

## **LAB ASSIGNMENT NO-04**

**Aim:** To understand Continuous integration, Jenkins installation.

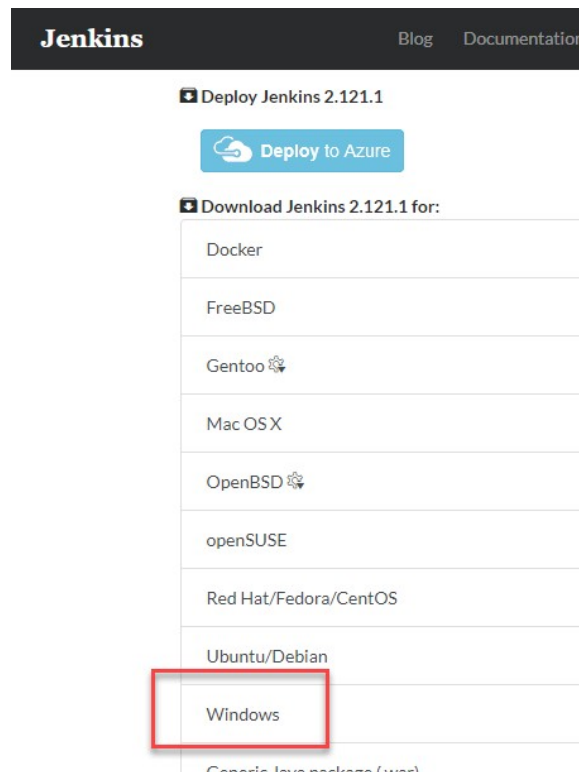
### **Theory:**

Jenkins is an open-source automation server. With Jenkins, organizations can accelerate the software development process by automating it. Jenkins manages and controls software delivery processes throughout the entire lifecycle, including build, document, test, package, stage, deployment, static code analysis and much more.

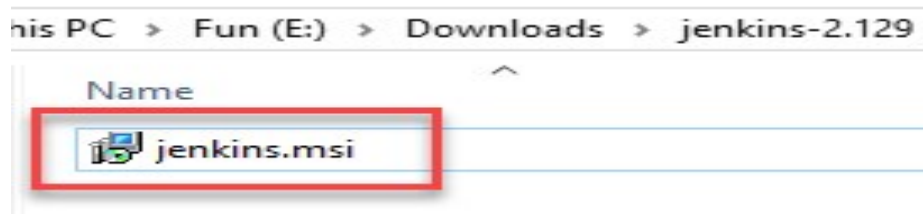
You can set up Jenkins to watch for any code changes in places like GitHub, Bitbucket or GitLab and automatically do a build with tools like Maven and Gradle. You can utilize container technology such as Docker and Kubernetes, initiate tests and then take actions like rolling back or rolling forward in production.

### **Installation Steps:**

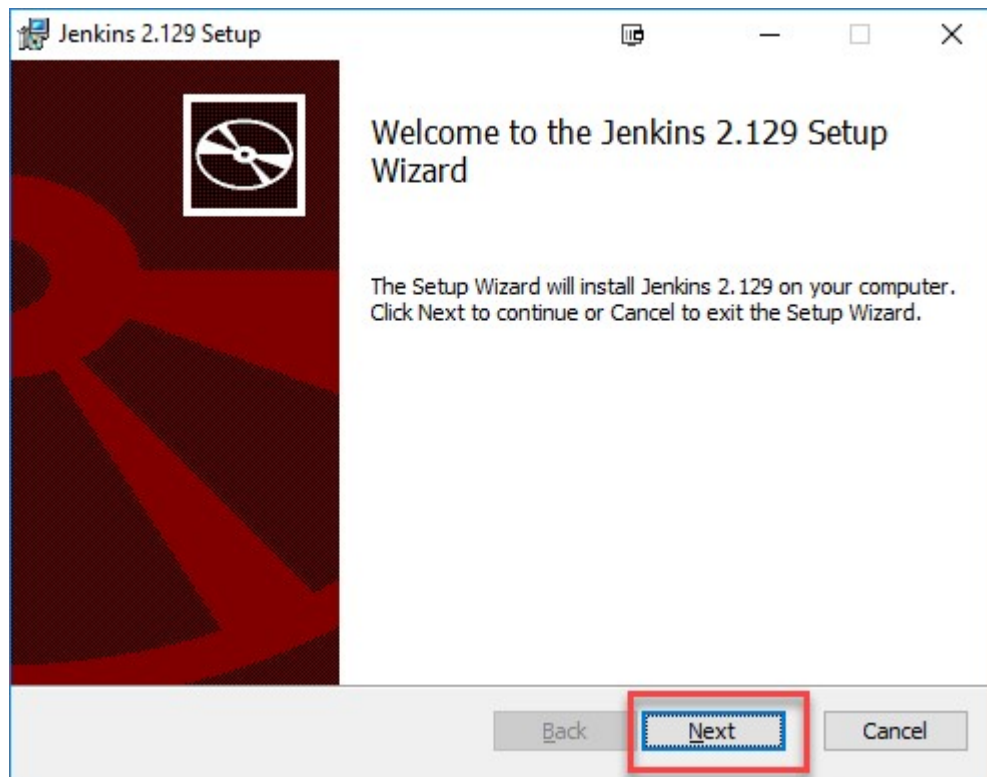
Step 1) Got to <https://www.jenkins.io/download/> and select the platform. In our case Windows



