Oracle FLEXCUBE Direct Banking Mobile Enabler

Installation Manual On

Weblogic Application Server

Release 12.0.3.0.0

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Preface

1.1   Intended Audience

This document is primarily targeted at

- Oracle FLEXCUBE Direct Banking Development Teams
- Oracle FLEXCUBE Direct Banking Implementation Teams
- Oracle FLEXCUBE Direct Banking Implementation Partners

1.2 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

1.3   Access to OFSS Support

https://support.us.oracle.com

1.4 Structure

This manual is organized into the following categories:

Preface gives information on the intended audience. It also describes the overall structure of the User Manual

Abbreviations provides details of abbreviations used in document.

Application server configuration explains deployment and configuration of Oracle FLEXCUBE Direct Banking ME

1.5 Related Information Sources

For more information on Oracle FLEXCUBE Direct Banking Release 12.0.3.0.0, refer to the following documents:

Oracle FLEXCUBE Direct Banking Licensing Guide

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2. Abbreviations

FCDB	Oracle FLEXCUBE Direct Banking
Java EE / JEE	Java Enterprise Edition
Java SE / JSE	Java 2 Standard Edition
DBA	Database Administrator
JDK	Java Development Kit
ME	Mobile Enabler
TGT App	Target Internet Banking Application (for e.g. 2.9.X)
App Server	Application Server

3. Pre- requisites

Oracle FLEXCUBE Direct Banking Mobile Enabler application is installed successfully using Oracle FCDB ME Installer.

4. Application Server Configuration

# a. Creating and Managing a Server Instance

i. Creating a WebLogic domain

A domain consists of one or more server instances that can be managed with a single administration server. When the administration server is used to perform a configuration task, the changes made apply only to the domain managed by that administration server. To manage another domain, the administration server for that domain must be used.

Through Wizard:

1. Go to Start Menu →Oracle WebLogic →WebLogic Server 11g R1 →Tools →Configuration Wizard in Windows.

Select "Create a new WebLogic Domain" and click "Next".

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic
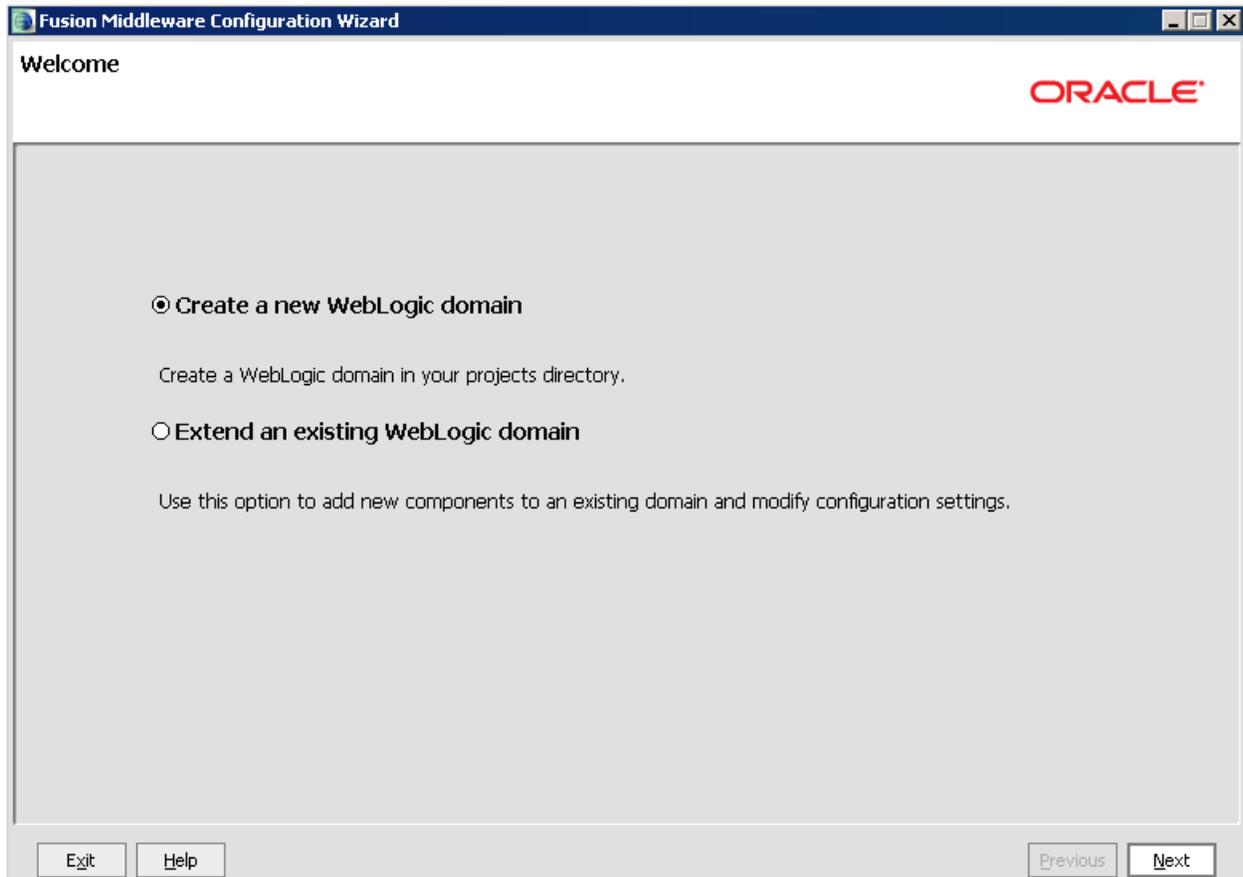
Select "Generate a domain configured automatically to support the following Products" and click "Next"

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic
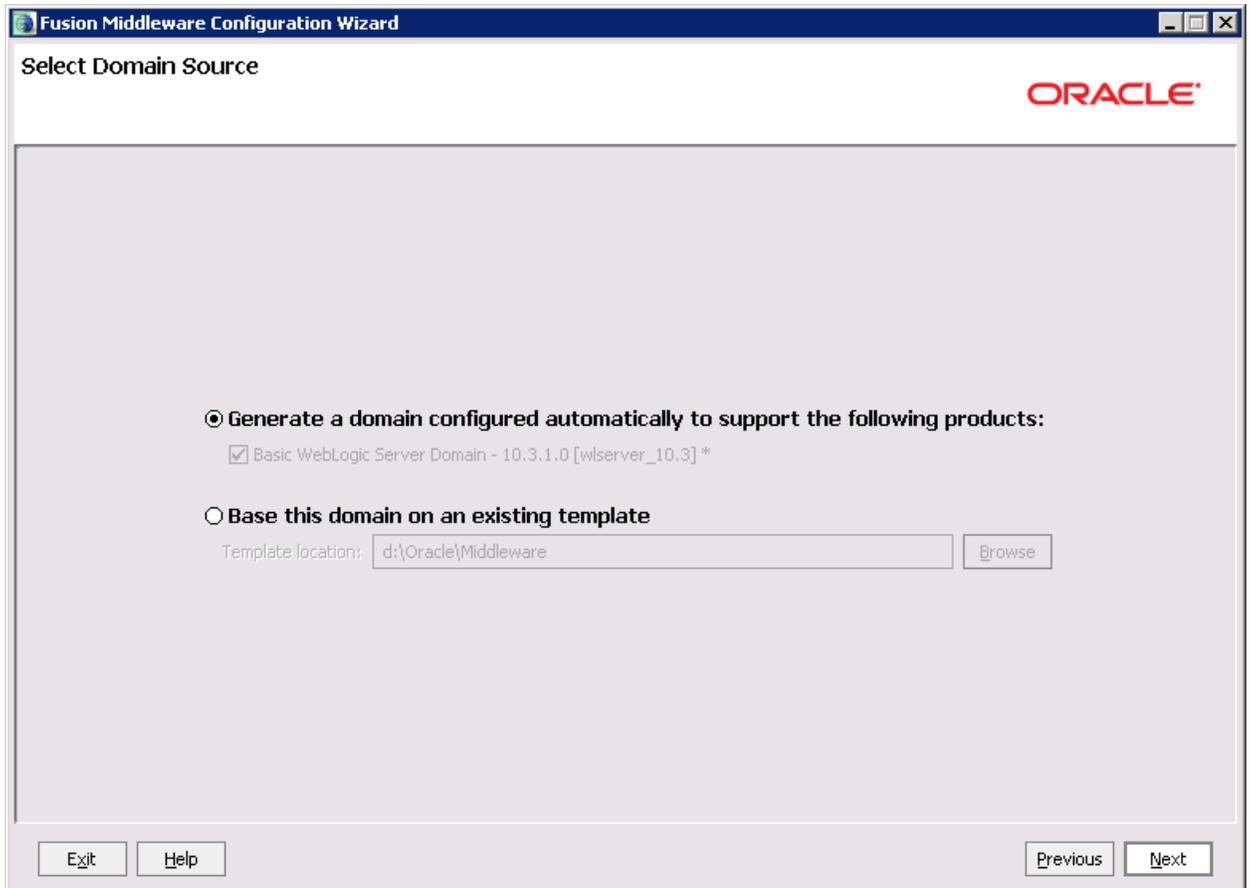
Specify Domain Name and Location

