

Eclipse, Maven and WildFly installation guide

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1 Introduction

This document describes how to install and configure the Eclipse IDE and the WildFly server to develop and host web applications.

2 Downloads

Download the **JDK** from:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

The current version is: **JDK 11.0.2**

Download **Maven (apache-maven-x.y.z-bin.zip)** from:

<https://maven.apache.org/download.cgi>

The current version is: **3.6.0**

Download **Eclipse IDE for Enterprise Java Developers** from:

<https://www.eclipse.org/downloads/packages/>

The current version is: **2018-12 R**

Download **WildFly Java EE Full & Web Distribution** from:

<http://wildfly.org/downloads/>

The current version is: **15.0.1.Final**

Download **protoc-x.y.z-win32.zip** from:

<https://github.com/protocolbuffers/protobuf/releases>

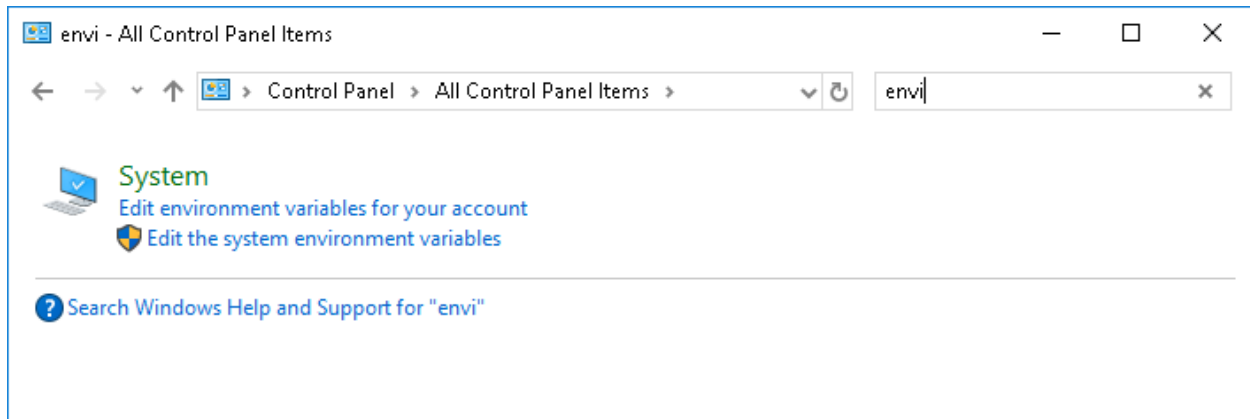
The current version is: **3.6.1**

3 Installation

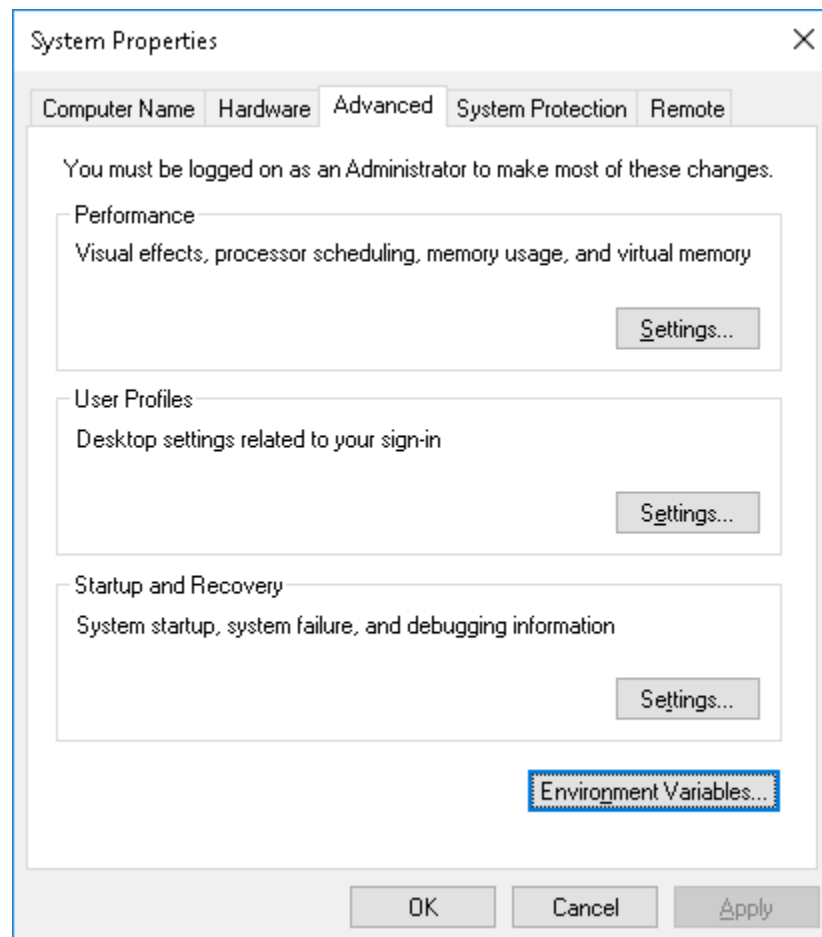
3.1 Install JDK 11 and set the environment variables

Install the JDK 11 using the installation wizard.

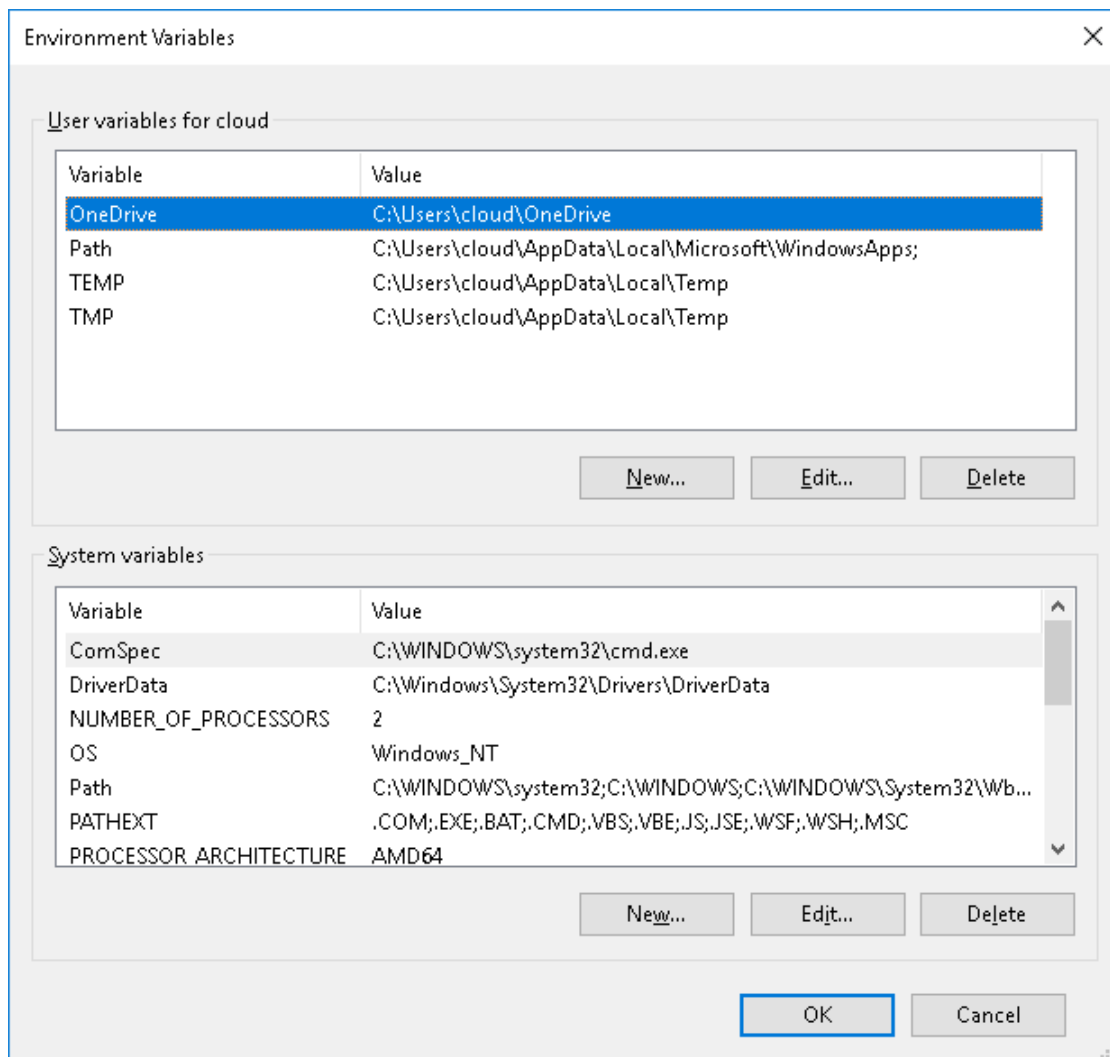
Open **Control Panel** and type „**environment variables**” in the search box in the upper right corner:



