Experiment No. 4

Aim: To understand continuous integration, install and configure Jenkins with Maven/ ANT/ Gradle to set up a building job.

LO No. & Statement: (LO3): Illustrate the importance of Jenkins to build and deploy Software Applications on a server environment.

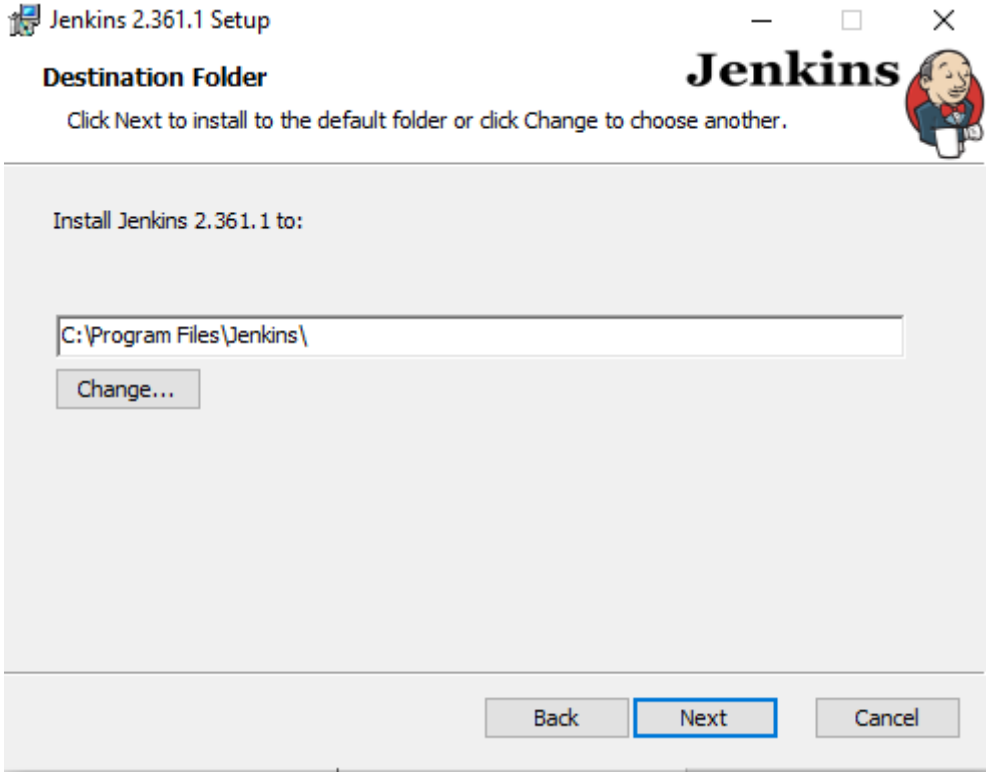
Theory:

Jenkins is a self-contained, open-source automation server that can be used to automate all sorts of tasks related to building, testing, and delivering or deploying software. Jenkins is a software that allows continuous integration. Jenkins will be installed on a server where the central build will take place. Continuous Integration is a development practice that requires developers to integrate code into a shared repository at regular intervals. This concept was meant to remove the problem of finding later occurrences of issues in the build lifecycle. Continuous integration requires the developers to have frequent builds. The common practice is that whenever a code commit occurs, a build should be triggered.

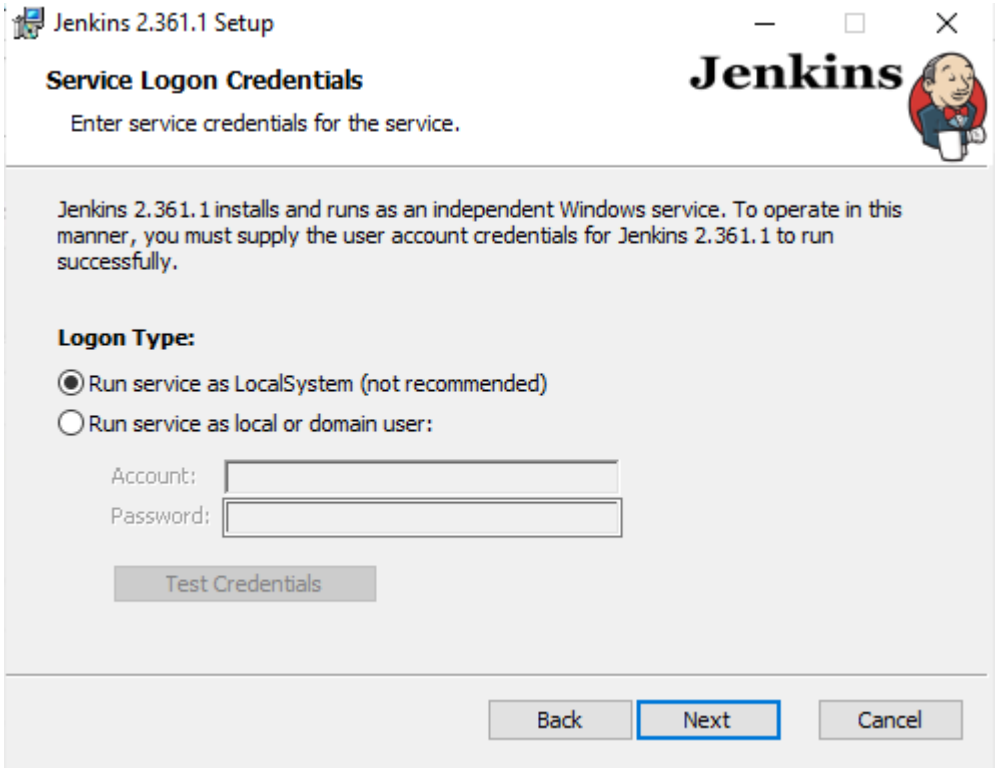
Installation of Jenkins:

Jenkins Setup Wizard

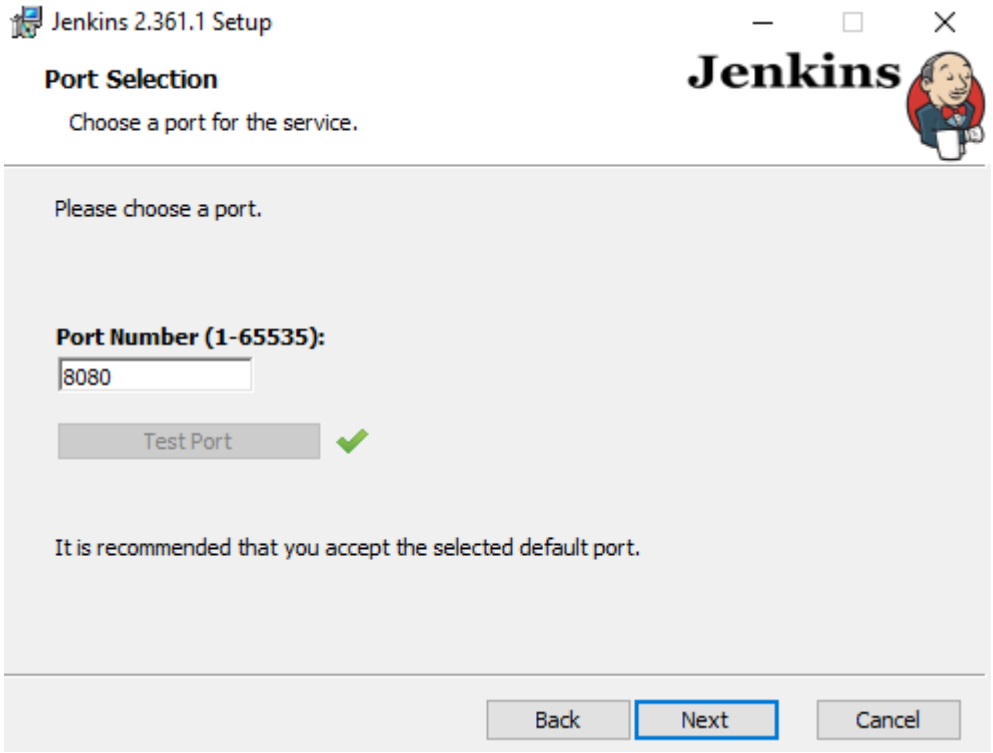
Jenkins Setup Wizard



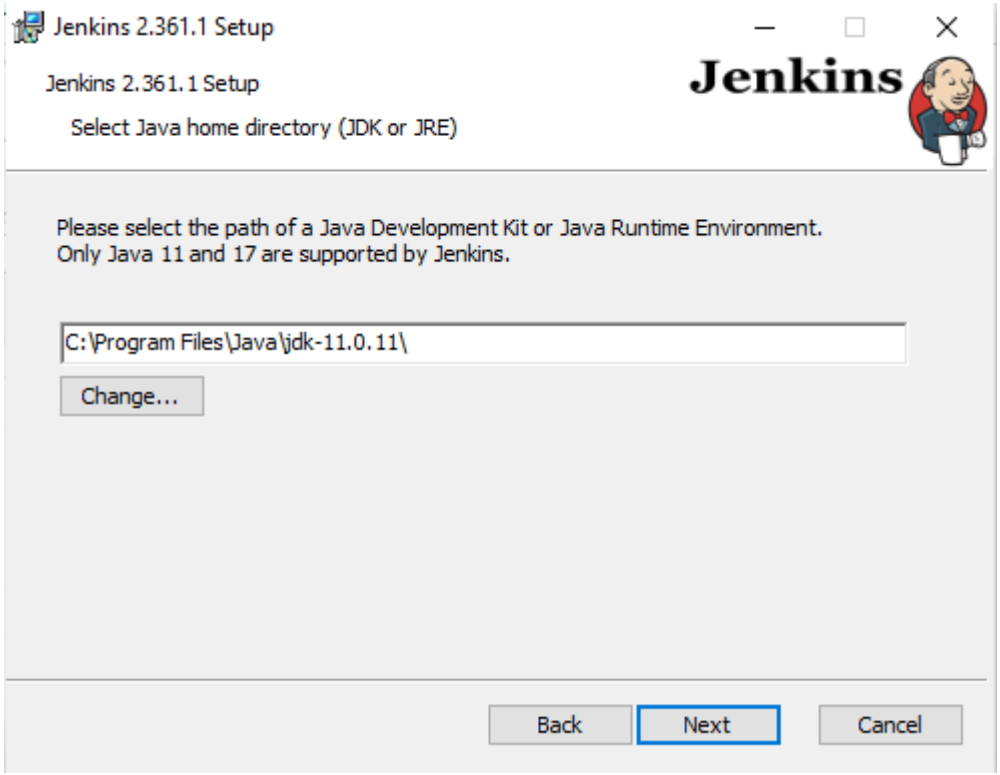
Jenkins Setup Wizard



