

# **WA2233 Enterprise Integration Patterns and Solutions for Architects**

## **Classroom Setup Guide**

**Web Age Solutions Inc.**

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## Part 1 - Minimum Hardware Requirements

- 4 GB minimum
- 50 GB in the hard disk

## Part 2 - Minimum Software Requirements

- One of the following Windows versions:
  - Windows Vista (Business, Enterprise, or Ultimate)
  - Windows 7 (Professional, Enterprise, or Ultimate)
- Adobe Acrobat Reader
- Zip extraction utility
- One of the following web browsers
  - Internet Explorer 8 or 9
  - Latest FireFox
  - Latest Chrome
- IBM Integration Designer 8.0 \*
- Oracle WebLogic Server 12c \*
- Oracle Enterprise Pack for Eclipse \*
- JRockit JDK \*
- JDK 7 Update 45 \*

\* - indicates software provided as part of the courseware.

### **Part 3 - Software Provided**

The following files are required:

- **WA2233\_1.ZIP**
- **WA2233\_2.ZIP**
- **WA2233\_3.ZIP**
- **WA2233\_4.ZIP**

All other software listed under Minimum Software Requirements is either commercially licensed software that you must provide or software that is freely available off the Internet.

### **Part 4 - AWS keys**

This course requires AWS keys for the students that will be generated before the class by Web Age Solutions. Please contact [support@webagesolutions.com](mailto:support@webagesolutions.com) to request keys generation and delivery of keys to the instructor.

### **Part 5 - Important Ghosting or Imaging Information**

None of the software required by this class support ghost or imaging. You can save time by copying the contents of the zip files to temporary folders on the hard drive and then imaging that hard drive. After restoring the image to the other computers and changing the host names, you can then install the software from the temporary folders individually.

**This course has issues when is cloned. Do not clone it.**

## Part 6 - Instructions

- \_\_1. Create the user that the students will use during the class.
- \_\_2. **Give the student user account administrative rights. During the labs the student requires this to install software**
- \_\_3. Login with this user to do the setup.
- \_\_4. Extract the 4 ZIP files to C:\
- \_\_5. Review that the following folders were created:
  - **C:\LabFiles**
  - **C:\Software\IID\_8.0**
  - **C:\Software\JRocket1.6**
  - **C:\Software\OEPE**
  - **C:\Software\WebLogic**
- \_\_6. Review that the following files were created:
  - **C:\Software\jdk-7u45-windows-i586.exe**

## Part 7 - Installing IBM Integration Designer 8.0



**Warning: You cannot use ghosting or disk imaging to install this software. You must install the software on each machine separately. Do not change the computer hostname after this software is installed. Also, do not install this software from a network share. It will only function partially if you do.**

Approximately time for installation of IID 8.0: 90 minutes. It is recommended turning off the firewall to avoid messages during the installation.

- \_\_1. Open **C:\Software\IID\_8.0**
- \_\_2. Right click **launchpad.exe** and select **Run as Administrator**.
- \_\_3. Confirm any Windows security prompts that are presented during the installation.

The Welcome to WebSphere Integration Designer Installation page will open.

\_\_4. Select **IBM Integration Designer for IBM Business Process Manager Advanced – Process Server**.

\_\_5. **Uncheck** the box for *Start working with IBM Process Center first*.

### Welcome to IBM Integration Designer Installation

Follow these steps to install an IBM Integration Designer environment.

Install as administrative user ([Help me decide](#))

The typical installations provide preselected configurations and determine the environment that will be enabled when IBM Integration Designer starts. You can change the configuration selections during installation or run Installation Manager at a later time to make changes. You can also change your environment at a later time in IBM Integration Designer.

Select one of the following typical installations:

- IBM® Integration Designer for IBM Business Process Manager Advanced - Process Server**  
Includes an IBM Process Server test environment, and also supports WebSphere Enterprise Service Bus, and optionally IBM Business Monitor.
  - Start working with the IBM Process Center first
- IBM® Integration Designer for WebSphere Enterprise Service Bus**  
Includes a WebSphere Enterprise Service Bus test environment, and optionally IBM Business Monitor.
- IBM® Integration Designer for IBM Business Monitor**  
Includes an IBM Business Monitor test environment (Windows only).
- IBM® Integration Designer for WebSphere DataPower**  
Test environment not included. The installation will work directly with the WebSphere DataPower Appliance.
- IBM® Integration Designer**  
Test environment not included.

\_\_6. Click **Install Selected**.

\_\_7. Confirm any Windows security prompts that are presented.

8. The **Install Packages** page will open. Leave all the defaults selected as shown below and click **Next**.

**Install Packages**  
Select packages to install:

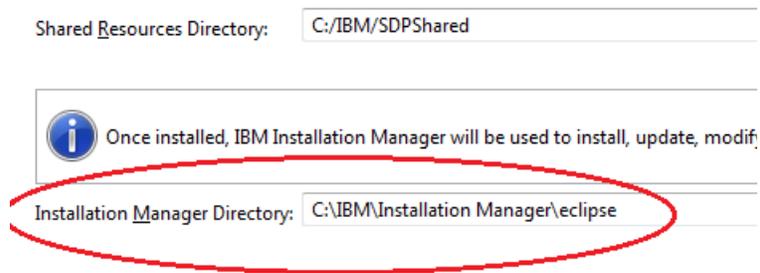
Installation Packages	Status	Vendor
<input checked="" type="checkbox"/> IBM® Installation Manager <input checked="" type="checkbox"/> Version 1.5.2	Will be installed	IBM
<input checked="" type="checkbox"/> IBM WebSphere Application Server Network Deployment <input checked="" type="checkbox"/> Version 8.0.0.3	Will be installed	IBM
<input checked="" type="checkbox"/> IBM® Integration Designer <input checked="" type="checkbox"/> Version 8.0.0.0	Will be installed	IBM
<input type="checkbox"/> IBM® Business Monitor <input type="checkbox"/> Version 8.0.0.0		IBM
<input checked="" type="checkbox"/> IBM® Business Process Manager Advanced - Process Server <input checked="" type="checkbox"/> Version 8.0.0.0	Will be installed	IBM
<input checked="" type="checkbox"/> IBM® DB2 Express 32 bit <input checked="" type="checkbox"/> Version 9.7.0.4	Will be installed	IBM
<input type="checkbox"/> IBM® Forms Designer <input type="checkbox"/> Version 4.0.0.2		IBM
<input type="checkbox"/> IBM® Cognos Business Intelligence 32 bit <input type="checkbox"/> Version 10.1.1.0		IBM

9. Accept the license terms and click **Next**.

I accept the terms in the license agreements  
 I do not accept the terms in the license agreements

[?](#)

\_\_10. **Modify** the *Installation Manager Directory* to "**C:\IBM\Installation Manager\eclipse**"



Shared Resources Directory: C:/IBM/SDPShared

Once installed, IBM Installation Manager will be used to install, update, modify, and remove software.

Installation Manager Directory: C:\IBM\Installation Manager\eclipse

**Windows Vista/2008/7:** It is especially important to modify the installation location on these systems as there may be errors saving to the WebSphere configuration if the product is installed under the 'Program Files' folders.

\_\_11. **Make sure** you changed *Installation Manager Directory* as shown above and then click **Next**.

\_\_12. Select and **Modify** the *Installation Directory of IBM WebSphere Application Server Network Deployment V8.0* to "**C:\IBM\WebSphere\AppServer**"

Package Group Name	Installation Directory
IBM Installation Manager	C:\IBM\Installation Manager\eclipse
IBM® Installation Manager 1.5.2	
IBM Integration Designer	C:/IBM/IntegrationDesigner/v8.0
IBM® Integration Designer 8.0.0.0	
IBM WebSphere Application Server Network Deployment V8.0	C:\IBM\WebSphere\AppServer
IBM WebSphere Application Server Network Deployment 8.0.0.3	
IBM® Business Process Manager Advanced - Process Server 8.0.0.0	
IBM® DB2 Express 32 bit 9.7.0.4	

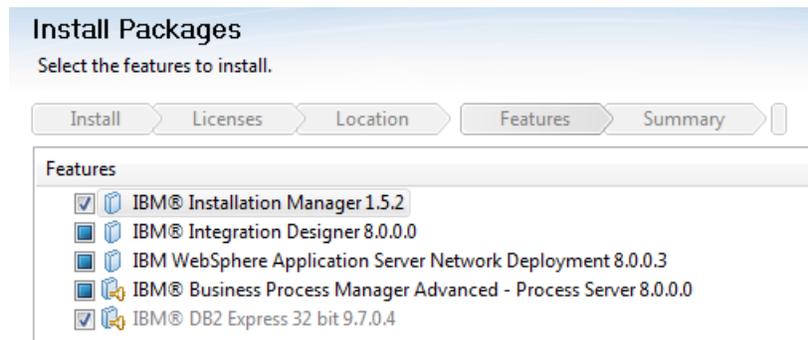
Package Group Name: IBM WebSphere Application Server Network Deployment V8.0  
Installation Directory: C:\IBM\WebSphere\AppServer

**Windows Vista/2008/7:** It is especially important to modify the installation location on these systems as there may be errors saving to the WebSphere configuration if the product is installed under the 'Program Files' folders.

