Instructor Notes:

Add instructor notes here.

Java Servlets 3.0

Lesson 02: Working with WildFly 8.x

Capgemini

Instructor Notes:

Explain the lesson
coverage

Lesson Objectives

Configuring the Server with Eclipse Luna (4.4.x)
Understanding the Directory Structure
Deploying the Web Application on Wildfly

Lesson Objectives:
This lesson introduces Web application concepts. The lesson contents are:
Lesson 02: Working with WildFly 8.x
        2.1: Configuring the Server with Eclipse Luna (4.4.x)
        2.2: Understanding the Directory Structure
        2.3: Deploying the Web Application on Wildfly

Instructor Notes:

Mention software
requirements for
installing WildFly

2.1: Configuring the Server with Eclipse Luna (4.4.x)
Steps for installing WildFly

Steps for installing WildFly

- Require JDK 7 or Higher
- Set the JAVA_HOME environment variable to the location of JDK 7 or higher or this
  could be done by setting the path variable.

Identify the drive/location on the system for installing WildFly

Before installing WildFly ensure that the system satisfies certain pre-requisites.
Check the availability of JDK 8. Check the version of JDK by using
 the command
     java –version
Set the JAVA_HOME variable to the location of JDK 8 or setting path variable
Identify the drive/location on the system for installing WildFly
  (Note : It does not matter where WildFly is installed on the system. However do not
install WildFly in a directory that contains spaces, it can cause problems sometimes)

Instructor Notes:

Official site from
where WildFly can
be downloaded

2.1: Configuring the Server with Eclipse Luna (4.4.x)
WildFly installable

Download WildFly
- Latest version can be downloaded from http://wildfly.org/downloads
- The zip version can be downloaded from here

Basic installation : Extracting the contents of the archive to an appropriate location identified

Follow below steps for Wildfly Eclipse Plugin:

- Select "Help->Eclipse Marketplace..." from the Eclipse menu bar. Choose "Eclipse Marketplace" if prompted for a marketplace catalog.
- Search for "JBoss Tools" and install JBoss Tools (Luna), version 4.2.x.
- Wait until "Calculating requirements..." has finished and make sure that all features are checked, then confirm.
- Accept the license agreements and click "Finish".

WildFly Server is freely downloadable. An evaluation copy could also be used
WildFly archive(Zip, tar) can be downloaded from http://wildfly.org/downloads
Once the required version is downloaded basic installation can be done. Extract the contents of the archive in the appropriate location identified on the system.

Instructor Notes:

Apart from showing the diagrammatic representation of WildFly directory structure. Also tell the participants to see the structure on their machines and briefly look at even the files contained in the directory

2.2: Understanding the Directory Structure
WildFly Directory Structure

WildFly server directory structure

Name	Date modified	Type	Size
.installation	5/30/2014 9:54 PM	File folder	
appclient	2/24/2015 4:26 PM	File folder	
bin	2/24/2015 4:26 PM	File folder	
docs	2/24/2015 4:26 PM	File folder	
domain	2/24/2015 4:26 PM	File folder	
modules	2/24/2015 4:26 PM	File folder	
standalone	2/24/2015 4:28 PM	File folder	
welcome-content	2/24/2015 4:26 PM	File folder	
copyright.txt	5/30/2014 9:54 PM	TXT File	3 KB
jboss-modules.jar	5/30/2014 9:54 PM	Executable Jar File	347 KB
LICENSE.txt	5/30/2014 9:54 PM	TXT File	26 KB
README.txt	5/30/2014 9:54 PM	TXT File	3 KB

Once WildFly is available on the system, it will create the directory that contains server configurations , JARs and other directories which help in functioning of WildFly.
The figure on the slide shows the WildFly directory structure with below diagram

DIRECTORY	DESCRIPTION
appclient	Configuration files, deployment content
bin	Startup scripts, startup configuration files and various command line utilities like Vault, add-user
docs/schema	XML schema definition files
docs/examples/configs	Example configuration files representing specific use cases
domain	Configuration files, deployment content, and writable areas used by the domain mode processes run from this installation.
modules	WildFly 8 is based on modular class loading architecture. The various modules used in the server are stored here.
Standalone	Configuration files, deployment content, and writable areas used by the single standalone server run from this installation
welcome-content	Default Welcome Page content

Instructor Notes:

As WildFly is not used in the clustered environment, focus on the standalone directory structure where single instance of WildFly server is started.

