Getting Started with Wildfly

EJB 3.x

The objective of the EJB 3.x specification is to simplify its development by improving the EJB architecture. This simplification is achieved by providing metadata annotations to replace XML configuration. It also provides default configuration values by making entity and session beans **POJOs** (**Plain Old Java Objects**) and by making component and home interfaces redundant. The EJB 2.x entity beans is replaced with EJB 3.x entities. EJB 3.0 also introduced the **Java Persistence API** (**JPA**) for object-relational mapping of Java objects.

WildFly 8.x supports EJB 3.2 and the JPA 2.1 specifications from Java EE 7.

While EJB 3.2 is supported, the sample application in this chapter does not make use of the new features of EJB 3.2 (such as the new TimerService API and the ability to disable passivation of stateful session beans).

The sample application is based on Java EE 6 and EJB 3.1. The configuration of EJB 3.x with Java EE 7 is also discussed, and the sample application can be used or modified to run on a Java EE 7 project.

We have used a Hibernate 4.3 persistence provider. Unlike some of the other persistence providers, the Hibernate persistence provider supports automatic generation of relational database tables, including the joining of tables.

we will create an EJB 3.x project and build and deploy this project to WildFly 8.1 using Maven.

1. Setting up the environment
2. Creating a WildFly runtime
3. Creating a Java EE project
4. Configuring a data source with MySQL database
5. Creating entities
6. Creating a JPA persistence configuration file
7. Creating a Session Bean Facade
8. Creating a JSP client

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1. Configuring the jboss-ejb3-ejb subproject
2. Configuring the jboss-ejb3-web subproject
3. Configuring the jboss-ejb3-ear subproject
4. Deploying the EAR Module
5. Running the JSP Client
6. Configuring a Java EE 7 Maven Project

**Setting up the Environment**

We need to download and install the following software:

1. **WildFly 8.1.0.Final**: Download wildfly-8.1.0.Final.zip from http://wildfly.org/downloads/.
2. **MySQL 5.6 Database-Community Edition**: Download this edition from http://dev.mysql.com/downloads/mysql/. When installing MySQL, also install **Connector/J**.
3. **Eclipse IDE for Java EE Developers**: Download Eclipse Luna from https://www.eclipse.org/downloads/packages/release/Luna/SR1.
4. **JBoss Tools (Luna) 4.2.0.Final**: Install this as a plug-in to Eclipse from the Eclipse Marketplace (http://tools.jboss.org/downloads/ installation.html). The latest version from Eclipse Marketplace is likely to be different than 4.2.0.
5. **Apache Maven**: Download version 3.05 or higher from http://maven. apache.org/download.cgi.
6. **Java 7**: Download Java 7 from http://www.oracle.com/technetwork/ java/javase/downloads/index.html?ssSourceSiteId=ocomcn.

Set the environment variables: JAVA\_HOME, JBOSS\_HOME, MAVEN\_HOME, and MYSQL\_ HOME. Add %JAVA\_HOME%/bin, %MAVEN\_HOME%/bin, %JBOSS\_HOME%/bin, and %MYSQL\_ HOME%/bin to the PATH environment variable. The environment settings used are C:\wildfly-8.1.0.Final for JBOSS\_HOME, C:\Program Files\MySQL\MySQL Server 5.6.21 for MYSQL\_HOME, C:\maven\apache-maven-3.0.5 for MAVEN\_HOME, and C:\Program Files\Java\jdk1.7.0\_51 for JAVA\_HOME. Run the add-user. bat script from the %JBOSS\_HOME%/bin directory to create a user for the WildFly administrator console. When prompted **What type of user do you wish to add?**, select **a) Management User**. The other option is **b) Application User**.