



Chapter 6 Lab: Setting Up Jenkins

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Overview

In this lab, you will gain hands-on experience installing the Jenkins Server using Docker containers. The Jenkins container image is a stripped down version of Jenkins and does not contain all the plugins. We will understand how to set up Jenkins in a matter of a few minutes and create a simple job.

Exercise 6.1. Set Up Jenkins

Jenkins provides hundreds of plugins to support building, deploying and automating any project. As an extensible automation server, Jenkins can be used as a simple CI server or turned into the continuous delivery hub for any project.

For simplicity's sake, we will use Docker containers to set up the Jenkins server.

For other installation methods refer to the [Jenkins documentation](#).

Note: Ensure Docker is already installed on your machine.

Set up Jenkins server on a Docker container and store Jenkins Home on Docker Volume.

1. Create the Jenkins container by executing the following command:

```
$ docker run --name myjenkins1 -dit -p 8080:8080 -p 50000:50000 -v  
jenkins_data:/var/jenkins_home jenkins/jenkins:2.60.3-alpine
```

2. List the container running the following command:

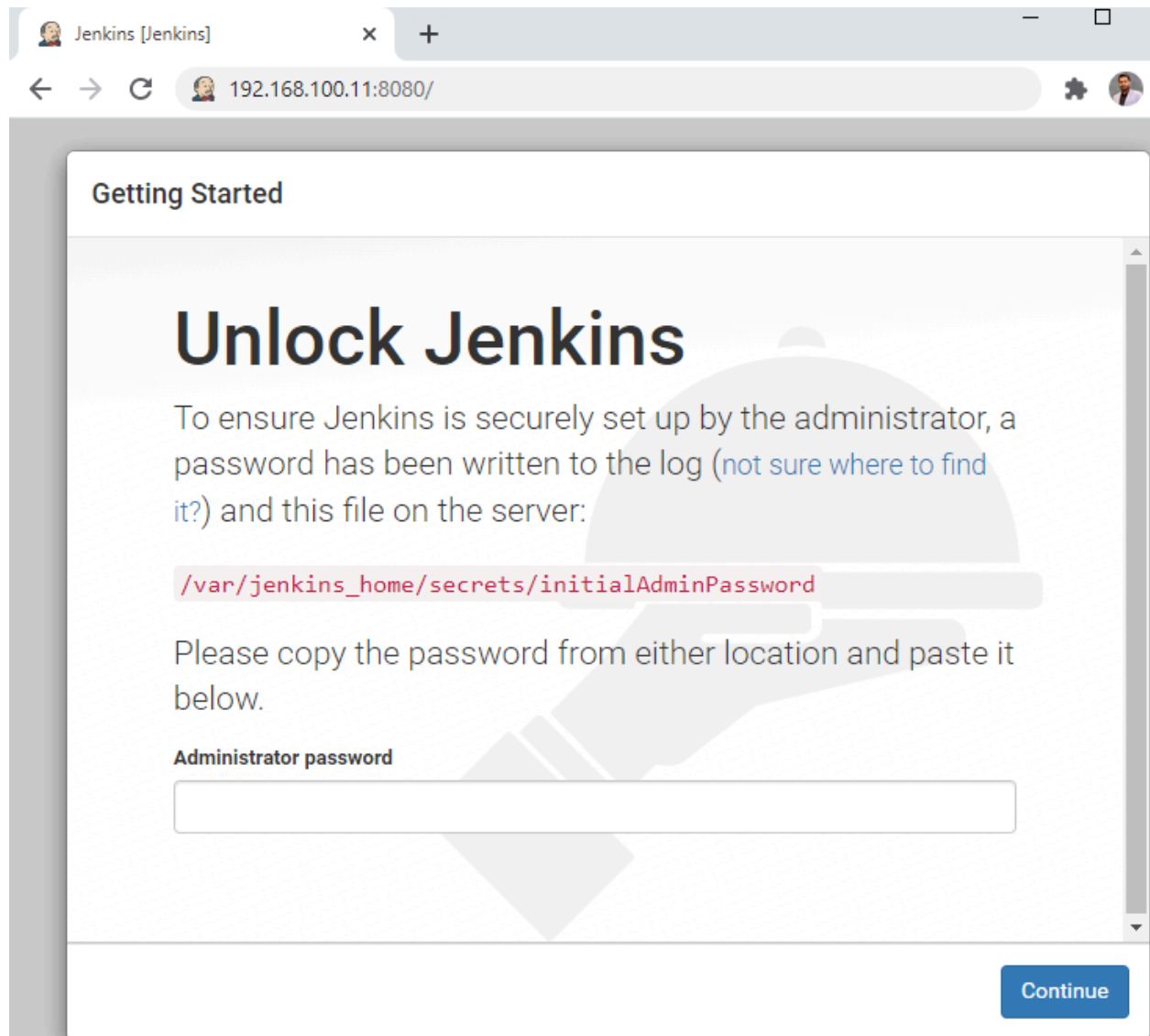
```
$ docker container ls
```

3. View the logs and capture the initial admin password for Jenkins by executing the following command:

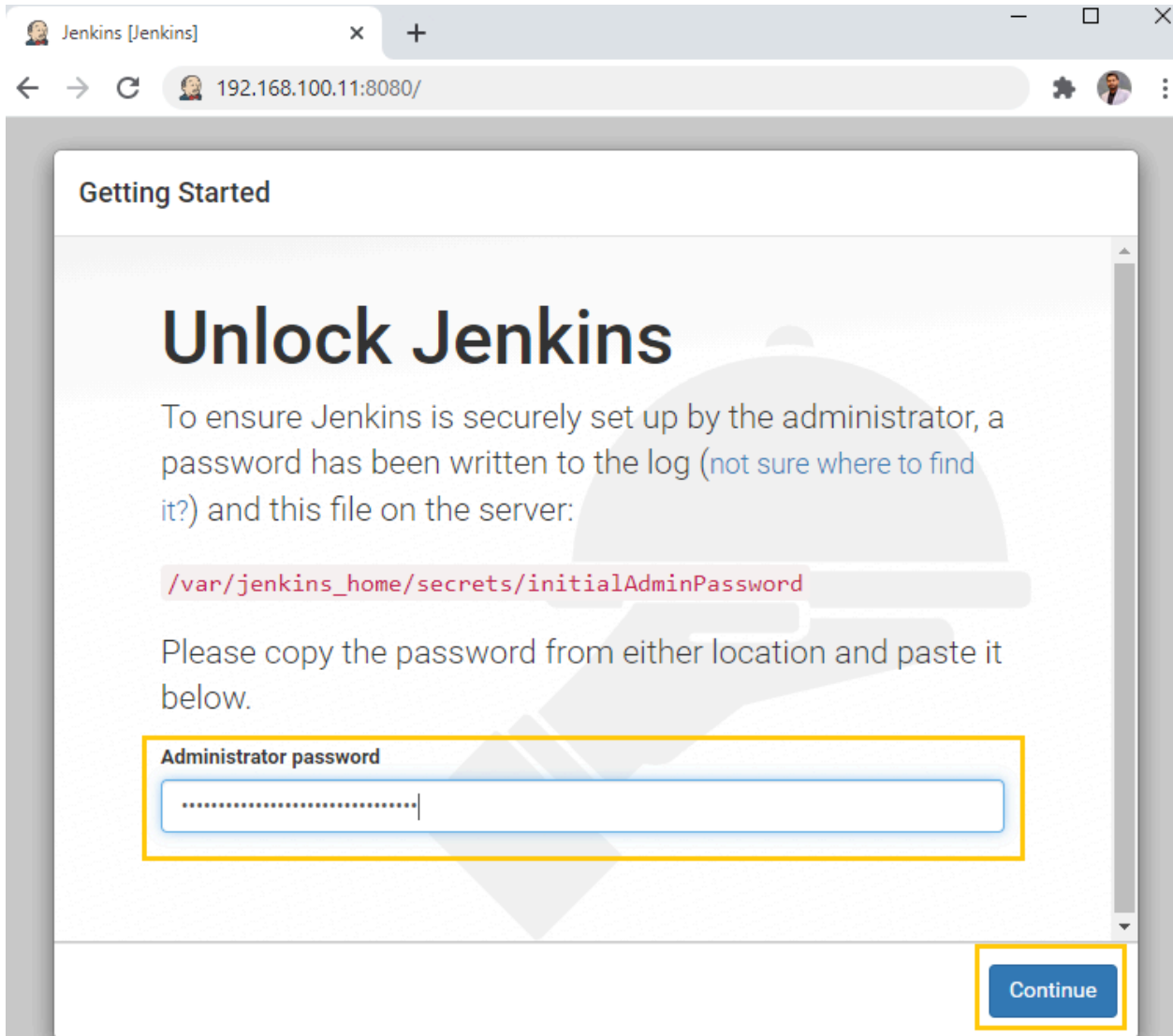
```
$ docker logs myjenkins1 | grep -B 5 initialAdminPassword
```

