DAY-1

DEVOPS

Installing and Setting Up WSL with Ubuntu on Windows 10

Step 1: Enable WSL

Before installing Ubuntu, ensure that WSL is enabled on your Windows system. **Enable WSL Feature**

1. Open **PowerShell** as Administrator and run:

2. wsl --install

Step 2: Install Ubuntu

1. Open **Command Prompt** or **PowerShell** and run:

2. wsl --install -d Ubuntu

3. wsl.exe -d Ubuntu

Step 3: Set Up Ubuntu

When Ubuntu runs for the first time, it will ask you to create a new user account.

1. **Enter a username** (must start with a lowercase letter or underscore, and contain only lowercase letters, digits, underscores, and dashes).

2. **Set a password** (enter and confirm the password). If passwords do not match, you will need to retry.

3. Once successful, Ubuntu will be set up and ready to use.

Install Jenkins on Ubuntu

Update package lists

sudo apt update -y

Install Java (Required for Jenkins) sudo apt install -y openjdk-17-jdk

#verify java
version java -
version

Add Jenkins GPG Key

wget -q -O- https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo tee /usr/share/keyrings/jenkins- keyring.asc > /dev/null

Add the Jenkins Repository

echo "deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] https://pkg.jenkins.io/debian-stable binary/" | sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null

 # Install Jenkins
sudo apt update -y
sudo apt install -y jenkins

 # Start and enable Jenkins
service sudo systemctl start
jenkins

Step 4: Add Jenkins Repository Key

Step 4.1: Add Jenkins GPG Key

wget -q -O- https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo tee /usr/share/keyrings/jenkinskeyring.asc > /dev/null

Step 4.2: Add Jenkins Repository

echo "deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] https://pkg.jenkins.io/debian stable binary/" |

sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null

Step 5: Install Jenkins

sudo apt update -y

sudo apt install -y jenkins

Step 6: Start and Enable Jenkins Service

sudo systemctl start jenkins

sudo systemctl enable jenkins

Step 7: Check Jenkins Status

sudo systemctl status jenkins

cat copy the localhost:8080 admin path

display the password

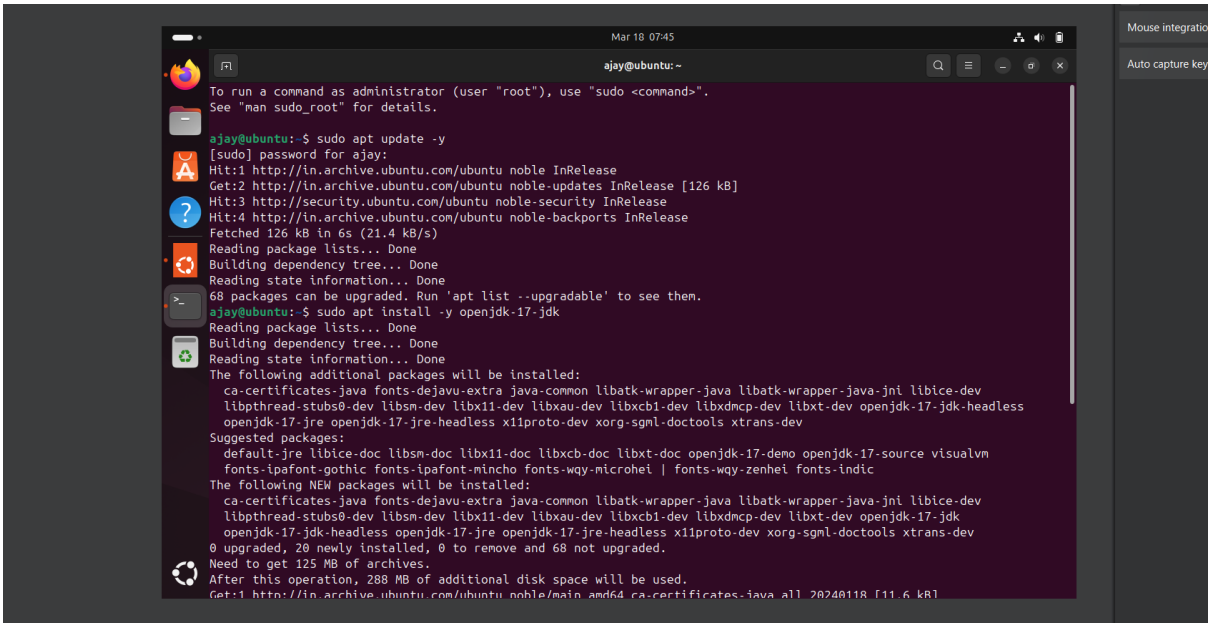
=>By default, Jenkins runs as a system user (jenkins). If your script requires sudo, you must allow the Jenkins user to run commands without a password.

