Oracle FLEXCUBE UBS Application Setup
Oracle FLEXCUBE Universal Banking
Release 12.0
[May] [2012]

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1. Setting up Application in Centralized Mode

1.1 Introduction

You can setup Oracle FLEXCUBE in three different modes:

- Centralized
- Decentralized
- Hybrid

In centralized mode, Oracle FLEXCUBE Host and Branch components are bundled together to generate a single Enterprise Application (EAR).This single EAR file is then deployed to an Enterprise Application Server.

This manual gives systematic instructions for setting up Oracle FCUBS Application in centralized mode.

1.2 Prerequisites

Following are the prerequisites for setting up the Application in centralized mode:

Queue and Connection Factories: If you wish to include the scheduler plug-in, you need to have the respective queue and connection factories in the Application Server.

For details on JMS Queue and JMS Connection Factory, refer to the chapter Resource Administration of this installation manual.

Oracle SOA: Oracle SOA is required for the application server 'WebLogic' with BPEL. Oracle SOA comes with a BPEL environment, which is mandatory for the BPEL process flow.

If you need to include report plug-in in the application, BIP Reports Server needs to be setup for generation of reports.

1.3 Preparing Source Folders

In order to create Oracle FCUBS Application with Reports, Scheduler, DMS and ELCM as plug-ins, you need to copy the following folders to the Source Directory.

Folder	Destination Folder	Action
INFRA	Source_Dir/INFRA	Copy the INFRA folder from Shipment media to the Source Directory.
MAIN	Source_Dir/MAIN	Copy the entire MAIN folder from Shipment media into the Source Directory. This is optional. The purpose of copying entire MAIN folder into source directory is that,

		Installer can copy all JS and UIXML files at the time of EAR creation itself. Otherwise,after building the EAR and deploying it in the Application Server, all the JS and UIXML units can be copied manually to Application folder.
ELCM	Source_Dir/ELCM	Copy the ELCM folder from Shipment media to the Source Directory.
ADAPTERS	Source_Dir/ADAPTERS	Copy the ADAPTERS folder from Shipment media to the Source Directory.
BPEL	Source_Dir/BPEL	Copy the BPEL folder from Shipment media to the Source Directory.

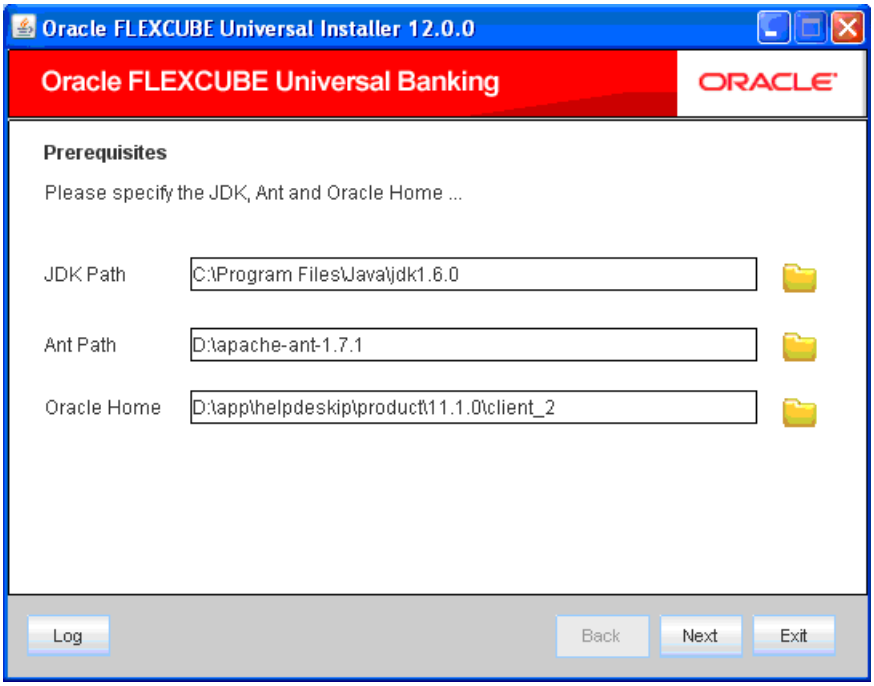
1.4 Building Application for Setup

The process of building EAR files includes the following steps:

- Load property file
- Copy sources
- Compile sources
- Build sources

To build the application for setup using the installer, follow the steps given below.

1. Double-click ‘FCUBSInstaller.bat’ batch file to launch Oracle FLEXCUBE Universal Installer. The following screen is displayed.



2. Specify the following details:

JDK Path

Specify the location of the JDK. You can use the directory button to browse to the JDK location.

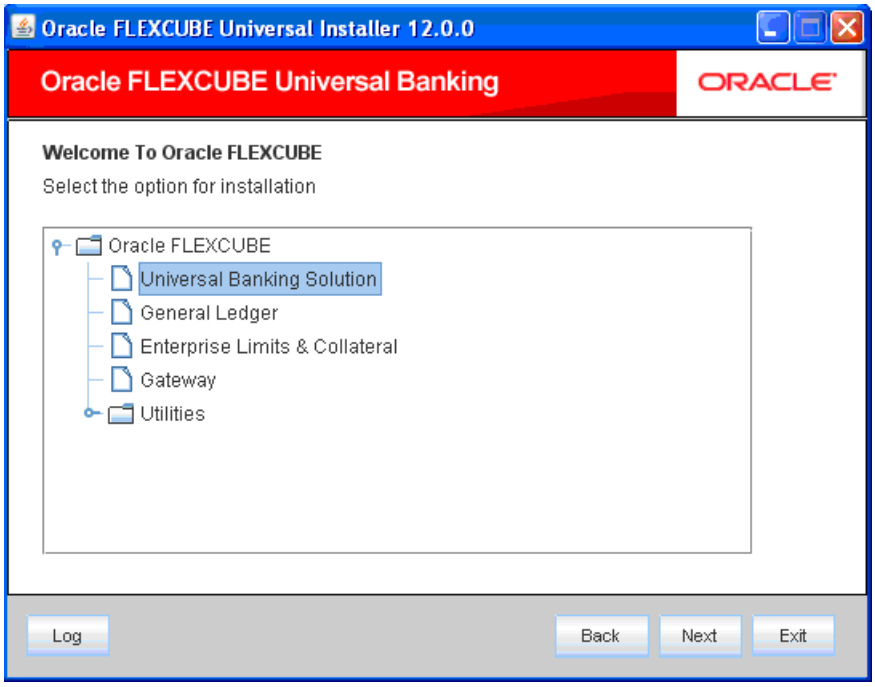
Ant Path

Specify the location of the ANT. You can use the directory button to browse to the ANT location.

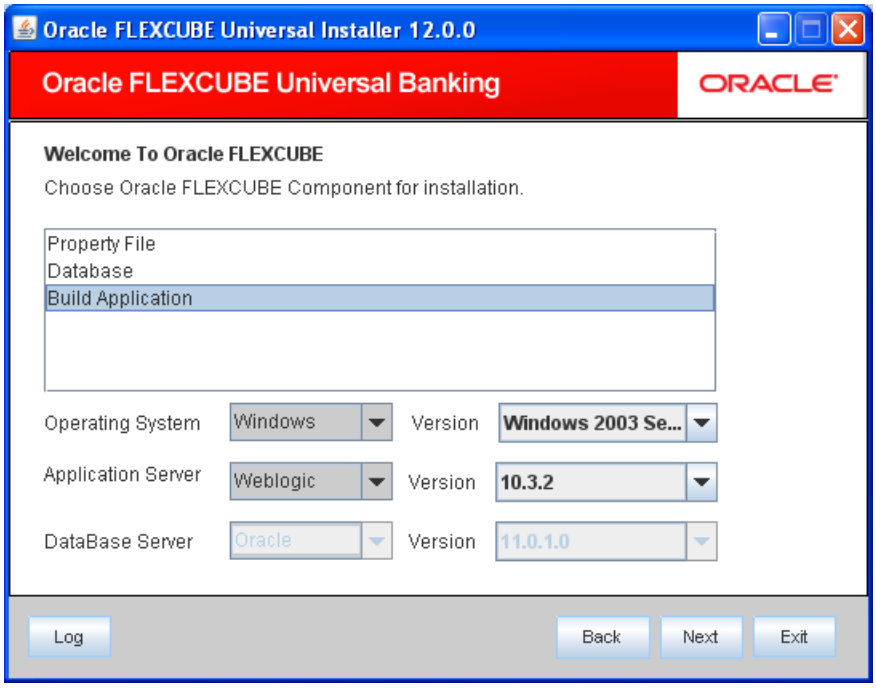
Oracle Home

Specify the location of the Oracle Home installation. You can use the directory button to browse to the location.

3. Click ‘Next’ to proceed. The following screen is displayed.



4. Choose ‘Universal Banking Solution’ and click ‘Next’. The following screen is displayed.



5. Choose the option ‘Build Application’. You also need to specify the following details:

Operating System and Version

Specify the operating system in which you are building the Application. Choose the appropriate one from the drop-down list. You also need to specify the version of the selected operating system.

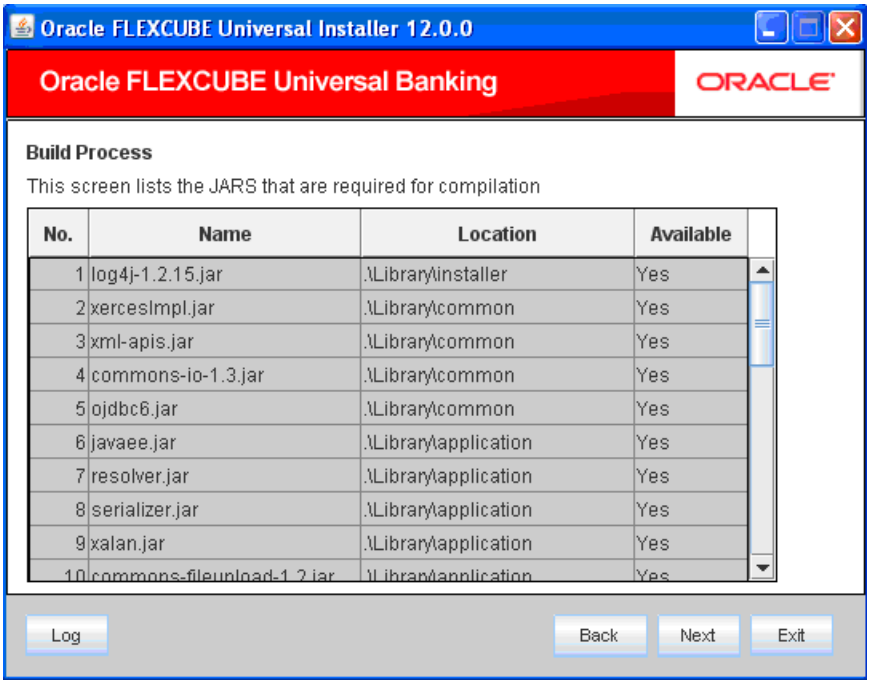
Application Server and Version

Specify the application server in which you are building the Application. Choose the appropriate one from the drop-down list. You also need to specify the version of the selected application server.