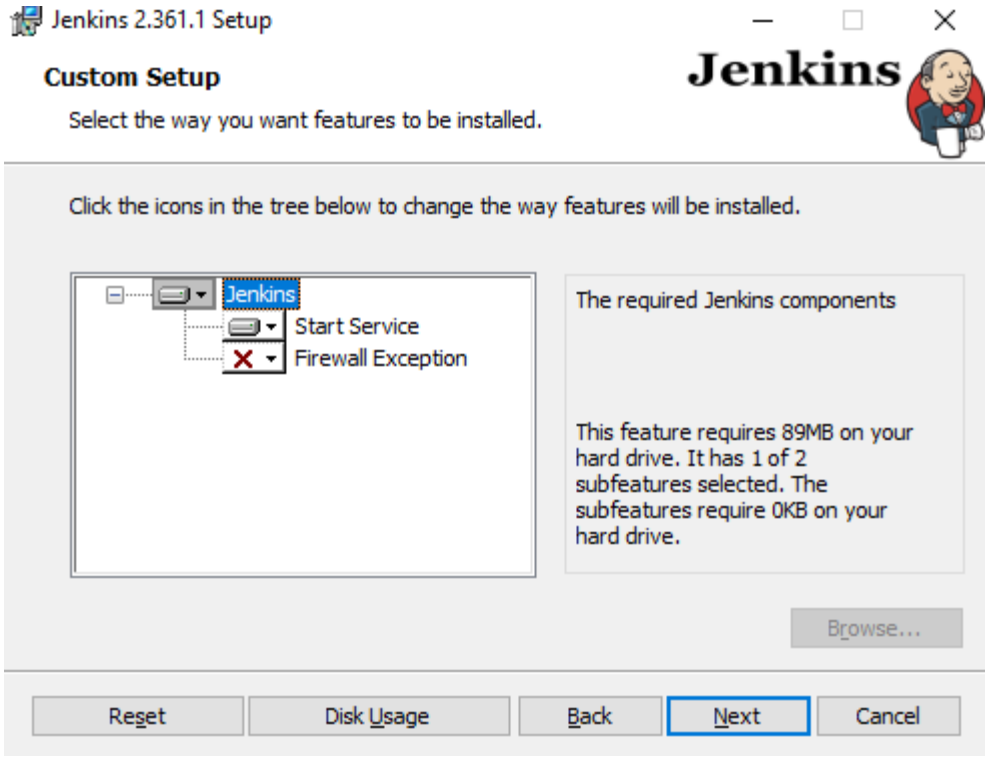
Jenkins Setup Wizard



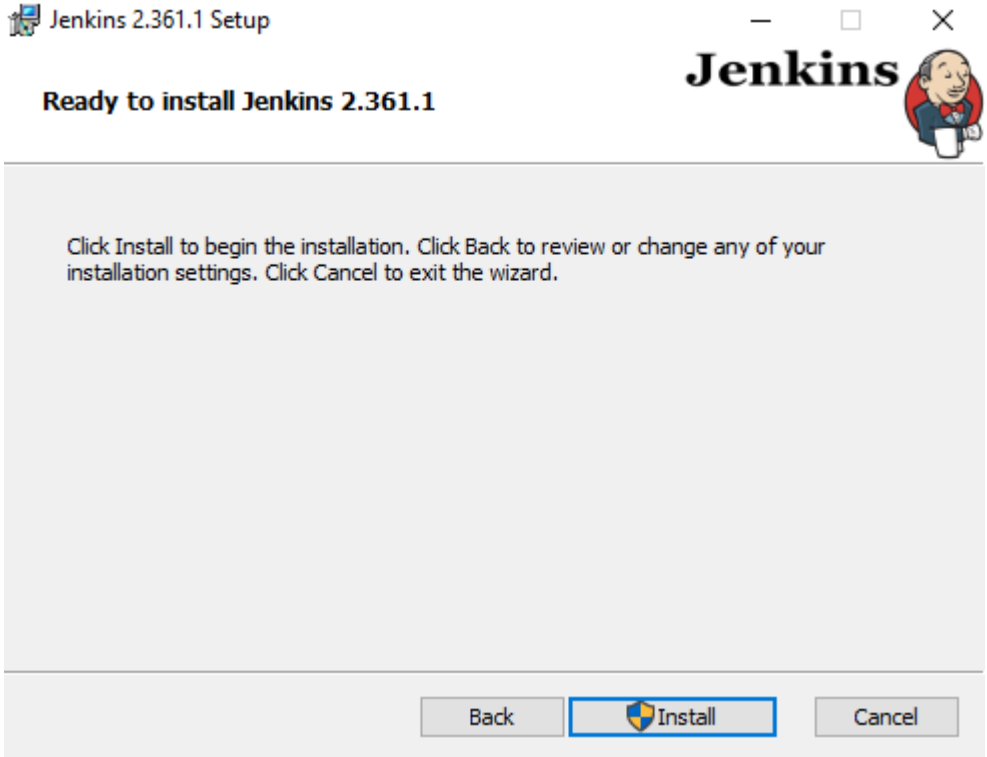
Jenkins Setup Wizard



Jenkins Setup Wizard



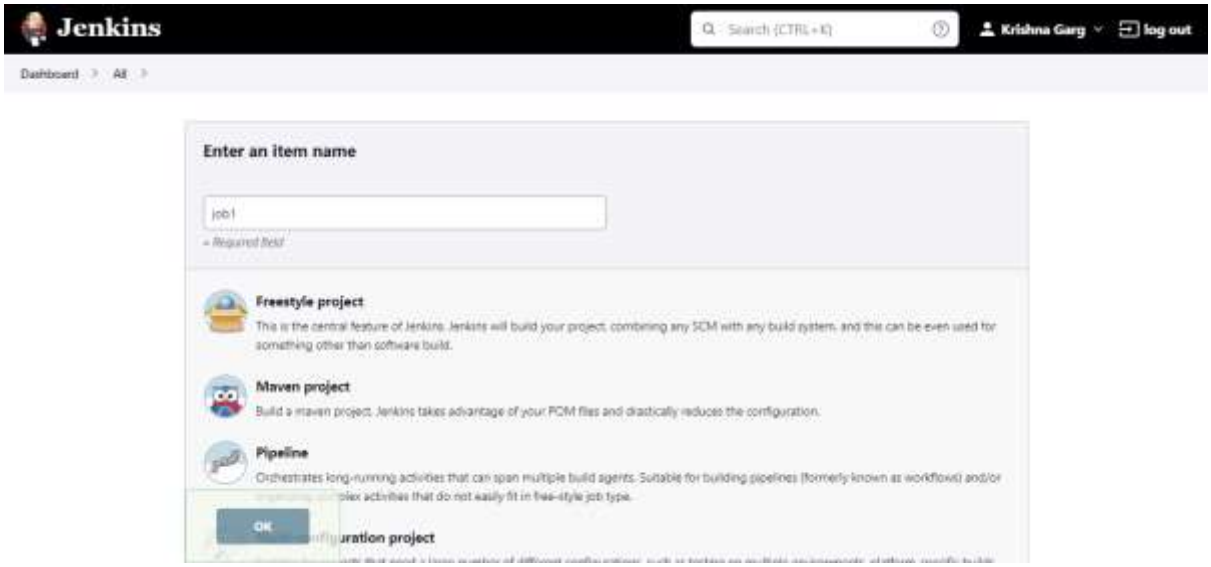