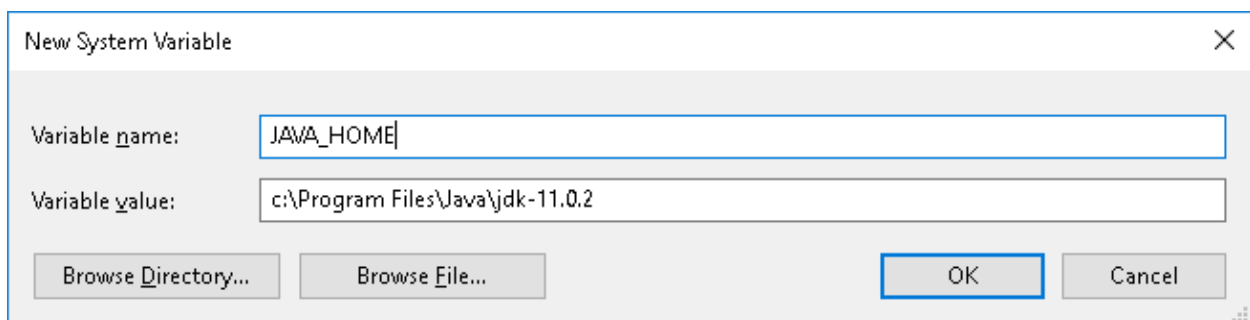
Click on the **Edit the system environment variables** link and the following window will open:



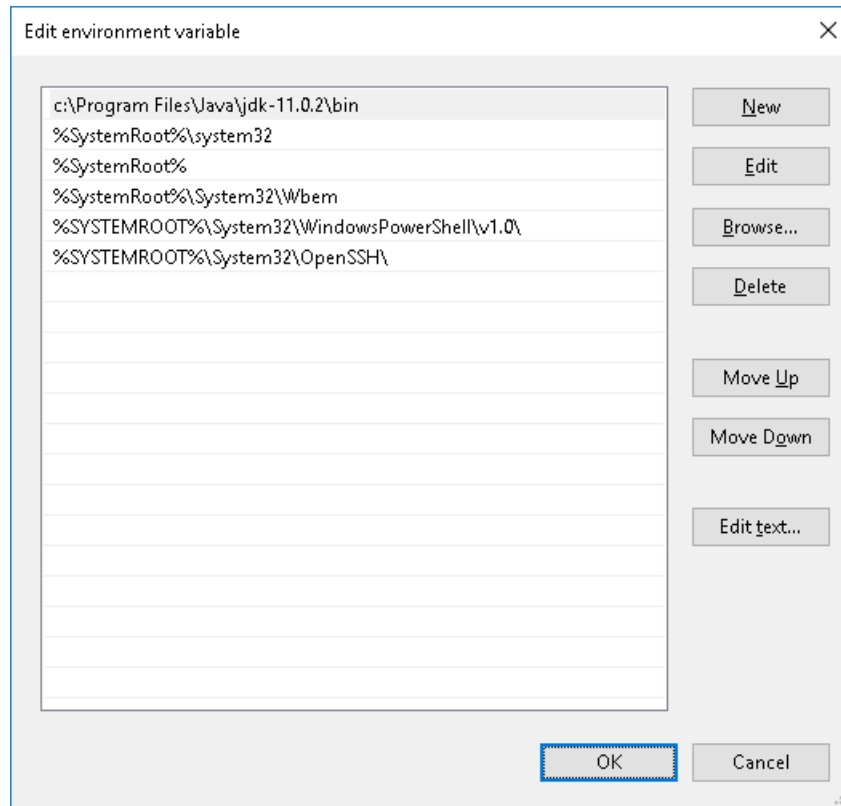
Click on **Environment Variables...**:



If there is no **JAVA_HOME** in the list under **System variables** then add it to the list with the **New...** button! If it is already set use the **Edit...** button to correct its value if necessary! Make sure to include the appropriate version number in the path, e.g.:



Look for the **PATH** environment variable in the list under **System variables**, click on **Edit...** Then **Remove** “C:\ProgramData\Oracle\Java\javapath” if there is any using the **Delete** button. After this add the path of the JDK **bin** folder to the beginning of the **PATH** using the **New** and **Move Up** buttons. The result should be something like this:



To apply these changes you may have to restart your computer, but it is usually enough to close and reopen all the applications.

3.2 Install Maven

Extract the downloaded **Maven zip** file to a folder that does not contain any spaces or special characters. For example extract the zip to:

```
c:\Programs\apache-maven-3.6.0
```

Set the **PATH** environment variable as described in the previous section so that it also includes the **Maven bin** folder:

```
c:\Programs\apache-maven-3.6.0\bin
```

3.3 Install Protoc

Extract the downloaded **protoc zip** file to a folder that does not contain any spaces or special characters. For example extract the zip to:

```
c:\Programs\protoc
```

Set the **PATH** environment variable as described in the previous section so that it also includes the **protoc bin** folder:

```
c:\Programs\protoc\bin
```

3.4 Install the WildFly server

Extract the downloaded **WildFly zip** file to a folder that does not contain any spaces or special characters. For example extract the zip to:

```
c:\Programs\wildfly-15.0.1.Final
```

To test the server installation, start it with the following command:

```
c:\Programs\wildfly-15.0.1.Final\bin\standalone.bat
```

If the installation is correct the server is started without any errors.