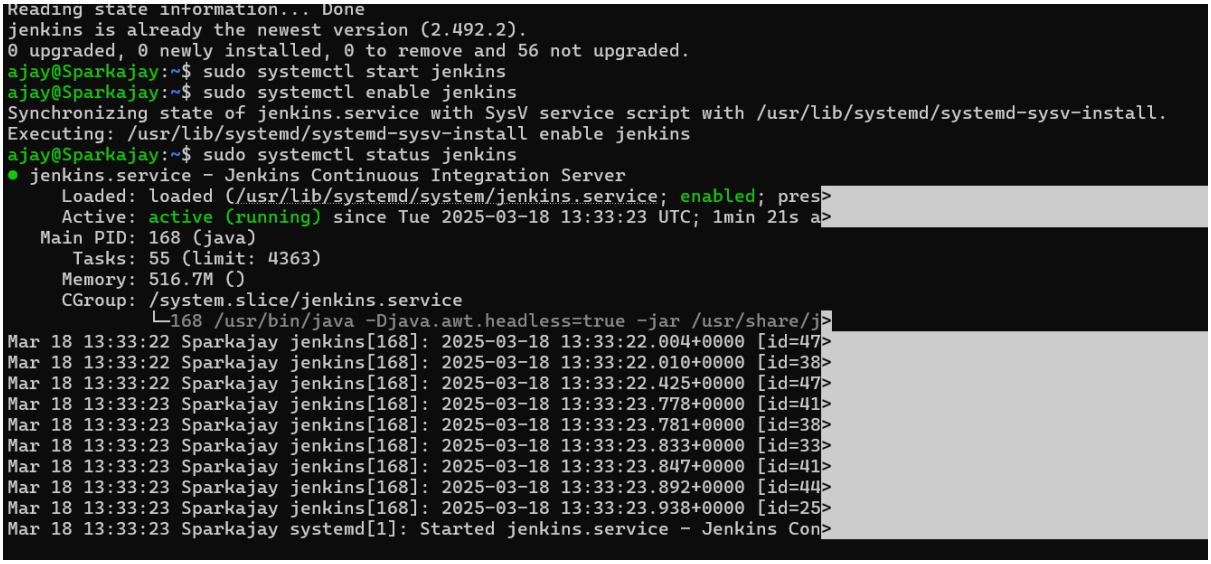
sudo visudo

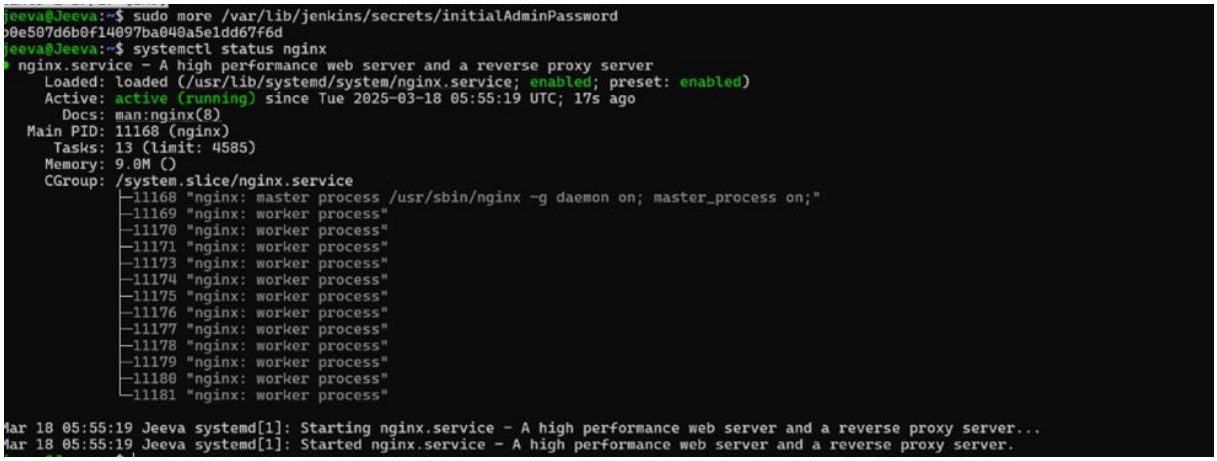
Add the following line at the end:

jenkins ALL=(ALL) NOPASSWD: ALL

Save and exit.







