Generating and Analyzing of Interaction Traces (GAIT) toolkit installation guide (V 1.01)

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1 Introduction

This document describes how to use the softwares which involved in the installation of Generating and Analyzing of Interaction Traces (GAIT) and some issues that need to be paid attention to during the deployment. I hope this work could stimulate more scholars and students to engage in the research of constructivist learning and developmental learning, and by using it to develop much more smarter agents.

According to different platforms of the user's computer, the structure of this document follows the order of deployment GAIT in the system of Windows (Window 10 64bit), Linux (Ubuntu 18.04.3 64 bit) and Mac (macOS High Sierra).

2 Windows system

2.1 Installation and Configuration JDK on Windows

2.1.1 Installation JDK

Please download the corresponding Java JDK version according to the computer system bit type. For finding the computer system bit type, firstly double left click the "Computer" on your window or with shortcut key 'windows' icon + 'E' key to open the windows explorer, then right click on the 'Computer' icon and select 'properties' from the context menu. Operations as shown in Figure 1 and 2, more detail tutorials please refer here (https://www.computerhope.com/issues/ch001121.htm).

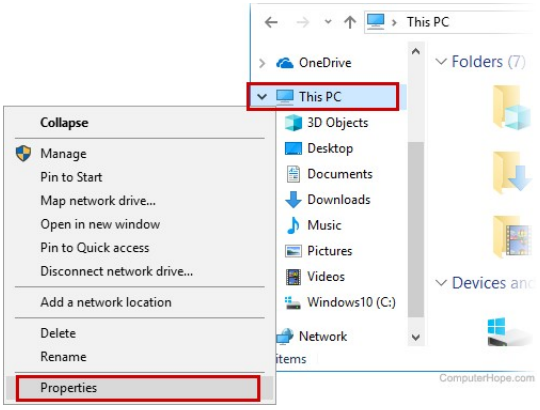

Figure 1: Find system property

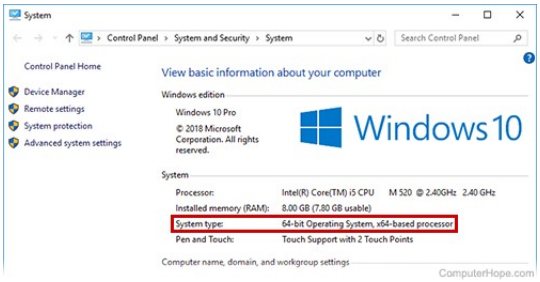

Figure 2: Get the information of windows bit type

After finding computer system bit type, open the webpage of Oracle and download the corresponding JDK here (the link is: https://www.oracle.com/java/technologies/javase-jdk8-downloads.html) as shown in Figure 3. Please make sure you have an Oracle account before download the official JDK, if you don't have one, you could create an

account here: https://profile.oracle.com/myprofile/account/create-account.jspx.

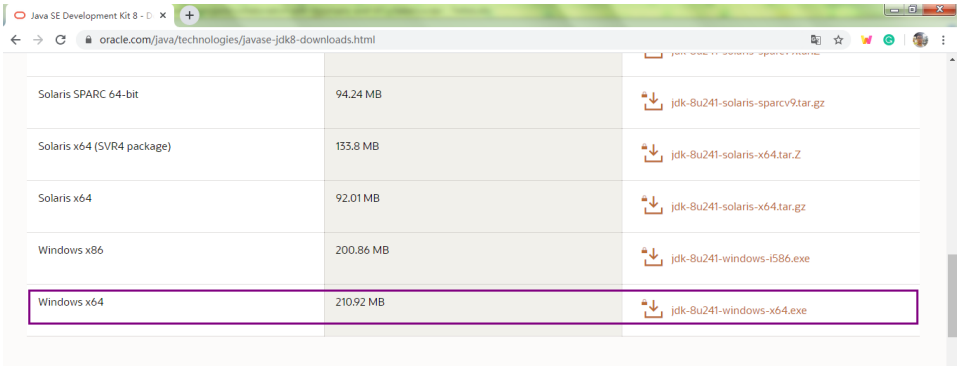

Figure 3: Download JDK

After downloading the JDK, we double click it to start the installation process, with following instruments it default provide to finish the JDK installation. Please specify the appropriate installation directory, it will be used in the JDK configuration section (in section 2.1.2).

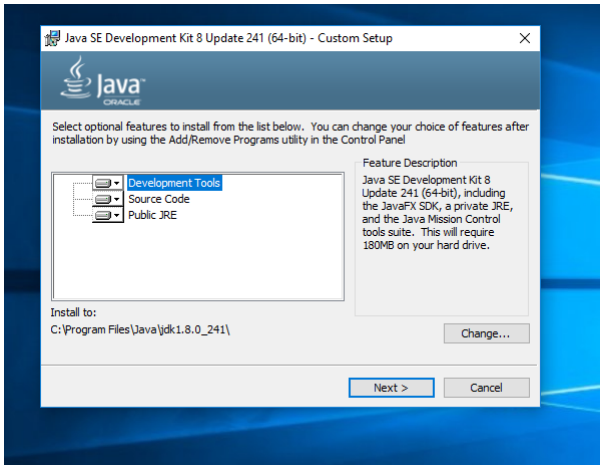

Figure 4: Install JDK and its default directory

2.1.2 Configuration JDK

After installing the JDK, then we need to configure the path for JDK [1]. Same with previous, double left click the “Computer” on your window or with shortcut key ‘windows’ icon + ‘E’ key to open the windows explorer, then right click on the ‘Computer’ icon and select ‘properties’ from the context menu, as shown in Figure 6.

then click on the option ”advanced system settings” Figure 7.

The following screen appears in Figure 8,

Click on the ”environment variable” button, you get the environment variables window, containing a ”user” part and a ”system” part. In the ‘user’ section (Figure 9), click on ‘new’, then add a new path variable named “JAVA_HOME” and associate the following value: C:\Program Files\Java\jdk1.8.0_241,

As shown in Figure 10 select the variable of “Path” append a new value of:
%JAVA_HOME%\bin;
%JAVA_HOME%\jre\bin.

