GAIT on Linux

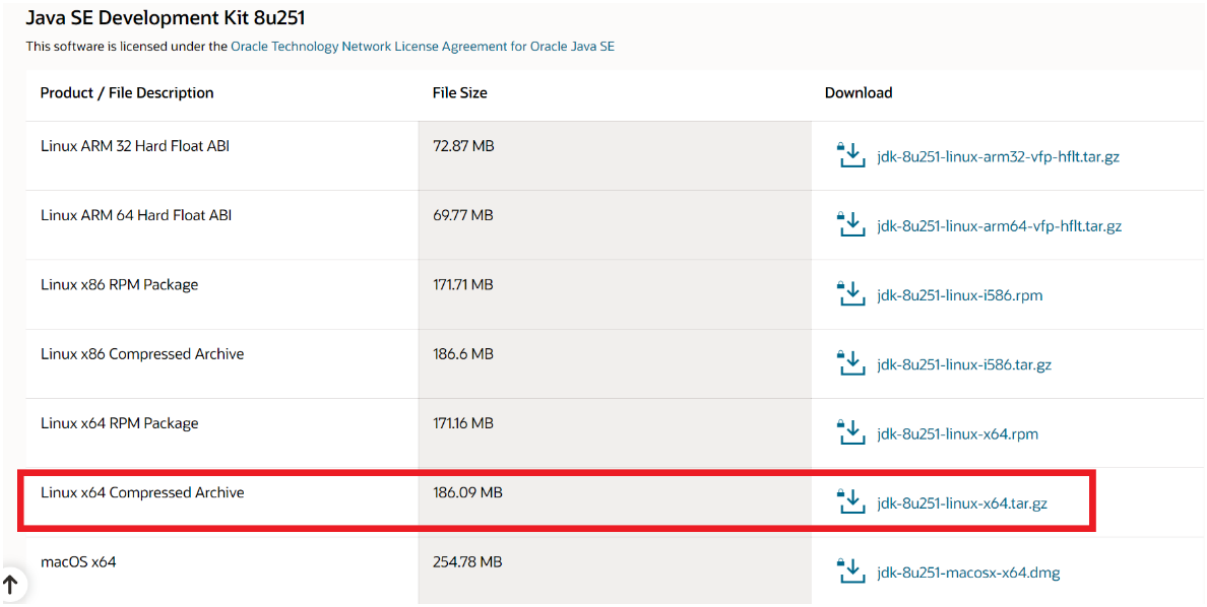
1. Intro

This documentation will help you to install GAIT on Linux. It is designed for Ubuntu 16.04 / 18.04 / 20.04.

This work is in progress.

2. Java Installation

GAIT is written in Java. First of all, we need to install Java Development Kit. The one we have to install is Java SE Development Kit 8u251. You can find it at this address: https://www.oracle.com/java/technologies/javase-jdk8-downloads.html

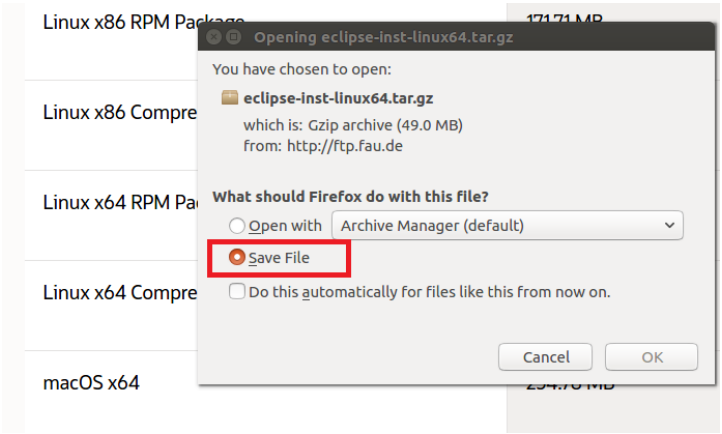


Java SE Development Kit 8u251

This software is licensed under the Oracle Technology Network License Agreement for Oracle Java SE

Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	72.87 MB	jdk-8u251-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	69.77 MB	jdk-8u251-linux-arm64-vfp-hflt.tar.gz
Linux x86 RPM Package	171.71 MB	jdk-8u251-linux-i586.rpm
Linux x86 Compressed Archive	186.6 MB	jdk-8u251-linux-i586.tar.gz
Linux x64 RPM Package	171.16 MB	jdk-8u251-linux-x64.rpm
Linux x64 Compressed Archive	186.09 MB	jdk-8u251-linux-x64.tar.gz
macOS x64	254.78 MB	jdk-8u251-macosx-x64.dmg

Select the Linux x64 Compressed Archive.



By default, system will select “Open with…”. Please select “Save File”.

When the file is downloaded, open a terminal (CTRL + ALT + T) and go to your downloads folder. You will find your JDK archive. You can extract it.

Commands:

Go to Downloads folder →

```
$ cd Downloads/
```

Check your JDK archive →

```
$ ls
```

Extract it →

```
$ tar -zxvf jdk-8u251-linux-x64.tar.gz
```

Now, you have to put your extracted folder in the right place. For that, please check that a file named “java” is in your extracted JDK folder. If not, (and probably not) you need to create it.

Commands:

Check your extracted JDK folder →

```
$ ls
```

Got to the right place →

```
$ cd /usr/lib
```

Check that a “java” folder is here →

```
$ ls
```

IF NOT: Create it →

```
$ sudo mkdir java
```

Return to your Downloads folder →

```
$ cd ~/Downloads
```

Move your extracted folder in the folder you just created →

```
$ mv jdk1.8.0_251 /usr/lib/java/
```

Go in the “bin” folder of your extracted file →

```
$ cd /usr/lib/java/jdk1.8.0_251/bin
```

Normally, you will find a lot of files in here. Please verify that a “java” file and a “javac” file are here.