2. Access Jenkins Web Interface

Jenkins will be available at http://localhost:8080

To Get the Jenkins Server URL, Follow These Steps:

Method 1: Check the Default URL

By default, Jenkins runs on port 8080. Open in a browser:

http://<your-server-ip>:8080

If you're on the same machine as Jenkins, use:

http://localhost:8080

Step-by-Step Guide to Creating a Freestyle Job in Jenkins to Install Nginx Step 1: Create a New Freestyle Job

1. Click on **New Item** from the Jenkins Dashboard.

2. Enter a name for the job, e.g., *Install-Nginx*.

3. Select **Freestyle project**.

4. Click **OK**.

Step 2: Configure the Job

Add Build Step

1. Scroll down to **Build** → Click *Add build step* → Select **Execute shell**. 2. Paste the following script in the command box:

```
echo "Updating package lists..."

sudo apt update -y

echo "Installing Nginx..."

sudo apt install -y nginx

echo "Starting Nginx service..."

sudo systemctl start nginx

echo "Enabling Nginx to start on boot..."

sudo systemctl enable nginx

echo "Nginx Installation Completed!"
```

Step 3: Save and Run the Job

1. Click **Save**.

2. Click **Build Now**.

3. Check the **Console Output** to verify the installation.

Step 4: Verify the Installation

1. Check Nginx Status

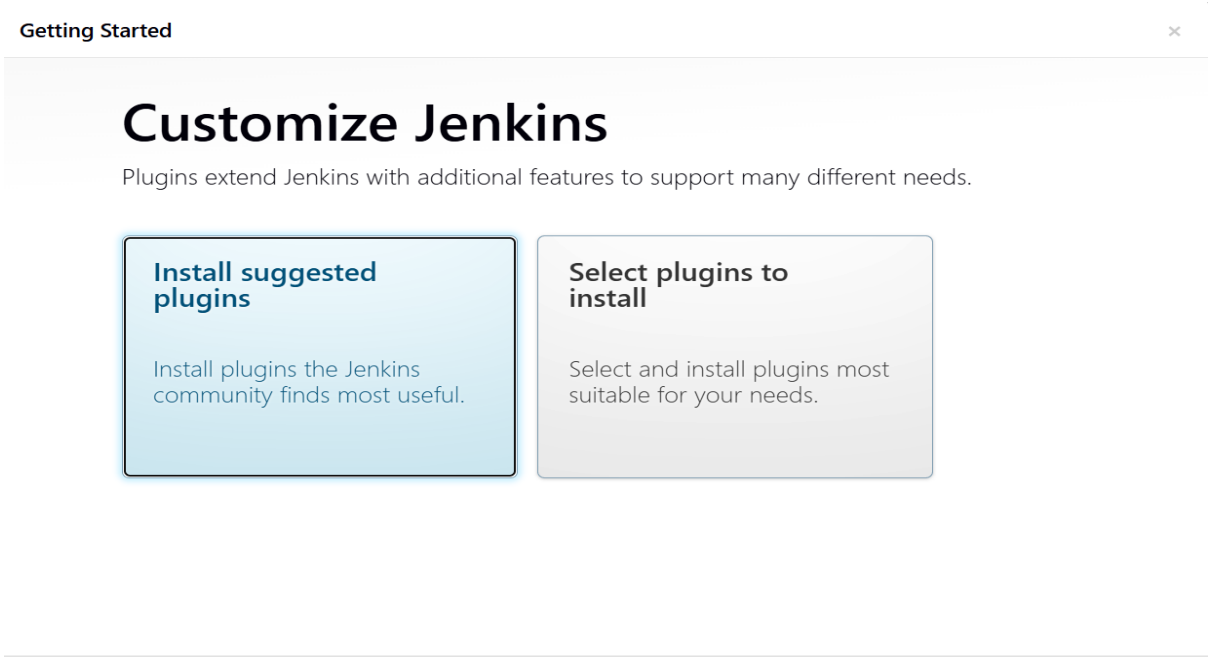
```
systemctl status nginx
```

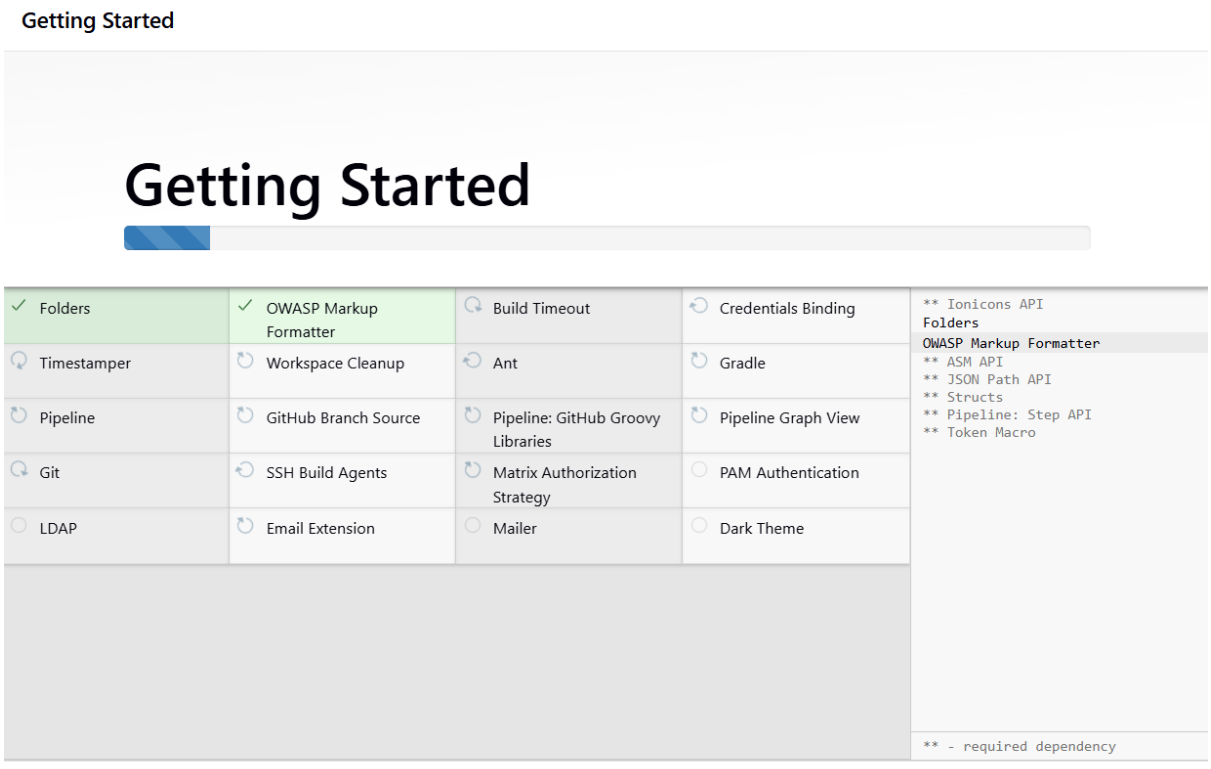
If running, you should see output like *"active (running)"*.