Finally, stop the server with **Ctrl+C**.

3.5 Install Eclipse

Extract the downloaded Eclipse zip file to a folder that does not contain any spaces or special characters. For example, extract the contents of the **eclipse** directory from the zip to:

```
c:\Programs\eclipse_soi
```

Find the **eclipse.ini** file in this folder, and add or change the following lines shown in bold in the ini file (make sure that the path to the JDK server folder is correct):

```
-vm  
c:\Program Files\Java\jdk-11.0.2\bin\server  
-startup
```

```
plugins/org.eclipse.equinox.launcher_1.5.200.v20180922-1751.jar
--launcher.library
plugins/org.eclipse.equinox.launcher.win32.win32.x86_64_1.1.900.v20180
922-1751
-product
org.eclipse.epp.package.jee.product
-showsplash
org.eclipse.epp.package.common
--launcher.defaultAction
openFile
--launcher.defaultAction
openFile
--launcher.appendVmargs
-vmargs
-Dosgi.requiredJavaVersion=1.8
-Dosgi.instance.area.default=@user.home/eclipse-workspace
-XX:+UseG1GC
-XX:+UseStringDeduplication
--add-modules=ALL-SYSTEM
-Dosgi.requiredJavaVersion=1.8
-Dosgi.dataAreaRequiresExplicitInit=true
-Xms256m
-Xmx1024m
--add-modules=ALL-SYSTEM
```

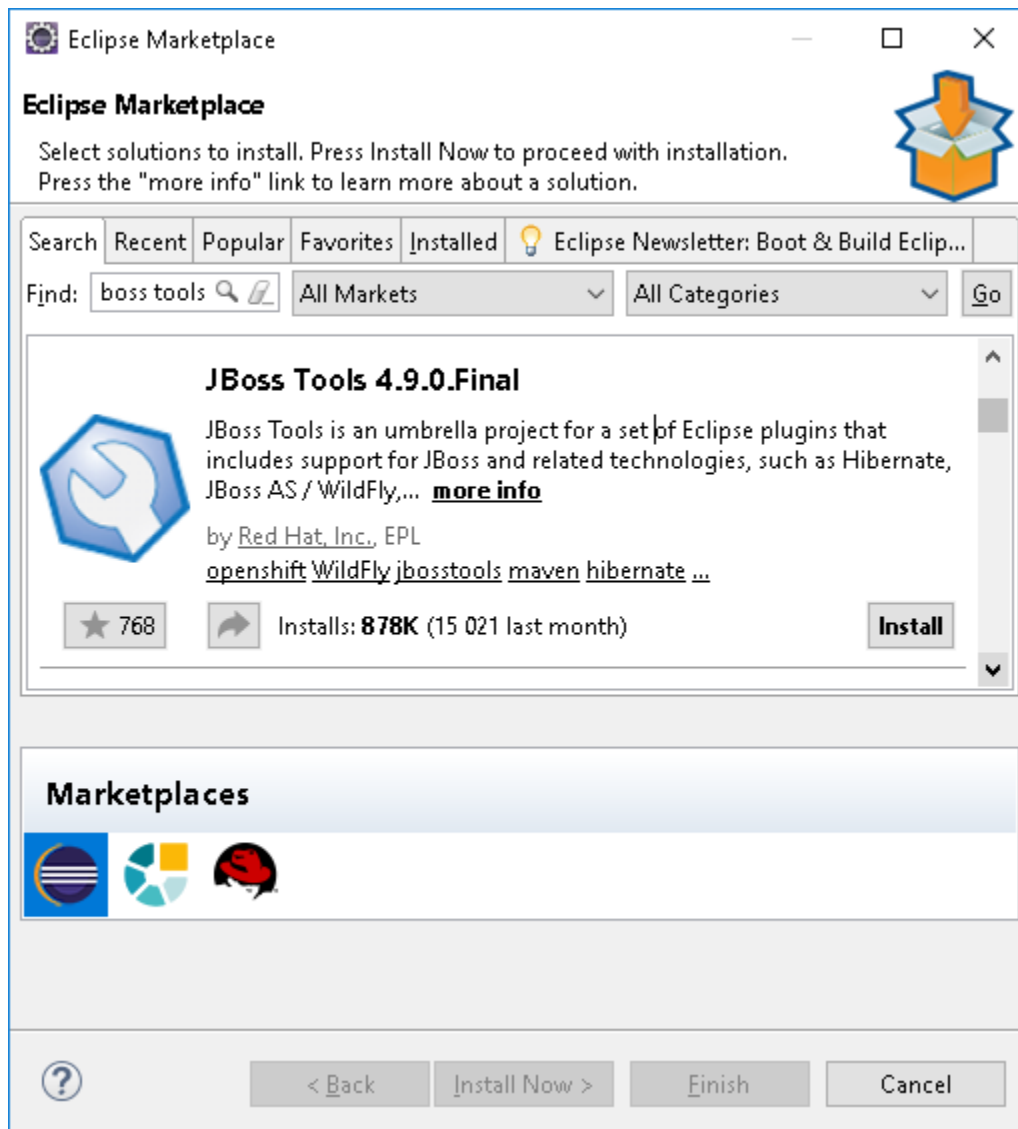
Start Eclipse with:

```
c:\Programs\eclipse_soi\eclipse.exe
```

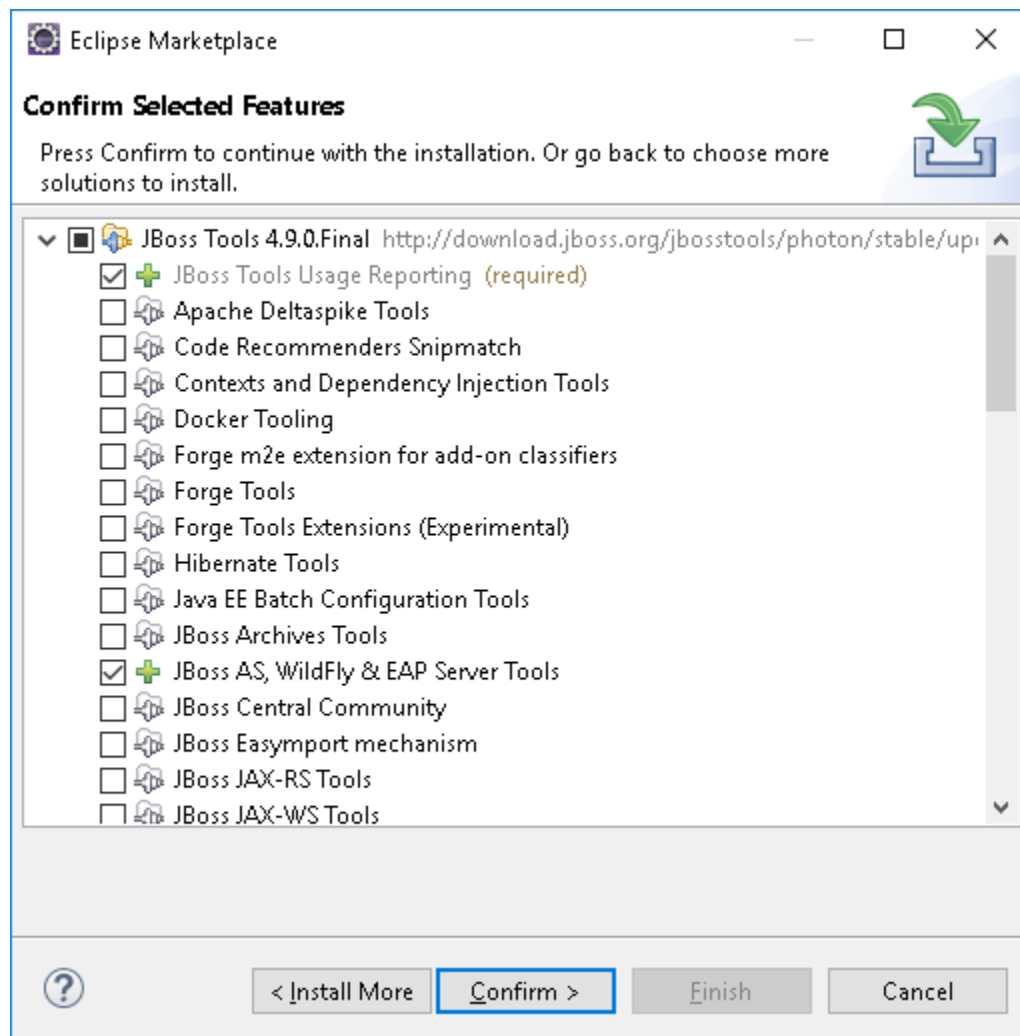
Specify a folder for the workspace when it is asked for. Make sure it does not collide with another Eclipse if there are other Eclipse environments installed on your computer. **Make sure that the path of the workspace does not contain any spaces or special characters.**

