EXPERIMENT NO : 04

AIM : To understand continuous integration, install and configure Jenkins with Maven/Ant/Gradle to setup a build job

THEORY :

MAVEN

Maven is a build automation tool used primarily for Java projects. Maven can also be used to build and manage projects written in C#, Ruby, Scala and other languages. The Maven project is hosted by the Apache Software Foundation, where it was formerly part of the Jakarta project.

ANT

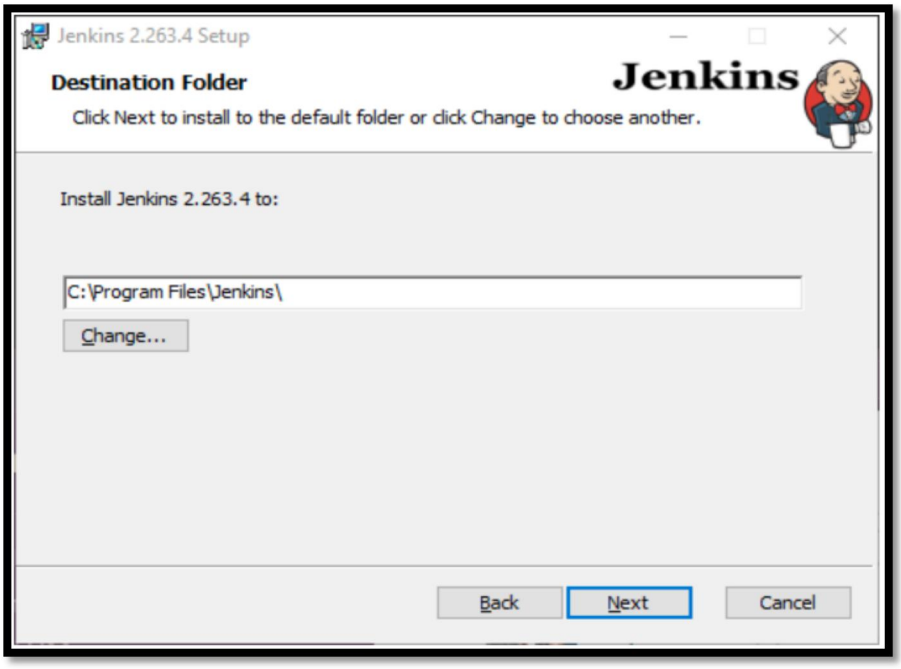
Apache Ant is a Java library and command-line tool whose mission is to drive processes described in build files as targets and extensions points dependent upon each other. The main known usage of Ant is the build of Java applications. Ant supplies a number of built-in tasks allowing to compile, assemble, test and run Java applications. Ant can also be used effectively to build non-Java applications, for instance C or C++ applications.

STEPS FOR INSTALLING AND SETUP OF JENKINS:

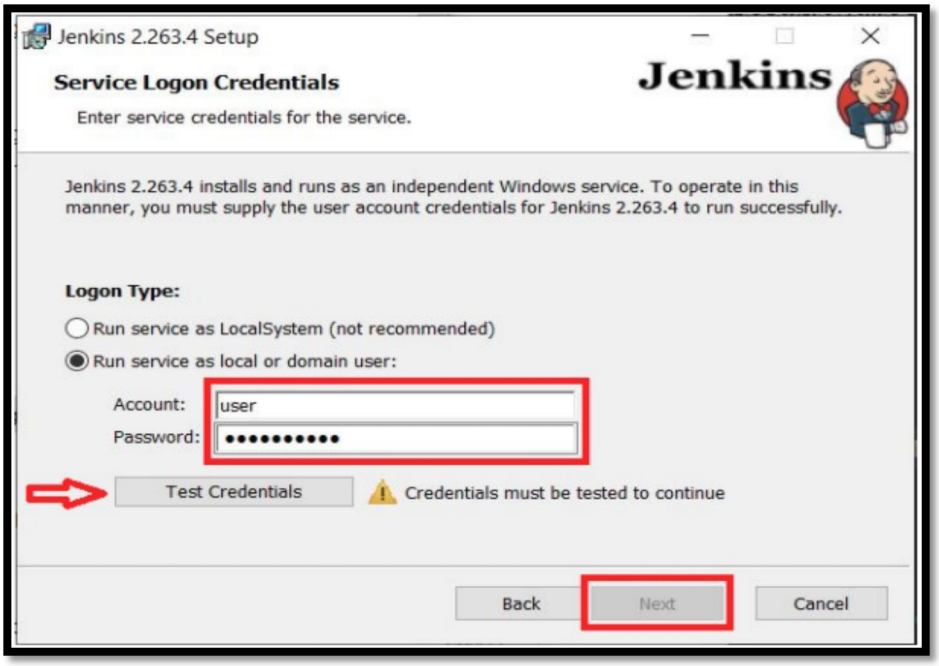
Installing Steps:

Step 1:

Step 2:



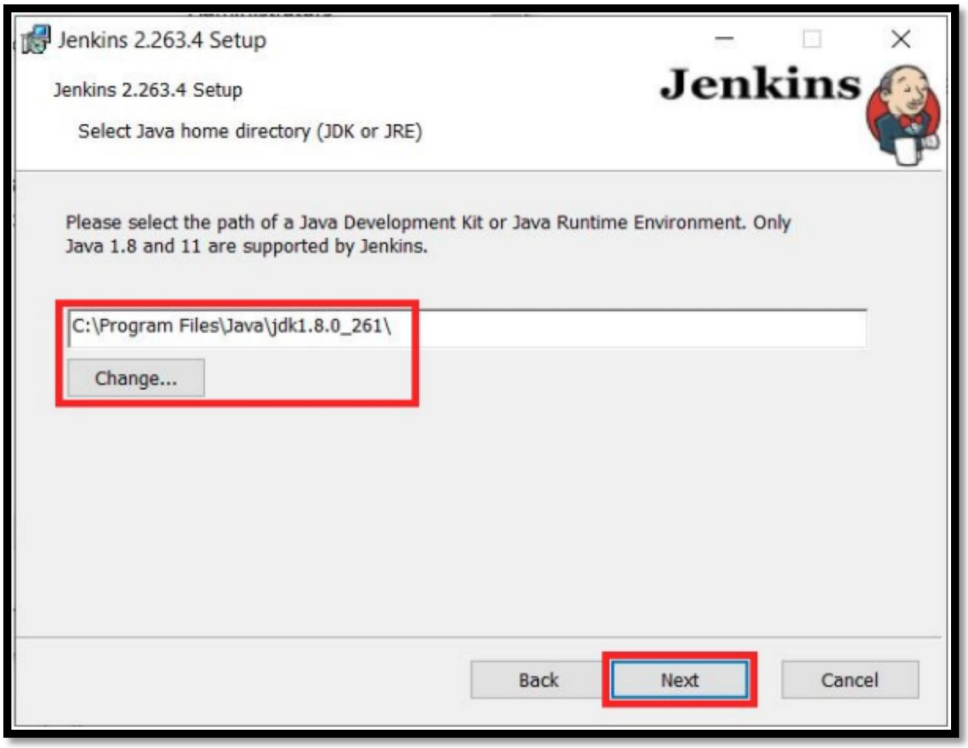
Step 3:


Jenkins 2.263.4 Setup
Service Logon Credentials
Enter service credentials for the service.
Jenkins
Jenkins 2.263.4 installs and runs as an independent Windows service. To operate in this manner, you must supply the user account credentials for Jenkins 2.263.4 to run successfully.
Logon Type:
Run service as LocalSystem (not recommended)
Run service as local or domain user:
Account:
user
Password:
Test Credentials
Credentials must be tested to continue
Back
Next
Cancel

