

## CHAPTER 6

# Creating a Web Application

We will create the Bullhorn application as a dynamic web project, which will allow us to develop it with HTML, JSP, servlets, and using JPA to connect to the database. If you understand what all those things are then you can stop reading now. If you're still with me, then those things will be explained as we go.

Our dynamic web application will contain not only static HTML pages but also dynamic Java Server Pages (JSPs) and servlets. We'll be able to pass data between the different parts of the application.

The database is actually a separate piece of software that your web application will communicate with. In many systems, the database actually resides on a different computer entirely. The JSPs will send information to the servlets. The servlets will send information to (and get information from) the database through the service layer. And the servlet will send the result back to the JSP.

---

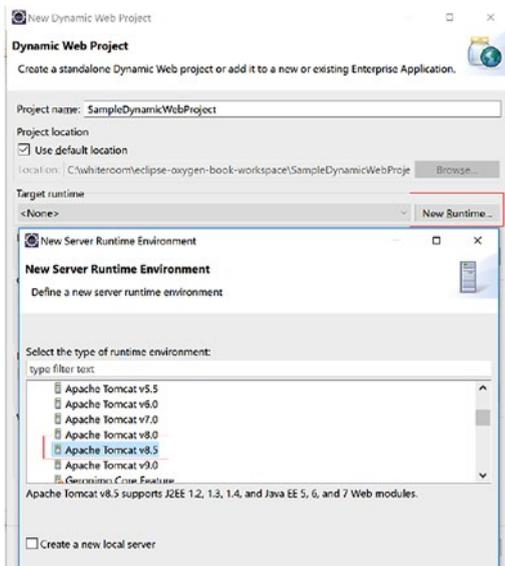
**Note** It is possible to send information straight to the database from a JSP. It is also possible to send information between two JSPs. We won't do that here. We're putting a servlet in between every conversation. That allows us to intercept each message with some Java code in the servlet, which will make it easy to validate, evaluate, and redirect each intercepted message.

---

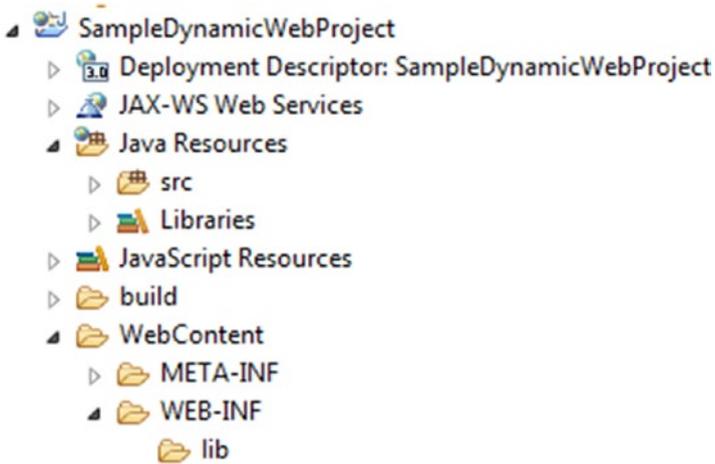
## CREATE A DYNAMIC WEB PROJECT USING ECLIPSE

Eclipse is preconfigured for various types of projects. I find the Dynamic Web Project most helpful. Starting one only consists of a few simple steps.

1. From Eclipse choose File ► New ► Dynamic Web Project.  
Give it a project name, such as `SampleDynamicWebProject`, as shown in Step 2.
2. Select the target runtime as Tomcat v.8.0 or higher. You may be prompted to install Tomcat before you can continue.



3. Click Finish.
4. If prompted, select “Yes” to associate with a Java EE Perspective.
5. Once your project contains some web pages, you can start them by selecting the page in the Project Explorer, then right-click and select Run As ► Run on Server. Your application will start in Eclipse.



**Figure 6-1.** *The folder structure of a dynamic web project in Eclipse*

The dynamic web project generates folders for organizing Java code (see Figure 6-1). The most important are the Java source folder and the web content folder. Java servlets and classes should be placed in the `src` folder shown under Java Resources. JSP files belong in the `WebContent` folder. JSP files must not be placed in `WEB-INF` or they will not be accessible by your application. Use the `lib` folder under `WEB-INF` for JAR (Java Archive) files. We'll work with JAR files when we add the database to our project.

---

**Tip** The JAR (Java Archive) files for Bullhorn can be found in `WebContent/WEB-INF/lib`. You should copy all the JAR files in Bullhorn to the `/WEB-INF/lib` directory for any Dynamic Web Application you choose to develop.

---