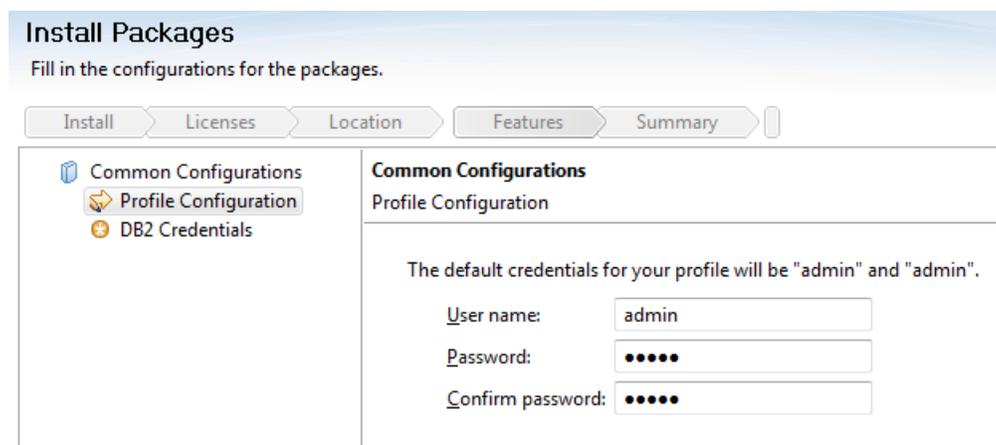
\_\_13. **Make sure** you changed the *Installation Directory of IBM WebSphere Application Server Network Deployment V8.0* as shown above and then click **Next**.

\_\_14. Click **Next** in the Translations Supported page.

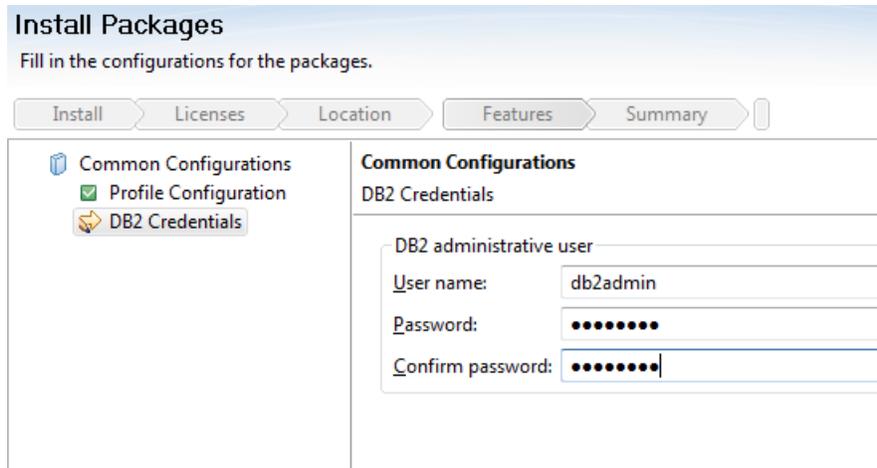
\_\_15. Leave all defaults for *Features to install* and click **Next**.



\_\_16. Leave the default values for the profile configuration and click **Next**.



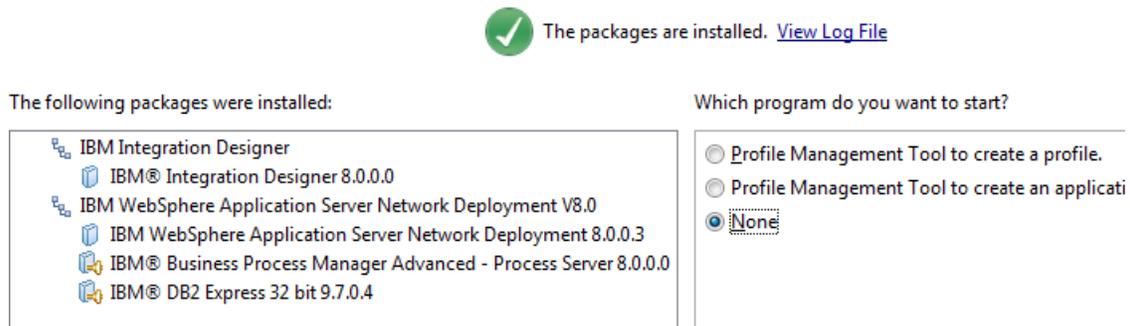
17. **Change** the *user name and password DB2 credentials* to **db2admin** as shown below and click **Next**.



18. Finally click **Install** to start installing the product. This will take some time. Make sure all software will be installed under **C:\IBM**.

Packages	
Packages	Installation Directory
IBM Installation Manager	C:\IBM\Installation Manager\eclipse
IBM® Installation Manager 1.5.2	
IBM Integration Designer	C:\IBM\IntegrationDesigner\v8.0
IBM® Integration Designer 8.0.0.0	
Tools for developing applications without a local server installation	
Email, Flat File, FTP and JDBC IBM WebSphere Adapters	
Monitor Model editor	
IBM WebSphere Application Server Network Deployment V8.0	C:\IBM\WebSphere\AppServer
IBM WebSphere Application Server Network Deployment 8.0.0.3	
EJBDeploy tool for pre-EJB 3.0 modules	
Stand-alone thin clients, resource adapters and embeddable containers	
IBM® Business Process Manager Advanced - Process Server 8.0.0.0	
Business Process Manager Advanced - Client (always installed)	
Business Process Manager Advanced - Process Server	
IBM® DB2 Express 32 bit 9.7.0.4	

\_\_19. Verify that installation completed successfully, then select **None** and click **Finish**.



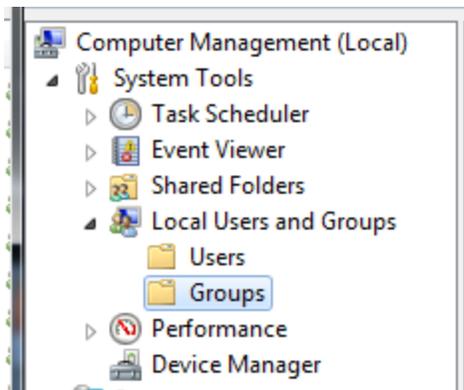
\_\_20. Close the Launchpad.

## Part 8 - Assign privileges in DB2 admin group

DB2 was installed with the IBM Business Process Manager installation but only the 'db2admin' user has appropriate privileges. This means that is students login with a different ID, they will have permission problems using DB2.

\_\_1. Open the 'Local Computer Management' utility. Doing this varies by Windows version but generally right clicking on an icon for 'Computer' (in a Windows Explorer window or the Start menu) and selecting 'Manage' will do it.

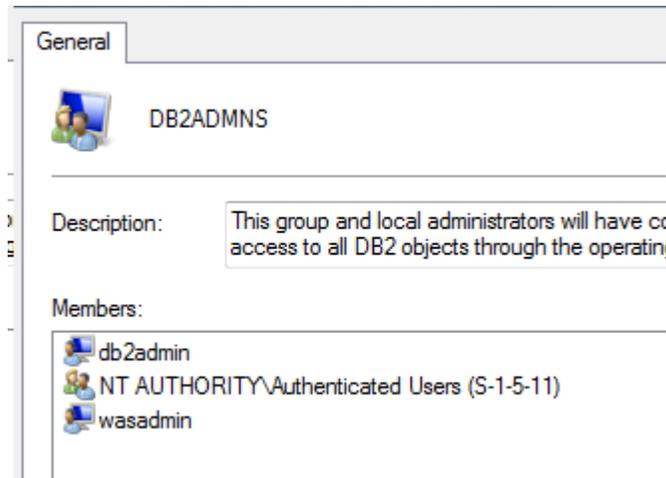
\_\_2. Expand '**Computer Management (Local)** → **System Tools** → **Local Users and Groups** → **Groups**'



\_\_3. With the '**Groups**' folder selected on the left, open the properties of the '**DB2ADMNS**' group on the right. The easiest way is to double click the group.