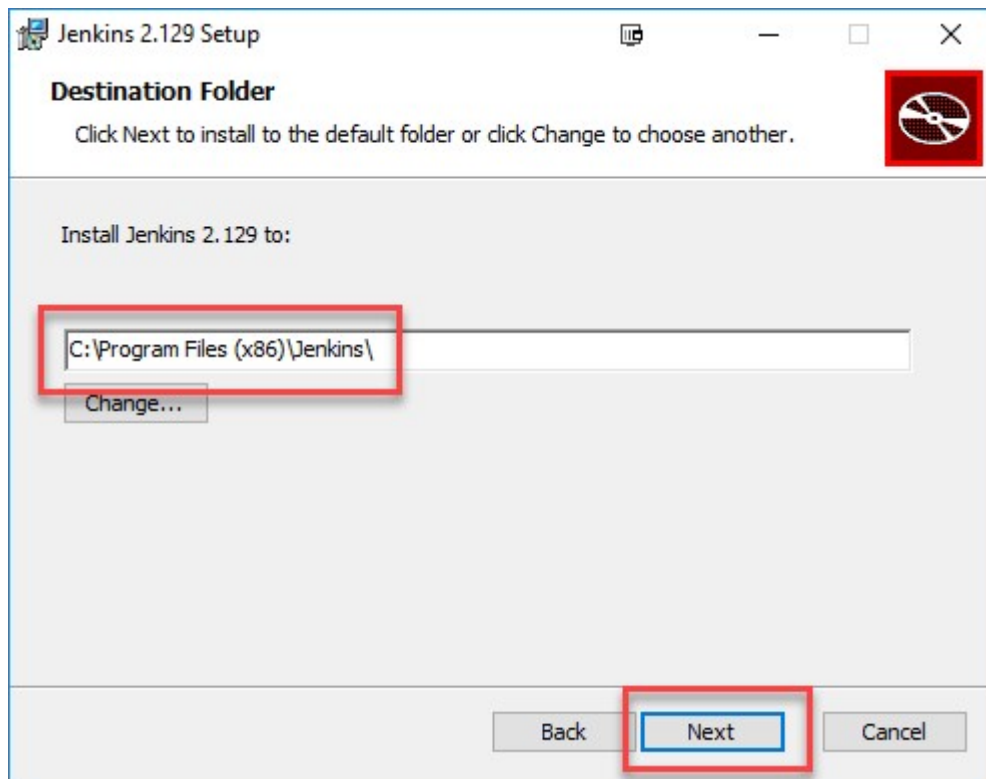
Step 2) Go to download location from local computer and unzip the downloaded package. Double-click on unzipped jenkins.msi. You can also install Jenkins using a WAR (Web application ARchive) but that is not recommended.



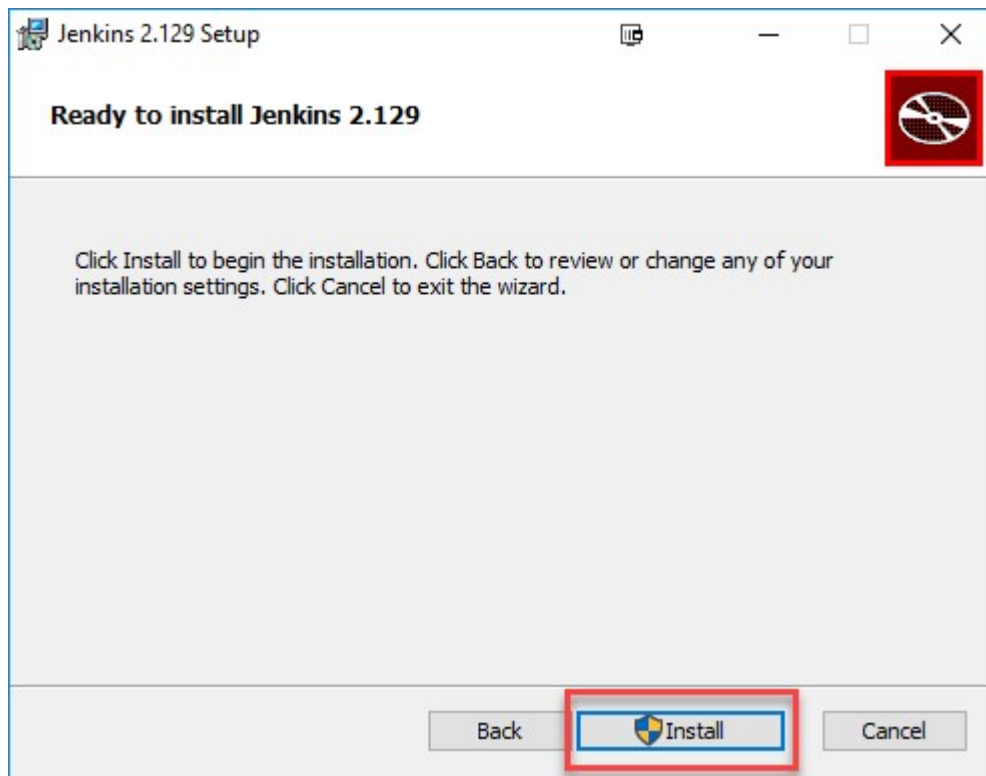
Step 3) In the Jenkins Setup screen, click Next.



