

Jakarta RESTful Web Services 3.1 Workshop

Module 1: Set up the environment.

The participants have a document that lists what software must be installed. The workshop assumes that participants should have the environment configured prior to attending the workshop. If they have not then you should have an external drive or USB key, preferably more than one, with all the software required. This will eliminate the time to download the components.

A common problem is failing to properly configure the installation of Java. Here is how you can diagnose a configuration problem for Java. First, you can determine if Java is properly installed by entering in the console of any OS **java -version**. You should see something like:

```
openjdk version "17.0.7" 2023-04-18
```

```
OpenJDK Runtime Environment Temurin-17.0.7+7 (build 17.0.7+7)
```

```
OpenJDK 64-Bit Server VM Temurin-17.0.7+7 (build 17.0.7+7, mixed mode, sharing)
```

This workshop currently requires Java 17. Shown above is 17.0.7 but any 17.x.y should work. Versions of Java from 18 and up are not supported. Java 21 will be supported with Jakarta 11.

If this information is incorrect or it cannot find the Java executable file, follow these steps to correct this problem.

Windows

Open the console and enter the command **set**. You should find the environment variable **JAVA_HOME** that should be showing the folder Java was installed in. The **PATH** should include the full path to the bin folder in the Java folder.

```
JAVA_HOME=C:\devapp\jdk-17.0.7+7
```

```
PATH=%JAVA_HOME%\bin;%PATH%
```

If these are missing, they must be manually set in the **Environment Variables** dialog. In Windows 10 or 11 enter **environment** in the search box found on the task bar and select **Edit the system environment variables**. Here you can add or correct **JAVA_HOME** and **PATH**.

Linux

Use the **printenv** command to verify **JAVA_HOME** and **PATH**. If they are missing or the assigned value is incorrect open a text editor and open your **.profile** file in your home directory. Add the follow line replacing **JAVA_HOME** with the location you installed Java in.

```
export JAVA_HOME=/home/javadev/java/jdk-17.0.7+7
```

Replace **javadev** with your login name.

If the **PATH** is incorrect, then add this line to **.profile**.

```
export PATH=$JAVA_HOME/bin:$PATH
```

macOS

Use the **printenv** command to verify **JAVA_HOME** and **PATH**. If they are missing or the assigned value is incorrect open a text editor and open your **.bash_profile** file in your home directory. Add the follow line replacing **JAVA_HOME** with the location you installed Java in.

JAVA_HOME with the location you installed Java in the file.

```
export JAVA_HOME=/Users/javadev/java/jdk-17.07+7/Contents/Home
```

Replace **javadev** with your login name.

If the **PATH** is incorrect, then add this line to **.profile**.

```
export PATH=$JAVA_HOME/bin:$PATH
```

Maven

All the starter code on GitHub is organized as Maven projects. This will allow a participant to use any IDE with support for Maven or just a text editor and the command line Maven. It is recommended that you use the most recent version of Maven.

IDE

Participants can use any IDE that supports Maven builds. It is recommended that participants use an IDE but it is not required as all code can be built from the command line.

Glassfish 7

Once the reference server for JEE, GlassFish is now the Eclipse implementation of Jakarta EE. It does not have an installer. You will decompress the file into whatever folder you choose. The participant document shows how to start and stop GlassFish. Use the most recent version of GlassFish 7.

Derby

Any SQL database can be used if there is a JDBC driver for it. To reduce the complexity of the setup it is recommended that the Derby database, that is included as part of GlassFish, is used. It can also be downloaded separately from https://db.apache.org/derby/derby_downloads.html.

cURL

cURL is an invaluable tool for testing RESTful web services. Like GlassFish it is a compressed file that can be decompressed anywhere. Downloads can be found at <https://curl.se/download.html>.

Clone the repository

All of the starter projects are on GitHub in one repository Cloning this will give you every project.