[1] This tutorial refers to http://objis.com/tutoriel-java-installation-java-jdk-8/

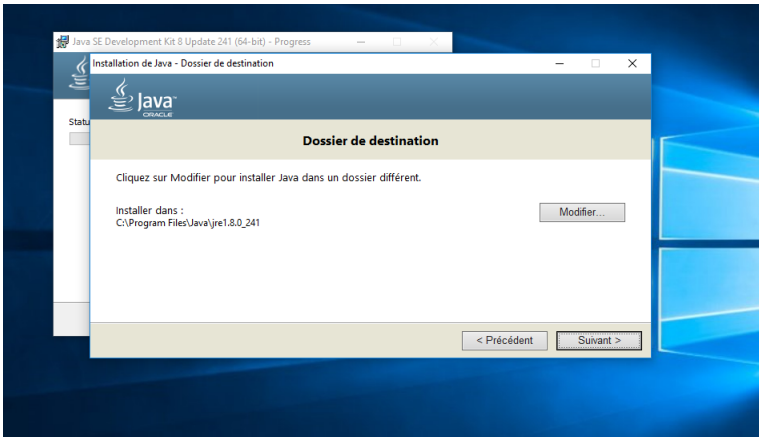

Figure 5: Install JRE and its default directory

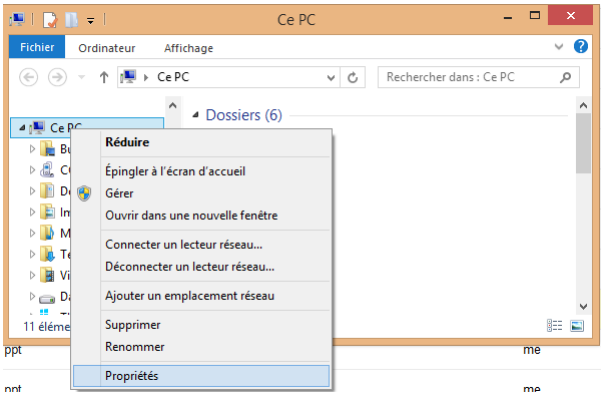

Figure 6: windows property window

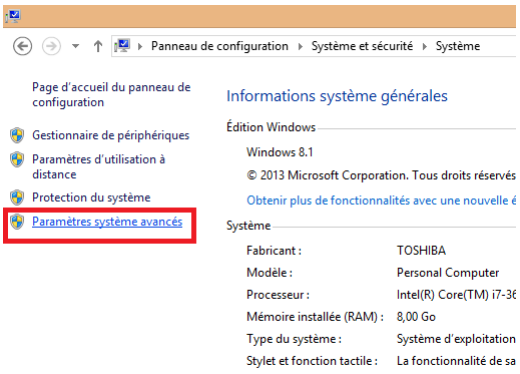

Figure 7: Advanced system settings.

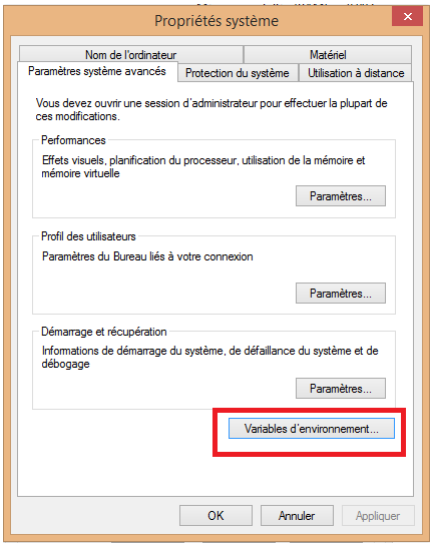

Figure 8: System property tip window.

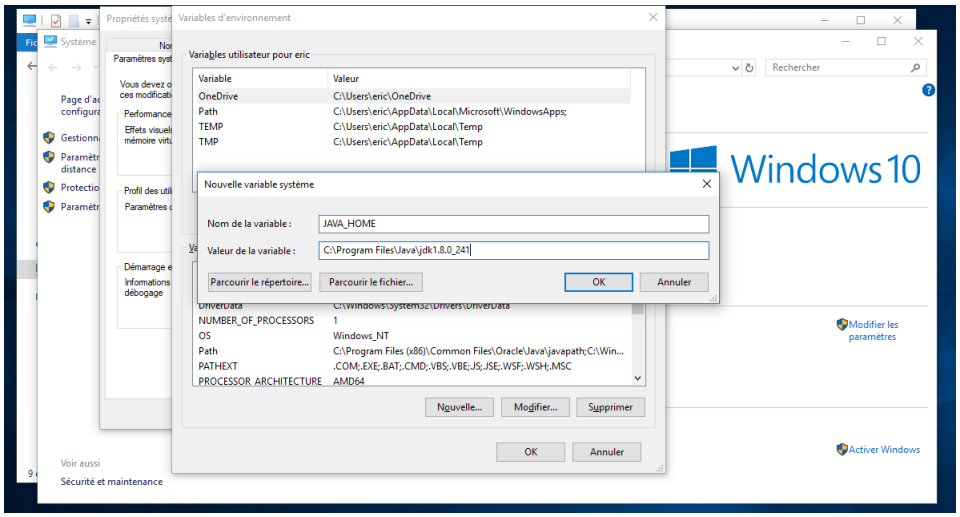

Figure 9: Add new variable with its value.

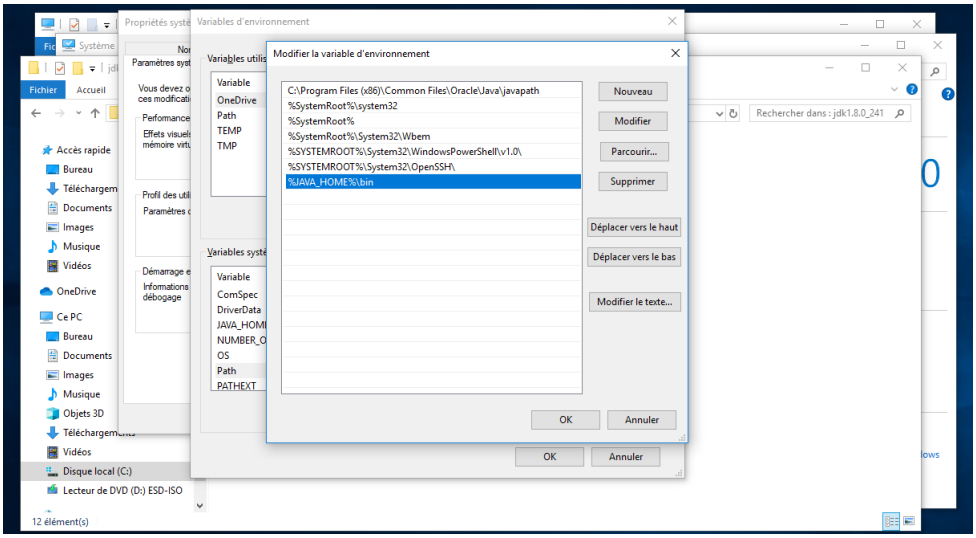

Figure 10: Modify the environment variable “Path” and append new values.

