'
WHEN NAME = 'new.tenant.db.port' THEN '<mng_ new_db_port>'
WHEN NAME = 'target.db.server' THEN '<target_ new_db_server>'
WHEN NAME = 'target.db.mssql.dbname' THEN '<target_ new_db_name>'
WHEN NAME = 'target.db.port' THEN '<target_ new_db_port>'
WHEN NAME = 'target.db.admin.username'  THEN '<target_new_admin_logon_name>'
WHEN NAME = 'bods.db.name' THEN '<bods_new_db_name>'
WHEN NAME = 'bods.db.admin.username' THEN '<bods_new_db_admin_logon>'
WHEN NAME = 'bods.db.username' THEN '<bods_new_db_logon>'
WHEN NAME = 'bods.db.server' THEN '<bods_new_db_server>'
WHEN NAME = 'bods.db.port' THEN '<bods_db_port>'
WHEN NAME = 'staging.db.mssql.dbname' THEN '<staging_db_name>'
WHEN NAME = 'staging.db.admin.username' THEN '<staging_db_admin_logon>'
WHEN NAME = 'staging.db.server' THEN '<staging_db_admin_server>'
WHEN NAME = 'staging.db.port' THEN '<staging_db_port>'
WHEN NAME = 'result.db.host' THEN '<result_db_server>'
WHEN NAME = 'result.db.server' THEN '<result_db_server>'
WHEN NAME = 'result.db.mssql.dbname' THEN '<result_db_name>'
ELSE VALUE
END
```

For example:

```
UPDATE [dvm1319_MNG_new].[dbo].[SETTINGS_MANAGEMENT]
SET VALUE =
CASE
WHEN NAME = 'new.tenant.db.host.name' THEN 'labm3amdb38.devlab.ad'
WHEN NAME = 'new.tenant.db.port' THEN '1433'
WHEN NAME = 'target.db.server' THEN 'labm3amdb38.devlab.ad'
WHEN NAME = 'target.db.mssql.dbname' THEN 'dvm1319_TRG_new'
WHEN NAME = 'target.db.port' THEN '1433'
WHEN NAME = 'target.db.admin.username'THEN 'sa'
WHEN NAME = 'bods.db.name' THEN 'dvm1319_REP_new'
WHEN NAME = 'bods.db.admin.username' THEN 'sa'
WHEN NAME = 'bods.db.username' THEN 'dvm1319_REP_new'
WHEN NAME = 'staging.db.mssql.dbname' THEN 'dvm1319_STG_new'
WHEN NAME = 'staging.db.admin.username' THEN 'sa'
WHEN NAME = 'staging.db.server' THEN 'labm3amdb38.devlab.ad'
WHEN NAME = 'staging.db.port' THEN '1433'
WHEN NAME = 'result.db.host' THEN 'labm3amdb38.devlab.ad'
WHEN NAME = 'result.db.server' THEN 'labm3amdb38.devlab.ad'
WHEN NAME = 'result.db.mssql.dbname' THEN 'dvm1319_RES_new'
ELSE VALUE
END
```

4. **Mng DB Details:** On each DWH and XS server you install, in **<agora>\conf\mngdb.properties**, change the values of the following keys:

- central.db.name

- central.host.name

- central.user.name

- central.server

- central.port

- mng.db.name

- mng.host.name

- mng.user.name

- mng.server

- mng.port

- jdbc.url (server, port and DBName)

- db.username

5. In **<agora>\glassfish\glassfish\domains\BTOA\config\domain.xml** change the connection pool properties (User, URL, databaseName) in three locations for DWH server and in four locations for XS server, by searching for:

<property name="user"
<property name="url"
<property name="databaseName"

6. On each server where you are performing an installation, restart **Glassfish**

In a 4 Servers environment, it is recommended perform the restart on the servers in the following order: DWH and XS servers.

7. Verify that XS is up and running, as follows:

- Execute the following URL on the server browser:**http://localhost:11021/invoke?operation= showServiceInfoAsHTML&objectname= Foundations%3Atype%3DSupervisorManager**

- If you are prompted for authentication, enter:

  Username: admin

  Password: admin

- Refresh the execution until the status of XS is **STARTED**.

8. Recreate the logons and and regenerate logons and users for:

- **DWH logons: (Run the command on the DWH server)**

  <HPXS>\agora\DataWarehouse\bin\dw_foundation_setup.bat -taskName initDB

- **Other logons:**

  > **Note:** If the logon exists use **alter** instead of **create**.

  i. **For BODS: Run a query on the relevant DB Server (BODS Repository dbServer).**

  ```
  Use master
  CREATE LOGIN <bods_new_logon_name> WITH PASSWORD=N'<the_same_password>',
  DEFAULT_DATABASE=<bods_logon_name >, DEFAULT_LANGUAGE=[us_english],
  CHECK_EXPIRATION=OFF, CHECK_POLICY=OFF
  GO
  use <bods_database_name>

  ALTER USER <bods_user_name> WITH LOGIN = <bods_new_logon_name>
  GO
  ALTER USER <bods_user_name> WITH DEFAULT_SCHEMA=[dbo]
  GO
  EXEC sp_addrolemember N'db_datareader', N'<bods_user_name>'
  GO
  EXEC sp_addrolemember N'db_ddladmin', N'<bods_user_name>'
  GO
  EXEC sp_addrolemember N'db_owner', N'<bods_user_name>'
  GO
  ```

> **Note:** <the_same_password> is the password used for the old BODS database server.

ii. **For XS: Run a query on the relevant DB Server (Target dbServer).**

```
Use master
CREATE LOGIN XS WITH PASSWORD=N'<the_same_password>',
DEFAULT_DATABASE=<new_target_database_name>,
DEFAULT_LANGUAGE=[us_english], CHECK_EXPIRATION=OFF, CHECK_POLICY=OFF
GO
use <new_target_database_name>
ALTER USER XS WITH DEFAULT_SCHEMA=XS
GO
EXEC sp_addrolemember N'db_datareader', N'XS'
GO
EXEC sp_addrolemember N'db_ddladmin', N'XS'
GO
EXEC sp_addrolemember N'db_owner', N'XS'
GO
EXEC sp_addrolemember N'DWT_USER_ROLE', N'XS'
GO
ALTER AUTHORIZATION ON SCHEMA::XS TO XS
GO
ALTER USER XS WITH LOGIN = XS
GO
```

> **Note:** <the_same_password> is the password used for the sa logon to the target database server.

iii. **For ITFM:Run a query on the relevant DB Server (Target dbServer).**

```
Use master
CREATE LOGIN itaapp WITH PASSWORD=N'<the_same_password>',
DEFAULT_DATABASE=<new_target_database_name>, DEFAULT_LANGUAGE=[us_
english],
CHECK_EXPIRATION=OFF, CHECK_POLICY=OFF
GO
use <new_target_database_name>
ALTER USER itaapp WITH DEFAULT_SCHEMA= itaapp
GO
EXEC sp_addrolemember N'db_datareader', N'itaapp'
GO
EXEC sp_addrolemember N'db_ddladmin', N'itaapp'
GO
EXEC sp_addrolemember N'db_owner', N'itaapp'
GO
EXEC sp_addrolemember N'DWT_USER_ROLE', N'itaapp'
GO
ALTER AUTHORIZATION ON SCHEMA:: itaapp TO itaapp
```

```
            GO
            ALTER USER itaapp WITH LOGIN = itaapp
            GO


