HP NGOSS Software

Incident & Problem Management Extension Data Loading User Guide

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Preface

This guide describes how to configure and use the Data Loading module of the value package.

Intended Audience

This guide is intended for system implementer or system administrator or DBA who maintains the CI in HP Service Manager in way of loading CI from Telcordia Granite Inventory System using HP Universal CMDB and HP Connect-IT.

The intended users should have knowledge of following products:

- Telcordia Granite Inventory System
- HP Universal CMDB
- HP Connect-IT
- HP Service Manager7.11/9.20

Software Versions

The software versions referred to in this document are as follows:

IPM	Operation system
1.0	Server: Windows2003/2008 Client: Windows XP, Vista, Windows 7

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Chapter 1
Data Loading Overview

1.1 Introduction

Data Loading enable users to loading Configuration Item (CI) from external DBMS or other inventory system to HP Service Manager (HP SM), so that HP SM can share information automatically and efficiently

By implementing a data adapter which called Generic Database Adapter configured and deployed on HP Universal CMDB (HP UCMDB), in which the external DBMS or other inventory data model is mapped to pre-defined CI model.

A data loading scenario package corresponding to the adapter above is implemented in HP Connect-IT, in which the CI model supported by Generic Database Adapter is mapped to HP SM CI model. By executing pre-defined scenario, external DBMS or other inventory data will be loaded to HP SM automatically.

1.2 Contents

The user guide include following chapters show the details how to set up and execute the Data Loading:

- Pre-Loading Requirement - Explain all preparations before data loading such required packages, pre-installed required products, required account or password etc.
- Configure HP Universal CMDB - Explain how to configure and deploy the Generic DB package to HP UCMDB.
- Configure HP Service Manager - Explain how to configure and load the re-defined CI Types to HP SM.
- Configure HP Connect-IT – Explain how to configure and deployed the data loading scenario package to HP Connect-IT.
- Execute Data Loading – Explain how to executing Data Loading in HP Connect-IT.
- Data Loading Customization – Explain how to make customizations to current CI Model and re-execute the Data Loading.
- Troubleshooting – Explain possible troubles and supply corresponding solutions.

1.3 Abbreviation

Table 1 Abbreviation

Abbreviation	Name
CI	Configuration Item
HP SM	HP Service Manager
HP UCMDB	HP Universal CMDB
TQL	Topological Query Language

1.4 Associated Documents

Table 2 Associated Documents

Name	Document
[HP SM Help]	HP Service Manager Help
[HP Connect-IT User Guide]	CIT391-UsersGuide-EN.pdf
[HP Connect-IT Programmer Guide]	CIT391-ProgrammersReference-EN.pdf
[HP UCMDB Model Management Guide]	ModelManagement.pdf
[HP UCMDB Integration Guide]	UCMDBIntegrations.pdf
[HP Problem Management Telco CI Types]	HP Problem Management Telco CI Types User Guide.pdf

Chapter 2
Pre-Loading Requirement

2.1 Loading Package

In HP Problem Management Telco Solution Package Data Loading module, following packages or re-defined files are supplied:

- [ProblemManagementAdapter.zip] – An implement package of Generic Database Adapter apply to Telcordia Granite Inventory System object model to be configured and deployed in HP UCMDB, in which CI Types, TQL, View are re-defined.
- [ProblemManagementAdapterDataStore.zip] – A pre-defined federation or mapping between Generic Database Adapter and Granite Inventory System.
- [Problem Management.xml] – A file exported from UCMDB query and will be read by Connect-IT.
- [PBMGranite.scn] – A pre-defined scenario mapping between UCMDB and Service Manager
- [Generic_Dataloading_Config.unl] – A file unloaded from Service Manager which include the registration and maps in event services.

2.2 Loading Environment

Following required products must be pre-installed successfully before configuring and executing Data Loading:

Table 2 **Required re-installed products**

Category	Hardware	OS version	Software version
HP UCMDB	X86 Server	Windows 2000/XP/Vista/2003/2008	HP Universal CMDB 8.00
HP Connect-IT	X86 Server	Windows 2000/XP/Vista/2003/2008	HP Connect-IT 3.91
HP SM	X86 Server	Windows 2000/XP/Vista/2003/2008	HP Service Manager 7.11/ HP Service Manager 9.20
Incident&Problem Management Value Package(CI Type Module)	X86 Server	Windows 2000/XP/Vista/2003/2008	HP Service Manager 7.11/ HP Service Manager 9.20

Granite	X86 Server	Windows 2000/XP/Vista/2003/2008	

Note:Make sure all the products or servers above are running.

2.3 Loading Preparation

The following information need to be collected for the Data Loading

Table 2 Installation information list

Category	Description	Item	Sample	Comment
HP UCMDB	In which the [ProblemManagementAdapter.zip] and [ProblemManagementAdapterDataStore.zip] will be deployed.	HOST/IP	ucmdbhost	
		port	8080	Default port
		Username	admin	Default user name
		Password	admin	Default password
		UCMDB_INSTALL_PATH	C:\HP\UCMDB	
Granite	Target data store to be load from or federated to HP SM which is Oracle in background. The information listed right is required to supply when [ProblemManagementAdapterDataStore.zip] is deployed.	HOST/IP	granitehost	
		SID	granite	
		port	1521	Default port
		username	granite	
		password	granite	
HP Service Manager Server	HP Service Manager Server	HOST/IP	smhost	
		http port	13080	Default port
		https port	13081	
		sc listener	12690	Default port
		SM User	falcon	Default user
		Password		Default is empty

2.4 Loading Steps

- Configure HP Universal CMDB - Configure and deploy the Generic DB package to HP UCMDB, include to parts: [ProblemManagementAdapter.zip] and [ProblemManagementAdapterDataStore.zip]

- Configure HP Service Manager – Load [Generic_Dataloading_Config.unl] to HP SM.
- Configure HP Connect-IT – Configure the connect information such hostname, use name or password both HP UCMDB side and HP SM side.
- Execute Data Loading – Execute Data Loading from Granite Inventory System to HP SM.

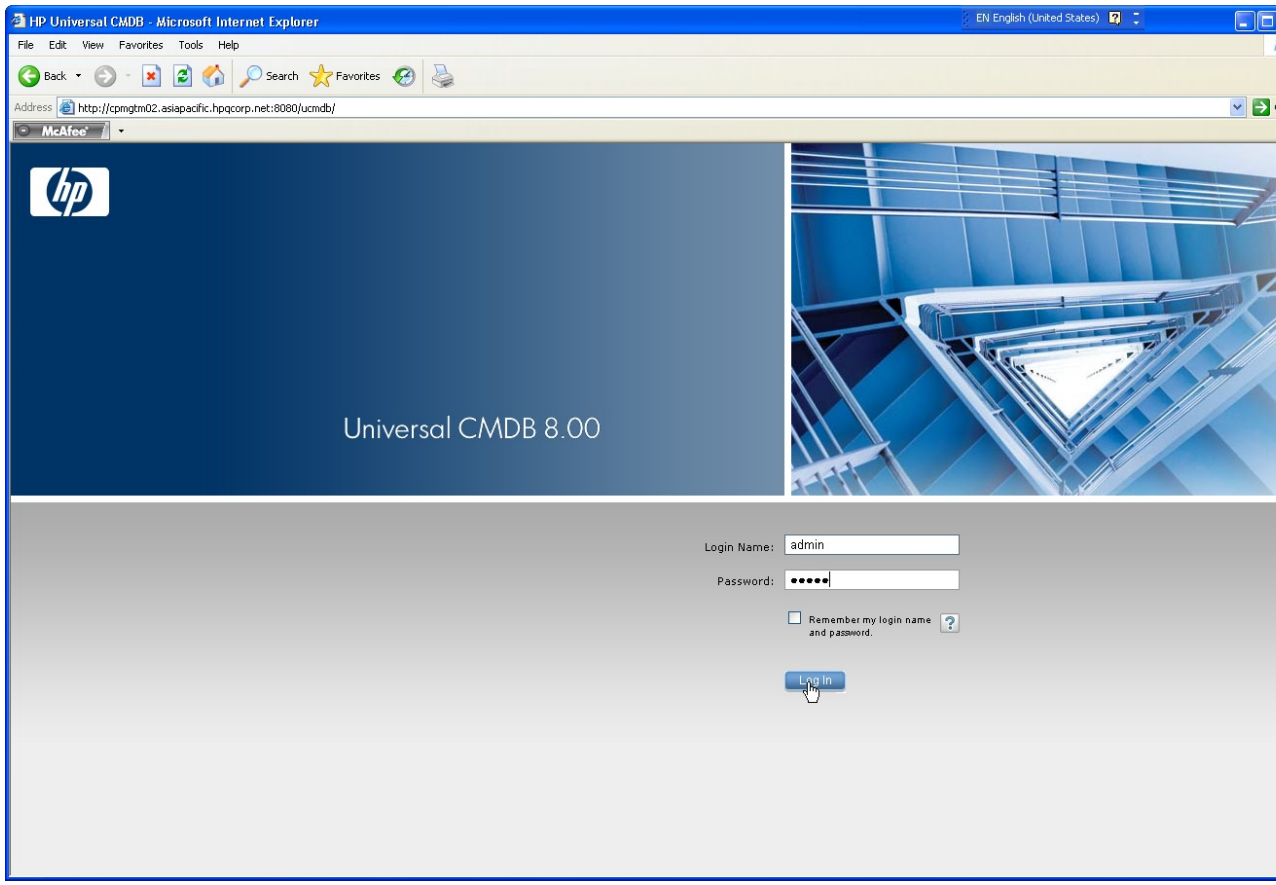
Chapter 3
Configure HP Universal CMDB

3.1 Configure Generic DB Adapter Package

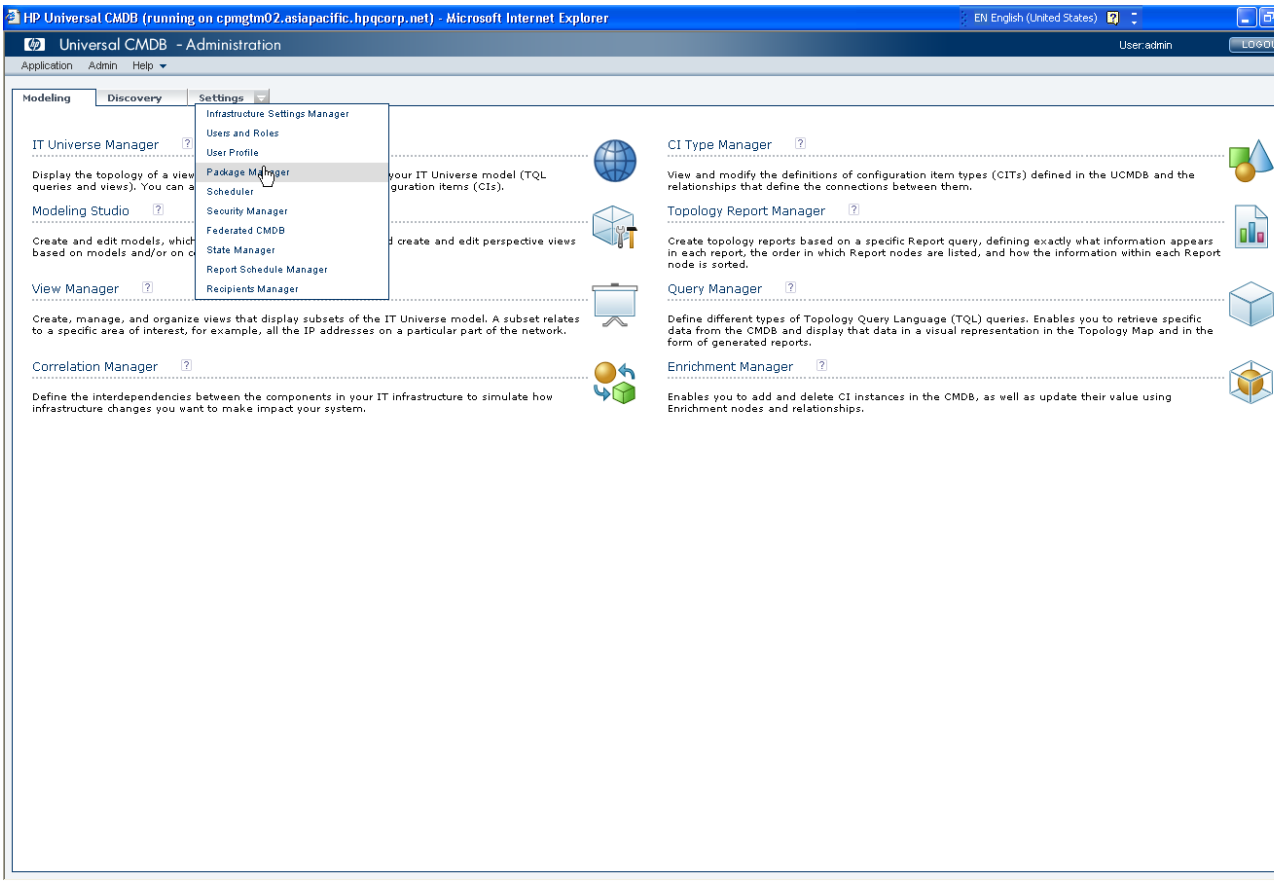
1. Open IE or other web browser with URL:

< http://ucmdbhost:8080/ucmdb >

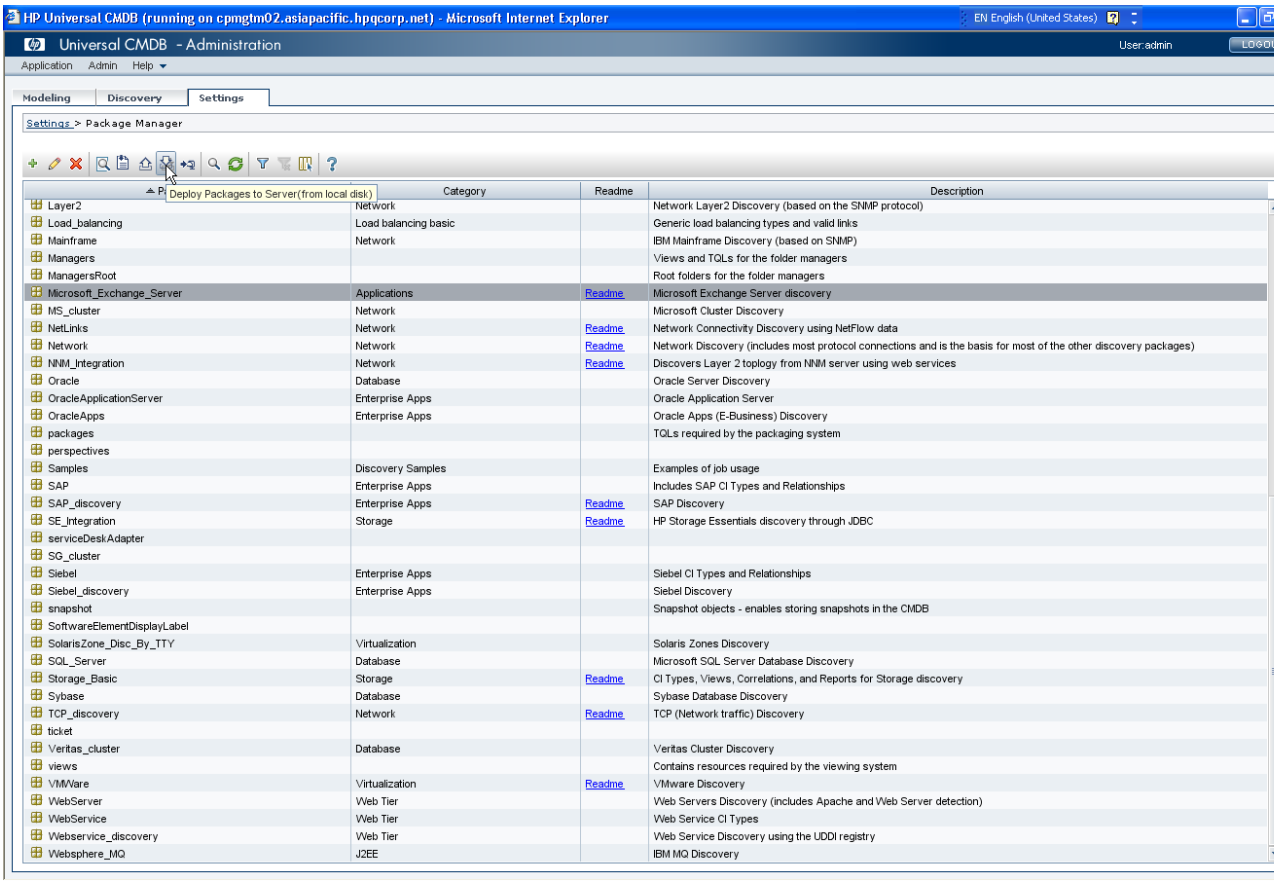
2. Input user name and password, click “Login” button to continue:



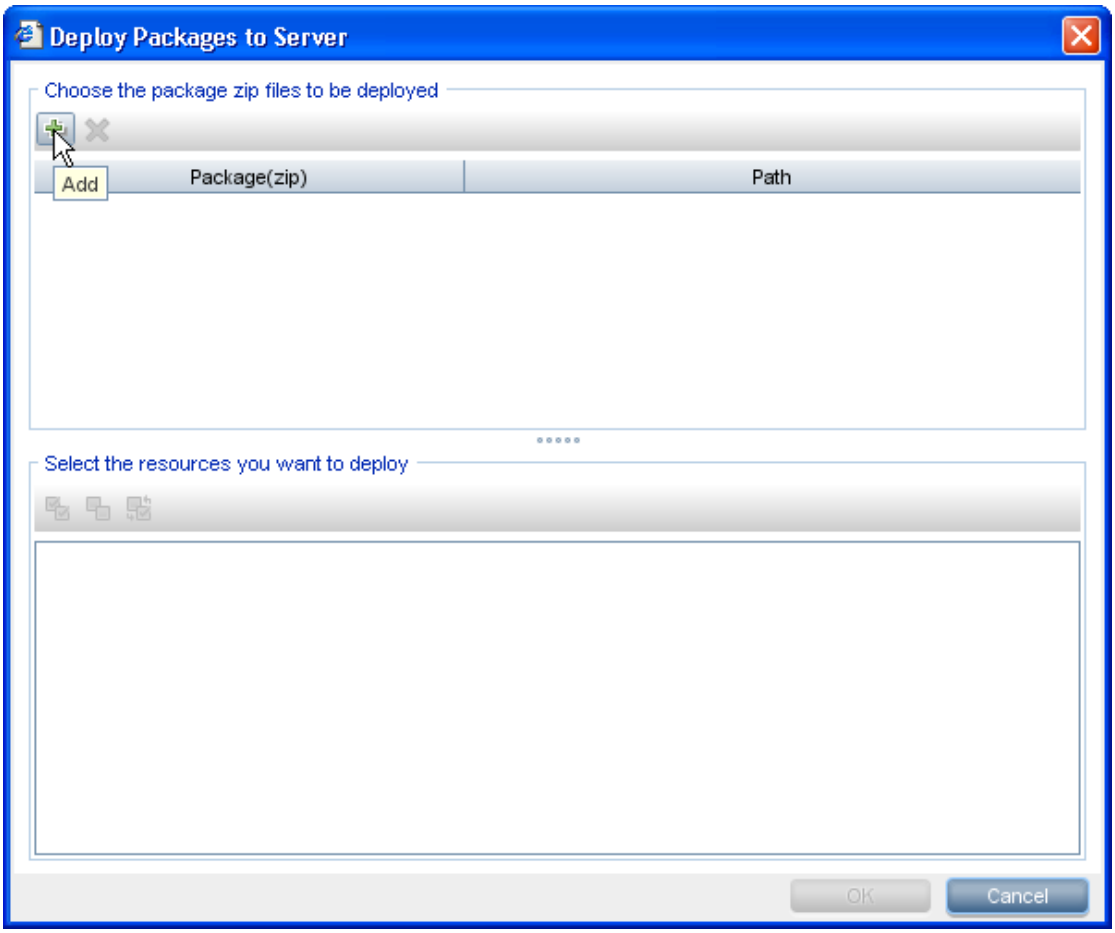
3. From main form, click “Setting” -> “Package Manager” to continue:



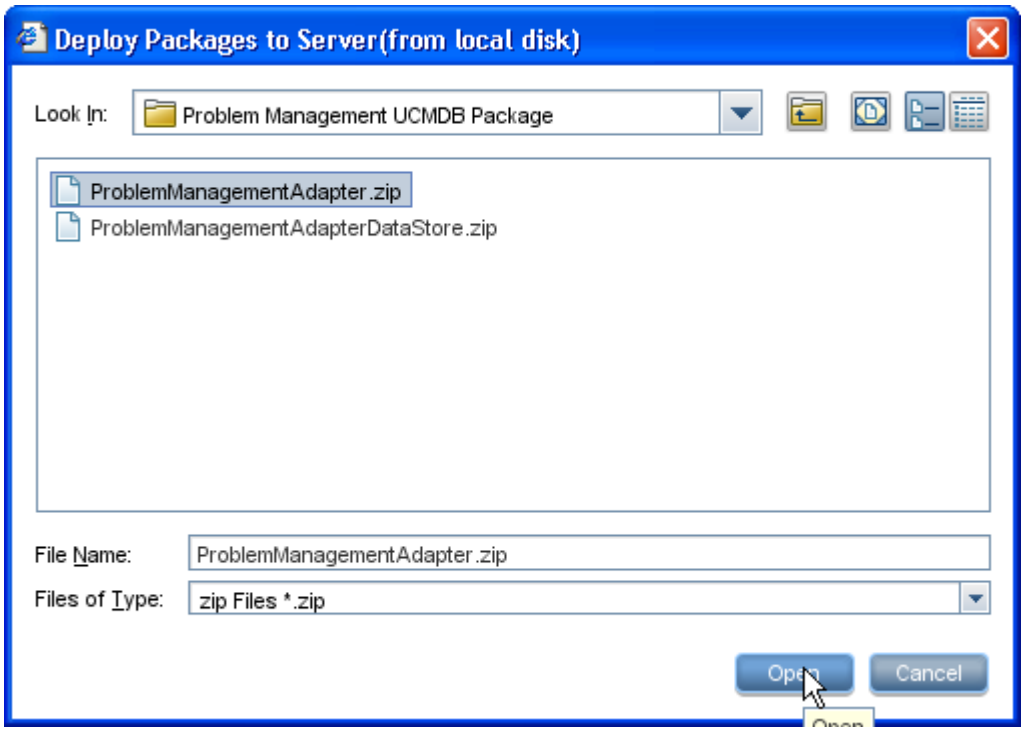
4. Click load icon showed in hardcopy below to load Generic DB Adapter package to HP UCMDB