Step 4) Choose the location where you want to have the Jenkins instance installed (default location is C:\Program Files (x86)\Jenkins), then click on Next button.



Step 5) Click on the Install button.



Step 6) Once install is complete, click Finish.

Step 7) During the installation process an info panel may pop-up to inform the user that for a complete setup, the system should be rebooted at the end of the current installation. Click on OK button when the Info panel is popping-up:

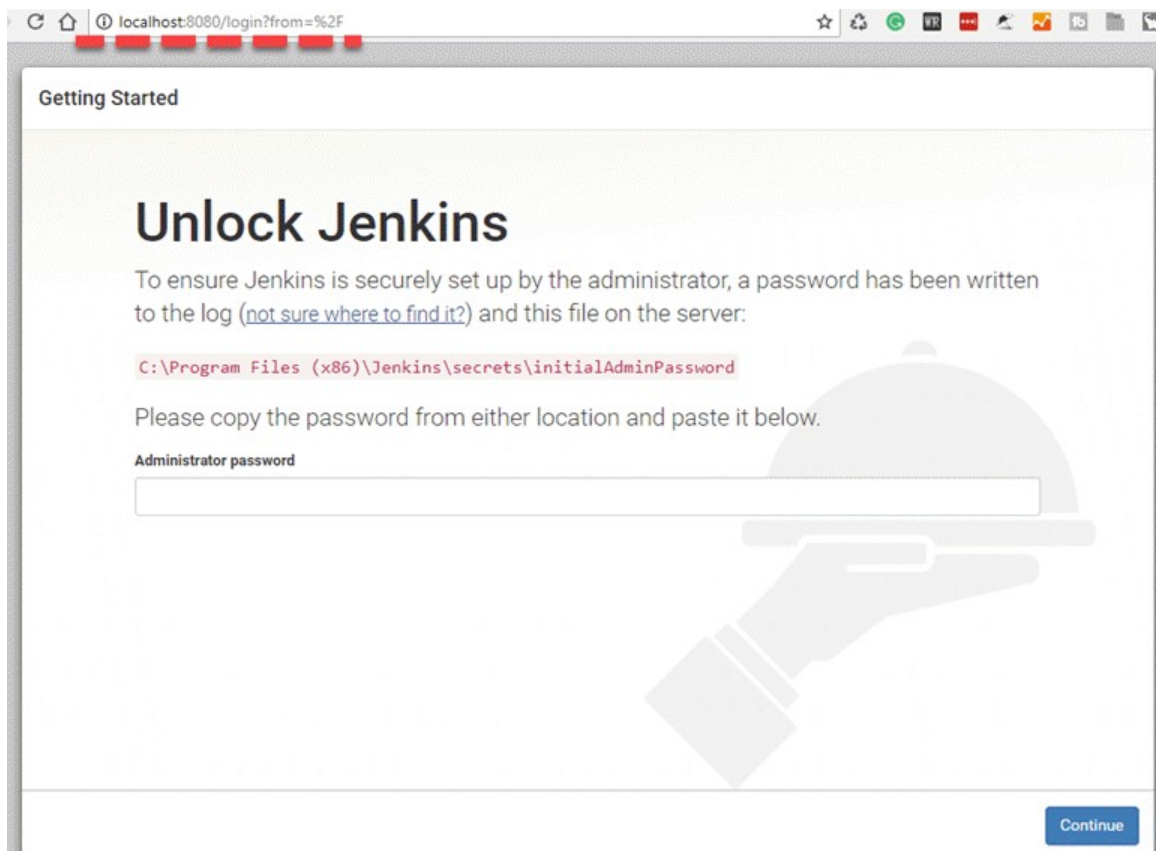
How to Unblock Jenkins?

After completing the Jenkins installation phase, you should proceed further and start its configuration. Next steps will guide you how you can unblock Jenkins application:

Step 1) After completing the Jenkins installation process, a browser tab will pop-up asking for the initial Administrator password. To access Jenkins, you need to go to browse the following path in your web browser.