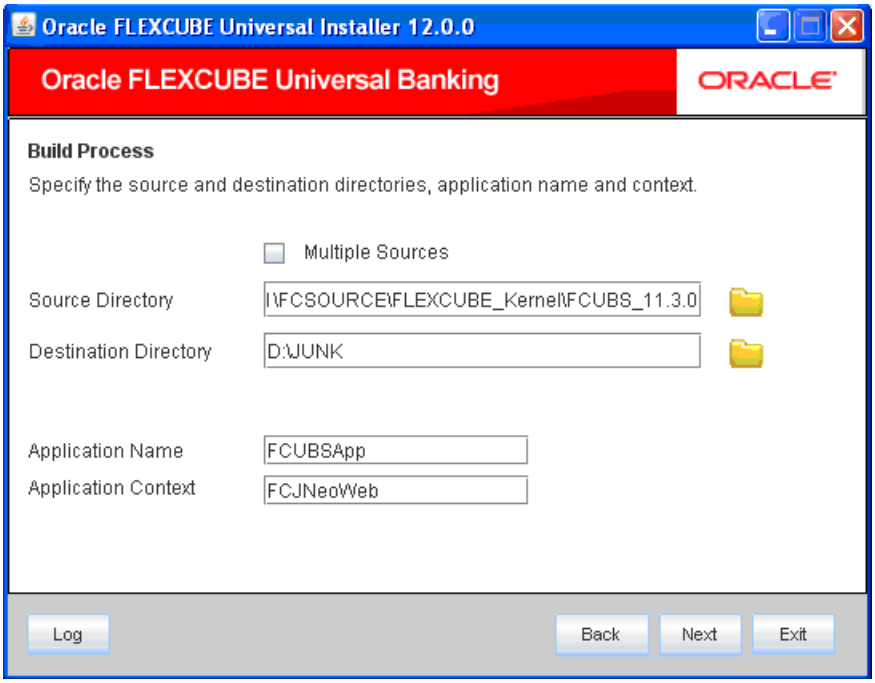
Database Server and Version

Specify the database server in which you are building the Application. Choose the appropriate one from the drop-down list. You also need to specify the version of the selected database server.

6. Click 'Next' to continue. The Installer displays the list of JAR files that are required for the compilation in the following screen.



7. Verify the details and click 'Next'. You will be prompted to specify the application details in the following screen.



8. Specify the Application Details as given below:

Source Directory

Specify the location of the application source directory. The source directory will have the following folders:

- INFRA (Copied from Shipment media)
- MAIN (Copied from Shipment media) (optional)
- Other Folders (Based on the plug-ins selected)

Use the directory icon to browse and select the source directory.

Check the box 'Multiple Sources' to use multiple source directories.

Destination Directory

Specify the directory where the application should be setup. The installer will copy the source files from the Source Directory to the Destination Directory.

Use the directory icon to browse and select the destination directory.

Application Name

Specify a name for the Application to be deployed.

You cannot use special characters such as '.' (dot), ',' (comma), '$' etc. However, you may use '_' (underscore).

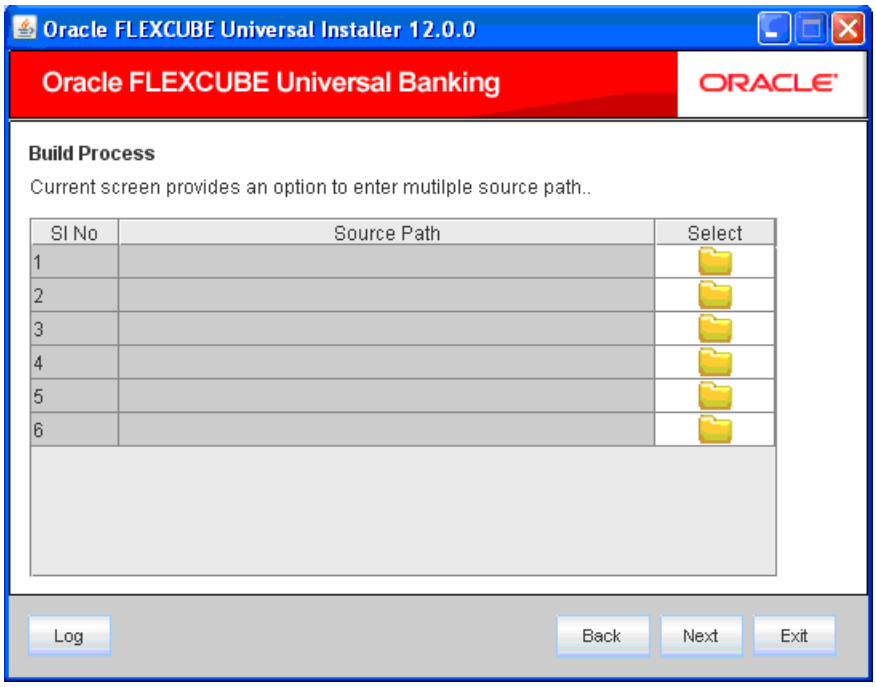
Application Context

Based on the Application type selected, the Installer displays the application context. However, you may modify the default value.

This information will be updated in ‘application.xml’. In case of a WebLogic server, this will be updated in ‘weblogic.xml’.

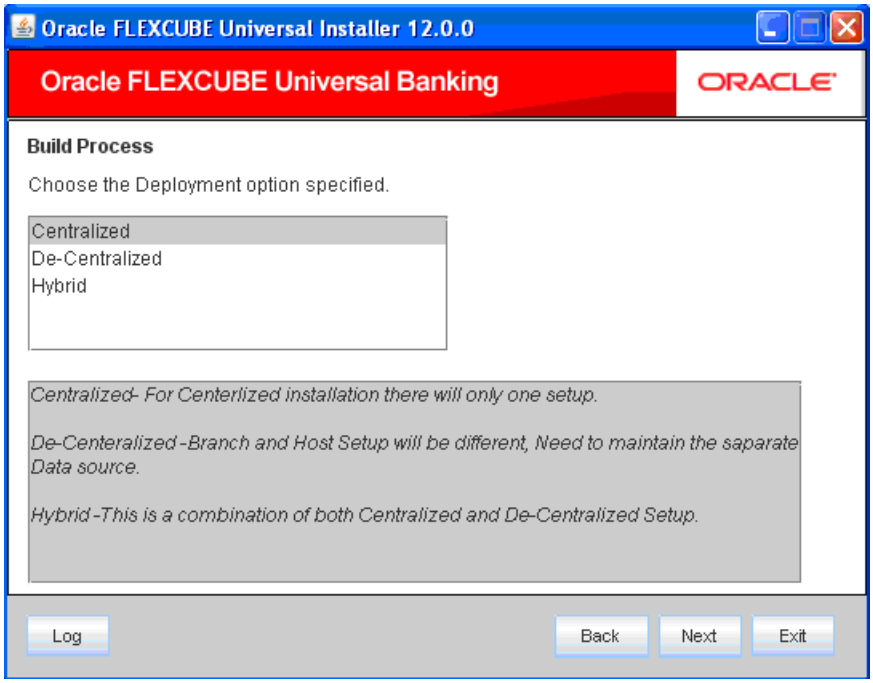
Multiple Sources

In case of Cluster/Patch releases, you can get the files from multiple source directories. If you check this box, the installer will not allow you to specify the source directory in this screen. On clicking ‘Next’, the following screen is displayed.

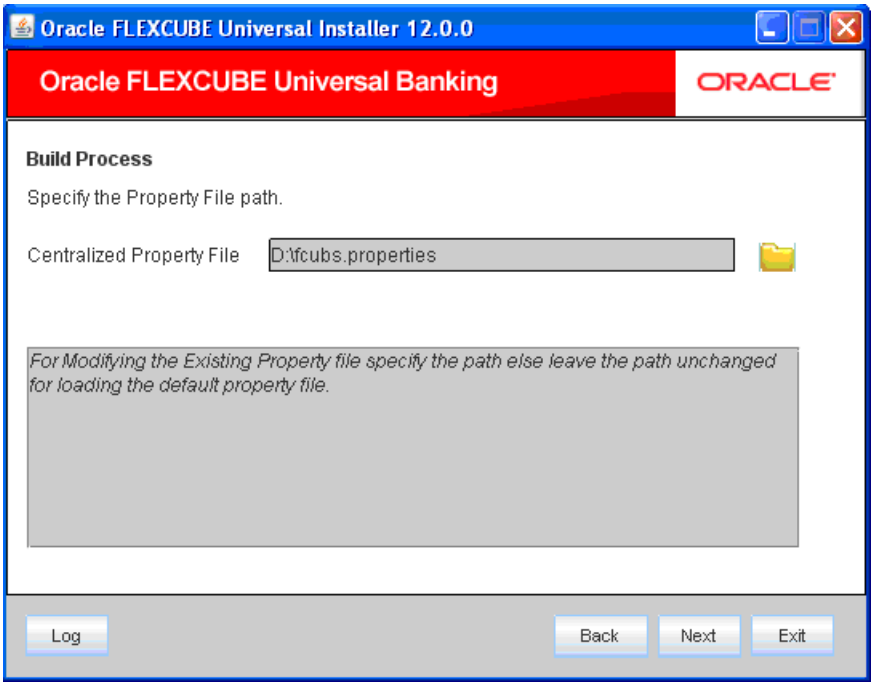


You can select all the source directories in this screen. The Installer will copy the sources from the multiple locations into the destination directory. You can have consolidated sources in the destination directory.

9. Once you have specified the details, click ‘Next’ to continue.



10. Select the type of application deployment. You can choose one of the following options:
    - **Centralized**: Choose this if you require centralized installation.
    - **Decentralized**: Choose this if you require decentralized installation. In this case, Installer generates the following files at the end of the build process:
        - {Application_name}.ear – This can be deployed as Decentralized Host Application
        - {Application_name}.war – This can be deployed as Decentralized Branch Application
    - **Hybrid**: Choose this if you require Hybrid Installation. In this case, the Installer generates the following files at the end of the build process:
        - {Application_name}.ear - This can be deployed as Centralized Host Application
        - {Application_name}.war This can be deployed as Decentralized Branch Application
11. Once you have selected the deployment type, click ‘Next’. The screen for building property file is displayed.