Enter the following values and click "Next"

Field	Value
User Name	*<Enter username>*
User password	*<Enter password>*
Confirm user password	*<Repeat same password>*

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Select "Development Mode" under "Web Logic Domain Startup Mode",
Select "Available JDKs" in JDK selection and select "Sun SDK 1.6.0_11" and click "Next"

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic
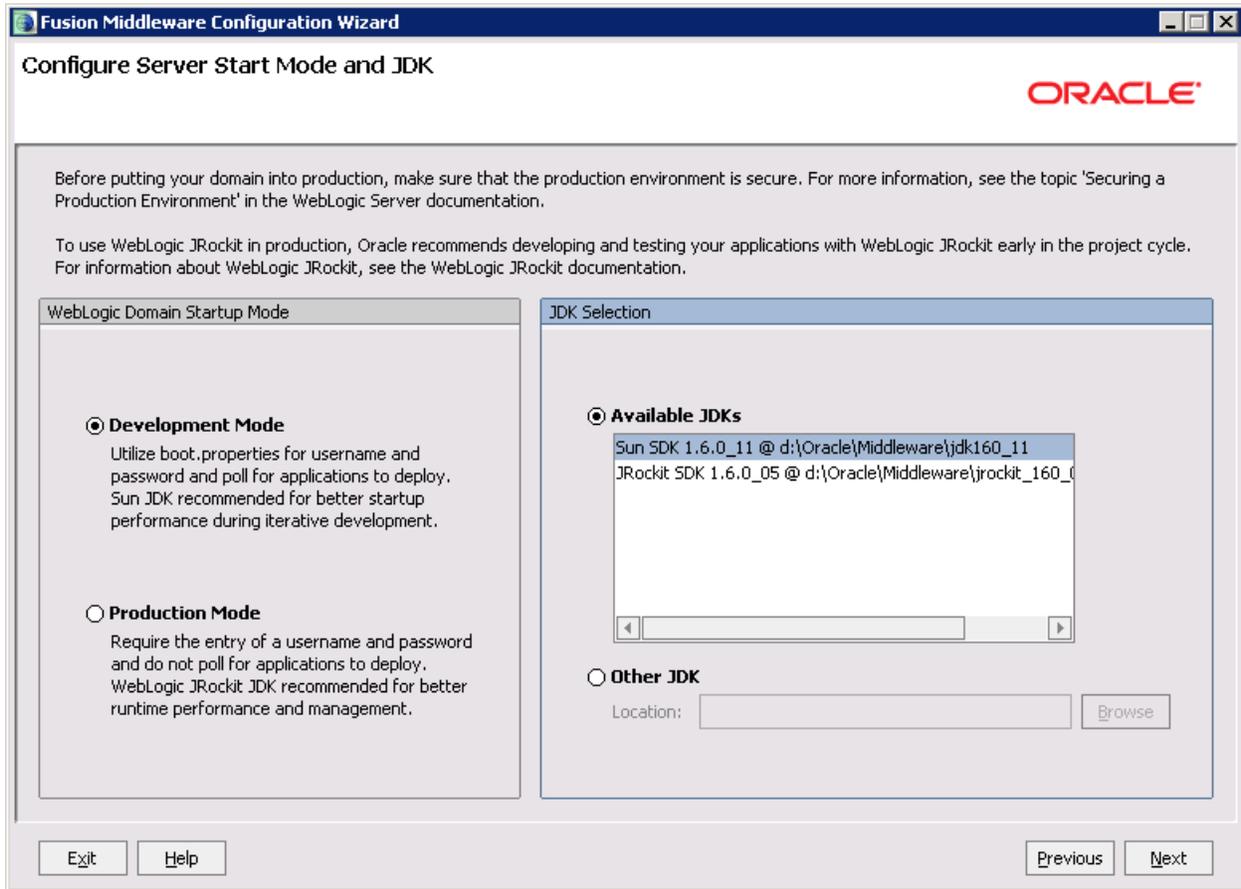
Do not select any of the check boxes and click "Next"

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic

Click on "Create"