3.6 Install JBoss Tools

JBoss Tools is required for Eclipse so that it can use the WildFly server. When Eclipse is running, click on **Help > Eclipse Marketplace...**, type **jboss tools** in the search box, and hit enter:



Install the latest version (currently **JBoss Tools 4.2.2.Final**) by clicking on the **Install** button. In the following window select only the **JBoss AS, WildFly & EAP Server Tools** and unselect everything else:

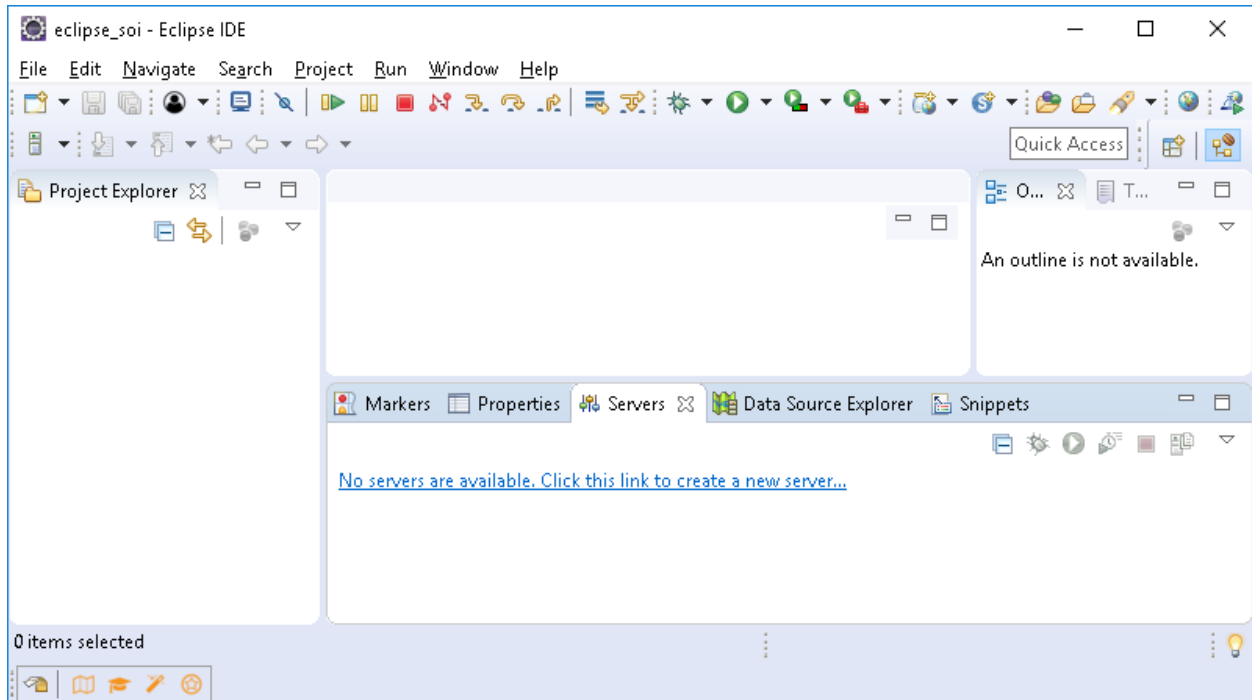


Then click **Confirm** and follow the remaining steps of the wizard.

Say yes to restart Eclipse in the end.

3.7 Configure WildFly under Eclipse

Open the **Servers** tab at the bottom of the Eclipse window:



Click on the link to create a new server, select **WildFly 14**, and specify a name for it (e.g. **WildFly 15**):

New Server

Define a New Server

Choose the type of server to create

Select the server type:

type filter text

- WildFly 10.x
- WildFly 11
- WildFly 12
- WildFly 13
- WildFly 14**
- > ObjectWeb
- > Oracle