`http://localhost:8080`

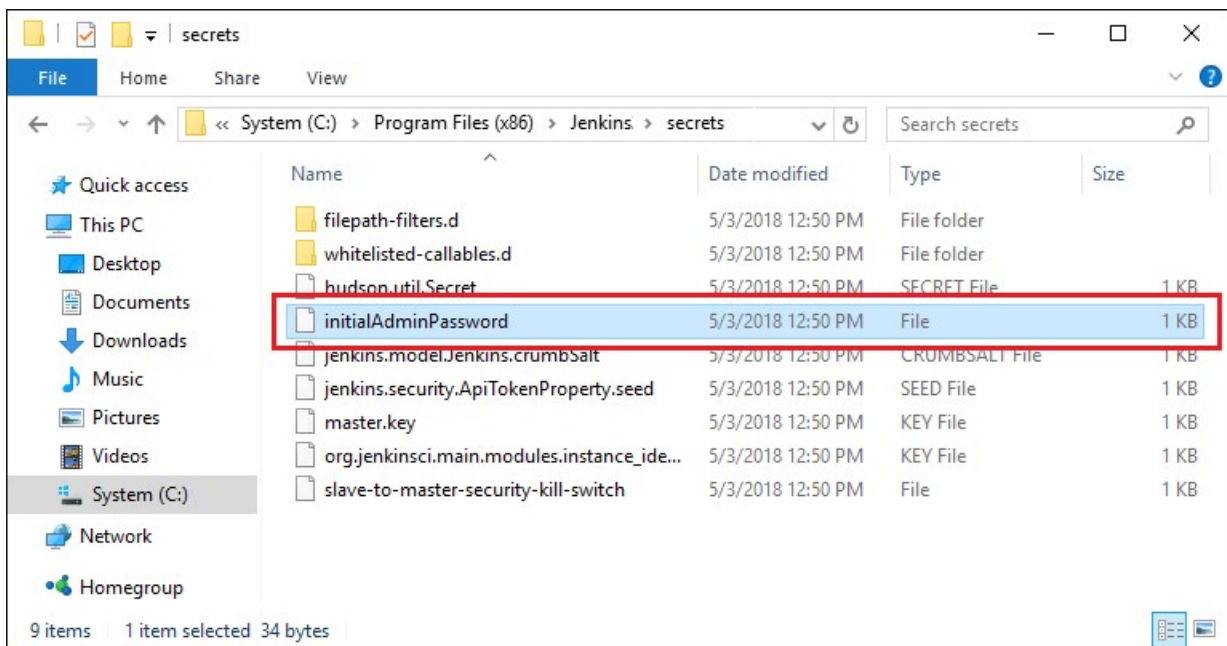
If you can access the above URL, then it confirms that Jenkins is successfully installed in your system.



Step 2) The initial Administrator password should be found under the Jenkins installation path (set at Step 4 in Jenkins Installation).

For default installation location to C:\Program Files (x86)\Jenkins, a file called initialAdminPassword can be found under C:\Program Files (x86)\Jenkins\secrets.

However, If a custom path for Jenkins installation was selected, then you should check that location for initialAdminPassword file.



Step 3) Open the highlighted file and copy the content of the initialAdminPassword file.



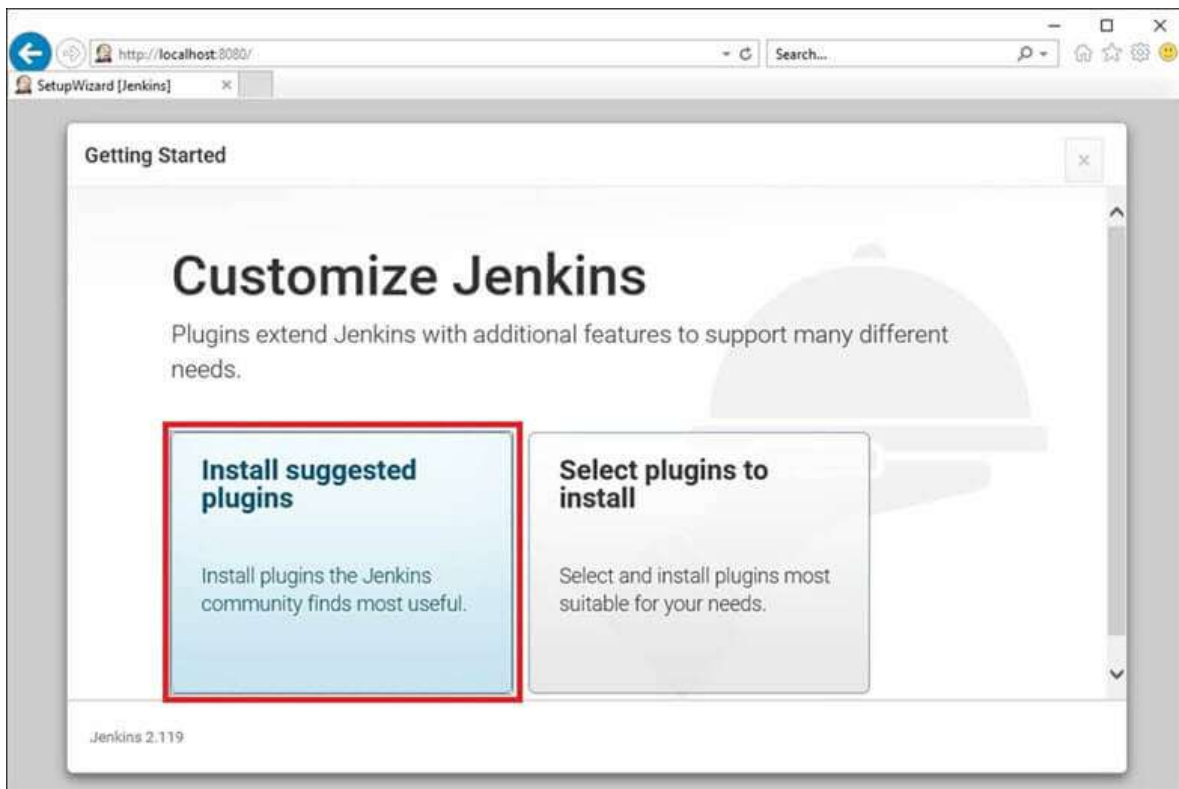
Step 4) Paste the password it into browser's pop-up tab (<http://localhost:8080/login?form=%2F>) and click on Continue button.