Adding a new variable named “CLASSPATH” (Figure 11) and associating the value of:
.;%JAVA_HOME%\lib;%JAVA_HOME%\lib\tools.jar

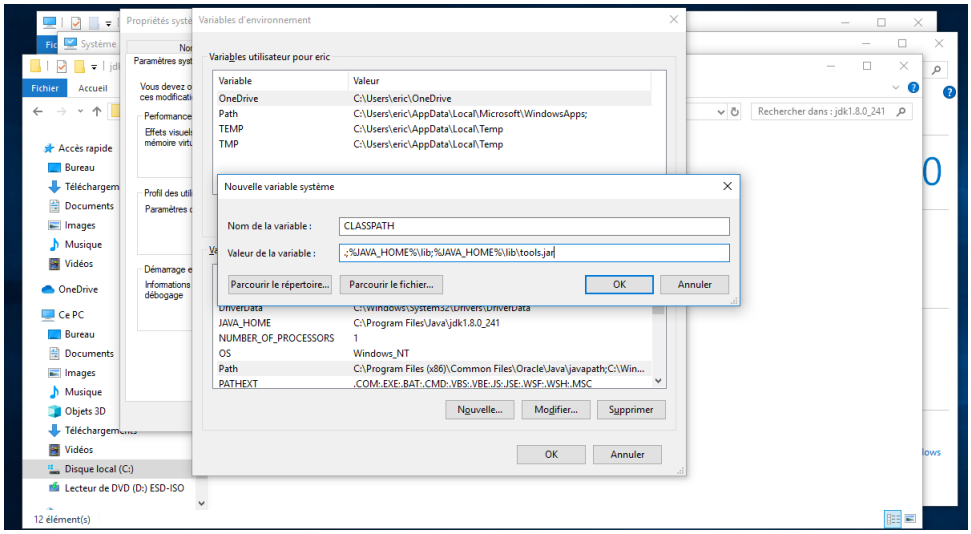

Figure 11: Add new variable with its value.

After modifying the environment variables, open the commander lines and input commands of “java” (Figure 12) and “javac” (Figure 13) to verify the configuration is ok or not.

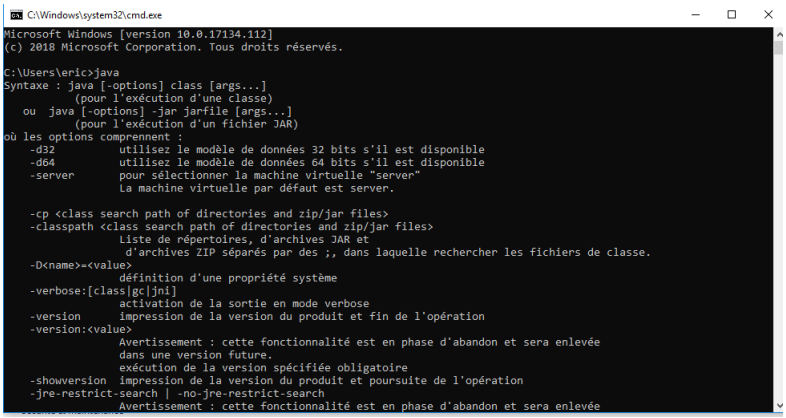

Figure 12: Test the JDK configuration with command “java”.

Tips: If the commands of “java” and “javac” don’t work in your computer, please make sure all environment variables configure right. Otherwise, you can try to restart the computer to release all working cache in your current computer user account.

2.2 Install and run the Eclipse platform

Go to the website of Eclipse (https://www.eclipse.org/downloads/packages/) and download the latest version (Figure 14), there are different types of Eclipse and divers ways to install it (like the Eclipse installer or the package version), you could select one that you like. In my suggestions, “Eclipse IDE for Enterprise Java Developers” could be better, it integrates all the various necessary components that you might use, and also includes incubating components. For installation version, I prefer the package version.

Unzip the Eclipse package and double left click the Eclipse icon (Figure 15) to run the platform.

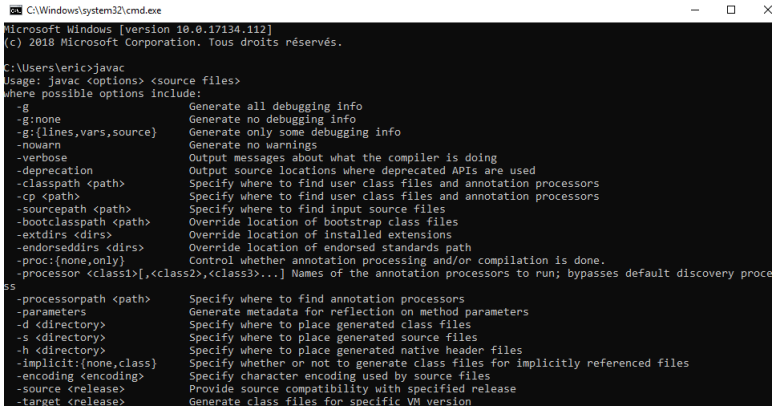

Figure 13: Test the JDK configuration with command “javac”.