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic
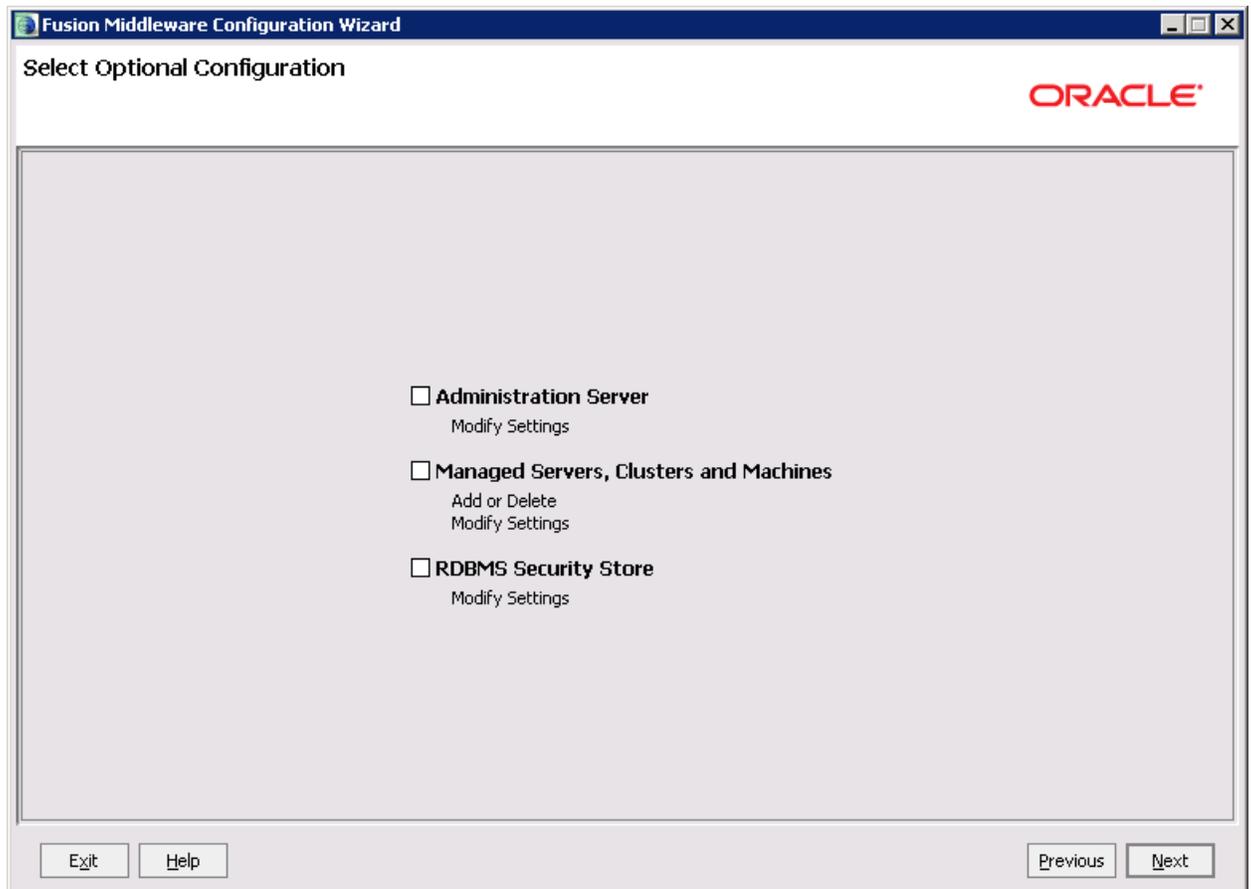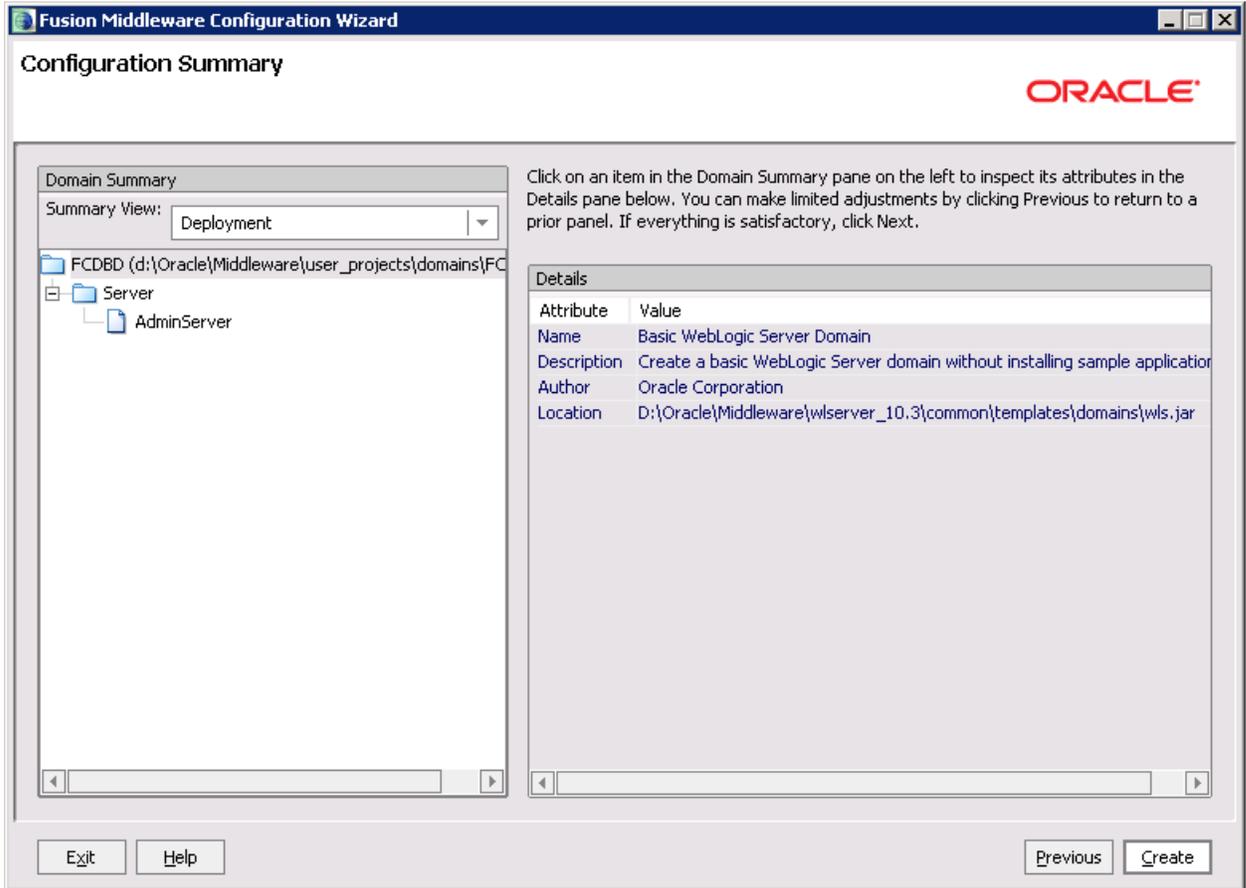
The screen displayed below show the progress

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic
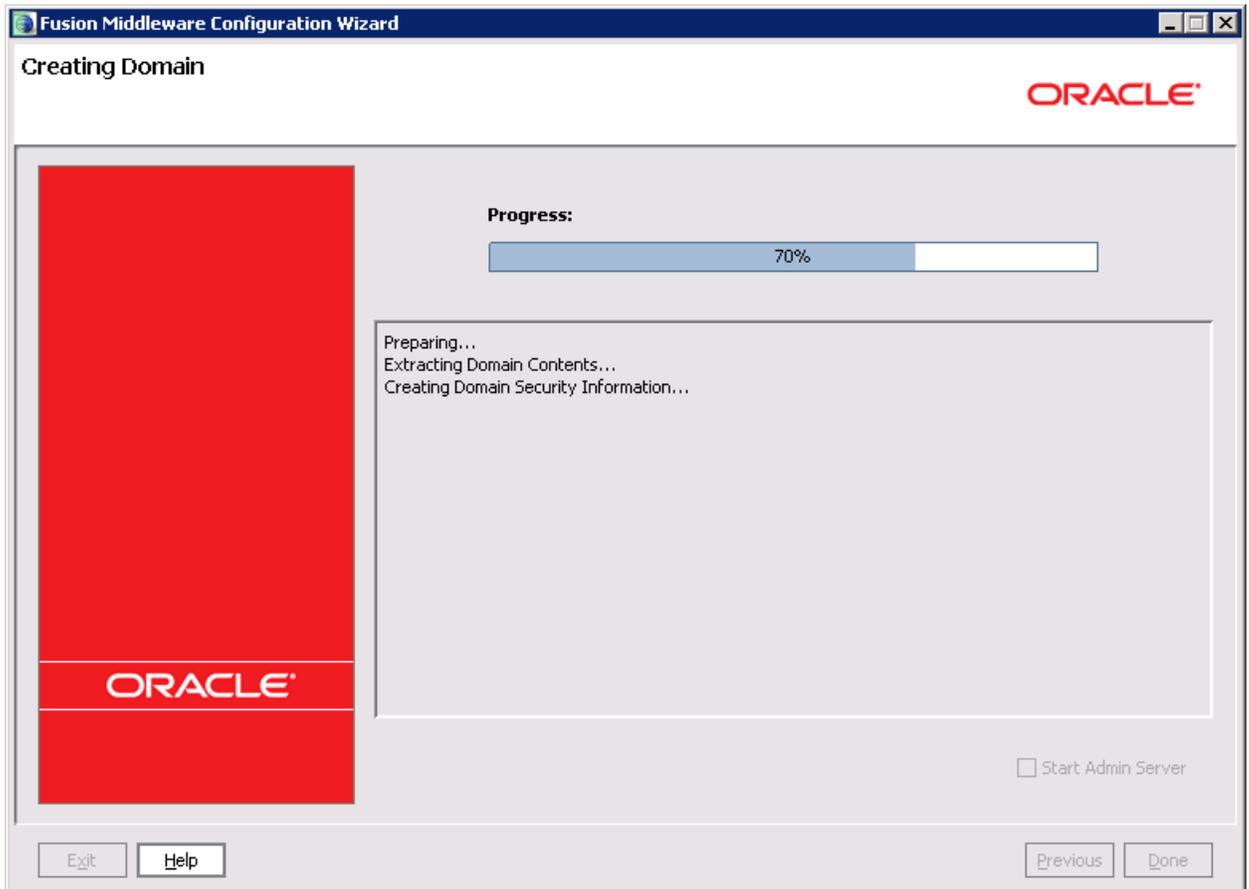
Click "Done"
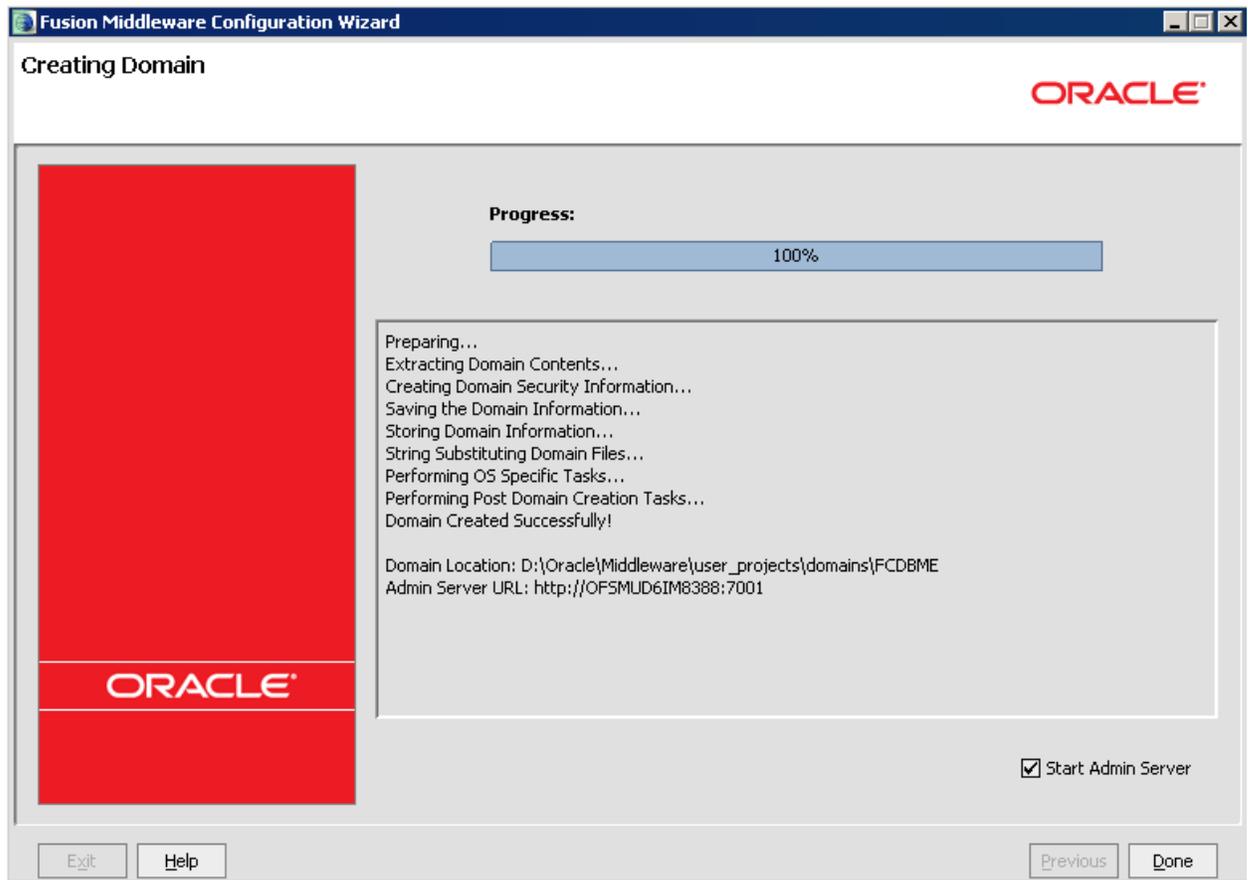
Using command prompt.