\_\_4. With the properties of the '**DB2ADMNS**' group open, add either the individual IDs on the computer the students will use to login or all 'Authenticated Users'. The method for doing this will differ depending on Windows version but you should see the configured users/groups added to the 'Members' list of the '**DB2ADMNS**' group.



**Note:** Users in the 'DB2ADMNS' group have the proper privileges to run the DB2 services. You will get a DB2 error prompt appear when you login if you don't have the proper permission.

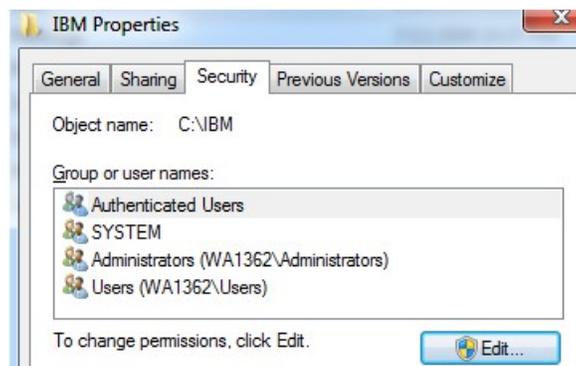
\_\_5. Close any open dialog boxes and the 'Computer Management' window.

## Part 9 - Modify File Permissions

**Note:** These steps allow full access to the directories used by the WebSphere install. This is required so that students can start the WebSphere server from within development tools and will allow the WebSphere server to write to the log files. Without these steps the students won't be able to start the WebSphere server and won't be able to do the labs.

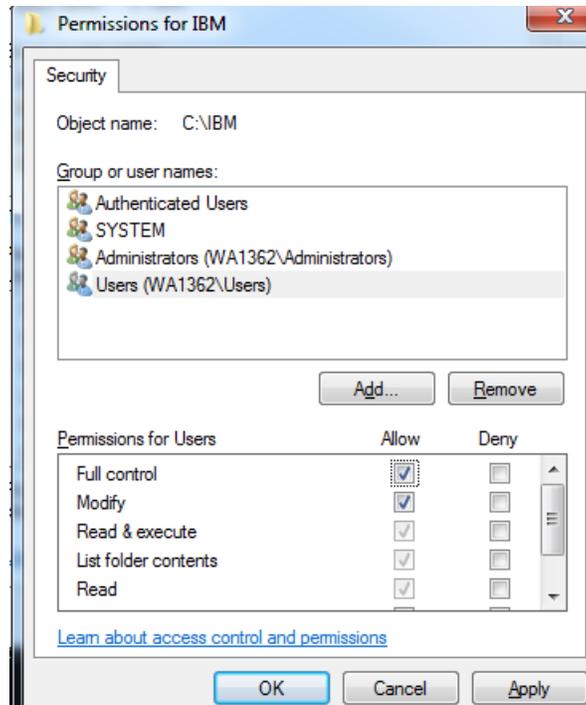
These steps allow full access to the directories used by the WebSphere install. The steps to accomplish this may vary by Windows version but the goal is the same, granting access to all users to the WebSphere install. If you have questions about how to accomplish this contact the setup support person for the class.

- \_\_ 1. Right click C:\IBM and select **Properties**.
- \_\_ 2. Click the **Security** tab.
- \_\_ 3. Click **Edit**.



\_\_4. Select the **Users entry (add one if not present)**.

\_\_5. Check **Full Control** permission option and click **OK**.



\_\_6. Wait until the process finishes updating security, and close all windows when is done.

\_\_7. Repeat the same steps for Authenticated users.

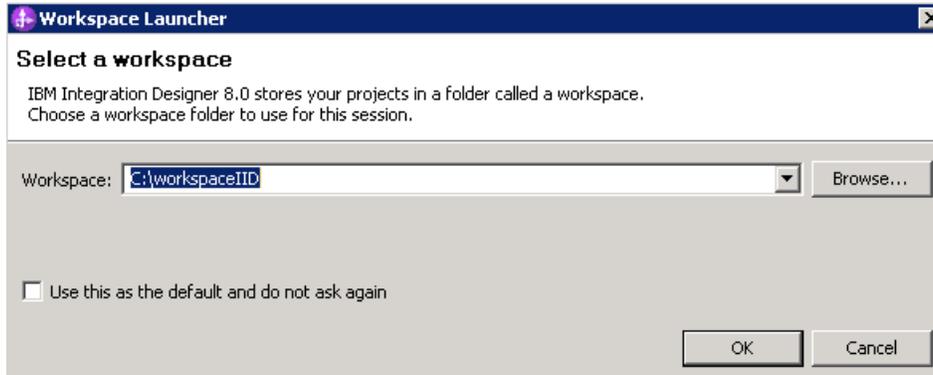
\_\_8. Now give full privileges to **C:\LabFiles** to all users as you did it to the IBM folder.

\_\_9. Restart the computer and login with the user that the student will use to do the Labs.

\_\_10. Make sure the user has full access to **C:\LabFiles** as well as **C:\IBM** folders.

## Part 10 - Verification of the installation of IID 8.0

1. From start menu select: **All Programs > IBM > IBM Integration Designer -> IBM Integration Designer 8.0**
2. Change the workspace to **C:\workspaceIID** and click **OK**.



3. If you are prompted by the Windows firewall about blocking a program unblock it.

The Getting started page will open.



4. Select the **Servers** tab.

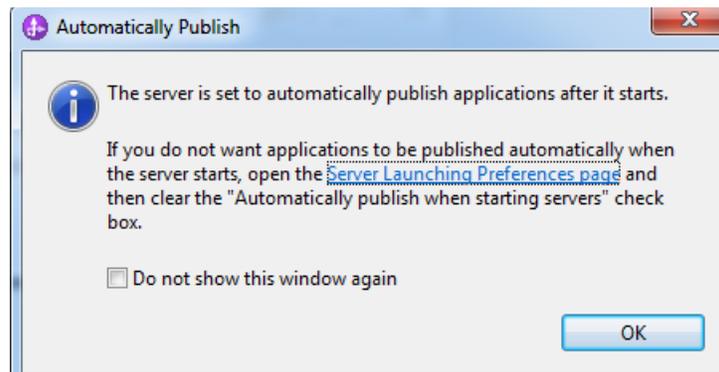


\_\_5. Right click the **IBM Process Server v8.0 at local host** server and select **Start**. You will see at the bottom messages that the server is starting, wait patiently, the first time the server is started launch many services.

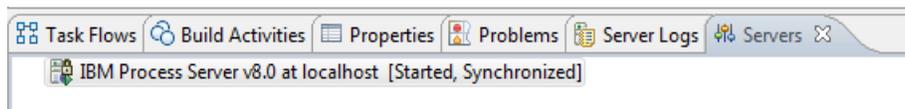
\_\_6. From the menu, select **Window** → **Show View** → **Console**.

\_\_7. The Console view will open and there you can monitor the server. Starting the server the first time takes a while (10 minutes) but if the Console shows activity then everything is fine.

\_\_8. Click **OK** if the automatically publish message open.

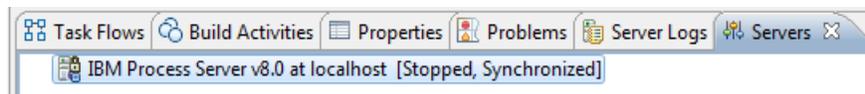


\_\_9. Make sure the Server status changed to **[Started, Synchronized]**.



\_\_10. Now, right click the server and select **Stop**.

Server status will change to **[Stopped, Synchronized]**.



\_\_11. Exit the product by selecting **File** → **Exit** from the menu bar.