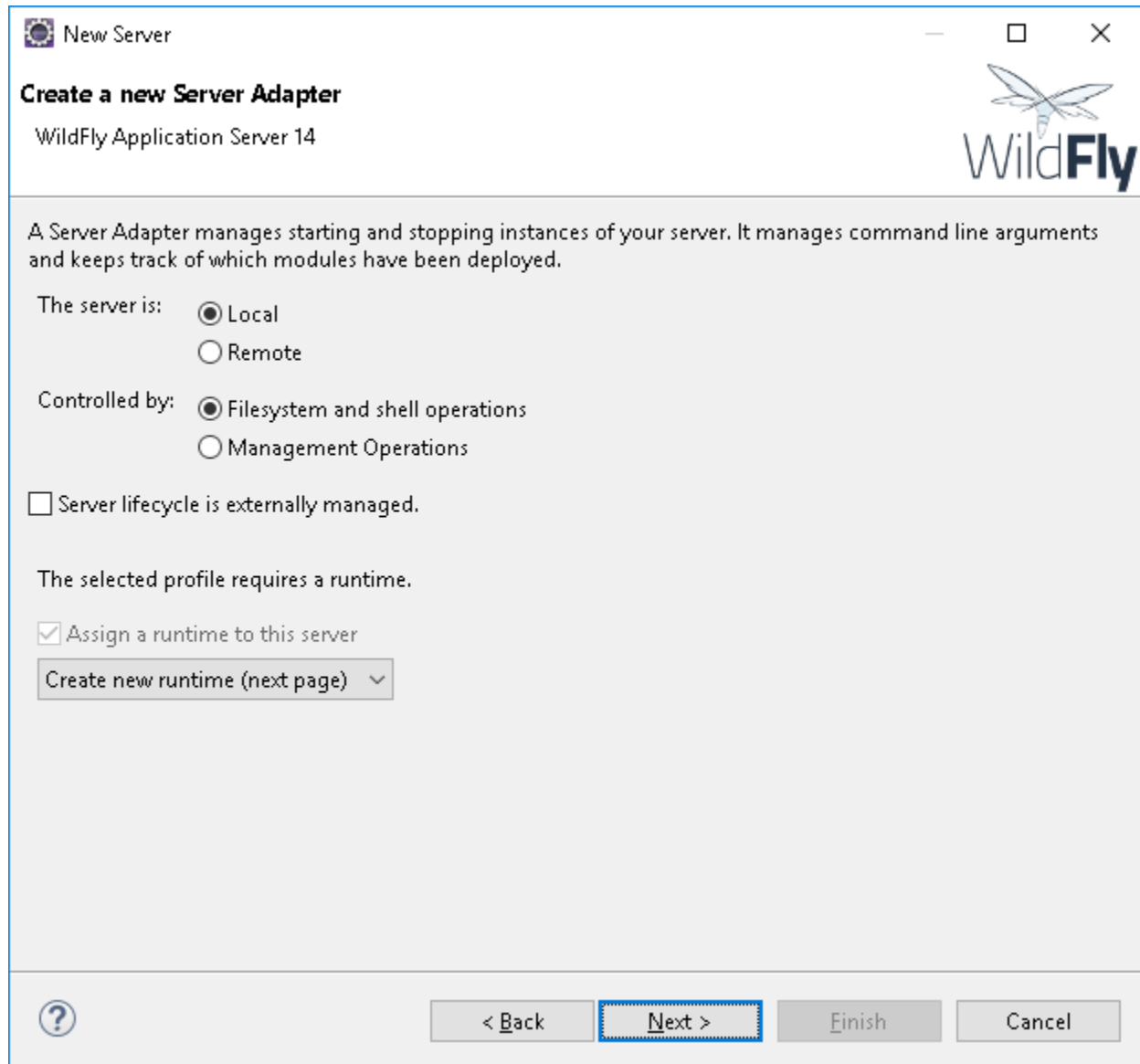
WildFly Application Server 14

Server's host name: localhost

Server name: WildFly 15

? < Back Next > Finish Cancel

Click **Next** and accept the defaults:



New Server

Create a new Server Adapter

WildFly Application Server 14

A Server Adapter manages starting and stopping instances of your server. It manages command line arguments and keeps track of which modules have been deployed.

The server is:

- ☒ Local
- ☐ Remote

Controlled by:


- ☒ Filesystem and shell operations
- ☐ Management Operations

☐ Server lifecycle is externally managed.

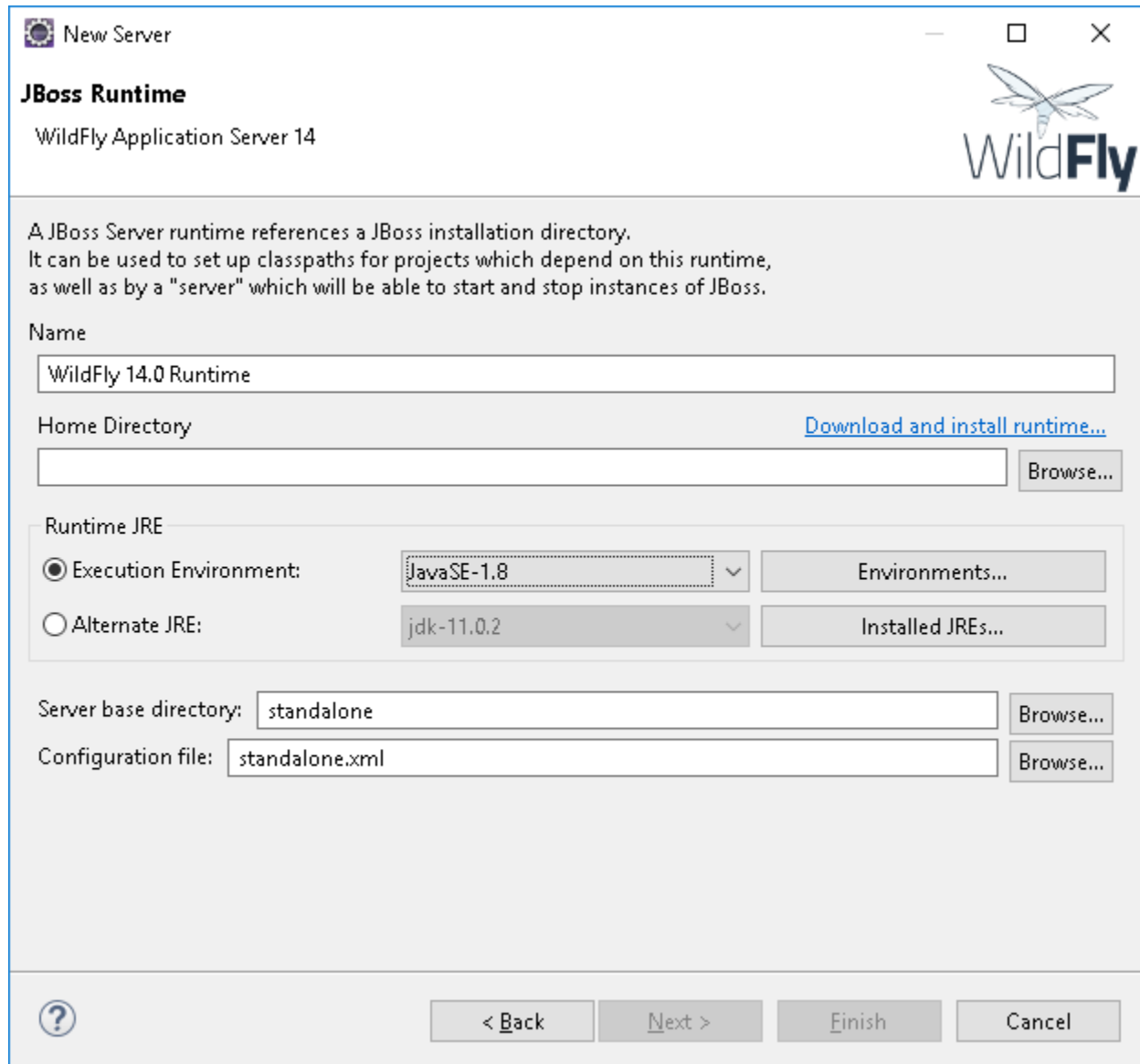
The selected profile requires a runtime.

☒ Assign a runtime to this server

Create new runtime (next page) ▾

 < Back **Next >** Finish Cancel

Click **Next**:



The screenshot shows the 'New Server' dialog box for JBoss Runtime configuration. The title bar reads 'New Server'. The main heading is 'JBoss Runtime' with the subtitle 'WildFly Application Server 14'. The WildFly logo is in the top right corner. A descriptive paragraph states: 'A JBoss Server runtime references a JBoss installation directory. It can be used to set up classpaths for projects which depend on this runtime, as well as by a "server" which will be able to start and stop instances of JBoss.'