4. Access the Jenkins server and perform the initial configuration.

Open the browser and access the URL: `http://HostIP:8080` (`curl ifconfig.io` to get your public IP).



5. Enter the **initial admin password** and click on continue:



The screenshot shows a web browser window with the Jenkins interface. The title bar indicates the tab is 'Jenkins [Jenkins]' and the address bar shows '192.168.100.11:8080/'. The main content area is titled 'Getting Started' and features a large heading 'Unlock Jenkins'. Below the heading, a paragraph explains that a password has been written to the log and this file on the server: `/var/jenkins_home/secrets/initialAdminPassword`. It then asks the user to copy the password and paste it into the 'Administrator password' field. The password field is a text input with masked characters (dots). A yellow rectangular box highlights the password field and the 'Continue' button at the bottom right of the form.

Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

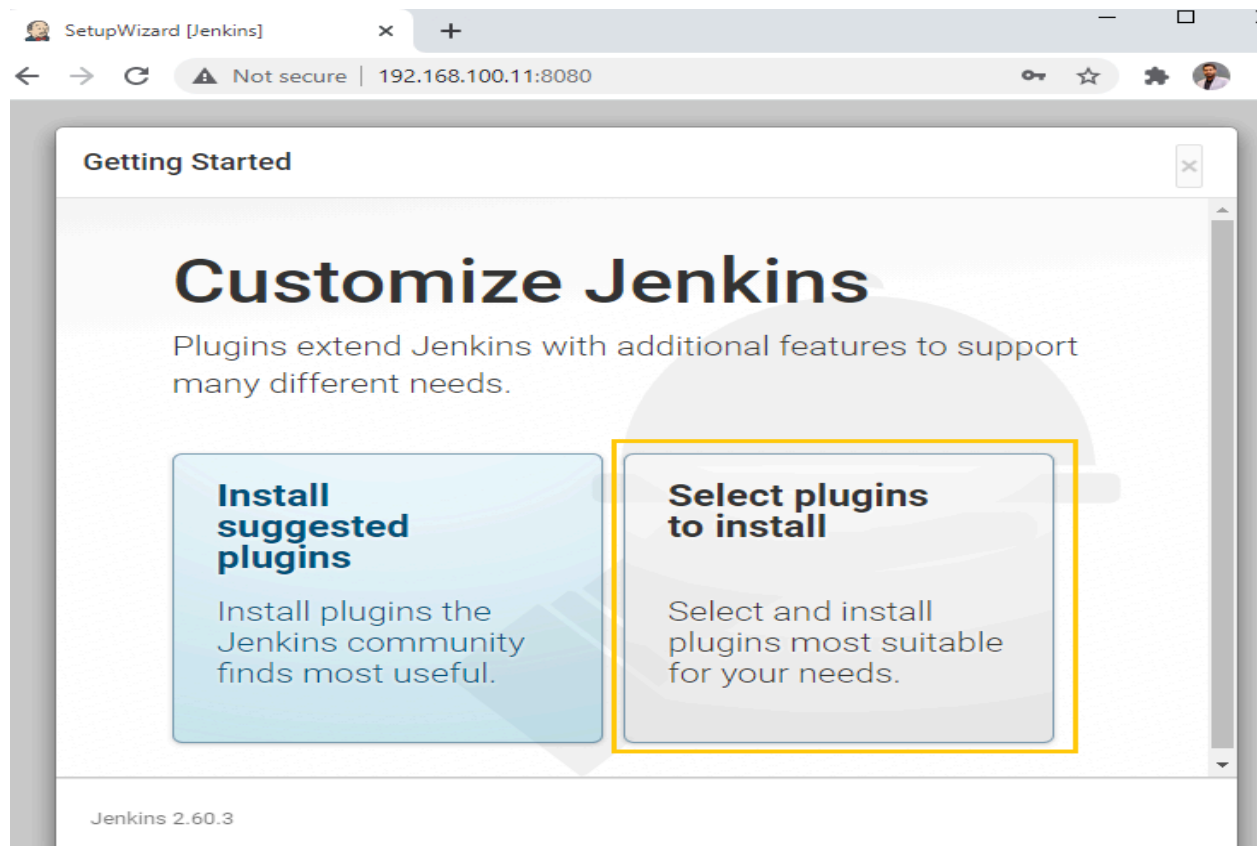
```
/var/jenkins_home/secrets/initialAdminPassword
```