3. JDK Setting Up

Now, you will be setting up java for updates and packages management.

Go back in your jdk folder →

```
$ cd ..
```

Write these three commands one by one →

```
$ sudo update-alternatives --install "/usr/bin/java"
"java" "/usr/lib/java/jdk1.8.0_251/bin/java" 1
```

```
$ sudo update-alternatives --install "/usr/bin/javac"
"javac" "/usr/lib/java/jdk1.8.0_251/bin/javac" 1
```

```
$ sudo update-alternatives --install "/usr/bin/javaws"
"javaws" "/usr/lib/java/jdk1.8.0_251/bin/javaws" 1
```

WARNING! Don't forget to replace **jdk1.8.0_251** by the version you downloaded.

Now, you need to edit your .bashrc file and to add some lines.

Let's return to your home →

```
$ cd ~
```

Run gedit to edit your .bashrc file →

```
$ gedit .bashrc
```

Add the following lines to the end of your .bashrc file:

```
#JAVA HOME directory setup
```

```
export JAVA_HOME=/usr/lib/java/jdk1.8.0_251
```

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

WARNING! Don't forget to replace **jdk1.8.0_251** by the version you downloaded.

To verify that our installation works, we will test it with the following command:

First, close and reopen your terminal

Write →

```
$ java
```

```
heidi@heidi-ros:~$ java
Usage: java [-options] class [args...]
           (to execute a class)
   or  java [-options] -jar jarfile [args...]
           (to execute a jar file)
where options include:
    -d32          use a 32-bit data model if available
    -d64          use a 64-bit data model if available
    -server       to select the "server" VM
                  The default VM is server,
                  because you are running on a server-class machine.


    -cp <class search path of directories and zip/jar files>
    -classpath <class search path of directories and zip/jar files>
                  A : separated list of directories, JAR archives,
                  and ZIP archives to search for class files.
    -D<name>=<value>
                  set a system property
    -verbose:[class|gc|jni]
                  enable verbose output
    -version      print product version and exit
    -version:<value>
                  Warning: this feature is deprecated and will be removed
                  in a future release.
                  require the specified version to run
    -showversion  print product version and continue
    -jre-restrict-search | -no-jre-restrict-search
                  Warning: this feature is deprecated and will be removed
                  in a future release.
                  include/exclude user private JREs in the version search
    -? -help      print this help message
    -X            print help on non-standard options
    -ea[:<packagename>...|:<classname>]
    -enableassertions[:<packagename>...|:<classname>]
                  enable assertions with specified granularity
    -da[:<packagename>...|:<classname>]
    -disableassertions[:<packagename>...|:<classname>]
                  disable assertions with specified granularity
    -esa | -enablesystemassertions
                  enable system assertions
    -dsa | -disablesystemassertions
                  disable system assertions
    -agentlib:<libname>[=<options>]
                  load native agent library <libname>, e.g. -agentlib:hprof
                  see also, -agentlib:jdwp=help and -agentlib:hprof=help
    -agentpath:<pathname>[=<options>]
                  load native agent library by full pathname
    -javaagent:<jarpath>[=<options>]
                  load Java programming language agent, see java.lang.instrument
    -splash:<imagepath>
                  show splash screen with specified image
```

You should have that in your terminal.

Write →

```
$ javac
```

You should have a similar thing that above

Write →

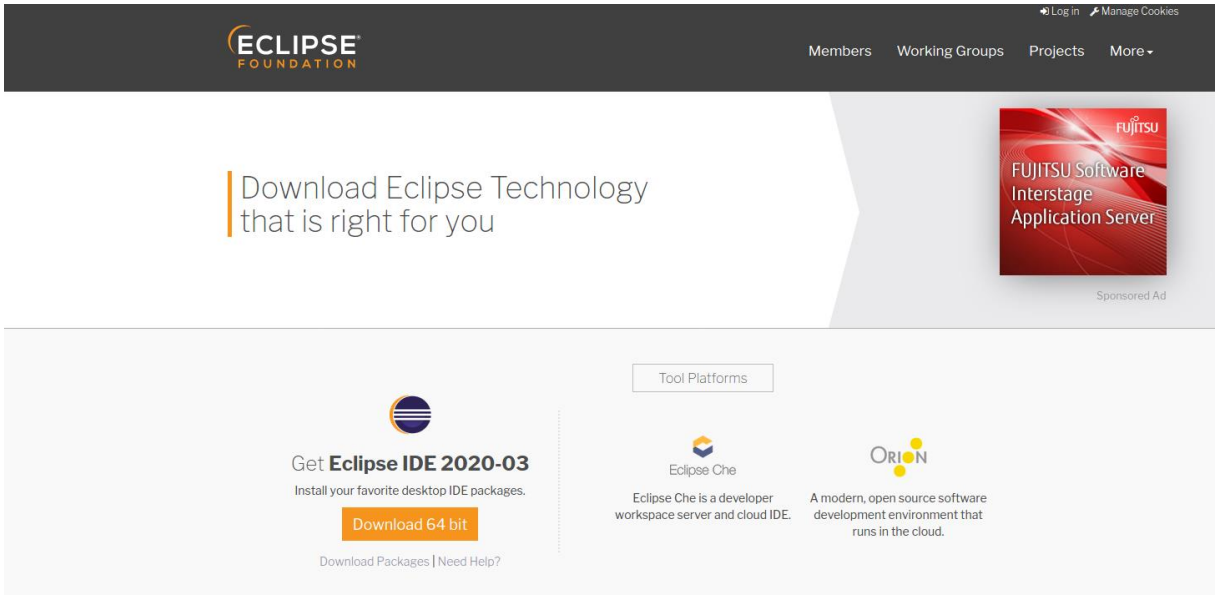
```
$ java -version
```

```
heidi@heidi-ros:~$ java -version
java version "1.8.0_251"
Java(TM) SE Runtime Environment (build 1.8.0_251-b08)
Java HotSpot(TM) 64-Bit Server VM (build 25.251-b08, mixed mode)
```

You installed Java for Linux!