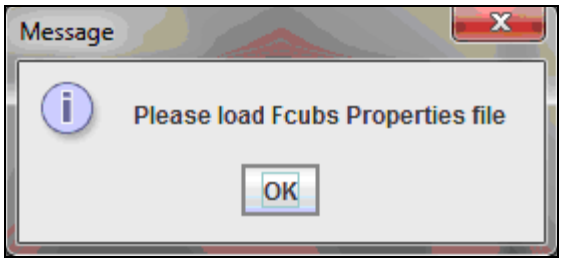


12. Specify the following details:

Centralized Property File

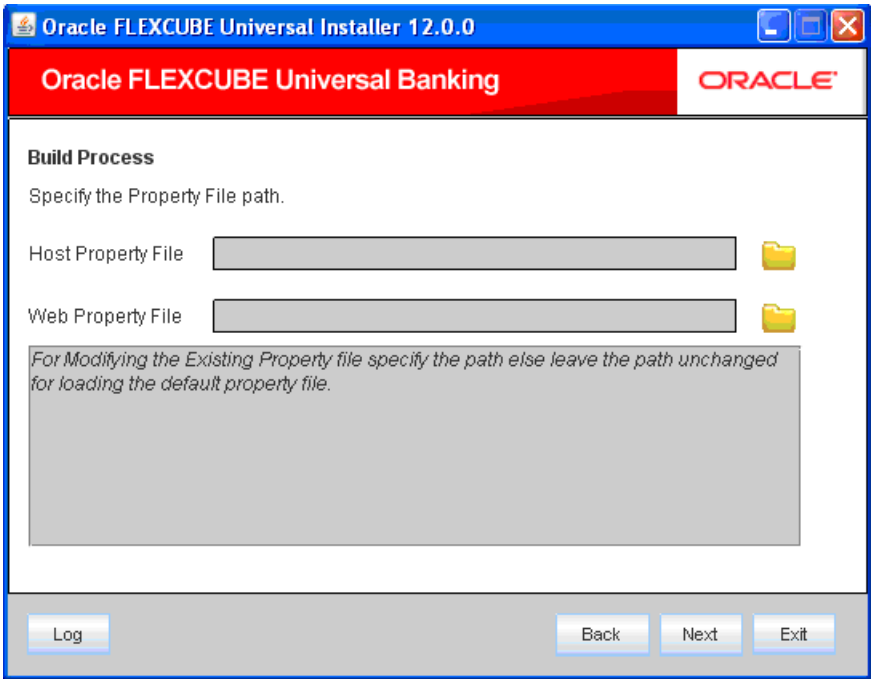
The property file needs to be built before the EAR file. If you are creating a new property file, leave the field blank. If you wish to modify an existing property file, you can manually specify the location of the property file.

It is mandatory to load the property file. If you do not load a property file, the installer will display the following error message:



You need to load the property file to continue.

13. Click ‘Next’ to continue. The following screen is displayed.



14. specify the following details:

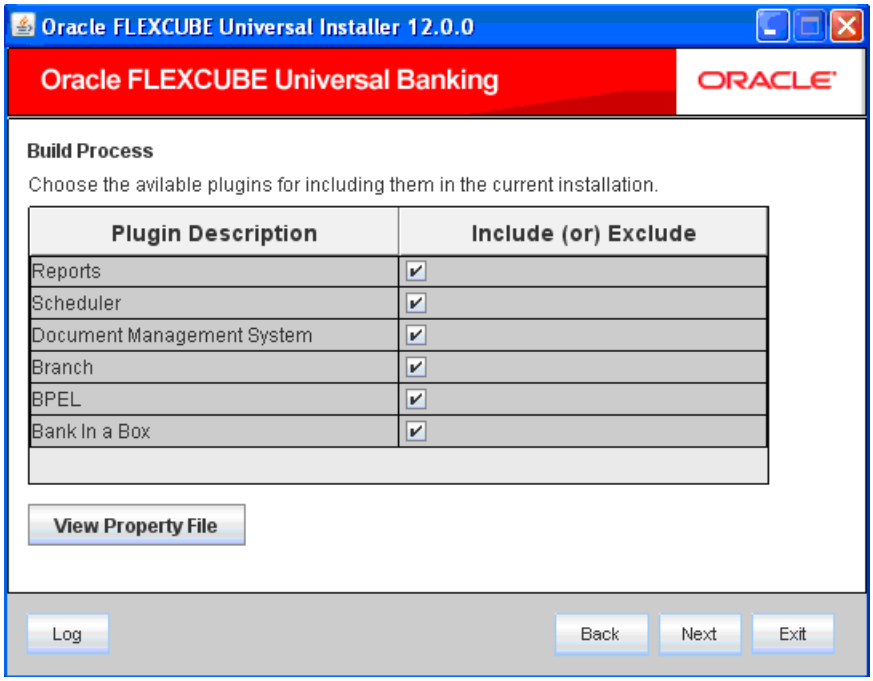
Host Property File

If you are creating a new property file, you can leave this field blank. However, if you wish to modify an existing property file, specify the location. You can use the directory button to browser and select the directory.

Web Property File

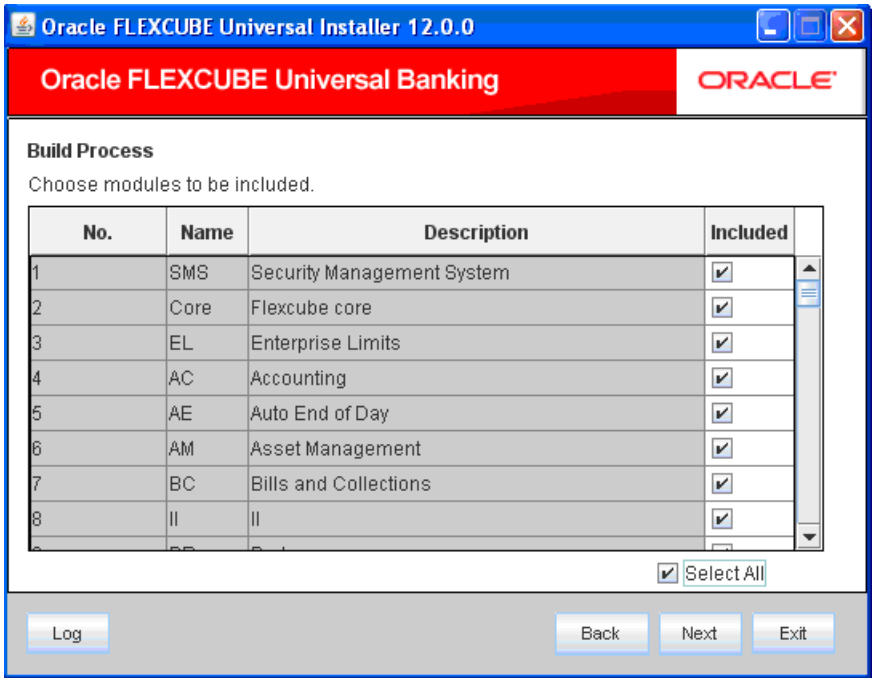
If you are creating a new property file, you can leave this field blank. However, if you wish to modify an existing property file, specify the location. You can use the directory button to browser and select the directory.

15. Once you have specified the details, click ‘Next’ button.



16. You need to select the plug-ins to be included in the installation. Check the box against the required plug-ins.

17. Click ‘Next’ to continue. The following screen is displayed.



18. Select the modules to be included.
    On including the modules, the Installer copies the following files from source folder to the destination folder if the module is available in the MAIN folder of the Source Directory.

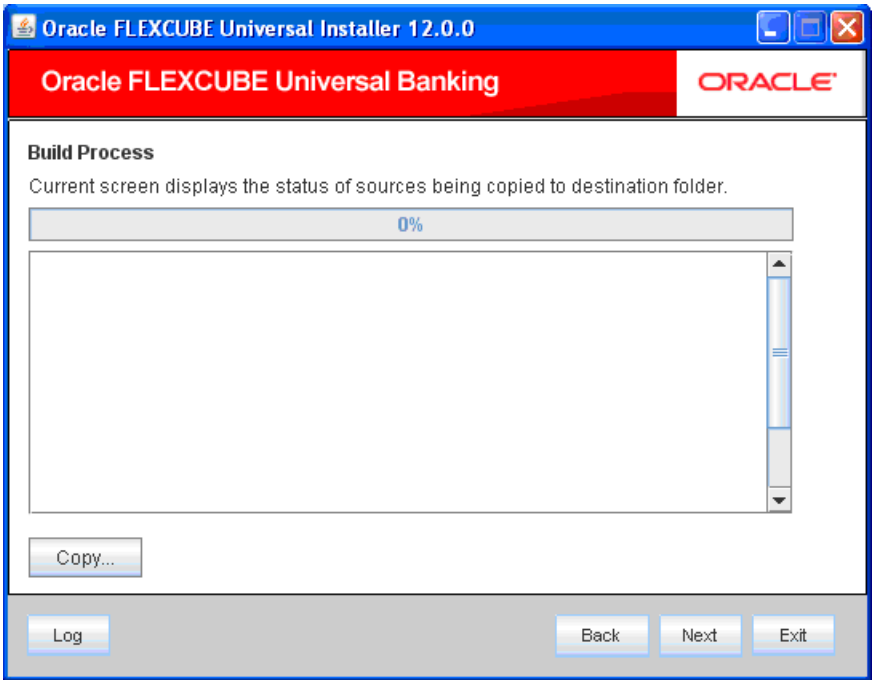
- All the JS files from MAIN/<Module>/JS to the folder INFRA/FCJNeoWeb/WebContent/Script/JS in the destination directory
- All the XML files from MAIN/<Module>/ UIXML/ENG/ to the folder INFRA/FCJNeoWeb/WebContent/UIXML/ENG in the destination directory
- All the files from MAIN/<Module>/ Advice to the folder INFRA/FCJNeoWeb/WebContent/Advice in the destination directory

If the Main folder is not copied to the Source Directory, then, after deployment of EAR file, you need to manually copy these files into the deployed location.

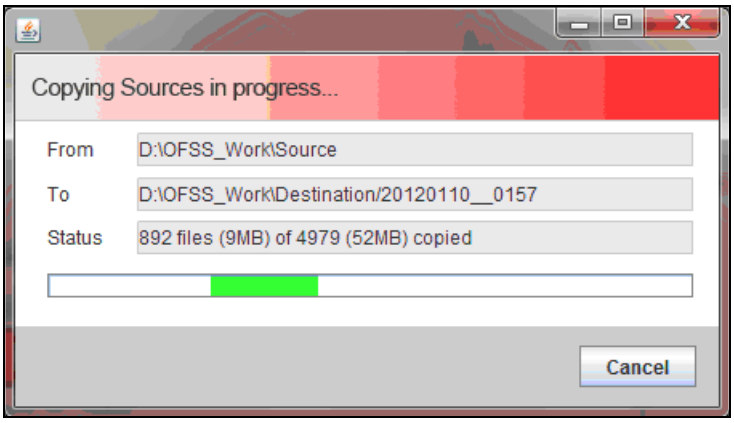
Note the following:

- For decentralized setup, you need to select the BRANCH module only. The Branch related units will be copied to the .war file.
- In EXEC mode installation, the Installer will copy all the modules. The above screen is not displayed in that case. In SOFT mode installation, you can choose the modules from the above screen.
- The modules CORE, SMS and EL are default. If you do not select any of these, the Installer will display an override message. You can proceed on confirming.