## Customize Jenkins

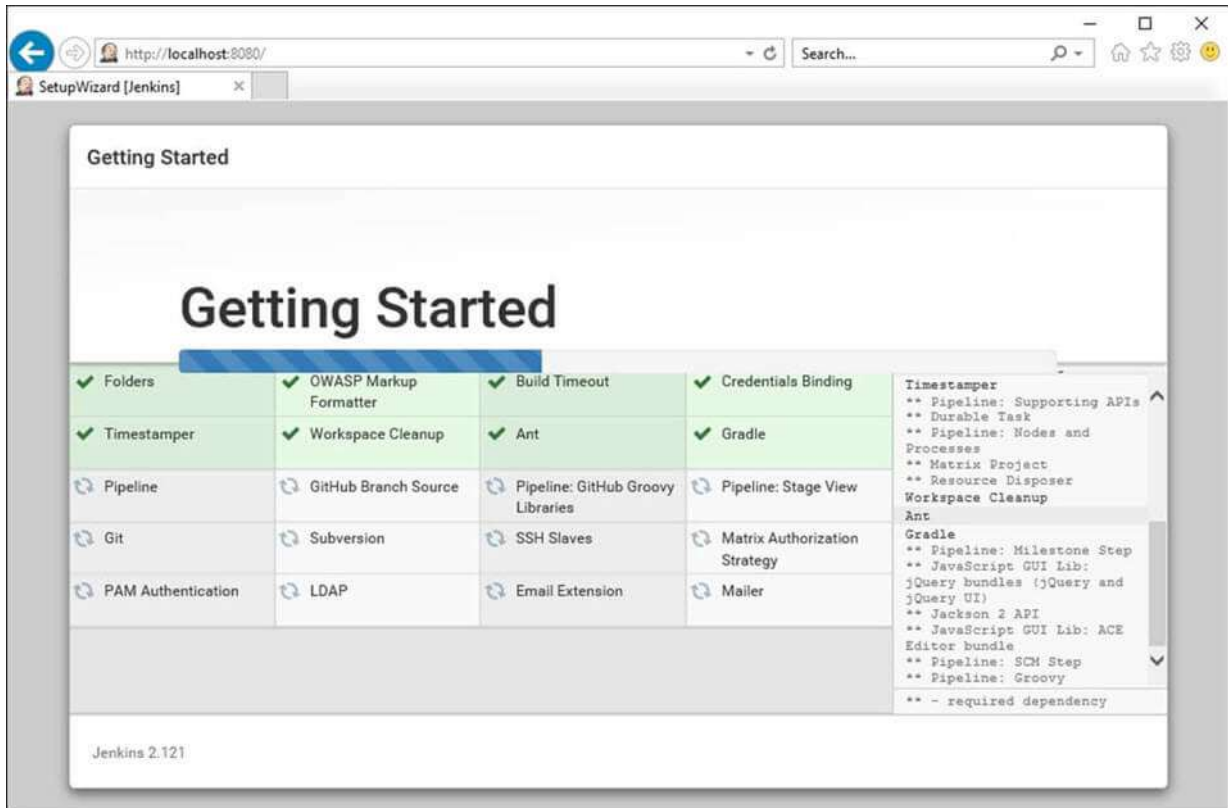
You can also customize your Jenkins environment by below-given steps:

Step 1) Click on the “Install suggested plugins button” so Jenkins will retrieve and install the essential plugins