4. Eclipse IDE Installation

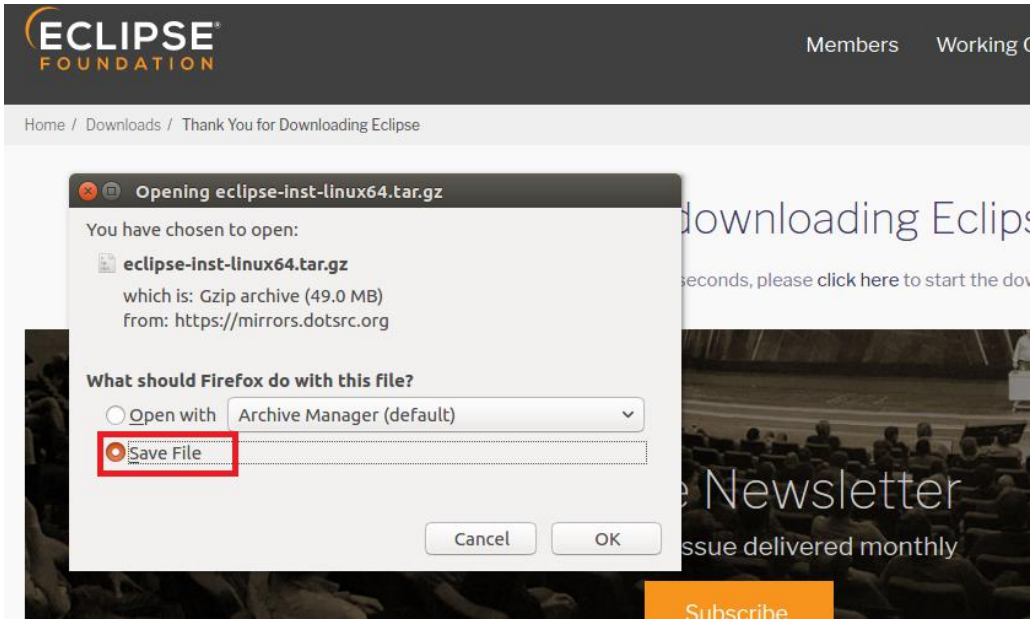
First, you need to download the archive file. To do this, go to this address : https://www.eclipse.org/downloads/



Click on the download button.

This will take you to a new page, click again on the download button.

A pop-up window will appear to ask you what to do with the file.



Be careful to select “Save file” and click on the “OK” button.

From here, we will follow a similar procedure to what we did above for the Java installation.

So, you can open a new terminal (CTRL+ALT+T).

Go to your Downloads folder →

```
$ cd Downloads/
```

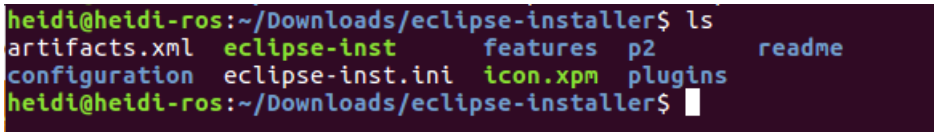
Extract your eclipse archive →

```
$ tar -zcvf eclipse-inst-linux64.tar.gz
```

If you check your files, you can see that you have now a file named “eclipse-installer”.

Go into this file →

```
$ cd eclipse-installer
```



You should have these files.

WARNING! Before continue, be sure to be done with the JDK Setting Up.

Run the “eclipse-inst” file →

```
$ ./eclipse-inst
```

The following window will appear:

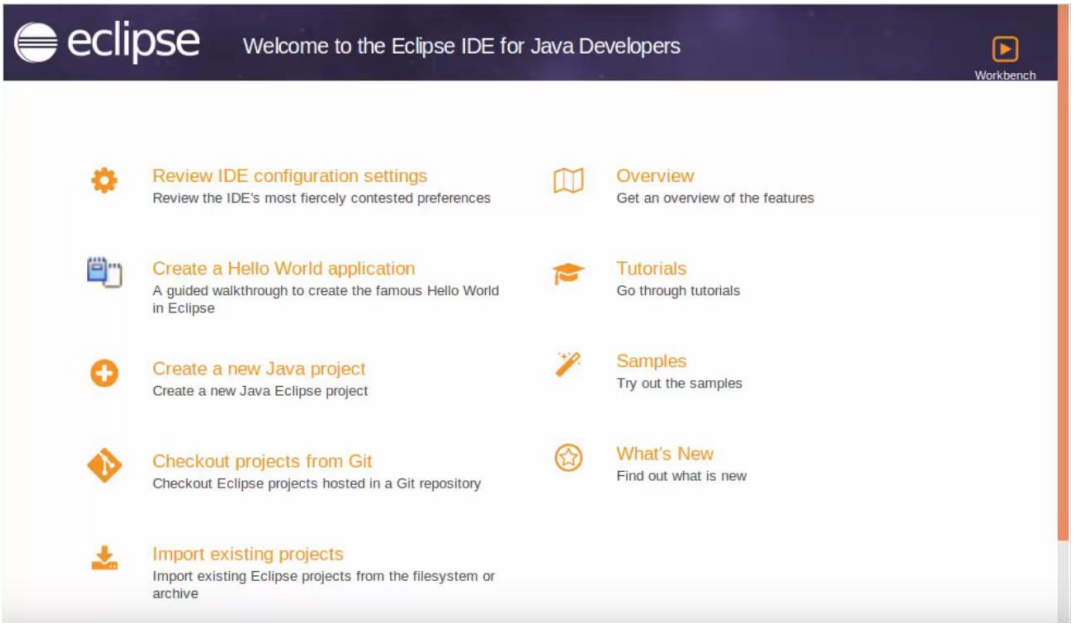
Select the first option.