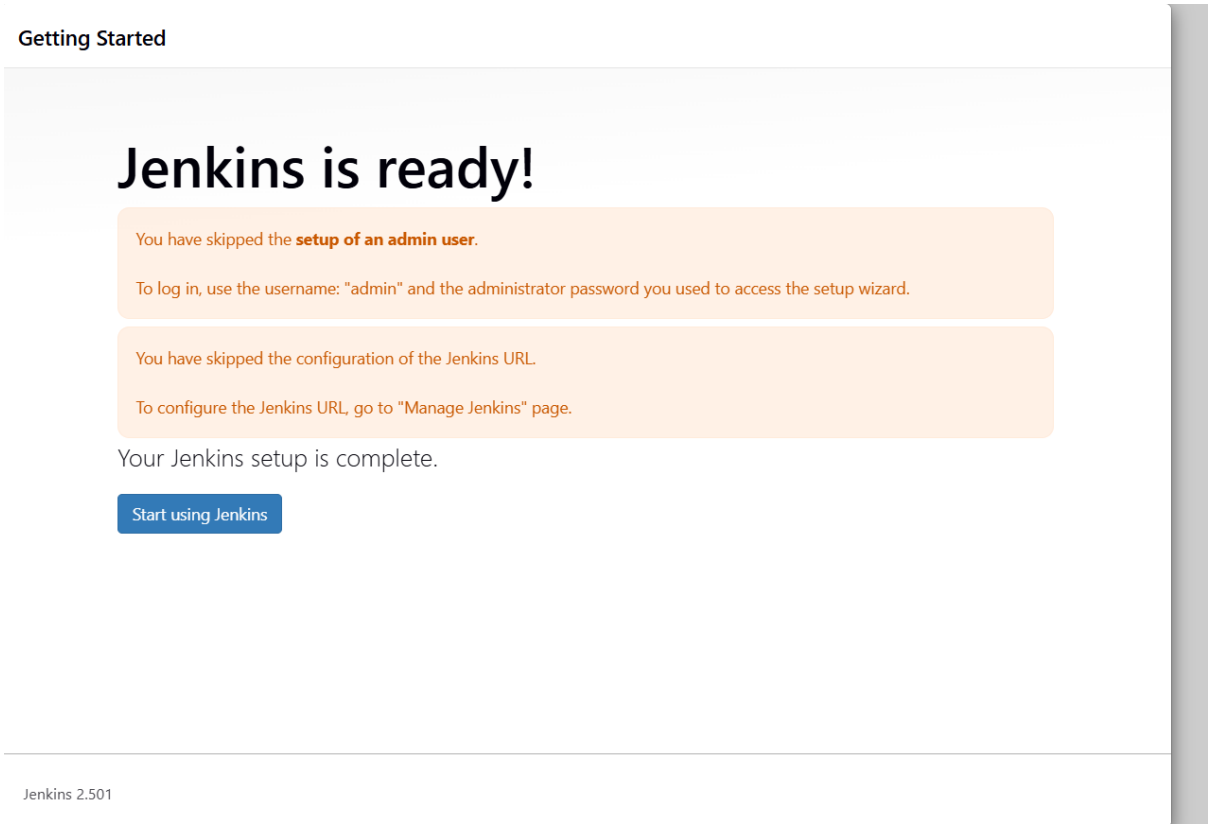
2. Open Nginx in Browser

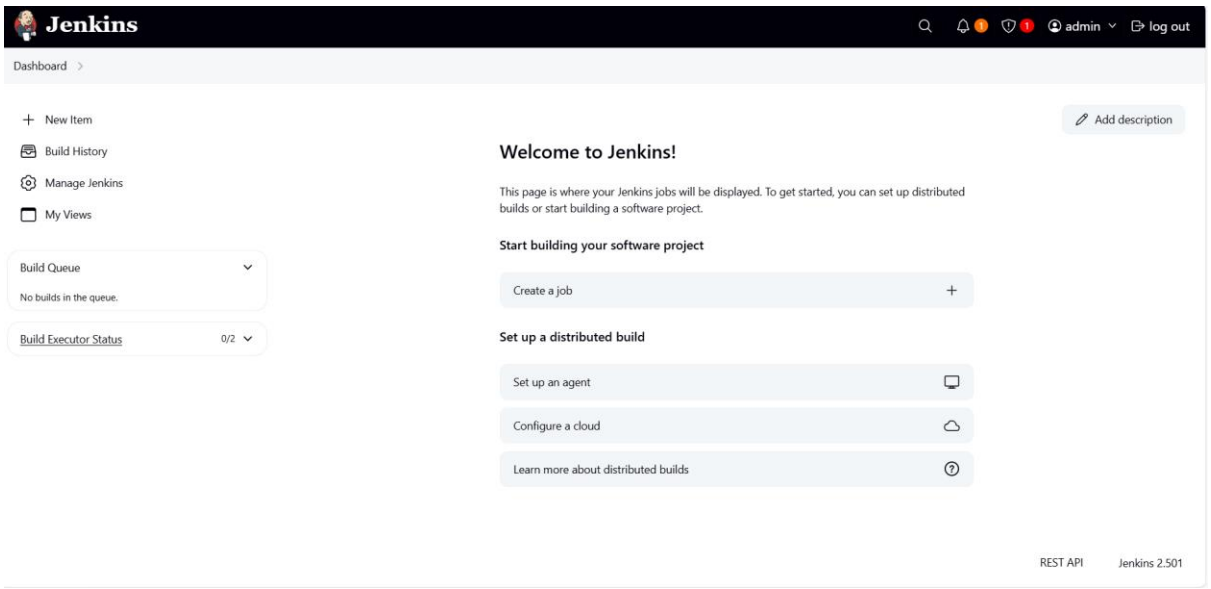
```