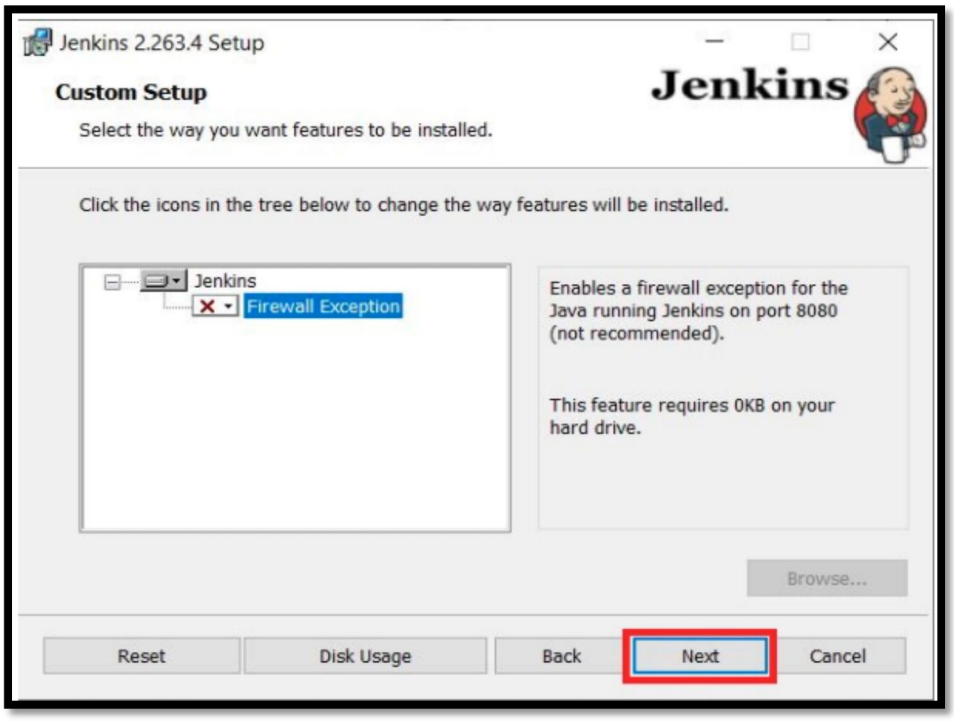
Step 4:


Jenkins 2.263.4 Setup
Port Selection
Choose a port for the service.
Jenkins
Please choose a port.
Port Number (1-65535):
8080
Test Port
It is recommended that you accept the selected default port.
Back
Next
Cancel

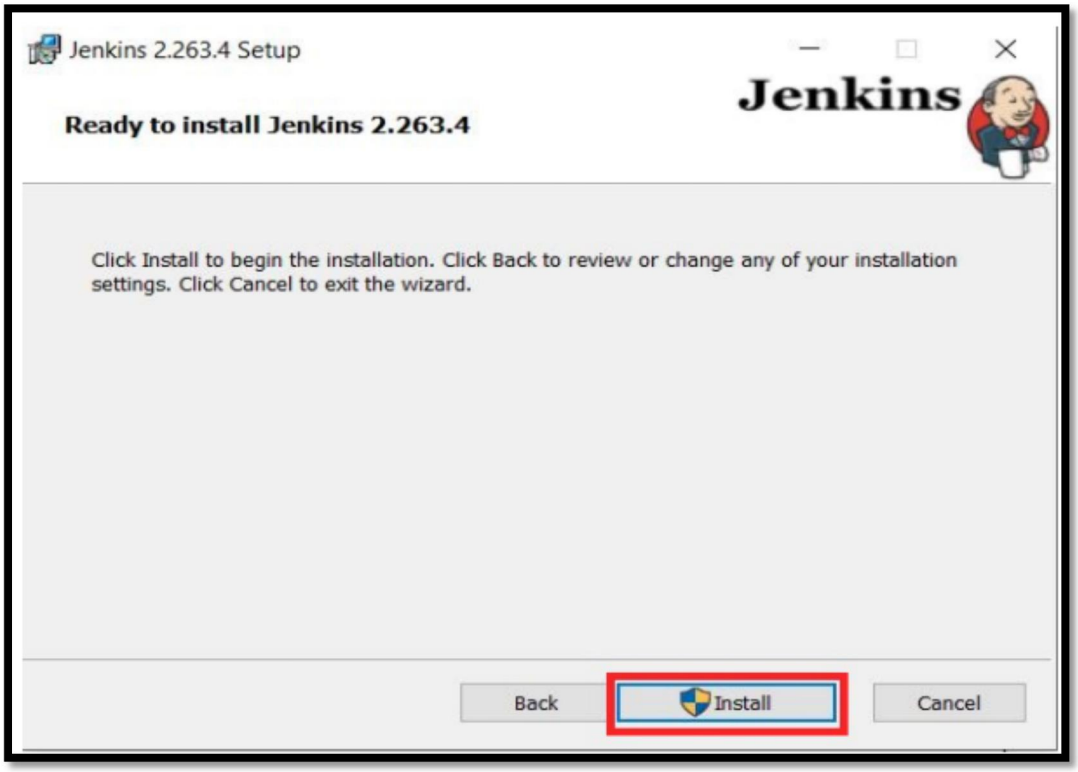
Step 5:


Jenkins 2.263.4 Setup
Jenkins 2.263.4 Setup
Select Java home directory (JDK or JRE)
Jenkins
Please select the path of a Java Development Kit or Java Runtime Environment. Only Java 1.8 and 11 are supported by Jenkins.
C:\Program Files\Java\jdk1.8.0_261\
Change...
Back
Next
Cancel

Step 6:

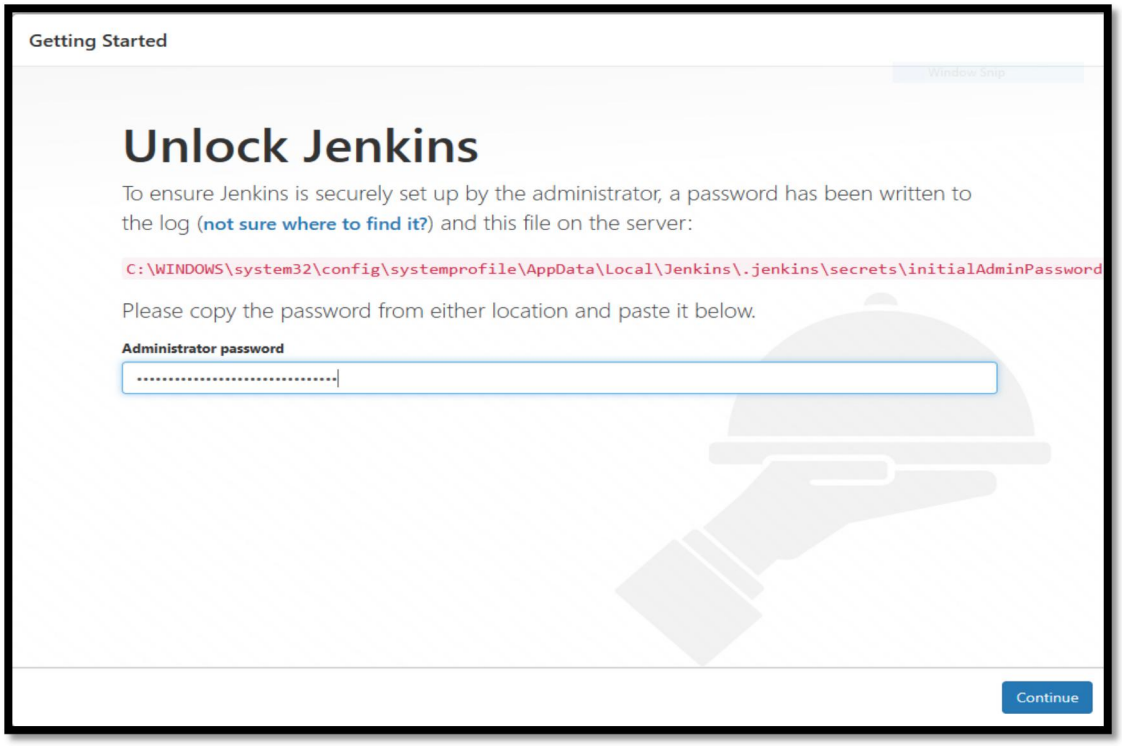

Jenkins 2.263.4 Setup
Custom Setup
Select the way you want features to be installed.
Jenkins
Click the icons in the tree below to change the way features will be installed.
Jenkins
Firewall Exception
Enables a firewall exception for the Java running Jenkins on port 8080 (not recommended).
This feature requires 0KB on your hard drive.
Browse...
Reset
Disk Usage
Back
Next
Cancel

Step 7:

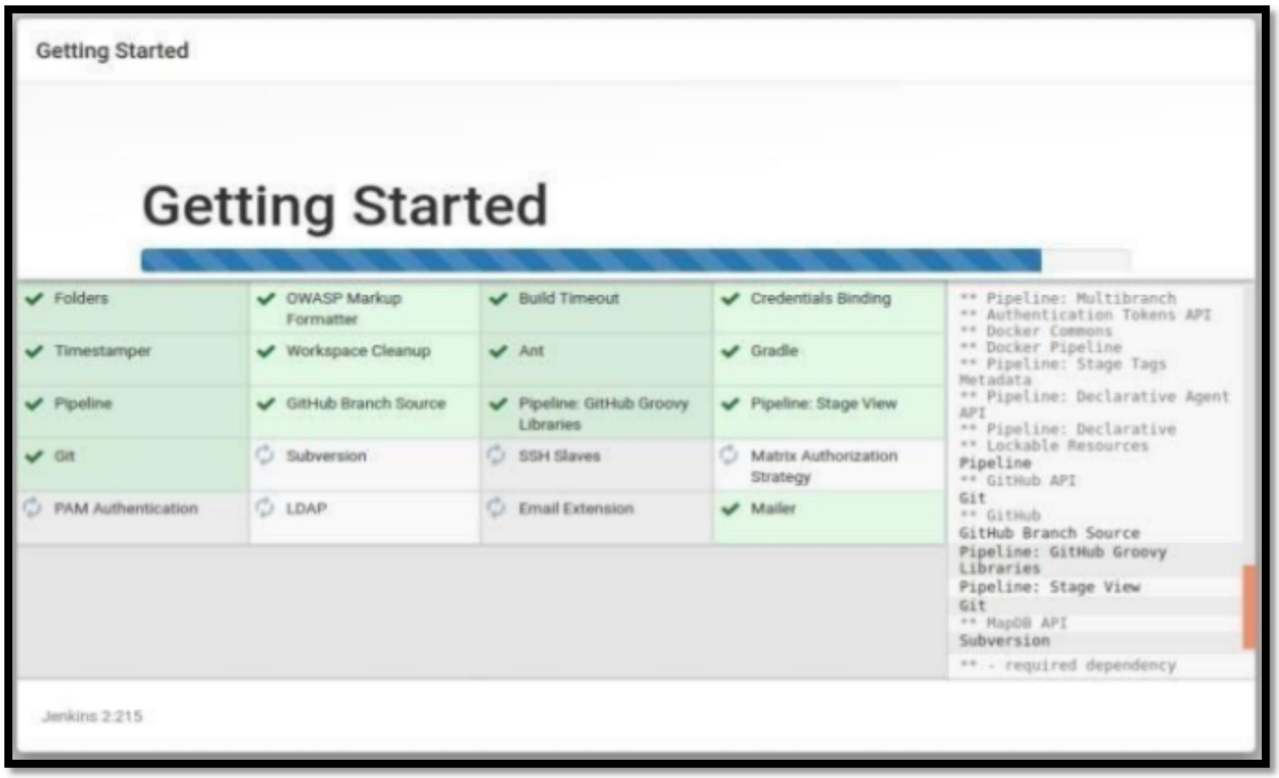

Jenkins 2.263.4 Setup
Jenkins
Ready to install Jenkins 2.263.4
Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.
Back
Install
Cancel


Jenkins 2.263.4 Setup
Jenkins
Installing Jenkins 2.263.4
Please wait while the Setup Wizard installs Jenkins 2.263.4.
Status:
Back
Next
Cancel