You can leave the installation folders by default. Click on the “INSTALL” button.

Follow the installation instructions:

- accept licenses
- select and accept certificates

You can now click on the “LAUNCH” button and eclipse will start. The first time the eclipse IDE starts, it will ask you to define the default workspace. You can leave it. You can can also check the button to always use these settings by default.



You are now on the welcome page of the eclipse IDE. You can close it.

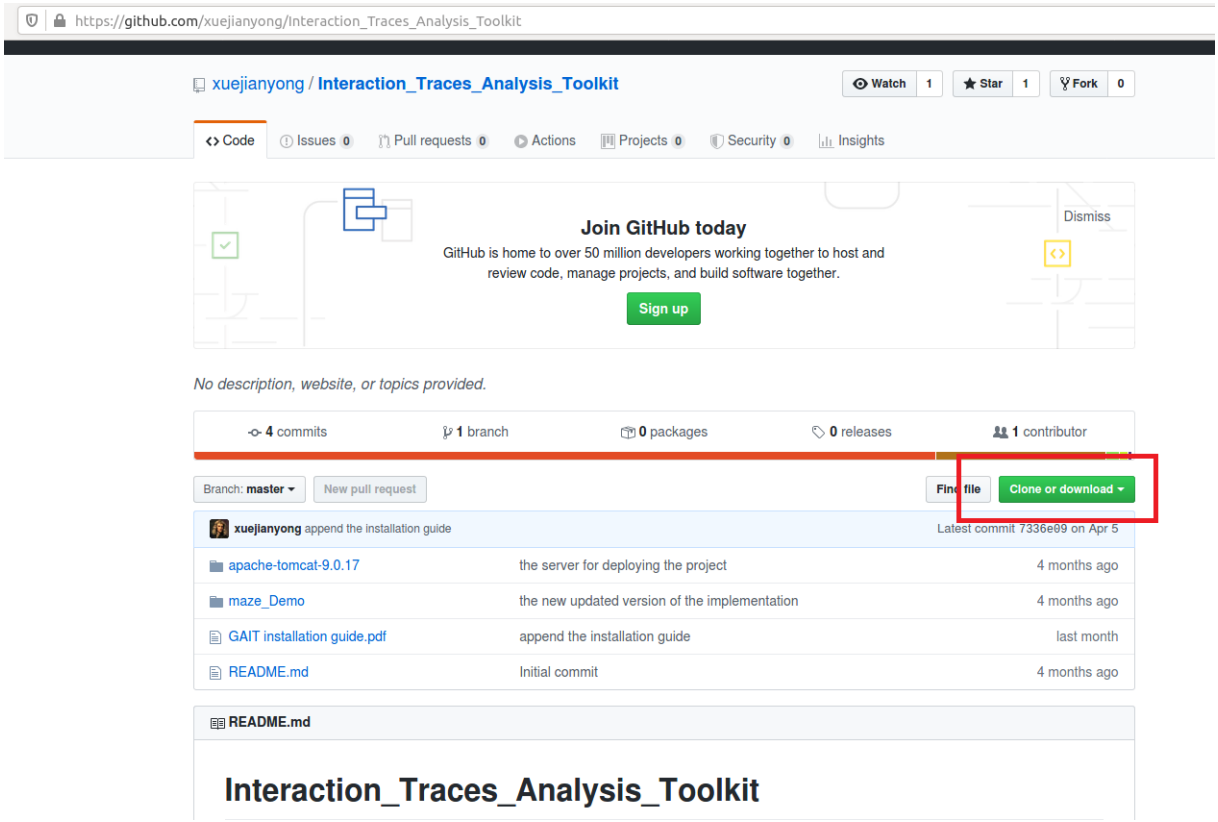
Eclipse is installed.

5. GAIT Installation

The first step of this part is to import GAIT's repository from Github. To do this, you can download the archive file from this address:
https://github.com/xuejianyong/Interaction_Traces_Analysis_Toolkit

Or you can clone the repository in local with git. It's a better way to do it. If you prefer this way, skip to the next page.

Archive solution:



Click the "Clone or download" button and then "Download ZIP".

Open a new terminal (CTRL+ALT+T) and go to your Downloads file →

```
$ cd Downloads/
```

Extract the GAIT file →

```
$ tar -zcvf Interaction_Traces_Analysis_Toolkit-master.zip
```

Git Solution:

WARNING! You need to install git packages to continue.