    a) Through the command prompt go to the <Bea Base Folder>/<WLS home directory>/common/bin

        e.g If the base folder is **bea** , the path will be D:\bea\wlserver_10.0\common\bin

    b) Execute the batch file inside it wlst.bat (on Windows) or wlst.sh(on Unix)

    c) The environment will be set and the prompt changes to wls:/offline>

    d) Give the following command to create the domain.

```
createDomain(domainTemplate, domainDir, user, password)
```

Argument	Definition
domainTemplate	Name and location of the domain template from which you want to create a domain.
domainDir	Name of the directory to which you want to write the domain configuration information.
user	Name of the default user.
password	Password of the default user.

For e.g.:

```
createDomain('D:/bea/wlserver_10.0/common/templates/domains/wls.jar','D:/bea/
user_projects/domains/trial', '<username>','<password>')
```

This will create a domain under the location D:/bea/user_projects/domains.

ii. BEA WebLogic server administrative console.

The Administration Console facilitates in creating, starting, suspending, resuming and stopping servers; deploying applications and other administration facilities.

1. To start the BEA WebLogic Server Administration Console in Windows ,click BEA Products →User Projects →<domain_name>

To open Administration Console, type http://<hostname OR IP>:<port>/console in browser window.

Enter User Id and Password set during domain creation and click Log In.

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic
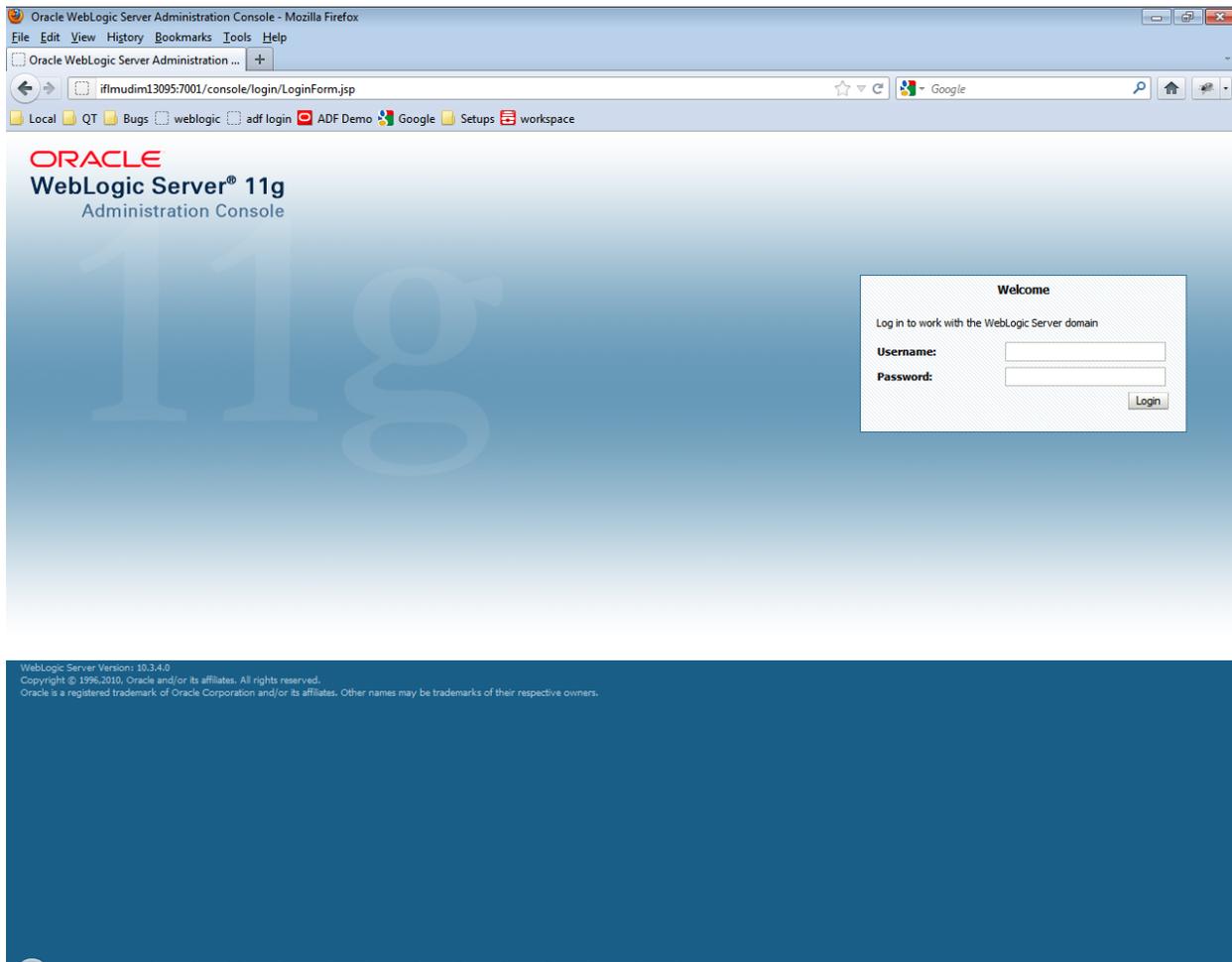
iii. Creating a Managed Server

1. In the BEA Weblogic Server Administration Console, click Environment → Servers

Click "New"

Enter the "Server Name" as "FCDBMEserver", set the Server listen Port to "*7002*" or any free port that is not in use.

