

Software specifications

Chapter number	Software required (With version)	Free/ Proprietary	If proprietary , can code testing be performed using a trial version	If proprietary, then cost of the software	Download links to the software	Hardware specifications	OS required
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	Wildfly 10.1.0	FREE			http://download.jboss.org/wildfly/10.1.0.Final/wildfly-10.1.0.Final.zip	8 GB RAM, hard disk with 3 GB of free space	Any version of SO based on Linux kernel or simpler a SO providing a bash shell. For example Ubuntu, Fedora, Centos, Debian, Mac OSX
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	Eclipse Neon.2 Release (4.6.2)	FREE			https://www.eclipse.org/downloads/	8 GB RAM, hard disk with 3 GB of free space	Any version of SO based on Linux kernel or simpler a SO providing a bash shell. For example Ubuntu, Fedora, Centos, Debian, Mac OSX
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	Java 1.8.0_112	FREE			http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html	8 GB RAM, hard disk with 3 GB of free space	Any version of SO based on Linux kernel or simpler a SO providing a bash shell. For example Ubuntu, Fedora, Centos, Debian, Mac OSX

1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	maven 3.3.9	FREE			https://archive.apache.org/dist/maven/maven-3/3.3.9/binaries/apache-maven-3.3.9-bin.zip	8 GB RAM, hard disk with 3 GB of free space	Any version of SO based on Linux kernel or simpler a SO providing a bash shell. For example Ubuntu, Fedora, Centos, Debian, Mac OSX
19	JBoss OSGI 2.5.2	FREE			https://repository.jboss.org/nexus/content/repositories/releases/org/jboss/osgi/distribution/jbosgi-installer/2.5.2.Final/jbosgi-installer-2.5.2.Final-installer.jar	8 GB RAM, hard disk with 3 GB of free space	Any version of SO based on Linux kernel or simpler a SO providing a bash shell. For example Ubuntu, Fedora, Centos, Debian, Mac OSX
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Detailed installation steps (software-wise)

Java

Download from <http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html> , choose your operative system, approve the licence and download the executable. Then only follow the steps of the wizard

Eclipse

Download from <https://www.eclipse.org/downloads/> Choose the operative system. It asks you tho choose a distribution. You must choose the enterprise edition. Then download the zip, unzip it and put it when you want. To launch it only launch the eclipse command in the root of your unzipped folder.

Wildfly

The latest new version is 10.1.0. It can be downloaded from <http://download.jboss.org/wildfly/10.1.0.Final/wildfly-10.1.0.Final.zip> . The installation is very simple. Just extract the downloaded ZIP and put it in your preferred folder.

Before we start the application server, we need to create a default admin user so that we can use the management web console. Through the command line, go to the WildFly root folder under the `bin` directory and execute this command:

```
./add-user.sh
```

After which you will get the following output:

```
What type of user do you wish to add?
```

- a) Management User (mgmt-users.properties)
 - b) Application User (application-users.properties)
- ```
(a): a
```

```
Enter the details of the new user to add.
```

```
Using realm 'ManagementRealm' as discovered from the existing
property files.
```

```
Username : admin
```

```
The username 'admin' is easy to guess
```

```
Are you sure you want to add user 'admin' yes/no? yes
```

```
Password recommendations are listed below. To modify these
restrictions edit the add-user.properties configuration file.
```

- The password should be different from the username
- The password should not be one of the following restricted values  
{root, admin, administrator}

- The password should contain at least 8 characters, 1 alphabetic character(s), 1 digit(s), 1 non-alphanumeric symbol(s)

Password : admin

WFLYDM0098: The password should be different from the username

Are you sure you want to use the password entered yes/no? yes

Re-enter Password : admin

What groups do you want this user to belong to? (Please enter a comma separated list, or leave blank for none)[ ]:

About to add user 'admin' for realm 'ManagementRealm'

Is this correct yes/no? yes

Added user 'admin' to file '/Users/lucastancapiano/wildfly-10.1.0.Final/standalone/configuration/mgmt-users.properties'

Added user 'admin' to file '/Users/lucastancapiano/wildfly-10.1.0.Final/domain/configuration/mgmt-users.properties'

Added user 'admin' with groups to file '/Users/lucastancapiano/wildfly-10.1.0.Final/standalone/configuration/mgmt-groups.properties'

Added user 'admin' with groups to file '/Users/lucastancapiano/wildfly-10.1.0.Final/domain/configuration/mgmt-groups.properties'

Is this new user going to be used for one AS process to connect to another AS process?

e.g. for a slave host controller connecting to the master or for a Remoting connection for server to server EJB calls.

yes/no? yes

To represent the user add the following to the server-identities definition `<secret value="YWRtaW4=" />`

Now you have an admin user with credentials--user: admin and password: admin

Once you have created the user you can start WildFly with the following command inside the `bin` directory of the root of WildFly:

```
./standalone.sh
```

When you log in, the console will show the row:

```
INFO [org.jboss.as] (Controller Boot Thread) WFLYSRV0025: WildFly
Full 10.1.0.Final (WildFly Core 2.2.0.Final) started in 20718ms -
Started 580 of 816 services (405 services are lazy, passive or on-
demand)
```

This means that the WildFly application server has started.

The web management console can be used by connecting from `http://localhost:9990/console`.

In the next chapter, we will see how to work with it.

## Maven

Maven 3.3.9 is downloadable from <https://maven.apache.org/download.cgi>.

Since we have installed JDK 8 in our machine, we can extract the downloaded Maven ZIP and put it in a folder that we prefer. After that, we will need a system variable, `MAVEN_HOME`, for our system. In Linux, you can set `MAVEN_HOME` by editing the `.bash_profile` file in your home directory:

```
vi $USER_HOME/.bash_profile
export MAVEN_HOME=/your_home_path/apache-maven-3.3.9
export path:$MAVEN_HOME/bin
```

The second row lets you use Maven in any folder path. So in any folder you are, for example, in `/etc`, you can run the Maven command `mvn`. A Maven guide is not given in this book, but for those who don't know Maven, we will use only three commands:

- `mvn clean`: Used to clean the project
- `mvn install`: Used to build, install and test the project and create the packages to deploy in WildFly
- `mvn test`: Used only to execute the test cases

All the commands can be used together. For example:

The `mvn clean install` command will execute both the commands, before a clean of the project and then the install. If you avoid the tests it's enough add the property:

```
mvn clean install -DskipTests
```

Maven can be used only in the folder of the Maven projects. A Maven project is recognized by a file contained in the root of the folder, `pom.xml`. It is the key descriptor of the Maven projects. For example in this POM file you put the dependency libraries of the projects. When you install the project, automatically it downloads the mandatory dependencies if they are not and it compile with them.

## JBoss OSGI

It can be downloaded from the URL: <https://repository.jboss.org/nexus/content/repositories/releases/org/jboss/osgi/distribution/jbosgi-installer/2.5.2.Final/jbosgi-installer-2.5.2.Final-installer.jar>

Once downloaded launch the java command to start the installation:

```
java -jar jbosgi-installer-2.5.2.Final-installer.jar
```

Once started, simply follow the wizard setting a default folder where put the OSGI core base and setting your WildFly Home.