Open a new terminal (CTRL+ALT+T) and write this command →

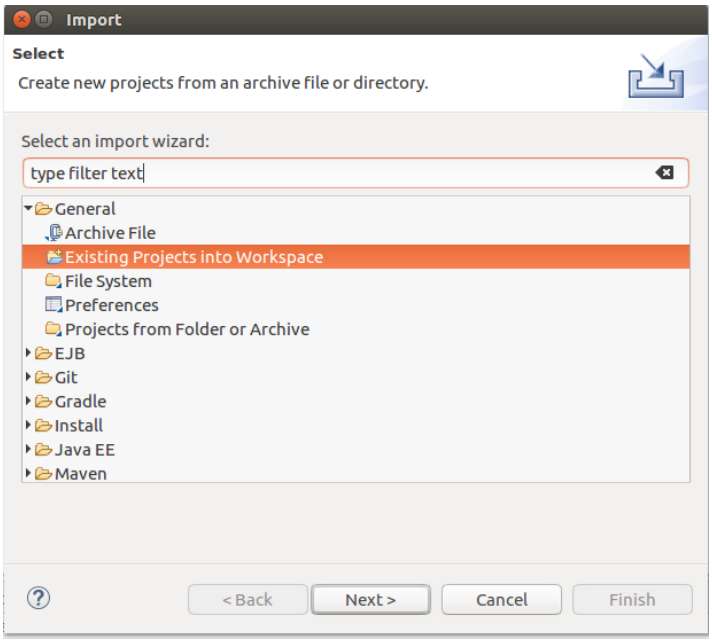
```
$ git clone
```

https://github.com/xuejianyong/Interaction_Traces_Analysis_Toolkit.git

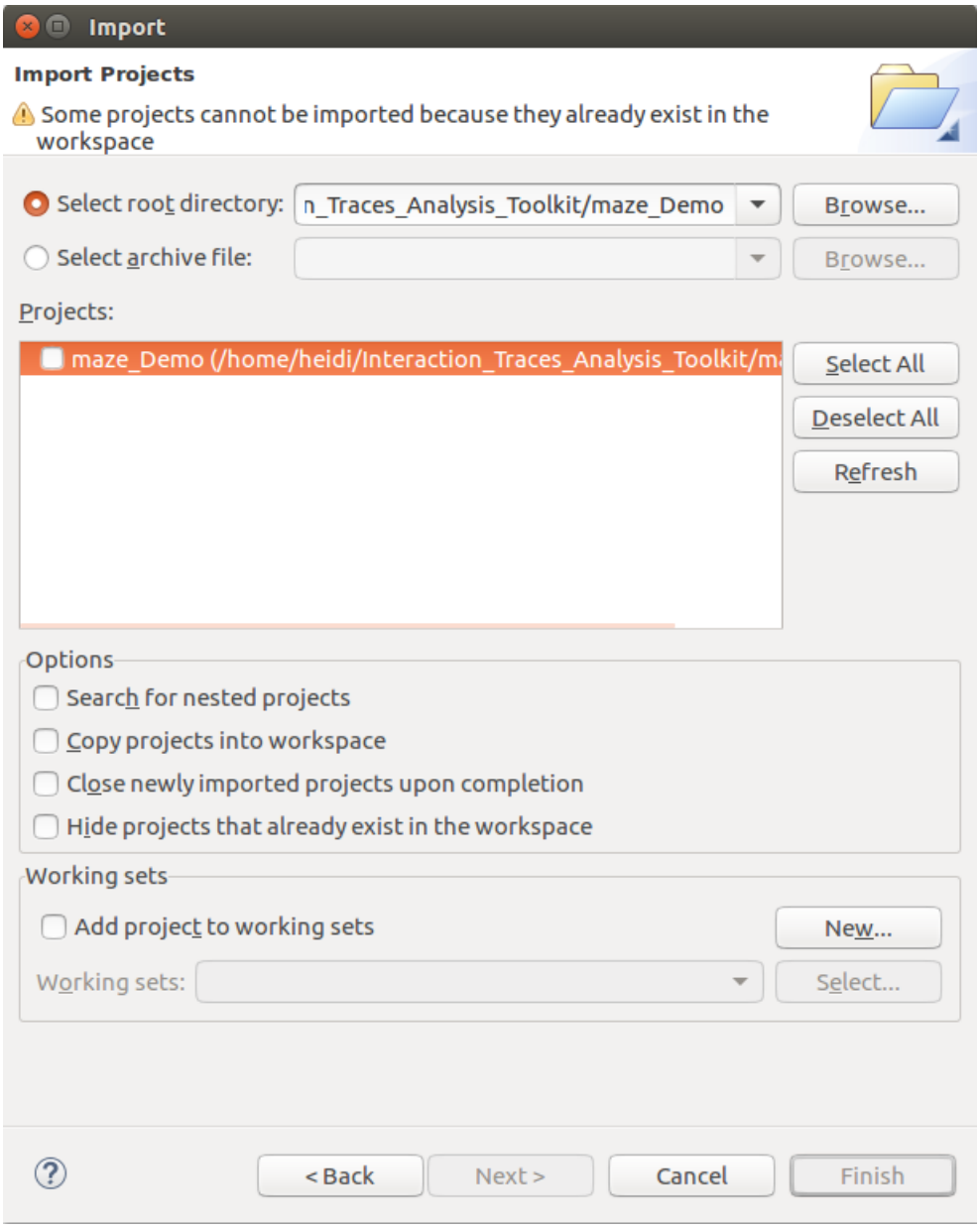
The repository is cloned.

6. GAIT Importation in Eclipse

You have to import GAIT in Eclipse. Open “File” and find “Import” and select “Existing Projects into Workspace” from the Selection Wizard, then select “Next”.



