Fusion Applications Developer Relations

MENU

Fusion Applications Developer Relations

It's All About the Platform.

Try Oracle Cloud Platform For Free

March 1, 2013

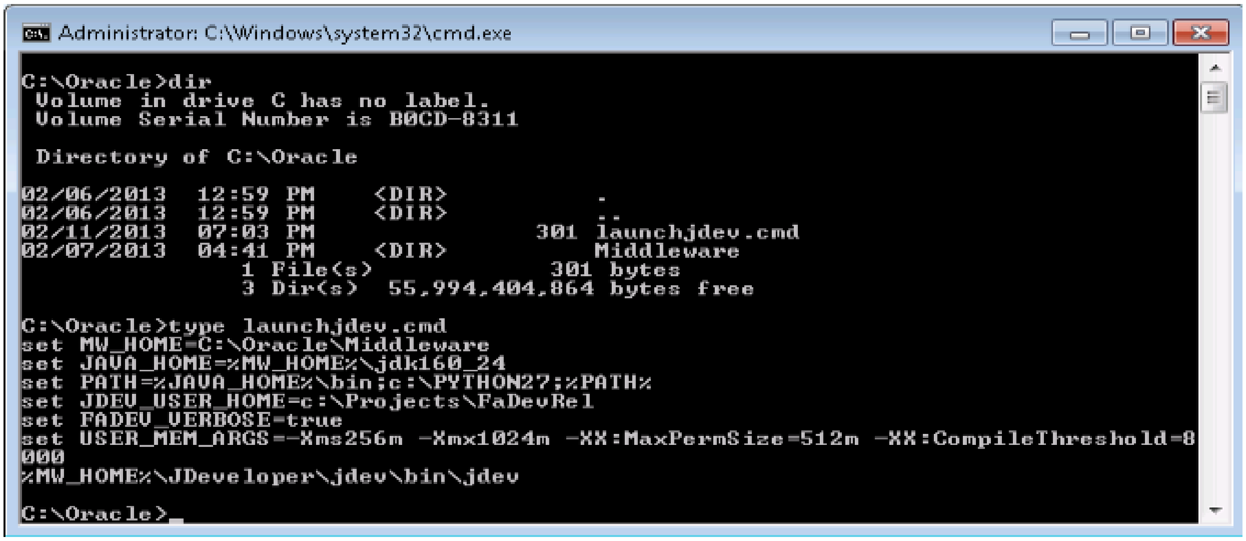
JDeveloper and Fusion Applications Explained (Part 2)

Oliver Steinmeier
SENIOR DIRECTOR

In the first part of this series we explained how to find the appropriate version of JDeveloper for your Fusion Applications customization or extension project. We also covered the installation. This second post walks you through the next steps on your journey: we will launch JDeveloper with the necessary parameters and configure the domain of the integrated WebLogic Server (WLS).

A prerequisite for using JDeveloper that is somewhat buried in the Developer Guide (Rel 6 edition) is Python. Specifically, you need Python 2.7.x. Some versions of the documentation list Python 2.4 as the minimum version, but I have never seen anyone actually get this to work, so the guide was updated and should now list 2.7. Do not, however, try it with version 3.x of Python: there are significant incompatibilities between the 2.7.x series and the 3.x series of the language, and 3.x does not work for our purposes. You may be wondering what Python is actually needed for, given that JDeveloper itself is written in Java and Fusion Applications does not use Python as a programming or scripting language. Well, it turns out the JDeveloper extension that configures the WebLogic Server domain to run Fusion code is written in Python.

The Fusion Applications Developer Guide documents a number of environment variables that need to be set before JDeveloper can be launched. For the purpose of this blog post we are looking at Windows as the host operating system; Linux-based developers can hopefully easily adjust the necessary syntax. One way to define the environment variables is by adding them to a little launch script (let's call it launchjdev.cmd). For example:



```
C:\Oracle>dir
 Volume in drive C has no label.
 Volume Serial Number is B0CD-8311

 Directory of C:\Oracle

02/06/2013  12:59 PM    <DIR>          .
02/06/2013  12:59 PM    <DIR>          ..
02/11/2013  07:03 PM               301 launchjdev.cmd
02/07/2013  04:41 PM    <DIR>          Middleware
               1 File(s)            301 bytes
               3 Dir(s)  55,994,404,864 bytes free

C:\Oracle>type launchjdev.cmd
set MW_HOME=C:\Oracle\Middleware
set JAVA_HOME=%MW_HOME%\jdk160_24
set PATH=%JAVA_HOME%\bin;c:\PYTHON27;%PATH%
set JDEV_USER_HOME=c:\Projects\FaDevRel
set FADEV_VERBOSE=true
set USER_MEM_ARGS=-Xms256m -Xmx1024m -XX:MaxPermSize=512m -XX:CompileThreshold=8
000
%MW_HOME%\JDeveloper\jdev\bin\jdev

C:\Oracle>_
```