The 'Name' field contains 'WildFly 14.0 Runtime'. The 'Home Directory' field is empty, with a 'Browse...' button and a link 'Download and install runtime...'. The 'Runtime JRE' section has two options: 'Execution Environment' (selected) with a dropdown showing 'JavaSE-1.8' and an 'Environments...' button, and 'Alternate JRE' with a dropdown showing 'jdk-11.0.2' and an 'Installed JREs...' button. The 'Server base directory' field contains 'standalone' with a 'Browse...' button. The 'Configuration file' field contains 'standalone.xml' with a 'Browse...' button.

At the bottom, there is a help icon, and buttons for '< Back', 'Next >', 'Finish', and 'Cancel'.

Click on the **Browse...** button at the **Home Directory** textbox and locate the WildFly installation directory, and switch the JRE to the installed JDK version:

New Server

JBoss Runtime

⚠ This server type expects a version of 14.0 but the server directory is of version 15.0.1.Final. This combination may cause critical errors.

A JBoss Server runtime references a JBoss installation directory. It can be used to set up classpaths for projects which depend on this runtime, as well as by a "server" which will be able to start and stop instances of JBoss.

Name
WildFly 14.0 Runtime

Home Directory [Download and install runtime...](#)
C:\Programs\wildfly-15.0.1.Final **Browse...**

Runtime JRE

☐ Execution Environment: JavaSE-1.8 **Environments...**

☒ Alternate JRE: jdk-11.0.2 **Installed JREs...**

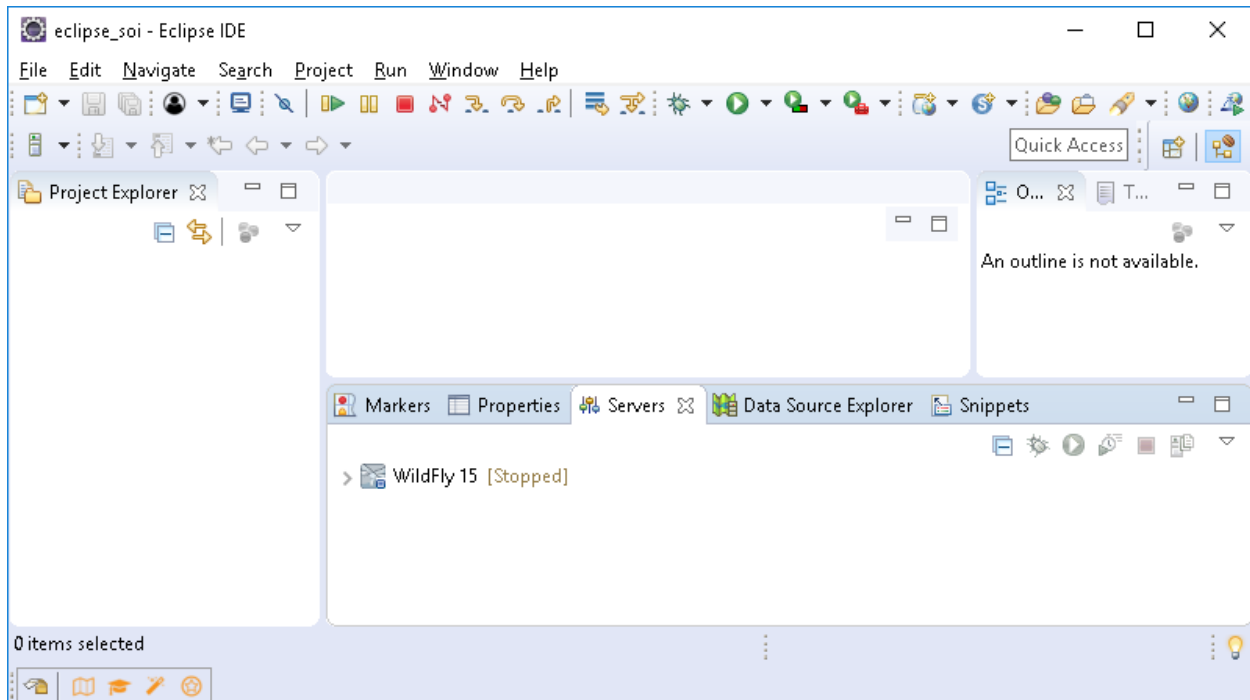
Server base directory: standalone **Browse...**

Configuration file: standalone.xml **Browse...**

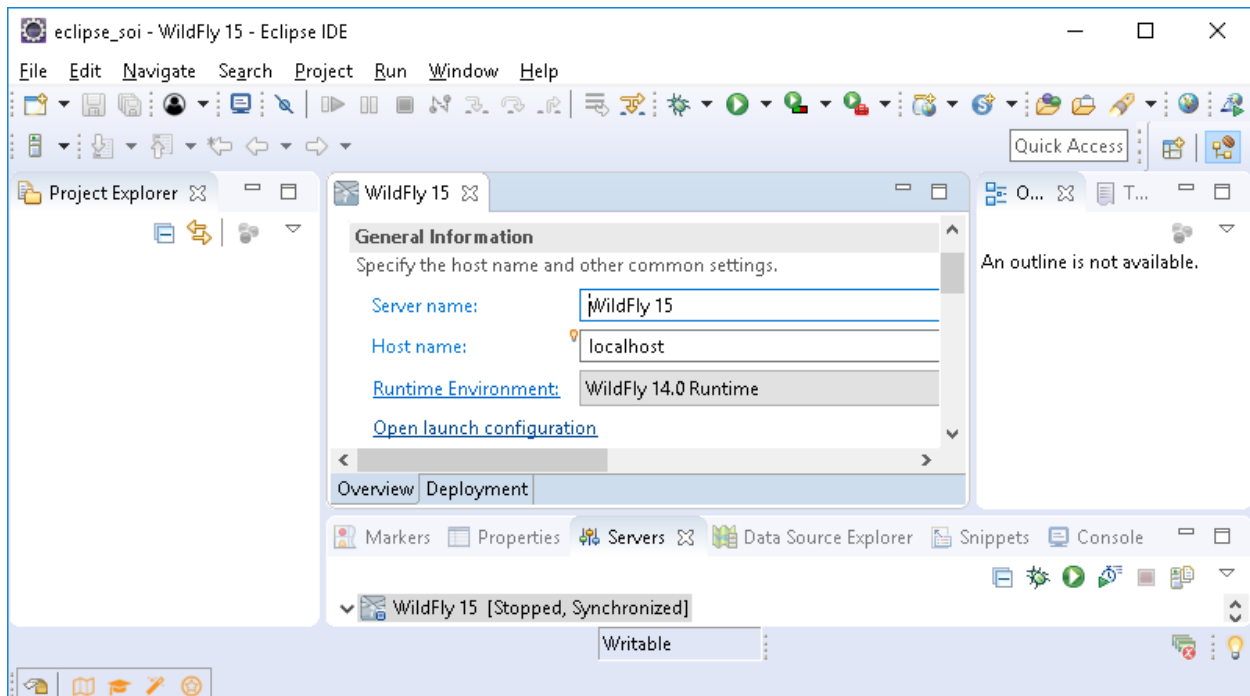
< Back **Next >** **Finish** **Cancel**

Click **Next** and **Finish**.