            Use master
            CREATE LOGIN itafpaqry WITH PASSWORD=N'<the_same_password>',
            DEFAULT_DATABASE=<new_target_database_name>, DEFAULT_LANGUAGE=[us_
            english],
            CHECK_EXPIRATION=OFF, CHECK_POLICY=OFF
            GO
            use <new_target_database_name>
            ALTER USER itafpaqry WITH DEFAULT_SCHEMA= itafpaqry
            GO
            EXEC sp_addrolemember N'db_datareader', N'itafpaqry'
            GO
            EXEC sp_addrolemember N'db_ddladmin', N'itafpaqry'
            GO
            EXEC sp_addrolemember N'db_owner', N'itafpaqry'
            GO
            EXEC sp_addrolemember N'DWT_USER_ROLE', N'itafpaqry'
            GO
            ALTER AUTHORIZATION ON SCHEMA:: itafpaqry TO itafpaqry
            GO
            ALTER USER itafpaqry WITH LOGIN = itafpaqry
            GO
```

9. **On the DWH server:**

   - **BODS Job Server**

     i. On the DWH server, locate the **<BODS> \conf\DSConfig.txt** file.

     ii. Search for the section that includes your jobServer details (typically it should be named: **"[AL_JS_JobServer_1]"**).

     Change the relevant entries (**User**, **database**, **server**) to match the new database details. Do not change the password.

     > **Note:** **User** refers to the BODS logon name, not to the BODS user name.

   - **Resync BODS**

     i. On the DWH server, navigate to **Start** > **SAP BusinessObjects Data Services 4.1** > **Data Services Server Manager**.

     ii. Click **Edit Job Server Config**.

     iii. Double-click the JobServer.

     iv. Click **Resync**.

     v. Enter the BODS logon password and click **Apply**.

     vi. Click **OK** to close the window.

vii. Click **OK** to finish the configuration.

viii. Restart your JobServer from the button at the bottom of the main dialog.

- **Repository Manager:**

  i. On the BOE server, navigate to **Start** > **SAP Business Intelligence** > **SAP BusinessObjects BI platform Central Management Console**.

  ii. Log on to the console.

  A. Navigate to **Data Services** > **Repositories**.

  B. Delete the old repository and create a new one according to the new database details by clicking **Configure repository**.

  C. Click **Test Connection** to verify the connection information, and click **Save**.

  iii. On the BOE server, navigate to **Start > SAP BusinessObjects Data Services 4.1 > Data Services Management Console**.

  iv. Log on the console. The default is admin/admin, if it has not been changed.

  A. Go to **Administrator > Web Services**.

  B. Click the **Web Services Configuration** tab.

  C. Go to the bottom of the screen and select the **Select All** check box.

  D. In the combo box below it, click **Add Batch Job**.

  E. Click **Apply**.

- **BODS Datastores (glassfish must be up and running):**

  Run the following commands on the DWH server:

  ○ **<HPXS>\agora\DataWarehouse\bin\dw_ds_gen.bat -datastore all -outputdir "<HPXS>\agora\DataWarehouse\tmp\datastores"**

  ○ **<HPXS>\agora\DataWarehouse\bin\dw_ds_import.bat -inputdir "<HPXS>\agora\DataWarehouse\tmp\datastores"**

10. **On the BOE Server:**

- **BOE – Update ODBC Connections**

  i. Open **C:\Windows\SysWOW64\odbcad32.exe**.

  ii. Open **System DSN** and configure the BOE ODBC connection to connect the new CMS database.

- **BOE – Update JDBC Connections**

  Note: On BOE server, you must install SAP BusinessObjects BI platform 4 Client Tools manually.

  i. Navigate to **Start > SAP Business Intelligence > SAP BusinessObjects BI platform 4 Client Tools > Universe Design Tool**.

  ii. In the dialog box that opens, enter the following parameters:

  - **System:** localhost:6400

  - **Username**: administrator

- **Password:** <BOE_Password>
- **Authentication:** Enterprise

iii. Click **Cancel** in the Welcome page.

iv. Navigate to **Tools** > **Connections**.

v. Change all connection details and test the connection for the following: **XS_MNG_JDBC**, **ita_admin**, **ita_operations**.

vi. After the tests are successful, click **Next**.

vii. In the next dialog box, enter the recommended numbers as follows:

- **Connection Pool Mode:** Keep the connection active for
- **Pool timeout:** 600
- **Array fetch size:** 100
- **Array bind size:** 500
- **Login timeout:** 500

viii. Click **Finish**.

11. On the DWH server, run the ETL.

BODS Maintenance

Compact the BODS repository after each redeployment

> **Tip:** For versions prior to 9.40, with each additional CP redeployment, mainly performed during the content development process, the SAP BusinessObjects Data Services repository database gets heavier because the records in the Data Services are not deleted from the tables but only marked accordingly. This leads to large local repositories, corruption, bad response times, and more.

It is recommended to compact the SAP BusinessObjects Data Services repository from time-to-time (ideally after each CP redeployment) as follows:

1. Open the SAP BusinessObjects Data ServicesDesigner.
2. Specify the SAP BusinessObjects Data Services repository database connection details.
3. Select **Open File > Compact Repository**.
4. Select **Local Repository** and click **OK**.

Data Warehouse Back-End Maintenance

You can monitor and the ETL and other functions of the Data Warehouse using the back-end tools.

This section includes:

Clean Up the Staging and Target Databases

You clean up the databases when you want to rerun the initial load.

The tables that are cleaned are:

- All the data in the **dwt** tables in the target database.

- All the data in the **dws**, **dwst**, and **xrefgen** schemas in the staging database.

> **Note:**
>
> - The clean up tool cleans all data.
>
> - The clean up tool cannot be activated during an ETL run.
>
> - There is no possibility of rollback after the clean up.

Tasks

Clean up the staging and target databases

1. Backup the staging and target databases (so they are synchronized at the time of the backup) using the tools of the relevant database servers.

2. Clean up the databases using the **dw_cleandb** tool.

    Syntax

    ```
    dw_clean_data [-help]
    ```

    Options

Option	Required?	Description
-help	N	Display command syntax.

    Examples

    dw_clean_data.bat

    For details, see

Time Zone Configuration

The Data Warehouse (DWH) contains data extracted from external sources. The original data sources can be repositories in separate locations. It is important that the DWH maintains accurate date and time stamps that normalize the differences between the source time zones and the current time of the data warehouse location. These differences include both Coordinated Universal Time (UTC) offset and daylight savings time (DST) variations.

The data warehouse foundation has transparent internal functions that convert a source time zone value to a UTC value, and convert the UTC value to the DWH local time zone during the ETL process.

To access:

At a Windows command prompt, switch to the **<Installation folder>\Agora\Data Warehouse\bin** folder.

| Learn More | Tasks |

Learn More

DST Time Zone Information

The administrator must make sure that time zone information is current on the server hosting the Data Warehouse. Although the definition of time zones and DST rules are fairly static, changes can occur, for example, when moving the DST conversion date on a country-wide basis.

You can synchronize these changes to the Olson Timezone Database by obtaining and running the Java TZUpdater Tool that is available on the Sun Developer Network (SDN). For more information, visit the Java SE Timezone Updater Tool home page.

Change the Data Warehouse Period Dimensions

This procedure should be followed when expanding the DWH First and Last Year period dimension range.

It is highly recommended that once you enter First and Last Year period dimensions in the Executive Scorecard Configuration wizard, any future changes should take the following into account:

1. The First Year period dimension should only be changed downwards, thereby including the current First Year period dimension.

   Example If the First Year dimension is currently set to 2005, any change should be a year lower than 2005. Entering a year higher than 2005 can cause some data inconsistencies.

2. The Last Year period dimension should only be changed upwards, thereby including the current Last Year period dimension.

   Example If the First year dimension is currently set to 2025, any change should be a year higher than 2025. Entering a year lower than 2025 can cause some data inconsistencies.

Time Zone Update

The **dw_tz_update_dst** utility updates the DWH DST time zone information.

Tasks

Update the DST time zone

1. Download and run the **TZUpdater** tool.
2. To update DWH Server tables, run the **dw_tz_update_dst** as described in "Change the time zone using the dw_tz_update_dst utility" below.

To change data source Time Zone settings:

1. In the Executive Scorecard application, click **Admin** > **Data Source Management**, and for the relevant Content Pack, click **Activate** to open the relevant activation page.

   Note: If the content pack is already activated, you must deactivate, and then reactivate the content pack .

2. Change the Time Zone for the relevant data source, and click **Next**.

   The **TimeZoneInfo** table, which is part of the Staging database, is automatically updated.

   Note: There is a discrepancy in the status time display between ETL runs when BSM has a different time zone than the BSM server.

Change period dimensions

1. In the Executive Scorecard application, click **Admin > Settings > Data Warehouse** , under **General**, make the required changes in the **First year handled by DWH dates** and **Last Year handled by DWH dates** settings, and click **Save**.
2. From a command prompt:
   a. Navigate to **<Installation Directory\Agora\DataWarehouse\Bin**
   b. Run **dw_period_dim_generator**.

Change the time zone using the dw_tz_update_dst utility

1. At a Windows command prompt, switch to the **<Installation folder>\Agora\Data**

Warehouse\bin folder.

2. Run this command:
   dw_tz_update_dst

   a. Load or update the time zone information for a data source and the data warehouse.

   b. Run this utility whenever you deploy new source data or when you manually change the time zone.

   c. Time zone is expressed in GMT format: GMT +\-nn:nn.

Syntax