JDeveloper Launch Script

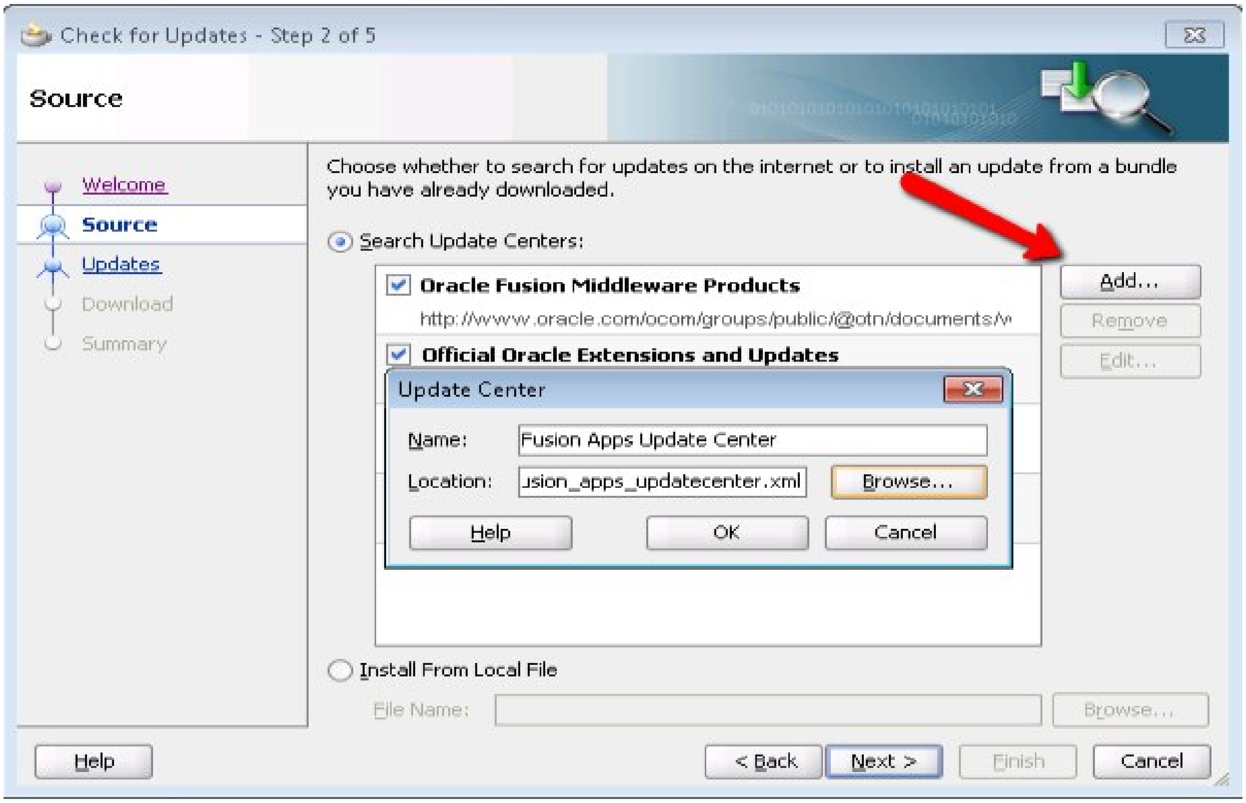
Copy/paste-able version – be sure to adjust for your machine’s specific directories:

```
set MW_HOME=C:\Oracle\Middleware
set JAVA_HOME=%MW_HOME%\jdk160_24
set PATH=%JAVA_HOME%\bin;c:\PYTHON27;%PATH%
set JDEV_USER_HOME=c:\Projects\FaDevRel
set FADEV_VERBOSE=true
set USER_MEM_ARGS=-Xms256m -Xmx1024m -XX:MaxPermSize=512m -
XX:CompileThreshold=8000
%MW_HOME%\JDeveloper\jdev\bin\jdev
```

The JDEV_USER_HOME variable defines the location where JDeveloper by default puts workspaces. It is also the location of the "System" directory, home of many JDeveloper settings. And the Default Domain of the integrated WebLogic Server resides in the "System" directory.

Instead of a launch script you can also set up the environment variables using the standard Windows mechanism (System Properties dialog). I prefer the script because it's easier for me to see what the settings are and to modify them as appropriate.

Run the launchjdev.cmd script and choose the pre-selected Default role. We have not yet installed the Fusion-specific extensions. As you will see in a minute, they will add additional roles. Once JDeveloper has completely launched, dismiss the Tip of the Day dialog and choose "Check for Updates" from the "Help" menu. In step 2 of the wizard click the "Add" button (note: if you are behind a corporate firewall, you may be prompted to enter information about your proxy server before you can click the button). With the help of the "Add" button we're adding a local (on your disk) update center from which JDeveloper can install extensions. Enter a meaningful name and then select via the "Browse" button the fusion_apps_updatecenter.xml file from your unzipped Companion DVD/zip file (see part 1 for details). It should be in a directory called "fusion_apps_extensions" together with a lot of zip files (the actual extensions).



Check for Updates - Step 2 of 5

Source

Choose whether to search for updates on the internet or to install an update from a bundle you have already downloaded.

● Search Update Centers:

☑ Oracle Fusion Middleware Products
http://www.oracle.com/ocom/groups/public/@otn/documents/w