2.2: Understanding the Directory Structure
WildFly Directory Structure

Standalone Directory Structure

In "*standalone*" mode each WildFly 8 server instance is an independent process. The configuration files, deployment content and writable areas used by the single standalone server run from a WildFly installation.

The details of the standalone directory is present in below diagram

DIRECTORY	DESCRIPTION
configuration	Configuration files for the standalone server that runs off of this installation. All configuration information for the running server is located here and is the single place for configuration modifications for the standalone server.
data	Persistent information written by the server to survive a restart of the server
deployments	End user deployment content can be placed in this directory for automatic detection and deployment of that content into the server's runtime.
lib/ext	Location for installed library jars referenced by applications using the Extension-List mechanism
log	standalone server log files
tmp	location for temporary files written by the server
tmp/auth	Special location used to exchange authentication tokens with local clients so they can confirm that they are local to the running AS (Application Server)process

Instructor Notes:

2.2: Understanding the Directory Structure
WildFly Configurations

Standalone Server Configurations

- standalone.xml (default)
  - Java Enterprise Edition 7 web profile certified configuration with the required technologies

- standalone-ha.xml
  - Java Enterprise Edition 7 web profile certified configuration with high availability

- standalone-full.xml
  - Java Enterprise Edition 7 full profile certified configuration including all the required EE 7 technologies

- standalone-full-ha.xml
  - Java Enterprise Edition 7 full profile certified configuration with high availability

We also have the Domain Server Configurations

domain.xml
> Java Enterprise Edition 7 full and web profiles available with or without high availability

Important to note is that the domain and standalone modes determine how the servers are managed not what capabilities they provide.

Instructor Notes:

Configuring
WildFly with
Eclipse
editor

2.3: Deploying the Web Application on Wildfly
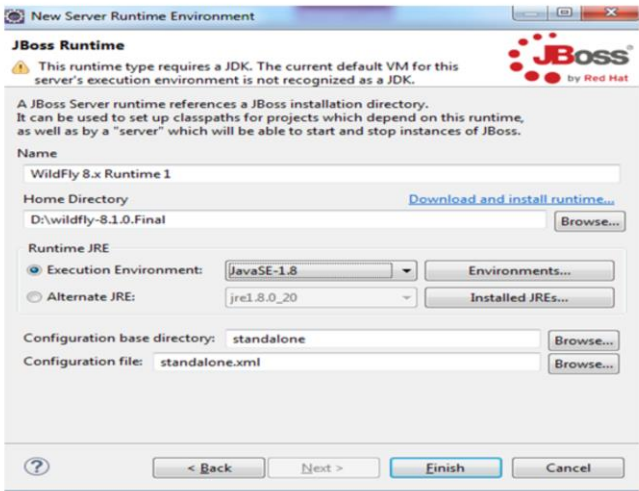# Using WildFly in Eclipse environment