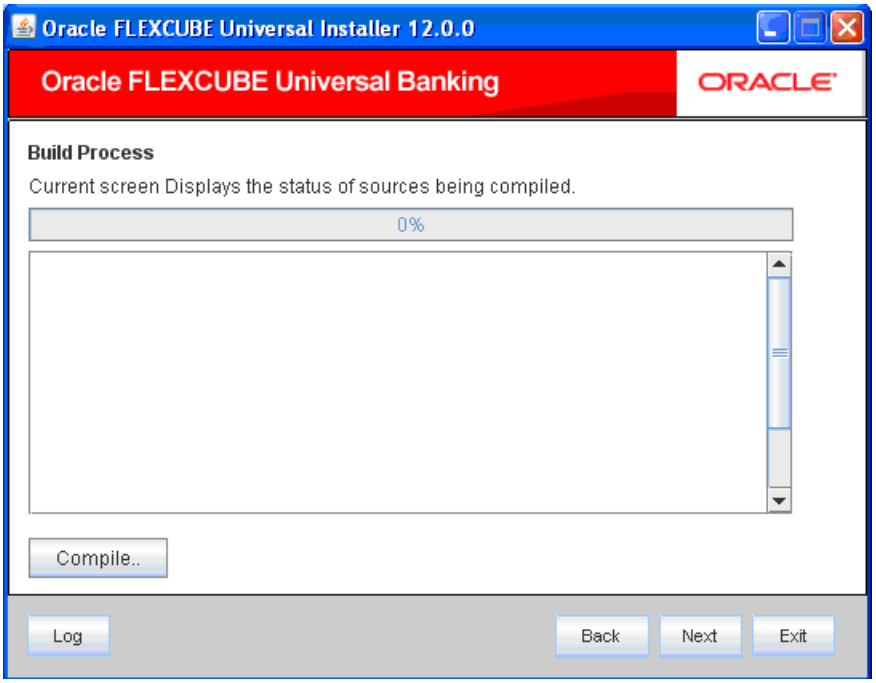
19. Click ‘Next’. The Oracle FLEXCUBE Installer copies the files to the destination folder.



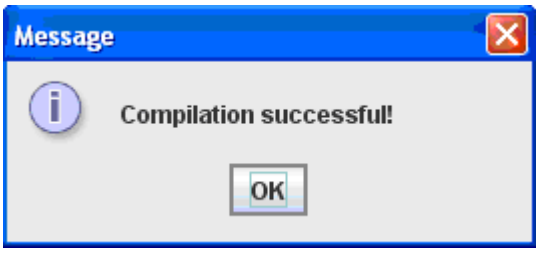
20. You can view the status of the copy process in the following screen.



21. Once the files are copied, the installer starts compiling the sources. You can view the status of the compilation process in the following screen.

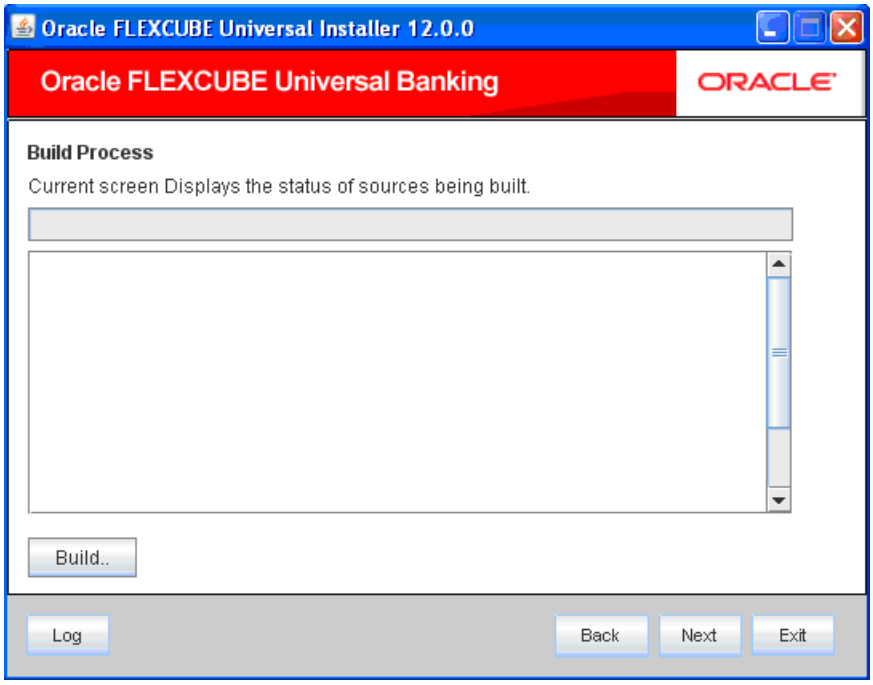


22. The following message is displayed after successful compilation.

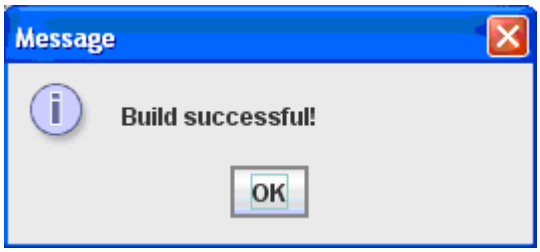


23. The Installer starts building the EAR/WAR files after compilation.

    While copying the sources, the Installer copies all the plug-ins whether you have selected them or not. At this stage, the installer deletes the plug-ins that are not selected.



24. The Installer creates the EAR/WAR files in the destination directory. After successful build process, the following message is displayed.



The EAR file will be available in selected EAR file location. If you have opted for BPEL, then FCBPELCIS.jar file will also be available in the EAR file location.

In case of decentralized or hybrid setup, EAR files for the Host and WAR file for the Branch will be available in EAR file location.

2. Pre-Deployment Tasks

2.1 Introduction

You need to carry out certain tasks manually before Oracle FLEXCUBE deployment. This chapter details out the pre-deployment tasks based on the on the selected plug-ins.

2.2 Integrating Oracle FLEXCUBE UBS and BPEL

If you have created the EAR file with BPEL as a plug-in, then along with the Oracle FLEXCUBE UBS EAR file, the Installer creates 'FCBPELCIS.jar' file. You need to complete the following tasks before deploying Oracle FLEXCUBE UBS EAR file.

2.2.1 Configuring JPS

For configuring JPS, you need to follow the steps given below:

1. Go to the location – '<ORACLE_HOME>\Middleware\user_projects\domains\<Domain_created>\config\fmwconfig'

   Open 'jps-config.xml' file. Search for '<serviceProviders>' tag and add the following code between '<serviceProviders>' and '</serviceProviders>' tags.

   ```
   <serviceProvider
   class="com.ofss.fcc.bpel.security.jps.service.FCIdentityServiceProvider"
   name="idstore.db.provider" type="IDENTITY_STORE">

   <description>DB IdentityStore Provider</description>

   </serviceProvider>
   ```

   Similarly, Search for '<serviceInstances>' tag and add the following code between '<serviceInstances>' and '</serviceInstances>' tags.

   ```
   <serviceInstance provider="idstore.db.provider" name="idstore.db">

       <property value="flexcube" name="subscriber.name"/>

       <property value="jdbc/fcjdevDS" name="datasource"/>

   </serviceInstance>
   ```

   Note: Make sure that the JNDI (jdbc/fcjdevDS) matches the value given during property file creation.

   Search for '<jpsContexts default="default">' tag and add the following code between '<jpsContexts default="default">' and '</jpsContexts>', preferably after the default 'jpsContext'.

   ```
   <jpsContext name="flex">

               <serviceInstanceRef ref="credstore"/>
   ```