```
dw_tz_update_dst.bat
                [-help]
                [-verbose]
```

Options

Option	Required?	Description
-help	N	Display command syntax.
-verbose	N	Produce more detailed output.

Return codes:

0 – Success

1 – Success with warnings

>1 – Errors

Example
dw_tz_update_dst -verbose

Tracing and Logging

This section describes the Data Warehouse (DWH) logging and tracing mechanism.

Learn More   **Tasks**   **Reference**

Learn More

The Java Logging Mechanism

The DWH scripts generate one log file for each batch utility, using the Java application Log4J. Each log file is stored in the following directories:
<HP_XS>\agora\DataWarehouse\logs and
<HP_XS>\agora\glassfish\glassfish\domains\BTOA\logs

Example

- dw_initdb.log

- dw_generateschemas.log

The logging mechanism allows each new block of log information to be appended to the existing log until it reaches the maximum size of 1 MB. At that point, new logging information is stored in a backup file. There can be a maximum of five log files for a single script. You can change the log file name, size, and maximum number of backup files in the configuration files (XML files) in the **<HP_XS>\HPXS\agora\DataWarehouse\conf** directory.

The SQL Command Logging Mechanism

All the SQL commands that are executed by the DWH software are redirected to a log file. You can view the log file to trace the execution of all SQL commands. All log files are in the following directory:
<HP_XS>\agora\Datawarehouse\conf

The prefix of the log file name is the RDBMS type: **mssql**. The rest of the name is the name of the SQL command.

If the log file name include the suffix **_LastRun**, the file contains the last run output of the SQL command.

- **mssql_TablesAndSeqsResult.log**

- **mssql_create_dw_schema_LastRun.log**

To simplify interpreting SQL errors, the DWH applications parse the SQL server log files to report the most critical SQL error to the user. For more information, you can review the entire log file. Because the DWH appends log information in a history format in certain log files, you can review prior errors. Other log files retain only the history of the most recent execution. These files always have the **_LastRun** suffix.

Example:

- mssql_check_db_options_LastRun.log
- mssql_create_dw_schema_date_time_dim_LastRun.log

These history log files contain the date and time the SQL command runs, the date and time it completes, and the returned status of the SQL command.

Example:

```
-----------------------------------------------------------------------
Start of command: sqlcmd -S localhost -d BTODW -U dwmetadata -P **** -i
"C:\...\\foundation\etc\sql\mssql\create_dw_staging_resources.sql" -o
"C:\...\\foundation\log\mssql_create_dw_staging_resources_LastRun.log"
At: Wed Jul 02 13:35:59 PDT 2009
-----------------------------------------------------------------------
1:
2: ********** Creating staging resources **********
-----------------------------------------------------------------------
End of command: sqlcmd -S localhost -d BTODW -U dwmetadata -P **** -i
"C:\...\\foundation\etc\sql\mssql\create_dw_staging_resources.sql" -o
"C:\...\\foundation\log\mssql_create_dw_staging_resources_LastRun.log"
At: Wed Jul 02 13:35:59 PDT 2009
Returned code is: 0
```

SAP BusinessObjects Enterprise Logs

SAP BusinessObjects Data Services produces many run-time logs. You can locate these logs in the relevant directory
structure:
<HP_XS>\BO\bods\BusinessObjects Data Services\log

The **\log** directory has sub-directories to further organize the SAP BusinessObjects Data Services logs.

Log Files

You can access the Data Warehouse Log files in:

- **datawarehouse\logs**
- **C:\<Installationdirectory>\agora\glassfish\glassfish\domains\btoa\logs\server.log**

All information in the Data Warehouse log files is automatically sent to the Windows Event Viewer Application log.

Tasks

Configure the Logs

1. Access the log configuration files in the following directory:
   <HP_XS>\agora\DataWarehouse\conf

2. You can customize logging behavior of DWH utilities by editing a related log configuration file with this naming convention: **xxx-log4j.xml**. For example, importdefs-log4j.xml. Open the related **xxx-log4j.xml** file with a text editor:

   a. Select the trace levels to control the amount of information stored in the logs: **trace**, **debug**, **info**, **warn**, **error**, or **fatal**.

      The default value is **info**. You can experiment with different levels to see how much information that you want to display or suppress.

   b. Change the other relevant parameter values.

   c. Save the file before you close it.

3. For ABC utilities, (abc-xxxx) there is a single log configuration file: **abc-log4j.xml**. The values that you specify in this file apply to all log files generated by any ABC utility.

Access Data Warehouse log information

1. On the Windows taskbar, click **Start > Administrative Tools > Event Viewer**.

2. Expand Windows Logs, right-click **Application**, and then click **Filter Current Log**.

3. Select the relevant Event Levels, select the relevant **Event Sources**, and then click **OK**.

> **Note:** All the Data Warehouse Event Sources begin with DWH.

Reference

Sample Log Information

The following examples show the type of information you can find in these log files.

- The first example shows that a fatal error has occurred.

```
2008-07-02 13:33:10,652 INFO [com.hp.bto.dw.sqlbatch.SqlBatch] -
Checking database options...
2008-07-02 13:33:10,949 FATAL
[com.hp.bto.dw.dbcreate.DbCreateCommandLine] - Problem during DB
options check:
An error that can be corrected by the user has been found. Check the
log file to correct the problem.
Check the error log file
'C:\...\\foundation\log\mssql_check_db_options_LastRun.log', line
number 2
008-07-02 13:33:10,949 FATAL
[com.hp.bto.dw.dbcreate.DbCreateCommandLine] - Exit code: 6
```

- The second example shows successful execution.