☑ Official Oracle Extensions and Updates

Update Center

Name: Fusion Apps Update Center

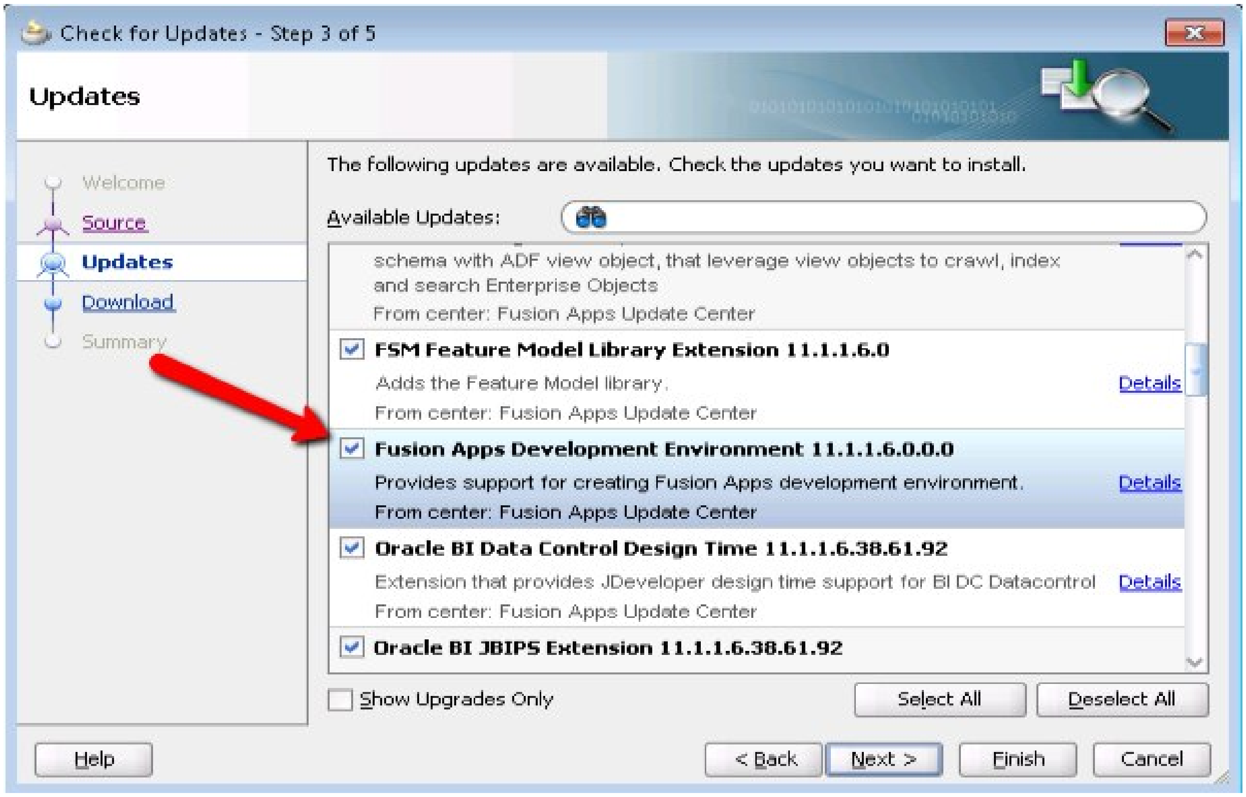
Location: usion_apps_updatecenter.xml

○ Install From Local File

File Name:

Adding Local Update Center

Back in Step 2 of the Wizard, make sure the only update center that is selected is the local one you just added before moving on to Step 3. Here you select "Fusion Apps Development Environment 11.1.1.x" extension (version depends on your release) and that will automatically also select all the dependent extensions.



The following updates are available. Check the updates you want to install.

Available Updates:

schema with ADF view object, that leverage view objects to crawl, index and search Enterprise Objects
From center: Fusion Apps Update Center

☑ **FSM Feature Model Library Extension 11.1.1.6.0**
Adds the Feature Model library.
From center: Fusion Apps Update Center

☑ **Fusion Apps Development Environment 11.1.1.6.0.0.0**
Provides support for creating Fusion Apps development environment.
From center: Fusion Apps Update Center

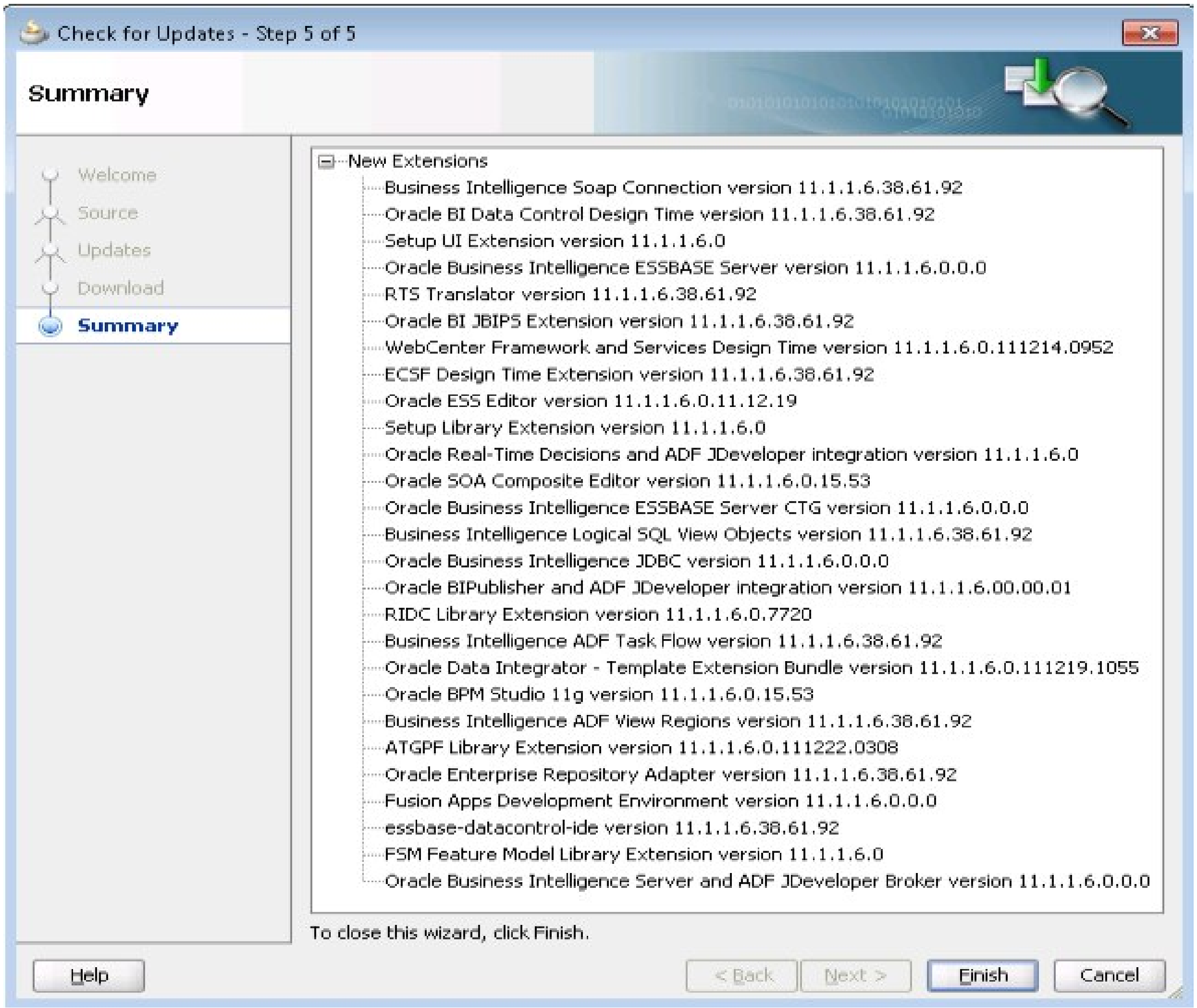
☑ **Oracle BI Data Control Design Time 11.1.1.6.38.61.92**
Extension that provides JDeveloper design time support for BI DC Datacontrol
From center: Fusion Apps Update Center

