Experiment 04

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

Theory : Jenkins is a continuous Integration tool that allows continuous development , test and deploy their software . In a nutshell , Jenkins is an open source automation server. It helps automate the parts of software development related to building, testing, and deploying, facilitating continuous integration and continuous delivery.

It is a server-based system that runs in servlet containers such as Apache Tomcat. It supports version control tools,
including AccuRev, CVS, Subversion, Git, Mercurial, Perforce, ClearCase and RTC, and can execute Apache Ant, Apache Maven and sbt based projects as well as arbitrary shell scripts and Windows batch commands. It was developed by originally CloudBees and Kohsuke Kawaguchi and is written in Java . Built with Java, it provides over 1,800 plugins to support automating virtually anything, so that humans can spend their time doing things machines cannot.

Jenkins is commonly used for:

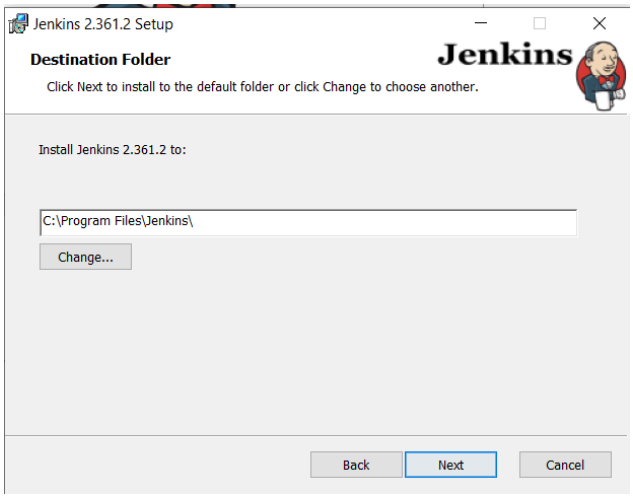
- Building projects
- Running tests to detect bugs and other issues as soon as they are introduced
- Static code analysis
- Deployment

Execute repetitive tasks, save time, and optimize your development process with Jenkins.

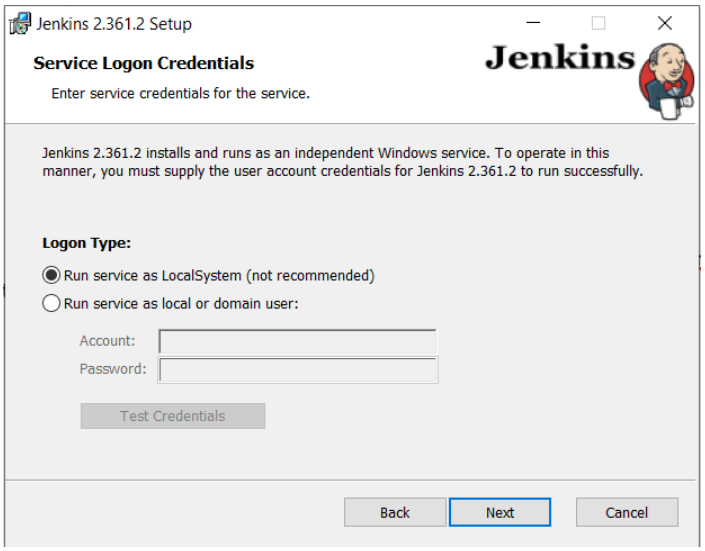
Procedure : first off navigate to this site and download LTS version of Jenkins for windows. https://www.jenkins.io/download/

1. after the download is complete open the .msi windows installer setup file for Jenkins .

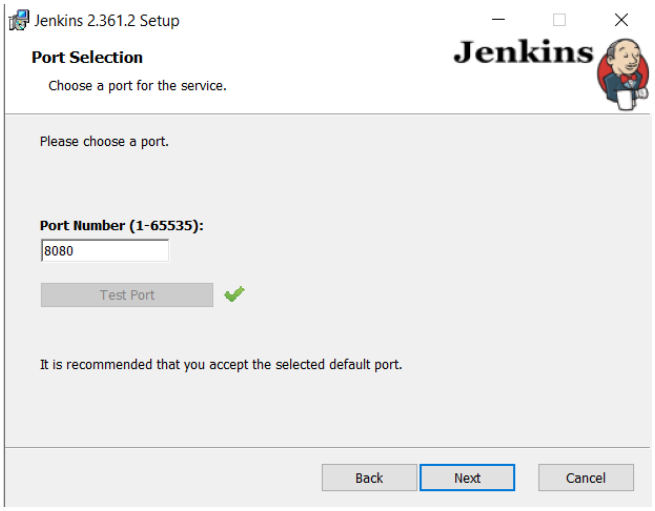
2. Click next and it'll show the installation path , customize as per the need and click next