```
2008-07-02 13:36:27,136 INFO
[com.hp.bto.dw.dbmetadatatool.DbMetadatatool]
Creating Date and Time stored procedures and populating the dimension
tables...
2008-07-02 13:36:30,511 INFO
[com.hp.bto.dw.commons.dblogparser.LogParserStatus] - Command
successfully executed.
```

It is possible to change the format of the reported information by changing the corresponding configuration files.

Add Additional Data Sources

You can add additional Content Packs to the data warehouse that can then be activated or deactivated.

Tasks

Add additional data sources

1. Copy the Content Pack file into the CP directory: **<Installation directory>\agora\Content Packs**.

2. Run the following batch file: **dw_cp_register.bat -name <new CP>**. The name entered must match the Content Pack file name.

3. Activate the data source using the Data Source Management page. For details, see "Data Source Management" on page 131.

Change the Configuration Definition

You can change data source configuration information only after you deactivate and then re-activate the specific data source.

☐ Tasks

Change the data source configuration

1. Select **Admin** > **Data Source Management**.

2. If necessary, deactivate the data source by clicking ▮▮ .

3. Click **Edit Settings** and edit the configuration parameters.

4. Click **Next** to validate your changes.

5. Click ▶ next to the specific source and the source is activated.

For details, see "Data Source Management" on page 131.

Change the Data Warehouse Period Dimensions

This procedure should be followed when expanding the Data Warehouse First and Last Year period dimension range.

> **Tip:** It is highly recommended that once you enter First and Last Year period dimensions in the Executive Scorecard Configuration wizard, any future changes should take the following into account:
>
> 1. The First Year period dimension should only be changed downwards, thereby including the current First Year period dimension.
>
>   **Example** If the First Year dimension is currently set to 2005, any change should be a year lower than 2005. Entering a year higher than 2005 can cause some data inconsistencies.
>
> 2. The Last Year period dimension should only be changed upwards, thereby including the current Last Year period dimension.
>
>   **Example** If the First year dimension is currently set to 2025, any change should be a year higher than 2025. Entering a year lower than 2025 can cause some data inconsistencies.

Tasks

Change period dimensions

1. In the Executive Scorecard application, click **Admin** > **Data Warehouse**, under **General**, make the required changes in the **First year handled by DWH dates** and **Last Year handled by DWH dates** settings, and click **Save**.

2. From a command prompt, navigate to
    <Installation Directory>\agora\DataWarehouse\Bin

    Run **dw_period_dim_generator**.

Naming Conventions

Data Warehouse Naming Conventions

The following describes table and field naming conventions.

Type	_Value	Description
Table Name Suffixes	_DIM	Dimension or bridge table.
	_FACT	Fact table.
	_MS	Monthly snapshot table that shows the last known value for the data at the end of a month.
	_HIER	Hierarchy table.
	_ AGG	Aggregate roll up table.
Field Name Prefixes	MD_	Metadata.
	SRC_	Used for all fields that exist just for data warehouse internal processes. Source. Used for all field drawn from the source for ETL purposes only (not pushed to the target).
	PK_	Primary key.
	FLAG_	A binary field: Y/N.
	DATE_	A date type.
	DURATION_	A measure representing a length of time.
	COUNT_	A measure representing a raw count.
	AVG_	A measure representing an average roll up.
	MAX_	A measure representing a maximum roll up.
	MIN_	A measure representing a minimum roll up.
	PCT_	A measure representing a percentage.

Type	_Value	Description
Field Name Suffixes	_ID	A surrogate key field that is primary or foreign.
	_BASE	A financial amount, currency, or exchange rate in the default currency of the data warehouse.
	_ UTC	A date expressed in the UTC time zone. For dates: a date expressed in the default display time zone for the data warehouse. For money: a financial amount, currency, or exchange rate in the original currency of the source data.
	_LOC	A date expressed in the local time zone.

Target and Staging Databases Naming Conventions

The first character of the Target and Staging databases name must begin with an alpha character. The init_db utility fails if you use database names that begin with numbers.

SAP BusinessObjects Data Services Naming Conventions

This section describes the naming conventions used by tables that are part of the SAP BusinessObjects Data Services ETL process.

This section includes:

- "Datastore " below
- "Datastore Alias " on the next page
- "Project" on the next page
- "Job Names" on the next page
- "Workflows" on page 298
- "Dataflows" on page 298
- "Variables - Global - Local Variables - Parameters" on page 298
- "Custom Functions" on page 299
- "Scripts" on page 299
- "Try/Catch" on page 299
- "Conditionals" on page 300
- "Flat File Targets" on page 300

Datastore

Description	Naming Convention and Examples
Connection to database with source application views	Datastore names have a prefix with the datastore name and a suffix of _DS. **Format:** <SOURCE APP>_DS **Examples:**

	• AMVIEW_DS • PPMVIEW_DS • SMVIEW_DS
Connection to transactional entity staging database	SRCSTAGING_DS
Connection to target entity staging database	DWSTAGING_DS
Connection to data warehouse database	DW_DS

Datastore Alias

Description	Naming Convention and Examples
Name of Datastore for the specific source in SAP BusinessObjects Data Services	Alias names have a prefix with the source application name and a suffix of _ALIAS. **Format:** <SOURCE APP>_ALIAS **Example** AMVIEW_ALIAS
Alias user for transactional entity staging database	SRCSTAGING_ALIAS
Alias user for target entity staging database	DWSTAGING_ALIAS
Alias user for data warehouse database	DW_ALIAS

Project

Description	Naming Convention and Examples
Allows you to group jobs that have dependent schedule or belong to the same application	Project names have a prefix with the source application name or purpose of the project and a suffix of _PJ. **Format:** <DESCRIPTION>_PJ **Example** FPA_PJ

Job Names

Description	Naming Convention and Examples
SAP BusinessObjects Data Services job which is a group of objects that you can schedule and execute together	Job names have a prefix with the name of the source application. An internal segment can describe the job purpose. There is a suffix of _JB. **Format:** <SOURCE APP>_<PURPOSE>_JB or <PURPOSE>_JB **Examples:** • AM_SOURCE_EXTRACT_JB • DW_JB

Workflows

Description	Naming Convention and Examples
Defines a decision making process to execute a dataflow	Workflow names have a prefix with the source or target name. A SUB-CATEGORY segment describes the ETL phase. There is suffix of _ WF. **Format:** <SRC NAME/TARGET NAME>_<SUB-CATEGORY>_WF **Examples:** • AM_AMRIGHTSUSESCOUNT_EXT_WF • AM_MSI_CONTAINER_WF

Dataflows

Description	Naming Convention and Examples
Data flows extract, transform and load data	Dataflow names have a prefix with the source or target name. A SUB-CATEGORY segment describes the ETL phase. There is a suffix of _DF. **Format:** <SRC NAME/TARGET NAME><SUB_CATEGORY>_<ACTION>_DF **Examples:** AM_AMRIGHTSUSESCOUNT_EXT_DF AM_SWAUDITDETAIL_MSI_DF

Variables - Global - Local Variables - Parameters

Description	Naming Convention and Examples

Variables defined in a job Variables defined in a job/ workflow Parameters in a workflow/ dataflow	Variable names have a dollar sign ($) and prefix to identify the type of variable (G for global, L for local, or P for parameter). The suffix identifies the purpose or identifying parameter name.
	Format:
	$G_<PURPOSE> or $L_<PURPOSE> or $P_<PURPOSE>
	Examples: • $G_BATCH_ID • $L_STARTDATE • $P_STATUS

Custom Functions

Description	Naming Convention and Examples
Script functions in Data Integrator scripting language	Custom function names have a prefix that describes the purpose of the function. The suffix is _FN. **Format:** <PURPOSE>_FN **Example** STARTJB_FN

Scripts

Description	Naming Convention and Examples
Scripts created in jobs or work flows. Description can refer to function the script is performing or the name of the table the script is loading	Script names have a prefix that describes the data source or target name. A SUB-CATEGORY segment describes the ETL phase. The suffix is _SC. **Format:** <SRC NAME/TARGET NAME> or <SUB_CATEGORY>_SC. **Example** AM_ AMRIGHTSUSESCOUNT_ EXT_FAIL_SC

Try/Catch

Description	Naming Convention and Examples
Specify alternative workflows if errors occur while executing a job	Try/catch names have a prefix that describes the data source or target name. A SUB-CATEGORY segment describes the ETL phase. The suffix is _TRY or _CATCH. **Format:** <SRC NAME/TARGET NAME><SUB_CATEGORY>_TRY or <SRC NAME/TARGET NAME><SUB_ CATEGORY>_CATCH **Examples:** • AM_AMRIGHTSUSESCOUNT_EXT_TRY • AM_AMRIGHTSUSESCOUNT_EXT_CATCH

Conditionals

Description	Naming Convention and Examples
Conditionals are single-use objects used to implement if-then-else logic in a work flow	Conditional names have a prefix that describes the data source or target name. A SUB-CATEGORY segment describes the ETL phase. The suffix is _COND. **Format:** <SRC NAME/TARGET NAME><SUB_ CATEGORY>_COND **Example** AM_ AMRIGHTSUSESCOUNT_EXT_COND

Flat File Targets

Description	Naming Convention and Examples
Flat file extracts of source view	Flat file target names have a prefix that describes the datastore name. Segments describe the source table name, batch ID, and A SUB-CATEGORY segment describes the ETL phase. The suffix is .txt. **Format:** <DATASTORENAME (without _DS)>_<SOURCETABLENAME_BATCHID> _<SUB-CATEGORY>.txt **Example** AMVIEW_AMRIGHTSUSESCOUNT_' ||$G_Batch_ID||'

_EXTRACT_FF.TXT AMVIEW_AMRIGHTSUSESCOUNT
_' ||$G_Batch_ID||'_EXTRACT_DELETE_FF.TXT

Data Warehouse Command Reference

This section is a syntax reference for the out-of-box scripts that are available to ETL designers and developers.

The data warehouse contains out-of-box .xml files in this directory: **<DWH_home_directory>\DataWarehouse\conf**

The table in the Command Summary section lists the out-of-box scripts that you can use to accomplish command line tasks. These scripts produce specific results. Changing them may produce unpredictable results when they run. For details, see "DWH Command Reference" on page 311.

This section includes:

"ABC Command Reference" on the next page

"DWH Command Reference" on page 311

"The Automation Tool" on page 319

ABC Command Reference

This section describes all of the out-of-box ABC command files that are available to administer the ABC functions. The table in the Command Summary section lists the out-of-box files that you can use to accomplish ABC tasks.

Although SAP BusinessObjects Data Services runs the jobs that extract, transform, and load data, ABC manages the actual launch, execution, and sequencing of the steps in these jobs. If you run jobs using SAP BusinessObjects Data Services only, there can be conflicts, sequence errors, and data corruption, and run-time statistics can be lost.

The data warehouse provides the out-of-box file (upstream.xml) that contains the required job steps. The primary ABC tasks are to launch ETL batch jobs at regularly scheduled intervals and ensure that the individual job steps run as soon as they are ready. In addition, the ABC Audit and Control reports enable you to view information pertaining to the utilities.

Reference

Syntax Conventions

Command options in square brackets ([ ]) are optional.

Italicized lowercase expressions are variable values.

If a command option argument is a text string that contains blank spaces, you must enclose it in quotation marks. Otherwise, the text before the blank space is considered the entire argument and the remaining text becomes an undefined option.

Command Summary

The following command script files are available in this directory:
<Installation directory>\agora\DataWarehouse\bin

Name	Purpose	Primary User
"dw_abc_batch_control" on the next page	Start and stop batch job streams.	Administrator
"dw_abc_load_batch " on page 305	Load a batch job stream or register it as a scheduled task.	Administrator
	Run job stream steps (the ABC engine) or register it as a scheduled task.	Administrator
"dw_abc_retry_step " on page 308	Restart a job stream step.	Administrator
"dw_abc_job_launcher " on page 309	Start or stop job steps within a job stream.	Administrator or ETL developer
"dw_abc_set_status " on page 309	Capture the status of job stream steps that are implemented as batch scripts.	Administrator or ETL developer

dw_abc_batch_control

Use this script to start and stop batch job streams. The dw_abc_batch_control utility enables you to:

- Suspend an active batch job stream
- Resume a suspended batch job stream
- Abort a running batch job stream

User

Administrator

Syntax

DWH_Admin

