



Title: Setting Up **Jenkins** in **AWS**

Introduction : Jenkins is an open-source tool that automates the building, testing, and deployment of software.

Using Jenkins on AWS allows for scalable CI/CD pipelines in the cloud, integrating with various AWS services.

What You'll Need :

- An AWS account
- A computer with internet access
- Basic knowledge of SSH (optional, but helpful)

Step-by-Step Guide :

Step 1: Launch a Virtual Machine (EC2 Instance) on AWS

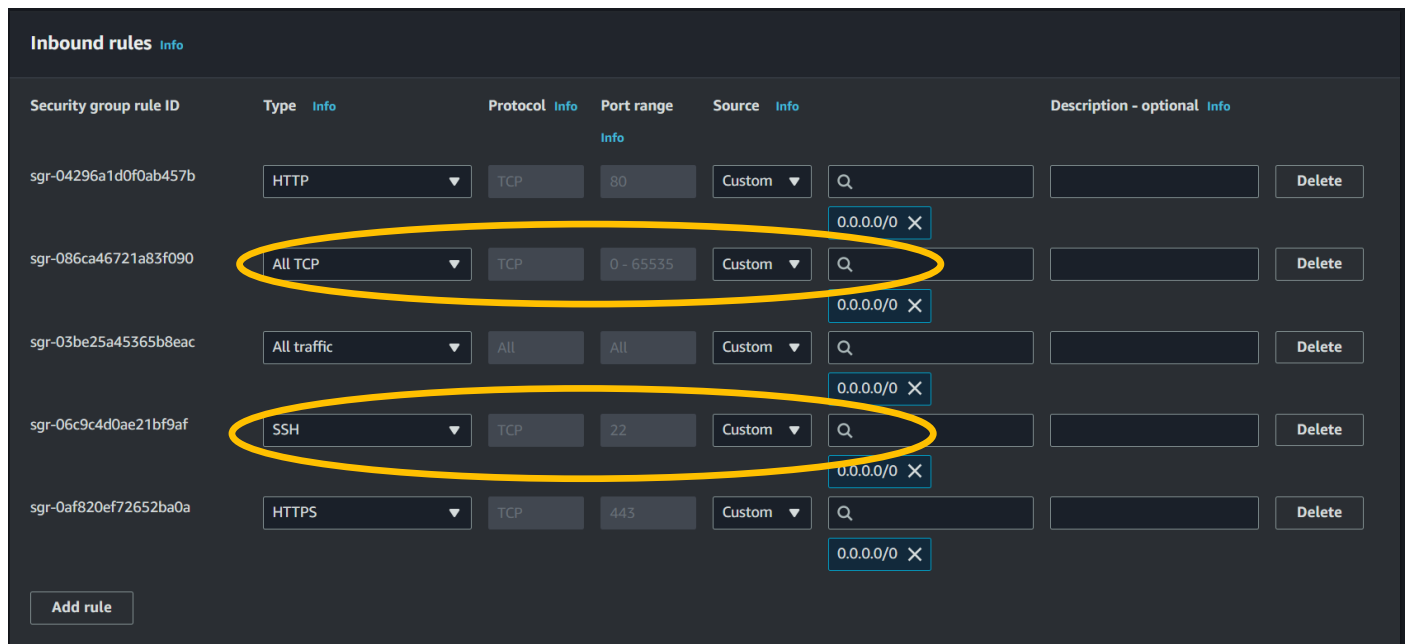
- Open the AWS Console and go to EC2.
- Click Launch Instance and choose Amazon Linux 2 (t2.micro is free-tier eligible).

The screenshot displays the AWS Management Console interface. The left sidebar shows the navigation menu with categories like EC2 Dashboard, Events, Instances, Images, and Elastic Block Store. The main content area shows the 'Instances (1/1)' page. A table lists the instance 'linux-1' with ID 'i-0a3dd142b28dcae7a', state 'Running', and type 't2.micro'. Below the table, the 'Details' tab for the instance is expanded, showing fields like Instance ID, Public IPv4 address (54.172.116.36), Instance state (Running), and Public IPv4 DNS (ec2-54-172-116-36.compute-1.amazonaws.com).