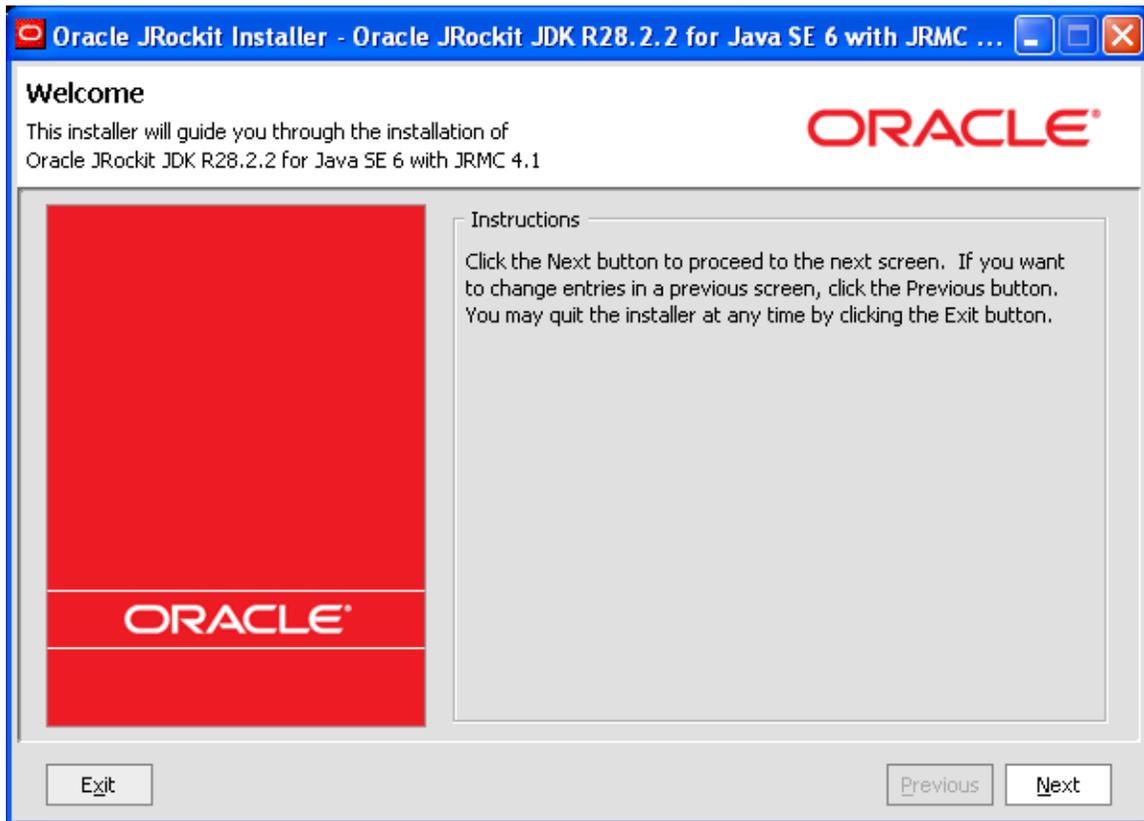
\_\_12. Close all the open files.

Congratulations! The product has successfully been installed.

## Part 11 - Installing JRockit JDK 1.6

Please follow these steps to install JRockit JDK 1.6.

\_\_1. From **C:\Software\JRockit1.6** folder, run **jrockit-jdk1.6.0\_29-R28.2.2-4.1.0-windows-ia32.exe**



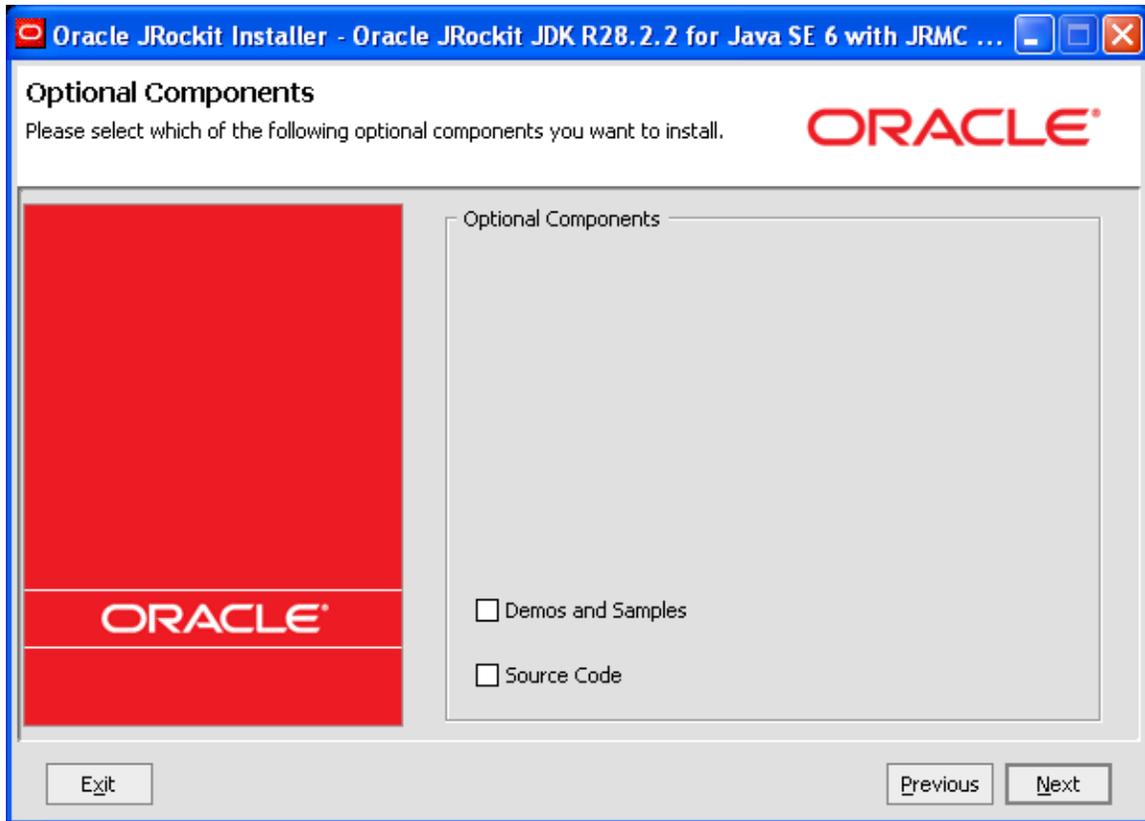
\_\_2. Click **Next**.

\_\_3. Change the installation directory to **C:\Software\Java**



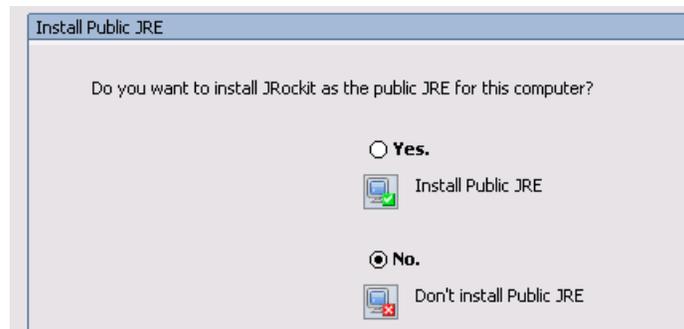
It is important that you install in this directory as the course depends on it.

\_\_4. Click **Next**.



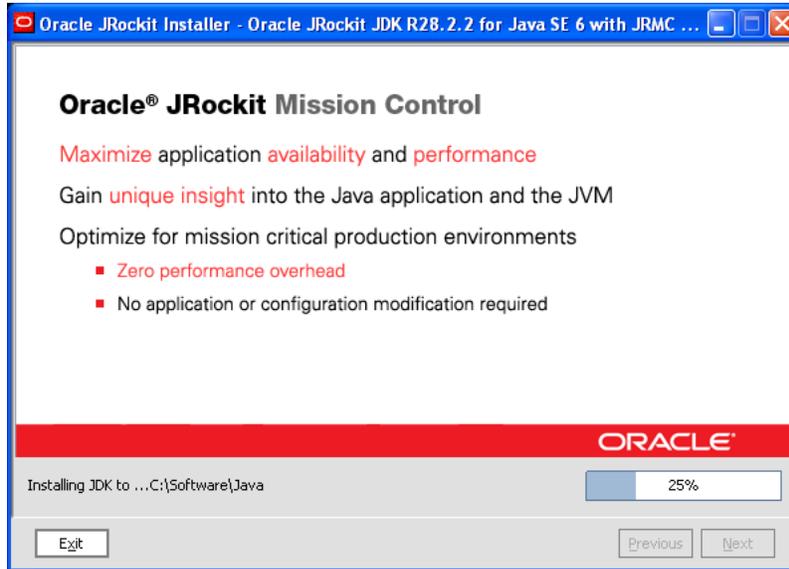
\_\_5. Click **Next**.

\_\_6. Select **No. Don't install public JRE**.