☑ **Oracle BI JBIPS Extension 11.1.1.6.38.61.92**

□ Show Upgrades Only

Select the Fusion Applications Development Environment Extension

Click "Next" and the extensions will be installed. JDeveloper will claim that it is "downloading" updates, but those are really pulled from the local update center (=files) on your disk and copied into the JDeveloper MW_HOME. Step 5 of the wizard then confirms which extensions and their versions were installed. As you can see, quite a few were added to the base JDeveloper install that we started out with.

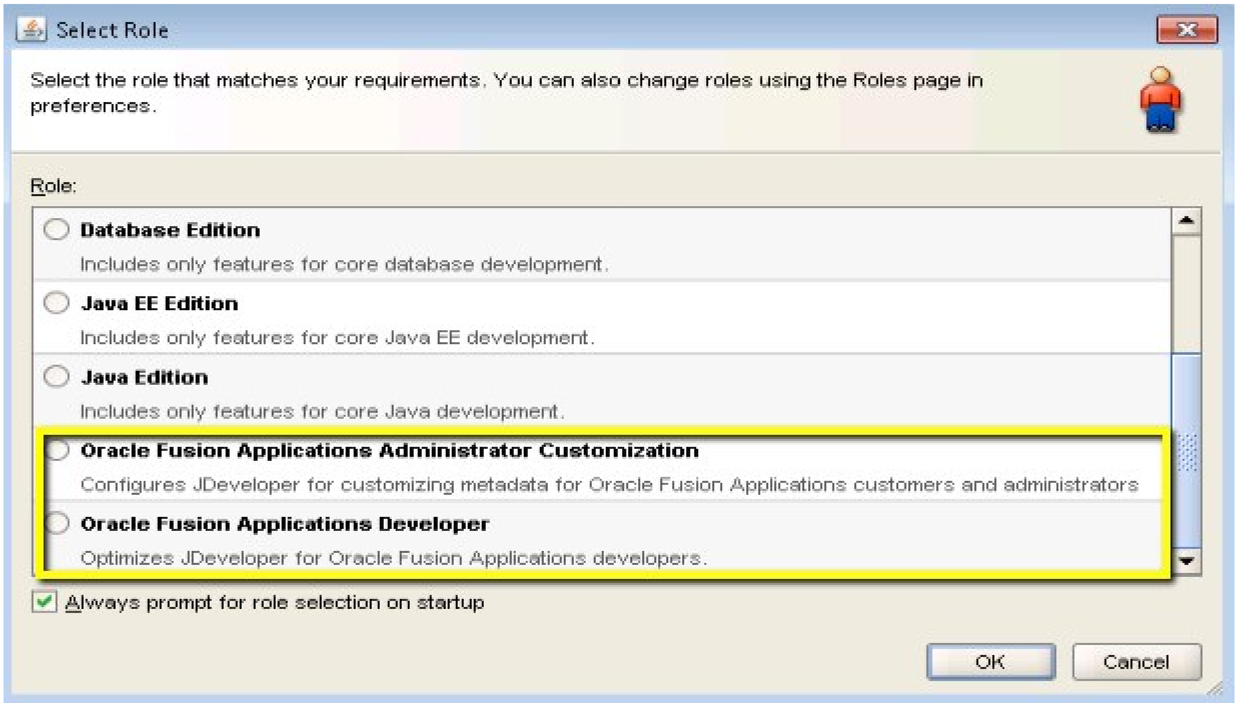


New Extensions
- Business Intelligence Soap Connection version 11.1.1.6.38.61.92
- Oracle BI Data Control Design Time version 11.1.1.6.38.61.92
- Setup UI Extension version 11.1.1.6.0
- Oracle Business Intelligence ESSBASE Server version 11.1.1.6.0.0.0
- RTS Translator version 11.1.1.6.38.61.92
- Oracle BI JBIPS Extension version 11.1.1.6.38.61.92
- WebCenter Framework and Services Design Time version 11.1.1.6.0.111214.0952
- ECSF Design Time Extension version 11.1.1.6.38.61.92
- Oracle ESS Editor version 11.1.1.6.0.11.12.19
- Setup Library Extension version 11.1.1.6.0
- Oracle Real-Time Decisions and ADF JDeveloper integration version 11.1.1.6.0
- Oracle SOA Composite Editor version 11.1.1.6.0.15.53
- Oracle Business Intelligence ESSBASE Server CTG version 11.1.1.6.0.0.0
- Business Intelligence Logical SQL View Objects version 11.1.1.6.38.61.92
- Oracle Business Intelligence JDBC version 11.1.1.6.0.0.0
- Oracle BIPublisher and ADF JDeveloper integration version 11.1.1.6.00.00.01
- RIDC Library Extension version 11.1.1.6.0.7720
- Business Intelligence ADF Task Flow version 11.1.1.6.38.61.92
- Oracle Data Integrator - Template Extension Bundle version 11.1.1.6.0.111219.1055
- Oracle BPM Studio 11g version 11.1.1.6.0.15.53
- Business Intelligence ADF View Regions version 11.1.1.6.38.61.92
- ATGPF Library Extension version 11.1.1.6.0.111222.0308
- Oracle Enterprise Repository Adapter version 11.1.1.6.38.61.92
- Fusion Apps Development Environment version 11.1.1.6.0.0.0
- essbase-datacontrol-ide version 11.1.1.6.38.61.92