Step 2: Configure Security Settings

Allow traffic on the following ports:

- Port 22 (SSH): To connect to your virtual machine.
- Port 8080: To access Jenkins from your browser.



You won't get 8080 allow all TCP(transfer control protocol)

Step 3 : Installing Jenkins .

Install Java : **Jenkins is built using Java**, so it needs Java to run.

Command : `sudo yum install java-17 -y`

Add the Jenkins repo using the following **command**:

```
sudo wget -O /etc/yum.repos.d/jenkins.repo \https://pkg.jenkins.io/redhat-stable/jenkins.repo
```

these commands configure your system to safely install and update Jenkins from the official repository.

Import a key file from Jenkins-CI to enable installation from the package:

Command : `sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key`

`sudo yum upgrade` use this to updates

Install Jenkins : **command** `sudo yum install jenkins -y`

Enable the Jenkins service to start at boot: **sudo systemctl enable Jenkins**

Start Jenkins as a service: **sudo systemctl start Jenkins**

check the status of the Jenkins service using the **command**: `sudo systemctl status jenkins`

```
Installed:
jenkins-2.462.2-1.1.noarch

Complete!
[ec2-user@ip-172-31-92-75 ~]$ sudo systemctl enable jenkins
Created symlink /etc/systemd/system/multi-user.target.wants/jenkins.service → /usr/lib/systemd/system/jenkins.service.
[ec2-user@ip-172-31-92-75 ~]$ sudo systemctl start jenkins
[ec2-user@ip-172-31-92-75 ~]$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: disabled)
   Active: active (running) since Thu 2024-09-26 17:24:54 UTC; 10s ago
     Main PID: 27459 (java)
       Tasks: 46 (limit: 1112)
      Memory: 339.0M
         CPU: 12.754s