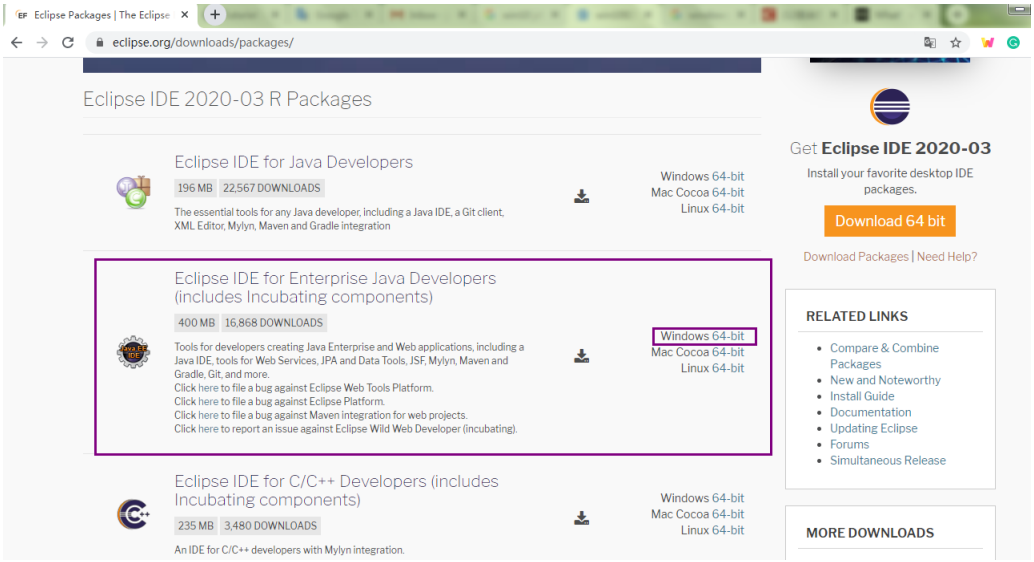

Figure 14: Download the Eclipse.

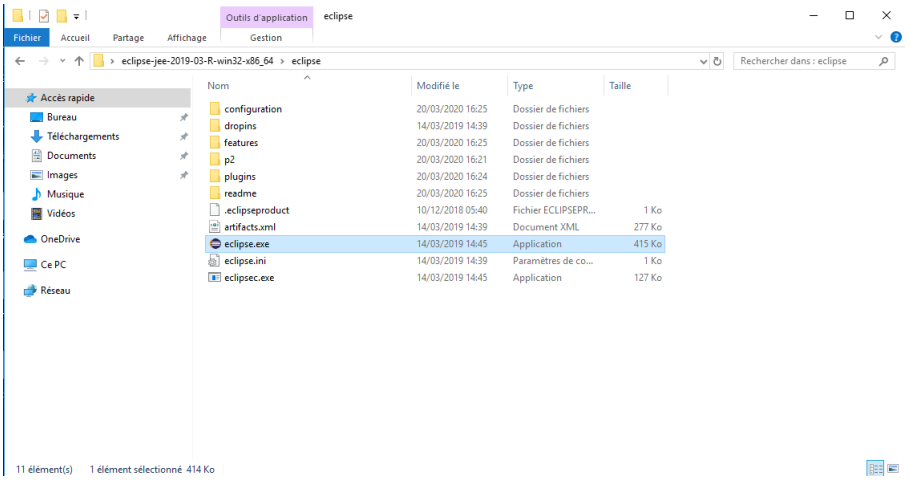

Figure 15: Unzip the Eclipse package and start running it.

2.3 The deployment of GAIT

2.3.1 Get source codes of GAIT and the Tomcat server

Download the server of Tomcat and the toolkit of GAIT from GitHub (the GitHub link is: https://github.com/xuejianyong/Interaction_Traces_Analysis_Toolkit). There are two ways to get all the resource code, the one is download all codes as a zip (Figure 16), the other is by using git (Figure 17) to clone this repository from :https://github.com/xuejianyong/Interaction_Traces_Analysis_Toolkit.git.

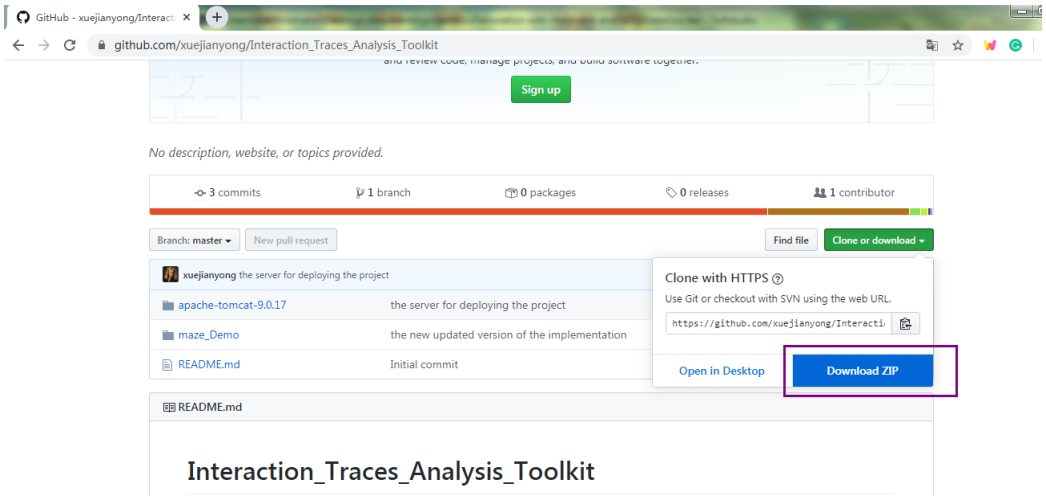

Figure 16: Download the server and GAIT as a zip.

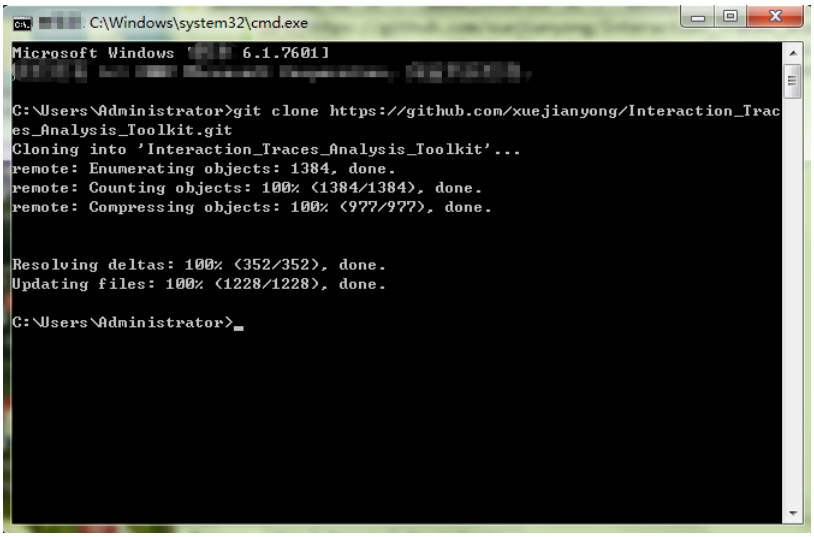

Figure 17: Download the server and GAIT with git.