http://localhost:80
```

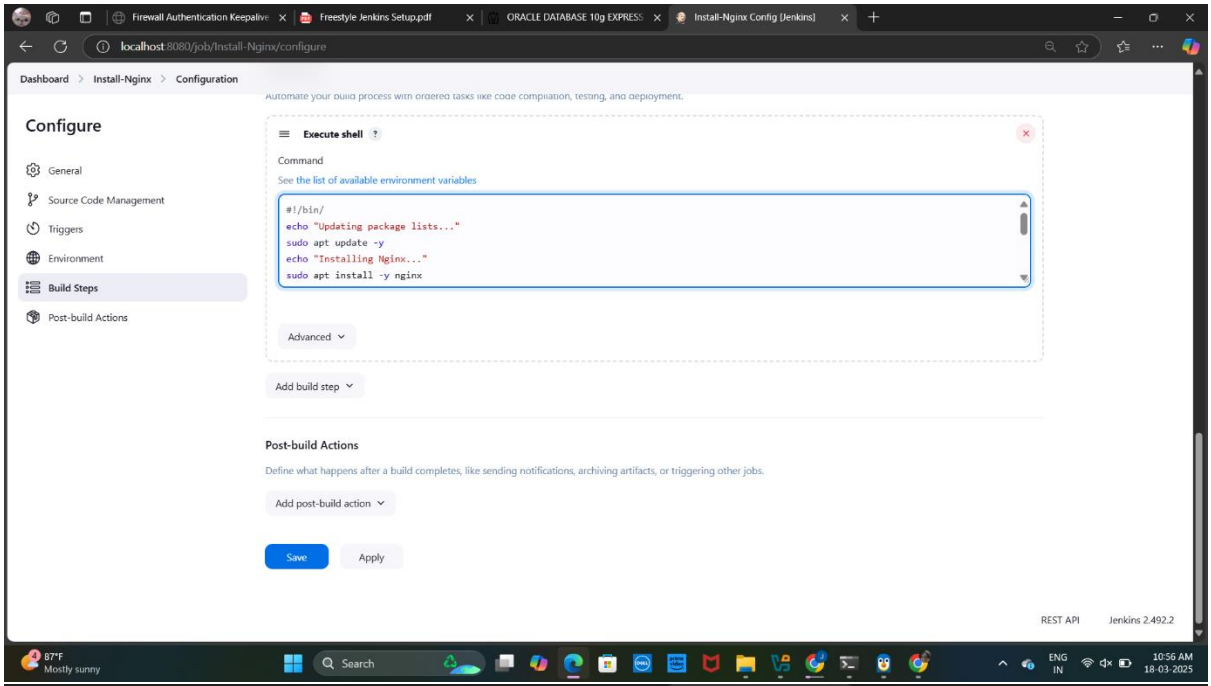
You should see the default Nginx welcome page