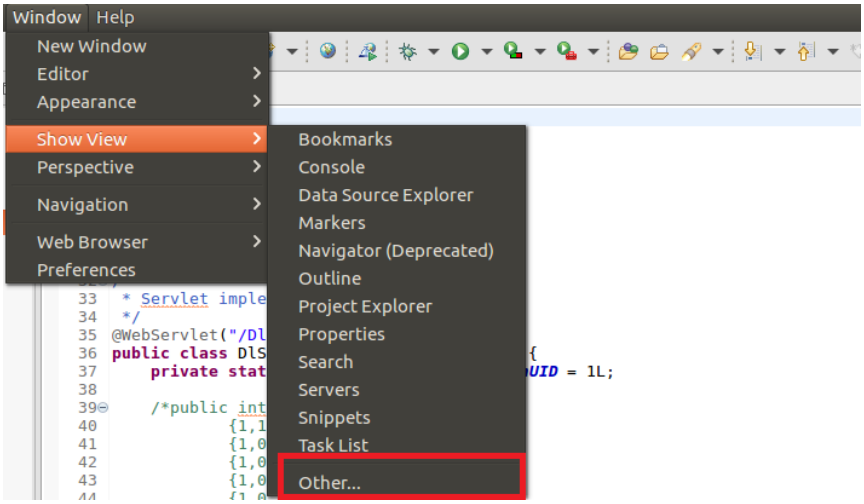
Browse to find the location where you download the project named “maze Demo”, make sure the project is checked, then hit “Finish”



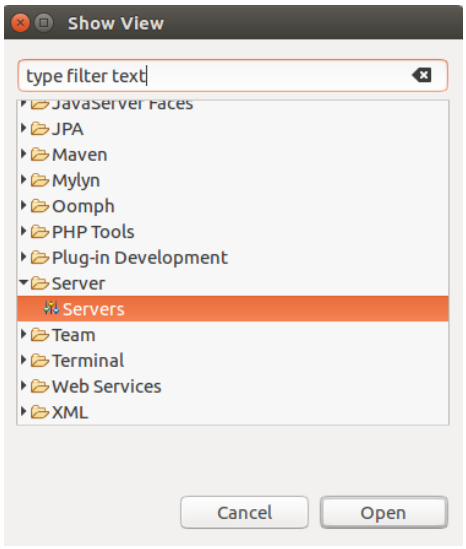
After the project has been recompiled, you will be surprised to find that some Java classes will show some errors in the console window. Please don’t worry and remain calm, these errors will not affect the function of the project. The errant code and classes were designed to test the functionality of the code, which will be gradually removed and the project code will be updated in a later release version.

7. Tomcat Server Configuration

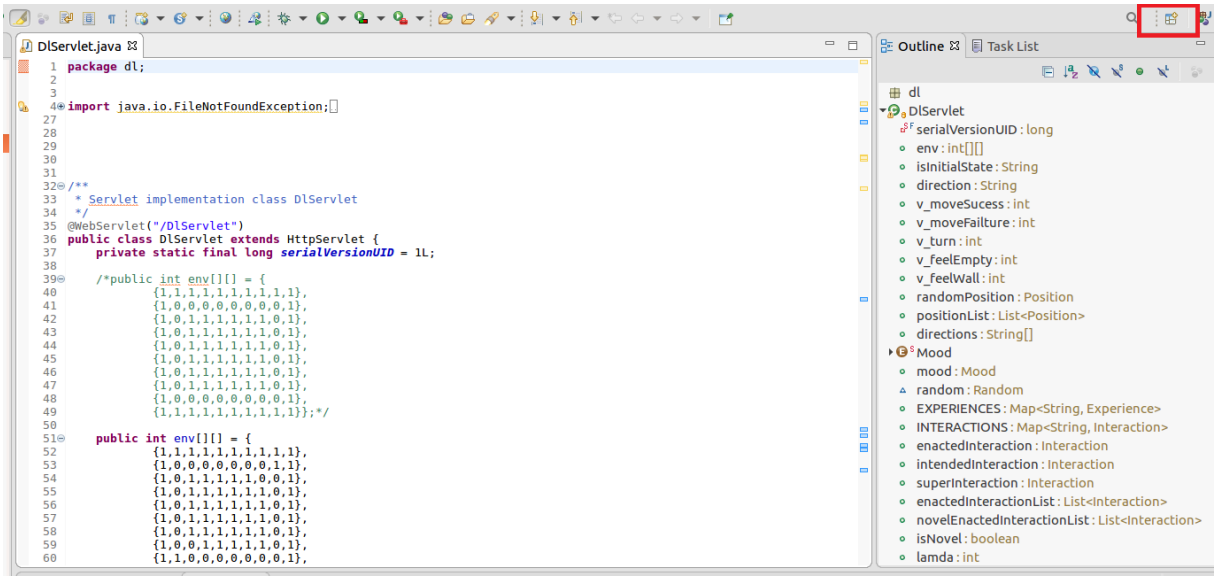
Firstly, you have to add an extension of Eclipse. Got to “Window”, then “Show view”, then “Other”.



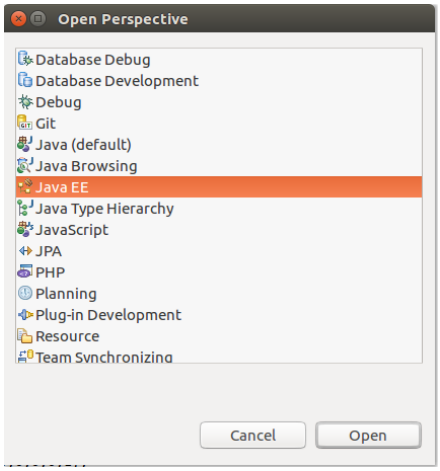
Search “Server” and select “Servers”.



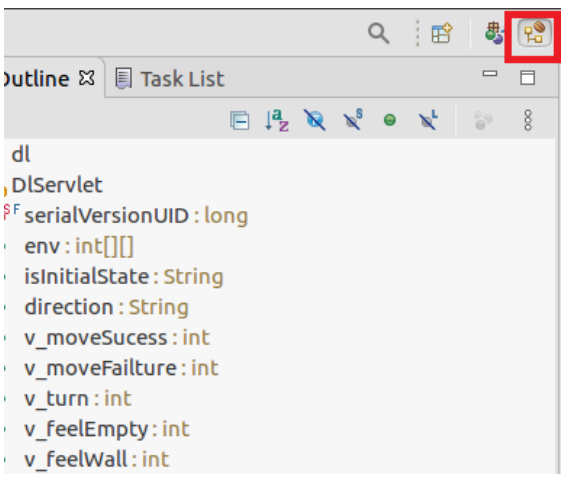
Click the button “Open Perspective”.