- FSM Feature Model Library Extension version 11.1.1.6.0
- Oracle Business Intelligence Server and ADF JDeveloper Broker version 11.1.1.6.0.0.0

To close this wizard, click Finish.

The List of Newly Installed Extensions

Close the wizard and confirm that you want to restart JDeveloper at this time to enable the extensions. The IDE will close, and it will *appear* that nothing else is happening. But resist the temptation to restart it manually and just leave the computer alone for a couple of minutes: JDeveloper will in fact "magically" start again and present you with the role picker. It may seem that nothing changed, but if you scroll through the list of roles, you should at the end see two new roles that were provided by the extensions we installed:



Select Role

Select the role that matches your requirements. You can also change roles using the Roles page in preferences.

Role:

○ **Database Edition**
Includes only features for core database development.

○ **Java EE Edition**
Includes only features for core Java EE development.

○ **Java Edition**
Includes only features for core Java development.

○ **Oracle Fusion Applications Administrator Customization**
Configures JDeveloper for customizing metadata for Oracle Fusion Applications customers and administrators

○ **Oracle Fusion Applications Developer**
Optimizes JDeveloper for Oracle Fusion Applications developers.

☑ Always prompt for role selection on startup

The New Roles

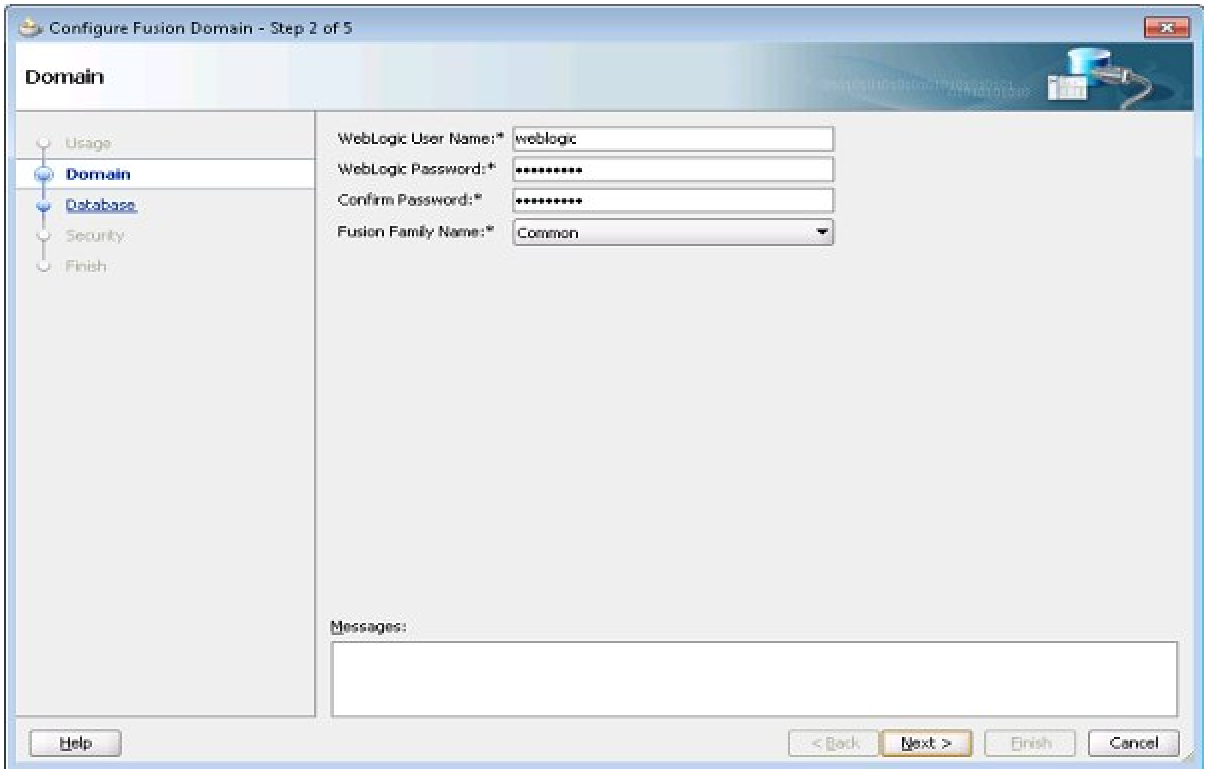
The "Oracle Fusion Applications Administrator Customization" role is only used to create meta-data customizations. For instance, you can use it to add a validation to an existing business object (EO). The second new role, "Oracle Fusion Applications Developer" role, is more versatile and lets you create entirely new artifacts -- pages, business components, task flows etc. These extensions can then be integrated into existing product functionality by, for example, customizing an existing page (using the Administrator Customization role). Future parts of this blog post series will show you an example. You can also read more about it in the Extensibility Guide.