<serviceInstanceRef ref="keystore"/>

<serviceInstanceRef ref="policystore.xml"/>

<serviceInstanceRef ref="audit"/>

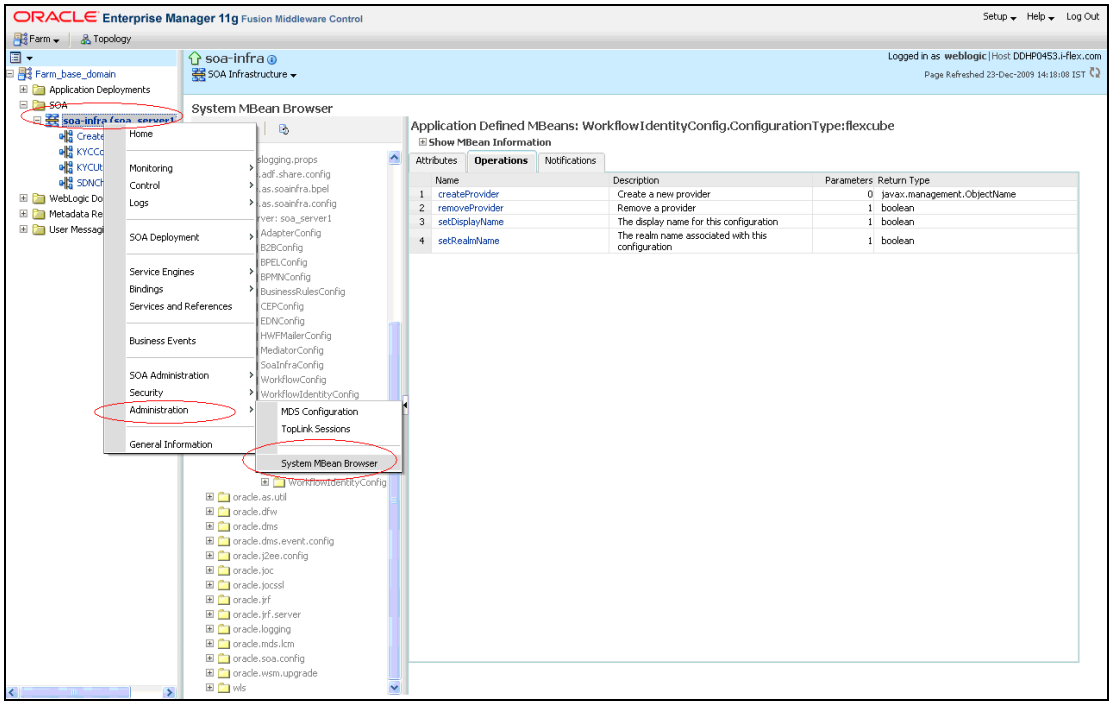
<serviceInstanceRef ref="idstore.db"/>

</jpsContext>

2.2.2 Configuring Work Flow Identity

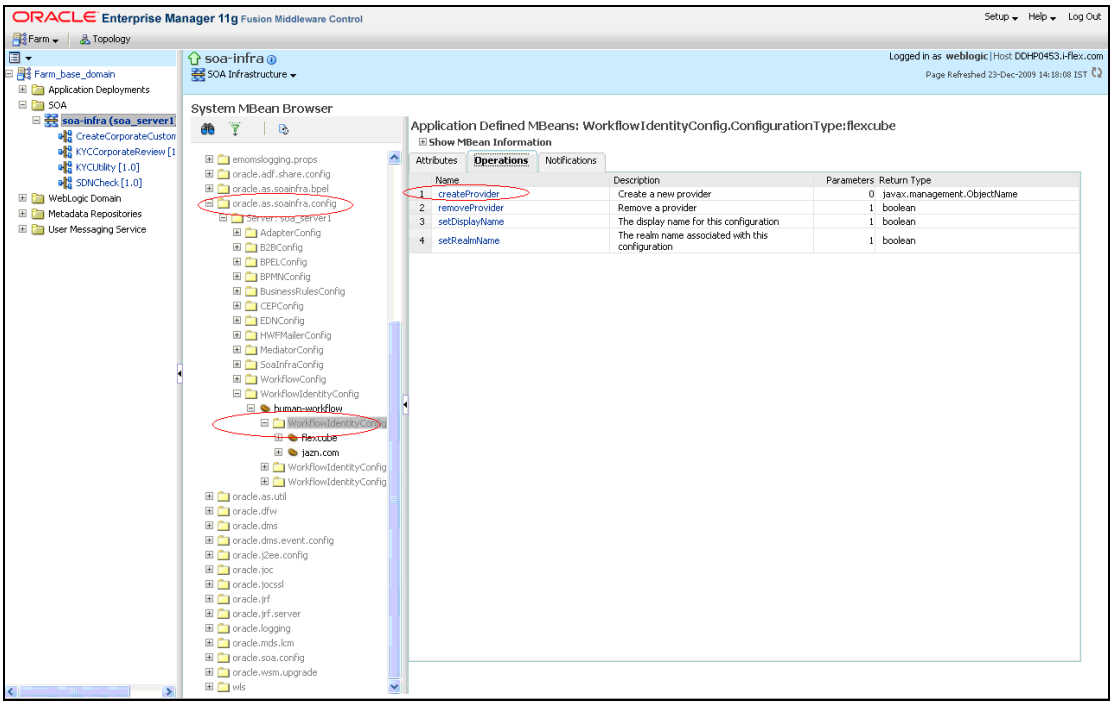
You need to configure the workflow identity details from Enterprise Manager Console of the SOA. To configure workflow identity details, follow the steps given below.

1. Login to EM Console. Expand the SOA.

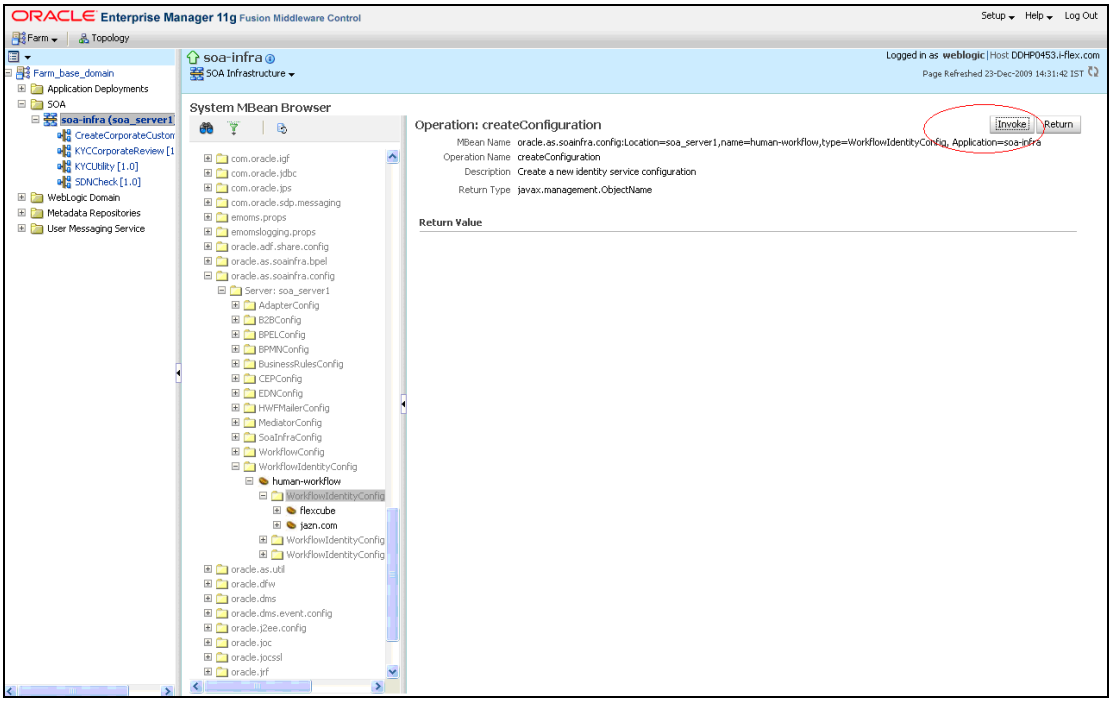


Right click ‘soa-infra(soa-server1)’, choose ‘Administration’ and click ‘System MBean Browser’ under it.

2. Further, under System MBean Browser, go to ‘oracle.as.soainfra.config > Server: soa_server1 > WorkflowIdentityConfig > human-workflow’.



3. Under the ‘Operations’ tab, choose ‘createProvider’ option. The following screen is displayed.

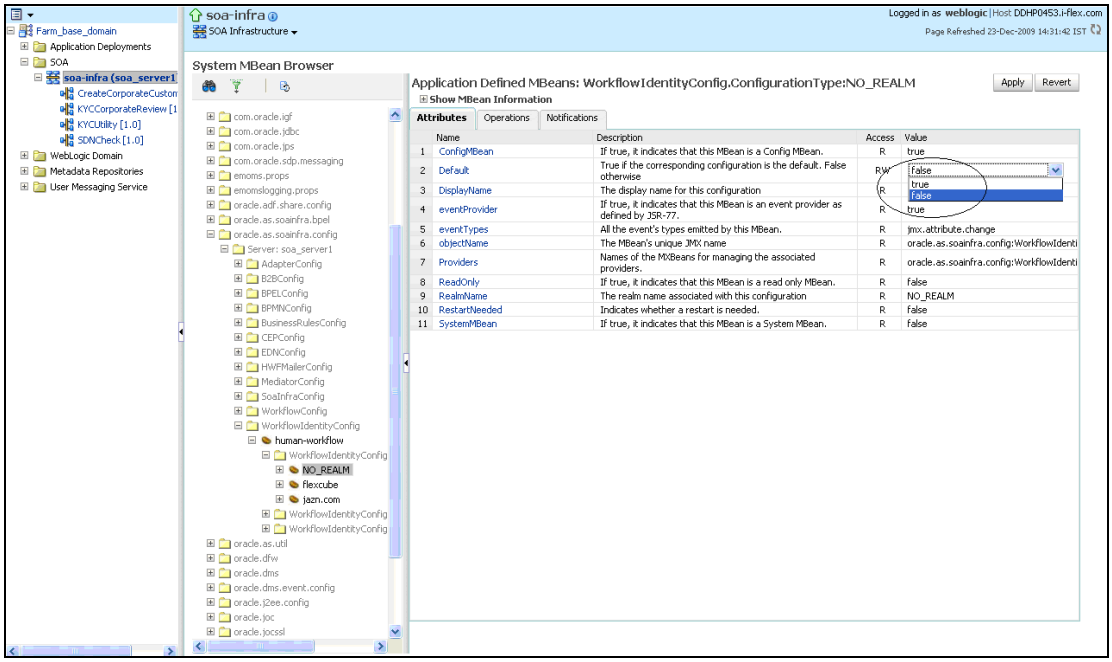


4. Click ‘Invoke’ button. The SOA displays the following confirmation message.

Confirmation

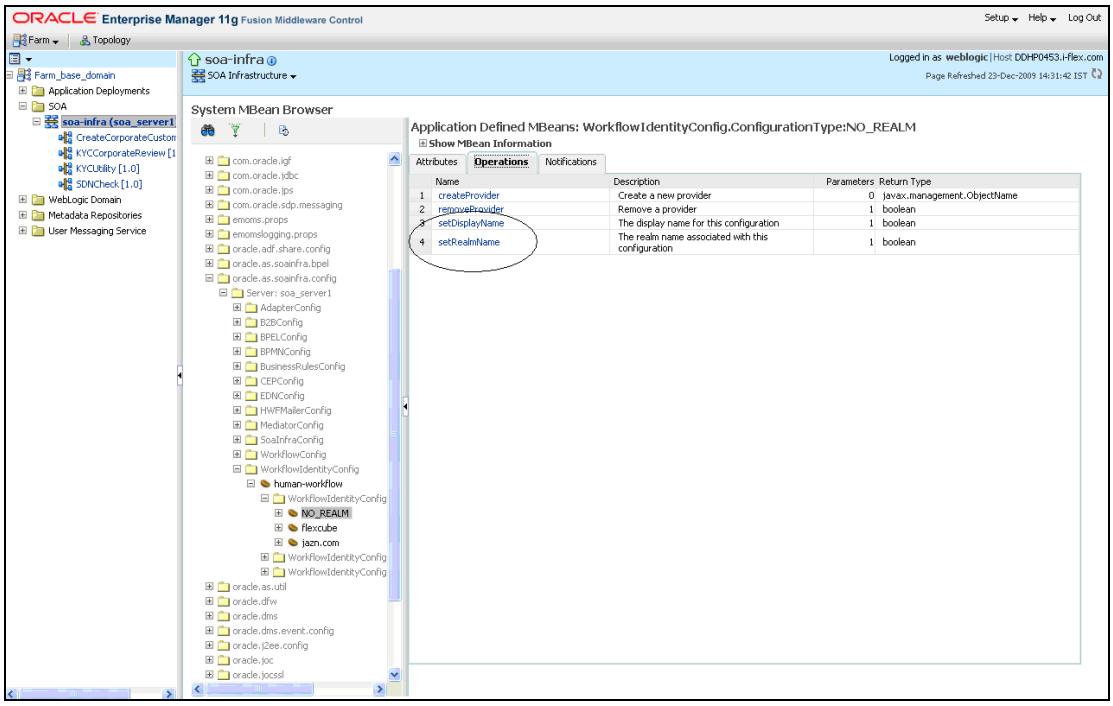
Operation executed successfully.