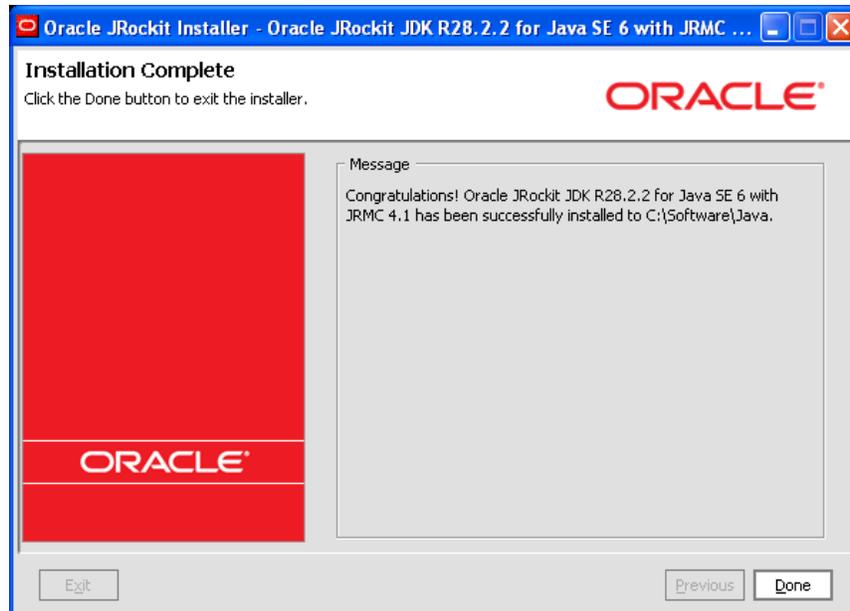


\_\_7. Click **Next**.

Installation will begin.



8. Click **Done**.



## Part 12 - Oracle WebLogic Server v12c server Setup

Make sure, WebLogic Server has already been extracted into **C:\Software\WebLogic** folder.

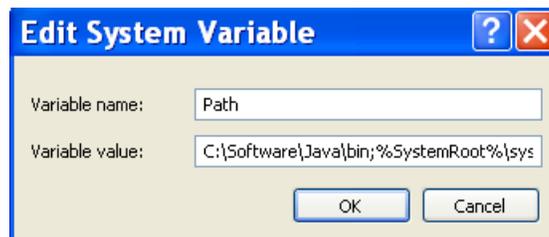
In this part we will setup necessary Environment variables and run installation configuration script.

Follow the instructions to set up JAVA\_HOME, MW\_HOME and JAVA\_VENDOR environment variable.

```
JAVA_HOME=C:\Software\Java  
MW_HOME=C:\Software\WebLogic  
JAVA_VENDOR=Oracle
```

- \_\_1. Login as the user that will do the Labs and make sure has administrative privileges.
- \_\_2. Right click on the **My Computer** icon on your computer and select **properties**.
- \_\_3. Click the **Advanced** Tab.
- \_\_4. Click the **Environment Variables** button.
- \_\_5. From the *System Variables* list, select **Path** and click **Edit**.
- \_\_6. At the beginning of the line enter the following:

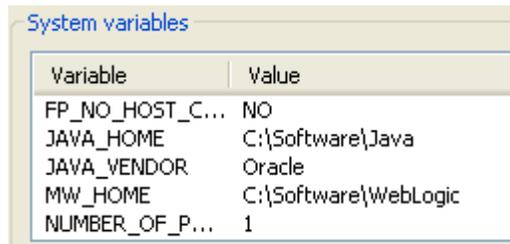
```
C:\Software\Java\bin;
```



- \_\_7. Click **OK**.
  - \_\_8. Under System Variables, click **New**.
  - \_\_9. Enter the variable name as **JAVA\_HOME**
  - \_\_10. Enter the variable value as the install path for the Development Kit.
- ```
C:\Software\Java
```
- \_\_11. Click **OK**.
  - \_\_12. Repeat these steps for **MW\_HOME** and **JAVA\_VENDOR** variables.

```
MW_HOME=C:\Software\WebLogic  
JAVA_VENDOR=Oracle
```

Once all done it should look like.

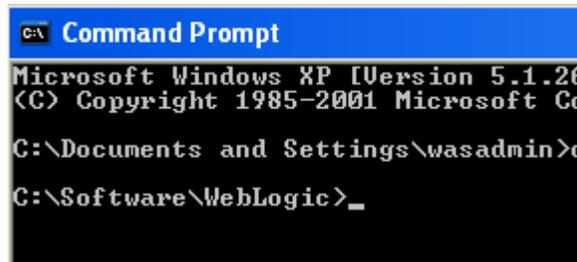


\_\_13. Click OK until you close all windows.

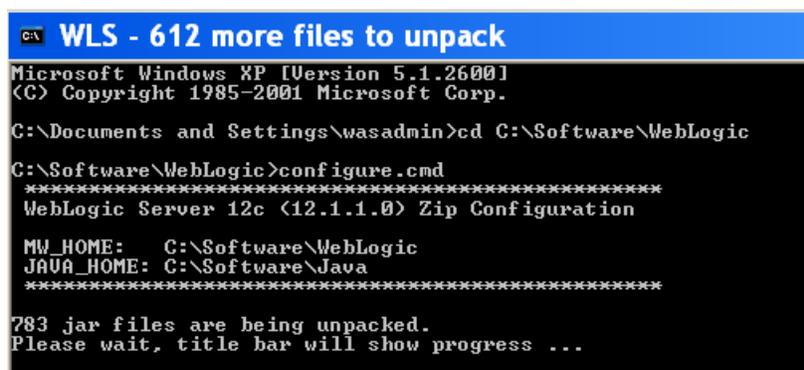
Now you will run the installation configuration script in the MW\_HOME directory. It should be run only once.

\_\_14. Open a command prompt.

\_\_15. Change the directory to C:\Software\WebLogic



\_\_16. Enter **configure.cmd** and hit Enter.



It takes few minutes to complete.

You will get a notification when the installation is done.

```
em32;C:\WINDOWS;C:\WINDOWS\System32\
tive\win\32\oci920_8"
Your environment has been set.
BUILD SUCCESSFUL
Total time: 0 seconds
C:\Program Files\Java\
```

\_\_17. Close the command prompt window.

\_\_18. Restart the machine.

\_\_1. Open a Windows command prompt. You can do this by selecting '**Start -> Run**', entering '**cmd**', and then pressing the **OK** button.

\_\_2. Enter the following command:

```
java -version
```

Make sure you see the response shown below.

```
C:\Documents and Settings\wasadmin>java -version
java version "1.6.0_29"
Java(TM) SE Runtime Environment (build 1.6.0_29-b11)
Oracle JRockit(R) (build R28.2.2-7-148152-1.6.0_29-20111221-2103-windows-ia32, c
ompiled mode)
```

\_\_3. Enter the following command:

```
javac
```

Verify that you get the options to run the Java compiler:

```
C:\Documents and Settings\wasadmin>javac
Usage: javac <options> <source files>
where possible options include:
-g Generate all debugging info
-g:none Generate no debugging info
-g:<lines,vars,source> Generate only some debugging info
-nowarn Generate no warnings
-verbose Output messages about what the compiler is doing
-deprecation Output source locations where deprecated APIs are u
sed
-classpath <path> Specify where to find user class files and annotati
on processors
-cp <path> Specify where to find user class files and annotati
on processors
-sourcepath <path> Specify where to find input source files
-bootclasspath <path> Override location of bootstrap class files
```

\_\_4. Close the command prompt window.

## Part 13 - Configure a server in OEPE

We now need to configure Oracle Enterprise Pack for Eclipse(OEPE) to be able to communicate with WLS. Doing so will allow us to perform simple operations with the server (e.g. Starting, stopping and deploying applications). While this is not strictly necessary for a development environment, it significantly simplifies development time. In order to setup the server we should also need to create a domain.

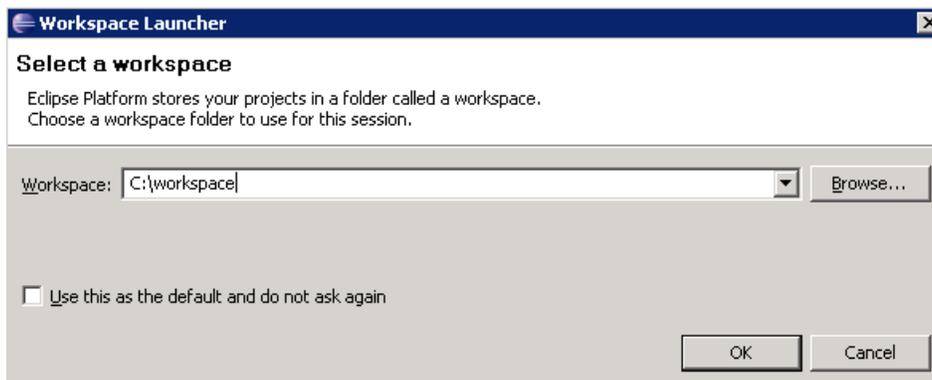
As with WLS, OEPE has already been installed on your computer. We just need to configure it.