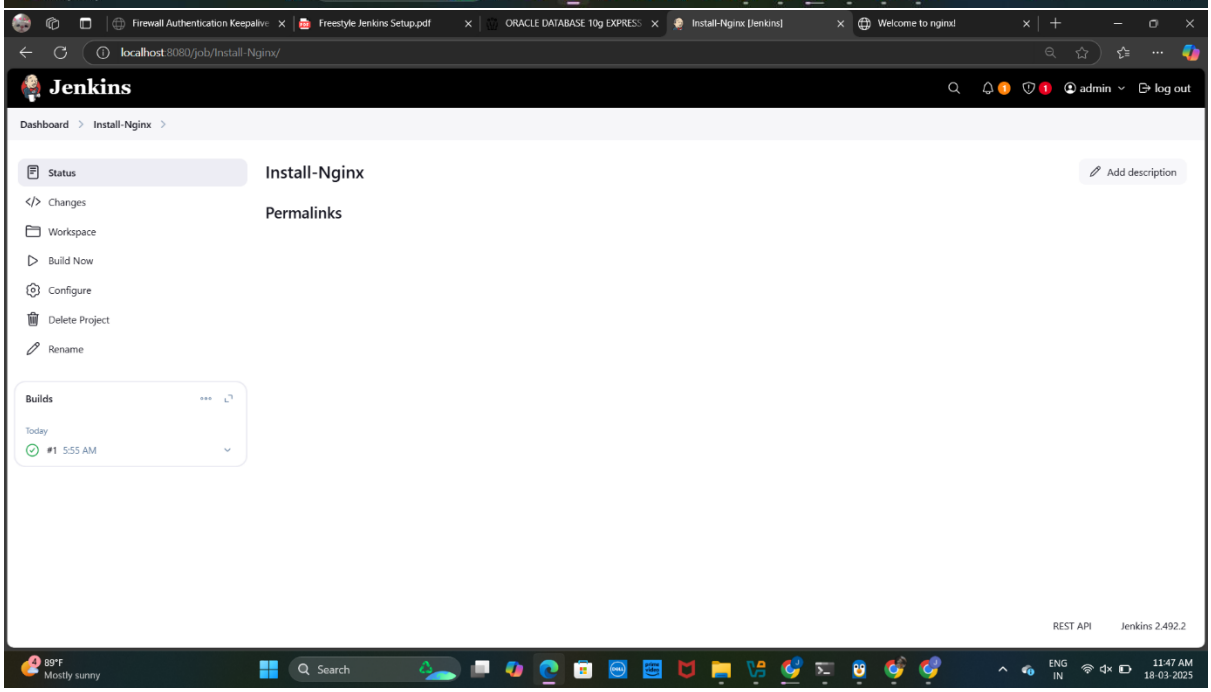

Getting Started
Customize Jenkins
Plugins extend Jenkins with additional features to support many different needs.
Install suggested plugins
Install plugins the Jenkins community finds most useful.
Select plugins to install
Select and install plugins most suitable for your needs.
Jenkins 2.501