5. Refresh ‘MBean’ browser. Go to ‘WorkflowIdentityConfig.ConfigurationType’ under ‘human-workflow’.

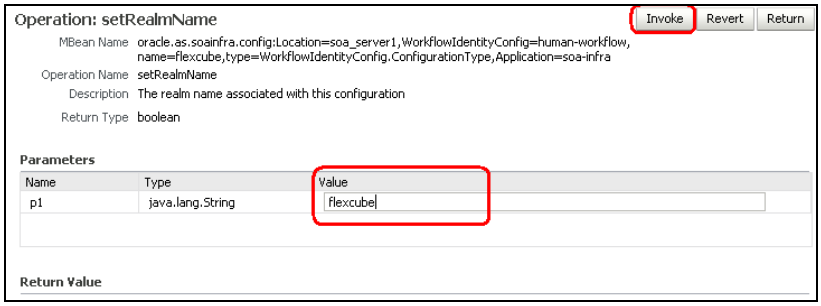


6. Click ‘NO_REALM’. On the right side, select ‘Attributes’ tab and change the value of ‘Default’ from NO_REALM to ‘true’.

7. Further, under the ‘Operations’ tab, click ‘setRealmName’.



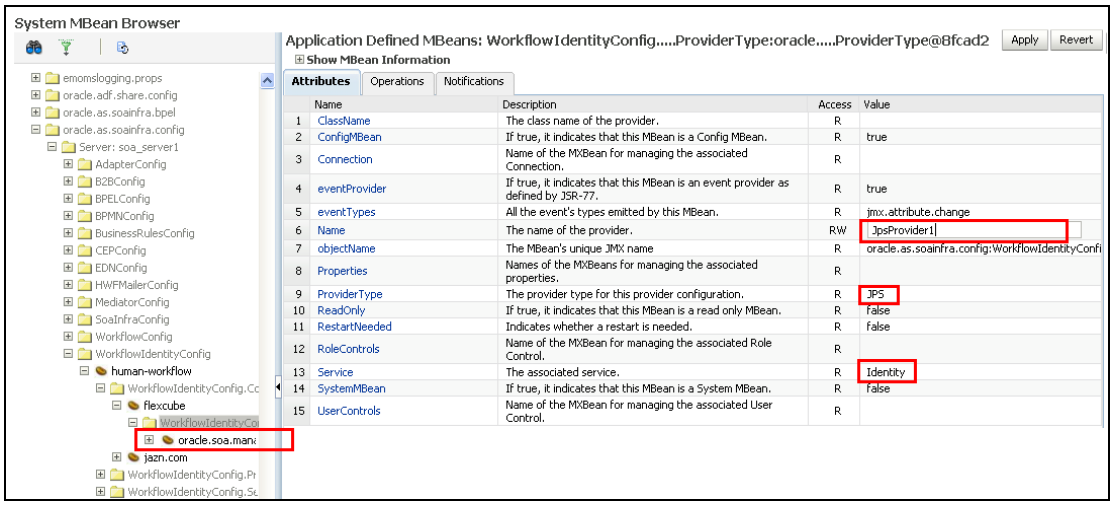
The following screen is displayed:



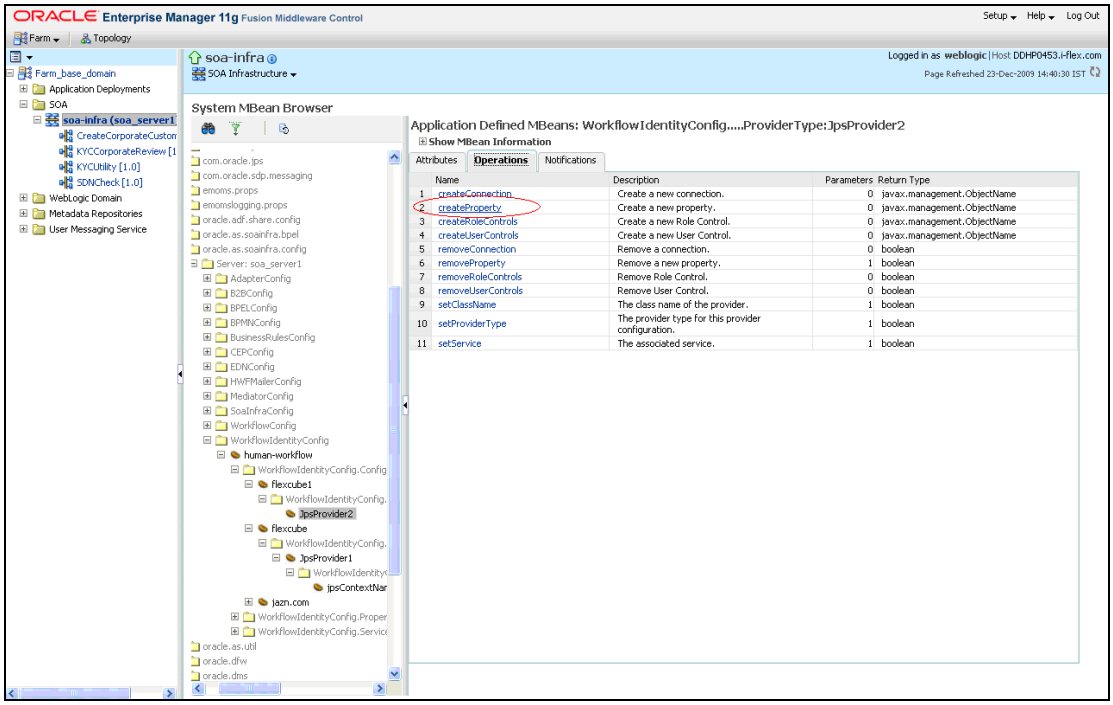
8. Specify the value of the parameter as ‘flexcube’ and click ‘Invoke’ button.

9. Refresh the ‘MBean’ browser. Go to flexcube > WorkflowIdentityConfig.ConfigurationType.ProviderType > oracle.soa.management.config.identity.ProviderType@.... Under the ‘Attributes’ tab, you need to make sure that the values of the following attributes are as per the table below:

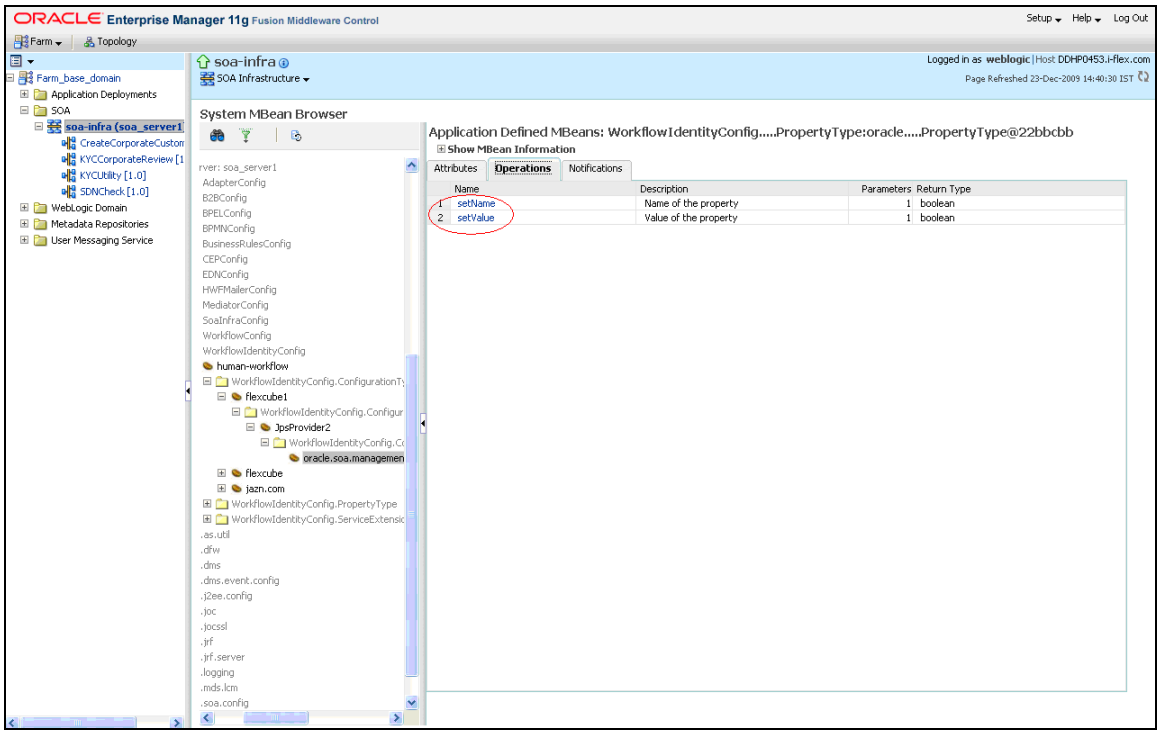
Attribute	**Value**
Name	JpsProvider1
PropertyType	JPS
Service	Identity



10. Under ‘Operations’ tab, select the operation ‘CreateProperty’ and click ‘Invoke’ button. A new Property is created under ‘JpsProvider1’.



11. Select the new property and change its Name and Value.

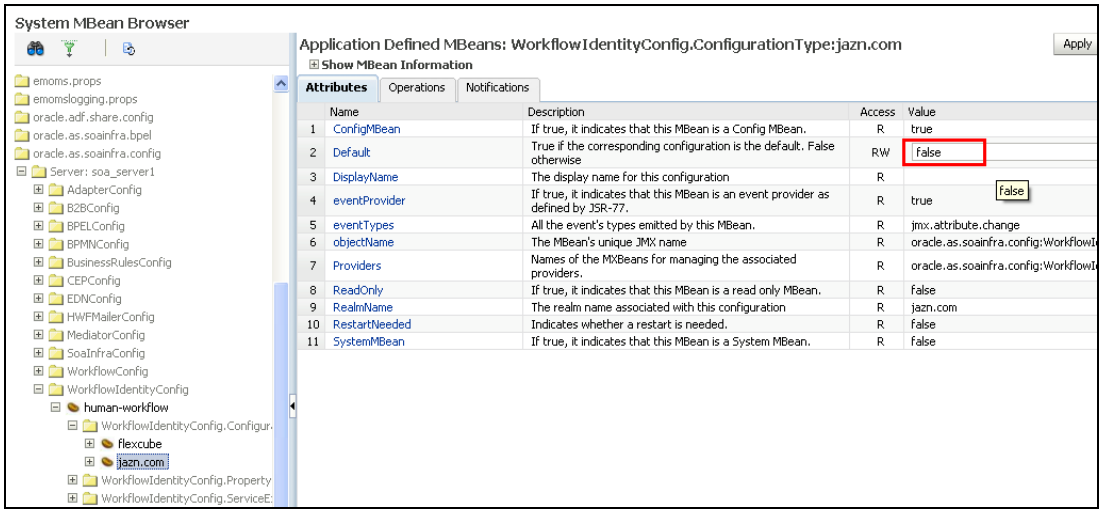


You can use the options ‘setName’ and ‘setValue’ to update the name and value. Change the name and value as per the following table.