        CGroup: /system.slice/jenkins.service
                └─27459 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Sep 26 17:24:48 ip-172-31-92-75.ec2.internal jenkins[27459]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
Sep 26 17:24:48 ip-172-31-92-75.ec2.internal jenkins[27459]: *****
Sep 26 17:24:48 ip-172-31-92-75.ec2.internal jenkins[27459]: *****
Sep 26 17:24:48 ip-172-31-92-75.ec2.internal jenkins[27459]: *****
Sep 26 17:24:54 ip-172-31-92-75.ec2.internal jenkins[27459]: 2024-09-26 17:24:54.701+0000 [id=31] INFO jenkins.InitReactorRunner$1onAttained: Com
Sep 26 17:24:54 ip-172-31-92-75.ec2.internal jenkins[27459]: 2024-09-26 17:24:54.731+0000 [id=24] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins
Sep 26 17:24:54 ip-172-31-92-75.ec2.internal systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
Sep 26 17:24:54 ip-172-31-92-75.ec2.internal jenkins[27459]: 2024-09-26 17:24:55.030+0000 [id=47] INFO h.m.DownloadService$Downloadable#load: Obtai
Sep 26 17:24:55 ip-172-31-92-75.ec2.internal jenkins[27459]: 2024-09-26 17:24:55.030+0000 [id=47] INFO hudson.util.Retrier#start: Performed the ad
Sep 26 17:24:55 ip-172-31-92-75.ec2.internal jenkins[27459]: 2024-09-26 17:24:55.030+0000 [id=47] INFO h.n.DiskSpaceMonitorDescriptor#markNodeD
Sep 26 17:24:59 ip-172-31-92-75.ec2.internal jenkins[27459]: 2024-09-26 17:24:59.849+0000 [id=60] WARNING h.n.DiskSpaceMonitorDescriptor#markNodeD

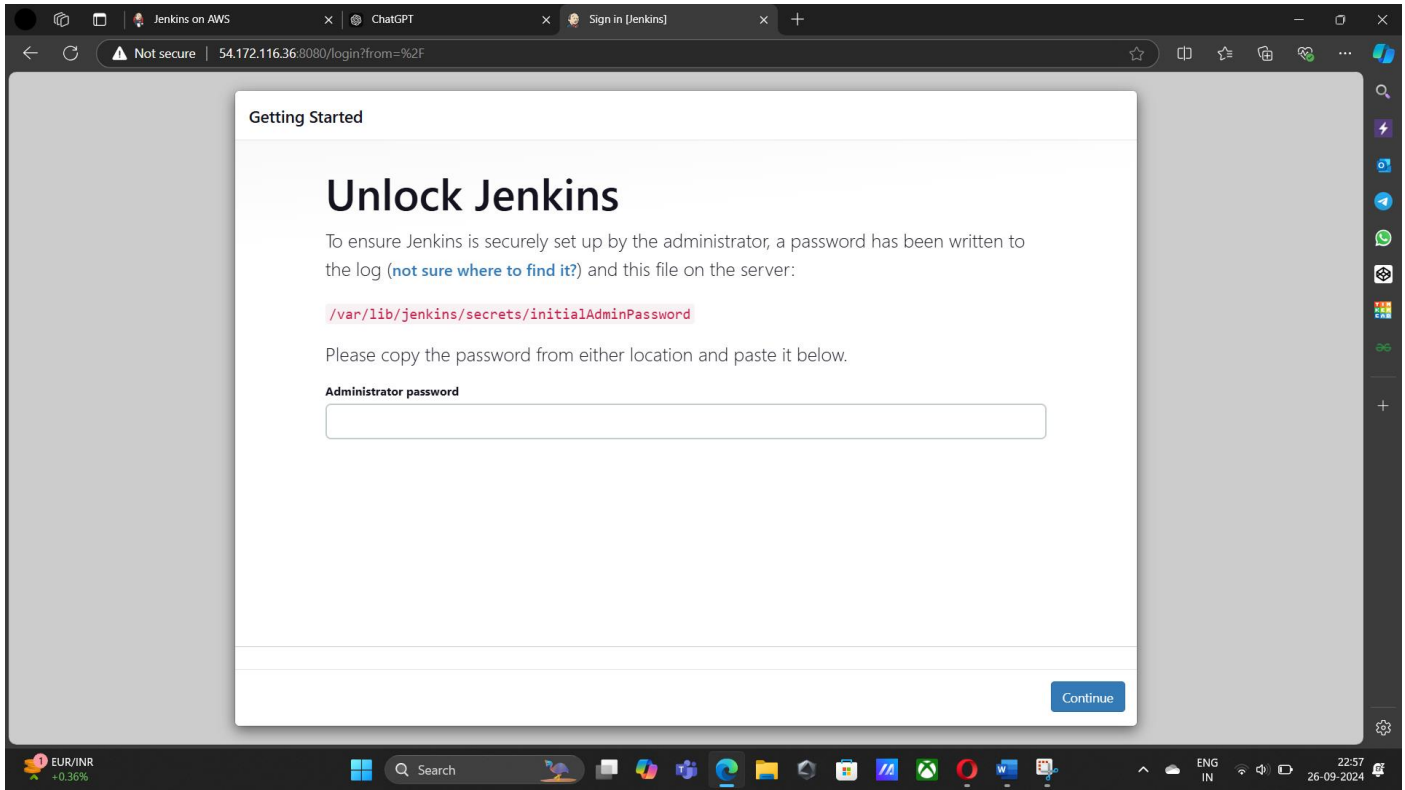
lines 1-20/20 (END)

i-Oa3dd142b28dcae7a (linux-1)
PublicIPs: 54.172.116.36 PrivateIPs: 172.31.92.75
```

Jenkins is now installed and running on your EC2 instance. To configure Jenkins

Step 4 : Connect to `http://<your_server_public_DNS>:8080` from your browser.