5. Click add icon showed in hardcopy below to open “Deploy Package Server” file choose dialog:



6. Choose the local released package zip file [ProblemManagementAdapter.zip] in file choose dialog and click "Open" button to continue:

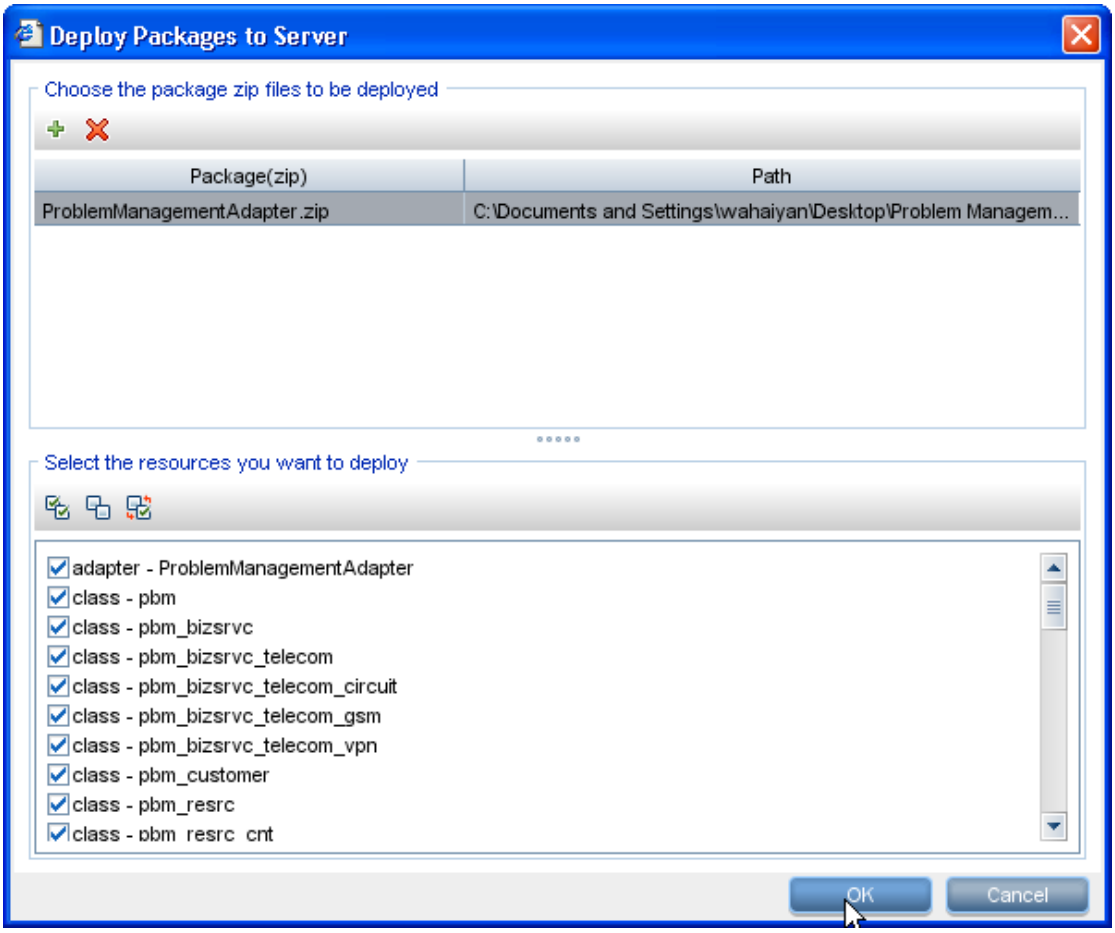


7. Deployed package above will be listed in “Deploy Package Server” dialog.

Click the package in area “Choose the package zip files to be deployed”, all the resources packaged in zip file will be listed in area “Select the resources you want to deploy”.

The default status is all the resources are checked and make sure don’t uncheck any resources listed in dialog.

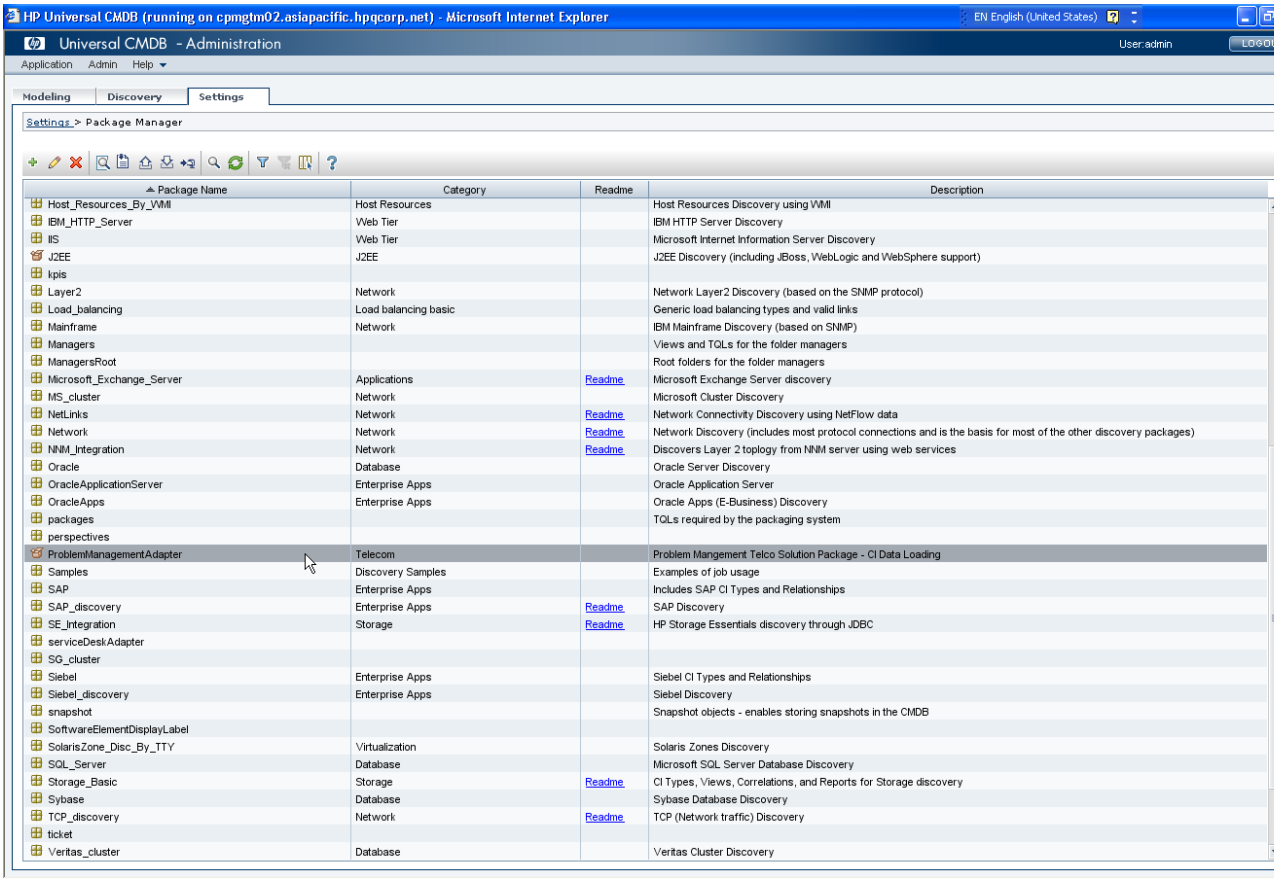
Click “OK” button to continue:



This action will take several minutes before the successful information dialog be showed:

Click “OK” button to continue.

8. The package deployed above will be listed in “Package Manager”

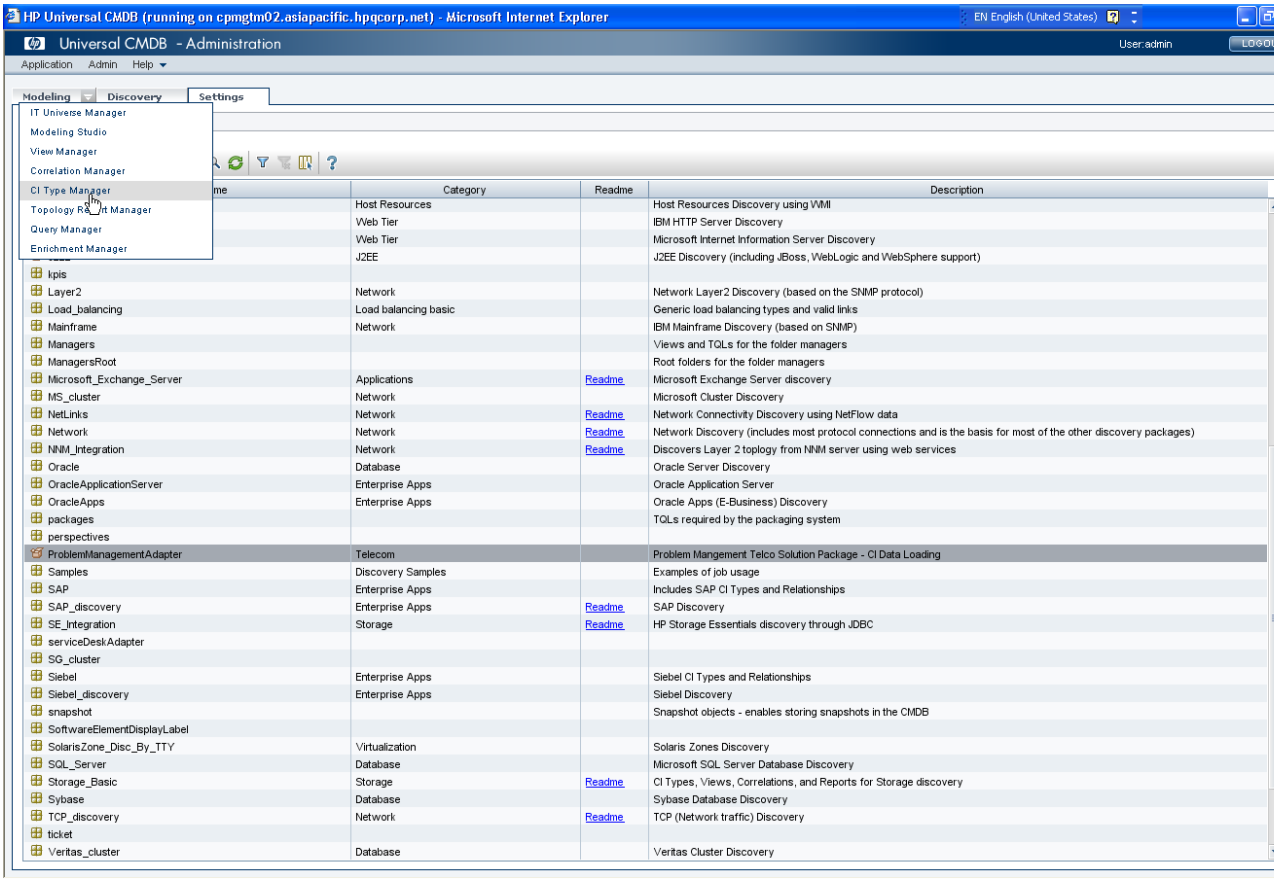


Package Name	Category	Readme	Description
Host_Resources_By_WMI	Host Resources		Host Resources Discovery using WMI
IBM_HTTP_Server	Web Tier		IBM HTTP Server Discovery
IIS	Web Tier		Microsoft Internet Information Server Discovery
J2EE	J2EE		J2EE Discovery (including JBoss, WebLogic and WebSphere support)
kpis			
Layer2	Network		Network Layer2 Discovery (based on the SNMP protocol)
Load_balancing	Load balancing basic		Generic load balancing types and valid links
Mainframe	Network		IBM Mainframe Discovery (based on SNMP)
Managers			Views and TQLs for the folder managers
ManagersRoot			Root folders for the folder managers
Microsoft_Exchange_Server	Applications	Readme	Microsoft Exchange Server discovery
MS_cluster	Network		Microsoft Cluster Discovery
NetLinks	Network	Readme	Network Connectivity Discovery using NetFlow data
Network	Network	Readme	Network Discovery (includes most protocol connections and is the basis for most of the other discovery packages)
NNM_Integration	Network	Readme	Discovers Layer 2 toplogy from NNM server using web services
Oracle	Database		Oracle Server Discovery
OracleApplicationServer	Enterprise Apps		Oracle Application Server
OracleApps	Enterprise Apps		Oracle Apps (E-Business) Discovery
packages			TQLs required by the packaging system
perspectives			
ProblemManagementAdapter	Telecom		Problem Mangement Telco Solution Package - CI Data Loading
Samples	Discovery Samples		Examples of job usage
SAP	Enterprise Apps		Includes SAP CI Types and Relationships
SAP_discovery	Enterprise Apps	Readme	SAP Discovery
SE_Integration	Storage	Readme	HP Storage Essentials discovery through JDBC
serviceDeskAdapter			
SG_cluster			
Siebel	Enterprise Apps		Siebel CI Types and Relationships
Siebel_discovery	Enterprise Apps		Siebel Discovery
snapshot			Snapshot objects - enables storing snapshots in the CMDB
SoftwareElementDisplayLabel			
SolarisZone_Disc_By_TTY	Virtualization		Solaris Zones Discovery
SQL_Server	Database		Microsoft SQL Server Database Discovery
Storage_Basic	Storage	Readme	CI Types, Views, Correlations, and Reports for Storage discovery
Sybase	Database		Sybase Database Discovery
TCP_discovery	Network	Readme	TCP (Network traffic) Discovery
ticket			
Veritas_cluster	Database		Veritas Cluster Discovery

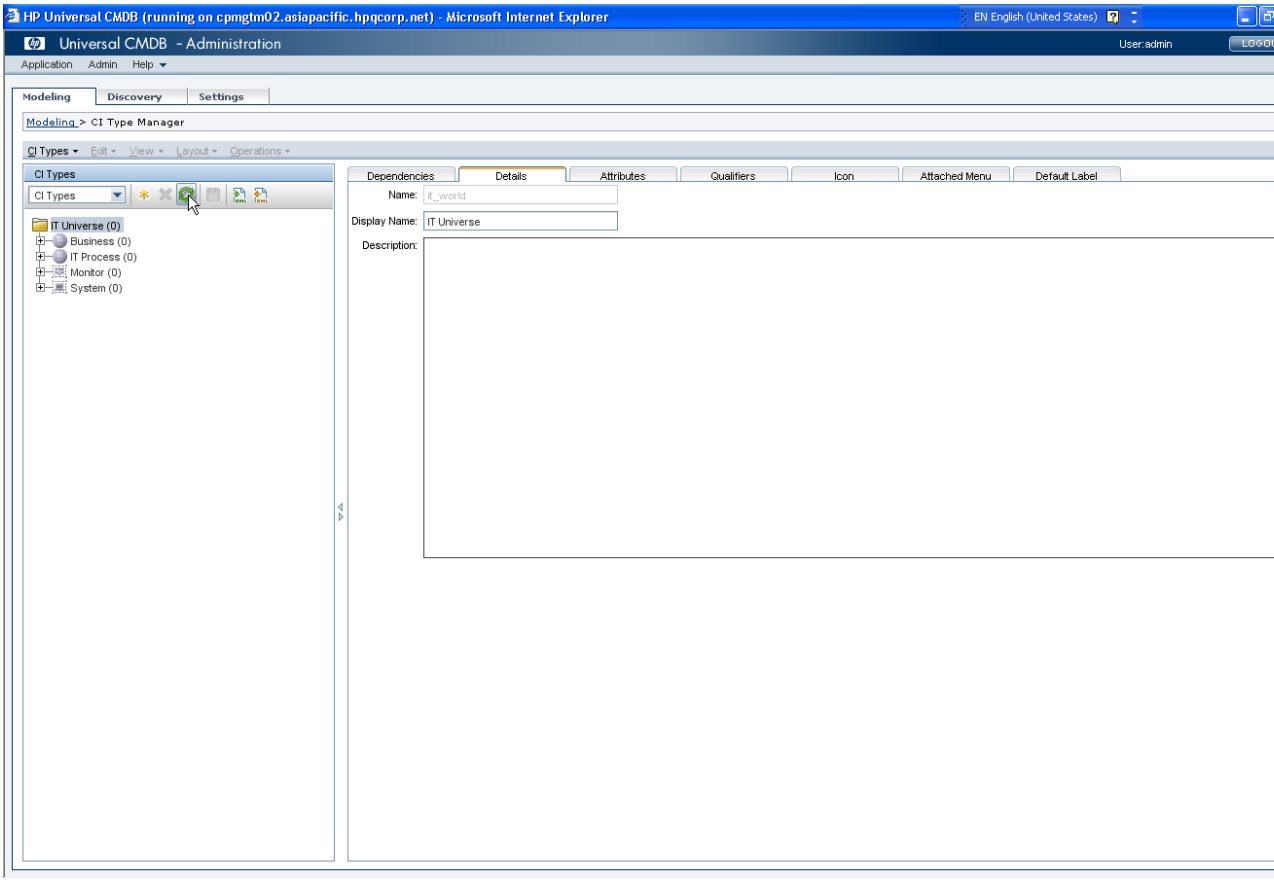
3.2 Verify Adapter Package Deployment

1. View CI Types defined in package

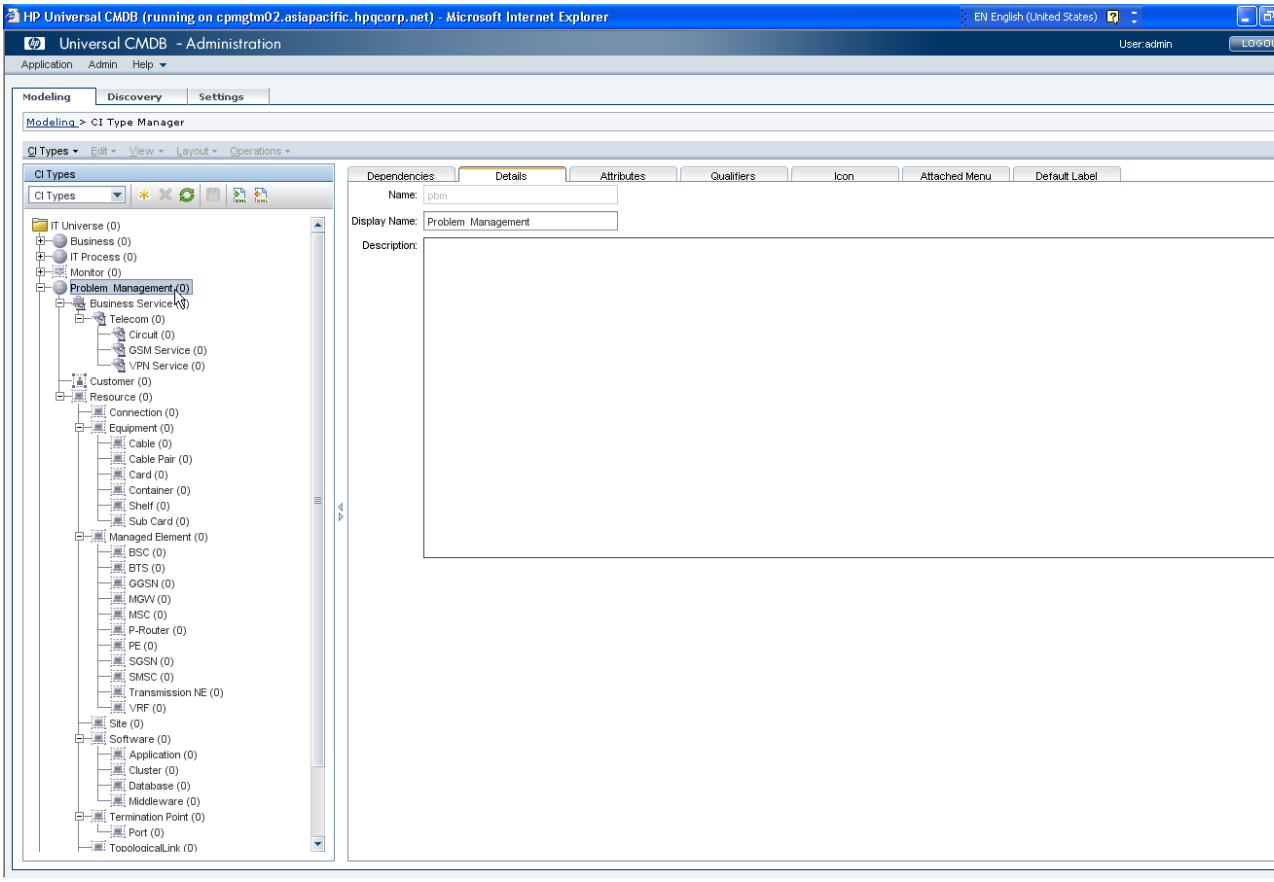
Click menu “Modeling” -> “CI Type Manager”



Click refresh icon in left navigation showed in hardcopy below:

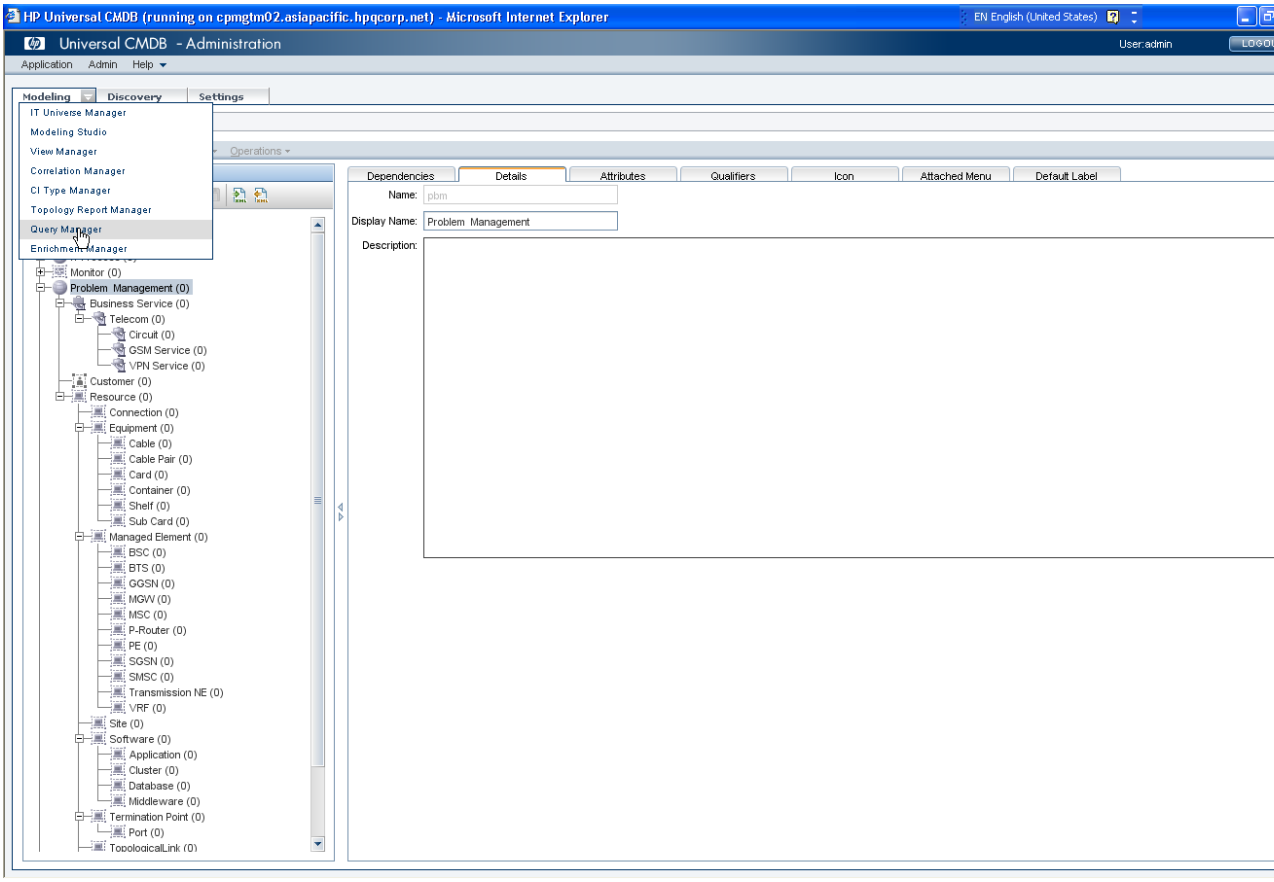


All the CI Types pre-defined in package will showed in hierarchy with root name "Problem Management"

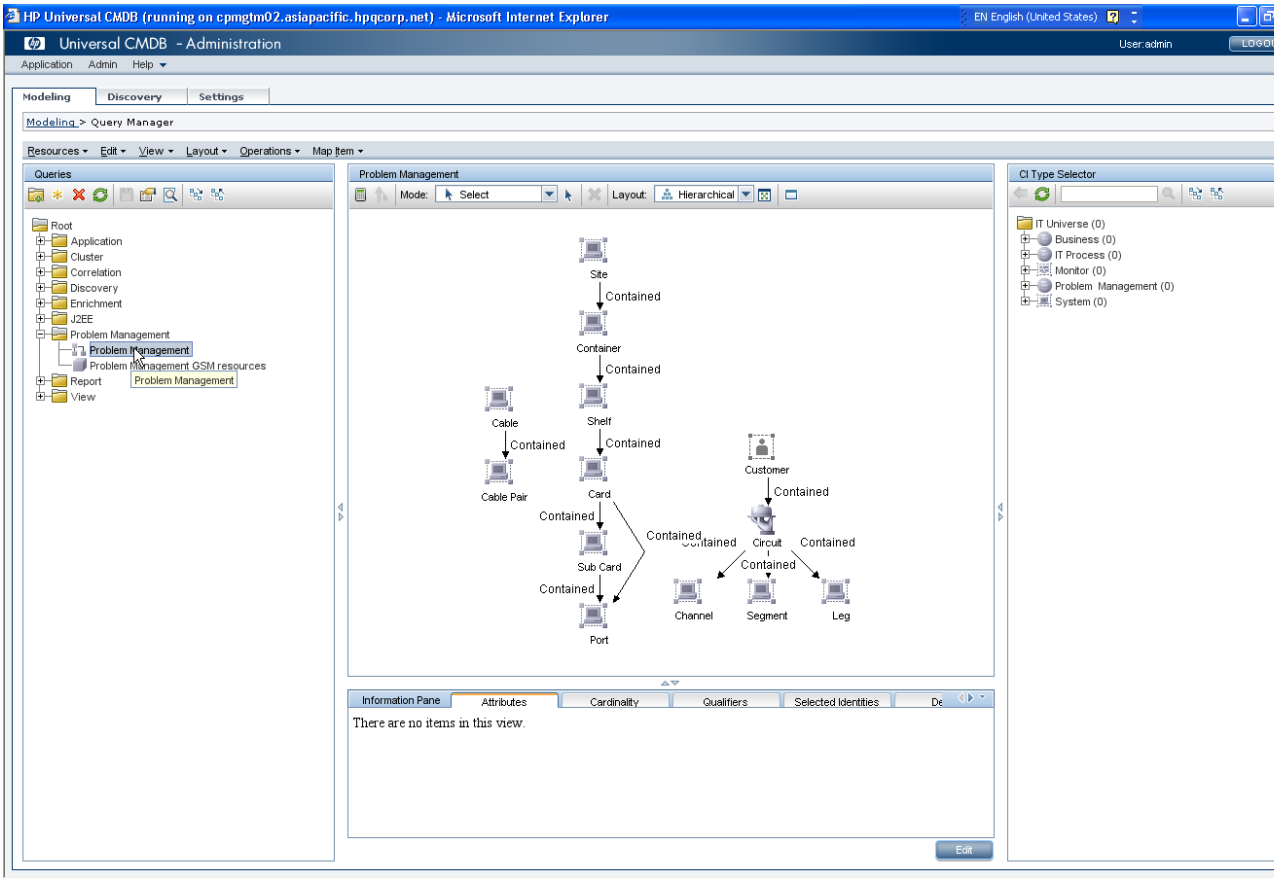


2. View “TQL” defined in package

Click menu “Modeling” -> “Query Manager”

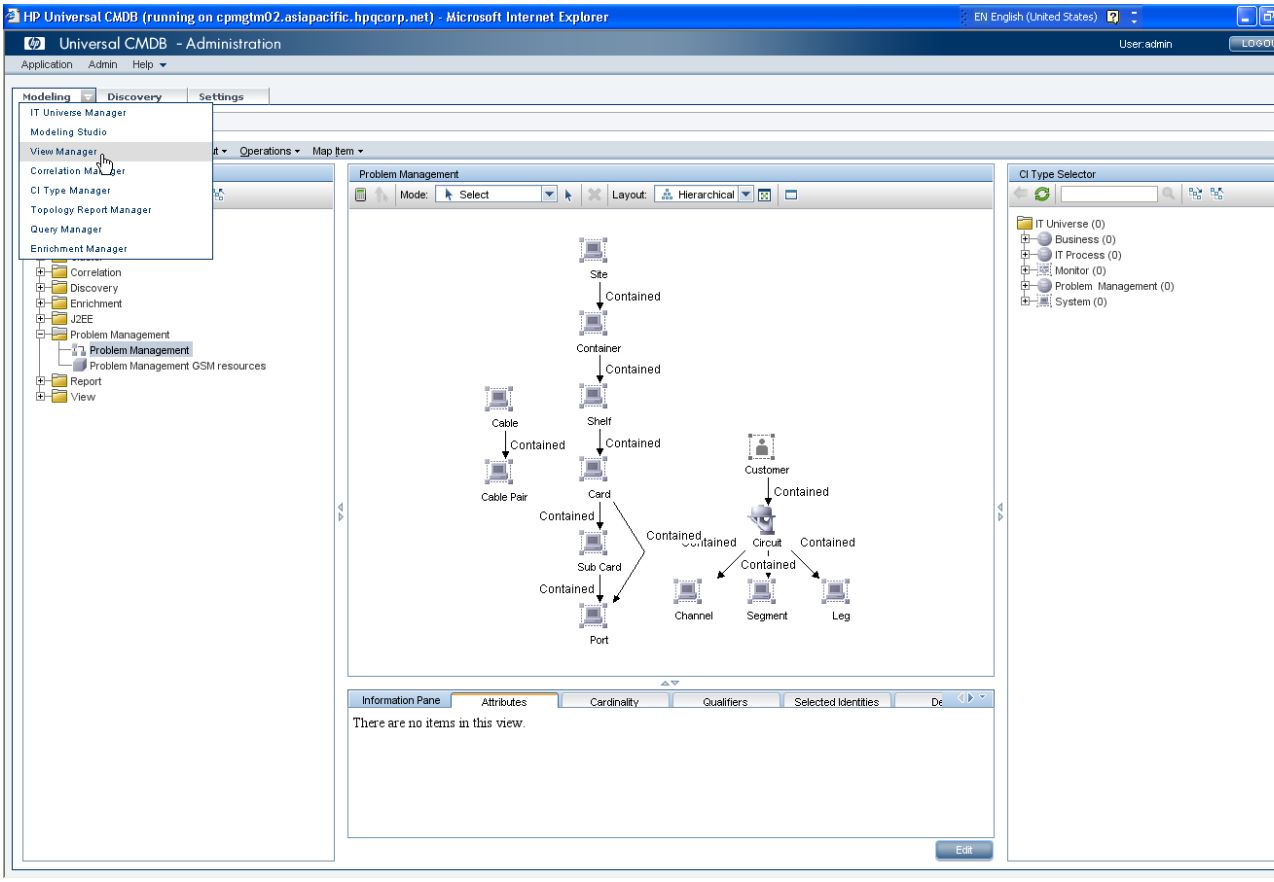


All the TQL pre-defined in package will showed in hierarchy with root name "Problem Management"

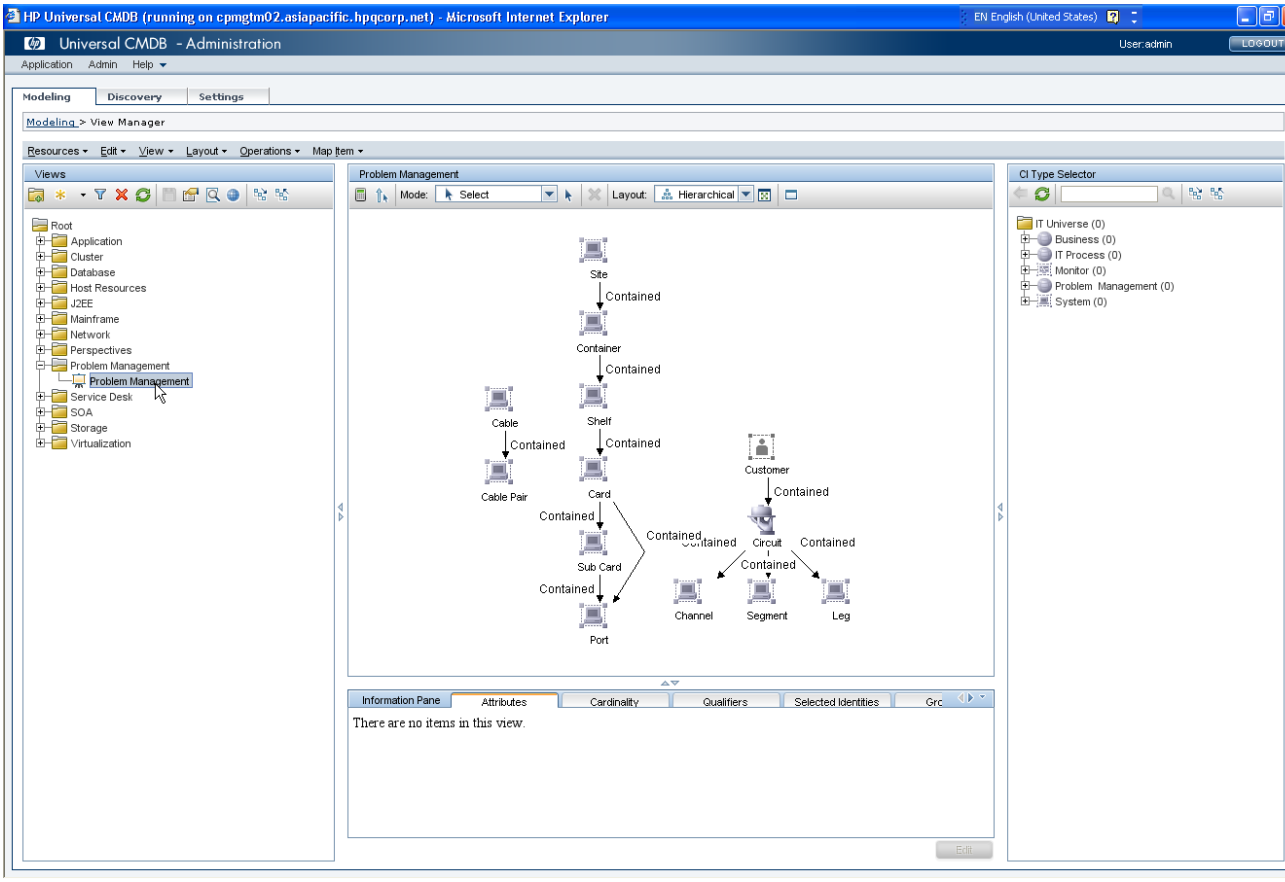


3. View “View” defined in package

Click menu “Modeling” -> “View Manager”



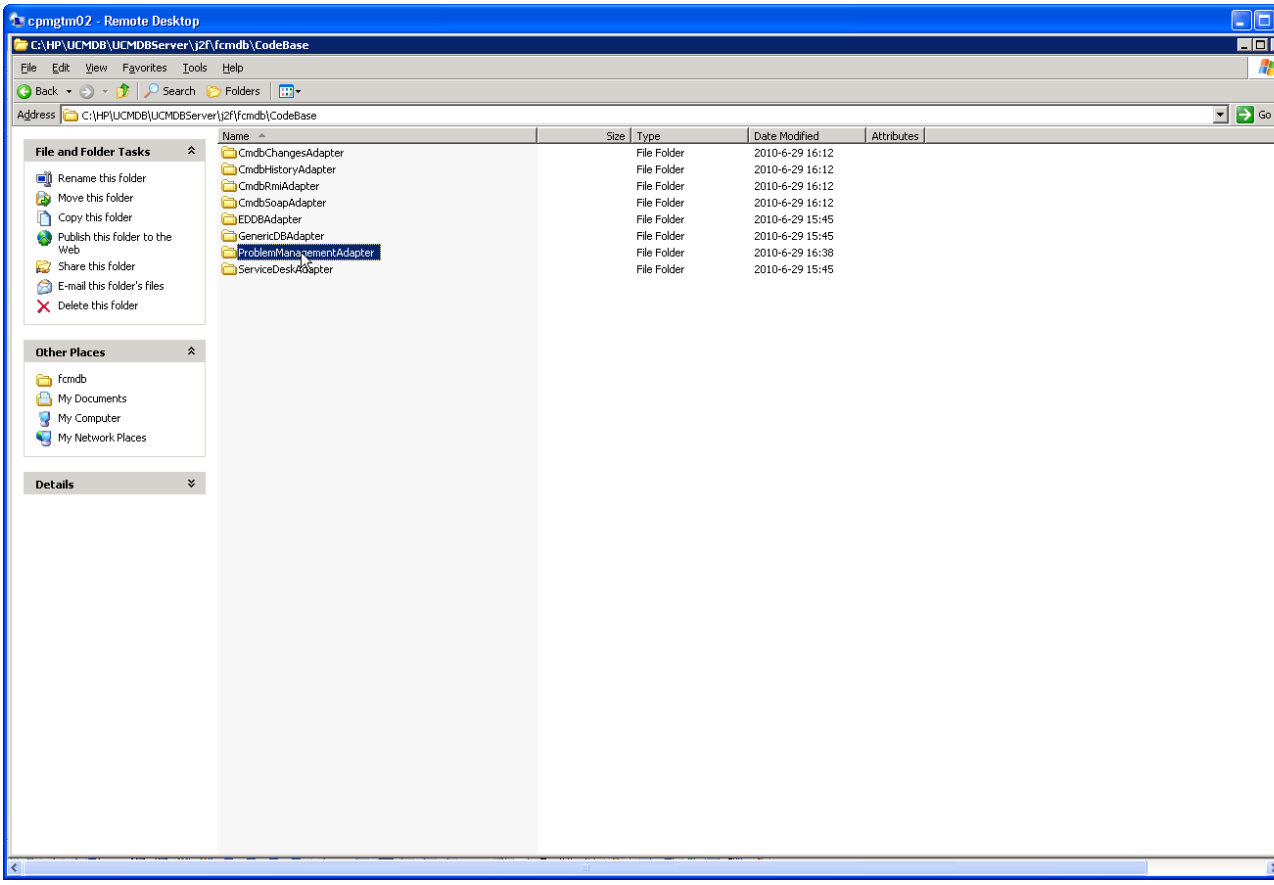
All the TQL pre-defined in package will showed in hierarchy with root name "Problem Management"



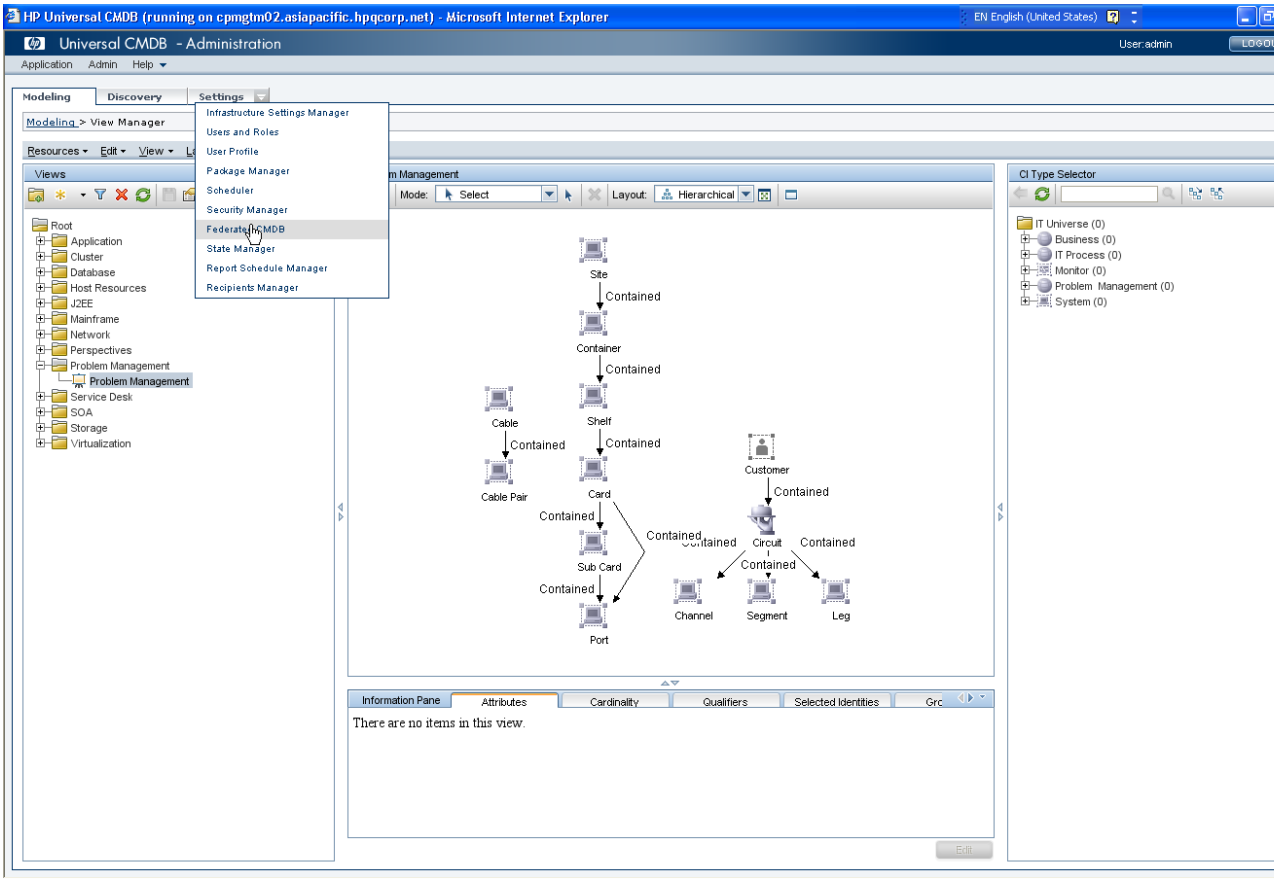
3.3 Configure Data Store

1. Unzip file [ProblemManagementAdapterDataStore.zip] to folder with name “ProblemManagementAdapter”, make sure the folder name is same to adapter name “ProblemManagementAdapter” , copy the folder to path under HP UCMDB Server install path:

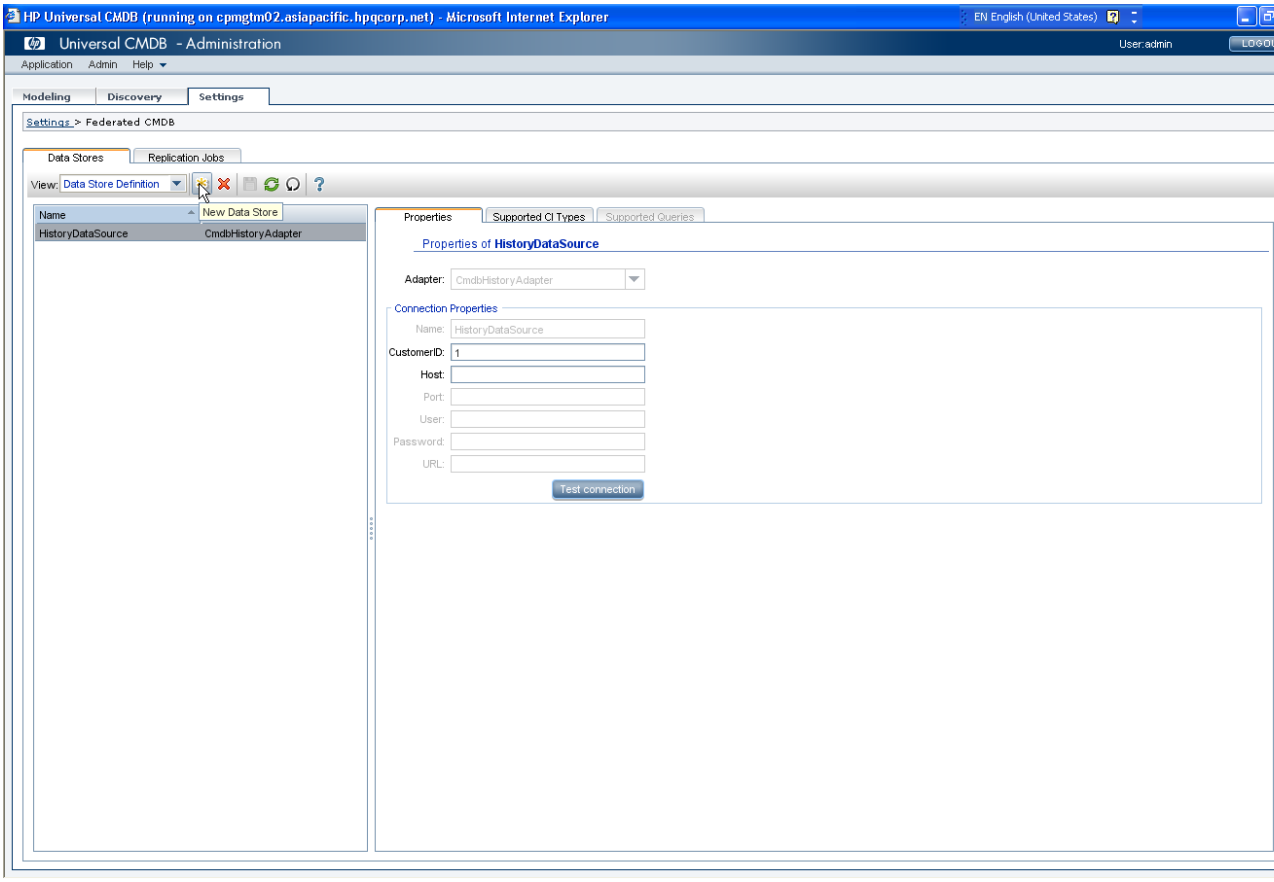
<UCMDB_INSTALL_PATH>\UCMDBServer\j2f\fcmdb\CodeBase



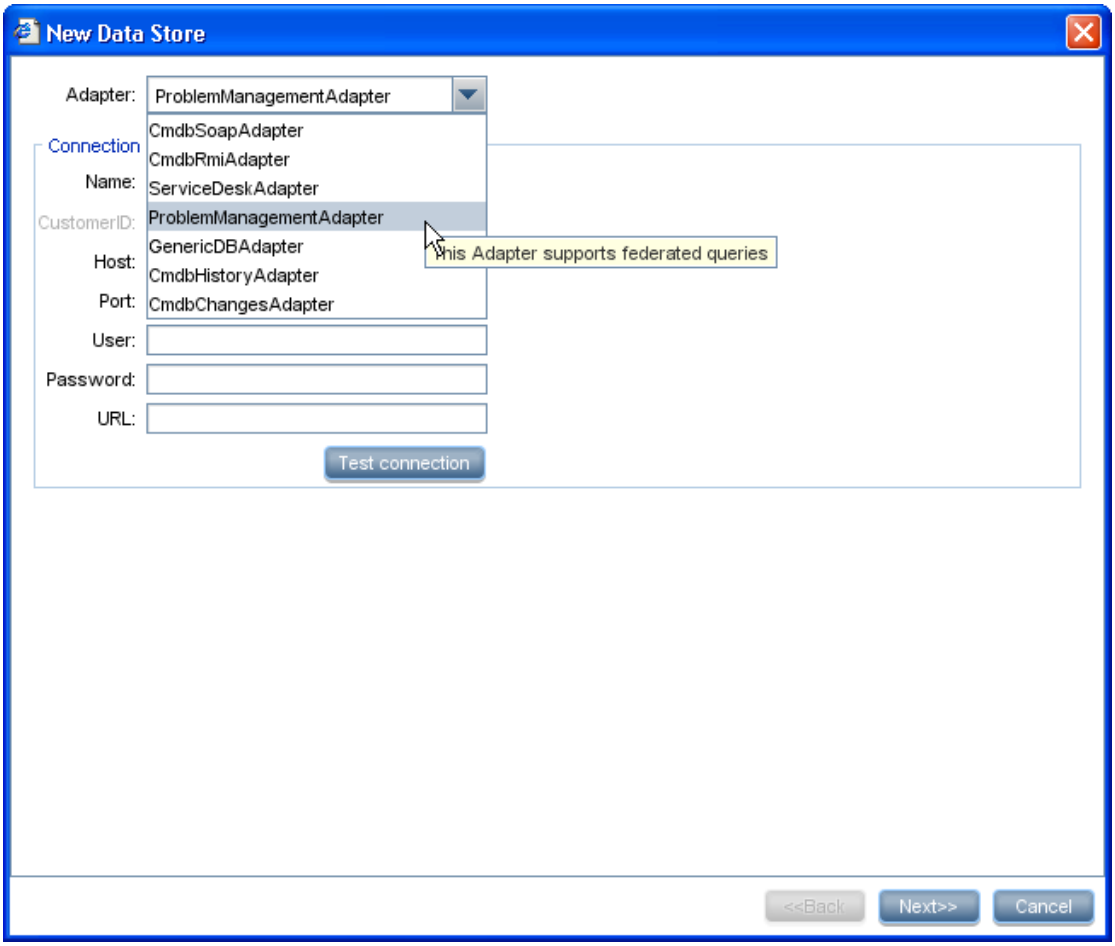
2. Click menu “Setting” -> “Federated CMDB” to start configure the data store:



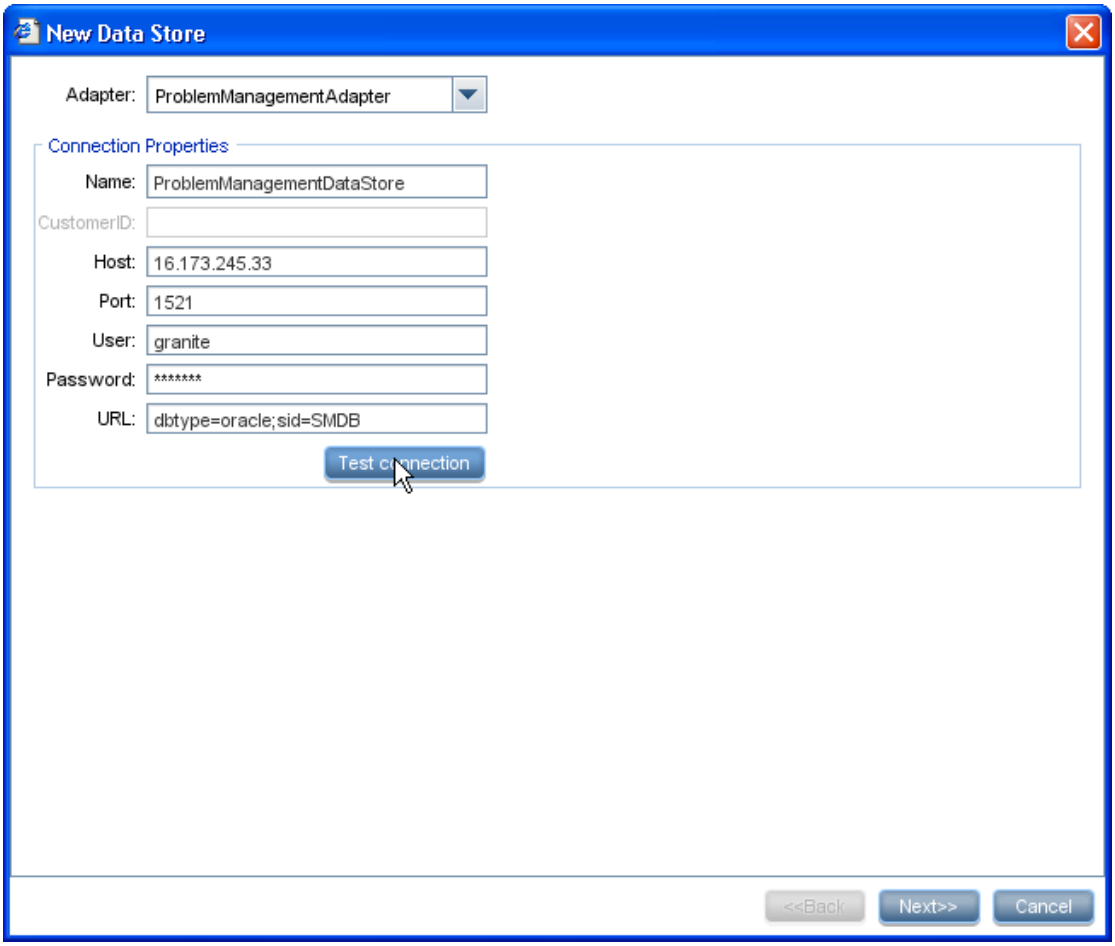
3. Click new data store icon to new data store as showed in hardcopy below:



4. Click “ProblemManagementAdapter” in “adapter” dropdown list in “New Data Store” dialog:



5. Input required information then click “Test Connection” button to test connect:



Note:

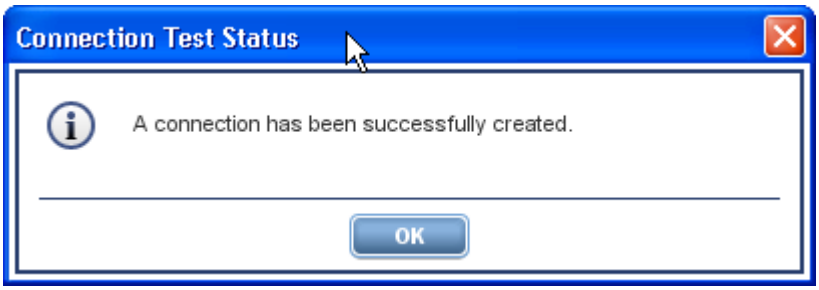
• Required fields please refer to chapter 2-3 Loading Preparation, information of "Grainte".

• Field "URL" should be input in following format:

dbtype=oracle;sid=[xxxxx]

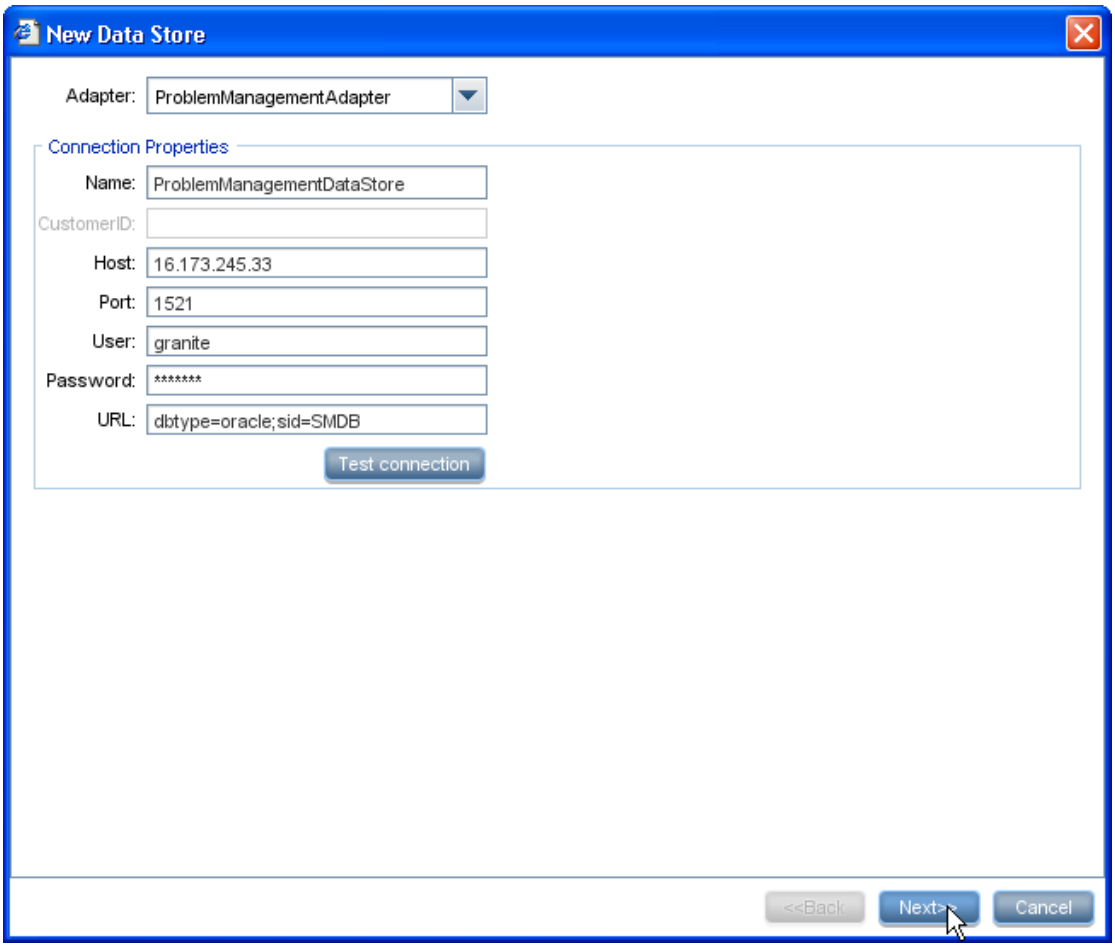
"[xxxxx]" is the SID of Granite Inventory System.

This action will take several minutes before the successful information dialog be showed:

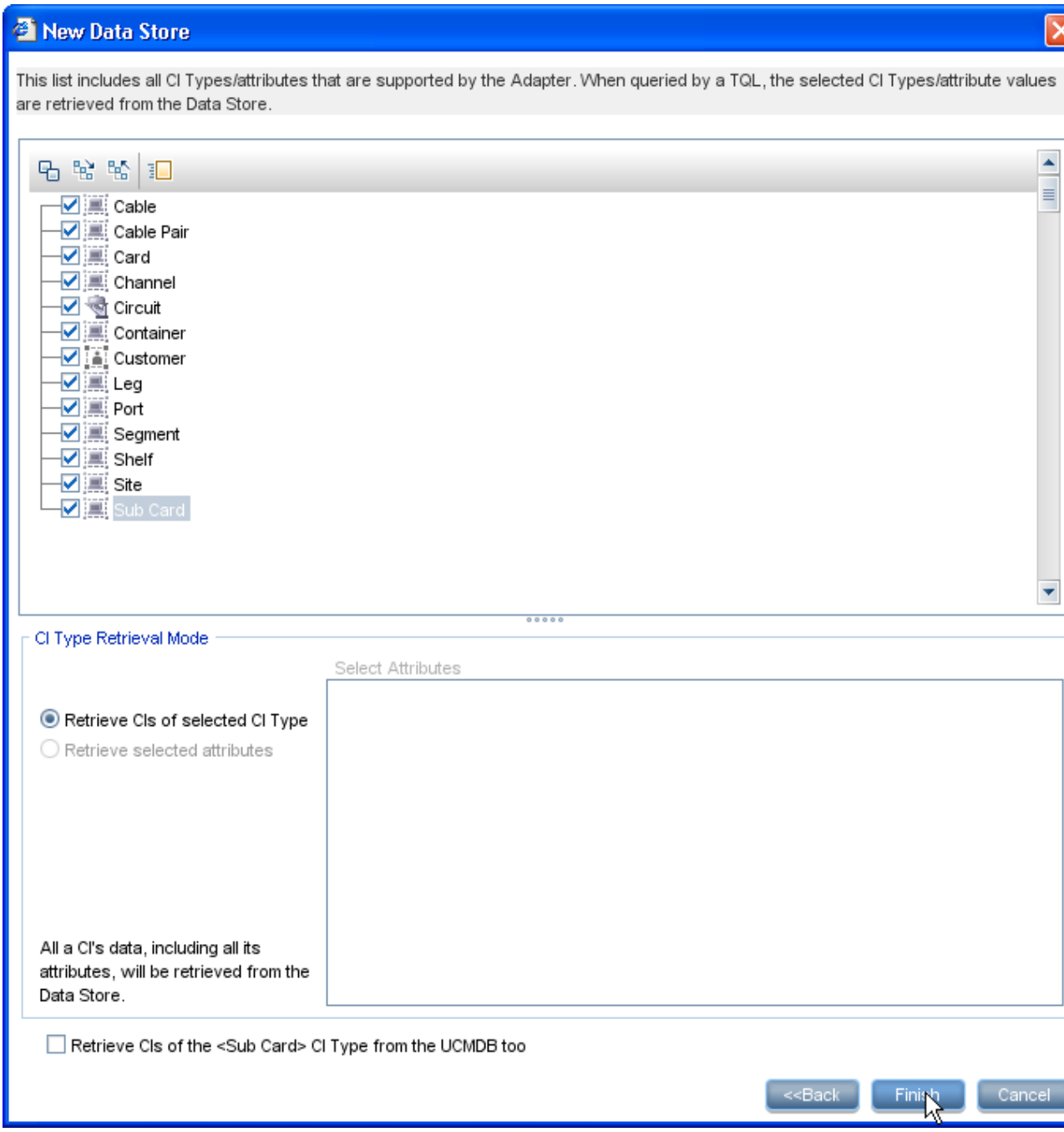


Click "OK" button to continue.

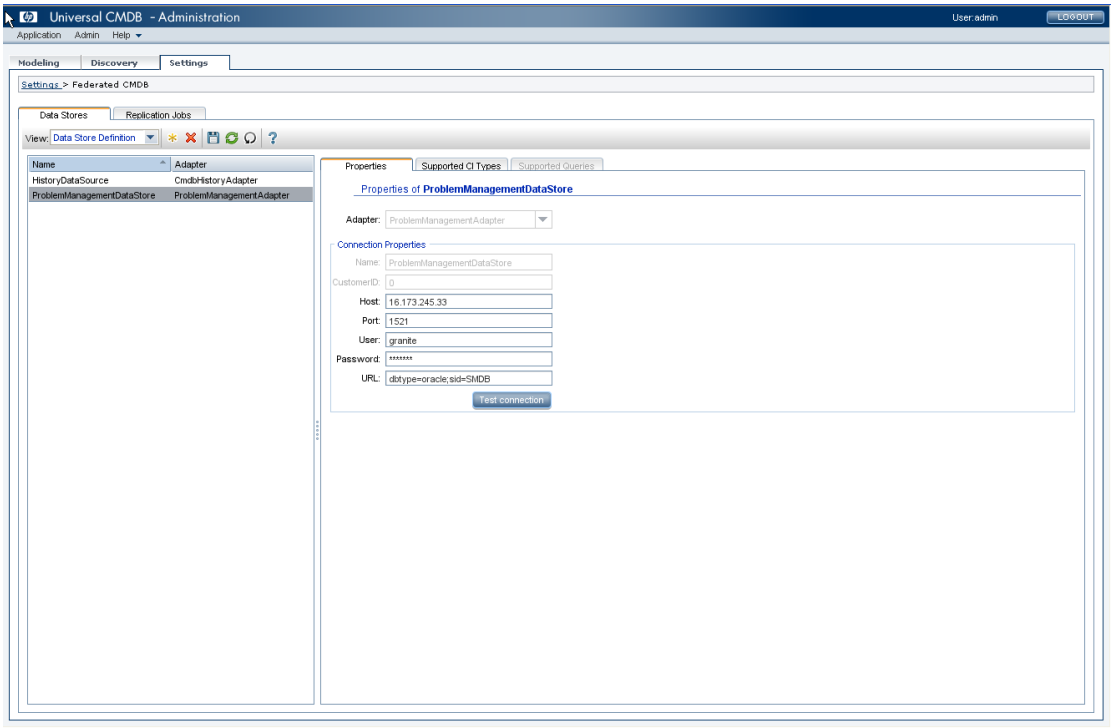
6. Click “Next” button to continue;



7. This list includes all CI Types/attributes that are supported by the Adapter. Check all the CI Types/attributes and click “Finish” button to continue:



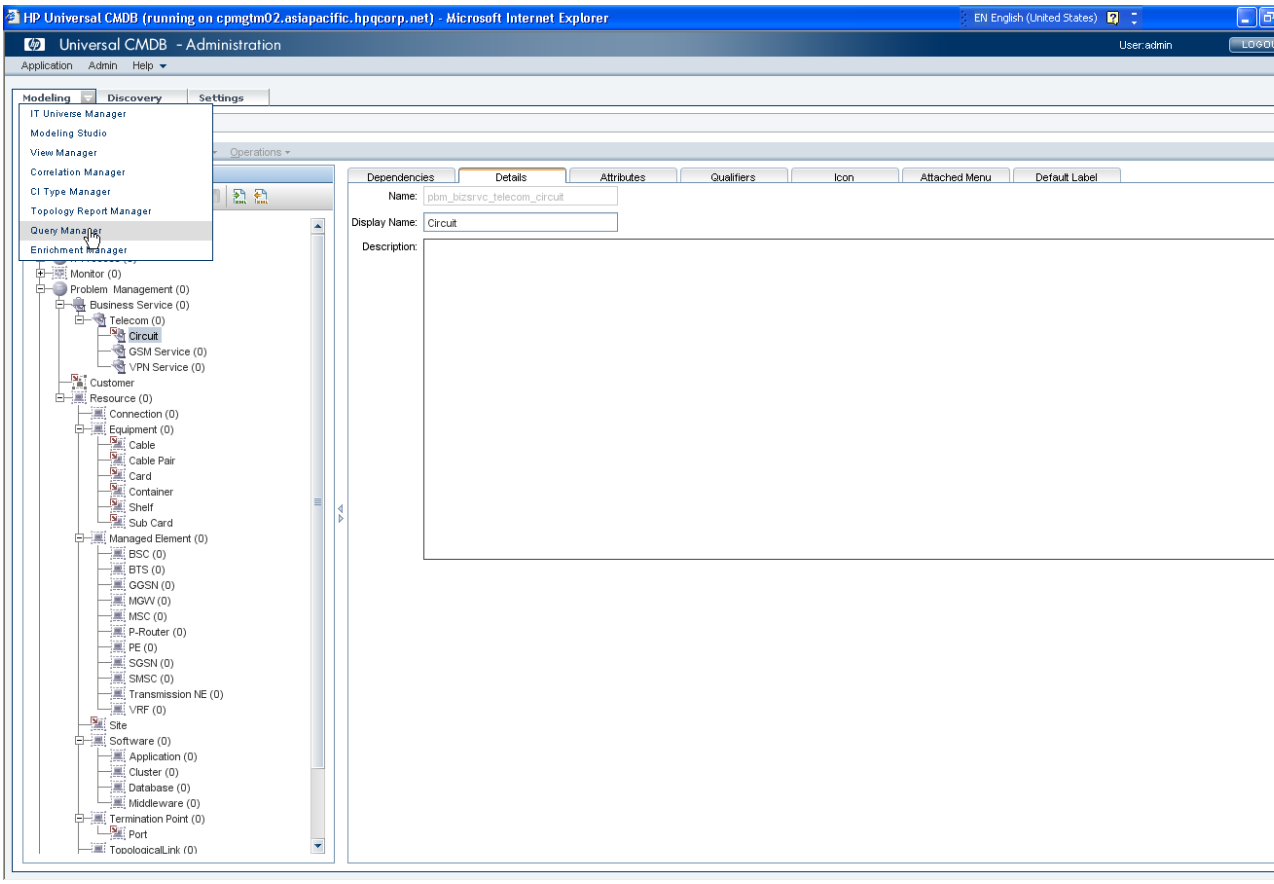
8. Data store “ProblemManagementDatastore” Deployed above will be listed in left tab panel “Data Stores”.