Name	**Value**
jpsContextName	flex

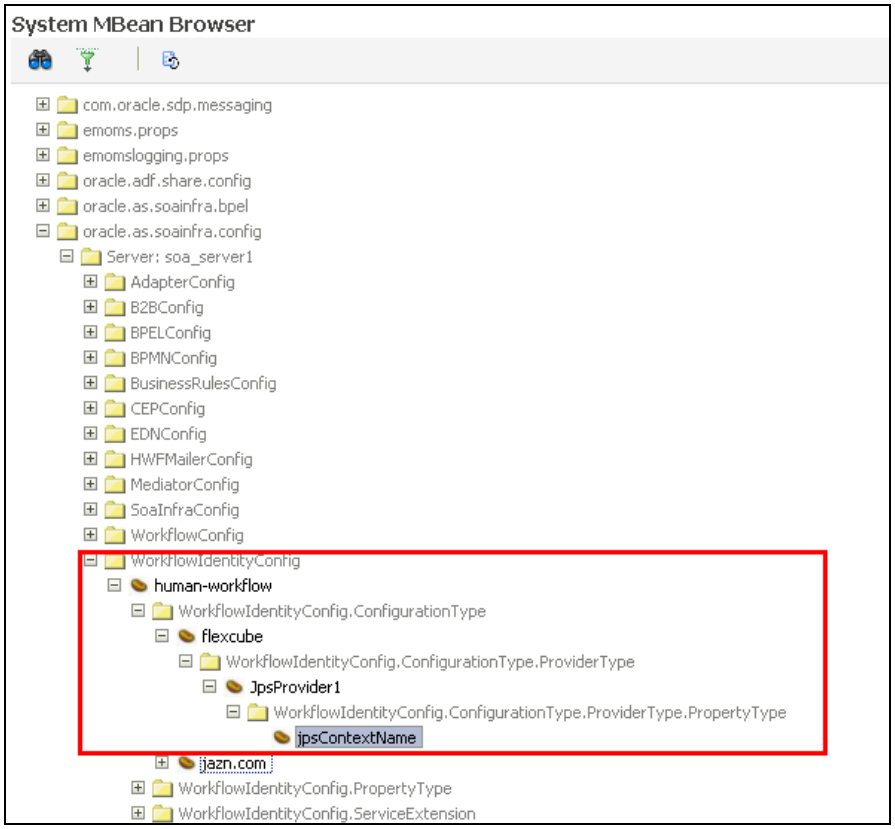
Note: the value ‘flex’ should match the value given for ‘jpsContext’ during JPS configuration.

12. From the ‘System MBean Browser’ select ‘jazn.com’.

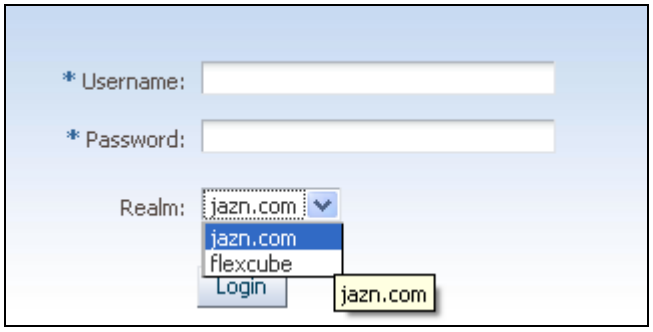


13. Under ‘Attributes’ tab, change the value of the attribute ‘Default’ to ‘false’.

14. Now, restart the Weblogic and SOA servers. After restarting the servers, make sure the structure is as follows.



15. Launch the 'SOA Worklist App' using the following URL:
http://(IP_Address):(soa_server-port_no)/integration/worklistapp
You will get the login page.



16. Under Realm, the drop-down list should show the options 'flexcube' and 'jazn.com'. Verify the details.

2.2.3 Configuring CIS

You need to configure the CIS details. Follow the steps given below:

1. Along with the Oracle FLEXCUBE UBS EAR file, the Installer creates 'BPELCIS.jar' file.

2. Open ‘BPELCIS.jar’ file. Further, open ‘CIS.Properties’ file available under the folder ‘com\ofss\fcc\bpel\cac’.
3. Set the value ‘JNDI.name’ to the JNDI name given during Property file creation.
4. The ‘BPELCIS.jar’ file will be placed in the server at ‘<MIDDLEWARE_HOME>Oracle_SOA1\soa\modules\oracle.soa.ext_11.1.x’.
5. Run the command ‘ant’ from ‘<MIDDLEWARE_HOME>Oracle_SOA1\soa\modules\oracle.soa.ext_11.1.1’. This command uploads the entry of ‘FCBPELCIS.jar’ in ‘oracle.soa.ext.jar’.
6. Once the above steps are completed, restart the server.

2.3 Integrating Oracle FLEXCUBE UBS and Scheduler

Before deploying the Oracle FLEXCUBE UBS EAR file, you need to carry out the following tasks.

2.3.1 Running Backend Scripts

You need to compile certain tables pertaining to Scheduler in the schema to which the Application points. The version of Quartz to be used depends on the Managed Server. If the Application is being deployed on a Managed Server which is SOA, then you need to use Quartz 1.6.0. In other cases, you may compile Quartz 1.4.4 scripts.

Follow the steps given below:

1. Download Quartz1.6.6.zip file from the following URL: http://www.quartz-scheduler.org/download/download-catalog.html
2. Extract the zip file.
3. Open the folder ‘Quartz-1.6.6\docs\dbTables’ folder and run ‘tables_oracle.sql’ (this is specific to Oracle Database) in the schema.

2.4 Integrating Oracle FLEXCUBE UBS and BIP Reports

You can integrate Oracle FLEXCUBE UBS and BIP reports. The details are available in the chapter ‘BIP Web Service Reports’.

2.4.1 Deploying Application Through Application Server’s Admin Console

Deployment from WebLogic Administration Console

You can find the details pertaining to the deployment of Application using WebLogic Administration Console in the chapter ‘Deploying Oracle FLEXCUBE Application on WebLogic’.

2.5 Integrating Oracle FLEXCUBE UBS and MBean

In order to integrate Oracle FLEXCUBE UBS and MBean, you need to follow the below steps before deploying the Oracle FLEXCUBE UBS EAR file created with MBean as a Plugin.

2.5.1 Startup Script Modification

By default, the TopLink used in MBean uses Oracle xml parser internally. However, WebLogic Server has to use JAXPlatform.

To change the system property, follow the steps given below:

1. Go to the WebLogic domain home folder.
2. Based on the operating system used, open 'startWebLogic.cmd' or 'startWebLogic.sh' from the folder 'bin'.
3. Search for 'WLS_REDIRECT_LOG'. After '%JAVA_OPTIONS%' add the following code under 'if' and 'else' conditions.

   "-Dtoplink.xml.platform=oracle.toplink.platform.xml.jaxp.JAXPPlatform"

   Now, the details will look like this:

```
if "%WLS_REDIRECT_LOG%"=="" (

   echo Starting WLS with line:

   echo %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% -
Dweblogic.Name=%SERVER_NAME% -
Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
%JAVA_OPTIONS% %PROXY_SETTINGS% %SERVER_CLASS%

   %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% -
Dweblogic.Name=%SERVER_NAME% -
Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
%JAVA_OPTIONS% -
Dtoplink.xml.platform=oracle.toplink.platform.xml.jaxp.JAXPPla
tform %PROXY_SETTINGS% %SERVER_CLASS%

) else (

   echo Redirecting output from WLS window to
%WLS_REDIRECT_LOG%

   %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% -
Dweblogic.Name=%SERVER_NAME% -
Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
%JAVA_OPTIONS% -
Dtoplink.xml.platform=oracle.toplink.platform.xml.jaxp.JAXPPla
tform %PROXY_SETTINGS% %SERVER_CLASS%  >"%WLS_REDIRECT_LOG%"
2>&1

)
```

25. Restart the WebLogic server.

3. Loading ELCM POJO JAR Files

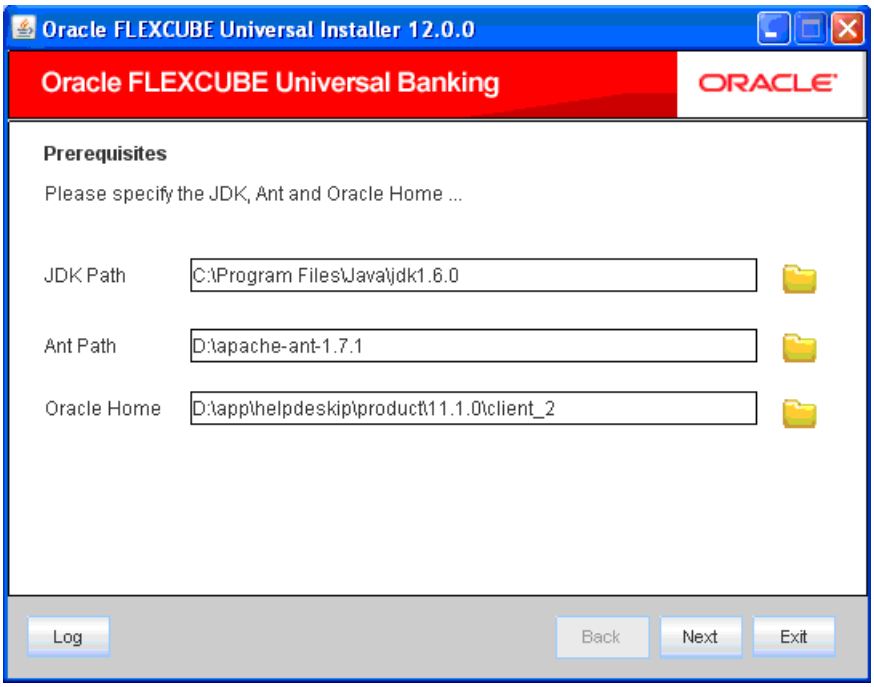
3.1 Introduction

This section explains the process of creation of ELCM POJO JAR files and the methods to load the same into the database.

3.2 Creating JAR Files

To create the JAR files for ELCM POJO, follow the steps given below.

1. Double-click 'FCUBSInstaller.bat' batch file to launch Oracle FLEXCUBE Universal Installer. The following screen is displayed.



2. Specify the following details:

JDK Path

Specify the location of the JDK. You can use the directory button to browse to the JDK location.