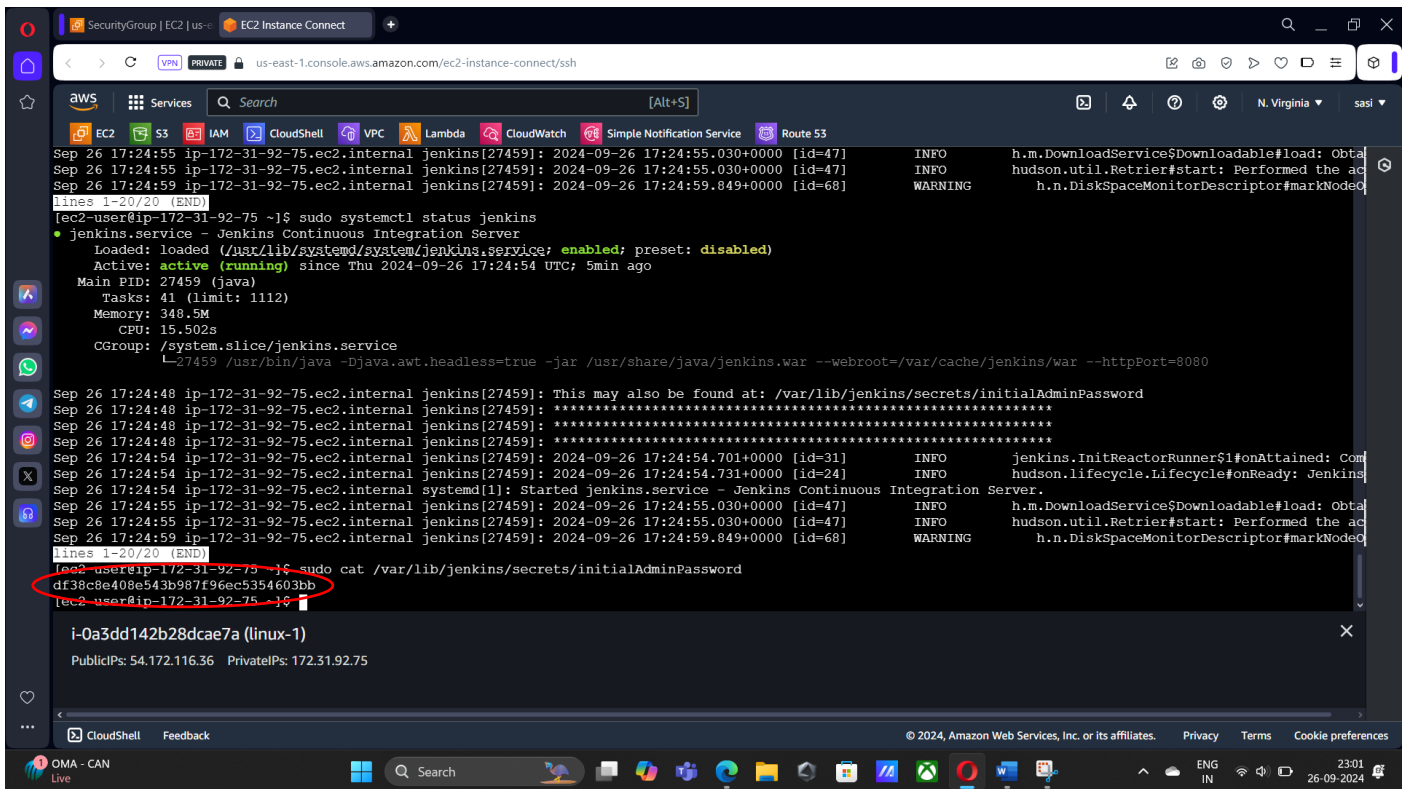
If there no DNS use IP address (public)