3.4 Test Configuration

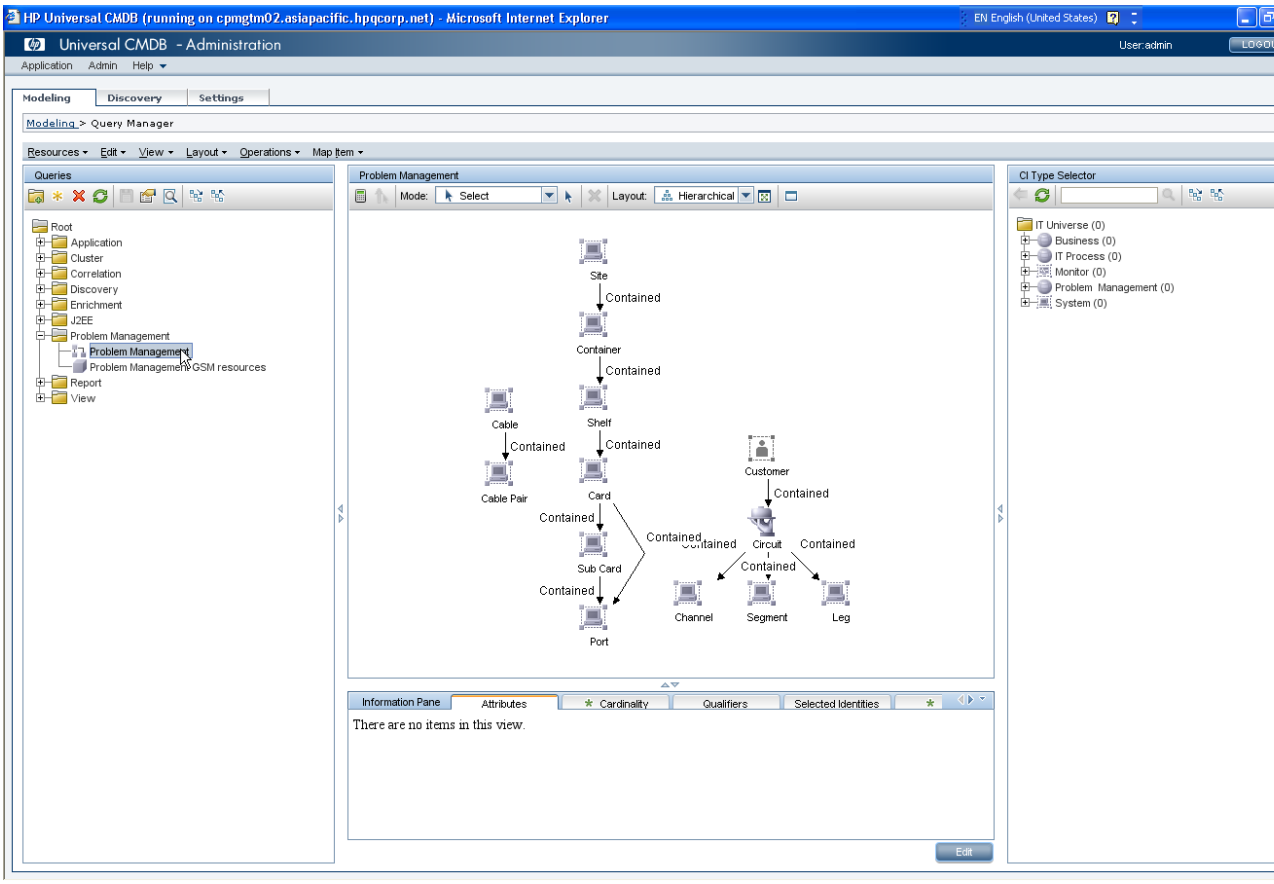
1. Test configuration by showing CI Type instances.

Click menu “Modeling” -> “Query Manager”

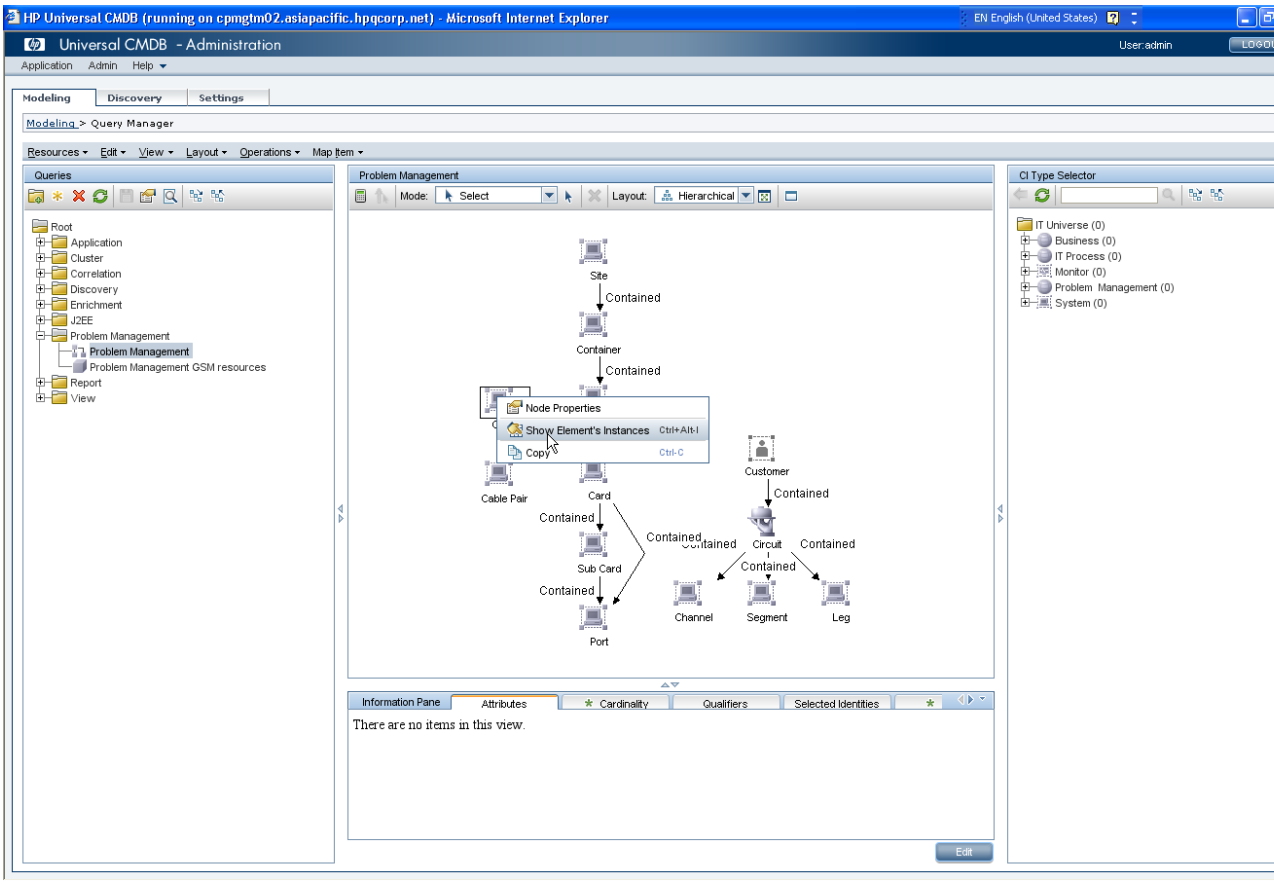


Click “Root” -> Problem Management -> Problem Management in left panel

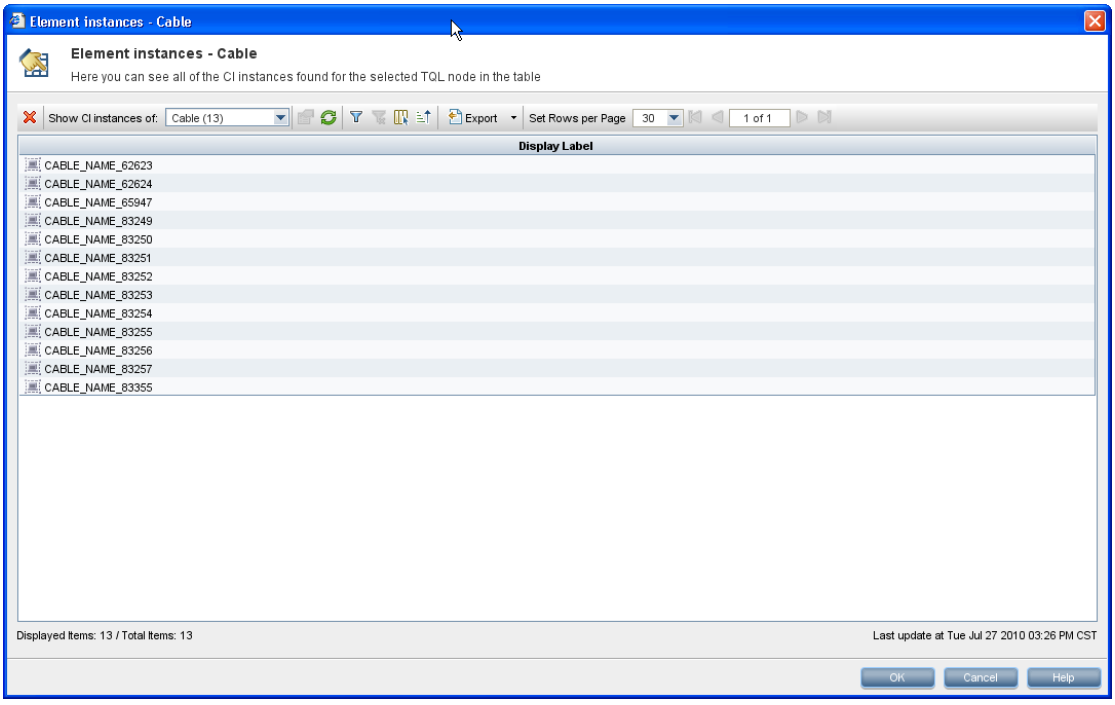
All the CI Type and relation defined for Granite Inventory System will be showed in right panel.



Right click a specified CI Type for example “Cable”, select “Show Element’s instances” in popup menu.

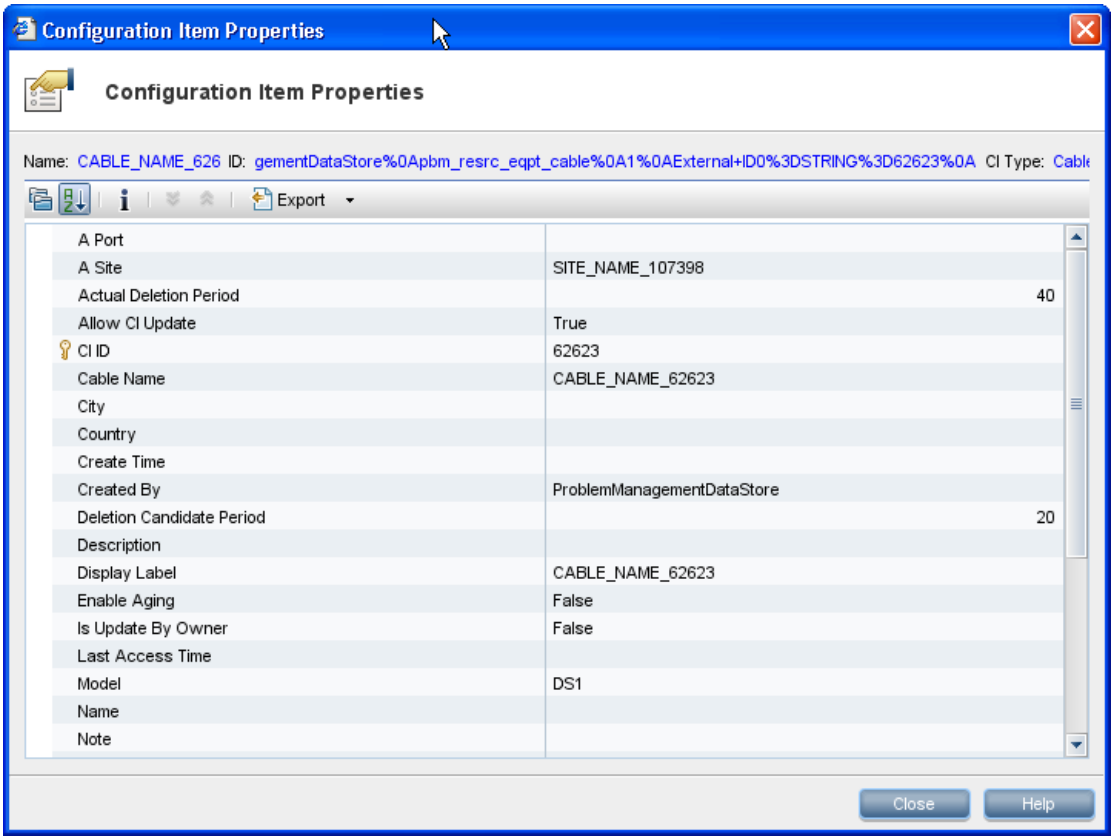


All “Cable” instances will be listed in “Element instances - Cable”



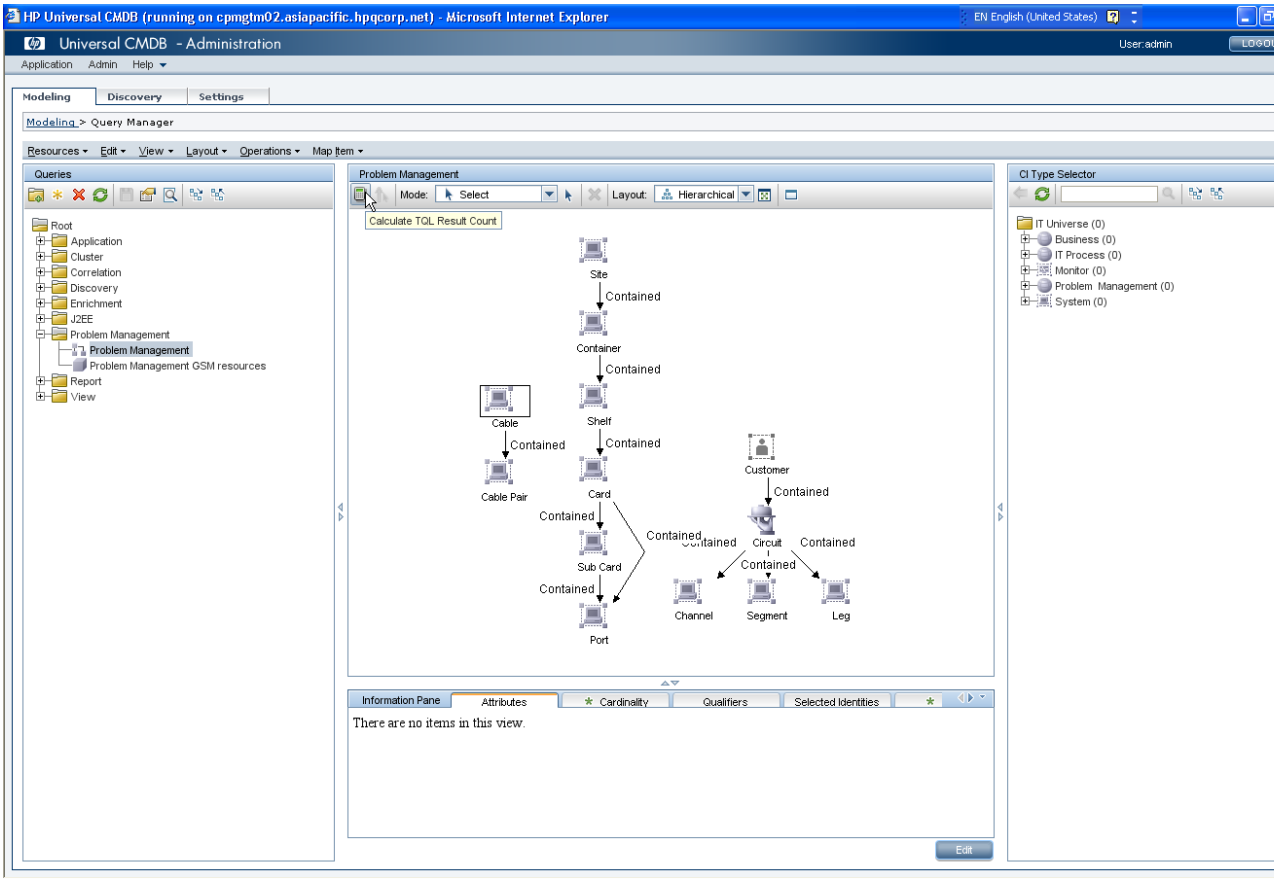
2. Test configuration by show CI instance detailed.

Double click a instance in form “Element instances - Cable” above, the details of instances will be showed:

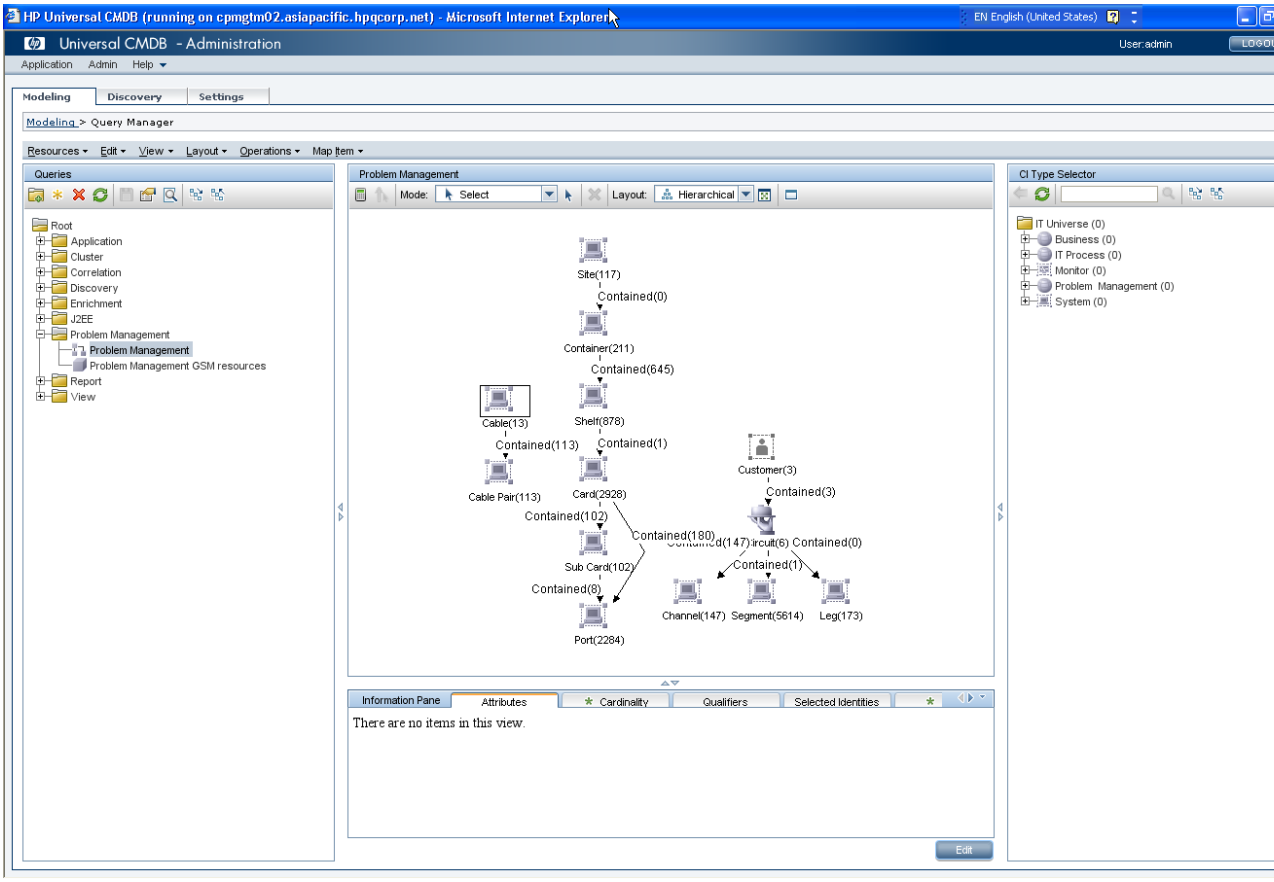


3. Test configuration by calculate CI Type instance number.

Click “Calculate TQL Result Count” in the following hardcopy;



The number of all federated CI Type to Granite Inventory System in this TQL will be calculated:



Note: This action will take several minute when Granite Inventory System contains large number of data.