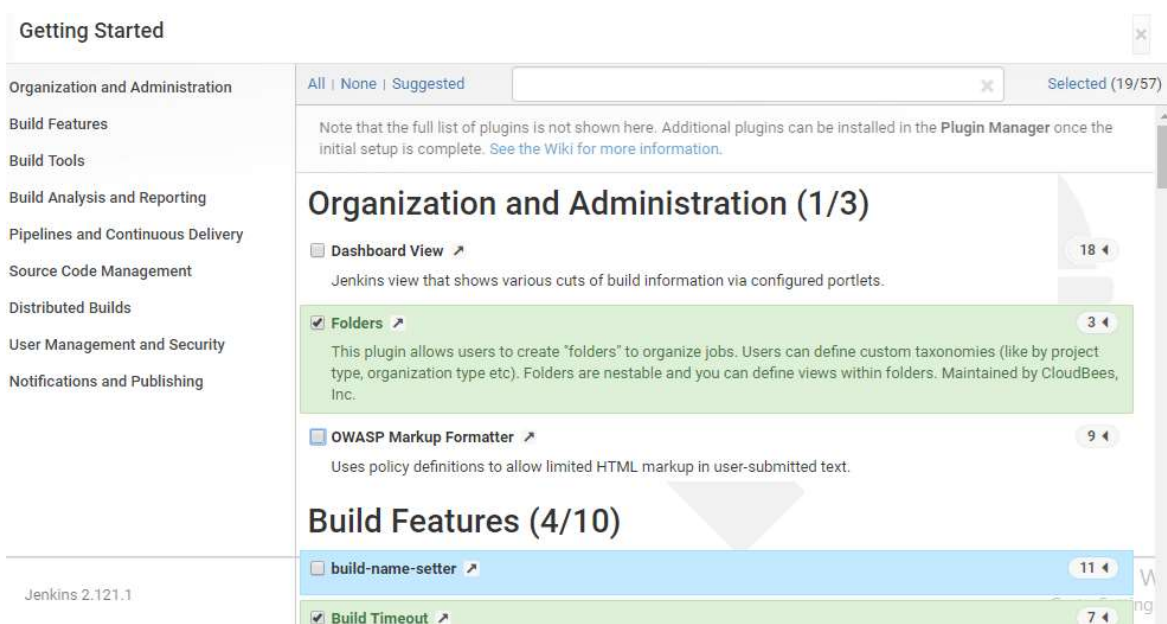




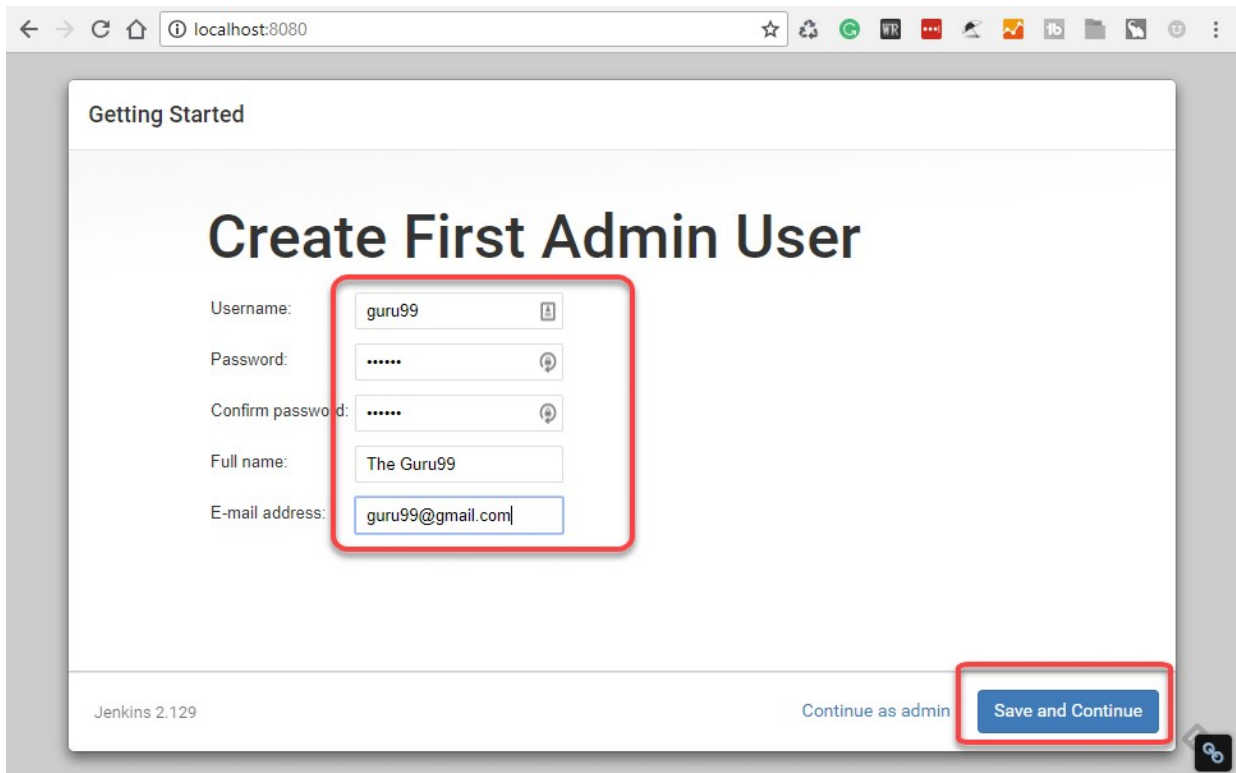
Jenkins will start to download and install all the necessary plugins needed to create new Jenkins Jobs.



Note: You can choose the Option “Select Plugins to Install” and select the plugins you want to install