\_\_1. Start OEPE by launching **C:\Software\OEPE\eclipse.exe**

OEPE will launch.

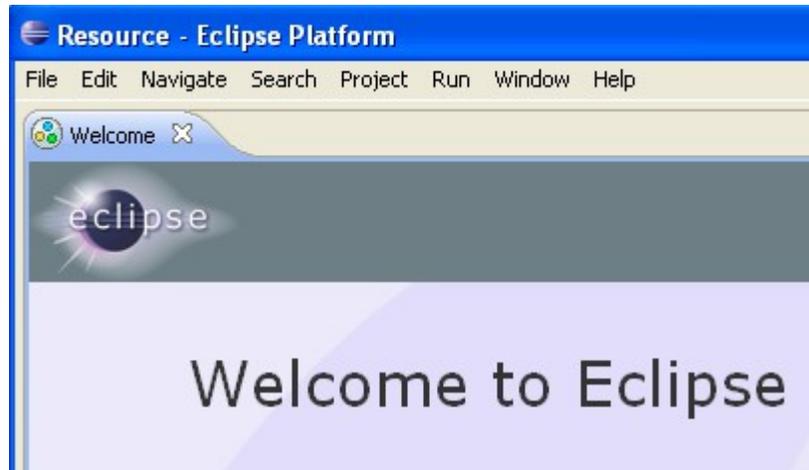
You will be prompted to select a Workspace.

\_\_2. Set the *Workspace* to **C:\workspace**



\_\_3. Click **OK**.

OEPE will start.

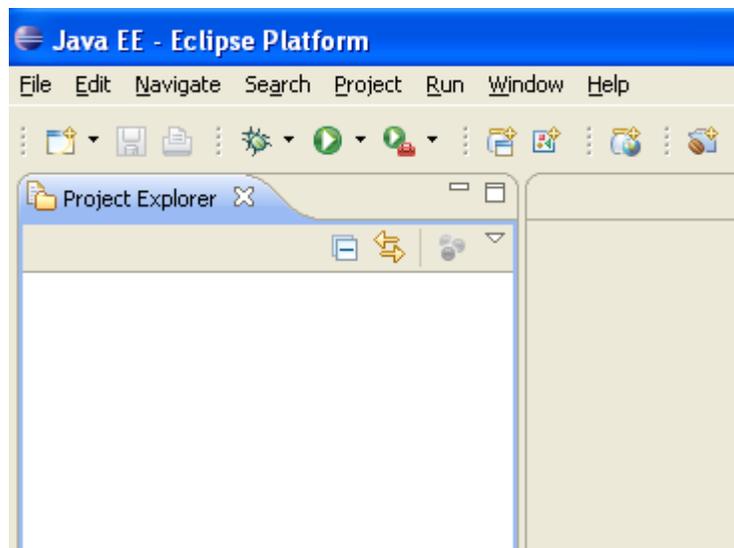


As mentioned earlier, OEPE is built on top of Eclipse. If you are familiar with Eclipse, you should have no problems using OEPE.

\_\_4. WTP is displaying the **Welcome** screen (or *view*). Close the view by clicking the **x** in its tab.

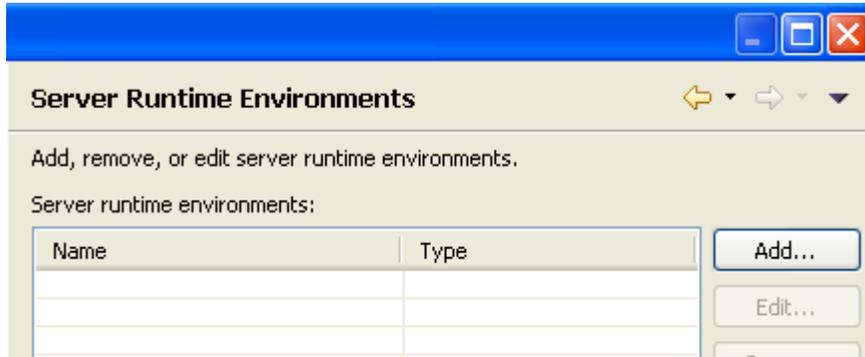
\_\_5. From the menu, select **Window > Open Perspective > Java EE**.

OEPE will then show the **Java EE perspective**. (A *perspective* is a collection of views)



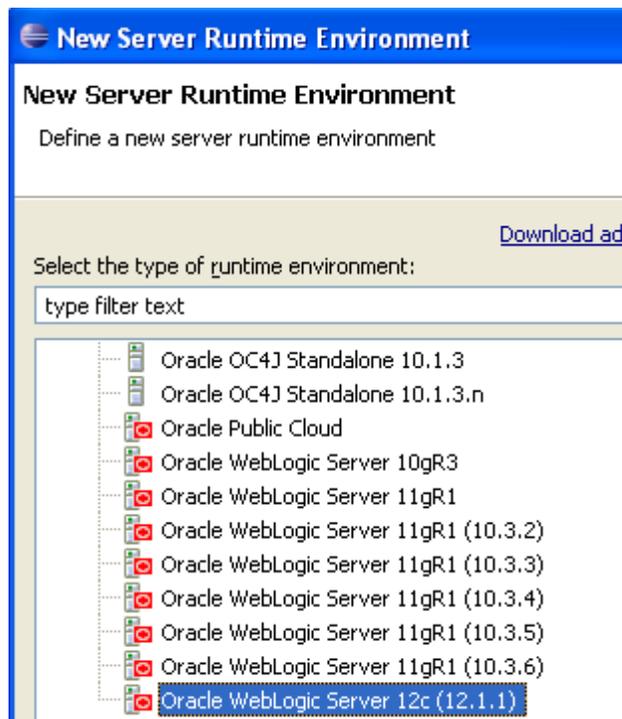
\_\_6. Select **Windows | Preferences**.

\_\_7. Expand **Server | Runtime Environments**.

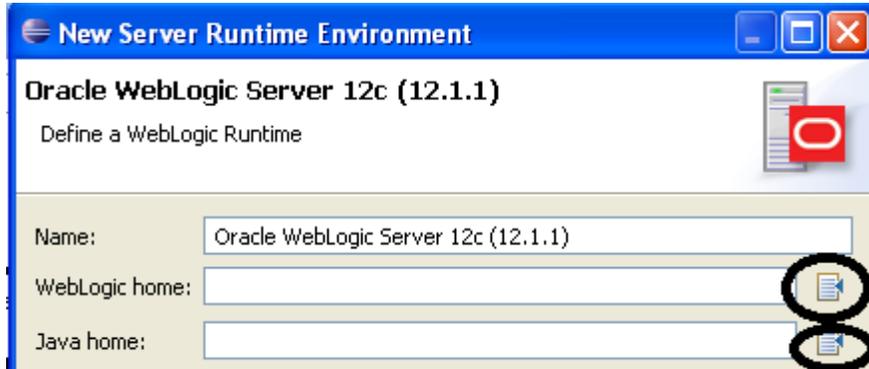


\_\_8. Click **Add...**

\_\_9. Expand **Oracle** and select **Oracle Weblogic Server 12c(12.1.1)**

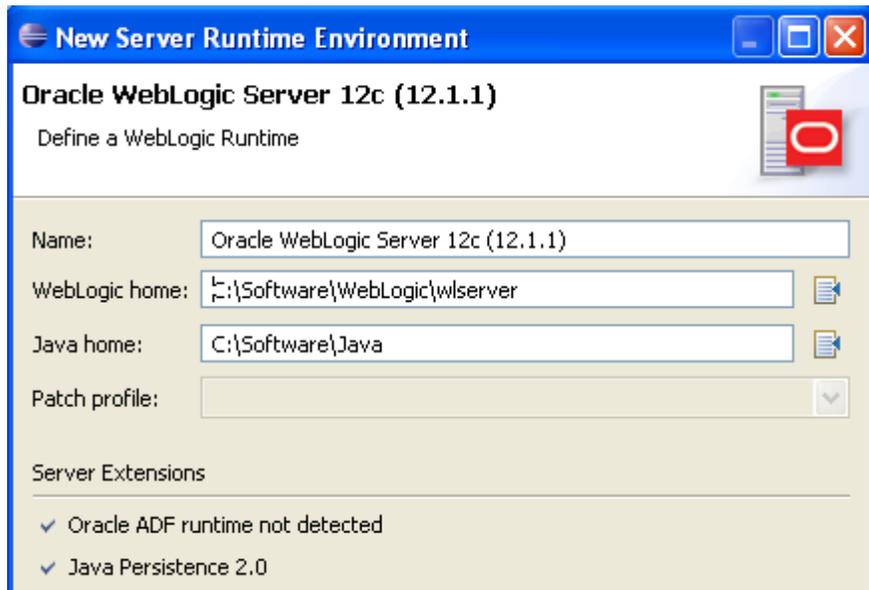


\_\_10. Click **Next**.