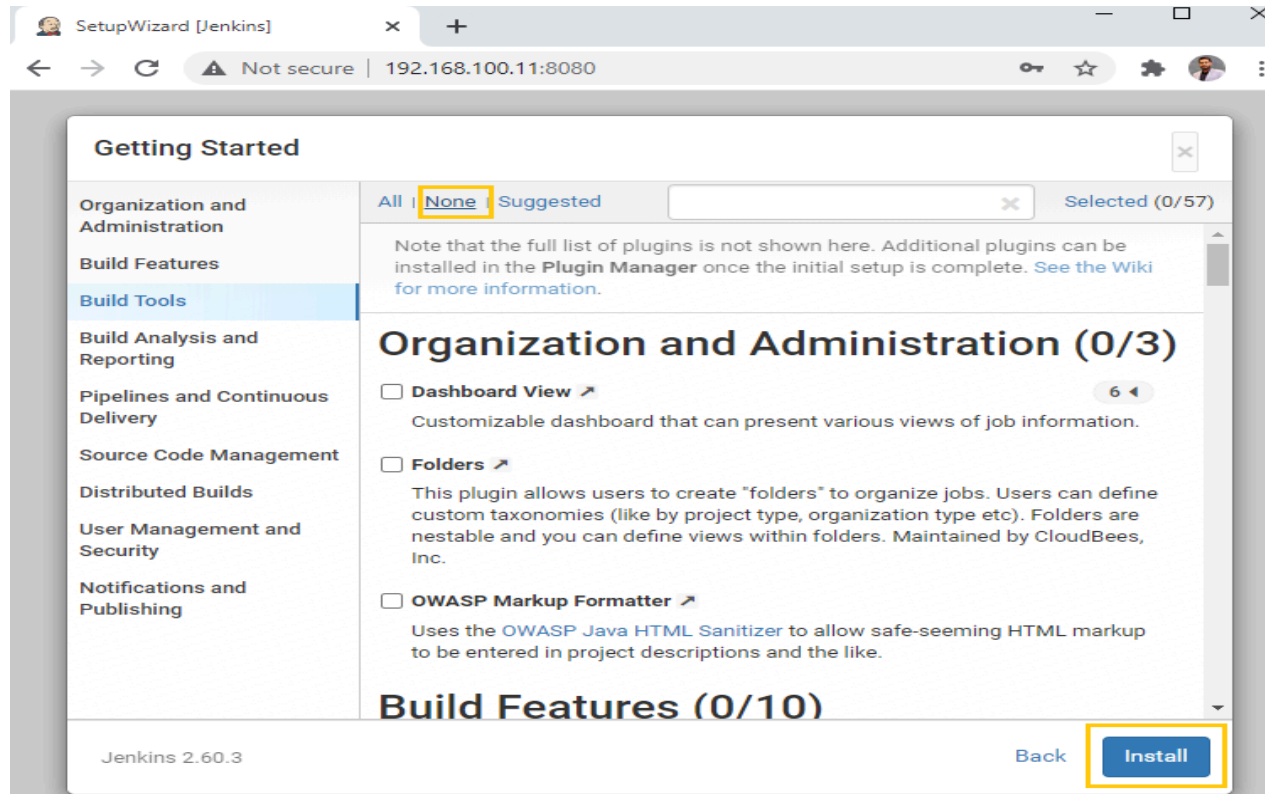
Please copy the password from either location and paste it below.