Select the radio button against No; this is a stand-alone server and click "Finish"

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Server created successfully is displayed and summary of servers is shown.

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iv. Configurations to Start/Stop managed server from Administrative Console

Creating Machine

It is required to create a machine in order to Start/Suspend/Resume/Stop the Managed Servers in Weblogic using Administration Console.

1. Click Environment → Machines

Click "New" button

Enter the Name as "FCDBMEmachine" and click "Next"

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Select "Type" as "**Plain**" from the drop down list and click Finish.

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Machine created successfully message is displayed.

Click on Newly created FCDBMEmachine.

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Click Servers under the "Configuration tab.

Click Add button to add a server to machine

ORACLE WebLogic Server® Administration Console

Home Log Out Preferences Record Help   Welcome, weblogic Connected to: FCDBME

Change Center

View changes and restarts

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Domain Structure

FCDBME
  ⊞ Environment
    ─Deployments
  ⊞ Services
    ─Security Realms
  ⊞ Interoperability
  ⊞ Diagnostics

How do I... ⊟

No help task found

System Status ⊟

Health of Running Servers

	Failed (0)
	Critical (0)
	Overloaded (0)
	Warning (0)
	OK (1)

Home »Summary of Servers »Summary of Machines »**FCDBMEmachine**

Add a Server to Machine

Back Next Finish Cancel

Identify Server

Identify the server to be added

How would you like to proceed?

⦿ **Select an existing server, and associate it with this machine**

Select a server: FCDBMEserver ▾

○ **Create a new server and associate it with this machine**

Back Next Finish Cancel

Check the radio button against "Select an existing server, and associate it with this machine".
Select FCDBMEserver from the "Select a Server" drop down and click on "Finish". Server created
successfully message is displayed.

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Configuring Managed Server

1. Click on Environment➔Server in the left menu.

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Click on server name with FCDBMEserver

On General tab, please ensure that the 'SSL Listen Port Enabled' feature is enabled (as it is mandatory).

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Click on Server Start under Configuration tab.
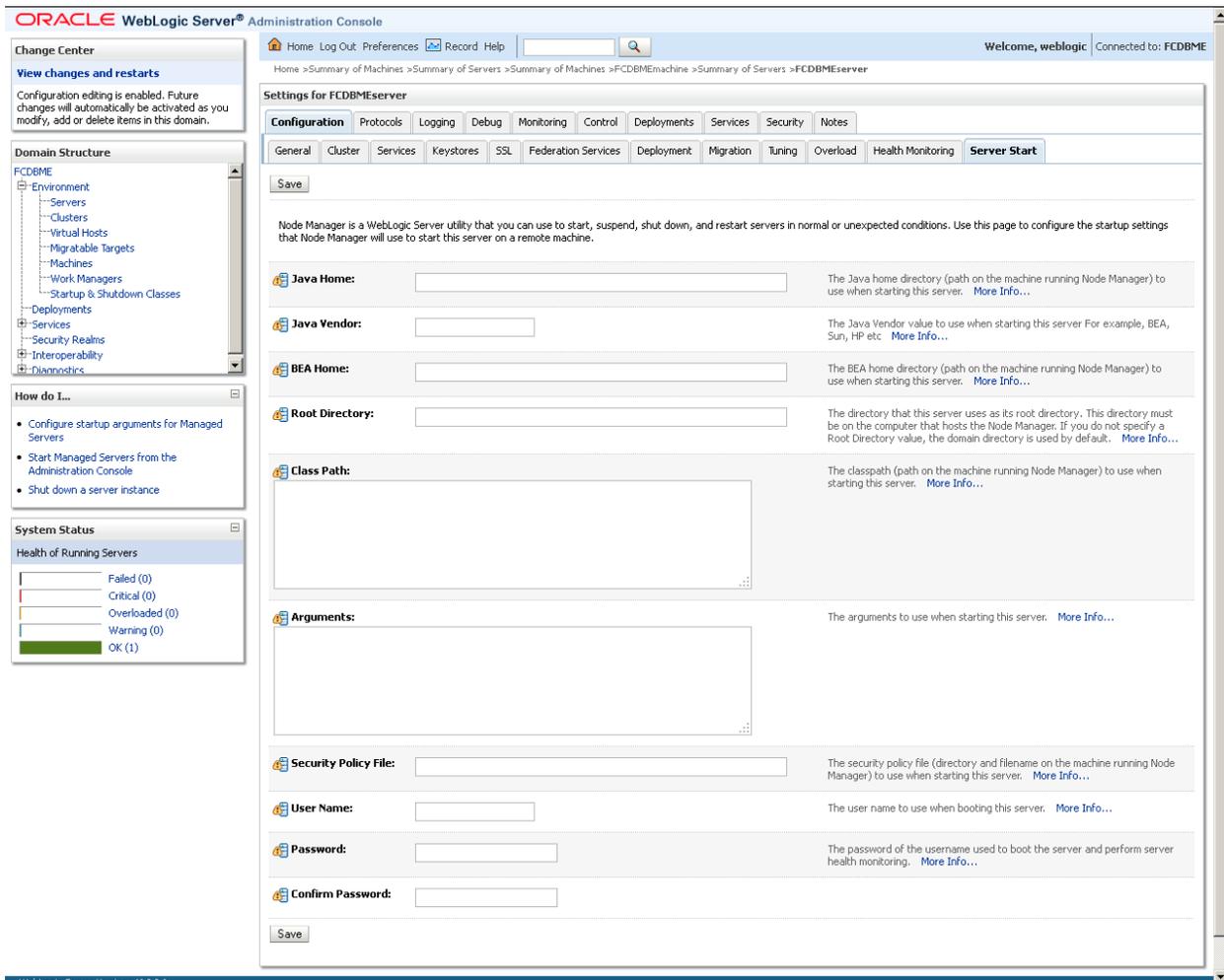
Enter the following values and click "Save"

Assuming the <FCDBME BASE DIR> as Base Working Directory specify the path for all the jars from the following location.

Location	Description
<FCDBME BASE DIR>\system\build\kernel	Select the release jar FCDB_12.0.0_ME_JDK1.6.jar kept at this location.
<FCDBME BASE DIR>\system\build\extclasses\jars	Select all the external or third-party jars within this folder.

Also mention the path for the home folder and logs.

Example, configure the following properties.

Property Name	Value	Description
Java Home	<Bea Base Folder>\jdk160_24	The Java home directory
Class Path	<FCDBME BASE DIR>\system\build\classes; <FCDBME BASE DIR>\system\build\kernel\ FCDB_12.0.0_ME_JDK1.6.jar; <Bea Base Folder>\jdk160_24\lib\tools.jar; <Bea Base Folder>\wlserver_10.0\server\lib\weblogic.jar; <Bea Base Folder>\wlserver_10.0\server\lib\webservices.jar;< FCDBME BASE DIR>\system\build\extclasses\jars\<Include all jars residing in this path>;%classpath%;	
Arguments	-Dfcat.basedir=<BASE FOLDER> -Dfcat.propfile.isencr=false -Dfcat.jvm.id=1 -Dweblogic.Stdout=<FCAT.LOGFILE.PATH>\logs\ FCDBMEServerOut.log - Dweblogic.Stderr=<FCAT.LOGFILE.PATH>\logs\ FCDBMEServerErr.log -XX:PermSize=256m -XX:MaxPermSize=512m -Xms256M -Xmx512M - Dweblogic.ext.dirs= <Bea Base Folder>\jdk150_11\ lib	Path to all folders holding application relevant jar files , location of class files generated, logs and home folder which will be used when starting the server. Note: Property "fcat.propfile.isencr" indicates the properties file's encryption status. Set as 'true' if files are encrypted, else set as 'false'. Refer to point 8 in this document for more details.