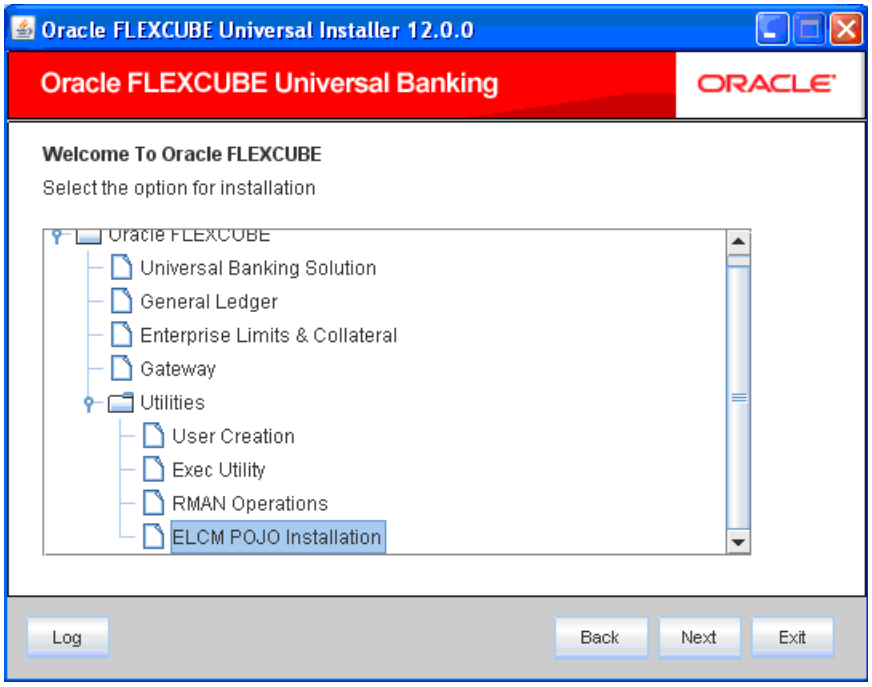
Ant Path

Specify the location of the ANT. You can use the directory button to browse to the ANT location.

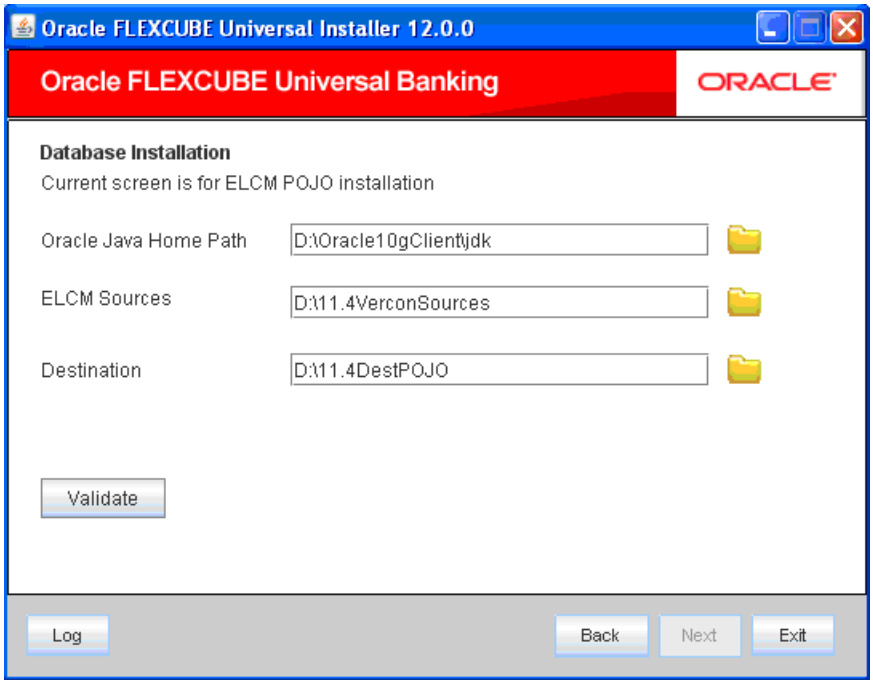
Oracle Home

Specify the location of the Oracle Home installation. You can use the directory button to browse to the location.

3. Click 'Next' to proceed. The following screen is displayed.



4. Select ‘ELCM POJO Installation’ under ‘Utilities’. The following screen is displayed.

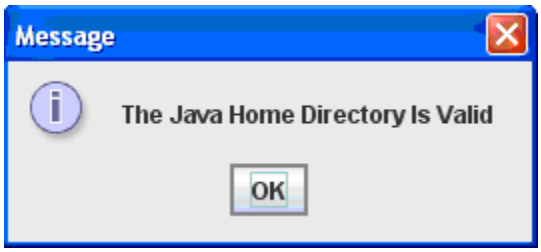


5. Specify the following details:

Oracle Java Home Path

Specify the location of Oracle Java Home. You can use the directory icon to browse and select a directory.

The Installer will verify this against the configuration file which contains the Oracle FLEXCUBE qualified versions. In case of any mismatch, the following screen is displayed.



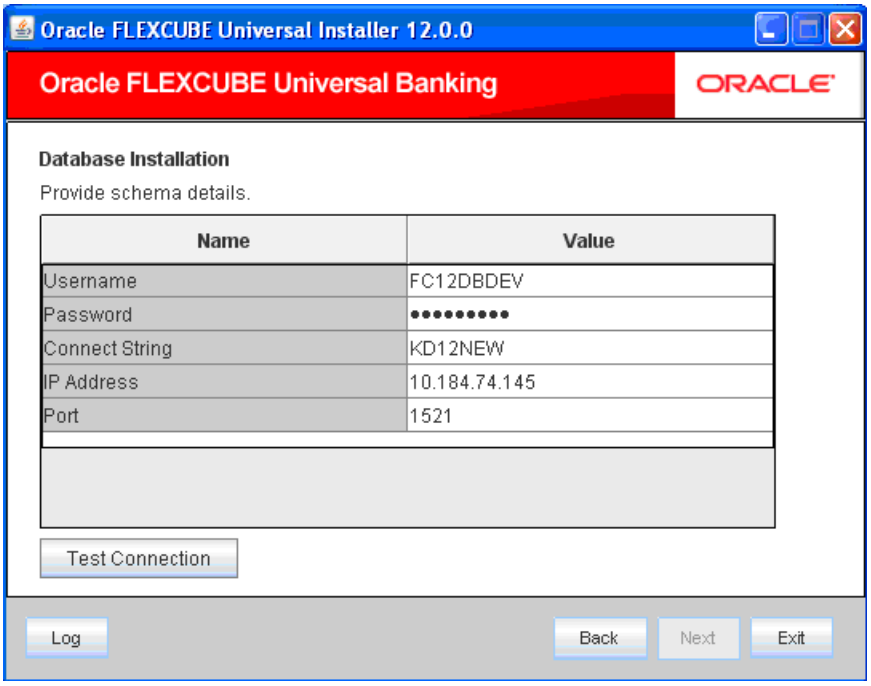
ELCM Sources

Specify the ELCM source directory. You can use the directory icon to browse and select a directory.

Destination

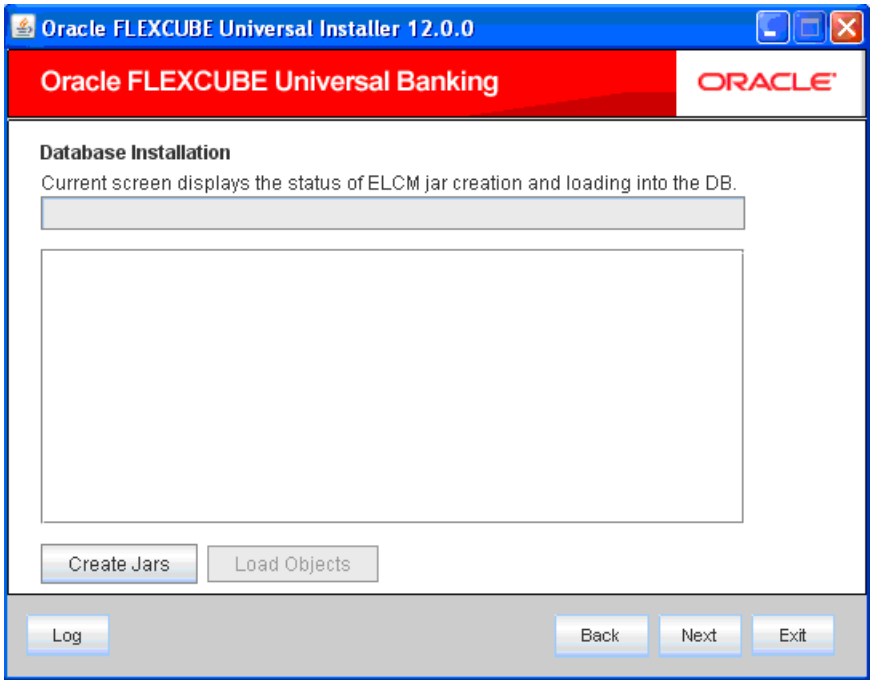
Specify the destination directory. You can use the directory icon to browse and select a directory.

6. Once you have specified the above details, click ‘Next’. The following screen is displayed.

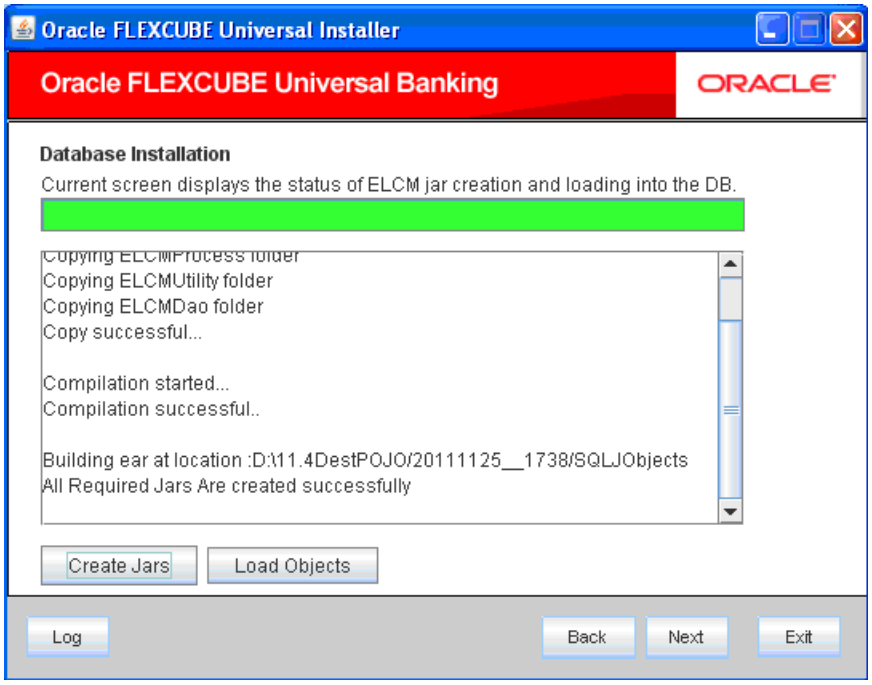


7. Specify the following details:
   - Schema User Name
   - Schema Password
   - Connect String
   - IP Address
   - Port

8. Click ‘Next’. The following screen is displayed.



9. Click ‘Create Jars’ button to start the process of JAR file creation. The Installer creates the ELCM JAR files. Once the files are created, the following screen is displayed.



10. Click ‘Load Objects’ button to load the JAR files into the database. The Installer will load the JAR files into the database and confirm.

This completes the process of creation of JAR files for ELCM.

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