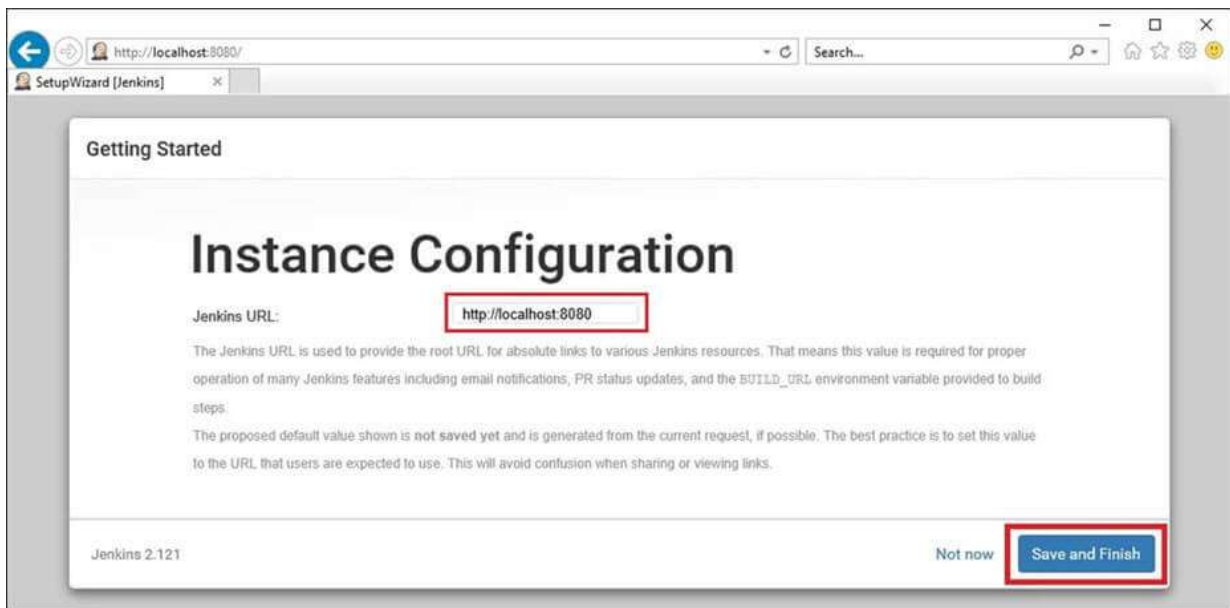
Step 2) After all suggested plugins were installed, the “Create First Admin User” panel will show up. Fill all the fields with desired account details and hit the “Save and Finish” button.



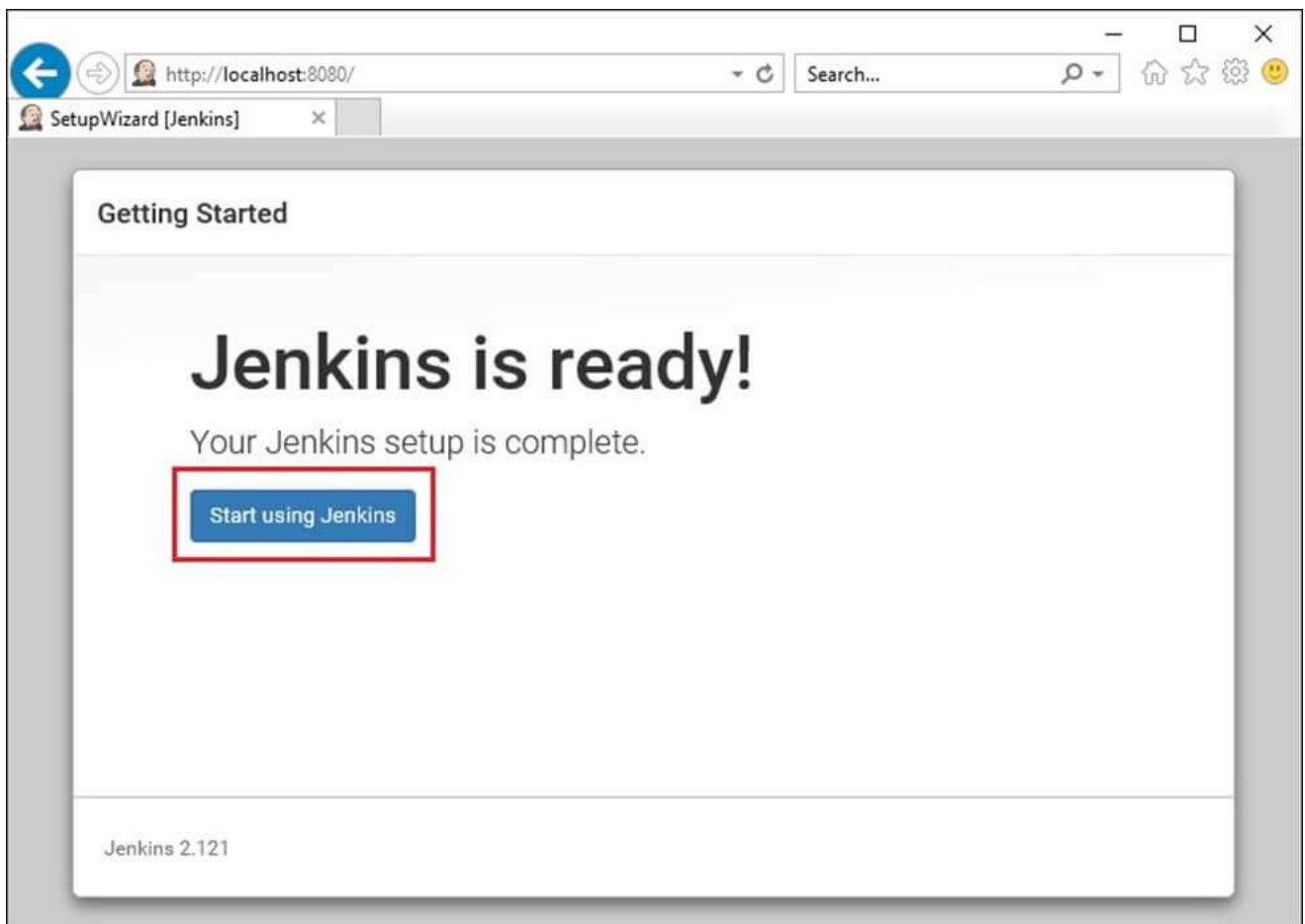
The screenshot shows a web browser window at localhost:8080 displaying the Jenkins 'Getting Started' page. The main heading is 'Create First Admin User'. Below it, there are five input fields: 'Username' (filled with 'guru99'), 'Password' (filled with dots), 'Confirm password' (filled with dots), 'Full name' (filled with 'The Guru99'), and 'E-mail address' (filled with 'guru99@gmail.com'). A red rectangular box highlights these five input fields. At the bottom right, there is a blue button labeled 'Save and Continue', which is also highlighted with a red rectangular box. To the left of this button is the text 'Continue as admin'. The bottom left corner of the page shows 'Jenkins 2.129'.