Please Note that kernel.jar should precede all the external jars

Configuring the Node Manager in Windows using command prompt

1. Open the file "WL_HOME\common\nodemanager\nodemanager.properties"
   e.g. D:\bea\wlserver_10.0\common\nodemanager\nodemanager.properties

Change the value of the property "SecureListener" to "false" in the file.

Execute the file installNodeMgrSvc in WL_Home\server\bin

Verify the configuration by following these steps
   a. Find the service with the name "BEA Products NodeManager through services.msc.
   b. Make sure that the "Startup Type" is "Automatic"
   c. Click on the Start link to start the service.

Configuration to Start/Stop Servers as a windows Service.

Admin Server

1. Copy the installAdminServerSvc.cmd file from the list of files provided in the following location.
   <Bea Base Folder>\user_projects\domains\DOMAIN_NAME

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Execute the following command at the command prompt under the directory where the installAdminServerSvc.cmd file has been copied to.

```
installAdminServerSvc <username> <password>
```

FCDBMEServer

Copy the installFCDBMEServerSvc.cmd to the following location.
<Bea Base Folder>\user_projects\domains\DOMAIN_NAME
Execute the following command at the command prompt under the directory where the installFCDBMEServerSvc.cmd file has been copied to.

```
installFCDBMEServerSvc <username> <password>
```

Property	Description
DOMAIN_NAME	Name of the domain as specified in domain creation.
username	The user name specified at domain creation.
password	The password specified at domain creation.

Check the path in My Computer→Environment Variables→Path (Variable). It must not contain any spaces. This can be verified by giving the command at the command prompt

```
echo %PATH%
```

Starting Admin Server and Managed Server using command prompt

1. In a command prompt, set up the required environment variables by running the following script:
   WL_HOME\server\bin\setWLSEnv.cmd (on Windows)
   WL_HOME/server/bin/setWLSEnv.sh (on UNIX)
   where WL_HOME is the home directory for WebLogic.

In the command prompt, change to the root of the domain directory, usually
<BEA_HOME>\user_projects\domains\<DOMAIN_NAME>
To start an Administration Server, enter the following command:

```
java weblogic.Server
```

You can start a Managed Server as follows:

```
java -Dweblogic.Name=<managed-server-name>
Dweblogic.management.server=<url-for-Administration-Server> weblogic.Server
```

For example, if you create a Managed Server named FCDBMEserver in the fcdb_domain, you can enter the following command:

```
java -Dweblogic.Name= FCDBMEserver
Dweblogic.management.server=localhost:7001 weblogic.Server
```

Start the Node Manager from the Program Files→<Bea Folder>→Tools→Node Manager.

Starting Managed Server using Administrative Console

1. Click on "Environment→ Servers."

Click on the server that is to be started.

Note: Only those servers which have been assigned a machine can be controlled through Administration console

Click on "Control" tab.

Select the checkbox against the server name and click on the "Start" button.

Click "Yes" in the confirmation screen.

b. Deploying Applications

Web Application Deployment

Following section explains deploying Web application on Weblogic. For details and different options of deployment refer to documentations provided by BEA Weblogic.

These steps should be carried out for B001.war FCDB ME web application mentioned below.

Deployable	Suggested Context	Path Location	Description
B001.war	B001	< FCDBME BASE DIR>\deploy	Application for Bank entity B001. This is available only for Base release.

1. Click "Deployments" in the left menu.

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic

Click "Install" button.

Navigate to the location where the war is stored on the machine and select the radio button against the deployable .war file. Click "Next"

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Check the radio button against "Install this deployment as an application" and click "Next".

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Select the server FCDBMEserver to be mapped and click on Next

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Click Finish.

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Confirmation Page is displayed

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic

i. Starting Application

1. Click "Deployments" in the left menu

Select the applications that are to be started.

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Click "Servicing all requests" in the drop down list under "Start" tab

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic

Confirmation screen displayed

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c. Deploying MobileEnabler Web App

After completing the setup for FCDB ME server instance and deploying the B001.war, one need to deploy "**MobileEnabler.war**" in the "**TGT App server**" instance i.e. one need to add a new web app MobileEnabler.war in their existing internet Banking server instance.

Deployable	Suggested Context	Path Location	Description
MobileEnabler.war	/MobileEnabler	< FCDBME BASE DIR>\MobileEnabler/TGT_App_deployment/2.9.X	This application to be deployed in TGT App server environment.

After successful deployment of this war file one need to update the URL of this app in FCDB ME environment setup. Property file "**mobileenabler.properties**" located at "**<FCDBME BASE DIR>\system\home**>" needs to be updated. Following parameter in this file needs to be updated

TGT.APP.INVOCATION.URL = http://<<IP Address of TGT App>>:<<PortNo>>/MobileEnabler/mobile

5. Setup JDBC data source and Connection Pooling

XA Enabled Data Source:

The XA-aware data source implementation allows connections to participate in distributed transactions.

Following are the steps to configure the XA data source.

1. Go to the "Services→JDBC→Data Sources".
2. Click New to create a new JDBC Data Source

Configure the following properties for Data Source creation and click "Next".

Property	Value
Data Source Name	<FCDBME data source name>
JNDI Name	ME
Database Type	Oracle

Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic
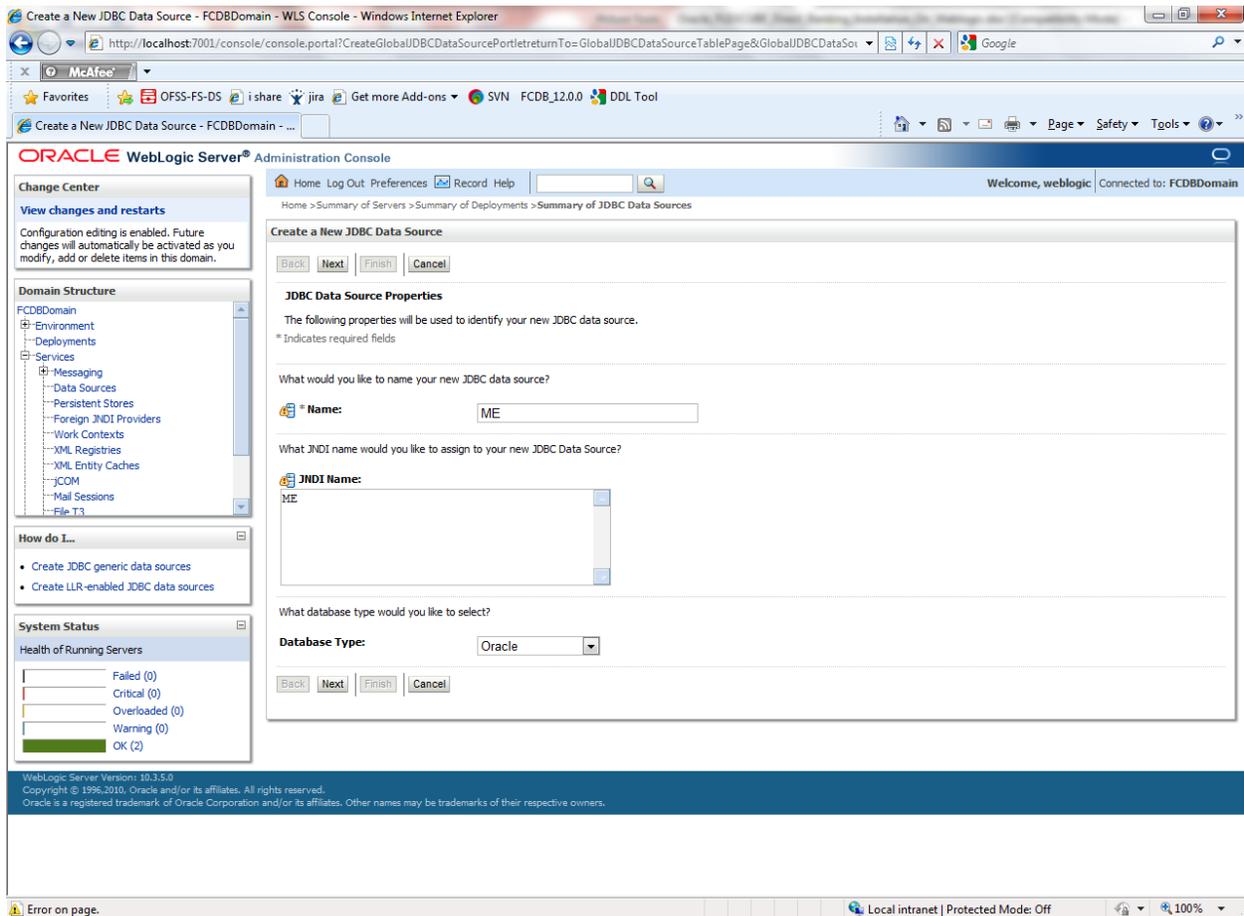
Select Database Driver as Oracle's Driver (Thin XA) Versions: 9.0.1 and later and click Next.