For now, to complete the setup of JDeveloper, we need to create the Default domain for the integrated WebLogic Server (WLS). In fact, once you select the "Oracle Fusion Applications Developer" role and proceed with the launch of JDeveloper, the IDE will actually prompt you to do just that. Select "Yes" to enter the Domain Configuration wizard.

A side note: depending on your release, you may at this time see scary looking warnings in the JDeveloper console log about Exceptions "while querying ExalogicOptimizationsEnabled Attribute" and even memory leaks. These can be ignored (and have been reported as bugs).

The first step of the wizard lets you choose between the standalone and integrated domain configuration. Choose "integrated" -- it's for the WebLogic Server that's part of the JDeveloper installation.

In step 2 you are being asked for the password for the "weblogic" user for WLS. This admin user account gives you access to the WebLogic console. A password is defaulted. The masking (*********) makes it impossible to tell that it is the standard WLS default password -- "weblogic1". For an installation that needs access protection, be sure to change it.

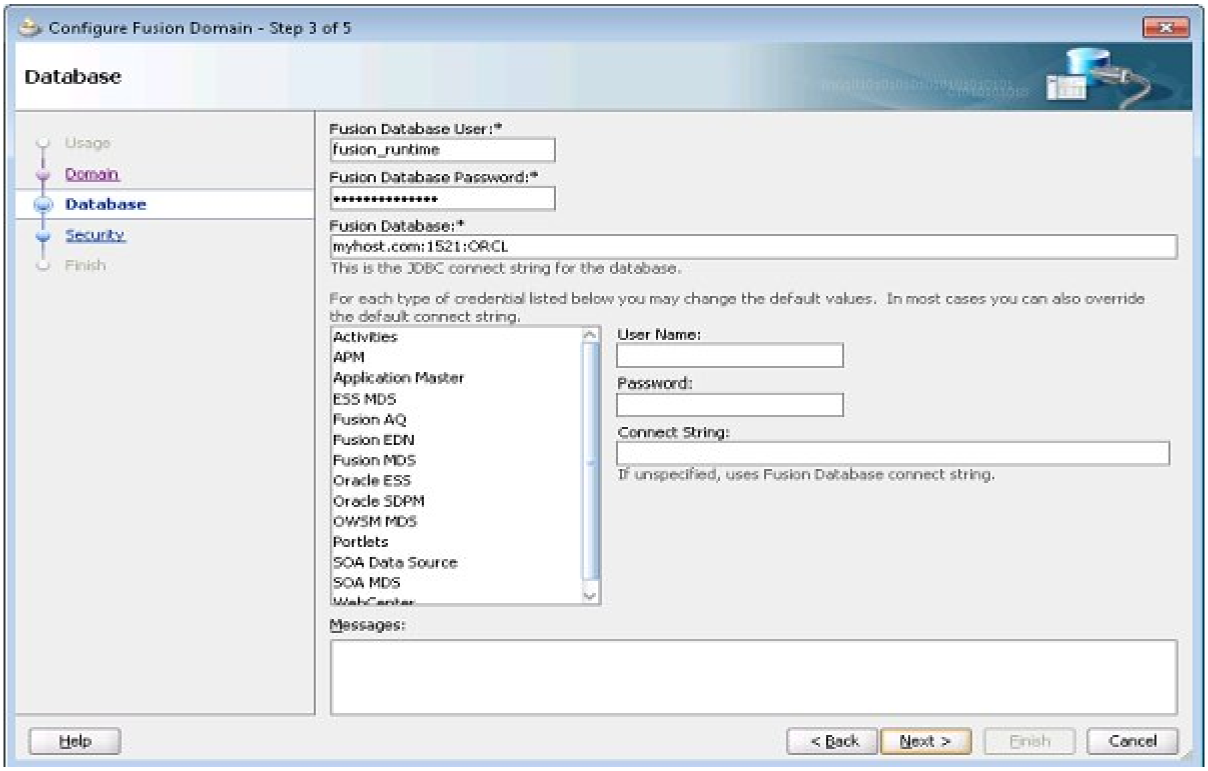


WebLogic User Name:* weblogic
WebLogic Password:* ••••••••••
Confirm Password:* ••••••••••
Fusion Family Name:* Common

Step 2 of the Domain Creation Wizard

In some releases (screenshot is from Release 4) there is an additional field "Fusion Family Name". It was removed in future versions and if you have it, you can leave it as defaulted: "Common".

In step 3 of the wizard, enter the database information for your Fusion Applications database. One of the many schemas, "OWSM MDS", is typically not in the Fusion Applications database, but rather in the identity management (IDM) database. Override the connect string if necessary. In general, it's worthwhile double-checking all the usernames and passwords via SQL*Plus or SQL*Developer to make sure they are correct as the domain will otherwise be configured incorrectly. Unfortunately the current version of the wizard does not offer any built-in validation feature (an enhancement request has been filed).



Fusion Database User:* fusion_runtime

Fusion Database Password:* ••••••••••••••

Fusion Database:* myhost.com:1521:ORCL

This is the JDBC connect string for the database.

For each type of credential listed below you may change the default values. In most cases you can also override the default connect string.