Jenkins Setup Wizard



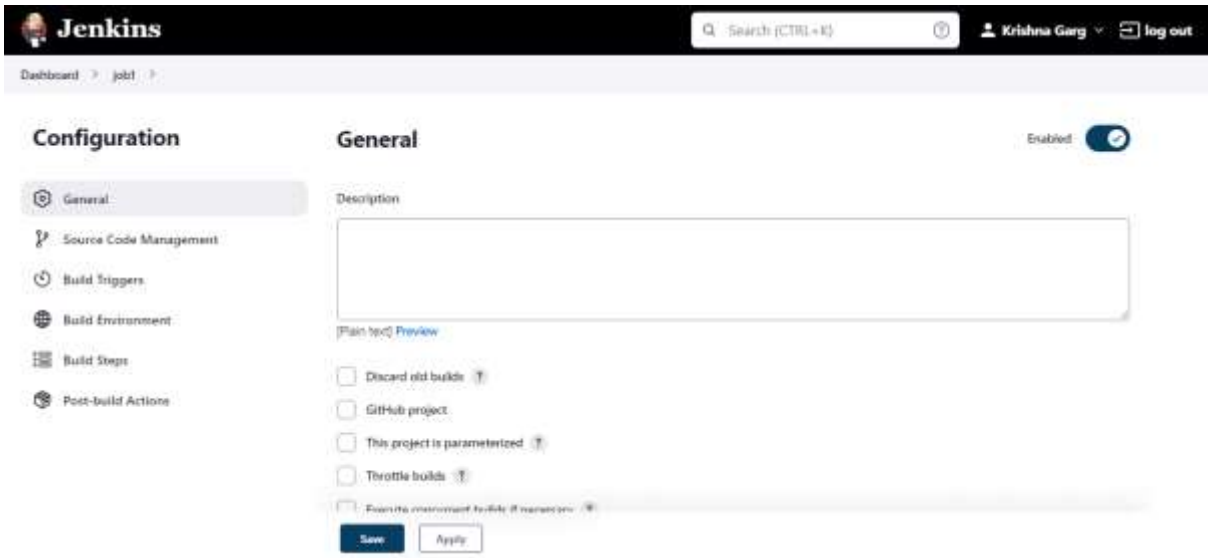
Successful Installation of Jenkins

Creating First User

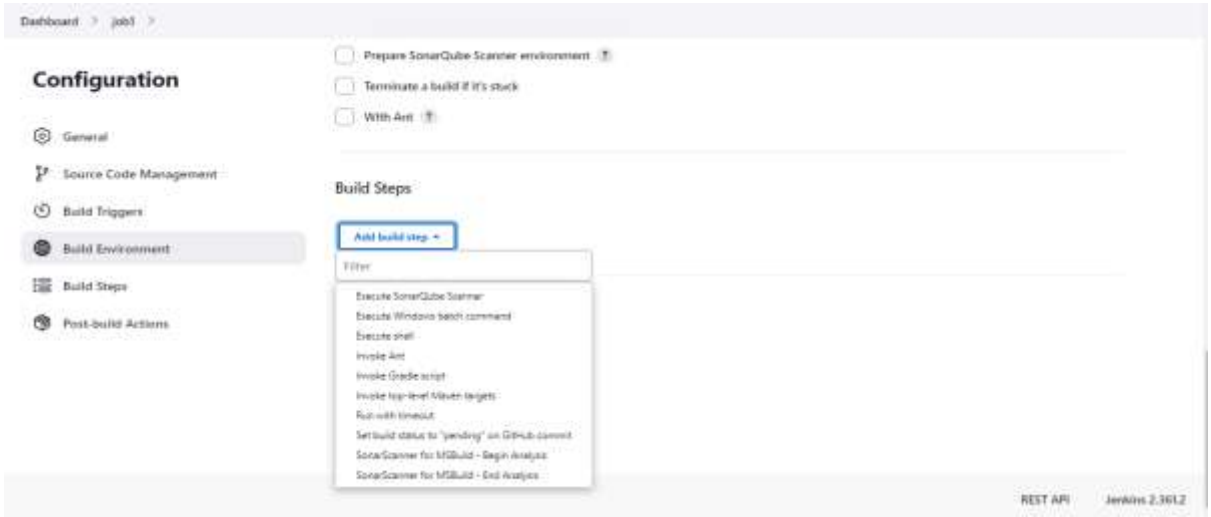