3. Now the logon credentials tab will appear so choose run service as LocalSystem and click next

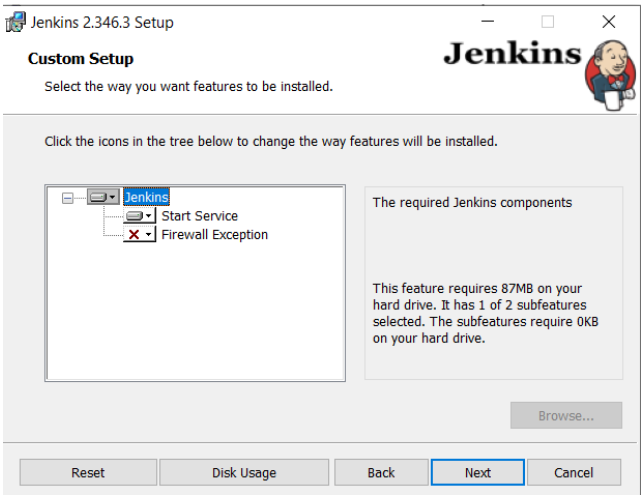


4. Now the default port will appear ; 8080 and also 8081 is available , so click on test port and click next

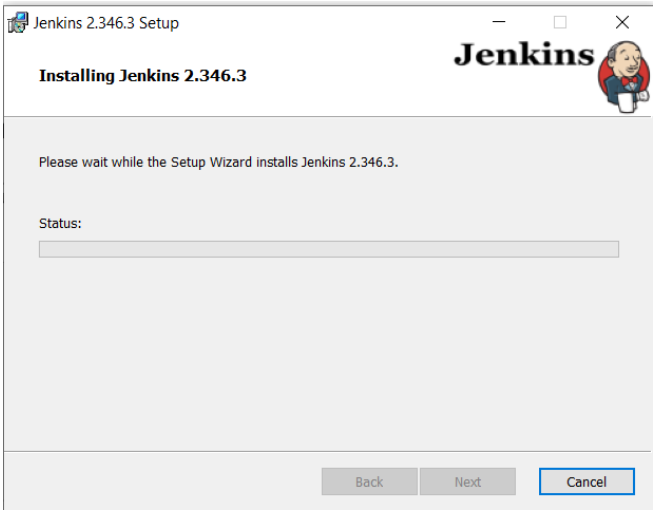


5. Now it'll display the path of jdk or jre installed on your computer , if it is not installed you need to download jdk and then try again , or switch to lower version of Jenkins.

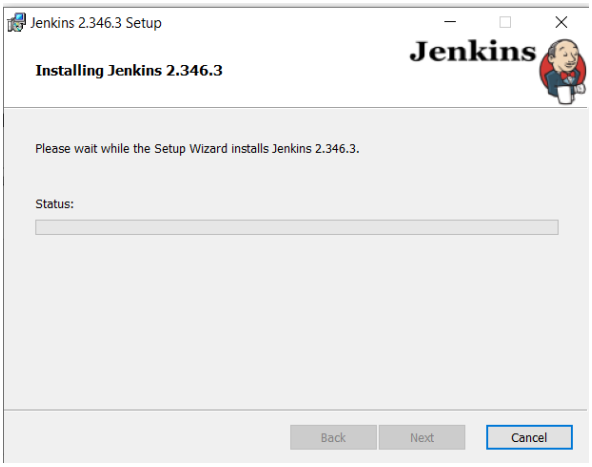
6. Custom setup files to be installed will be displayed , doing nothing click next .



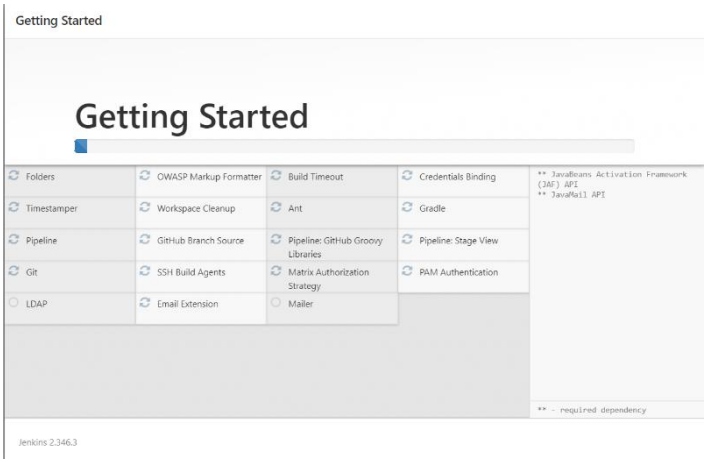
7. Click next and install Jenkins and wait till it finishes .