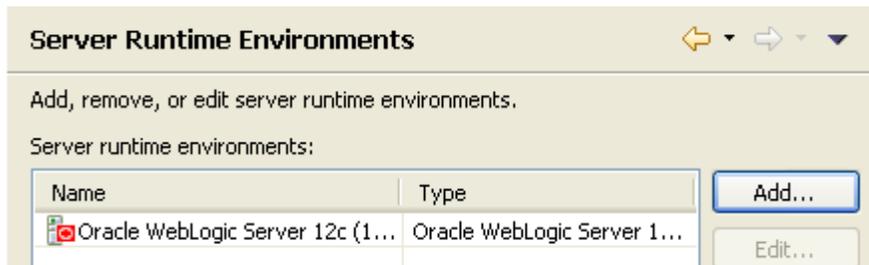


\_\_11. For Weblogic home, enter **C:\Software\WebLogic\wlserver** or browse to find the location. Similarly enter **C:\Software\Java** for Java home.

You will see as shown below:



\_\_12. Click **Finish**.

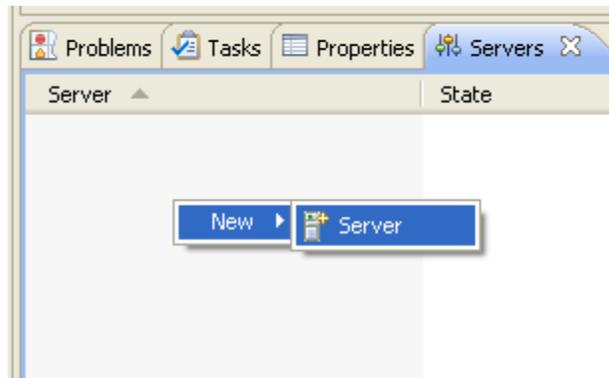


\_\_13. Click **OK**.

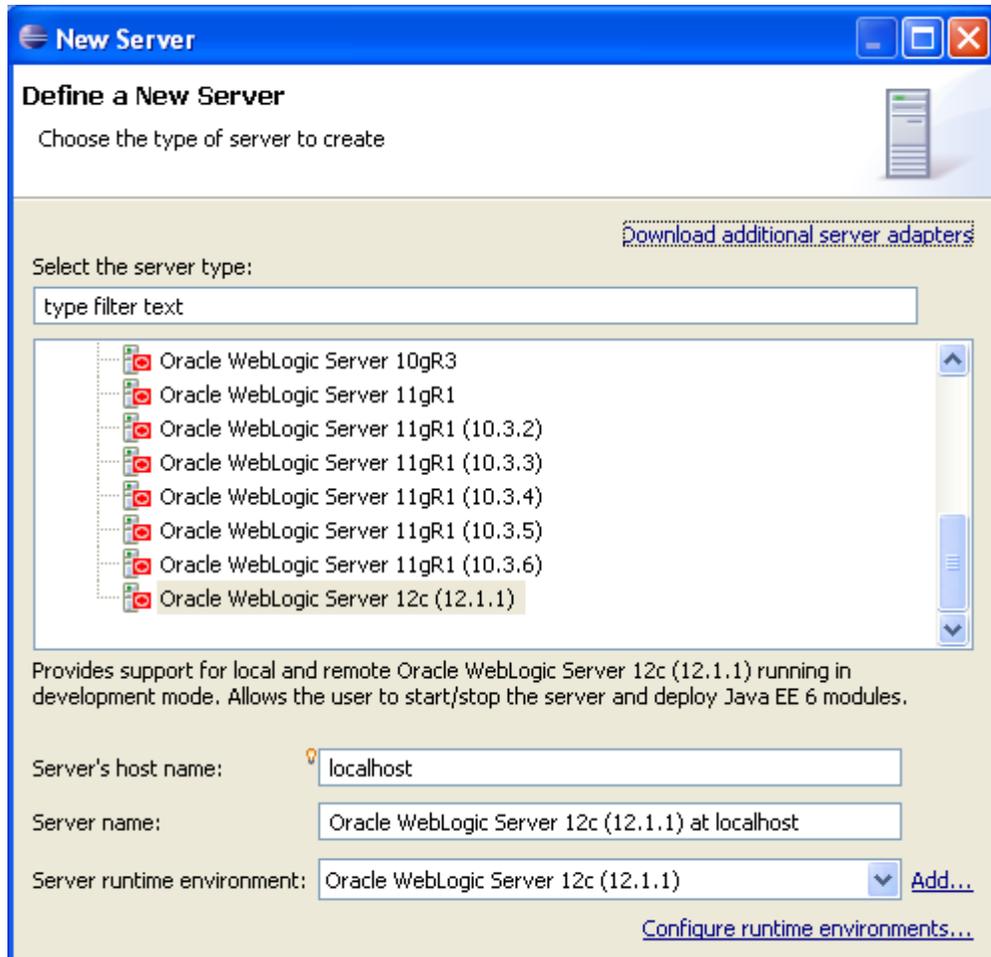
\_\_14. We need to create domain and configure OEPE to point at the domain. Locate the *Server view*. To do this, click the **Servers** tab in the bottom area of OEPE.



\_\_15. Right click anywhere in the area and select **New | Server**.

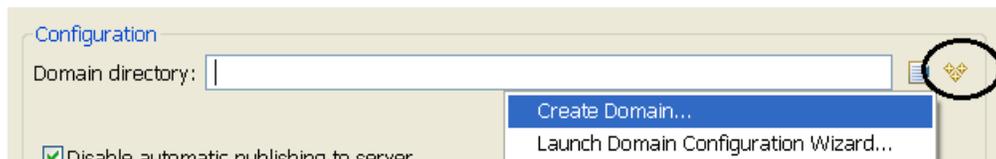


The *New Server* window will appear.



\_\_16. Select **Oracle WebLogic Server 12c**.

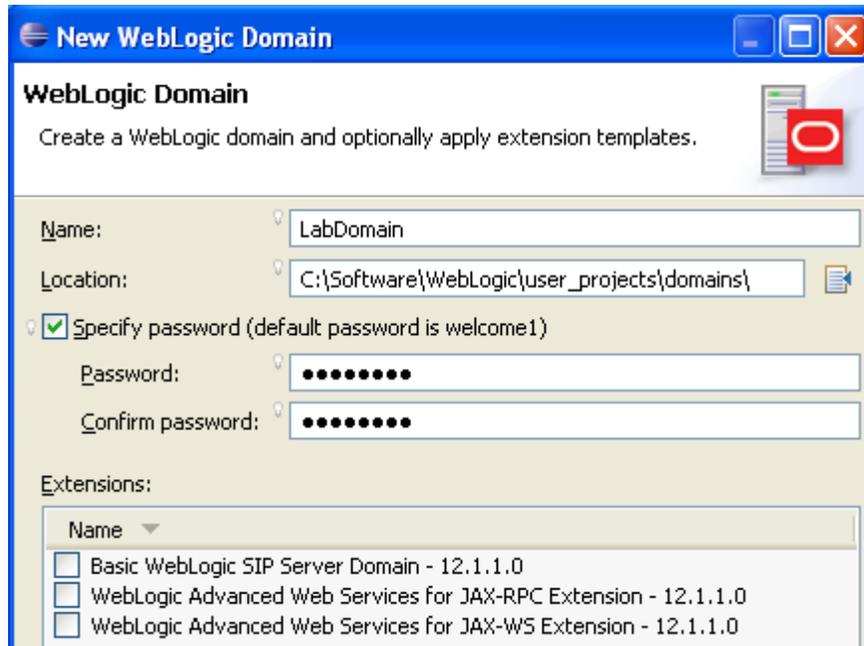
\_\_17. Click **Next**.



\_\_18. Next to **Domain directory**, click the **create** icon and then select **Create Domain**.

\_\_19. Enter **LabDomain** as the name.