```
dw_abc_batch_control (-abort | -resume | -suspend)
                     (streamID <streamid> | -all)
                     [-help]
```

Options

Option	Required?	Description
Choose one of the following options:		
-commandName all	No	Complete the named command action on all loaded job streams.
-abort	No	Terminate -all or a specific streamID where the streamID value is the catalog parameter value for dwid="xxxx".
-abortAndKillJobs	No	Abort the specified stream and kill all currently running SAP BusinessObjects Data Services jobs (if any currently running).
-resume	No	Re-start -all or a specific streamID where the streamID value is the catalog parameter value for dwid="xxxx".
-suspend	No	Temporarily stop -all or a specific streamID where the streamID value is the catalog parameter value for dwid="xxxx"

Choose one of the following options:		
• -streamId *streamId*	No	The streamID value is the catalog parameter value for dwid="xxxx" found in the xml file that describes the stream: <Installation directory>\agora\Content Packs\Core\ABC\upstream.xml
• -all	No	All streams currently executing.
-help	No	Display command syntax

Examples

- **dw_abc_batch_control -suspend -streamid Stream1**
- **dw_abc_batch_control -resume -all**

dw_abc_load_batch

Use this script to load a batch job stream or register it as a scheduled task.

The **dw_abc_load_batch** utility is responsible for starting an ABC ETL track. You can run this utility manually at the command line, or scheduled it to run at scheduled intervals.

Batch job streams can run concurrently if each job stream is independent of other job streams; however, if two concurrent batch jobs invoke the same job stream, they cannot run successfully. If the **dw_abc_load_batch** utility successfully loads a batch job, as long as that batch job is running, any attempt to load a second instance of the same batch job will fail. Running the out-of-box upstream.xml job stream in overlapping batches produces errors.

The **dw_abc_load_batch** utility initializes the ABC stream and prepares the stream steps for execution.

The **dw_run_steps** utility looks for these steps that are ready and starts each one individually. The batch job manages the details of extracting entities from source databases.

All the job steps in the batch job reference the same batch ID. The initial state of the batch is Active. The initial state of all of the pending processes (job steps) is Waiting.

User

Administrator

Syntax

```
dw_abc_load_batch -streamId <string>

[-register (-every <string> |-starttime <string>)]
```

```
[-unregister]

[-list]

[-help]
```

Options

Option	Required?	Description
Choose one of the following options:		
-list	No	List tasks scheduled to run.
-list _streamId <streamId>	Yes	Identify the stream ID value that is specified in the stream file parameter dwid="xxxx".
-register	No	Create a scheduled task to run dw_abc_load_batch at regular intervals.
-unregister _streamId <streamId>	No	Unregister all the events for the specified streamId stream.
-starttime *hh:mm*	No	Start the task to load the batch where the value for hh is 00–24 and the value for mm is 00–59.
-streamid *stream_id*	Yes	Enter the stream ID of the stream for which a batch is to be loaded: **Cleandata**, **Restream**, or **Upstream**.
-help	No	Display command syntax.

Examples

- **dw_abc_load_batch -streamId streamId**
- **dw_abc_load_batch -streamId streamId -register -every 720**
- **dw_abc_load_batch -streamId streamId -register -starttime 22:30**
- **dw_abc_load_batch -unregister -streamId streamId**
- **dw_abc_load_batch -list -streamId streamId**
- **dw_abc_load_batch -unregister**
- **dw_abc_load_batch -list**

dw_abc_run_steps

Use this script to run job stream steps or register the action as a scheduled task.

The command verifies the successful execution of each step before a dependent step begins. It also compiles a list of parallel and sequential execution steps that are ready to run, then launches each step that is ready for execution.

The command:

- Determines which steps are ready to run and starts them.
- Creates processes for each step in a batch job stream.
- Reports execution state for each process, then updates a final execution status for the batch.
- Sets a status of Max_Execution_Time_Exceeded if a step exceeds its maximum execution time.
- If Max_Execution_Time_Exceeded occurs, stops job step execution.
- Finds all steps that are blocking the execution of a job stream and reports them.
- Retries any step that terminates with an error and has not exceeded the specified maximum number of retries.

You can specify a maximum number of retries when an error occurs, and a maximum execution time for each step in the job stream definition file. Because they are optional parameters, they have default values of no retries and unlimited execution time. For details see "Change the Number of Retries for a Failed ETL Step" on page 326.

User

Administrator

Syntax

```
dw_abc_run_steps [-streamId <string>]

                 [-every <interval>]

                 [-register]

                 [-unregister]

                 [-list]

                 [-help]
```

Options

Option	Required?	Description
-every *nnn*	No	Start the batch load task every nnn minutes.
-list	No	Display a list of the registered events for all the stream Ids.
-list _streamId <streamId>	No	Display a list of the registered events for the specified streamId.

-register	No	Create a scheduled task to run **dw_abc_run_steps** at regular intervals.
-unregister _streamId <streamId>	No	Unregister all the events for the specified streamId stream.
-streamId *stream_id*	No	Stream ID value for the step to restart.
-help	No	Display command syntax for this command.

Examples

- To run all possible steps with a ready status:
  dw_abc_run_steps -streamId Upstream

- To create a scheduled task that executes the **dw_abc_run_steps** command every 60 minutes:
  dw_abc_run_steps -register -every 60 -streamId Upstream

- To remove a scheduled task that starts the dw_abc_run_steps:
  dw_abc_run_steps -unregister -streamId Upstream

- To list a scheduled task that starts the dw_abc_run_steps:
  dw_abc_run_steps -list -streamId Upstream

- To remove all scheduled tasks that starts the dw_abc_run_steps:
  dw_abc_run_steps -unregister

- To list all scheduled tasks that starts the dw_abc_run_steps:
  dw_abc_run_steps -list

dw_abc_retry_step

Use this script to restart a job stream step.

The **dw_abc_retry_step** utility re-starts a job step. When you specify a maximum number of retries, the ABC engine blocks the job stream when that number is exceeded.

User

Administrator

Syntax

```
dw_abc_load_batch -streamId <string>
                  -stepId <string>
                  [-help]
```

Options

Option	Required?	Description
-stepId *step_id*	Y	Step ID value for the step to restart.
-streamId *stream_id*	Y	Stream ID value for the step to restart.

-help	N	Display command syntax.

Example

dw_abc_retry_step -streamId Upstream -stepId step_id

dw_abc_job_launcher

Use this script to start or stop specific SAP BusinessObjects Data Services jobs.

User

Administrator or ETL developer

Syntax

```
dw_abc_job_launcher -jobname <string>
                    [-stop]
                    [-help]
```

Options

Option	Required?	Description
-jobname *job_name*	Y	Name of the job that you want to run.
-stop *job_name*	N	Stop job execution.
-help	N	Display command syntax.

If you omit the -process option, you must set an environment variable %DW_PROCESS_ID% that contains the value of the process ID.

Example

- **dw_abc_job_launcher -jobname DW_JB**
- **dw_abc_job_launcher -stop -jobname DW_JB**

dw_abc_set_status

Use this script to set the status of job stream steps that are implemented as batch scripts.

User

Administrator or ETL developer

Syntax

```
dw_abc_set_status (-error | -final | running | -success | -warning)
                  [-info <string>]
                  [-help]
```

Options

Option	Required?	Description
Choose one of the following status parameters:		
• -error	N	If an error occurs, update the data warehouse with the error status.
• -final	N	If an error occurs, update the data warehouse with the most severe status.
• -running	N	If an error occurs, update the data warehouse with the run status.
• -success	N	If successful, update the data warehouse with the success status.
• -warning	N	If a warning status occurs, update the data warehouse with the warning status.
-help	N	Display command syntax.

The -info "message_text" is optional free text that you can display.

This script requires the DW_PROCESS_ID environment variable to be set with the value of the process ID before you run this script.

Example

dw_abc_set_status -error -info "Job failed"

DWH Command Reference

The following command script files are available in this directory:
<DWH_home_directory>\DataWarehouse\bin

● Reference

Data Warehouse Script Files

dw_bods_xml_import

Use this script to import ETL from XML files to the SAP BusinessObjects Data Services repository. The input XML files are located in the indicated directory, or its subdirectories.

Primary user: Administrator

Syntax

```
dw_bods_xml_import [-help] [-fromfile "<xmlfile>" | -fromdir "<directory>"]
```

Options

Option	Required?	Description
-fromdir <fromdir>	N	The directory, in the data source repository, that contains the ETL XML files to import .
-fromfile <fromfile>	N	The XML file, in the data source repository, from which the ETL is imported .
-help	N	Display command syntax.

Examples

dw_ds_gen -datastore all -outputdir c:\datastores dw_ds_gen -datastore PPM -outputdir c:\datastores\PPM

dw_cleandb

Clean data from staging and target databases to start an initial load. For details, see "Clean Up the Staging and Target Databases" on page 284.

Primary user: Administrator

Syntax