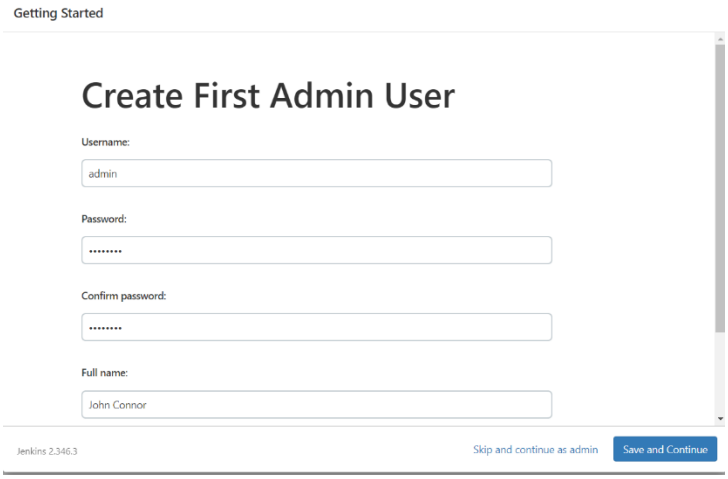
8. After the setup complets installing Jenkins click finish



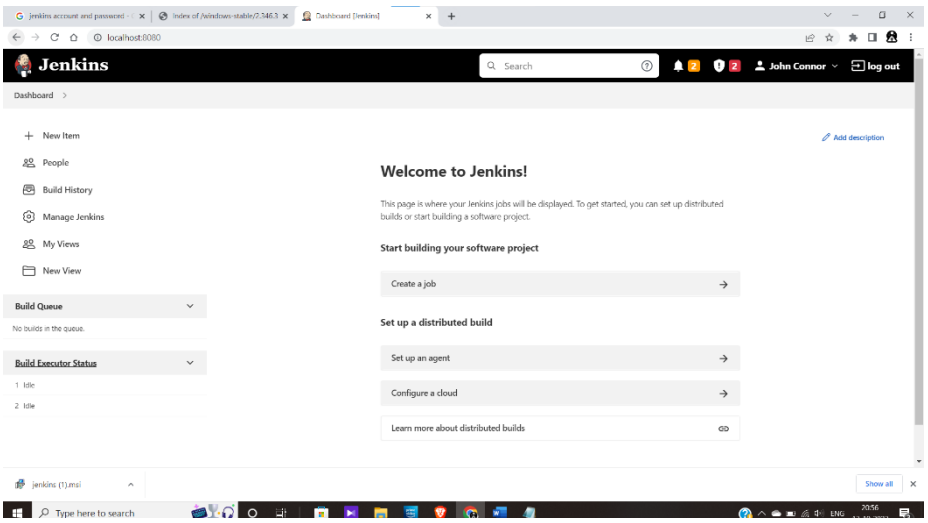
9. Now quickly go the browser and type Jenkins localhost:8080 a window will appear prompting to enter the password so copy the path provided on the tab and search the file which has the password and after pasting it continue .



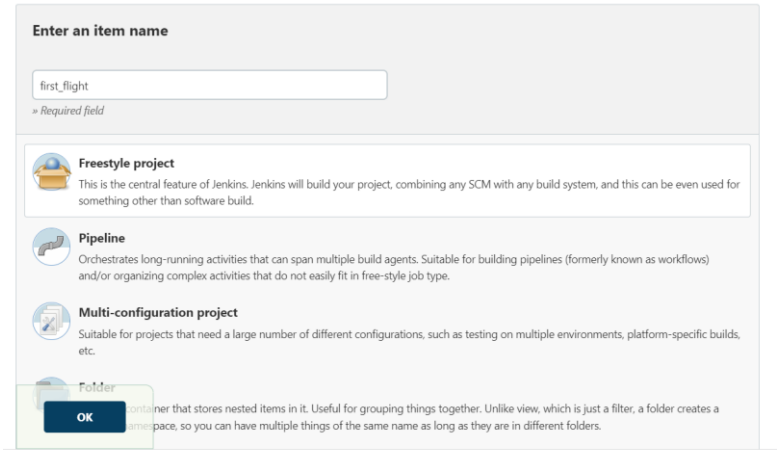
10. Create your account by entering your username and setting password