Chapter 4
Configure HP Service Manager

The tasks for Service Manager configuration are as follows:

1. Configure and start the Service Center Listener.

2. Import the unl file into SM.

4.1 Configure and Start the SC listener

1. The SC listener is located in a directory under the SM7 install directory:

C:\Program Files\HP\Service Manager7.11\Server\legacyIntegration\RUN

2. Configure the sc.ini file in this directory.

```
##########################################################################
# Installed Configuration
#
shared_memory:32000000
log:sc_readonly.log
alertlog:sc_readonly.alert.log
system:12690
sqldictionary:oracle10

[oracle10]
sqldb:Service Manager Database
sqllogin:smusername/password
sqllibrary:sqoracle.oci10.DLL
```

3. Open a command prompt (Start-Run, “cmd” and <enter>) and cd to the above directory.

4. To start the listener, issue the following command:

scenter -listener:12690 -RPCReadOnly

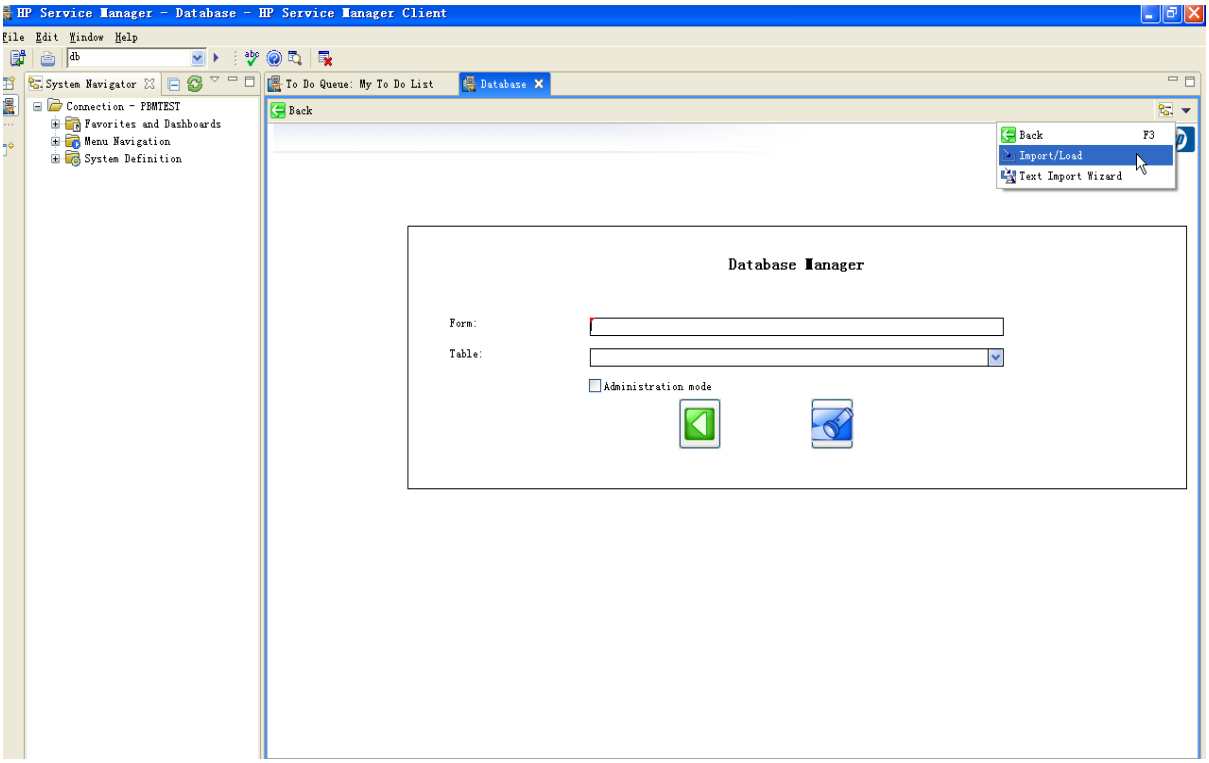
You can add it to windows service:

Type "scservic -install" then start SCService from the windows services and monitor the legacy sc log file (where it's configured in sc.ini).

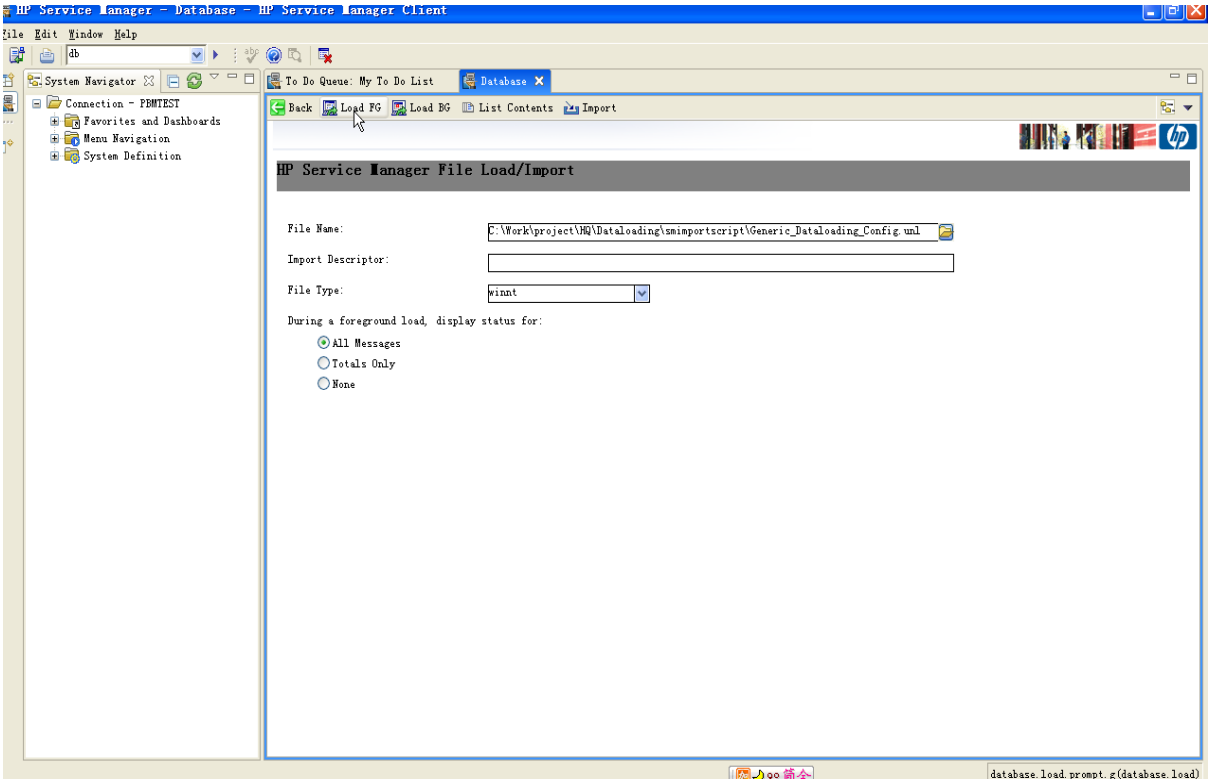
4.2 Load the unl file to SM.

Load the Generic_Dataloading_Config.unl file to SM. Unzip the unl file from the package and save it in your local computer.

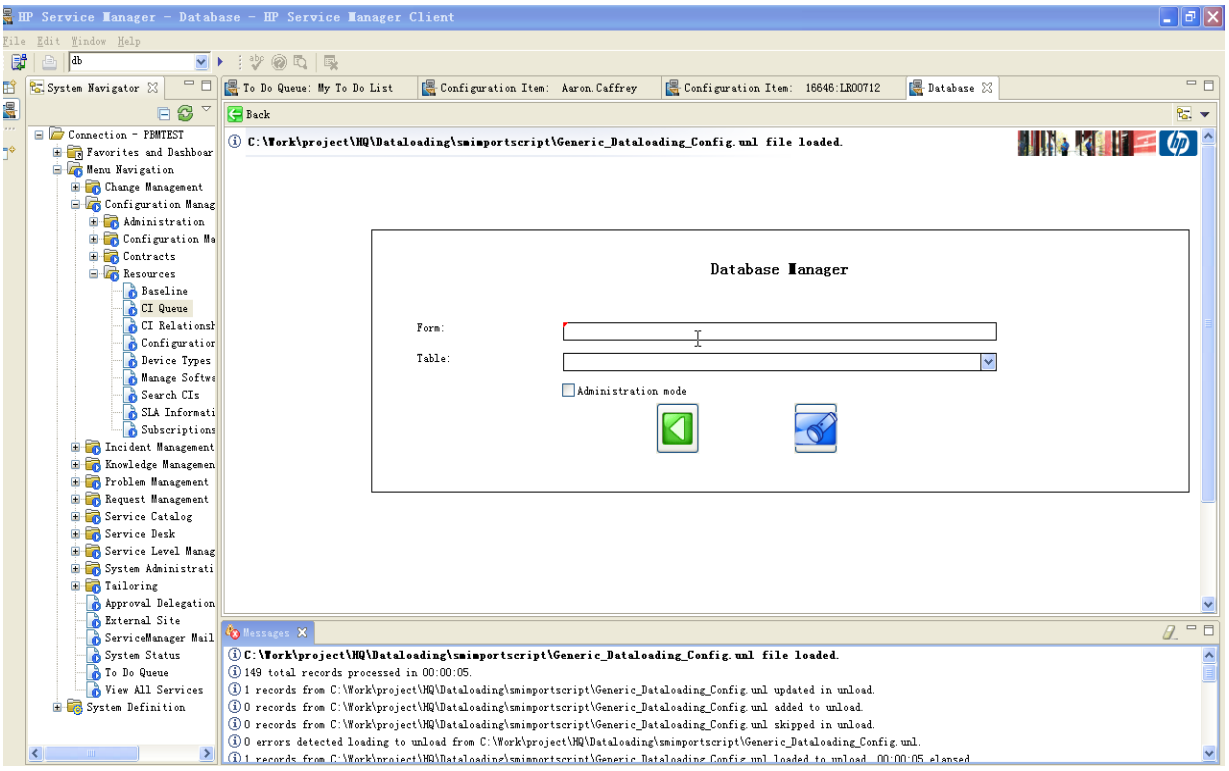
1. Input ‘db’ in SM command line, and click Import/Load



2. Choose the unl file from the folder and click ‘Load FG’



3. After successfully loading the unl file, the message could be shown in SM.

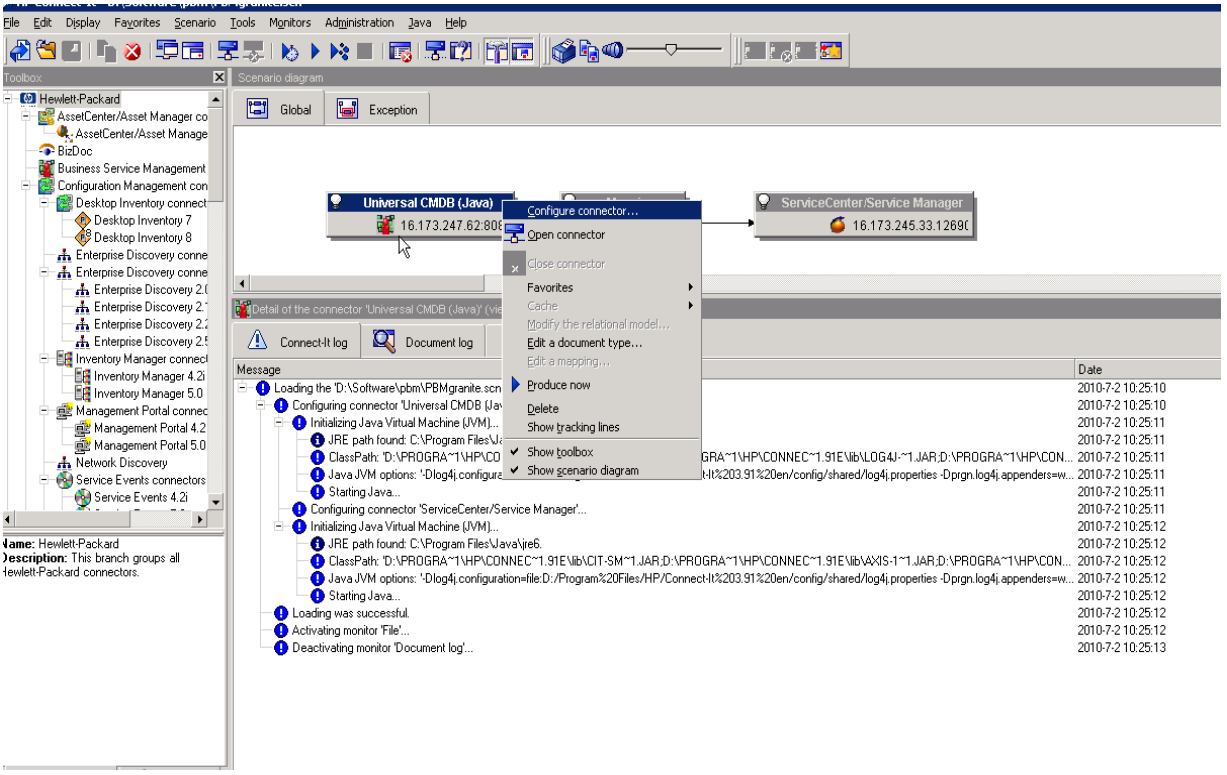


Chapter 5
Configure HP Connect-IT

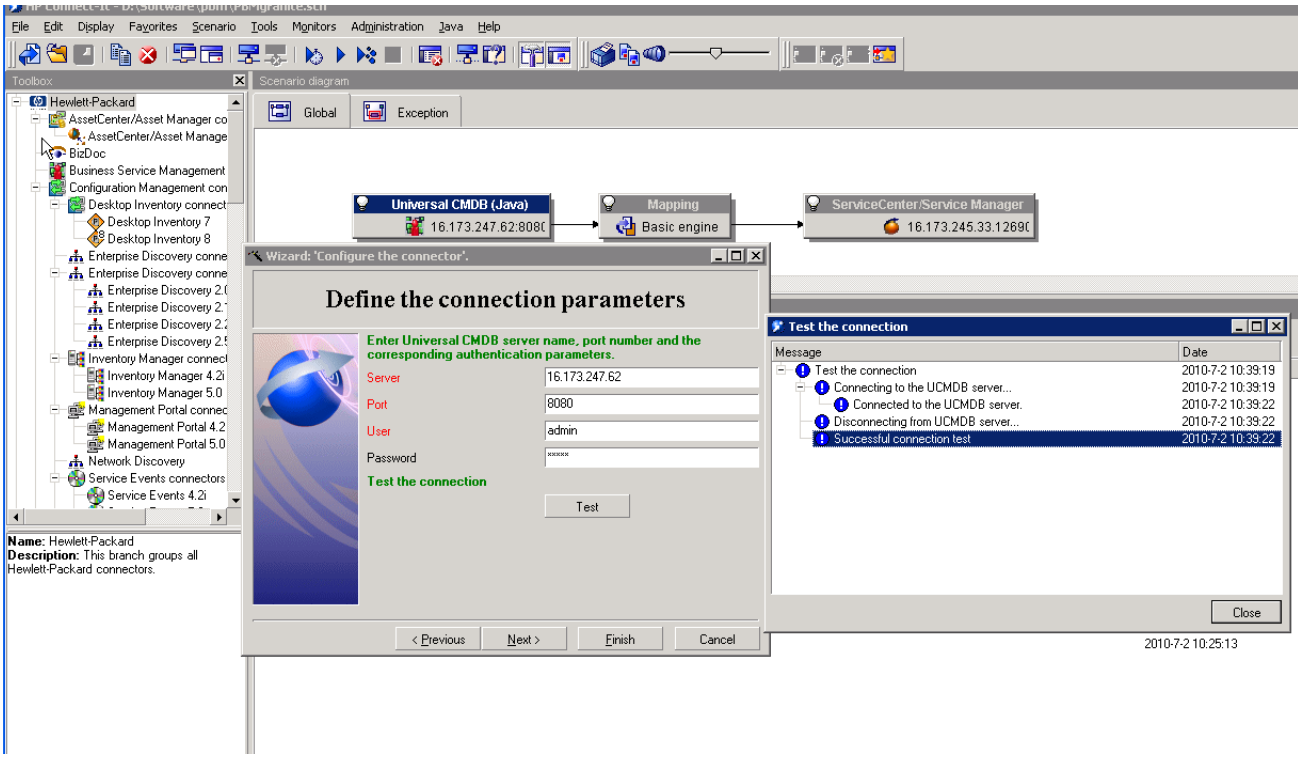
Open the PBMGranite.scn on the machine installed with Connect-IT.

5.1 Configure UCMDB connector.

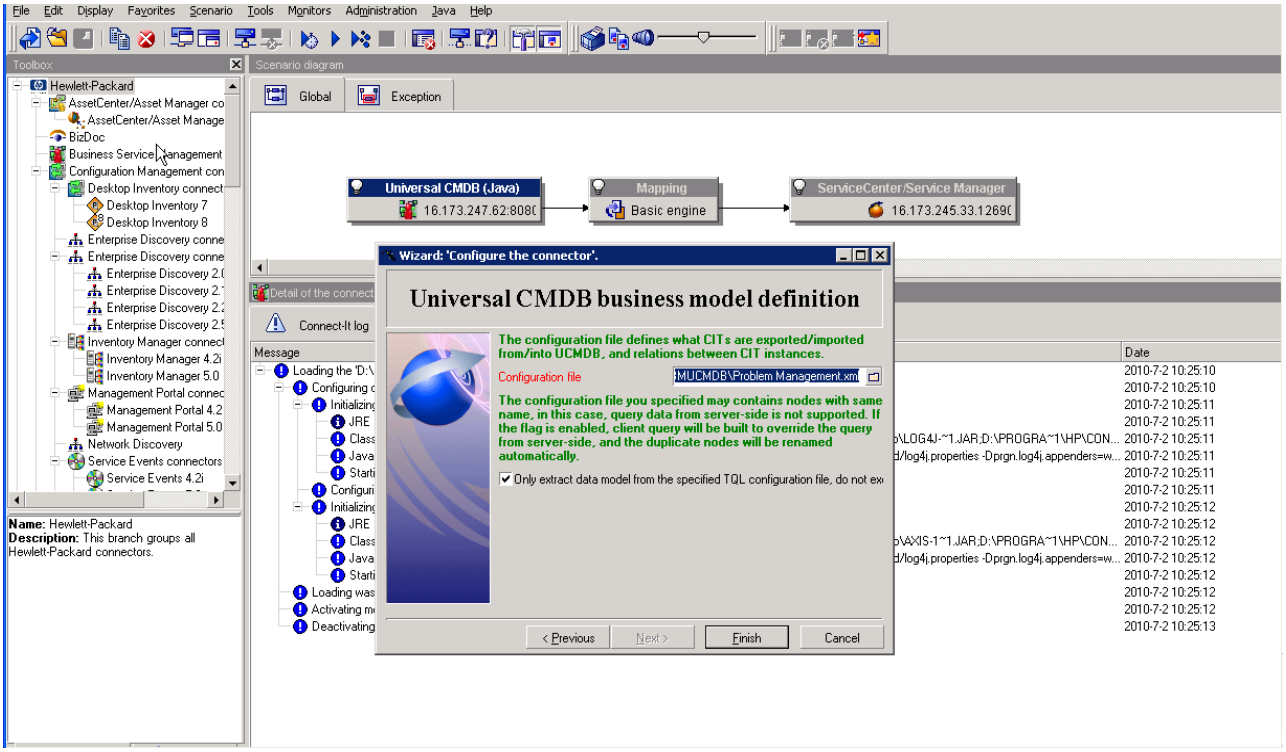
1. Right click the Universal CMDB (Java) connector and choose ‘ Configure connector’



2. Change the field to your UCMDB server information, such as sever IP, Port, User name and password. Click ‘Test’, if successfully connected with UCMDB server, you will see the popup window on the right. Note: The use name should be UCMDB account.



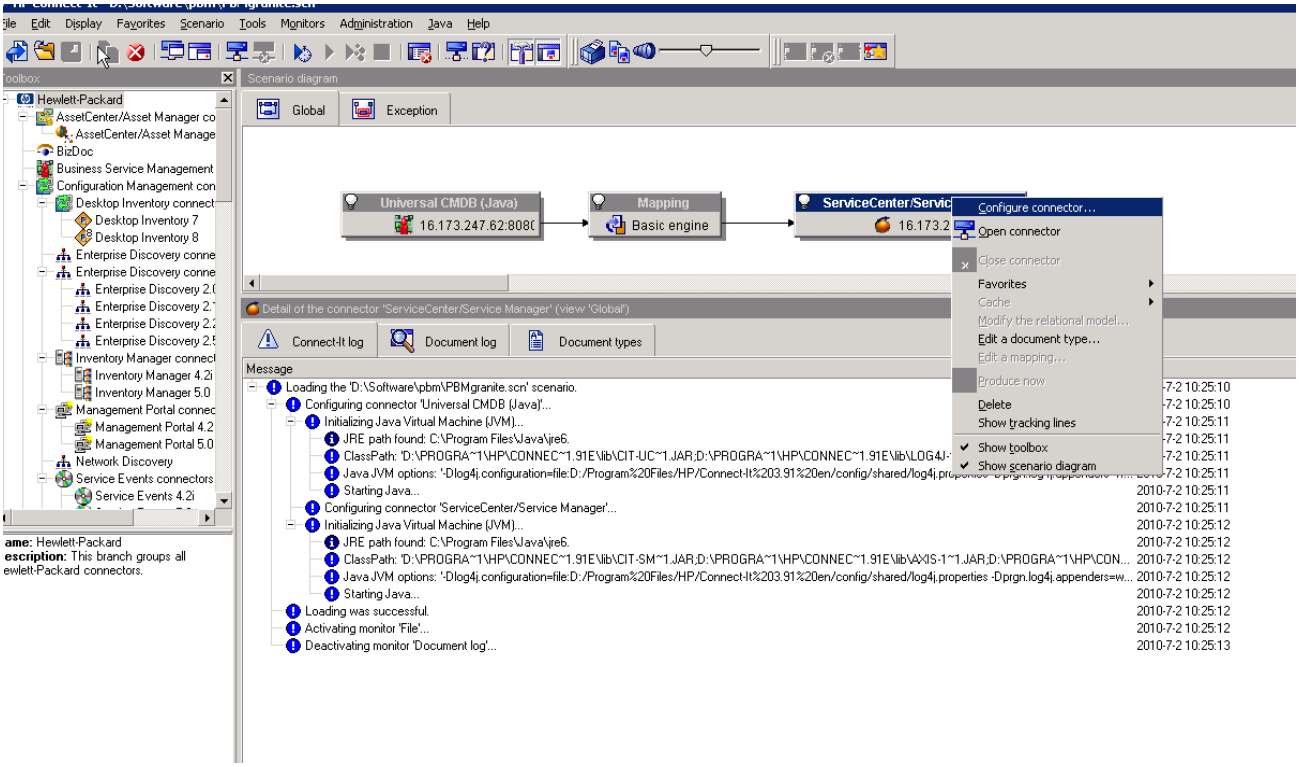
3. Click ‘Next’, choose configuration file ‘Problem Management.xml’. (Unzip the xml file from the package and save it in your local computer.