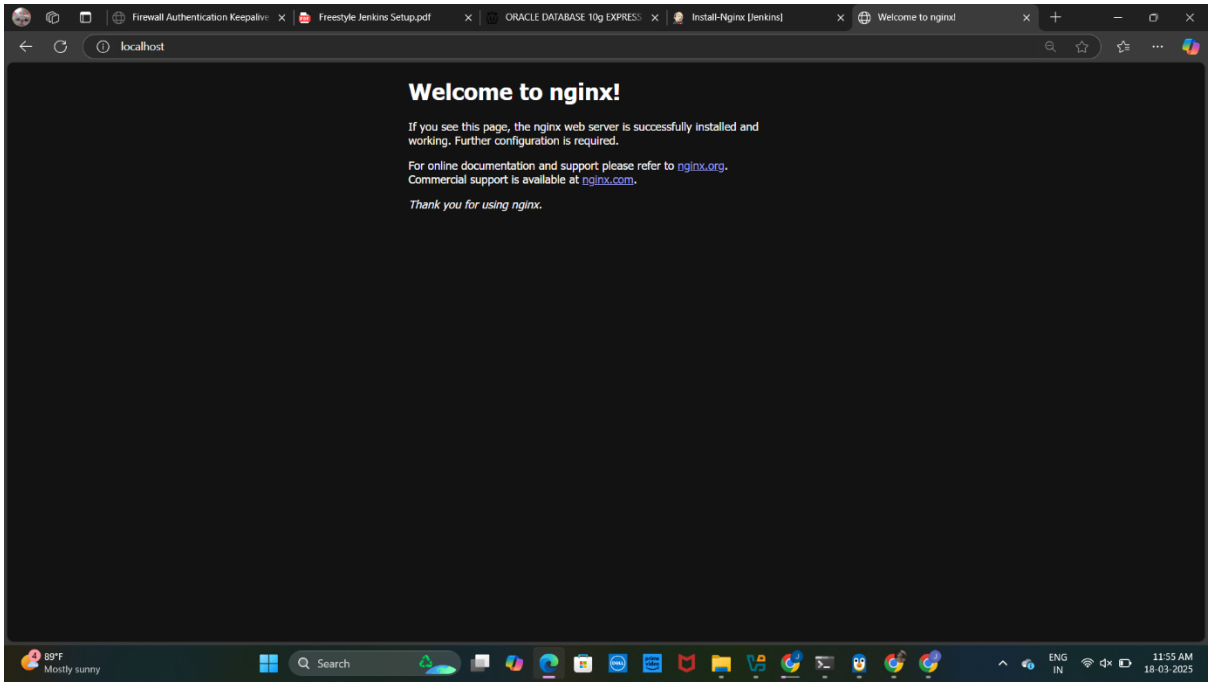

Getting Started
Getting Started
Folders
OWASP Markup Formatter
Build Timeout
Credentials Binding
Timestamper
Workspace Cleanup
Ant
Gradle
Pipeline
GitHub Branch Source
Pipeline: GitHub Groovy Libraries
Pipeline Graph View
Git
SSH Build Agents
Matrix Authorization Strategy
PAM Authentication
LDAP
Email Extension
Mailer
Dark Theme
** Ionicons API
Folders
OWASP Markup Formatter
** ASM API
** JSON Path API
** Structs
** Pipeline: Step API
** Token Macro
** - required dependency
Jenkins 2.501


Getting Started
Jenkins is ready!
You have skipped the setup of an admin user.
To log in, use the username: "admin" and the administrator password you used to access the setup wizard.
You have skipped the configuration of the Jenkins URL.
To configure the Jenkins URL, go to "Manage Jenkins" page.
Your Jenkins setup is complete.
Start using Jenkins
Jenkins 2.501


Jenkins
admin
log out
Dashboard
New Item
Build History
Manage Jenkins
My Views
Build Queue
No builds in the queue.
Build Executor Status
0/2
Add description
Welcome to Jenkins!
This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project.
Start building your software project
Create a job
Set up a distributed build
Set up an agent
Configure a cloud
Learn more about distributed builds
REST API
Jenkins 2.501


Firewall Authentication Keepalive
Freestyle Jenkins Setup.pdf
ORACLE DATABASE 10g EXPRESS
Install-Nginx Config [Jenkins]
localhost:8080/job/Install-Nginx/configure
Dashboard > Install-Nginx > Configuration
Configure
General
Source Code Management
Triggers
Environment
Build Steps
Post-build Actions
Execute shell
Command
See the list of available environment variables
#!/bin/
echo "Updating package lists..."
sudo apt update -y
echo "Installing Nginx..."
sudo apt install -y nginx
Advanced
Add build step
Post-build Actions
Define what happens after a build completes, like sending notifications, archiving artifacts, or triggering other jobs.
Add post-build action
Save
Apply
REST API
Jenkins 2.492.2
87°F
Mostly sunny
Search
ENG
IN
10:56 AM
18-03-2025


Firewall Authentication Keepalive
Freestyle Jenkins Setup.pdf
ORACLE DATABASE 10g EXPRESS
Install-Nginx [Jenkins]
Welcome to nginx!
localhost:8080/job/Install-Nginx/
Jenkins
admin
log out
Dashboard > Install-Nginx >
Status
Changes
Workspace
Build Now
Configure
Delete Project
Rename
Builds
Today
#1 5:55 AM
Install-Nginx
Add description
Permalinks
REST API
Jenkins 2.492.2
89°F
Mostly sunny
Search
ENG
IN
11:47 AM
18-03-2025


Firewall Authentication Keepalive
Freestyle Jenkins Setup.pdf
ORACLE DATABASE 10g EXPRESS
Install-Nginx [Jenkins]
Welcome to nginx!
localhost
Welcome to nginx!
If you see this page, the nginx web server is successfully installed and working. Further configuration is required.
For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.
Thank you for using nginx.
89°F
Mostly sunny
Search
ENG
IN
11:55 AM
18-03-2025