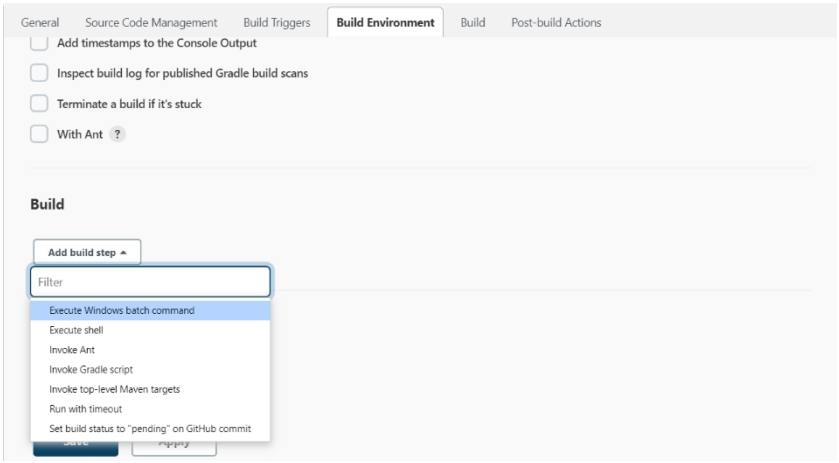
11. You will now be on dashboard of Jenkins so click on new item



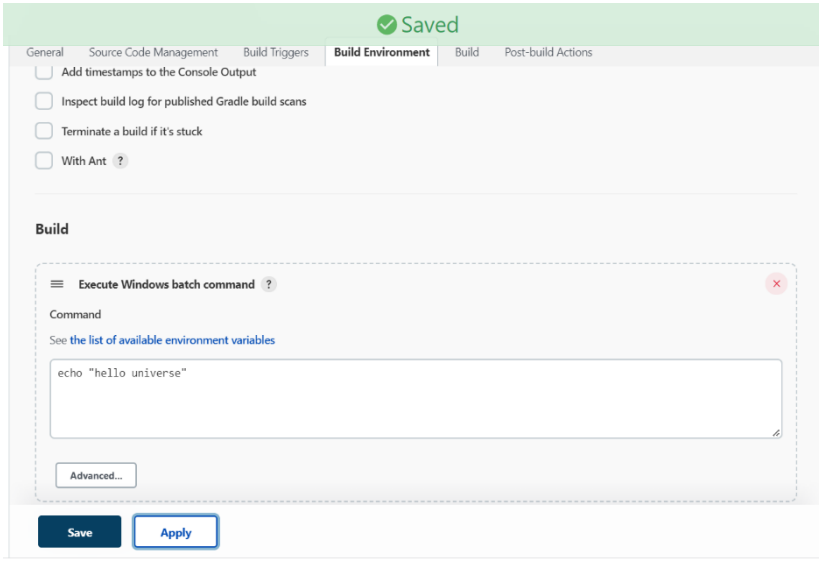
12. Now enter a project name and select Freestyle project



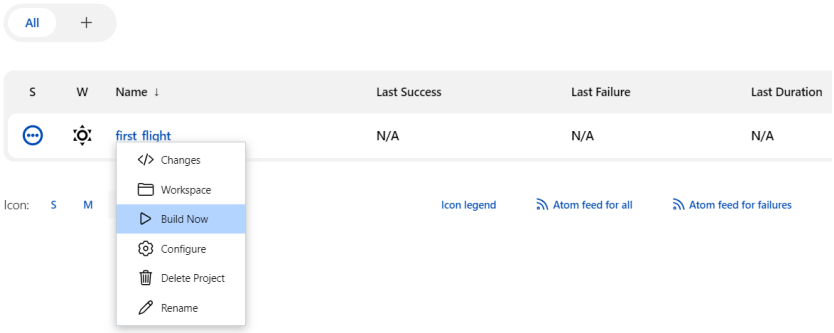
13. Go to dashboard and click on your project , enter a description and do the following



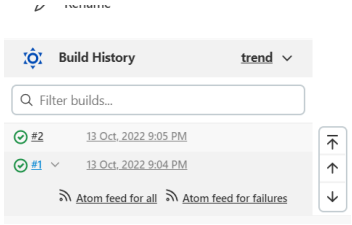
14. Enter a simple program and click on apply and then save it



15. Go to dashboard and hover on your project and click build now



16. Click on the project and select below



17. Choose console output and see the output

Conclusion : Hence we understood jenkins , its uses and after we isntalled it on our PC we successfully built and executed a project on jenkins