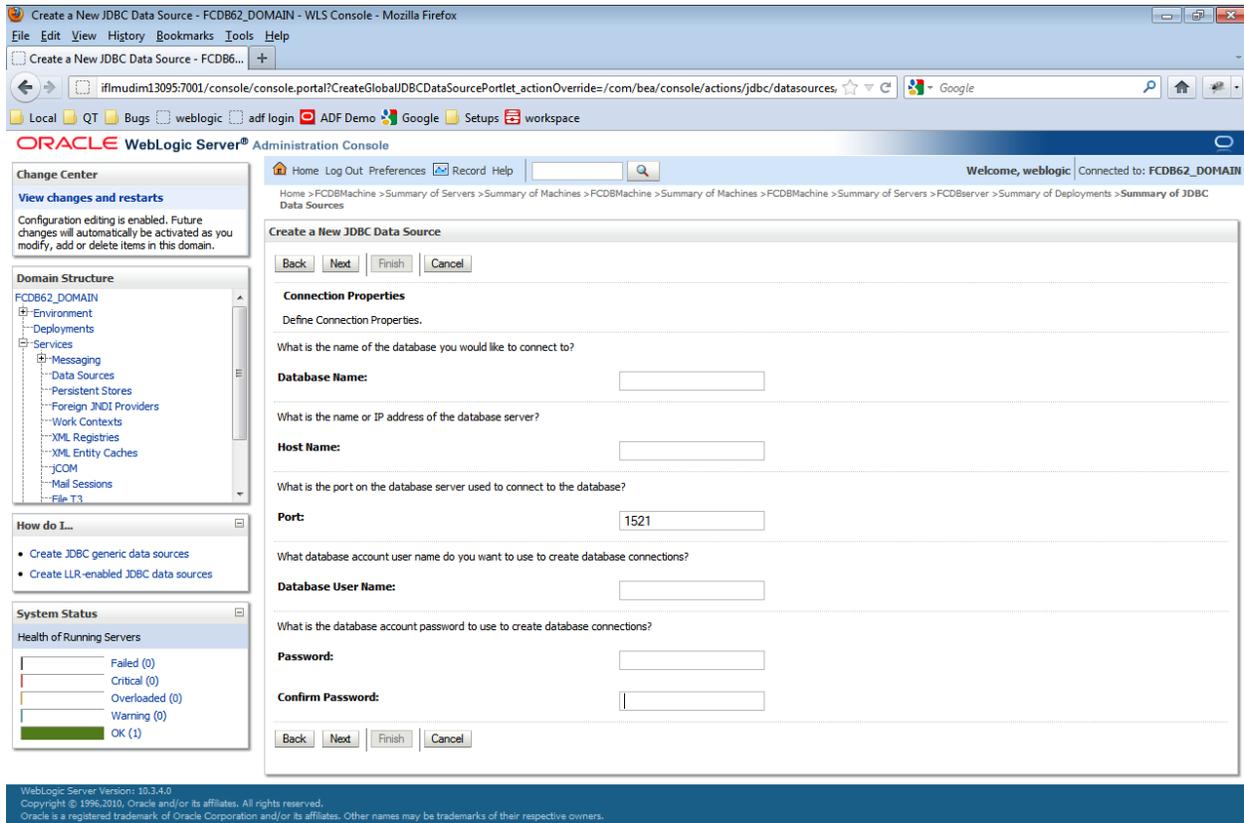Oracle FLEXCUBE Direct Banking Mobile Enabler Installation On Weblogic
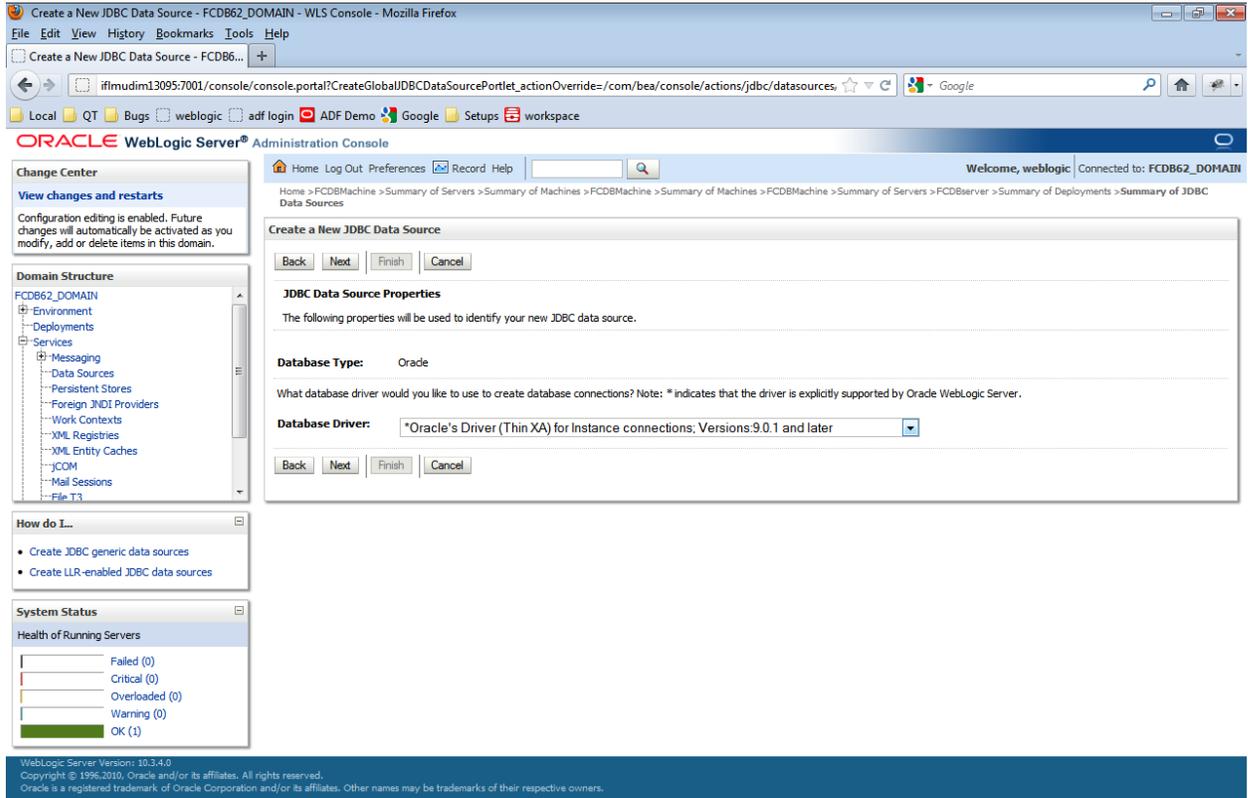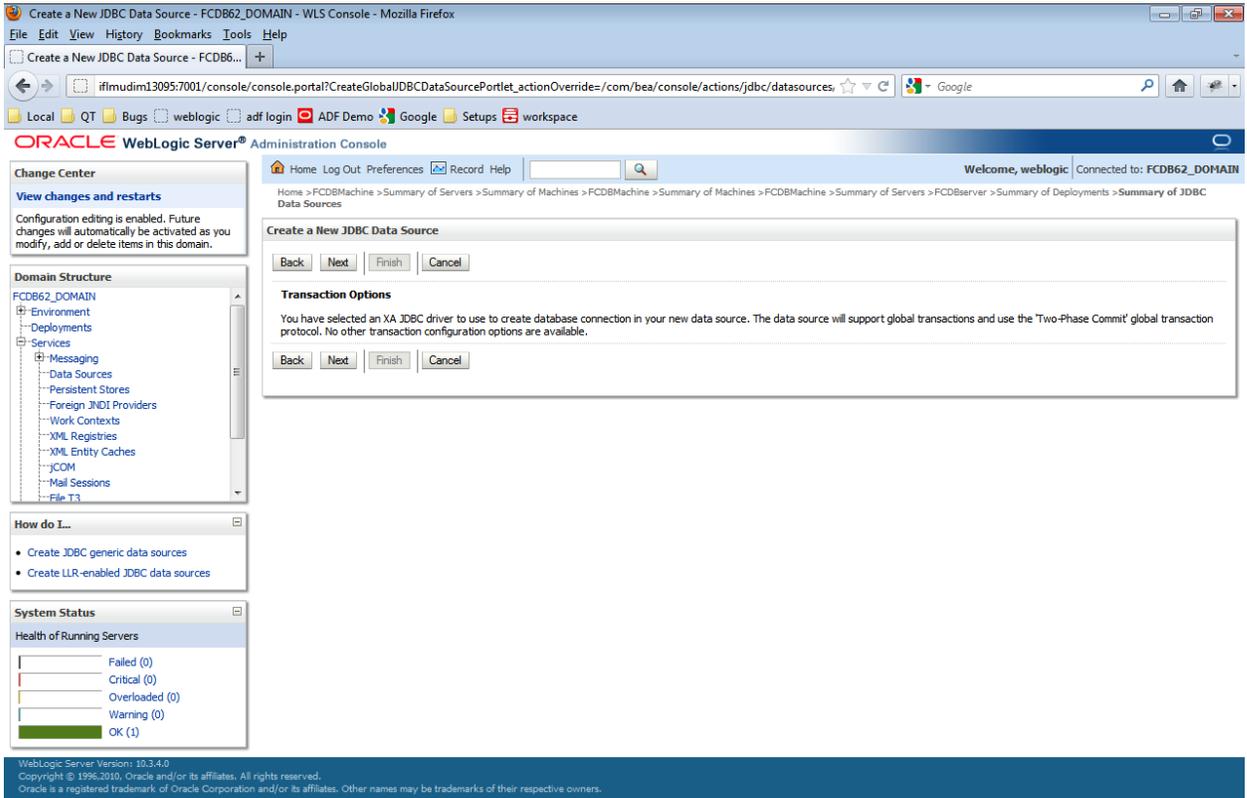
Click Next.