Activities
APM
Application Master
ESS MDS
Fusion AQ
Fusion EDN
Fusion MDS
Oracle ESS
Oracle SDPM
OWSM MDS
Portlets
SOA Data Source
SOA MDS
WebCenter

User Name:

Password:

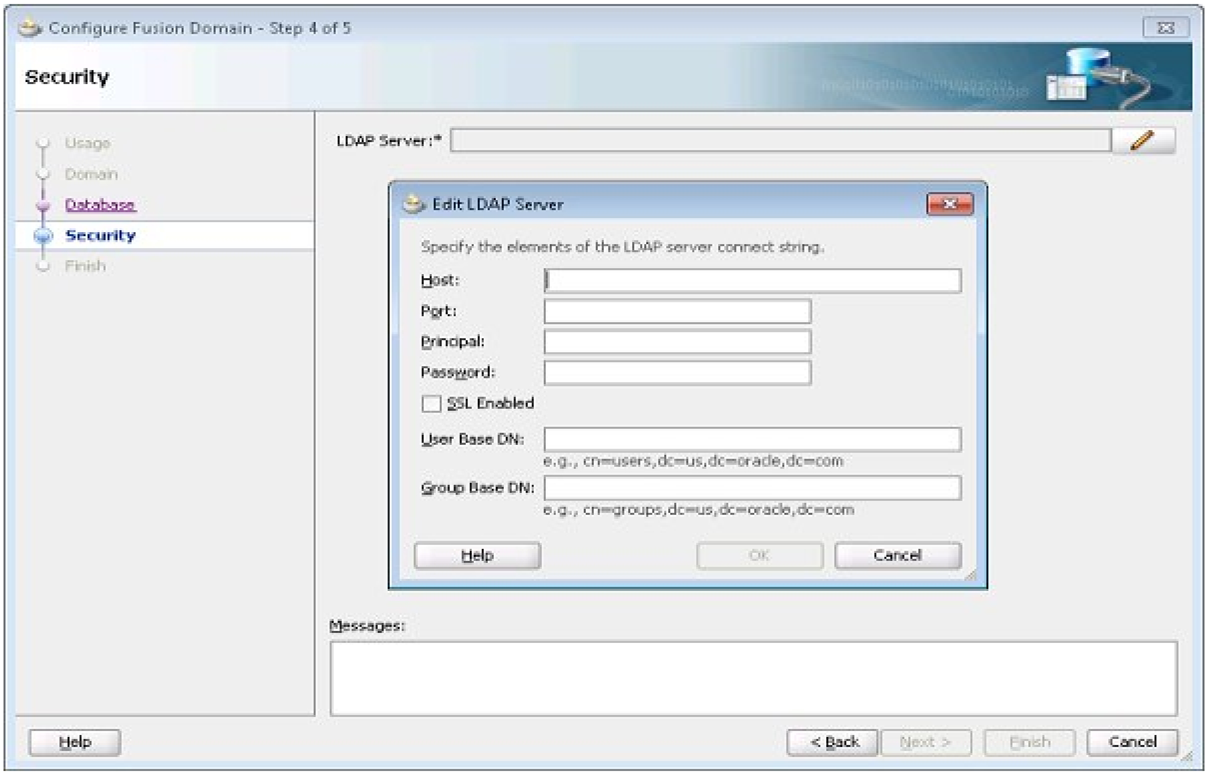
Connect String:

If unspecified, uses Fusion Database connect string.

Messages:

Step 3 of the Domain Creation Wizard

Step 4 requires that you know the parameters for the LDAP server for your Fusion Applications environment. The domain will be configured to use that server for authentication and authorization. If you don't know the values to be entered here, please contact the administrator of your Fusion environment.



Specify the elements of the LDAP server connect string.