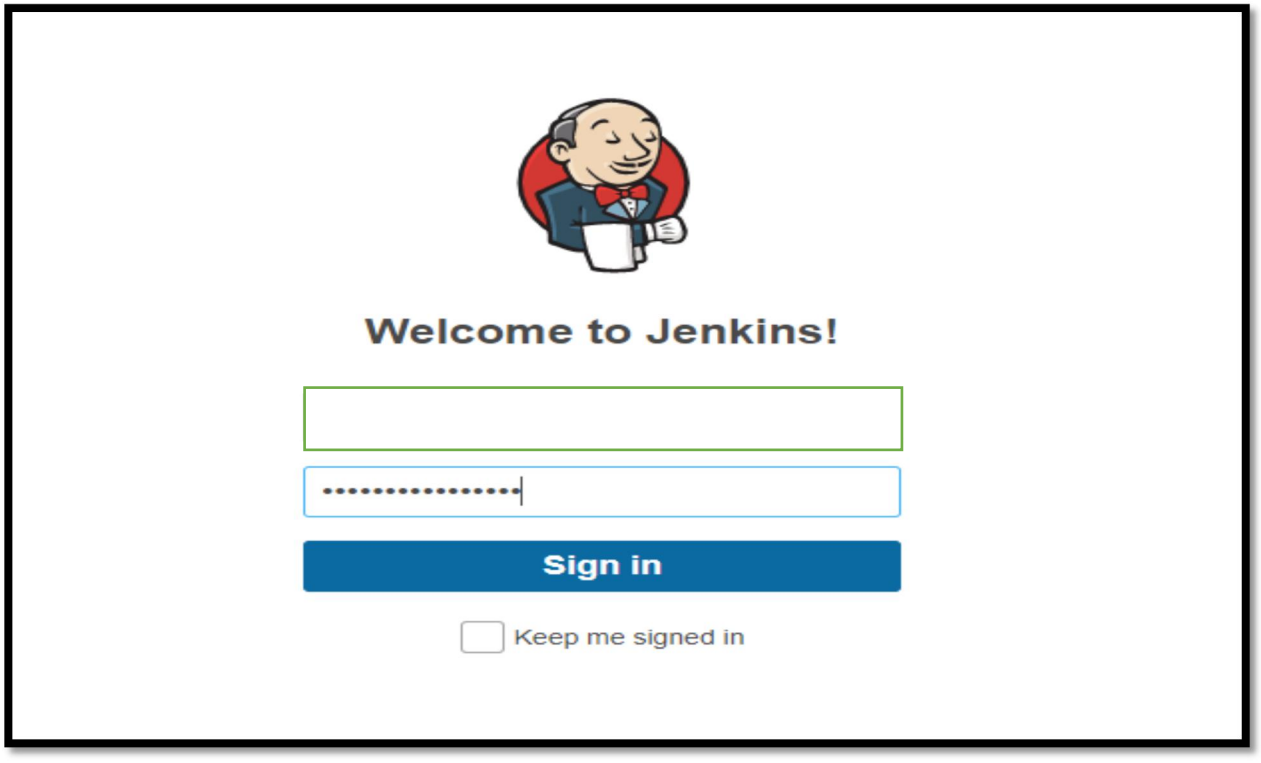
UNLOCKING JENKINS



CUSTOMIZE JENKINS WITH PLUGINS


Getting Started
Getting Started
Folders
OWASP Markup Formatter
Build Timeout
Credentials Binding
Timestamper
Workspace Cleanup
Ant
Gradle
Pipeline
GitHub Branch Source
Pipeline: GitHub Groovy Libraries
Pipeline: Stage View
Git
Subversion
SSH Slaves
Matrix Authorization Strategy
PAM Authentication
LDAP
Email Extension
Mailer
** Pipeline: Multibranch
** Authentication Tokens API
** Docker Commons
** Docker Pipeline
** Pipeline: Stage Tags Metadata
** Pipeline: Declarative Agent API
** Pipeline: Declarative
** Lockable Resources
Pipeline
** GitHub API
Git
** GitHub
GitHub Branch Source
Pipeline: GitHub Groovy Libraries
Pipeline: Stage View
Git
** MapDB API
Subversion
** - required dependency
Jenkins 2.215

USER LOGIN:


Welcome to Jenkins!
Sign in
Keep me signed in

MANAGE JENKINS:

ADD JDK:

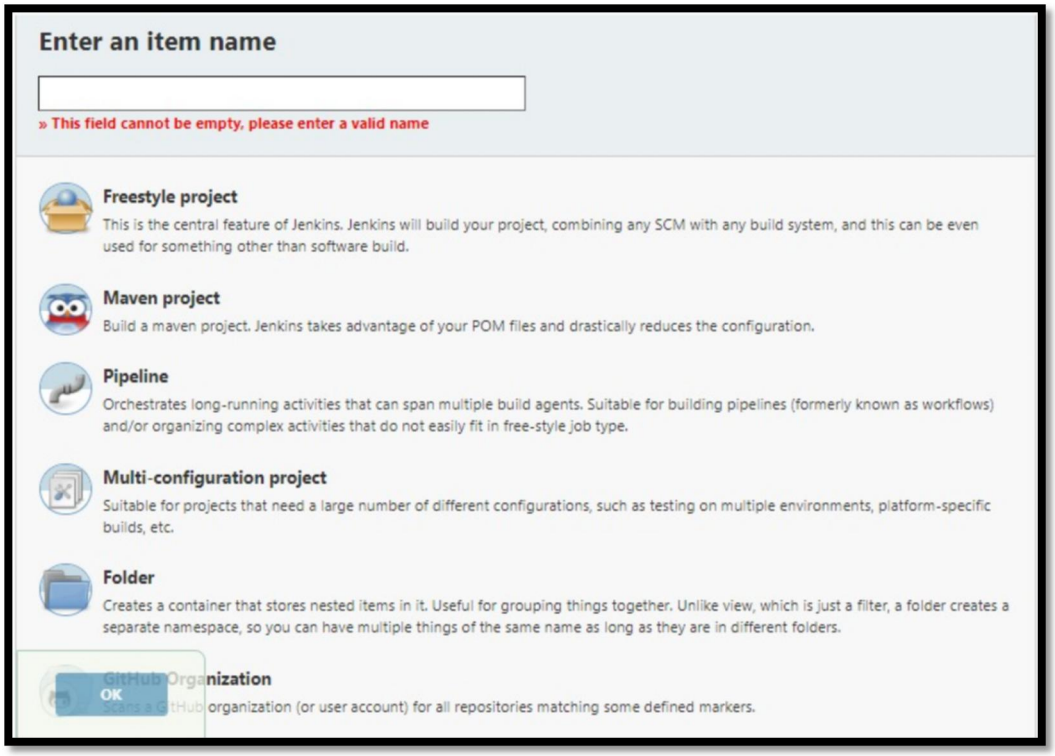
ADD GIT:

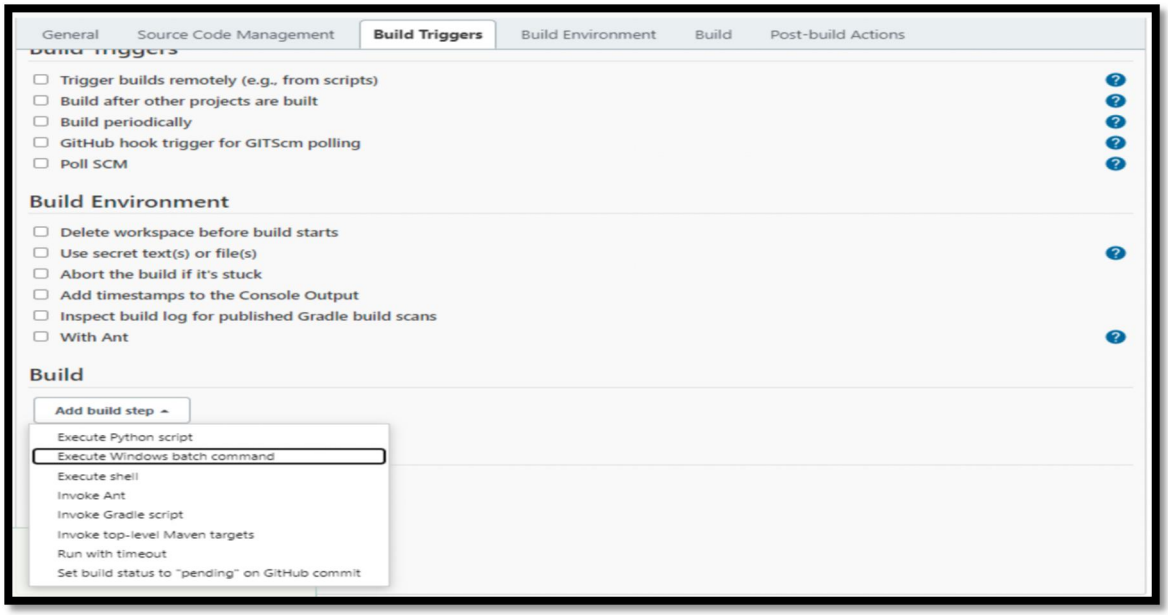
ADD GRADLE:

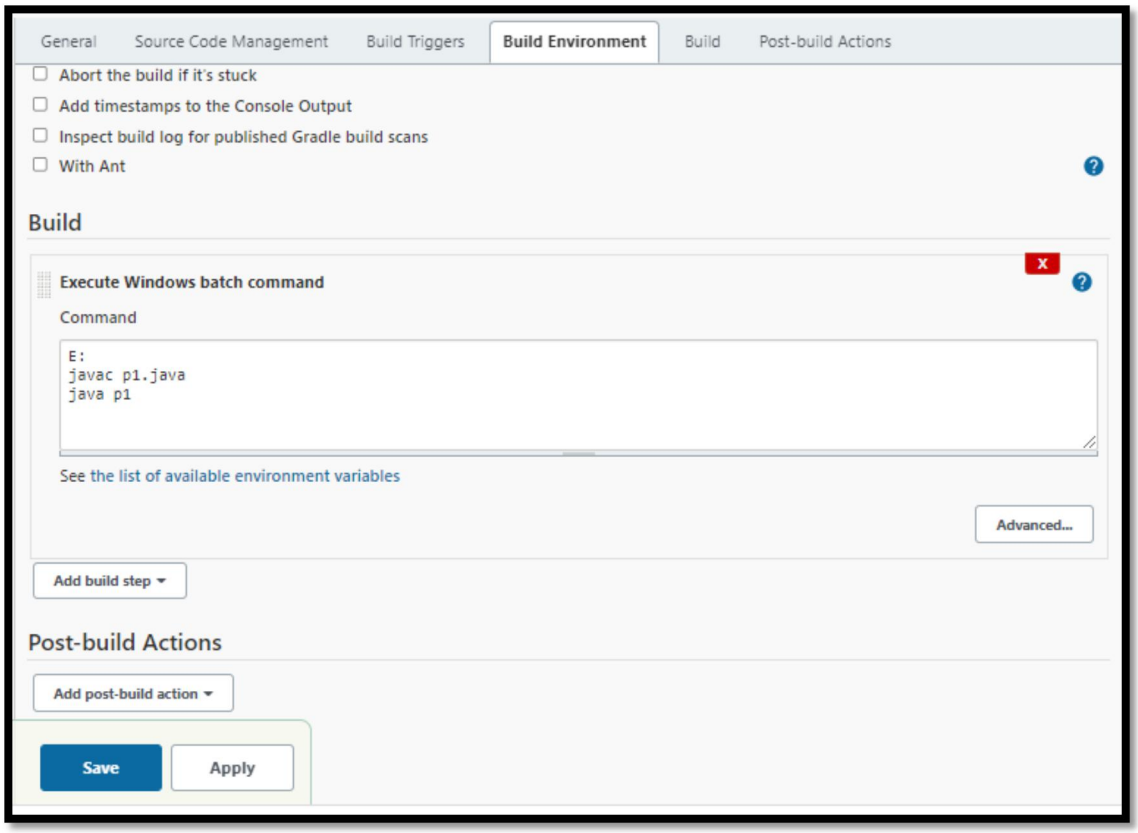
ADD ANT:

ADD MAVEN:

A NEW BULID JOB IN JENKINS:






General
Source Code Management
Build Triggers
Build Environment
Build
Post-build Actions
Abort the build if it's stuck
Add timestamps to the Console Output
Inspect build log for published Gradle build scans
With Ant
Build
Execute Windows batch command
Command
E:
javac p1.java
java p1
See the list of available environment variables
Advanced...
Add build step
Post-build Actions
Add post-build action
Save
Apply


Dashboard
demo
Back to Dashboard
Status
Changes
Workspace
Build Now
Configure
Delete Project
Rename
Build History
trend
find
Atom feed for all
Atom feed for failures
Project demo
add description
Disable Project
Workspace
Recent Changes
Permalinks

CONCLUSION : Hence, we understood Continuous Integration, install and configure Jenkins with Maven/Ant/Gradle to setup a build Job.