Step 3) Once you have filled the above data, finally it will ask for URL information where you can configure the default instance path for Jenkins. Leave it as it is to avoid any confusions later. However, if another application is already using 8080 port, you can use another port for Jenkins and finally save the settings, and you are done with installation of Jenkins. Hit the “Save and Continue” button:

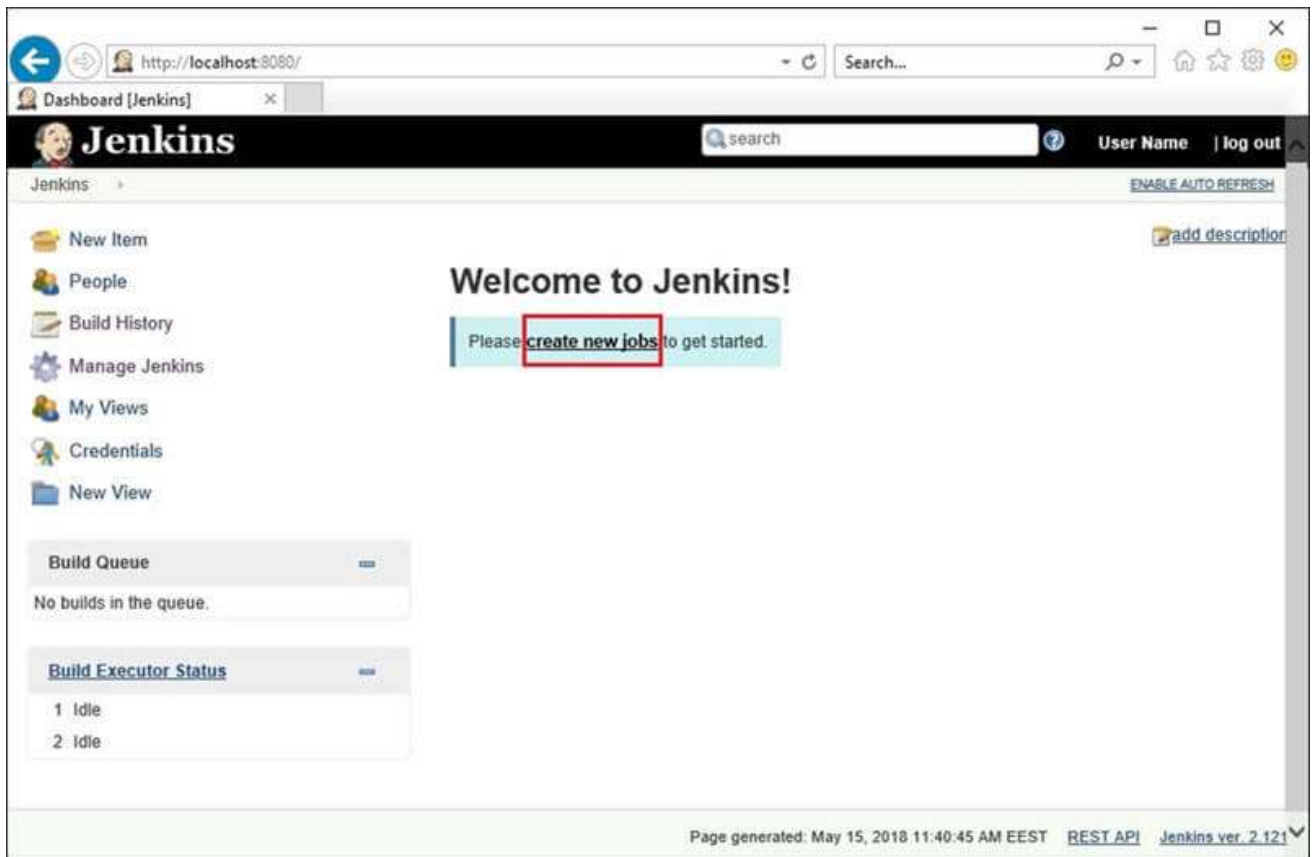




Congratulations! We have successfully installed a new Jenkins Server. Hit the “Start using Jenkins” button.



Below you can find the Jenkins instance up and run, ready to create first Jenkins jobs:



**Lab Outcome:** LO1-To understand the fundamentals of DevOps engineering and be fully proficient with DevOps terminologies, concepts, benefits, and deployment options to meet your business requirements.

LO3-To understand the importance of Jenkins to Build and deploy Software Applications on server environment.