2.3.2 Import project of GAIT in Eclipse

After downloading all codes, you should unzip all packages then import the server and the project of GAIT in the Eclipse platform. Open "File" and find "Import" and select "Existing Projects into Workspace" from the Selection Wizard, then select "Next" to get the Import Wizzard (Figure 18).

Browse to find the location where you download the project named "maze_Demo", make sure the project is checked, then hit "Finish" (Figure 19).

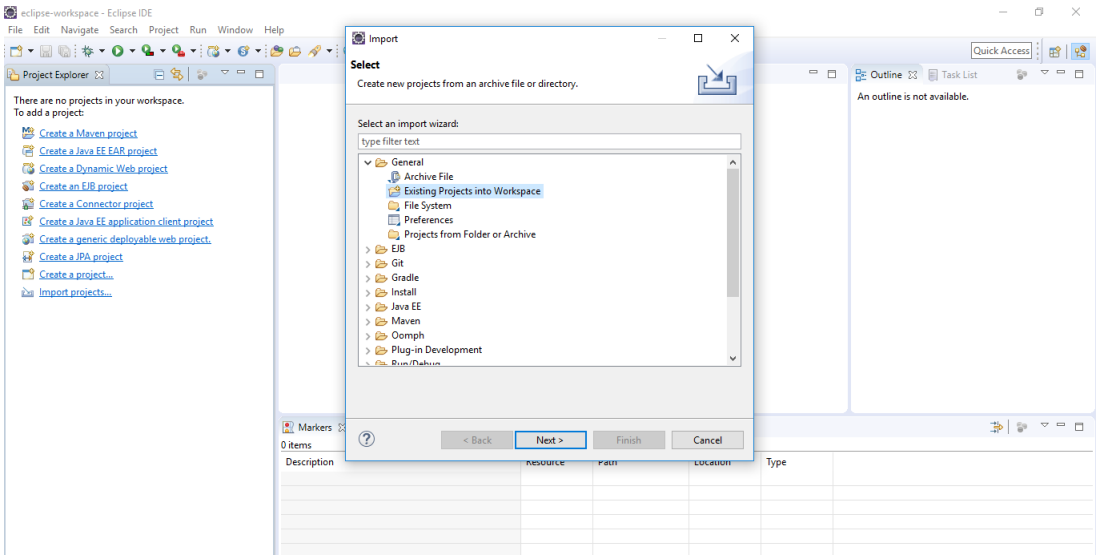

Figure 18: Import the project from existing Projects into Workspace.

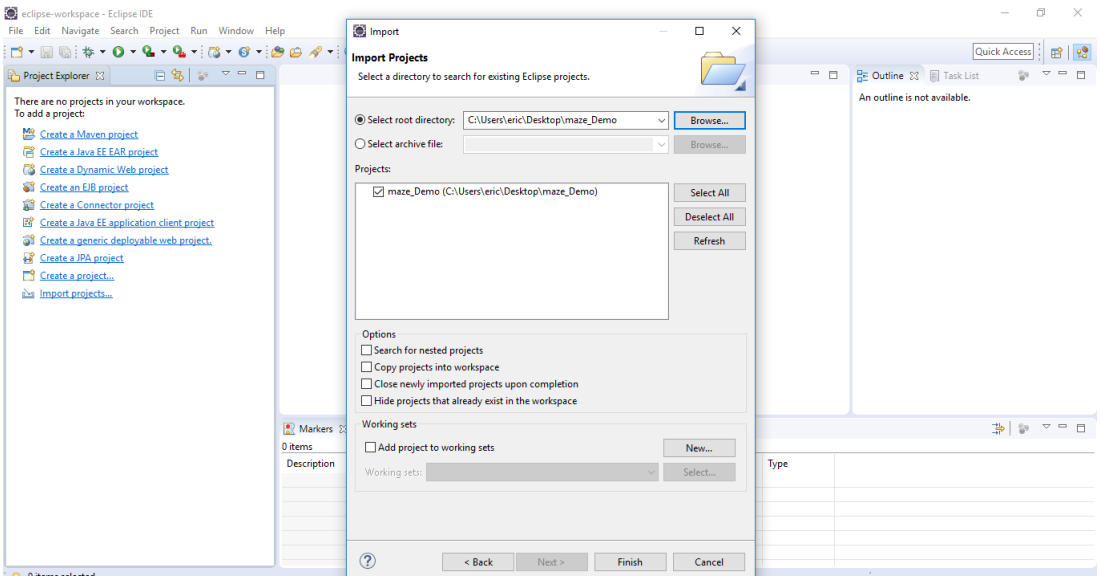

Figure 19: Finish importing the project.

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.

2.3.3 Import Tomcat server in Eclipse

In the "Servers view" in the bottom window of Eclipse (Figure 20), select the option of "Server" in the tip window at the bottom (Figure 22),

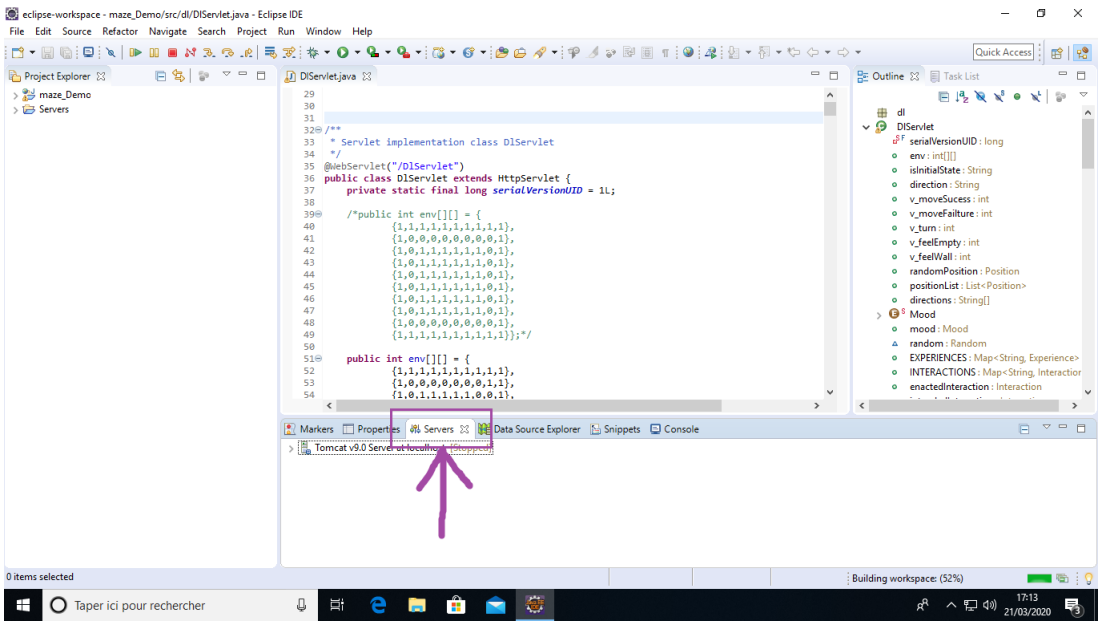

Figure 20: The Server view in the Eclipse.