```
dw_clean_data [-help]
```

Options

Option	Required?	Description
-help	N	Display command syntax.

Examples

dw_clean_data.bat

dw_ds_gen

Use this script to generate one or more datastores. SAP BusinessObjects Data Services imports these datastores to enable SAP BusinessObjects Data Services jobs to connect to the database.

Primary user: ETL developer

Syntax

```
dw_ds_gen -datastore <dws|dwst|dwt|dwabc|PPM|AM|SM|all>
          -outputdir <directory>
          [-verbose]
          [-help]
```

Options

Option	Required?	Description
-datastore	Y	Generate the specified data source (dws, dwst, dwt, dwabc, PPM or AM). Specify all to generate all sources.
-outputdir *directory_name*	Y	Path and name of the target directory where the data source files are to be generated.
-verbose	N	Produce more detailed output.
-help	N	Display command syntax.

Examples

dw_ds_gen -datastore all -outputdir c:\datastores dw_ds_gen -datastore PPM -outputdir c:\datastores\PPM

dw_ds_import

Use this script to import source files from a named directory into the metadata repository. For example, to import a collection of files into the datastore directory.

Primary user: ETL developer

Syntax

```
dw_ds_import -inputdir directory
             [-help]
```

Options

Option	Required?	Description
-inputdir *directory_name*	Y	Path and name of the directory where the data source files are to be imported.
-help	N	Display command syntax.

Example

dw_ds_import -inputdir "c:\datastore\Source Files"

dw_etl_export

Use this script to export SAP BusinessObjects Data Services jobs, workflows, data flows, functions and other ETL components to a zip file.

Primary user: ETL developer

Syntax

```
dw_etl_export -zip <zipfile>
                   [-help]
```

Options

Option	Required?	Description
-zip *zip_file_name*	Y	Export to the specified archive file.
-help	N	Display command syntax.

Example

dw_etl_export -zip c:\etlFiles.zip

dw_etl_import

Use this script to import SAP BusinessObjects Data Services jobs, workflows, data flows, functions, and other ETL components t to a zip file.

Primary user: ETL developer

Syntax

```
dw_etl_import [-atl <atlFile>]
              -topdir <directory>
              [-zip <zipfile>]
              [-help]
```

Options

Option	Required?	Description
-atl *atl_file_name*	N	Import the specified .atl file.
-topdir *directory_name*	Y	Import all .atl files under a specified directory and subdirectory.
-zip *zip_file_name*	N	Import the contents of the archive file.
-help	N	Display command syntax.

Examples

dw_etl_import -topdir c:\etlFiles

dw_etl_import -topdir "c:\ETL Files"

dw_etl_import -zip c:\etlFiles.zip

dw_etl_import -atl c:\functions.atl

dw_etl_update_containers

This script loads .etl files during the installation process.

Primary user: ETL developer

Syntax

```
dw_etl_update_containers -topdir <directory>
                         [-verbose]
                         [-help]
```

Options

Option	Required?	Description

-topdir *directory_name*	Y	Name of the directory that contains all application-specific .atl files.
-verbose	N	Produce more detailed output.
-help	N	Display command syntax.

Return codes

0 – Success
1 – Success with warnings
>1 – Errors

Examples

dw_etl_update_containers -topdir "c:\My Application"

dw_etl_update_containers -topdir c:\MyApplication

dw_foundation_setup

Use this script to call the scripts that initialize the data warehouse, or load the metadata for data source connections into the database, to build the data warehouse foundation

Primary user: Installer

Syntax

```
dw_foundation_setup [-args <taskArguments>]
                     -taskName <taskName>
                    [-verbose]
                    [-help]
```

Options

Option	Required?	Description
-args *task_argument*	N	Name of the task argument.
-taskName *task_name*	Y	Name of the requested task.
-verbose	N	Produce more detailed output.
-help	N	Display command syntax.

You can see the individual tasks and associated arguments called by dw_foundation_setup if you open this file with a text or xml editor:
<DWH_home_directory>\DataWarehouse\etc\xml\dw_foundation_setup.xml

Return codes

0 – Success
1 – Success with warnings
>1 – Errors

dw_generateschemas

Use this script to generate schemas and tables.

Primary user: ETL developer

Syntax

```
dw_generateschemas [-aggregates]
                   [-application <application>|all]
                   [-autoloadingmode true|false]
                   [-interface]
                   [-noninteractive]
                   [-product <product>|all]
                   [-staging]
                   [-target]
                   [-verbose]
                   [-help]
```

Options

Option	Required?	Description
-aggregates	N	Generate or update the aggregation tables.
-application *application_ name* | all	N	Load the named application or load all applications. All is the default if you are in non-interactive mode.
-autoloadingmode	N	Specify true or false. True is the default value.
-interface	N	Generate the SQL script files to create the interface.
-noninteractive	N	Run this script without prompting for user input. Use all default values.
-product *product_name* | all	N	Load the specified product. All is the default value.
-staging	N	Generate or update the staging tables.
-target	N	Generate or update the target tables.
-verbose	N	Produce more detailed output.
-help	N	Display command syntax.

Interfaces will always be written to a file, whether autoloadingmode is on or not. Each interface for a Data Source Connection is written to a separate file. If you do not specify a specific phase, all phases execute.

Example

dw_generateschemas -application myApp -autoloadingmode true -target

dw_initdb

Use this script to initialize data warehouse foundation database schemas.

Primary user: Administrator

Syntax

```
dw_init.bat [-confdir <directory>]
            [-schema <schemaname>]
             -sqldir <directory>
            [-help]
```

Options

Option	Required?	Description
-confdir *directory*	N	Name of the directory that contains the .properties file for the designated **schemaname.**
-schema *schemaname*	N	Name of the schema, such as **dwmetadata**, **dws**, **dwst**, or **dwt**.
-sqldir *directory*	Y	Name of the directory that contains the schema and .properties file.
-help	N	Display command syntax.

Examples

dw_init.bat -sqldir c:\myDbdirectory
dw_init.bat -sqldir c:\myDbdirectory -schema dwmetadata -confdir "c:\my Config directory"

dw_tz_update_dst

Load or update the time zone information for a data source and the data warehouse. Run this utility whenever you deploy new source data or when you manually change the time zone. Time zone is expressed in GMT format: GMT +\-nn:nn.

Primary user: Administrator

Syntax

```
dw_tz_update_dst.bat
              [-help]
              [-verbose]
```

Options

Option	Required?	Description
-help	N	Display command syntax.
-verbose	N	Produce more detailed output.

Return codes:

0 – Success

1 – Success with warnings

>1 – Errors

Example

dw_tz_update_dst -verbose

dw_ds_automation

Data Source Configuration using the Automation Tool. For details, see "The Automation Tool" on the next page.

Primary user: Administrator

The Automation Tool

The automation tool is built and designed to simplify the different tasks of Data Source Management.

It contains Data Source Management back-end tools that simplify the usage, add some necessary validations, and set the different statuses. The functions are used by the Data Source Management user interface but also provides a command line interface so it can be used outside the application server.

Reference

The following Command Line Interface (CLI) is available for Data Source Management functionality outside the UI. The command script files are found in this directory: **<DWH_home_directory>\DataWarehouse\bin**

TestConnection

Usage: dw_ds_automation.bat -task TestConnection -cp xxx -xmlFilePath [Path to datasources.xml file]

Description: Test the connection to the data source. Should be used before running the configuration task in order to validate correct connection details.

Register Instance

Usage: dw_cp_register.bat -addInstance –name <CP_NAME>

Description:

- Use to add an additional instance of the data source.
- The Data Warehouse then looks for the CP in the Content Packs Folder.
- The instance ID is displayed in the output."Instance ID: XX has been added to Content Pack: <CP_ NAME>"
- It is also added to the CONTENT_PACK table.

ConfigureInitial

Usage: dw_ds_automation.bat -task ConfigureInitial -cp <content pack name>-instance <INSTANCE_ID>-xmlFilePath [Path to datasources.xml file]

Description:

- Configure the CP connection settings before the CP has been initialized.
- Use prior to CP initialization (Deploy).

Note: To successfully run this command, the ALM password must be encrypted before saving it in the Staging database.

Configure

Usage: dw_ds_automation.bat -task Configure -cp <content pack name>-instance <INSTANCE_ID> -xmlFilePath [Path to datasources.xml file]

Description: Configure the CP connection settings and regenerate the datastore of the product. Can be used only after the CP has been successfully initialized.

> **Note:** If any the following sources HP Application Lifecycle Management, HP Business Service Management, or HP Universal Configuration Management Database are configured via a back-end too, the relevant URL listed below should be run before the ETL is run:
>
> - **HP Application Lifecycle Management:**
>   http://localhost:10002/dw/integrations/generic/reset/ALM
> - **HP Business Service Management**:
>   http://localhost:10002/dw/integrations/bsm/reset/connection
> - **HP Universal Configuration Management Database:**
>   http://localhost:10002/dw/integrations/ucmdb/ucmdb/reset/connection

Deploy

Usage: dw_ds_automation.bat -task Deploy -cp <content pack name>-instance <INSTANCE_ID>

Description: Initialize the CP and set the CP status as **Initialized**.

Activate

Usage: dw_ds_automation.bat -task Activate -cp <content pack name>-instance <INSTANCE_ID>

Description: Activate the CP using the stream Assembler and set the CP status as Activated. Activating the CP causes its ABC stream to be merged with the Main (Core) CP stream. Activated CP stream steps will be executed during the execution of the Main (Core) ABC Stream.

Deactivate

Usage: dw_ds_automation.bat -task DeActivate -cp <content pack name>-instance <INSTANCE_ID>

Description: Deactivate the CP using the stream assembler and set the CP status as **Non-Activated**. Deactivate performs the opposite action from Activate. Deactivate subtracts the deactivated CP ABC Steps from the Main ABC Stream Steps.

AutoActivate

Usage: dw_ds_automation.bat -task AutoActivate

Description: Deploy and activate all CPs with "autostart" flag according to the order set by "autostartpriority" in the manifest

used by the post- install tool. The manifest found in cp_manifest.properties, is a list of attributes located in the root directory of the Content Pack.

Advanced Data Warehouse Administration

This section describes some of the advanced commands for DWH processes. DWH also provides a set of reports that provide the administrator with awareness and insight into the DWH processes.

This section includes:

Advanced Utilities

The Data Warehouse enables you to run advanced ABC utilities.

⬤ Reference

dw_abc_job_launcher

Use this script to start or stop specific SAP BusinessObjects Data Services jobs.

User

Administrator or ETL developer

Syntax