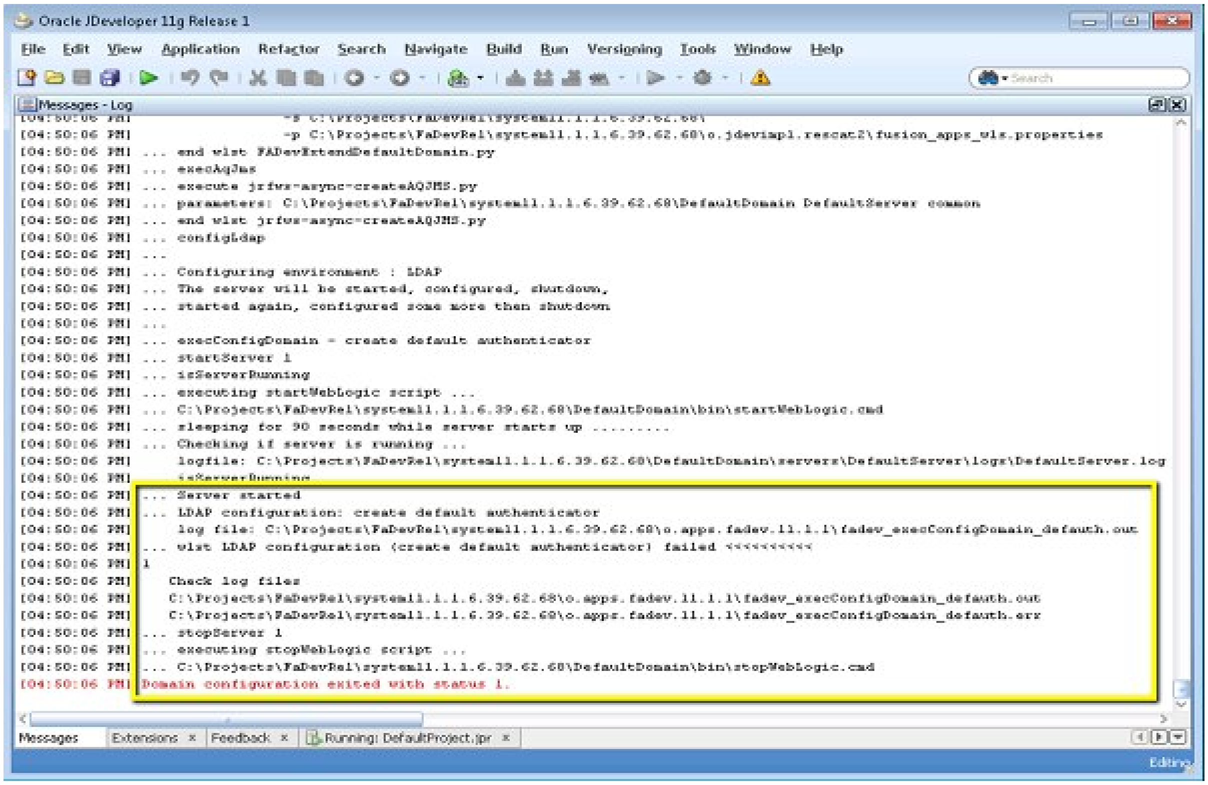
e.g., cn=users,dc=us,dc=oracle,dc=com

e.g., cn=groups,dc=us,dc=oracle,dc=com

Step 4 of the Domain Creation Wizard

Once you finish the wizard, the domain creation and configuration begins. You can follow the progress in the JDeveloper console pane. It will, depending on the speed of your machine, take a few minutes. As part of the process, the WebLogic Server will be started; this is necessary to configure the LDAP server as a security provider.

Don't be discouraged by the seemingly endless messages that stream by in the console pane. If everything works smoothly and as expected, you should in the end have a running WLS server. If WLS does not start up properly, you need to review the console log for possible errors.


Oracle JDeveloper 11g Release 1
File Edit View Application Refactor Search Navigate Build Run Versioning Tools Window Help
Search
Messages - Log
Messages
Extensions
Feedback
Running: DefaultProject.jpr
Editing

```
[04:50:06 PM]                -s C:\Projects\FaDevRel\system11.1.1.6.39.62.68\
[04:50:06 PM]                -p C:\Projects\FaDevRel\system11.1.1.6.39.62.68\o.jdevimpl.rescat2\fusion_apps_wls.properties
[04:50:06 PM] ... end wlst FADevExtendDefaultDomain.py
[04:50:06 PM] ... execAqJms
[04:50:06 PM] ... execute jrfws-async-createAQJMS.py
[04:50:06 PM] ... parameters: C:\Projects\FaDevRel\system11.1.1.6.39.62.68\DefaultDomain DefaultServer common
[04:50:06 PM] ... end wlst jrfws-async-createAQJMS.py
[04:50:06 PM] ... configLdap
[04:50:06 PM] ...
[04:50:06 PM] ... Configuring environment : LDAP
[04:50:06 PM] ... The server will be started, configured, shutdown,
[04:50:06 PM] ... started again, configured some more then shutdown
[04:50:06 PM] ...
[04:50:06 PM] ... execConfigDomain - create default authenticator
[04:50:06 PM] ... startServer 1
[04:50:06 PM] ... isServerRunning
[04:50:06 PM] ... executing startWebLogic script ...
[04:50:06 PM] ... C:\Projects\FaDevRel\system11.1.1.6.39.62.68\DefaultDomain\bin\startWebLogic.cmd
[04:50:06 PM] ... sleeping for 90 seconds while server starts up .........
[04:50:06 PM] ... Checking if server is running ...
[04:50:06 PM]     logfile: C:\Projects\FaDevRel\system11.1.1.6.39.62.68\DefaultDomain\servers\DefaultServer\logs\DefaultServer.log
[04:50:06 PM]     isServerRunning
[04:50:06 PM] ... Server started
[04:50:06 PM] ... LDAP configuration: create default authenticator
[04:50:06 PM]     log file: C:\Projects\FaDevRel\system11.1.1.6.39.62.68\o.apps.fadev.11.1.1\fadev_execConfigDomain_defauth.out
[04:50:06 PM] ... wlst LDAP configuration (create default authenticator) failed <<<<<<<<<<
[04:50:06 PM] 1
[04:50:06 PM]    Check log files
[04:50:06 PM]    C:\Projects\FaDevRel\system11.1.1.6.39.62.68\o.apps.fadev.11.1.1\fadev_execConfigDomain_defauth.out
[04:50:06 PM]    C:\Projects\FaDevRel\system11.1.1.6.39.62.68\o.apps.fadev.11.1.1\fadev_execConfigDomain_defauth.err
[04:50:06 PM] ... stopServer 1
[04:50:06 PM] ... executing stopWebLogic script ...
[04:50:06 PM] ... C:\Projects\FaDevRel\system11.1.1.6.39.62.68\DefaultDomain\bin\stopWebLogic.cmd
[04:50:06 PM] Domain configuration exited with status 1.
```

WLS Domain Configuration Failed

As you can see in the above screenshot, the configuration script advises you which log files to review for detailed errors. They are located in the system directory. The third part of this blog post series will discuss some of the more common problems we have seen people run into.

Join the discussion

Comments (23)

Recent Content

BI

Using HTML, CSS and JavaScript In Your Embedded BI Regions and Pages

We've seen creative solutions to tricky business requirements addressed through the use of Business Intelligence tools. For example new...

A New Mechanism For Using Direct Page Links (Deeplinks)

You may have spotted a 'Deep Links' menu item under the Administration section of the Navigator menu. This opens the page below, showing a...

Site Map Legal Notices Terms of Use Privacy Cookie Preferences Ad Choices

Oracle Content Marketing Login