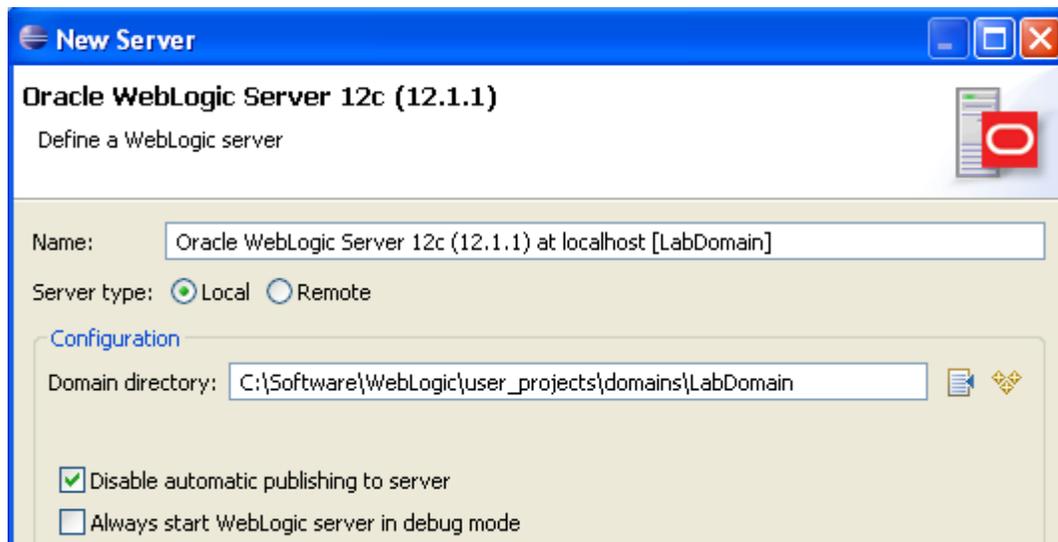
\_\_20. Check specify password and enter **w1sadmin** as password **where the password contains number one not L**.



\_\_21. Don't select any extensions, because we will not be using any of the advanced features like WS-Addressing.

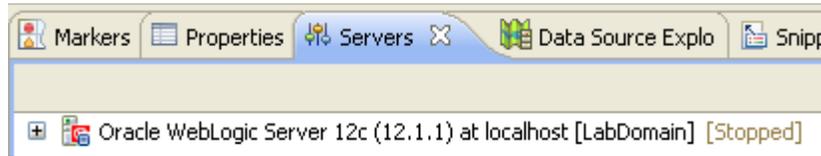
\_\_22. Click **Finish**.

\_\_23. After some seconds the below screen will open, make sure **Disable Automatic Publishing to server** is checked.



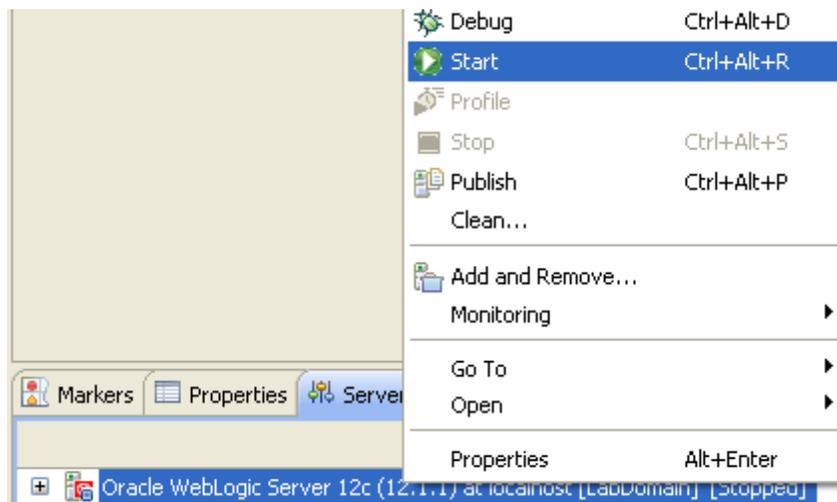
\_\_24. Click **Finish**.

The server connection has been defined, and the server should now be listed in the *Servers* view.



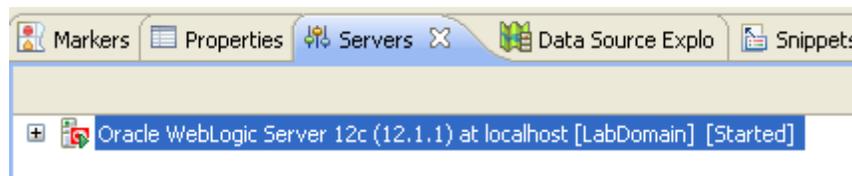
## Part 14 - Verify the Server

\_\_1. In the *Servers* view, right click on the server and select **Start**.

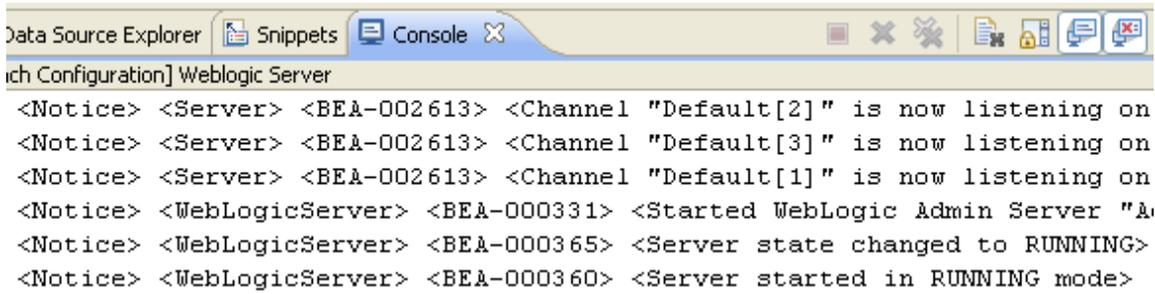


The *Console* view should automatically open. This will allow us to “see” OEPE booting. Eventually, the server will start and the *Servers* view will be brought to the focus again.

After finish publishing the server *State* should be **Started**.



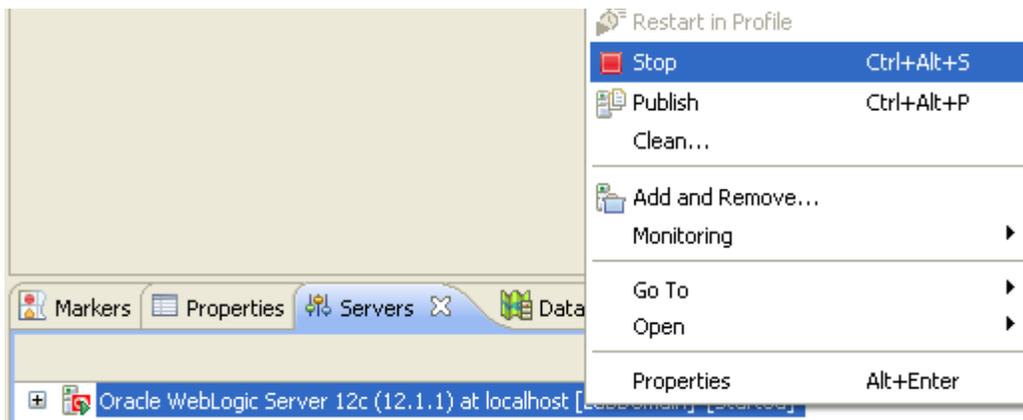
\_\_2. Examine the *Console* window by clicking the *Console* tab.



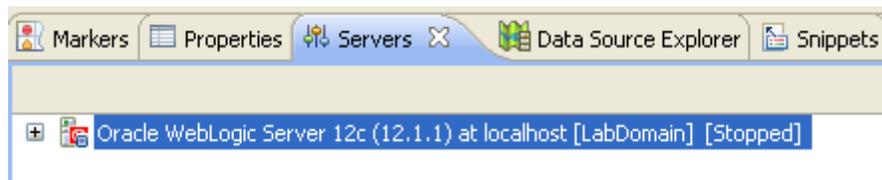
In later steps, when we ask you to refer to the *server console*, this is the view we will be referring to.

\_\_3. Go back to the *Servers* view.

\_\_4. Right click on the server and select **Stop**.



As with starting the server, the console view will open briefly. Then the *Server* view will appear, listing the status as *Stopped*.



\_\_5. Close OEPE.

\_\_6. Restart the machine and login as the user that will do the Labs.

## **Part 15 - Summary**

**You have successfully installed the software for this course!**

If you have any question please contact us by email at [support@webagesolutions.com](mailto:support@webagesolutions.com)

From US and Canada call: 1-877-812-8887 ext. 26

International call: 416-406-3994 ext. 26