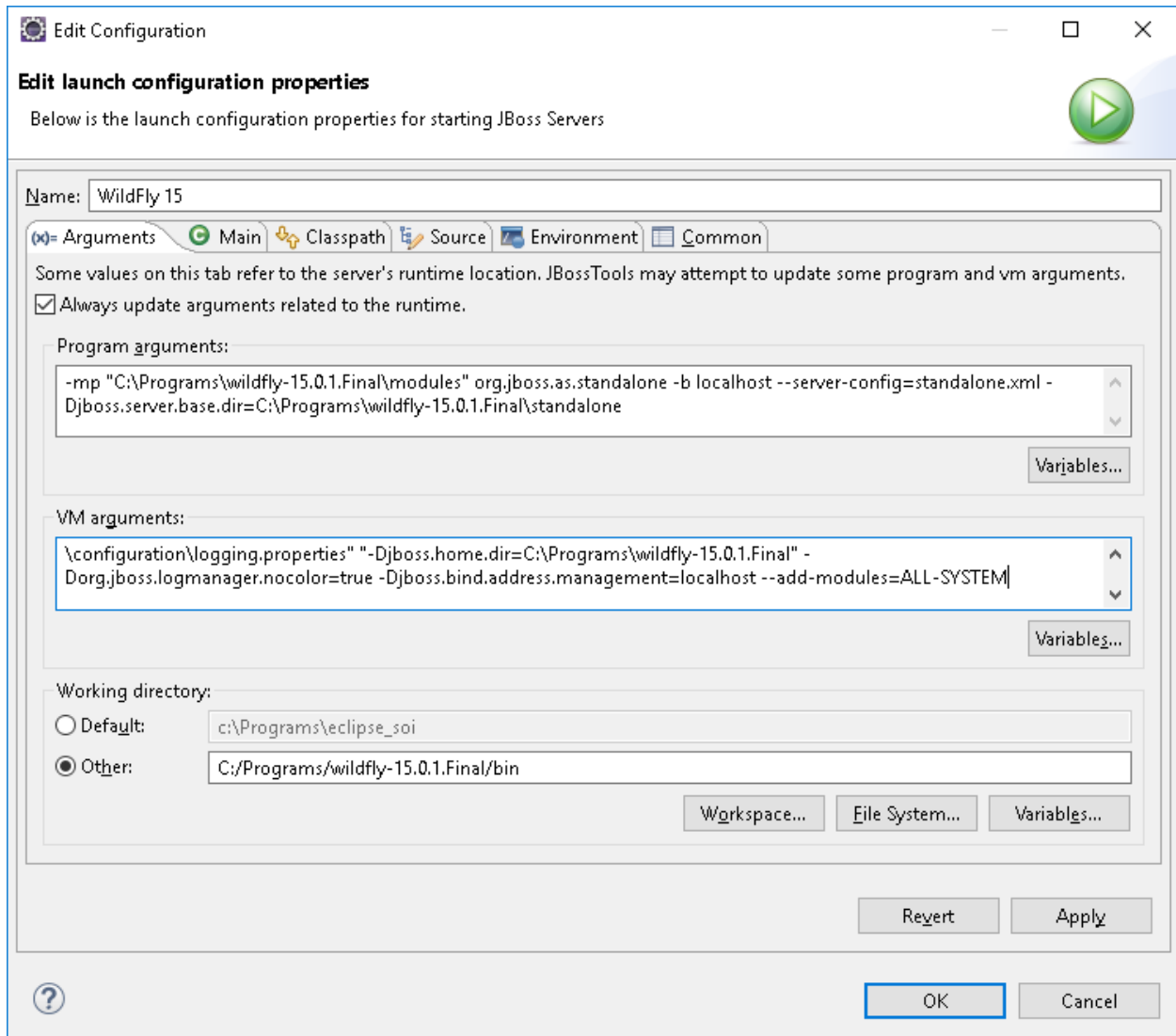
The new server should be visible in the servers tab:



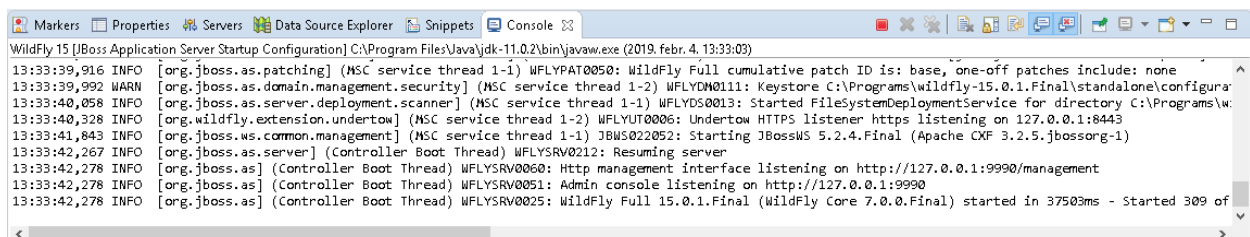
Double click the server to open the server configuration tab:



Click on **Open launch configuration**, and add **--add-modules=ALL-SYSTEM** to the end of VM arguments:

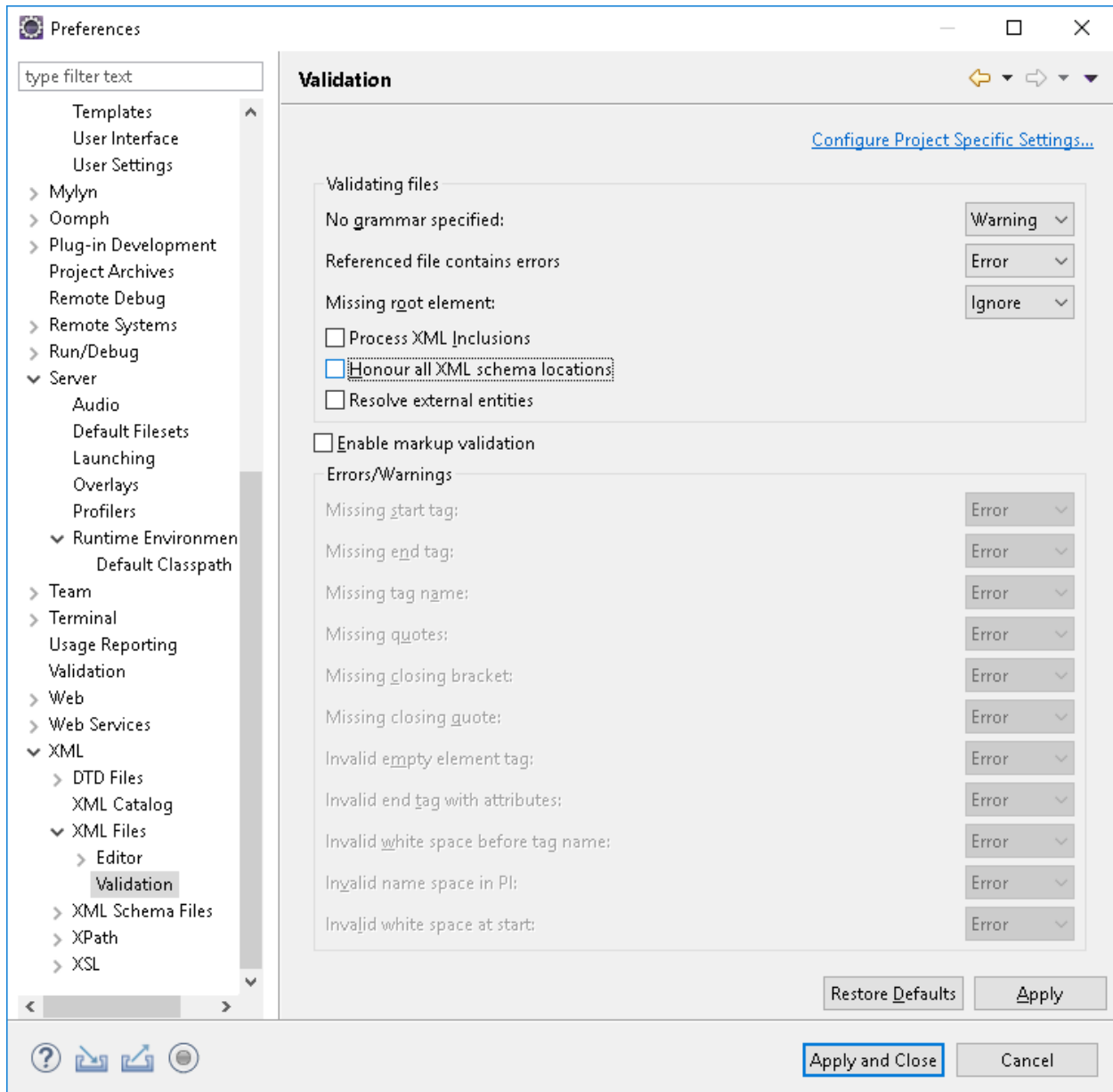


Click OK to close this window. Now right click on the server and start it. The server should start without errors, the logs can be seen in the **Console** window:



3.8 Configure Eclipse

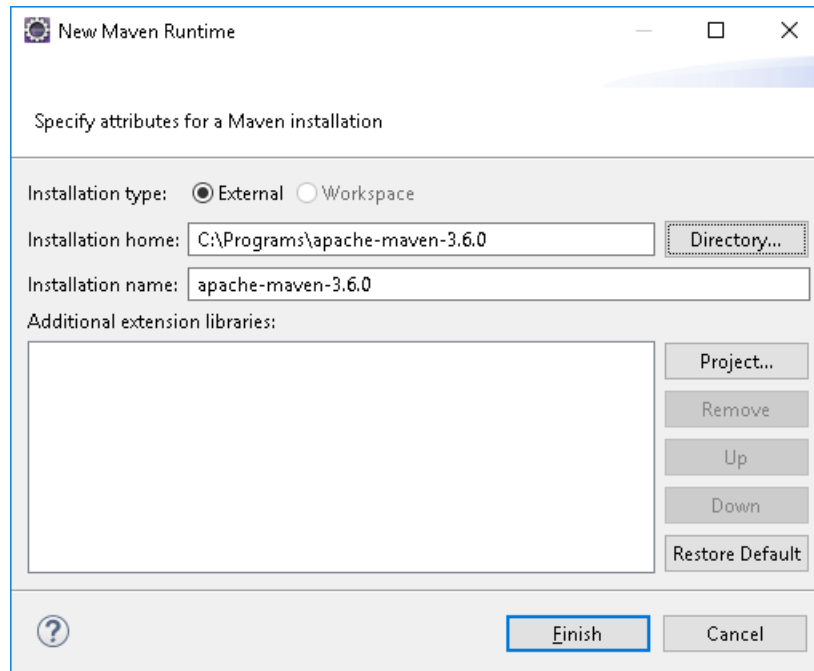
Open the **Window > Preferences** dialog and find **XML > XML Files > Validation**. Make sure to uncheck the **Honour all XML schema locations** checkbox:



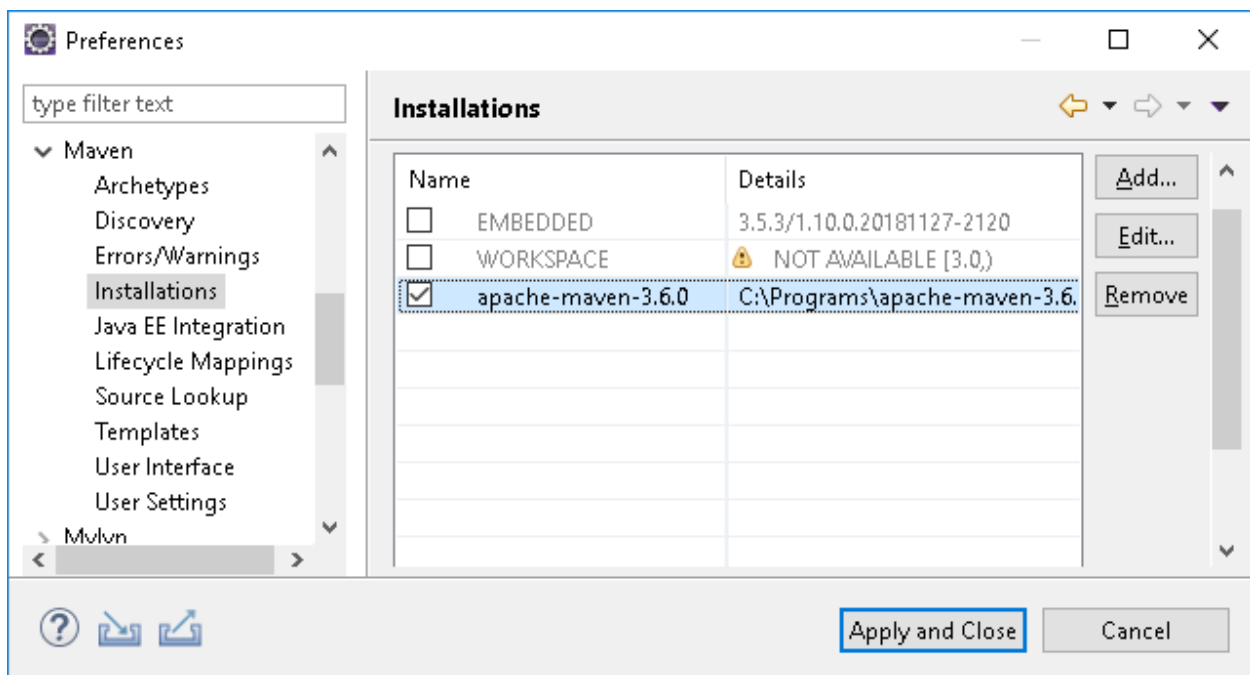
Click **Apply and Close**.

3.9 Configure Maven

Open the **Window > Preferences** dialog and find **Maven > Installations**. Click on **Add...** to add a new Maven installation and locate the Maven installation directory:



Click **Finish** and select this new installation as default:



Click **Apply and Close** to close the **Preferences** dialog.