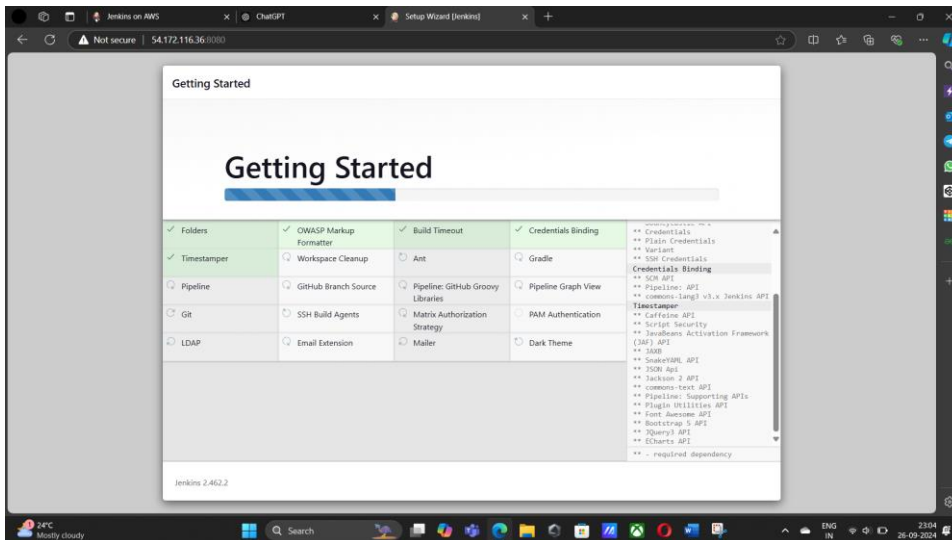
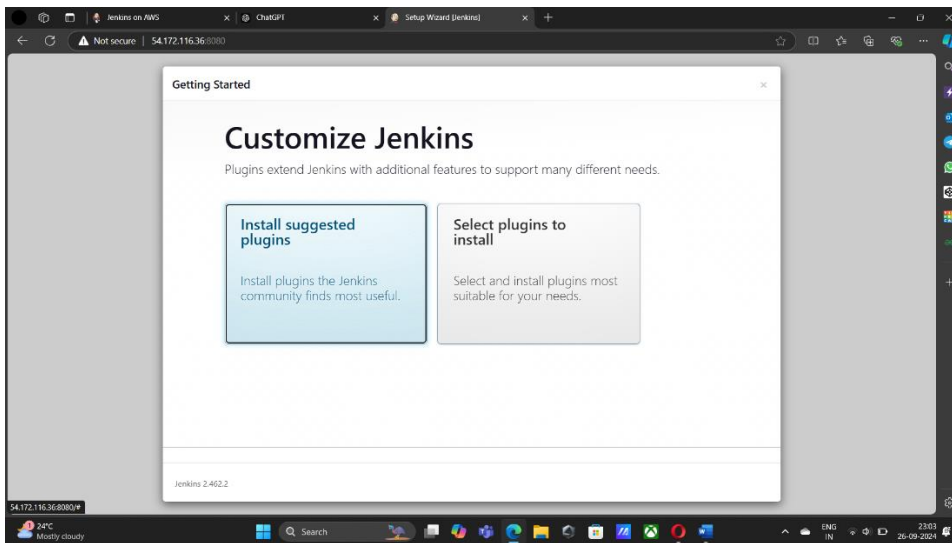
You will get the above page

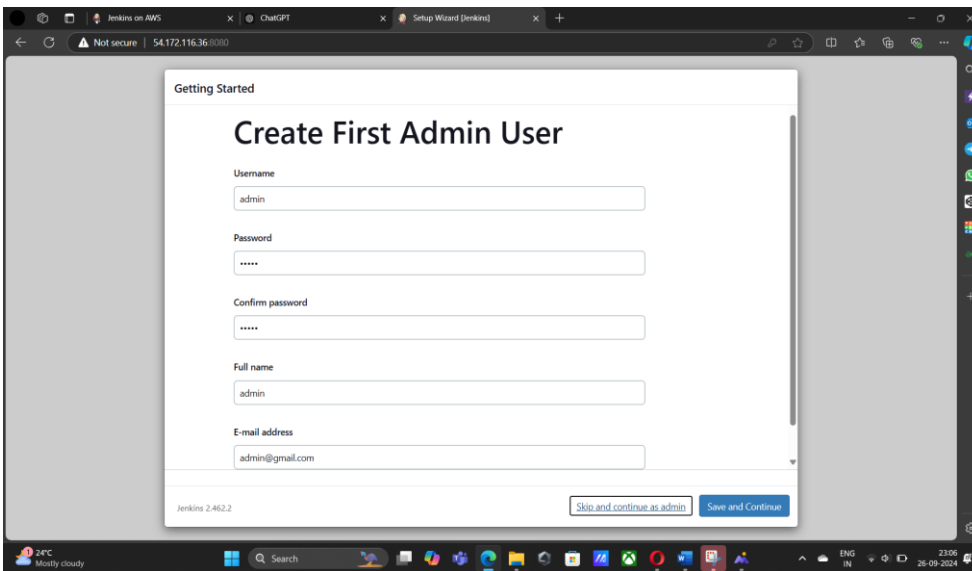
Note : administrator password to see that use the command :