Administrator password

Continue

6. Choose the “**Select Plugins to install**” option and click on “**none**”, then click on **Install**. The initial installation does not contain any plugins by default. We can install plugins of our choice. However, to keep it simple, we will choose “none” in this lab and move forward.





7. Admin user can be created during this step. We will skip the step and select “**Continue as admin**” and proceed to the next step.

Getting Started

Create First Admin User

Username:

Password:

Confirm password:

Full name:

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[Continue as admin](#) [Save and Finish](#)

8. Jenkins is set up and ready to use. Click on Start using Jenkins to proceed further.

Getting Started

Jenkins is ready!

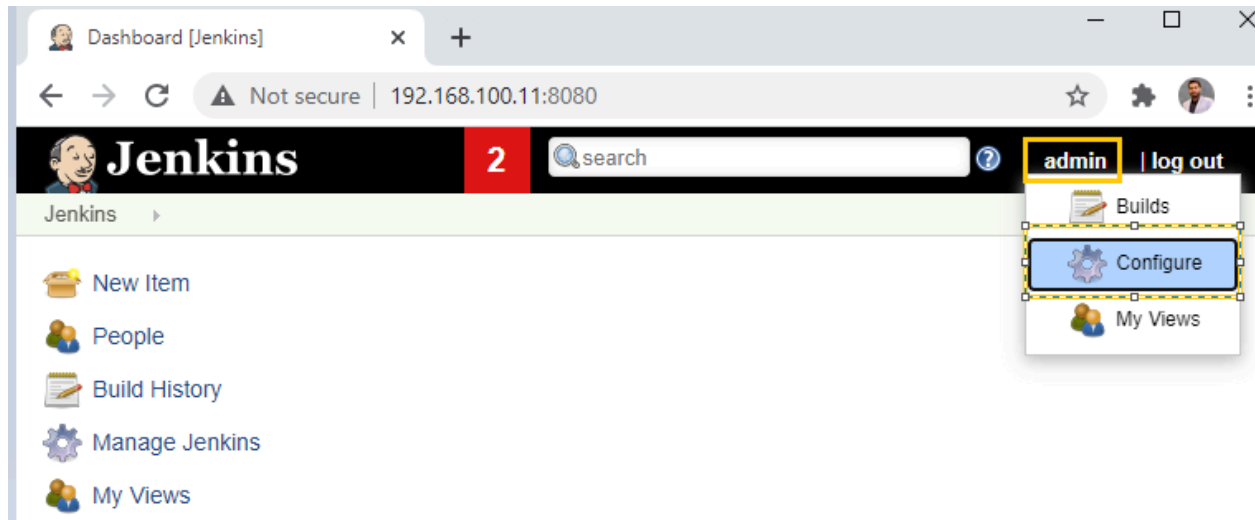
You've skipped creating an admin user. To log in, use the username: 'admin' and the administrator password you used to access the setup wizard.

Your Jenkins setup is complete.

[Start using Jenkins](#)

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9. The initial admin password was generated during installation; reset the password of the admin user and change it to one of your choice.