right click the in the margin of the "Server" window and select "new" then select "Server" (21),

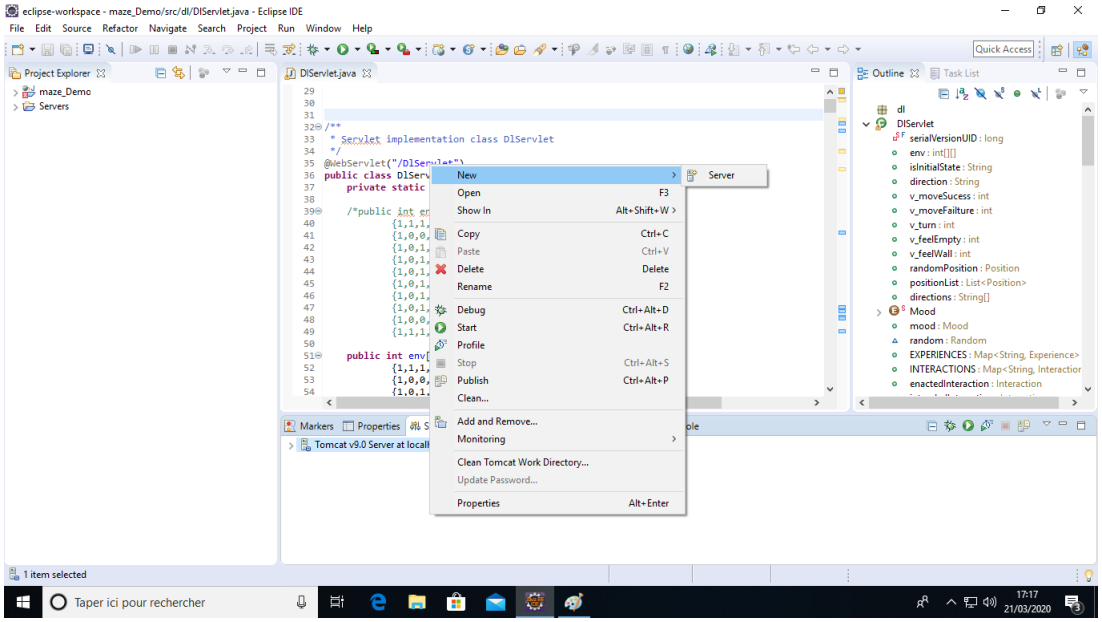

Figure 21: Add new server in the Server view.

the version of the server we are going to use is Tomcat V9.0, select "Tomcat v9.0 Server", then select "Next" to get the Import Server.

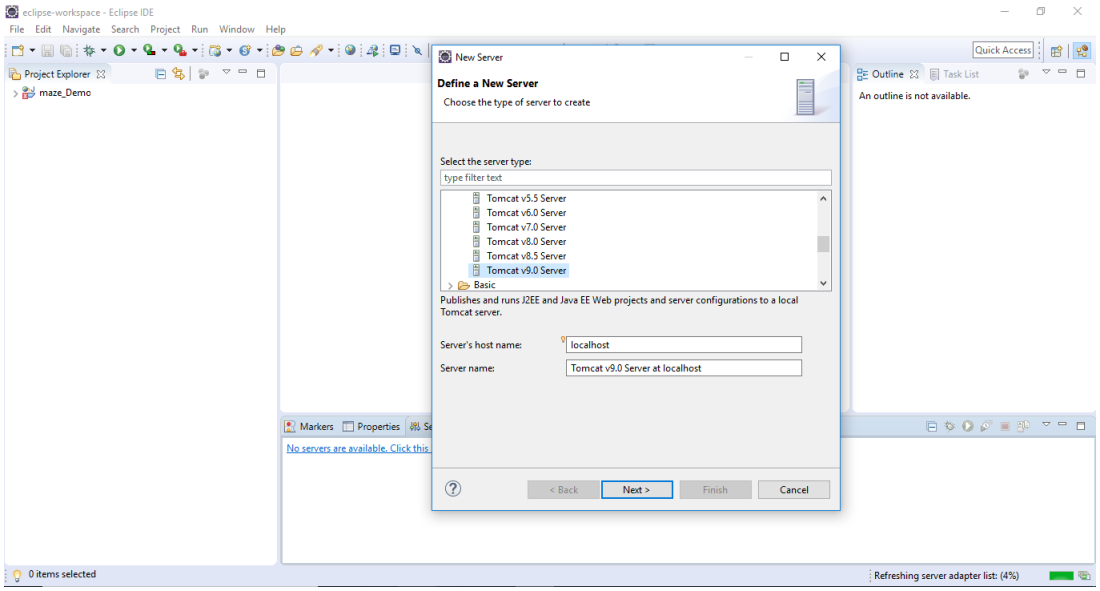

Figure 22: Import the server of Tomcat v9.0 into Workspace.

Browse to find the location where you download the server named "apache-tomcat-9.0.17" (Figure 23), make sure the server is checked, then hit "Finish".