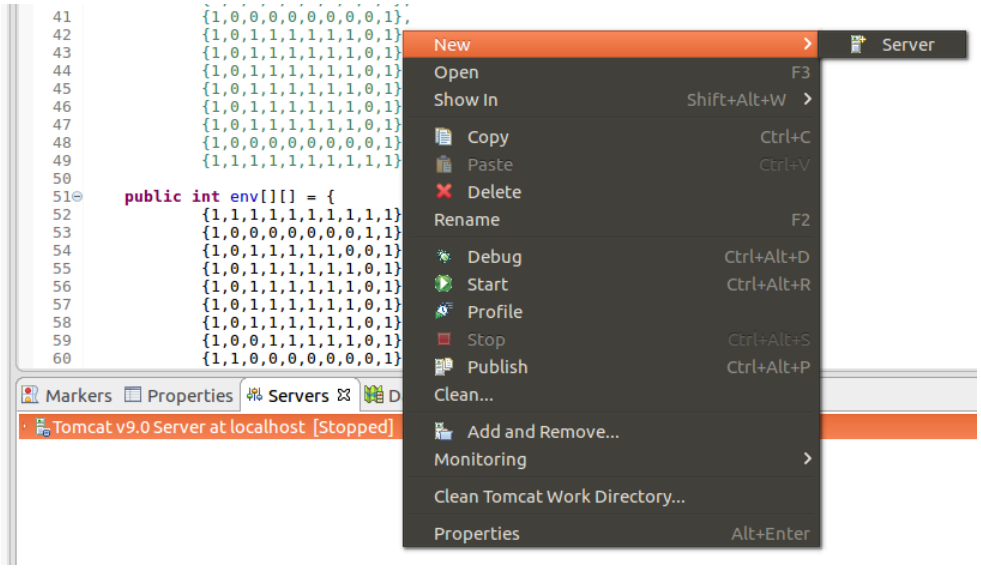
Select “Java EE”.



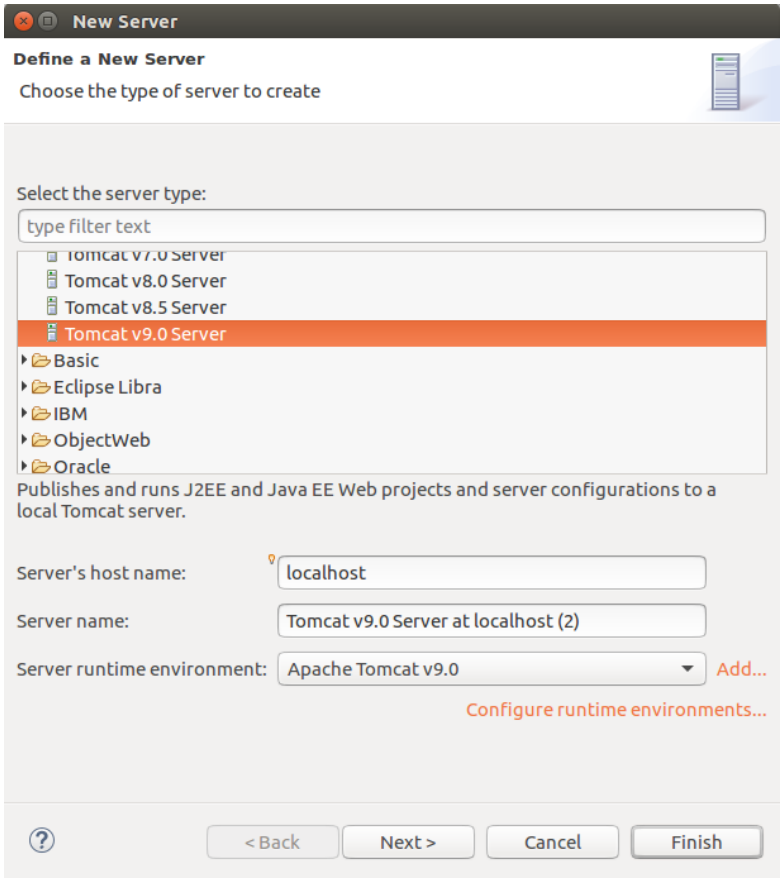
Click the “Java EE” Button.



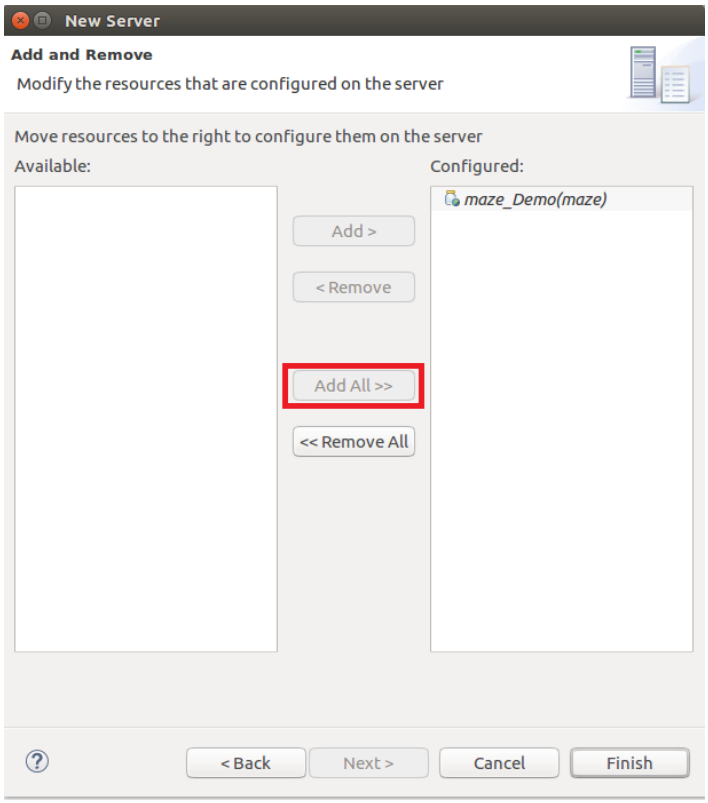
A “Servers” Window” appears, right click on it. Select “New”, then “Server.