Click ‘Finish’ to finish the configuration or ‘Next’ to advanced configuration.

5.2 Configure Service Manager connector

1. Right click the ServiceCenter/ServiceManager connector and choose ‘Configure connector’

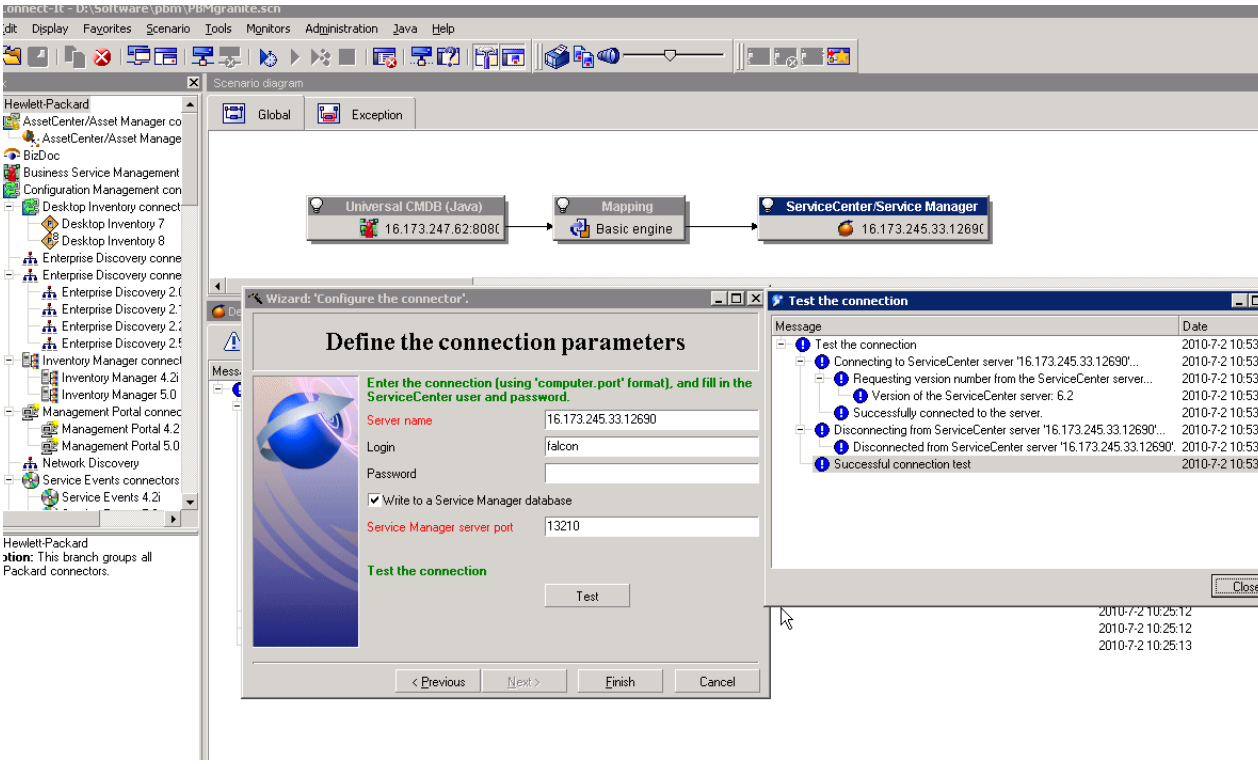


2. Change the ‘Server Name’ to your Service Manager IP and listener port number.

Login and password should be Service Manager account name and password.

Server Manger server port is your SM port.(The same with Service Manager client login port, default is 13080)

Click ‘Test’, if successfully connected with Service Manager server, you will see the popup window on the right.

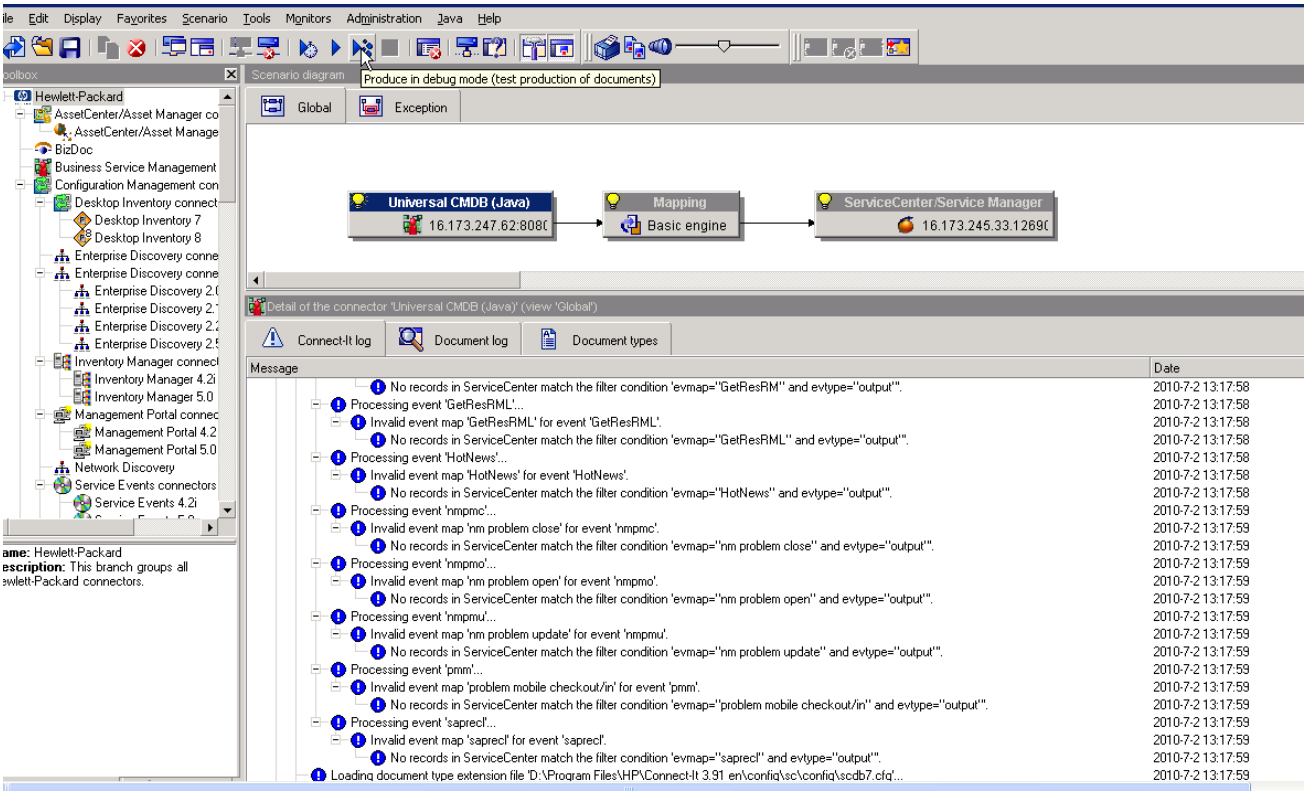


Click ‘Finish’ to finish the configuration or ‘Next’ to advanced configuration.

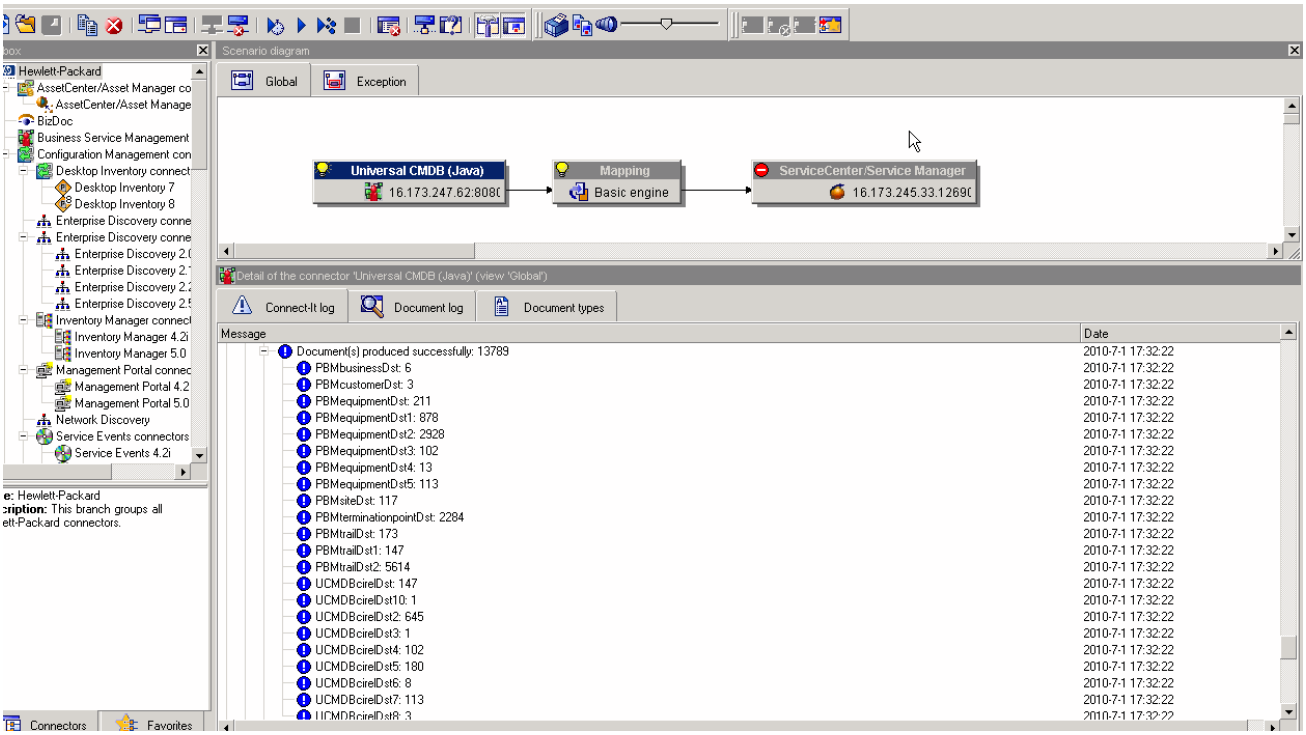
Chapter 6
Execute Data Loading

6.1 Run the scenario in Connect-IT scenario builder

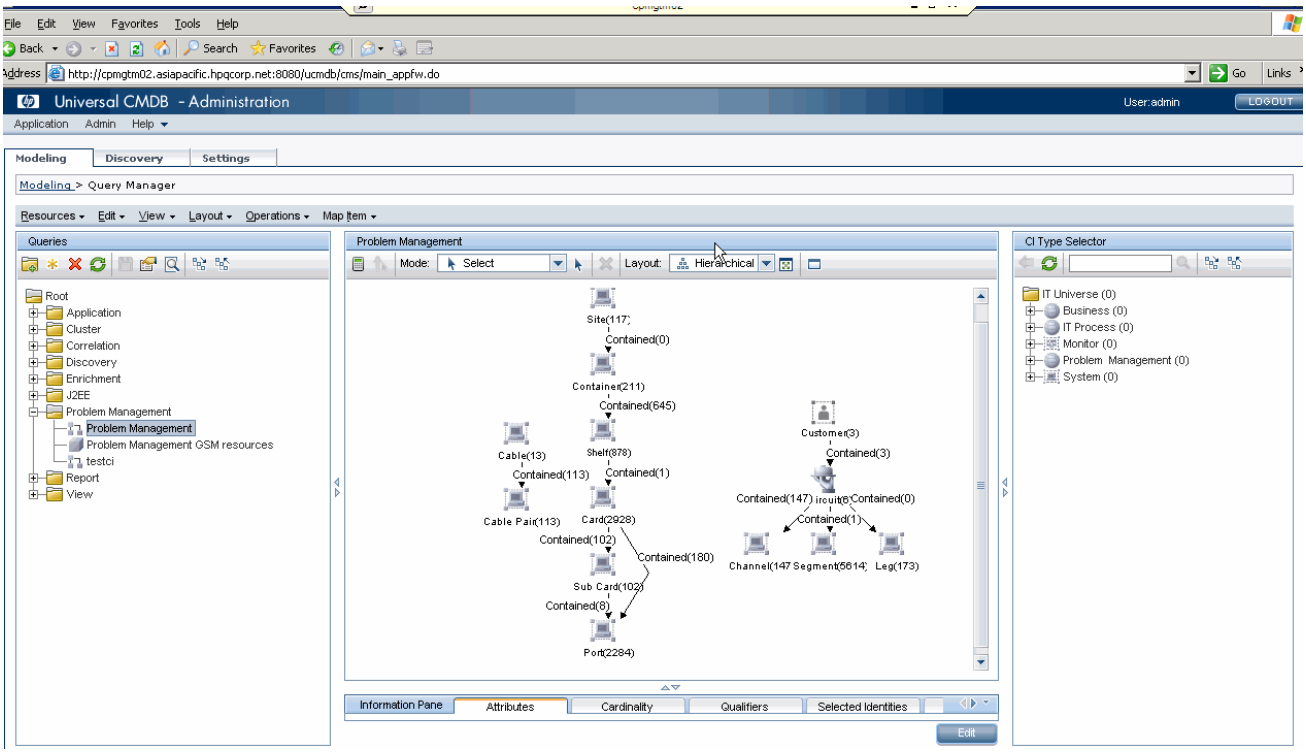
1. Open the PBMGranite.scn on the machine installed with Connect-IT. Click ‘Produce in debug mode’



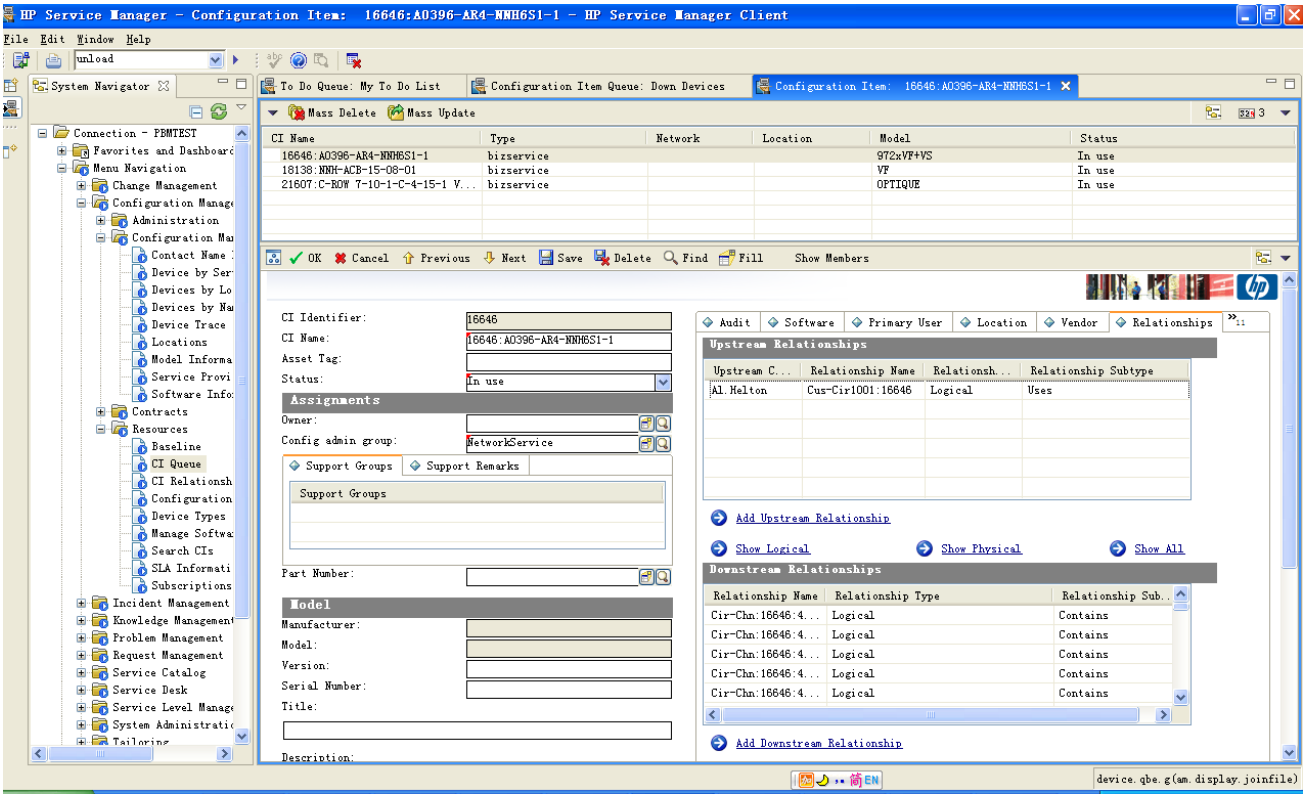
2. After successfully run the scenario, the result will be shown in Connect-IT log. You can see how many documents are produced, how many are processed successfully and how many are rejected.



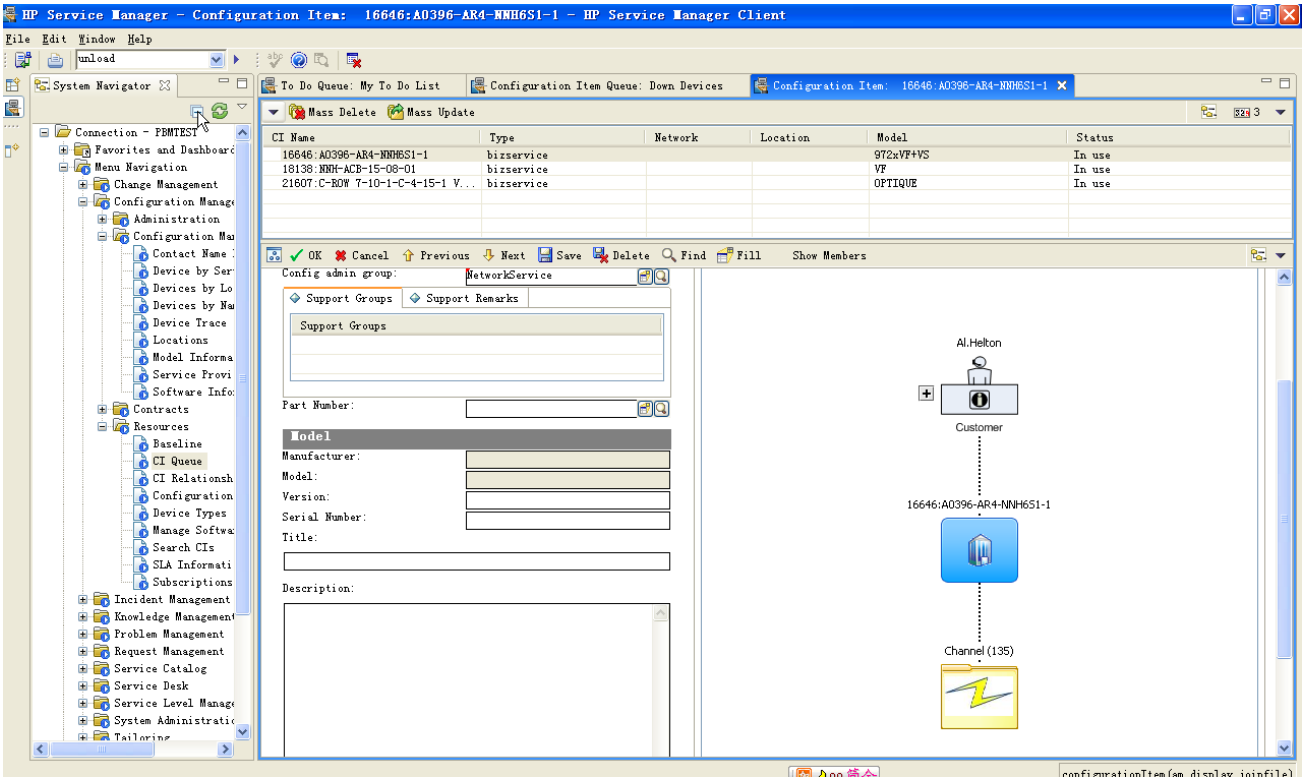
3. Compare the result with the query in UCMDB.



4. Check the result in Service Manager. CI and their relationship will be shown here.



You can also view the relationship from relationship graph.