```
dw_abc_job_launcher -jobname <string>
                    [-stop]
                    [-help]
```

Options

Option	Required?	Description
-jobname *job_name*	Y	Name of the job that you want to run.
-stop *job_name*	N	Stop job execution.
-help	N	Display command syntax.

If you omit the -process option, you must set an environment variable %DW_PROCESS_ID% that contains the value of the process ID.

> **Example**
>
> - **dw_abc_job_launcher -jobname DW_JB**
> - **dw_abc_job_launcher -stop -jobname DW_JB**

dw_abc_set_status

Use this script to set the status of job stream steps that are implemented as batch scripts.

User

Administrator or ETL developer

Syntax

```
dw_abc_set_status (-error | -final | running | -success | -warning)
                  [-info <string>]
```

```
[-help]
```

Options

Option	Required?	Description
Choose one of the following status parameters:		
-error	N	If an error occurs, update the data warehouse with the error status.
-final	N	If an error occurs, update the data warehouse with the most severe status.
-running	N	If an error occurs, update the data warehouse with the run status.
-success	N	If successful, update the data warehouse with the success status.
-warning	N	If a warning status occurs, update the data warehouse with the warning status.
-help	N	Display command syntax.

The -info "message_text" is optional free text that you can display.

This script requires the DW_PROCESS_ID environment variable to be set with the value of the process ID before you run this script.

Example

dw_abc_set_status -error -info "Job failed"

Validate Catalog and Stream Definitions

ABC utilities automatically validate xml syntax and perform more sophisticated validation, such as loop detection in a job stream and valid catalog references to the job stream (dwid=`Upstream`).

If an error occurs, you can view the DW ABC Streams Management UI for stream information. Fore details, see " ETL Management " on page 159.

Additionally you can review the ABC Operational Status report to see where the process failed. For details, see ABC - Operational Status Report.

Change the Number of Retries for a Failed ETL Step

The job stream batch file has a job stream step for each required task in the end-to-end ETL process and for each data source. Each job stream step has a parameter value that specifies the number of retries allowable before the job step terminates with an error. You can manually edit this value to increase or decrease the number of retries.

Tasks

Change the number of retries

1. Navigate to the installation directory structure to locate the following file:
   <Installation directory>\agora\contentpacks\{$CP}\ABC\${stream name}.xml, (depending on the ${CP})

2. Save a backup copy of the file before you proceed.

3. Open upstream.xml with a text editor. There is a sequential list of job stream steps that manage the entire ETL process.

```
<ns1:JobStreamSteps>
<ns1:JobStreamStep dwid="SYS_READY" businessname="check ETL pre
conditions" ... maxretries="4"/>
<ns1:JobStreamStep dwid="EXTERNAL_FILE" businessname="extract External
Files" ... maxretries="4"/>
<ns1:JobStreamStep dwid="PPM_SOURCE_EXTRACT" businessname="extract PPM
to FF"... " maxretries="4"/>
<ns1:JobStreamStep dwid="AM_SOURCE_EXTRACT" businessname="extract AM to
FF" ... maxretries="4"/>
<ns1:JobStreamStep dwid="ENTERPRISE_XREF" businessname="load Xref
table" ... maxretries="4"/>
<ns1:JobStreamStep dwid="PPM_EXT" businessname="load PPM FF" ...
maxretries="4"/>
<ns1:JobStreamStep dwid="AM_EXT" businessname="load AM FF" ...
maxretries="4"/>
<ns1:JobStreamStep dwid="PPM_SSI" businessname="PPM Single Source
Identity" ... maxretries="4"/>
```

4. Locate the job stream step that you want to modify and change **maxretries="4"** to **maxretries="nn"** where **nn** is the number of retries before the job step terminates.

5. Save and close the file.

6. In order to activate the new ABC definitions, you must activate the changed CP ABC definitions.
   a. If the ABC definitions were modified in the CORE content pack, any change to the content packs state would update the change.

   b. If the ABC definitions were modified in any of the Integration Content packs, you must re-activate the content pack to import the new definitions.

7. Open the Data Source Management user interface, and re-activate the modified CP of which definitions you modified. For details, see "Data Source Management" on page 131.

Change Data Warehouse Passwords

The installation and configuration process gathers all data warehouse and SAP BusinesObjects passwords, encrypts them, and stores them in the Data Warehouse platform settings management.

Tasks

> **Note:** In order for the ETL to successfully run after you have changed a password, you must change the Database Password and the Database Login Password in Data Warehouse Settings UI. For details, see "Data Warehouse" on page 177.
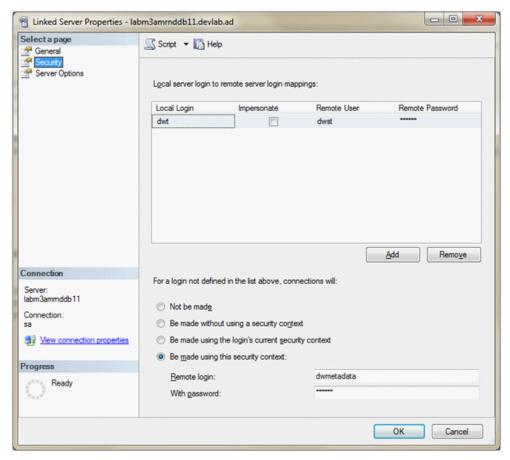
Change a password

1. Stop any ETLs that are running, or abort a job stream if it is running.

2. On the RDBMS server, change the password for a specific logon name.

3. Click **Admin > Data Warehouse**, and update the relevant logon with the new password from step 2.

   > **Note:** Changing the password in the Data Warehouse user interface does not modify the password in the database servers. It is preferable to rely on the user performing the password update manually.

4. The Data Warehouse creates a database link which then uses the Data Warehouse and SAP BusinessObjects Enterprise passwords. The Linked Server is created in the following situations:

5. a. The staging and target databases are installed on different servers.

   b. The populated database server name in the post-install is different than the database host name on the system server for server id_0.

   In these situations, if you reset DWH user passwords (for dwabc, dwmetadata, dws, dwst, or, dwt), go to **Linked Servers** in the Microsoft SQL Server Management Studio, and change the relevant passwords in the **Security** tab of the **Linked Server Properties**, as follows.

6. When you change the passwords in the Data Warehouse user interface as well as the database server you must run the following:

- **<DWH root dir>\bin\dw_ds_gen.bat -outputdir \tmp\datastores -datastore all**

- **<DWH root dir>\bin\dw_ds_import -inputdir \tmp\datastores**

7. Reload the batch using **dw_abc_load_batch.bat**.

8. Run ETL.

9. Note that a reboot is recommended after passwords change.

Note: It is recommended to avoid using localhost as the server database name.

Improve Performance

Normal procedures require database administrators to set up aggregation, indices, and partitions that can enhance performance.

Enhancing and tuning overall database performance also improve the data warehouse performance.

Because the end-to-end ETL process involves accessing remote source databases and network connections, you may want to evaluate where performance degradation occurs and apply tuning strategies to these external connections.

Check the Runtime Status of Batch Jobs

You can check the status of batch jobs and step status using the DW ABC Streams Management UI.

Additionally, the data warehouse produces operational and administrative reports that contain information about job status and other critical data warehouse activities.

When you view the ABC Operational Status report, you can see the global status and state of each ETL job stream and a snapshot of the runtime status of each job stream step.

For details, see " ETL Management " on page 159

To view reports, see ABC - Operational Status in Control ReportsControl Reports.

Resolve an ETL Error

ETL jobs contain stream steps that you can restart. Using the DW ABC Streams Management UI, you can view relevant step information.

If the stream step is ready for processing, the next scheduled execution of **abc_run_steps.bat** will restart the stream step automatically.

If there is another impediment, such as source database or connection issues, you must resolve that issue before the step can complete successfully.

In the DW ABC Streams Management UI you can view step status, manually retry steps, as well as schedule run_steps command.

For details on viewing errors and step information, see " ETL Management " on page 159.

For back-end details, see "ABC Command Reference" on page 303.

Monitor and Tune the Data Warehouse

The overall health of the data warehouse depends on the administrative skill of the RDBMS administrator.

The Microsoft SQL Server 2008 database administrator uses standard operating procedures for daily database operations.

The data warehouse is governed by these same processes and procedures.

For monitoring and tuning details, see the Microsoft SQL Server 2008 documentation.

Purge Validation Tables

There is no automated process to purge these tables on a regular schedule.

Because organizations require audit and validation information to be retained for varying amounts of time, you should verify what the appropriate retention period is in your organization.

Tasks

Purge Validation Tables

Use the following SQL script to delete all records in each of the validation tables that are older than the defined retention period.