Click "Next" button.

Give the following database details to which you need to connect. For e.g:

Property	Description
Database Name	Name of the database to be connected to
Host Name	ip address or hostname
Port	Port number of the database
Database User Name	Username used to connect to the database.
Password	Password used to connect to the database.
Confirm Password	Same password used to connect to the database.

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Click "Next" button.

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Click "Test Configuration" below.

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A success message must appear with "Connection test succeeded".

Click on the "Next" button.

Select the server as 'FCDBMEserver' and click on Finish.

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The data source is created successfully. Click on the newly created data source under Data Sources menu option.

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Click "Connection Pool" under "Configuration" tab on the top.

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Click on the "Advanced" link below.

You can specify the required parameters for connection pooling. In the second section check the option against "Test Connections On Reserve" and click Save.

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The server should be running to perform the remaining steps.
On the same screen next to the Configuration tab, select the "Monitoring" tab on the top.
Select Testing tab under Monitoring tab and then select the radio button against the server and click "Test Data Source".

A success message with the connection tested successfully must appear.

The property files "fcat.properties" and "fcat-config.xml" located in system/home folder of FCDBME base dir needs to be updated with the data source and connection pool details.

6. DB Creation

For completing the DB setup kindly refer to the doc
"Oracle_FLEXCUBE_Direct_Banking_Database_Setup"

7. Encryption and Decryption of property files

The property files <Identity>.xml , fcat-config.xml and fcat.properties mentioned in the Appendix will be stored in the encrypted format and decrypted later for reading them.

The system property "fcat.propfile.isencr" is set as "true"; if the property files are encrypted. It is set as "false"; if property files are in plain text format. If this property is not set at all as system property then all the property files are assumed to be in plain text format.

The usage of the tools is mentioned in the Tools section.

8.   Appendix

After the successful installation of FCDB ME with the help of FCDBME Installer, following folder structure will be created:

Folder Name	Comments
<FCDBME BASE DIR>\documents	Folder containing all FCDB Mobile Enabler documents
<FCDBME BASE DIR>\dbsetup	Folder containing scripts for FCDB Mobile Enabler Database setup
<FCDBME BASE DIR>\system	Folder containing FCDB Mobile Enabler application & properties files
<FCDBME BASE DIR>\system\build\kernel	Folder containing the application codebase in form of a jar called FCDB_12.0.0_ME_JDK1.6.jar.
<FCDBME BASE DIR>\system\build\extclasses\jars	Folder containing all requisite third-party jars. Seperate folders will be created for all the third party jars. e.g. <FCDBME BASE DIR>\system\build\extclasses\jars\fcr
<FCDBME BASE DIR>\system\home	Folder containing all the configuration/properties files of the application.
<FCDBME BASE DIR>\system\build\tools	Folder containing all the tools required to

	generate the GUI xsls, to encrypt/decrypt the property files and generation of password for db user.
<FCAT.LOGFILE.PATH>\logs	Property FCAT.LOGFILE.PATH is configured to locate the folder for storing the log files of the server. e.g. D:\FCDBMELogs. If this property is not set then logs are created at default location at <FCDBME BASE DIR>\logs.

The following archives should be downloaded on user mobile to enable:-

J2ME Based Oracle FLEXCUBE Direct Banking Application.

Deployable	Context	Path Location
FCDBMidlet.jar		<FCDBME BASE DIR>\deploy\mobile
FCDBMidlet.jad		<FCDBME BASE DIR>\deploy\mobile

Configuration/Property Files

The layers presentation, channel & mobileenabler interfacing tier in the system use the following property files:

Property File	Purpose
<Identity>.xml	Each web application deployed has its own property file named as <daemonName>.xml. The daemon name can be configured by property 'FCAT.INTERNETSERVLET.DAEMON.NAME' in web.xml. If no daemon name is specified, default name 'INTERNETSERVLET' is used. (internetservlet.xml). The daemon name can be B001 hence B001.xml.
fcat-config.xml	Configuration property used at the channel layer containing the db properties.
fcat.properties	Configuration property containing DB details for datasource "ME" and "AP".
mobileenabler.properties	This property file will contain the URL of TGT App. This file will also contain certain properties required by FCDB ME App to understand the response XPATH of TGT App for some common application behaviour.

9. Tools

Before using the tools ensure that the Java home path is set.

Encryption and Decryption of property files in home folder.

Change the working folder to <FCDBME BASE DIR>\system\build\tools. Pick up the following files for the respective platform and execute them at the command prompt:

File Name	OS
securepropertiesfiles.bat	Windows
securepropertiesfiles.sh	Linux

The tool operates in the interactive mode. The arguments will be provided on execution of the files.

To encrypt or decrypt a file the arguments prompted are :

<Encryption or Decryption mode(E/D)> <Path of the input property file> <Path of the output property file>

e.g. E D:\FCDBME\system\home\fcat-config.xml D:\config

Once the file is encrypted set the system property "fcat.propfile.isencr" to "true".

Build the XSL templates to required language.

The templatized xsls will be picked up from the location

<FCDBME BASE DIR>\system\datafiles\gui\<usertype>\<channel id>\template To generate the GUI xsls from the templatized xsls the following tools must be executed at the command prompt.

File Name	OS
xslbuild.bat	Windows
xslbuild.sh	Linux

The tool will execute in the interactive mode and prompt for the user type, channel id, language id and format. After execution the generated files will be stored in the location

<FCDBME BASE DIR>\system\datafiles\gui\<usertype>\<channel id>\<language id>