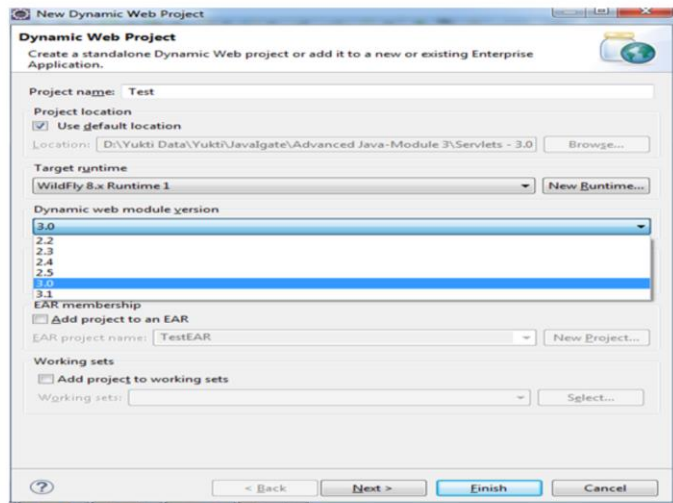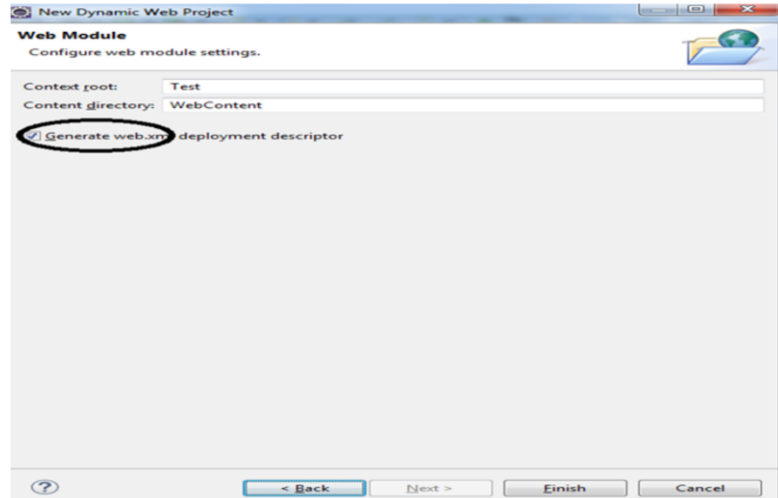Create dynamic web project
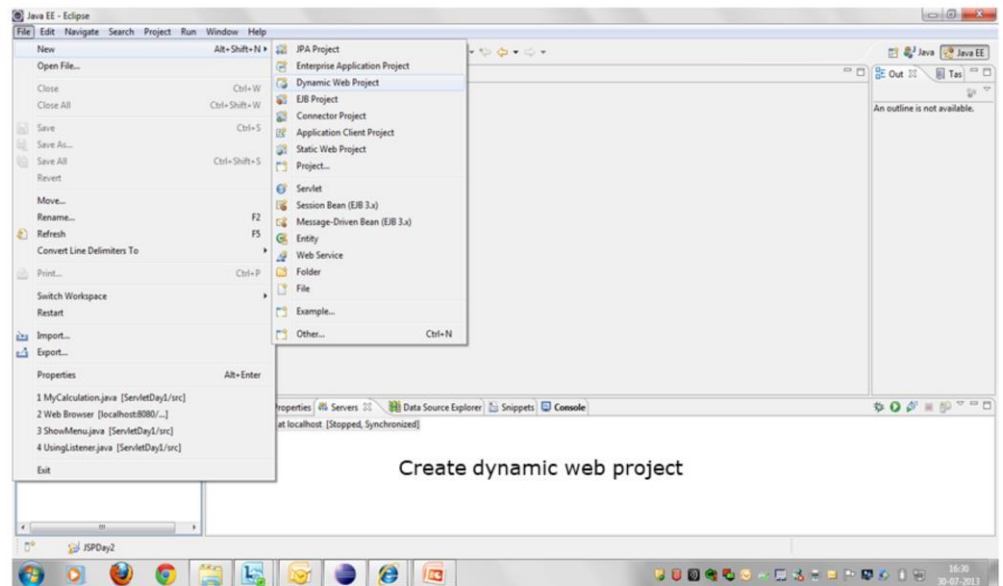
Select Dynamic Web Project

Instructor Notes:

Configuring
WildFly with
Eclipse
editor
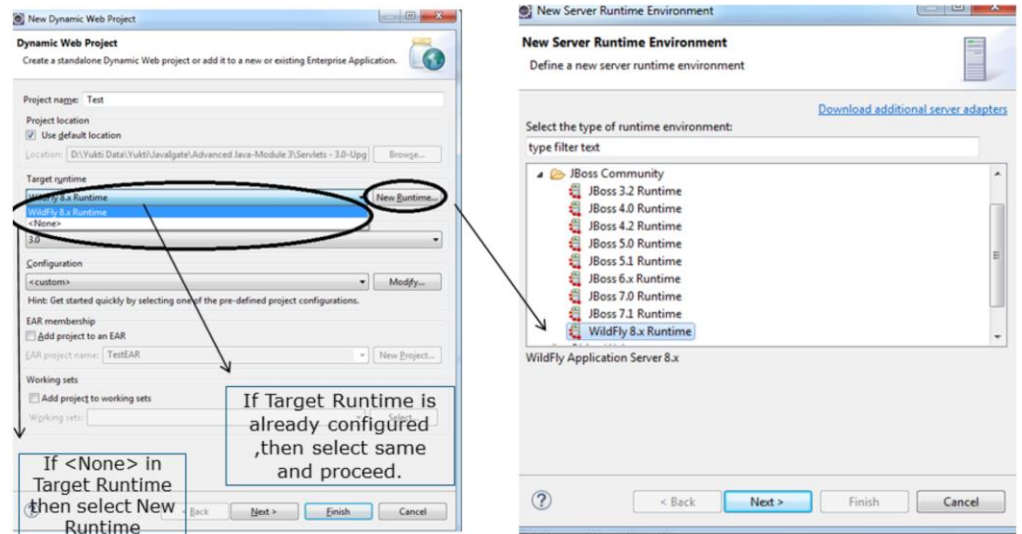
Click New Runtime to add server

Instructor Notes:

Configuring
WildFly with
Eclipse
editor

Select WildFly folder

Instructor Notes:

Configuring
WildFly with
Eclipse
editor

2.3: Deploying the Web Application on Wildfly
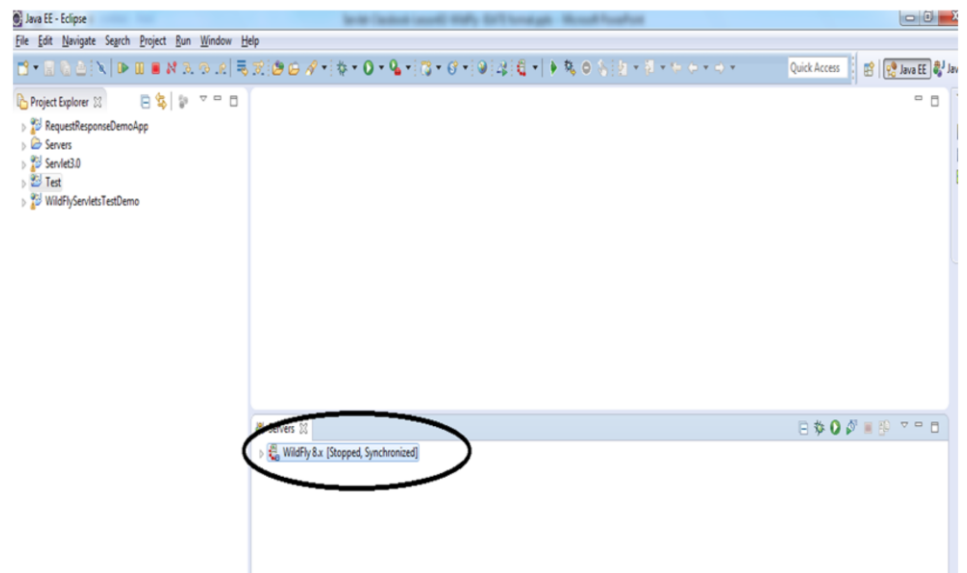## Using WildFly in Eclipse environment