6.2 Deploy the scenario using the Connect-IT service console

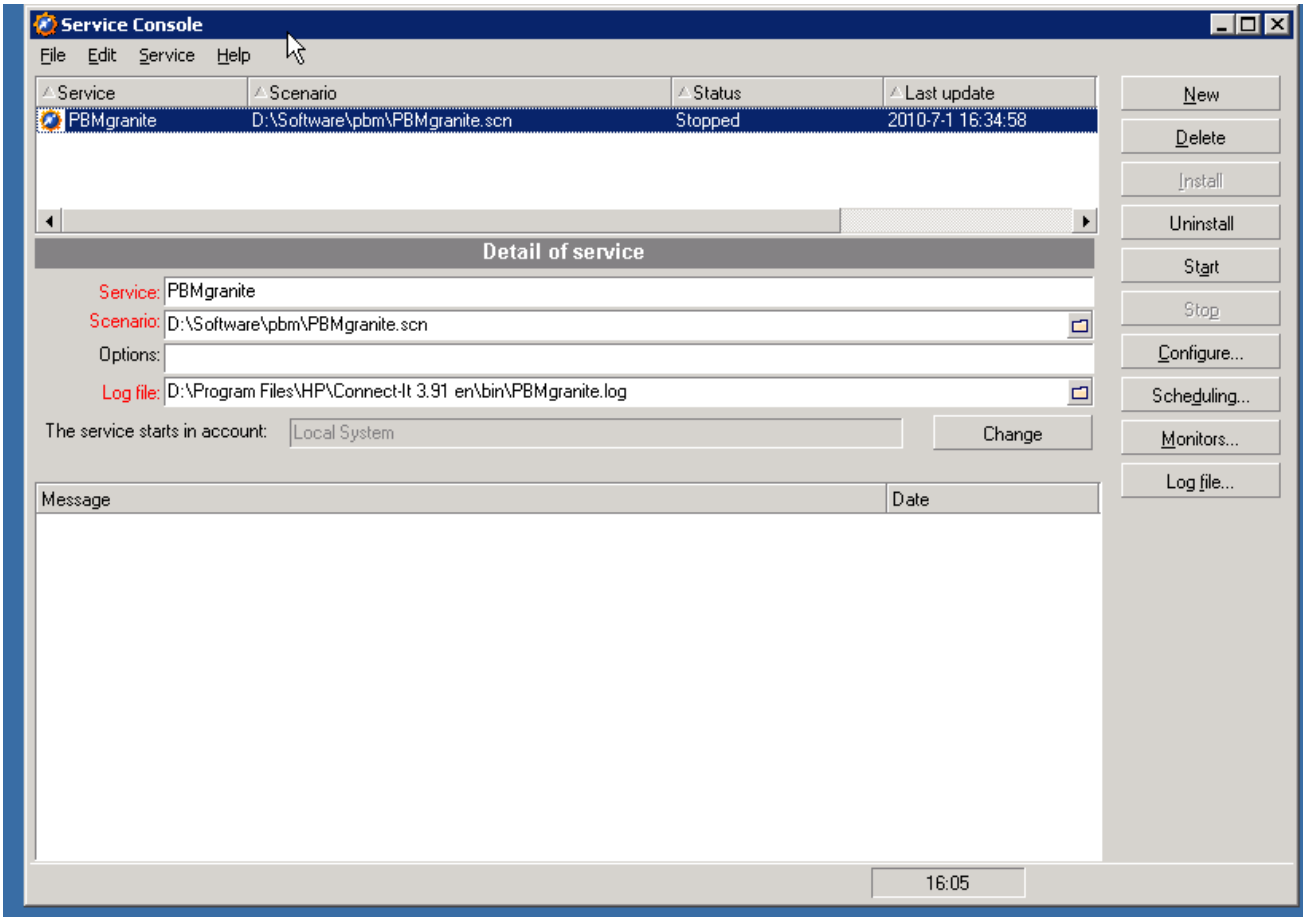
1. Open the HP Connect-It Service Console. Click New to deploy a new scenario.

2. Complete the details of the Service:

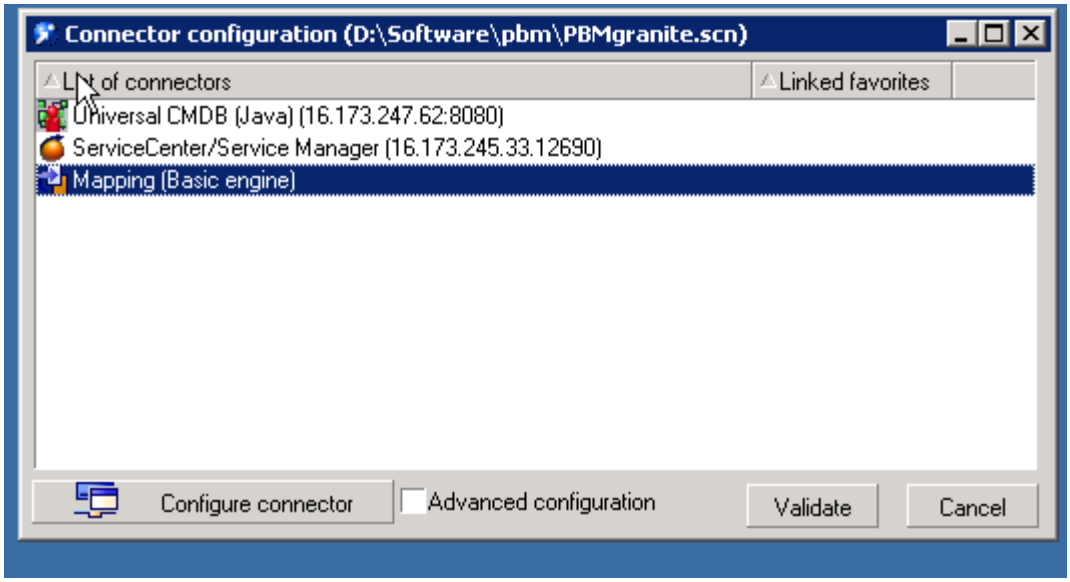
Service: enter PBMgranite

Scenario: browse to one of the scenarios above.

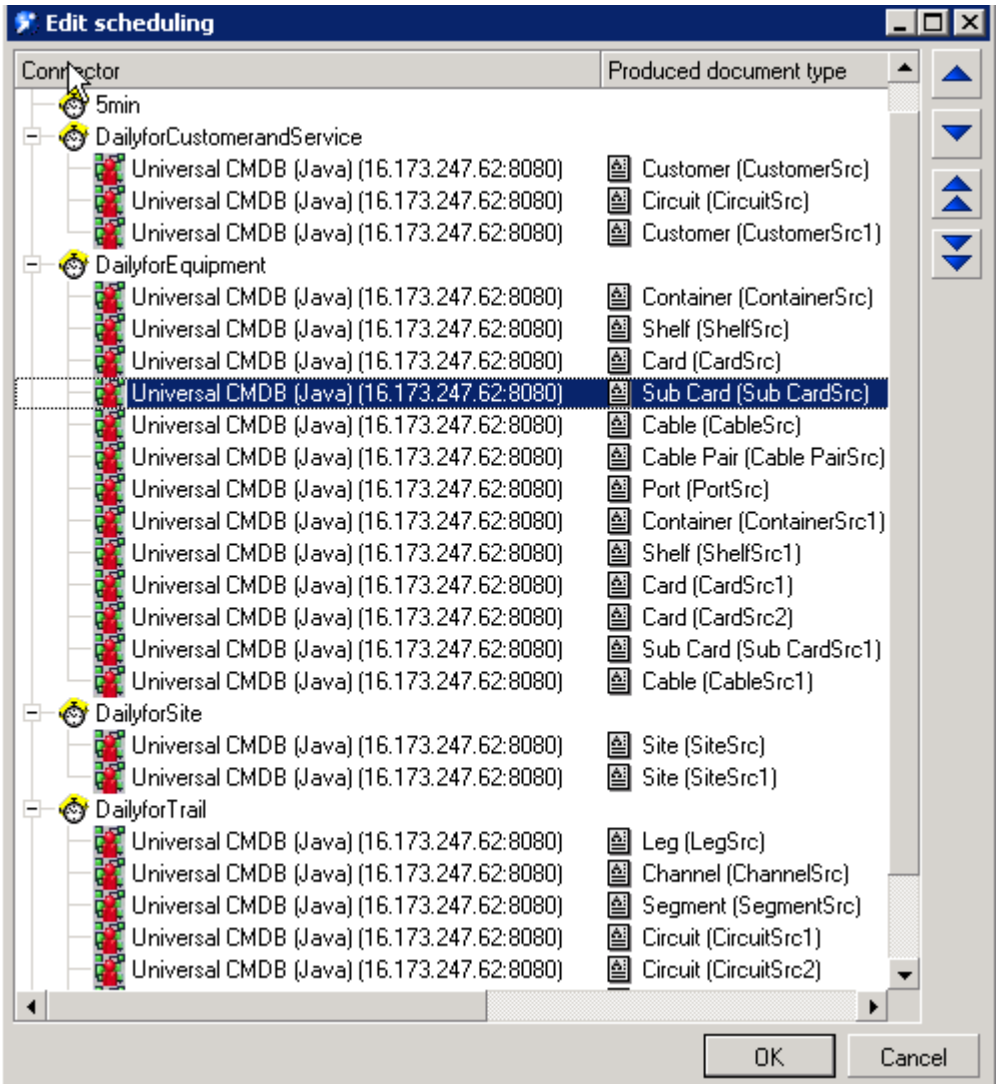
Log file Leave the other fields blank. A log file will be assigned.



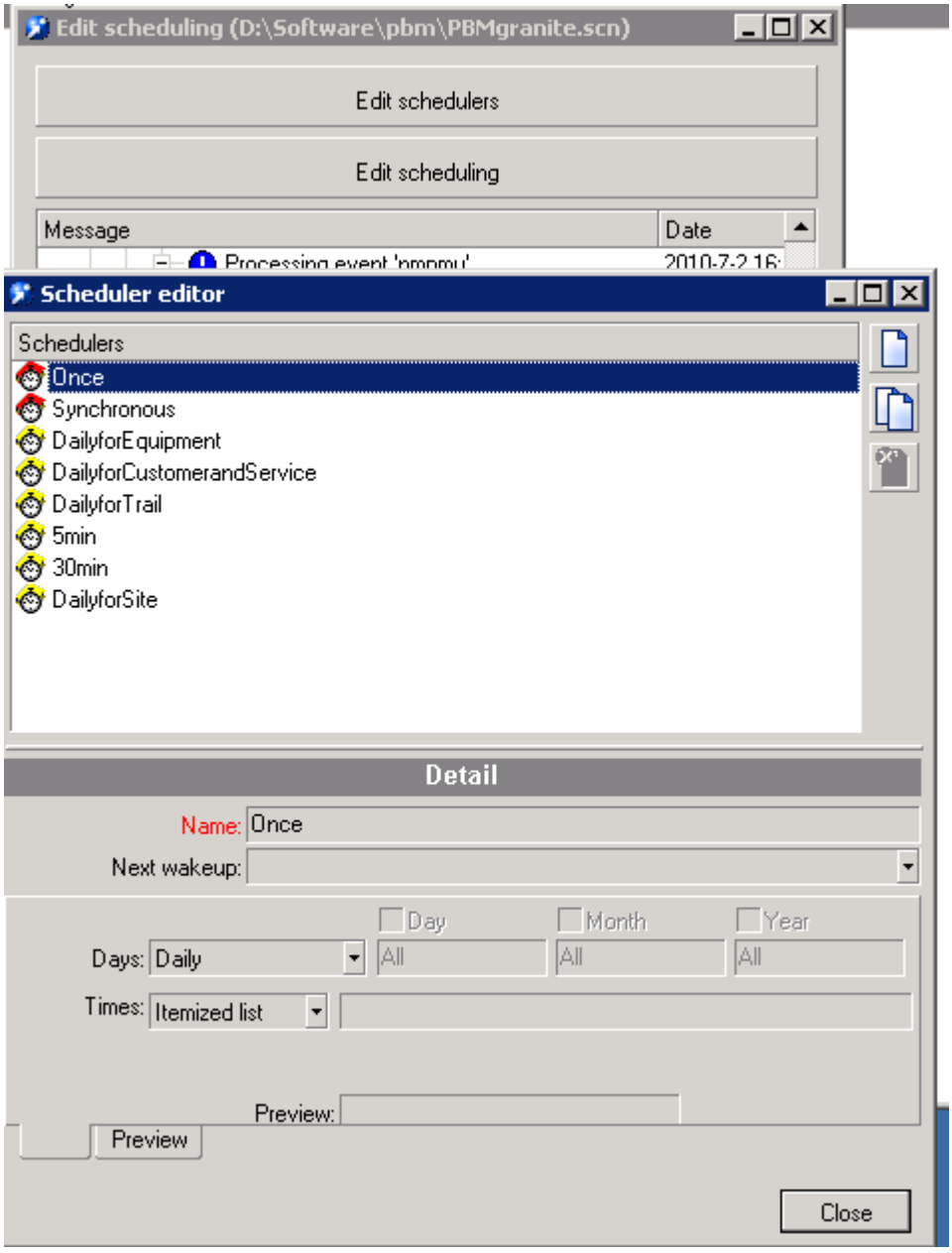
3. Click 'Configure' to configure the connector. Detail steps are the same as the description in 7-1. There is no need to configure the Mapping connector unless you wish to extend the integration.



4. Click Scheduling--Edit scheduling. The following schedule has been defined on this scenario. You can move the service by clucking the double-down arrow on the right.



5. If you need more complex scheduling, click 'Edit schedulers' on the previous window and create a suitable schedule.



6. Once back on the main console, Click Start to activate the scenario.

First time start the service, Connect-IT will load all data to HP SM.

At next schedule time, Connect-IT will compare UCMDB last update time with current time and do delta data loading to SM.

Chapter 7
Performance Test Result

Environments

Category	Hardware	OS version
HP Service Manager 7.11/ HP Service Manager 9.20/ Oracle DB with Granite	X86 Server,CPU 3.17GHz, Memory 4G	Windows 2003
HP UCMDB Server 8.00/ HP Connect-IT 3.91	X86 Server, CPU 3.17GHz, Memory 4G	Windows 2003

Test Data

CI Tye/Relationship	Number
Circuit	6
Channel	147
Leg	37939
Container	211
Shelf	878
Card	2928
Sub Card	102
Cable	13
Cable Pair	113
Port	2284
Circuit-Channel	147
Circuit-Leg	22
Container-Shelf	645
Shelf-Card	1
Card-Sub Card	102
Card-Port	180
Sub Card-Port	8
Cable-Cable Pair	113
Total Number **Total Time**	**45839** **2h 27min 34.775s**

Here is part of Connect-IT log file.

2010/07/01 12:17:56.377 0 4 Preparing connector 'Universal CMDB (Java) (16.173.247.62:8080)' to start the scenario...

2010/07/01 12:17:56.471 1 4 Connecting to the UCMDB server...

2010/07/01 12:17:56.471 2 4 Connected to the UCMDB server.

2010/07/01 12:17:56.409 0 4 Preparing connector 'ServiceCenter/Service Manager (16.173.245.33.12690)' to start the scenario...

2010/07/01 12:17:56.487 1 4 Analyzing reconciliation...2010/07/01 14:44:35.472 2 4 Document(s) produced successfully: 45901

2010/07/01 14:44:35.347 0 4 Closing session...

2010/07/01 14:44:35.409 1 4 Length of session: 2h 27min 34.775s

2010/07/01 14:44:35.410 0 4 Connector 'ServiceCenter/Service Manager':

2010/07/01 14:44:35.425 2 4 Total time: 2h 26min 55.006s

2010/07/01 14:44:35.425 2 4 Time required for insertions: 2h 23min 54.925s (No.: 45852, Min: 00.015s, Max: 1h 35min 18.045s)

2010/07/01 14:44:35.425 2 4 Document(s) consumed successfully: 45839

2010/07/01 14:44:35.425 3 4 PBMbusinessDst: 6

2010/07/01 14:44:35.425 3 4 PBMequipmentDst: 211

2010/07/01 14:44:35.425 3 4 PBMequipmentDst1: 878

2010/07/01 14:44:35.425 3 4 PBMequipmentDst2: 2928

2010/07/01 14:44:35.425 3 4 PBMequipmentDst3: 102

2010/07/01 14:44:35.425 3 4 PBMequipmentDst4: 13

2010/07/01 14:44:35.425 3 4 PBMequipmentDst5: 113

2010/07/01 14:44:35.425 3 4 PBMterminationpointDst: 2284

2010/07/01 14:44:35.425 3 4 PBMtrailDst: 37939

2010/07/01 14:44:35.441 3 4 PBMtrailDst1: 147

2010/07/01 14:44:35.441 3 4 UCMDBcirelDst: 147

2010/07/01 14:44:35.441 3 4 UCMDBcirelDst1: 22

2010/07/01 14:44:35.441 3 4 UCMDBcirelDst2: 645

2010/07/01 14:44:35.441 3 4 UCMDBcirelDst3: 1

2010/07/01 14:44:35.441 3 4 UCMDBcirelDst4: 102

2010/07/01 14:44:35.441 3 4 UCMDBcirelDst5: 180

2010/07/01 14:44:35.441 3 4 UCMDBcirelDst6: 8

2010/07/01 14:44:35.441 3 4 UCMDBcirelDst7 113

Chapter 8
Data Loading Customization

It's not recommend strongly to do additional Data Loading customization such as modify CI type definition, adding CI type, modify CI type relation, modify attribute mapping etc., unless user is master strong knowledge of series of products.

Any Data Loading customization required following configuration or developments.

1. Re-define the CI Model including CI type definition and CI type relation in HP UCMDB.

For details please refer to the following document:

[HP UCMDB Model Management Guide]

[HP UCMDB Integration Guide]

2. Modify mapping file in data store package in path:

<UCMDB_INSTALL_PATH>\UCMDBServer\j2f\fcmdb\CodeBase\ProblemManagementAdapter\META-INF\orm.xml

For details please refer to the following document:

[HP UCMDB Model Management Guide]

[HP UCMDB Integration Guide]

3. Add the CI type in HP SM

For details please refer to the following document:

[HP SM Help]

4. Modify mapping between HP UCMDB and HP SM in HP Connect-IT

For details please refer to the following document:

[HP Connect-IT User Guide]

Chapter 9
Troubleshooting

9.1 HP UCMDB CI Type federation lost

- Trouble Description:

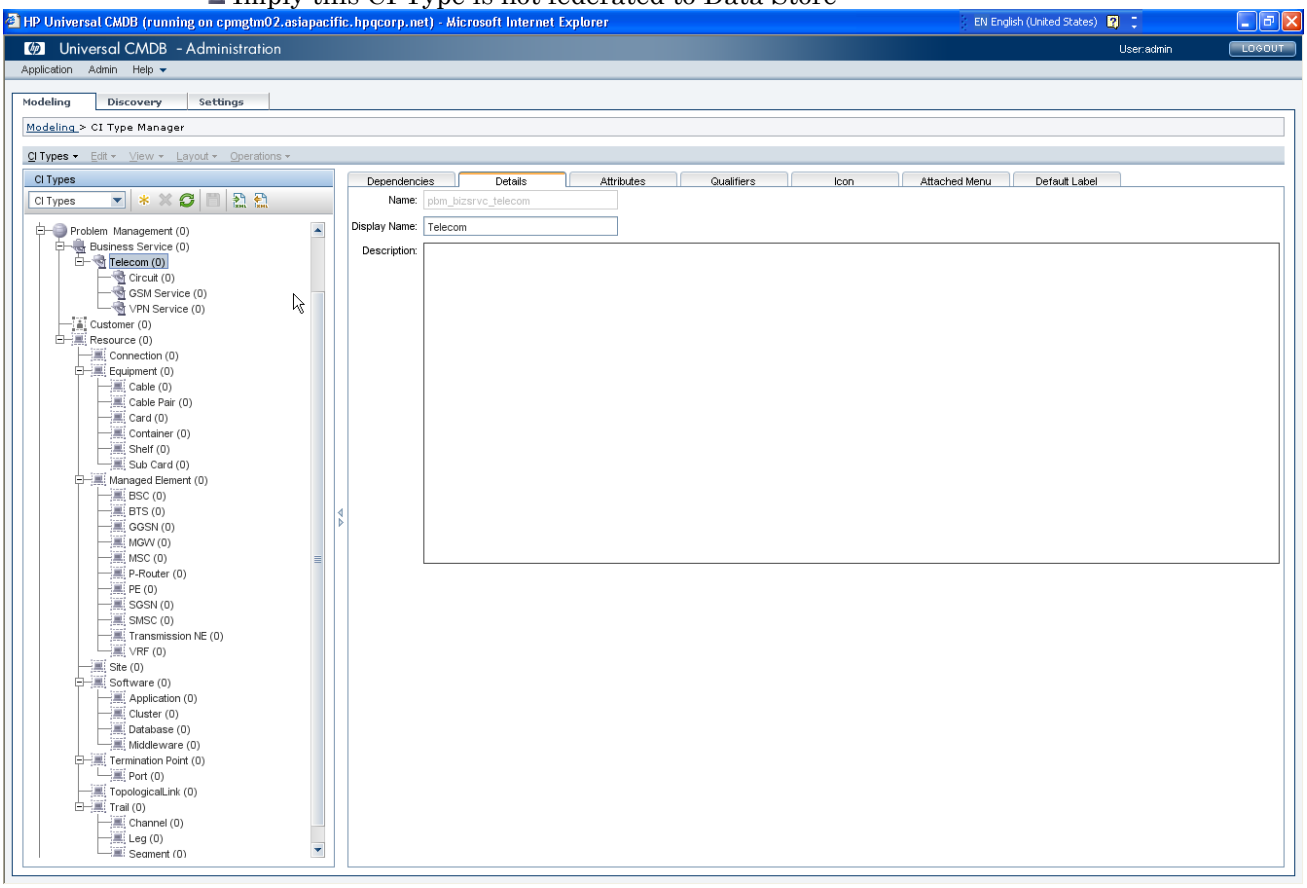
May be the reason of unstable HP UCMDB, the CI Type federation will lost unexpectedly which result in HP UCMDB can not retrieve data from object data store.

You can found the CI Type icon changed that the red arrow attaches to CI Type icon lost.

Take following icon for example:

Imply this CI Type is federated to Data Store

Imply this CI Type is not federated to Data Store



- Solution: Restart HP UCMDB Server

Chapter 10
Appendix

The CI type model is defined based on ITU-T M.3100. Below is the CI Type definition in Service Manager and UCMDB. For more information, please refer to [HP Problem Management Telco CI Types]

CI Type	Subtype
Customer	
Business Service	Circuit
	VPN Service
	GSM Service
Trail	Transmission Trail
	VPN Tunnel
	Channel
	Leg
	Segment
ManagedElement	Transmission NE
	PE
	P-Router
	BSC
	BTS
	GGSN
	SGSN
	MSC
	SMSC
	MGW
TerminationPoint	Port
Software	Application
	Cluster
	Database
	Middleware
Equipment	Container
	Shelf
	Card
	Sub Card
	Cable
	Cable Pair
TopologicalLink	
Site	
Connection	