Select “Tomcat v9.0 Server”, then select “Next” to get the Import Server.



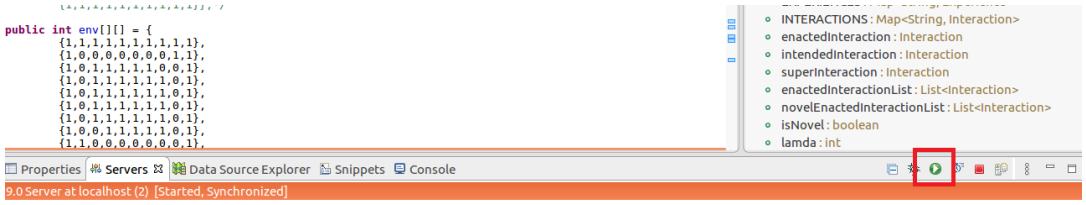
Click on the “Add All >>” to configure the server with maze_Demo(maze). Then, you can click on “Finish”.

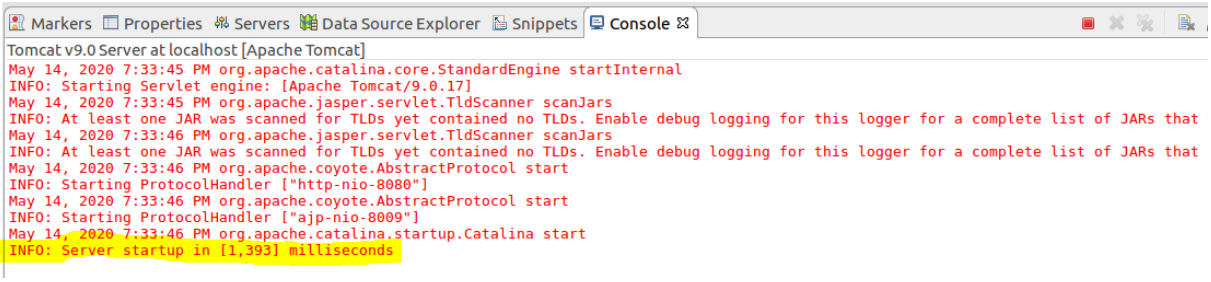


The project is now deployed on your Tomcat server.

8. GAIT Launch

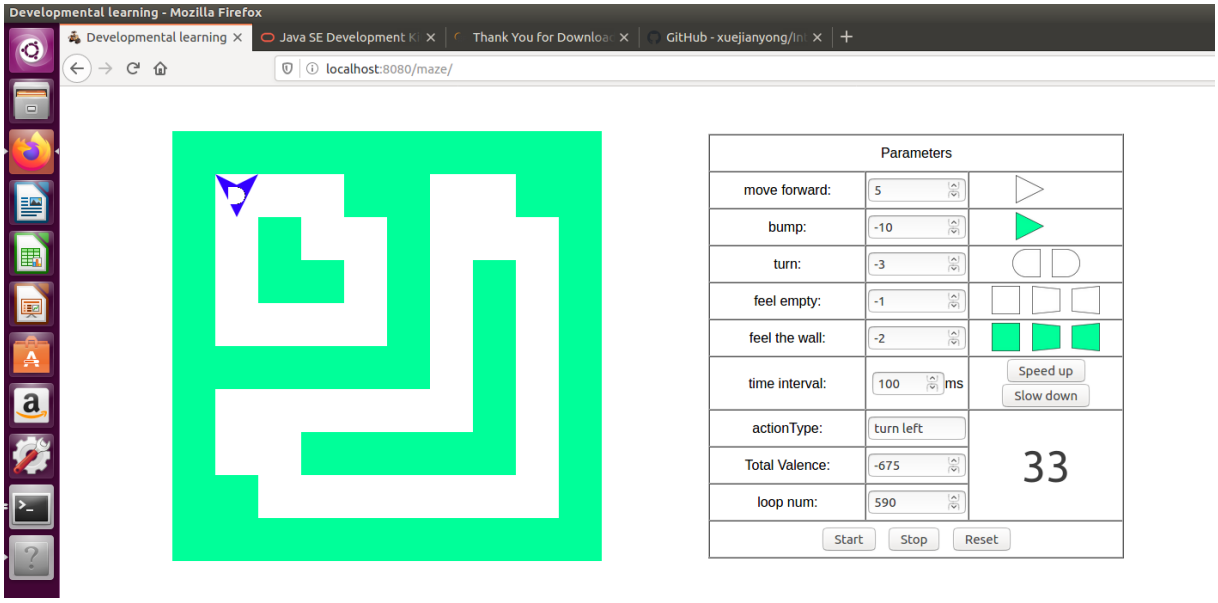
You can now run the project with the “Run” button.





The server started.

There is only one more thing to do: you have to open your navigator and to paste this address: http://localhost:8080/maze/



Good Job! GAIT is now ready to use!