Click Next > Next > on this screen

Select Dynamic web module version 3.0

Instructor Notes:

Configuring
WildFly with
Eclipse
editor

2.3: Deploying the Web Application on Wildfly
Using WildFly in Eclipse environment

Click on check box for web.xml and then on Finish

Instructor Notes:

Configuring
WildFly with
Eclipse
editor

2.3: Deploying the Web Application on Wildfly
Using WildFly in Eclipse environment

Double click highlighted link to start server

Instructor Notes:

Configuring
WildFly with
Eclipse
editor
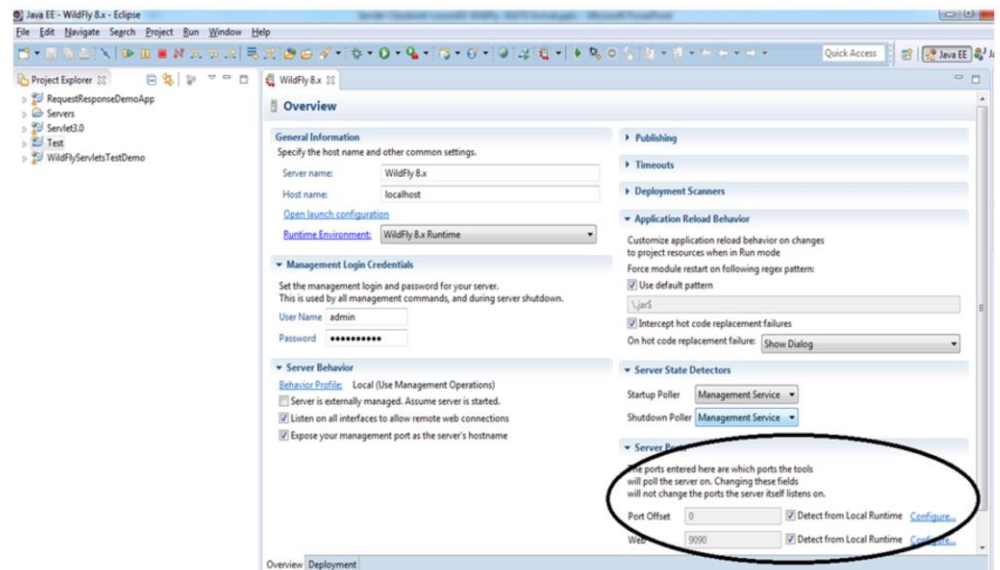
Default port number of WildFly is 8080. In the above configuration localhost port number has been set to 9090. (could be also set from standalone.xml file (D:\wildfly-8.1.0.Final\standalone\configuration)).

See below diagram

Instructor Notes:

Apart from showing the diagrammatic representation. Also tell the participants to see the JMX Console on their machines and briefly look at even the files contained in the directory. This is the first page on starting WildFly server.

The default port number is 8080. But port number is changed here to 9090 due to conflict with other services

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2.3: Deploying the Web Application on Wildfly

WildFly - Home Page

Start the WildFly server
The home page of WildFly can be accessed by specifying the URL
http://localhost:9090.
The home page can be seen

WildFly

Welcome to WildFly 8

Your WildFly 8 is running.

Documentation | Quickstarts | Administration Console

WildFly Project | User Forum | Report an issue

JBoss | JBoss Community

Instructor Notes:

Summarize the
points discussed

Summary

Installing WildFly
Accessing the WildFly Homepage

Summary

Add the notes here.

Instructor Notes:

Answers 1:
Standalone

Answer 2:
configuration

Review Questions

Question 1: If an independent instance of WildFly required
    then which mode should be selected

- Option 1: Basic
- Option 2: Domain
- Option 3: Standalone
- Option 4: None of the above

Question 2: All configuration information for running the
    server is located here and it is single place for
    configuration modifications for the standalone server

- Option 1: data
- Option 2: configuration
- Option 3: log
- Option 4: conf

Add the notes here.