`sudo cat /var/lib/jenkins/secrets/initialAdminPassword`

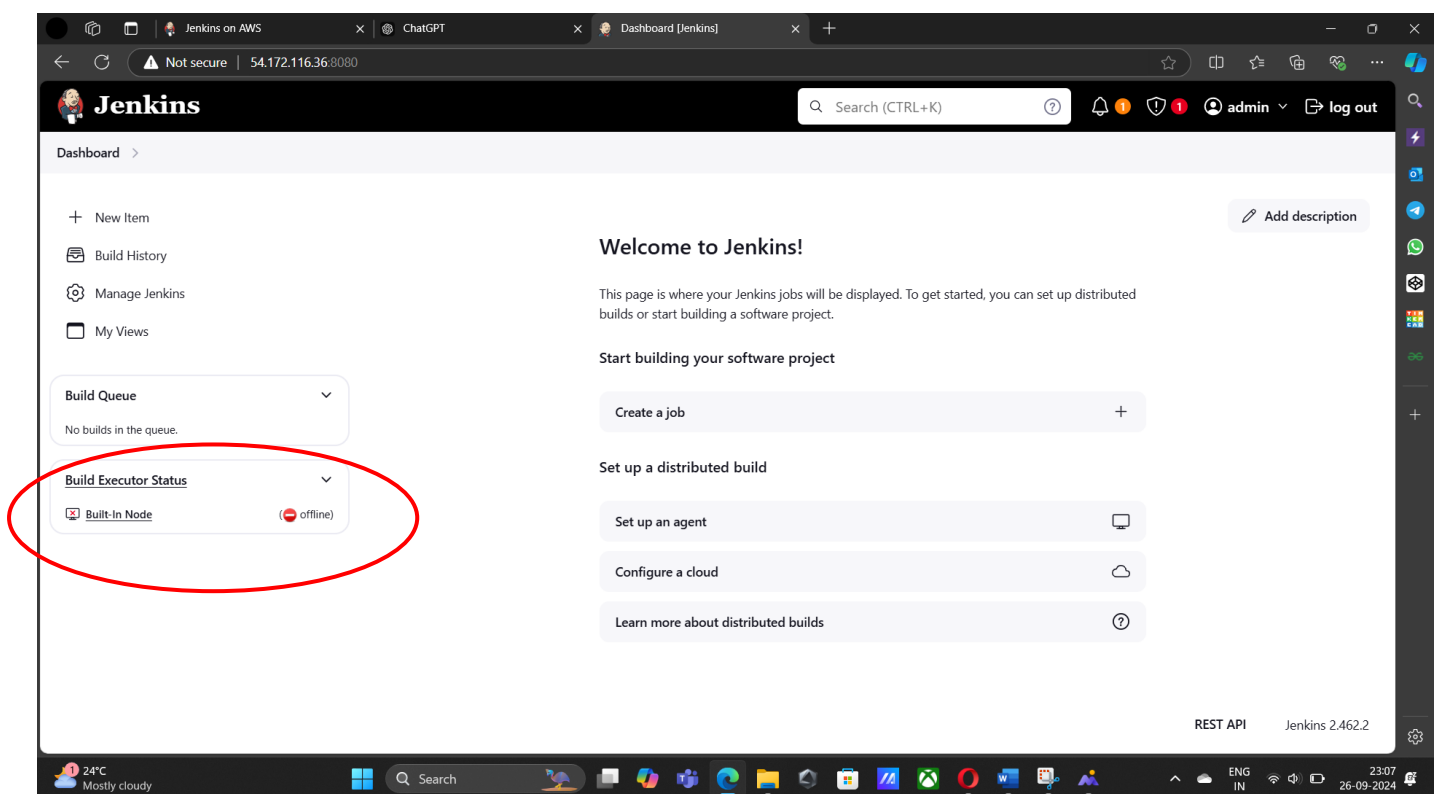


Copy that and paste it





Done with setting Jenkins server



As you can see that Built in node : this is because of less space or storage in your temp directory

So to resolve this issue follow below commands : switch to root user.