```
CREATE OR REPLACE PROCEDURE sp_del_valf_info AS
--declare variables
BEGIN
--Delete All Required records in selection
DELETE FROM *.VALF
WHERE --trunc(Date) < '09-FEB-06'
);
COMMIT;
END sp_del_valf_info >
```

Upgrade Content Packs

In a case where you have a newer Content Pack directory that contains updates or fixes for the OOTB CP you can perform the following.

Tasks

Upgrade Content Packs: dw_ds_automation.bat -task Upgrade -cp [cp name] -newContentPackPath [path of the new cp]

The following steps are automatically included in the upgrade tool:

1. Deactivate all Integration Content Packs that are activated. It is recommended to stop ETL running and cancel all scheduling.
2. Zip the original Content Pack directory.
3. Copy the Content Pack to a new directory and run the upgrade command for that path.

   This overwrites the existing Content Pack directory.
4. Activate the Core Content Pack as well as the remaining Content Packs.
5. Update the content_pack table according to the new manifest, cp_manifest.properties, a list of attributes located in the root directory of the Content Pack being upgraded.

For activation and deactivation details, see "Data Source Management" on page 131.

Note the following usage limitations:

- ETL Stream should not be in a running mode - all streams must be aborted.
- The new CP directory must be a valid CP directory.
- CP should not be in **Installed** state, Integration Content Packs should be activated at least once before upgrade.
- If Core is being upgraded, it must be in the **Activated** state.

> **Note:** In order to avoid upgrade failure, do not change the executables in the ABC catalog.

Consolidate Entities using the XREF Mechanism

The consolidation process for data sources enables you to take information from the various sources and consolidate it into a single entity. Information from two or three sources is incorporated in the data warehouse in order to create a new entity. The XREF mechanism enables you to give priorities to a specific source when the same entity is extracted from different sources. Additionally you can give priority to instances of the same source.
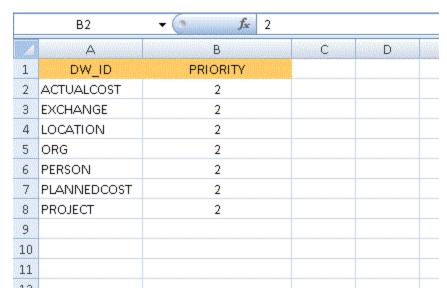
Learn More   **Tasks**

Learn More

Set Consolidation Priorities

You can change the specific consolidation priority at the entity level using an Excel spreadsheet. Each source has an Excel which contains a list of the entities that can be consolidated, which you can prioritize according to number, starting with 1. If you do not want an entity from a particular source to be consolidated, enter a priority of -1.

Tasks

Change the entity priority

1. Using Windows Explorer, navigate to **C:\<Installation Directory>\agora\ContentPacks\<name of CP>\ETL\flatfiles**. For XREF consolidation following deployment, navigate to **C:\<Installation Directory>\agora\DataWarehouse\ExternalSources**.

2. Open the specific consolidation file, for example: CONSOLIDATION_PRIORITIES_PPM.

3. Enter the priority you want to assign to each entity (**DW_ID**).

Source Instance Name	Consolidated Name	Name Priority
AM	PERSON	1
PPM	PERSON	2
SM	PERSON	3
AM	ORG	1
PPM	ORG	2
SM	ORG	3
AM	LOCATION	1
PPM	LOCATION	2
SM	LOCATION	3
AM	ACTUALCOST	1
PPM	ACTUALCOST	2
AM	PROJECT	1
PPM	PROJECT	2
AM	BUDGETLINE	1
PPM	BUDGETLINE	2

4. Save and close the file.

Note:

- Consolidation priorities for multiple instances of the same data source are given according to the order of deployment.

- If in the same instance several records have the same priority qualifier, there is consolidation between those entities (the process does not fail), and the latest priority is utilized.

Cancel the consolidation of a specific entity

1. In the database, open **[dwmetadata].[ConsolidationPriorities]**.

2. Change the priority number to -1 for the specific entity.

3. Save the changes.

Note: It is not permitted to manually change the -1 priority for OOTB entities that cannot be consolidated.

SA Password Change

The procedure for changing this password is complex, therefore it is recommended not to be done often.

Tasks

Change the SA password

- **On BOE server:**

  a. Change the password in BOE ODBC connection to the new password and restart the BOE.

  b. Perform the following only if you created your own universes and you are using your own connections (not one of the following: XS_APP_JDBC, XS_DWH_JDBC, ita_admin, ita_operations).

     i.   Import all of your universes into the BOE designer.

     ii. In the Tools menu, select **Connections**.

     iii. Change the SA password for all of your connections.

     iv. Save and export the Universes.

     v.   Make sure that Period_Universe appears under the XS_Studio directory.

- **On the DWH server:**

  a. Stop running Executive Scorecard.

  b. Copy the run_postinstall.bat file from **\<Installation Directory>\installation\HPXS903\backup\agora\confwizard** to **\HPXS\agora\confwizard** and execute this file.

  c. In the MNG DB page of the wizard, change the password for the SA user.

  d. Before the final wizard step, select **Skip Data Warehouse configuration** and continue completing the post-install wizard.

  e. Open the Data Warehouse UI, using the following url: **http://<DWH Server name (FQDN>/dwh**

  f. Log on to the application using the same credentials you used to log on to the XS application.

  g. Navigate to **Admin** > **Data Warehouse** and change the passwords for all SA users.

  h. Restart the DWH server.

  i. If you used the SA user as a BODS user (not recommended configuration), perform the following from the CMD dir <<Installation Directory>\agora\DataWarehouse\bin>:

     i. dw_ds_import.bat -inputdir \tmp\datastores

     ii. dw_etl_update_containers.bat –topdir \tmp\datastores -upgrade

  j. If you are not sure which user was used for BODS repository configurations, navigate to **Admin** > **Data Warehouse** and check the **Repository Username** parameter in the SAP

BusinessObjects Data Services for HP FPA area.

- **On the XS server:**

  a. Stop running Executive Scorecard.

  b. Remove **biar XS_SP2.biar** from **\<Installation Directory>\agora\confwizard\conf\scripts** and rename **XS_SP3.biar** to **XS_SP2.biar**.

  c. Remove **dwh_target_sp2_views** from **\<Installation Directory>\agora\confwizard\conf\scripts\database\mssq**l and rename **dwh_target_sp3_views** to **dwh_target_sp2_views**.

  d. Copy the **run_postinstall.bat** file from **\<Installation Directory>\installation\HPXS903\backup\agora\confwizard** to **\HPXS\agora\confwizard** and execute this file.

  e. In the ManagementDatabase page of the wizard, change the password for the SA user.

  f. In the Result Database page of the wizard, change the password for the SA user.

     Make sure that you always connect to the existing DB when running configurations.

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We appreciate your feedback!