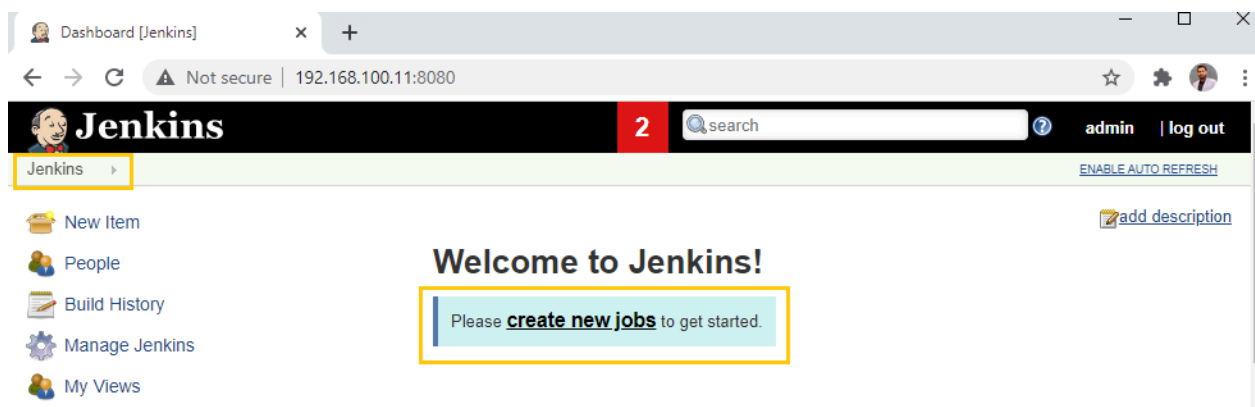
Update the Password and confirm.

Password

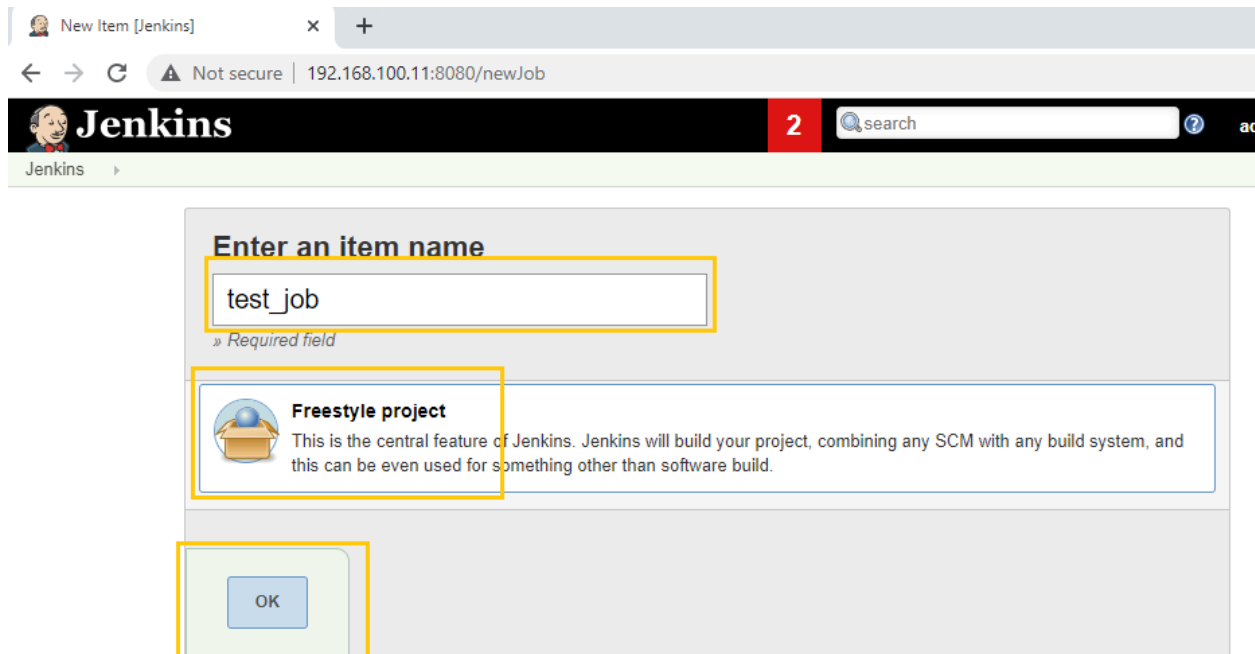
Password:

Confirm Password:

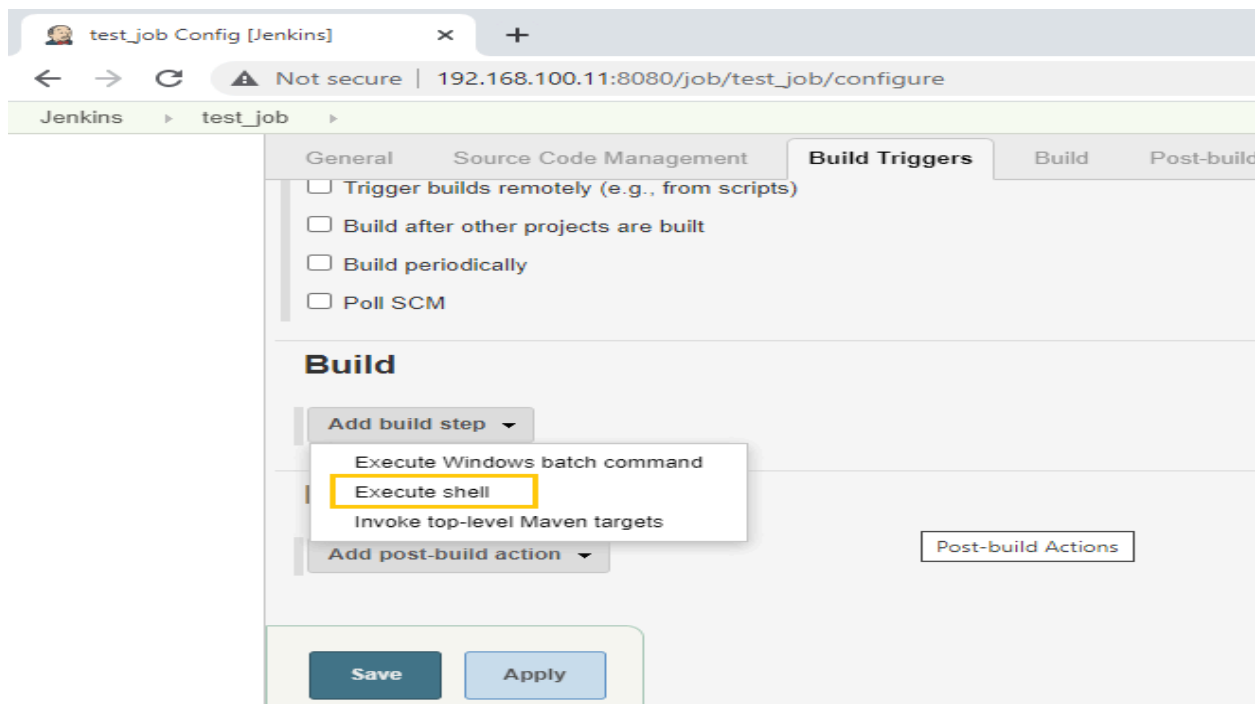
10. Now that Jenkins is ready, create a new job to test the working on Jenkins.