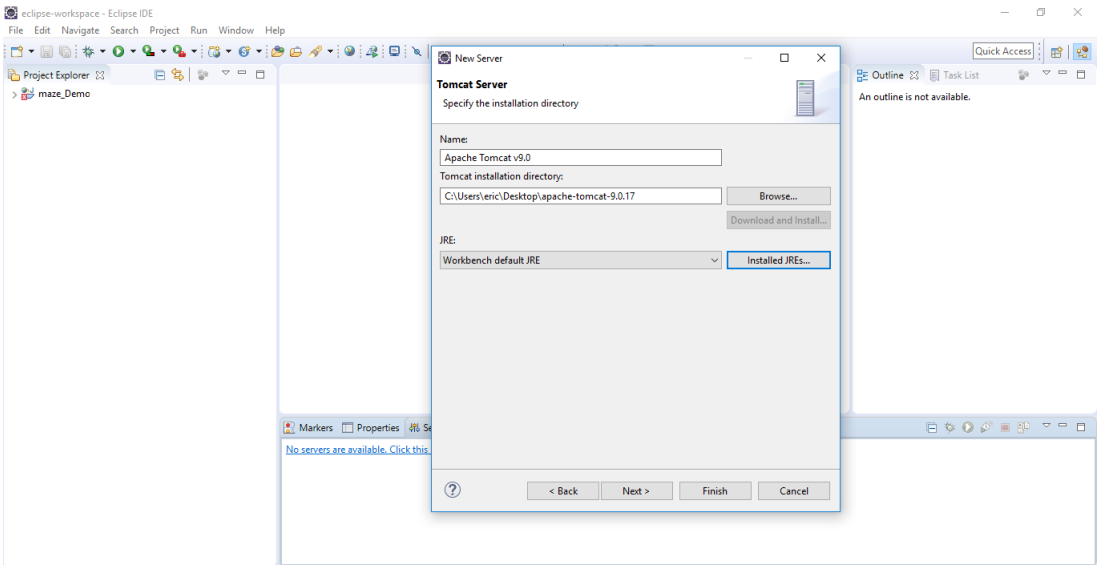

Figure 23: Finish importing the server.

2.3.4 Deployment the project in the Server

Right click the server and select the "Add or remove" (Figure 24),

then add the project from the left to the right (Figure 25), then click "finish" to complete the deployment process.

Right click the server and select "start the server" (Figure 26), wait for several seconds, the system informs the "the server starts successfully" (Figure 27), which means you can visit the service from the GAIT.

After starting the server, you could visit the service from GAIT, you should input

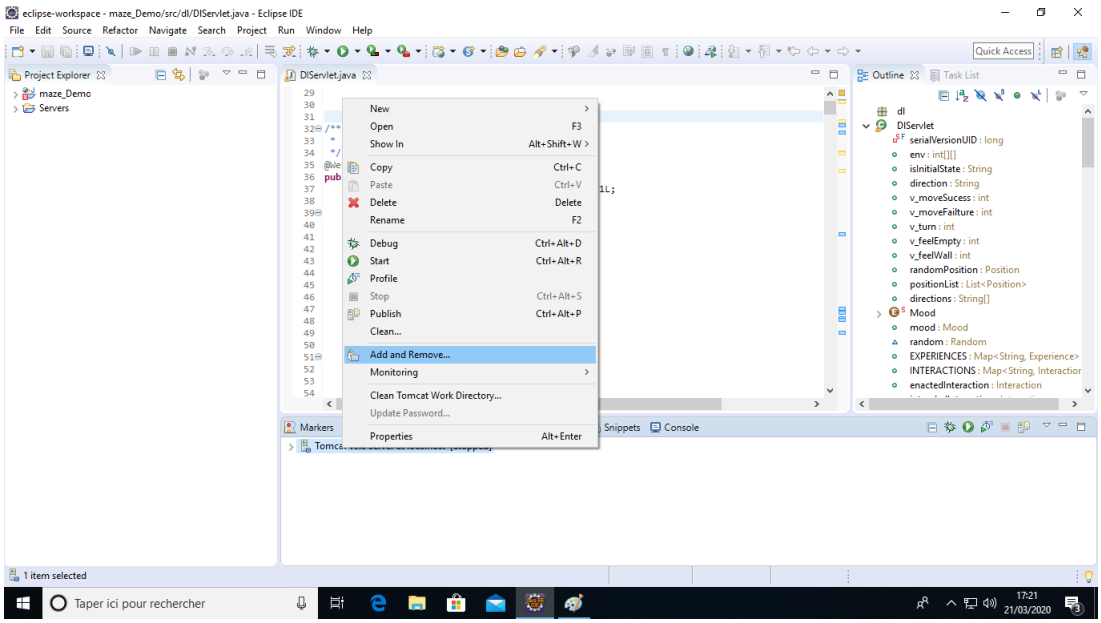

Figure 24: Finish importing the server.

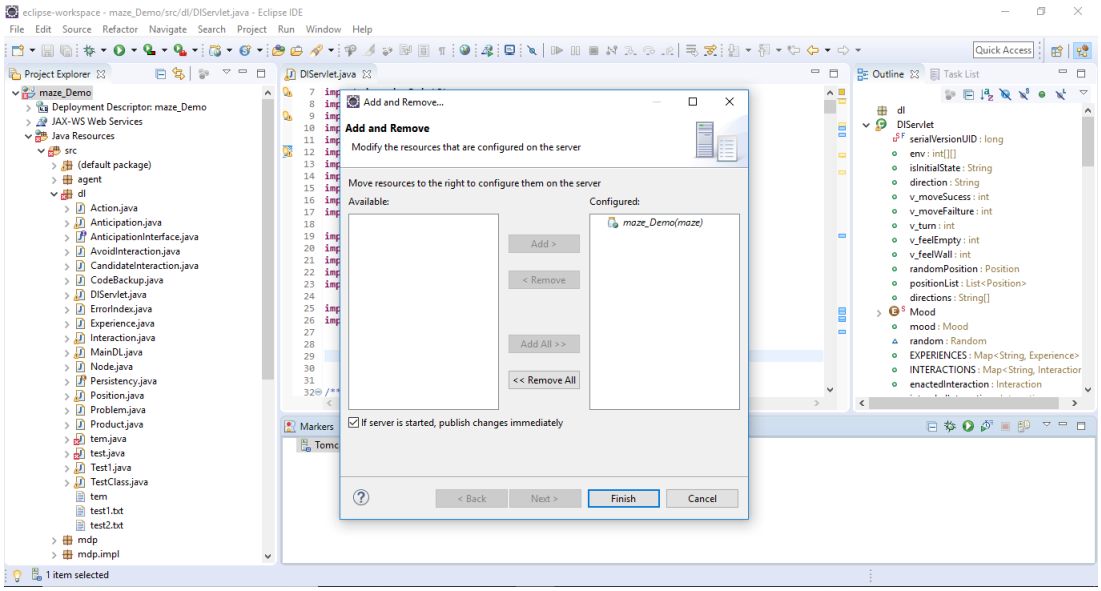

Figure 25: Finish importing the server.

