**Assisted Practice: 1.1 Environmental Setup**

This section will guide you to:

* Set up Eclipse to work with Spring
* Create a pom.xml configuration file to add all the required components

**Development Environment**

* Eclipse IDE for Enterprise Java Developers v2019-03 (4.11.0)
* Apache Tomcat Server v9.0
* JRE: OpenJDK Runtime Environment 11.0.2
* All other software components are defined in the Project Object Model pom.xml

This lab has four subsections, namely:

* + 1. Creating a Maven Project which is web enabled
    2. Creating pom.xml for including the required components
    3. Building the project
    4. Pushing the code to your GitHub repositories

**Step 1.1.1:** Creating a Maven Project which is web enabled

* Open Eclipse
* Go to the **File** menu. Choose **New->Maven Project**
* Uncheck **Create a Simple Project** and check **Use Default Workspace Location** and click on **Next**
* From the **archetype** list, choose the row that has **Artifact Id** as **maven-archetype-webapp** and click on **Next**
* Enter **Group Id** as **com** and **Artifact Id** as **SpringSetup** and click on **Finish**
* This will create the project files in the Project Explorer
* Before building the project, we need to confirm that the **servlet.jar** has been added to the project
* In the Project Explorer, right click and choose **Properties**
* Select **Java Build Path** from the options on the left
* Click on **Libraries** tab on the right
* If there is an existing entry for the **servlet.jar,** then click on **Cancel** and exit the window
* If it is not there, then click on **Classpath** entry and click on **Add External JARs** button on the right
* From the **file** list, select **servlet.jar** file and click on **Ok**
* Click on **Apply and Close**

**Step 1.1.2:** Creating pom.xml for including the required components

* In the Project Explorer, expand **SpringSetup** and double click on **pom.xml**
* Add the following entries:

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4\_0\_0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>SpringSetup</groupId>

<artifactId>SpringSetup</artifactId>

<packaging>war</packaging>

<version>0.0.1-SNAPSHOT</version>

<name>SpringSetup Maven Webapp</name>

<url>http://maven.apache.org</url>

<properties>

<org.springframework.version>5.1.6.RELEASE</org.springframework.version>

</properties>

<dependencies>

<dependency>

<groupId>junit</groupId>

<artifactId>junit</artifactId>

<version>3.8.1</version>

<scope>test</scope>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-core</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-expression</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-beans</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-context-support</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-jdbc</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-orm</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-web</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>org.springframework</groupId>

<artifactId>spring-webmvc</artifactId>

<version>${org.springframework.version}</version>

</dependency>

<dependency>

<groupId>javassist</groupId>

<artifactId>javassist</artifactId>

<version>3.12.1.GA</version>

</dependency>

<dependency>

<groupId>taglibs</groupId>

<artifactId>standard</artifactId>

<version>1.1.2</version>

<scope>runtime</scope>

</dependency>

<dependency>

<groupId>commons-dbcp</groupId>

<artifactId>commons-dbcp</artifactId>

<version>1.4</version>

</dependency>

<dependency>

<groupId>javax.servlet</groupId>

<artifactId>jstl</artifactId>

<version>1.2</version>

</dependency>

<dependency>

<groupId>javax.servlet</groupId>

<artifactId>jstl</artifactId>

<version>1.2</version>

</dependency>

<dependency>

<groupId>javax.persistence</groupId>

<artifactId>persistence-api</artifactId>

<version>1.0.2</version>

<scope>provided</scope>

</dependency>

</dependencies>

<build>

<finalName>SpringSetup</finalName>

</build>

</project>

**Step 1.1.3:** Building the project

* From the **Project** menu at the top, click on **Build**
* If any compile errors are shown, fix them as required

**Step 1.1.4:** Pushing the code to your GitHub repositories

* Open your command prompt and navigate to the folder where you have created your files.

**cd <folder path>**

* Initialize your repository using the following command:

**git init**

* Add all the files to your git repository using the following command:

**git add .**

* Commit the changes using the following command:

**git commit . -m “Changes have been committed.”**

* Push the files to the folder you initially created using the following command:

**git push -u origin master**