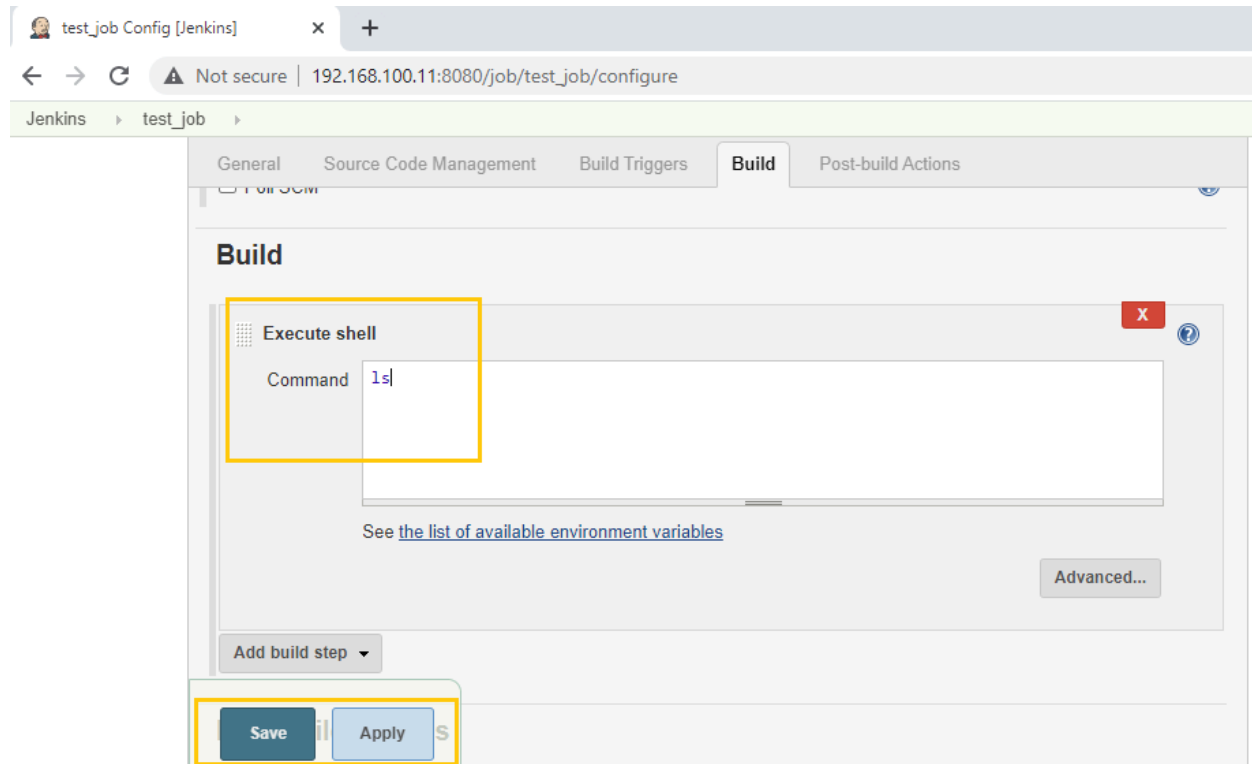
11. Notice that there are no projects available; this is because we skipped installing additional plugins during the setup. We can add plugins later, for now we will make use of the default Freestyle Project plugin available and set up a test job to execute a command.



12. Under the **Build** section, select **Execute shell** to execute a command.



13. Instead of creating a complex command, we are just executing a simple “ls” command. Type “ls” in the command box, save and exit.



14. On the Jenkins dashboard you will find the newly created Project test_job.

The screenshot shows the Jenkins web interface for a project named 'test_job'. The browser address bar displays '192.168.100.11:8080/job/test_job/'. The Jenkins header includes a search bar, 'admin' link, and 'log out' button. The left sidebar contains navigation links: 'Back to Dashboard', 'Status', 'Changes', 'Workspace', 'Build Now', 'Delete Project', and 'Configure'. The main content area is titled 'Project test_job' and includes links for 'Workspace' and 'Recent Changes'. A 'Build History' section is visible with a search bar containing 'find' and RSS links for 'all' and 'failures'. A 'Permalinks' section is also present. On the right, there are links for 'add description' and a 'Disable Project' button.

15. Click on **Build Now** on the left hand pane, to execute the command or to run the build.

This screenshot shows the Jenkins web interface after clicking the 'Build Now' button. The 'Build Now' button in the left sidebar is highlighted with a yellow box. The 'Permalinks' section now displays a list of build links: 'Last build (#1), 52 sec ago', 'Last stable build (#1), 52 sec ago', 'Last successful build (#1), 52 sec ago', and 'Last completed build (#1), 52 sec ago'. The 'Build History' section shows a single build entry labeled '#1' dated 'Mar 7, 2024 7:58 AM'. The rest of the interface remains the same as in the previous screenshot.

16. The build job is completed in a few seconds; click on the build number in build history to view the console output, which displays the log output of the completed job.



17. Congratulations!!! You have successfully installed Jenkins, configured it, created and executed a simple job on Jenkins.

If you like, go ahead and explore the Jenkins Server by adding new plugins and creating pipelines.

18. Clean up by logging off the Jenkins Server, then stop and remove the **myjenkins** container, by executing the following commands.

```
$ docker container stop myjenkins1
$ docker container rm myjenkins1
```

```
$ docker container rm `docker container ls -a -q` -f
$ docker image rm `docker image ls -q` -f
$ docker volume prune -f
```