Creating a Job:

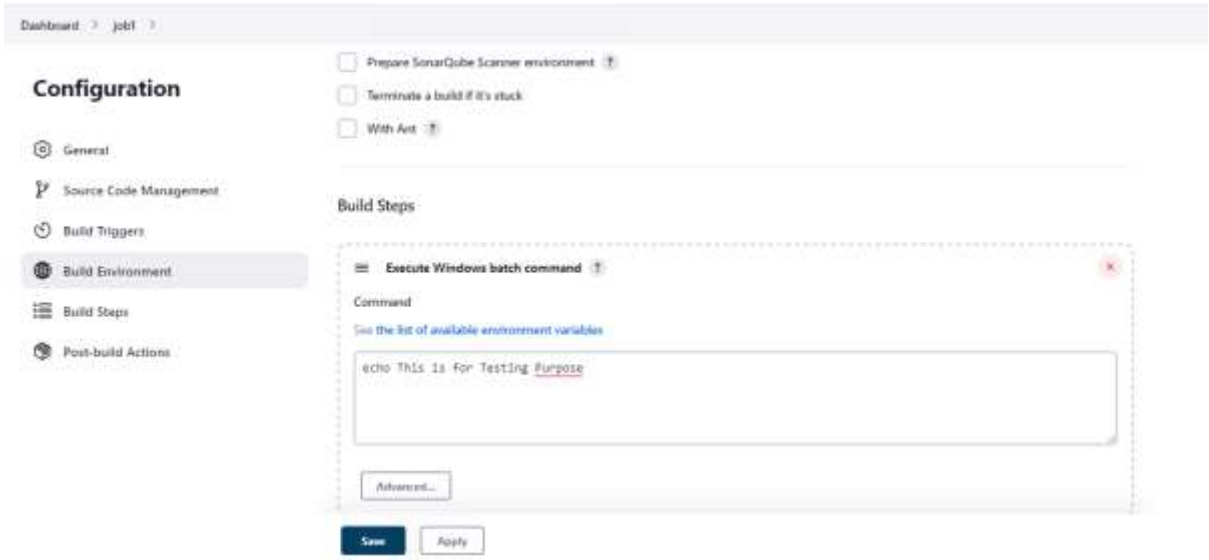


Configuration:

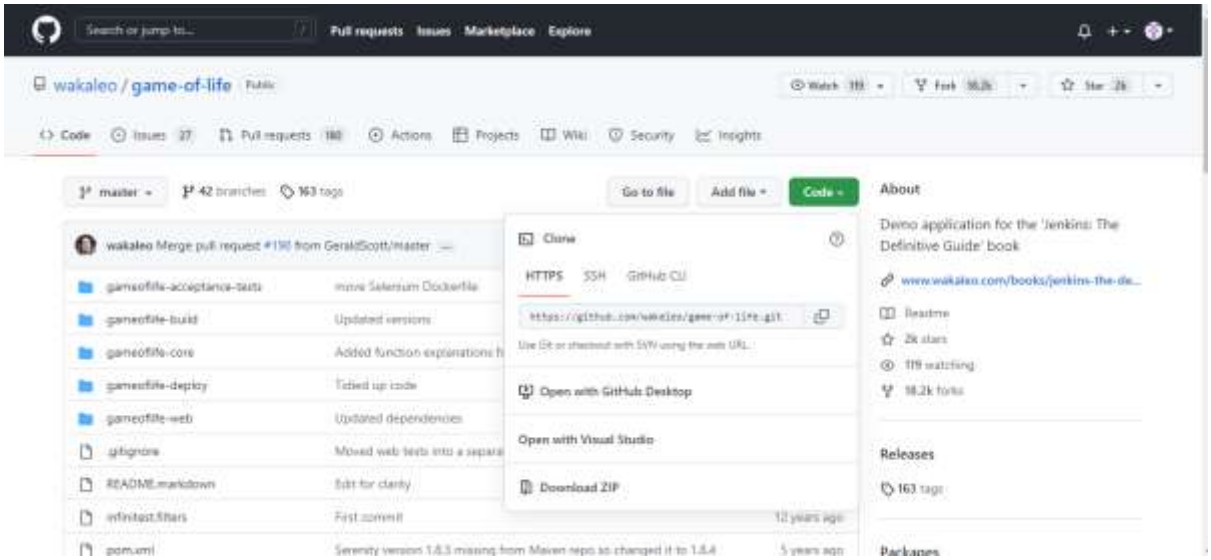


Execute Windows Batch Command:

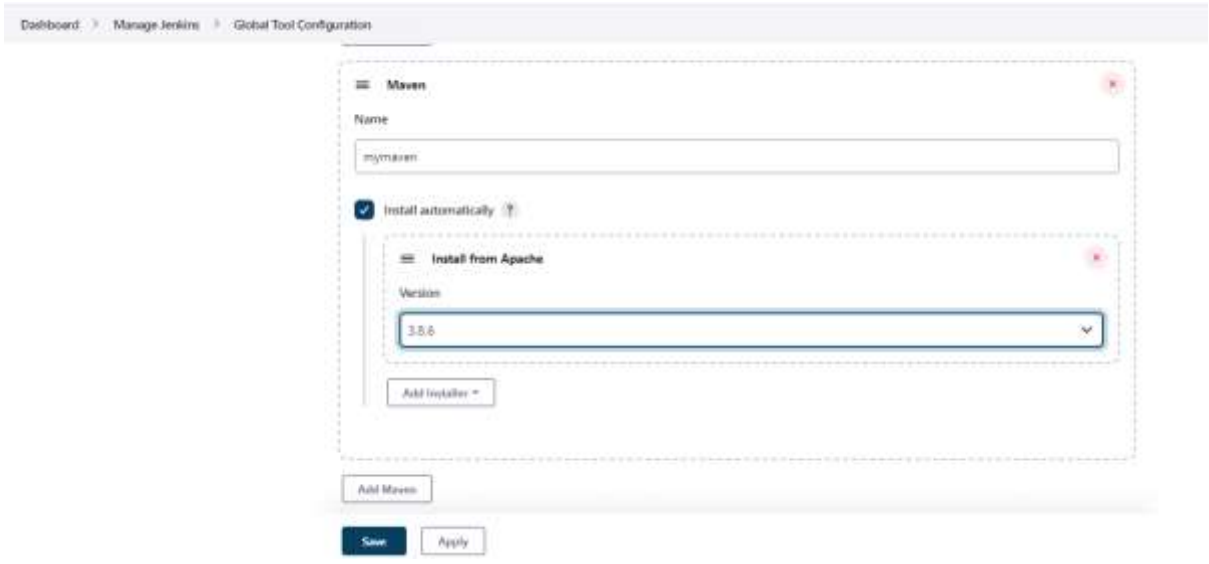




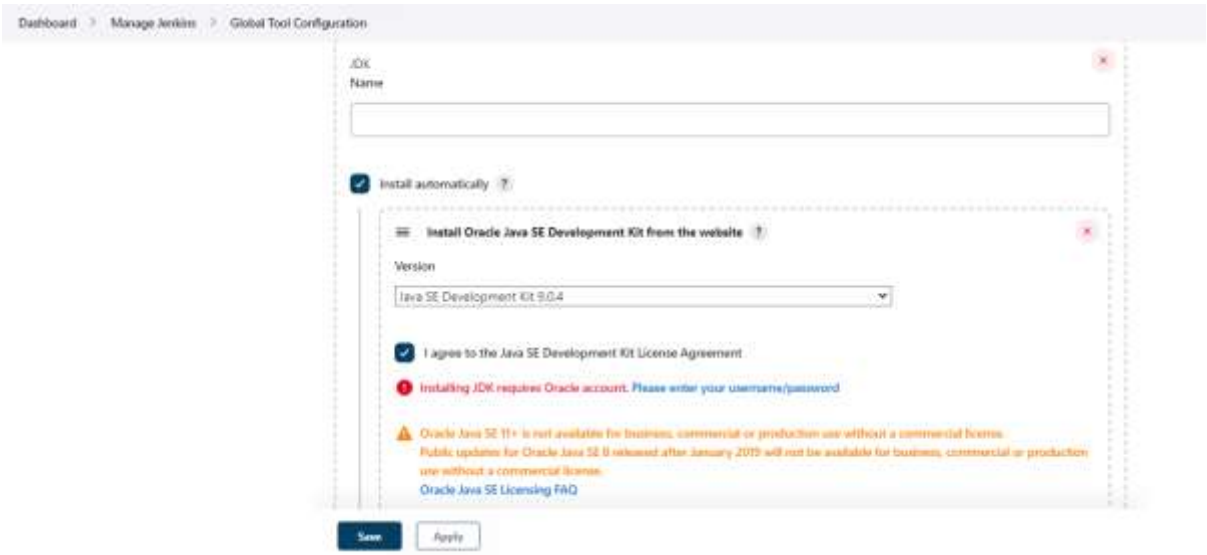
Game of Life – GitHub Repository:



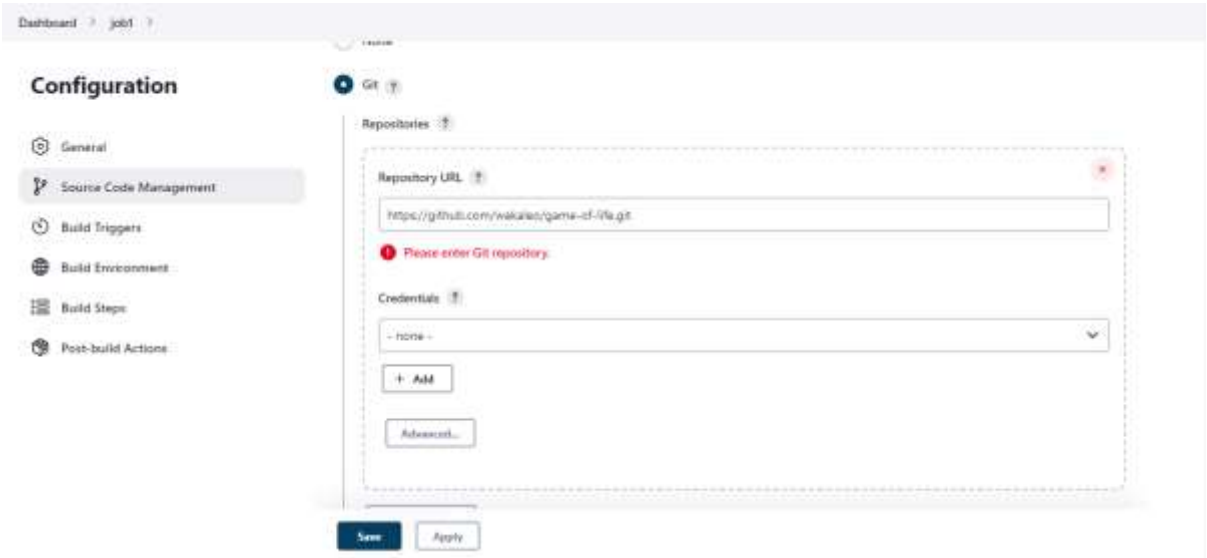
Configuration of Maven:



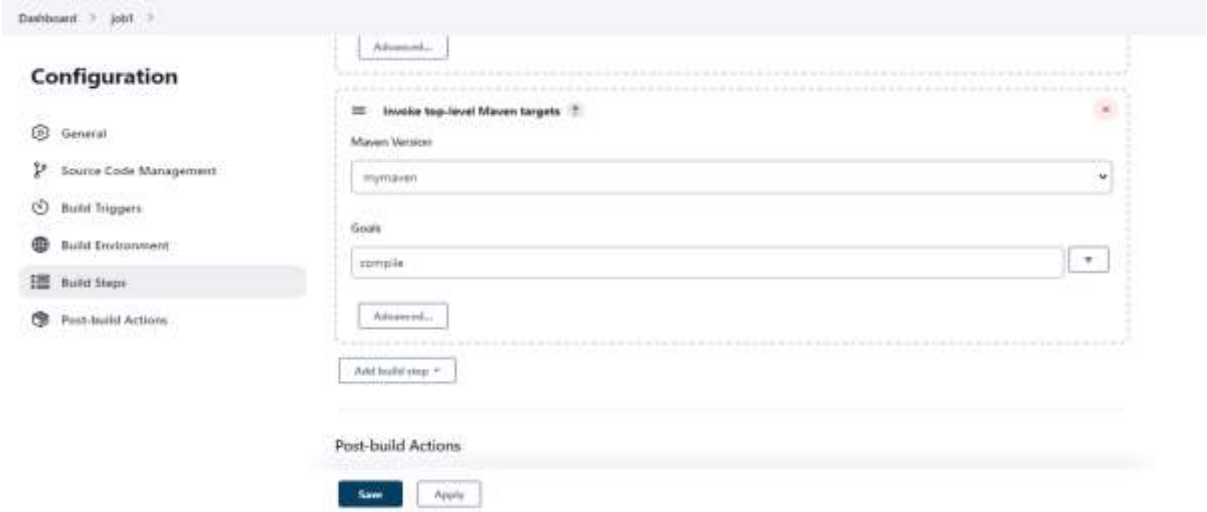
Configuring Java JDK:



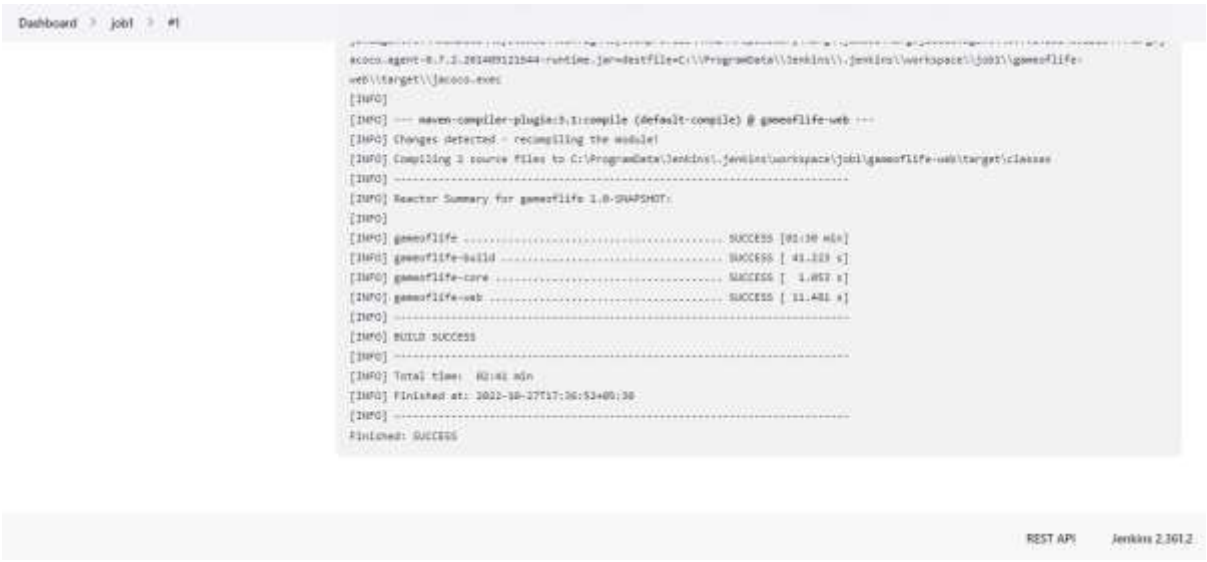
Adding Source Code:



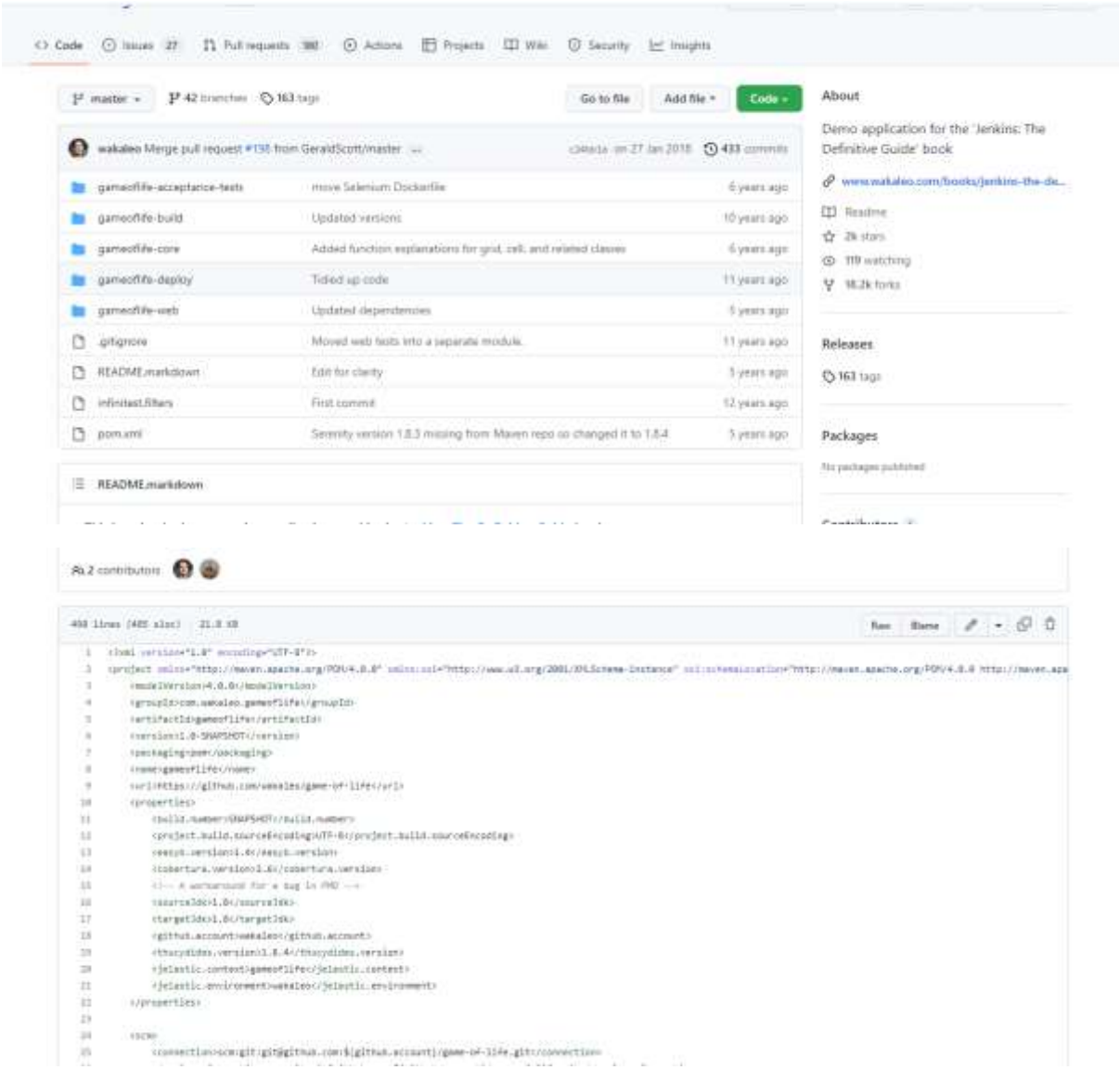
Build Steps:



Successful Build:



Pom.xml file:



Conclusion:

In this experiment, we have learned about the installation of Jenkins. Jenkins which is an automation server was installed, configured, and used to test simple jobs of freestyle type, one to execute a windows batch command and the other to use maven to integrate a project Game of Life.

We have achieved LO3 from this experiment.

We have also achieved Program Outcomes PO1, PO2, PO3, PO4, PO5, PO12.