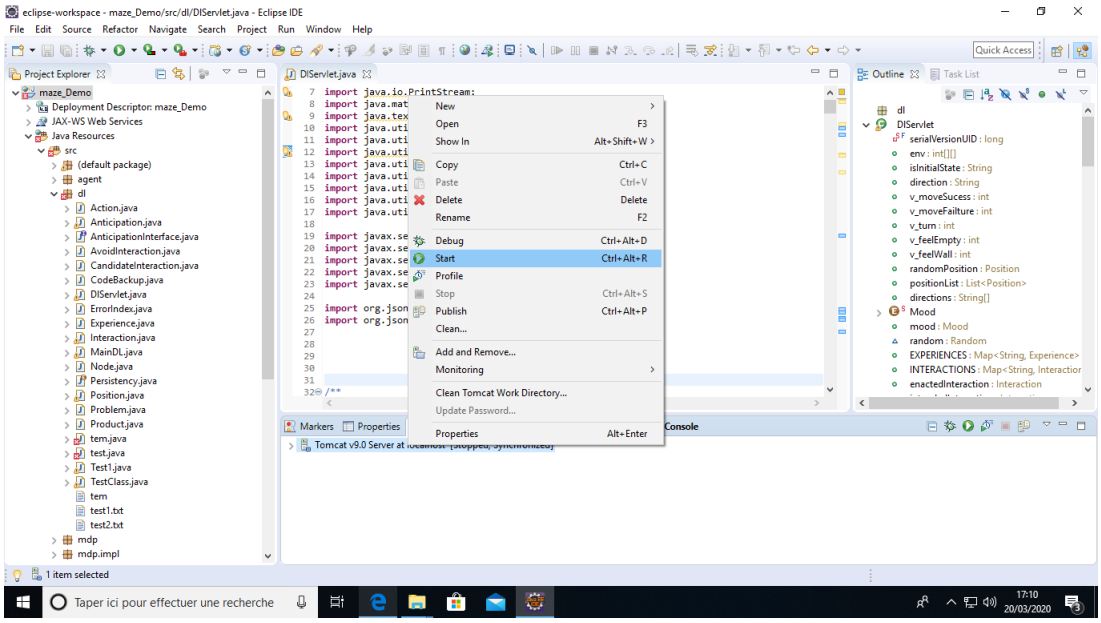

Figure 26: Start the server with the project.

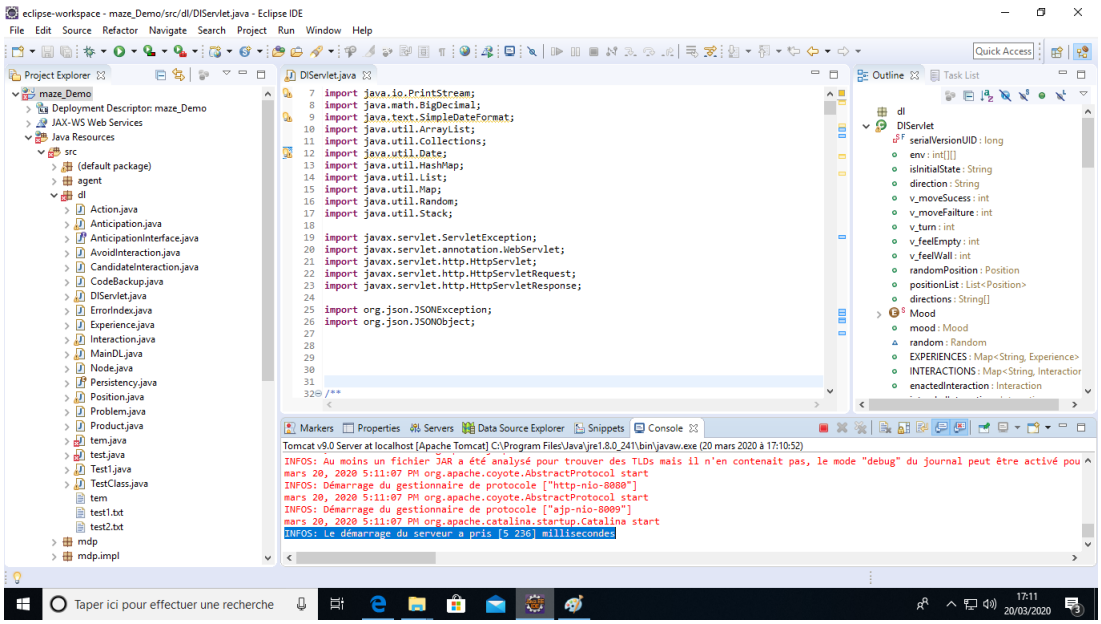

Figure 27: The server has successfully started.

the address `http://localhost:8080/maze/` in your browser and go to the front page of the GAIT. If you can find the front page of GAIT (Figure 28) as shown in Figure, which means you successfully import the project and the server in you local computer, then it shows you could use it to develop much more interesting projects with constructivist learning and developmental learning.

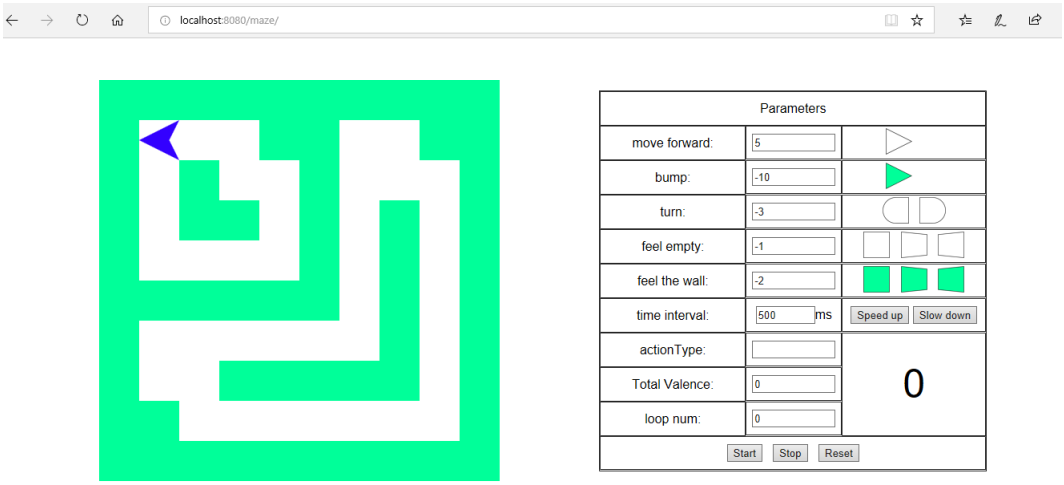

Figure 28: The front page of GAIT.