Stop the Jenkins server

Systemctl stop Jenkins

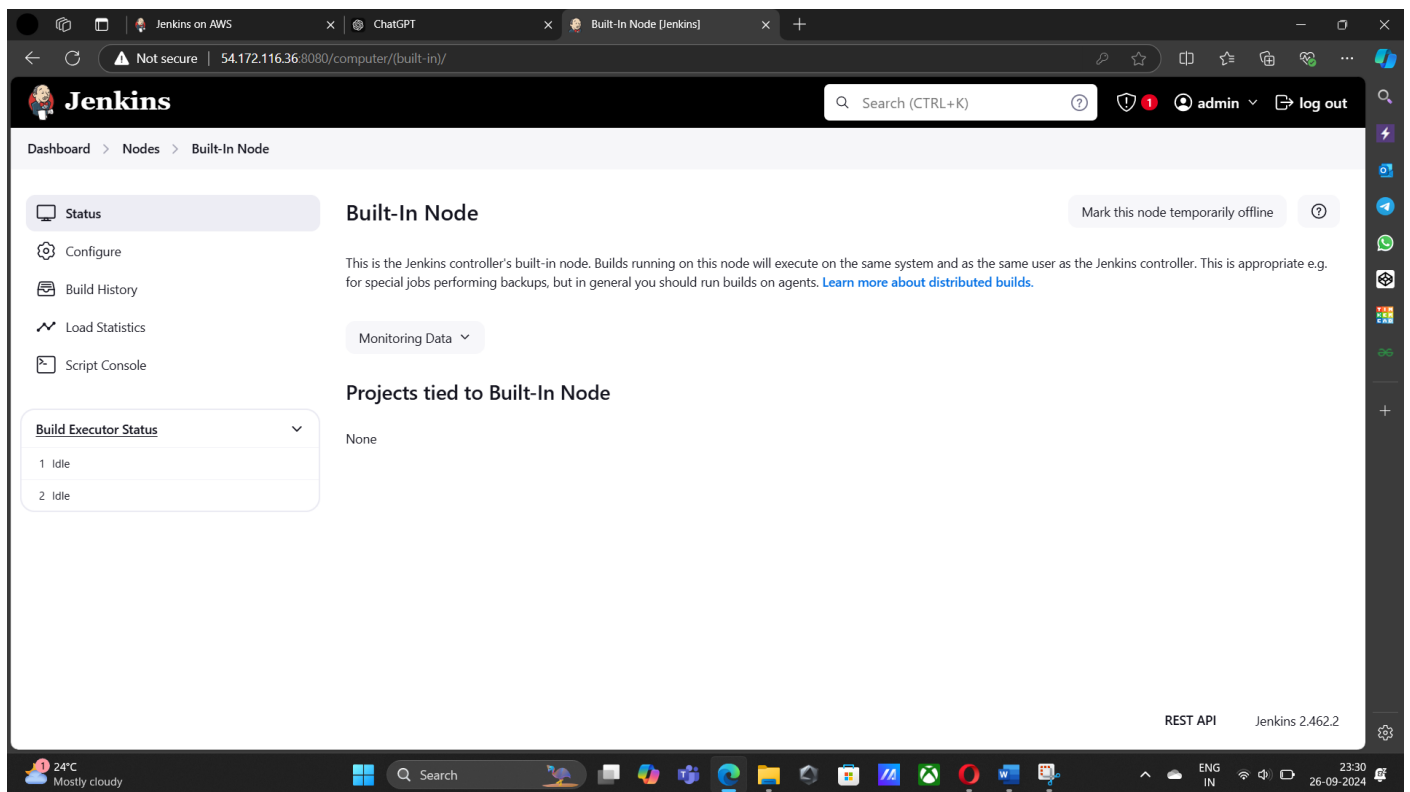
umount /tmp

nano /etc/fstab ADD tmpfs /tmp tmpfs defaults,size=2G 0 0

mount /tmp

then start Jenkins systemctl start Jenkins

Now check the Jenkins



The screenshot shows the Jenkins web interface in a browser. The address bar indicates the URL is `54.172.116.36:8080/computer/(built-in)/`. The page title is "Jenkins". The breadcrumb navigation shows "Dashboard > Nodes > Built-In Node".

On the left sidebar, the "Status" tab is selected. Below it are links for "Configure", "Build History", "Load Statistics", and "Script Console". A "Build Executor Status" section shows two executors, both in an "idle" state.

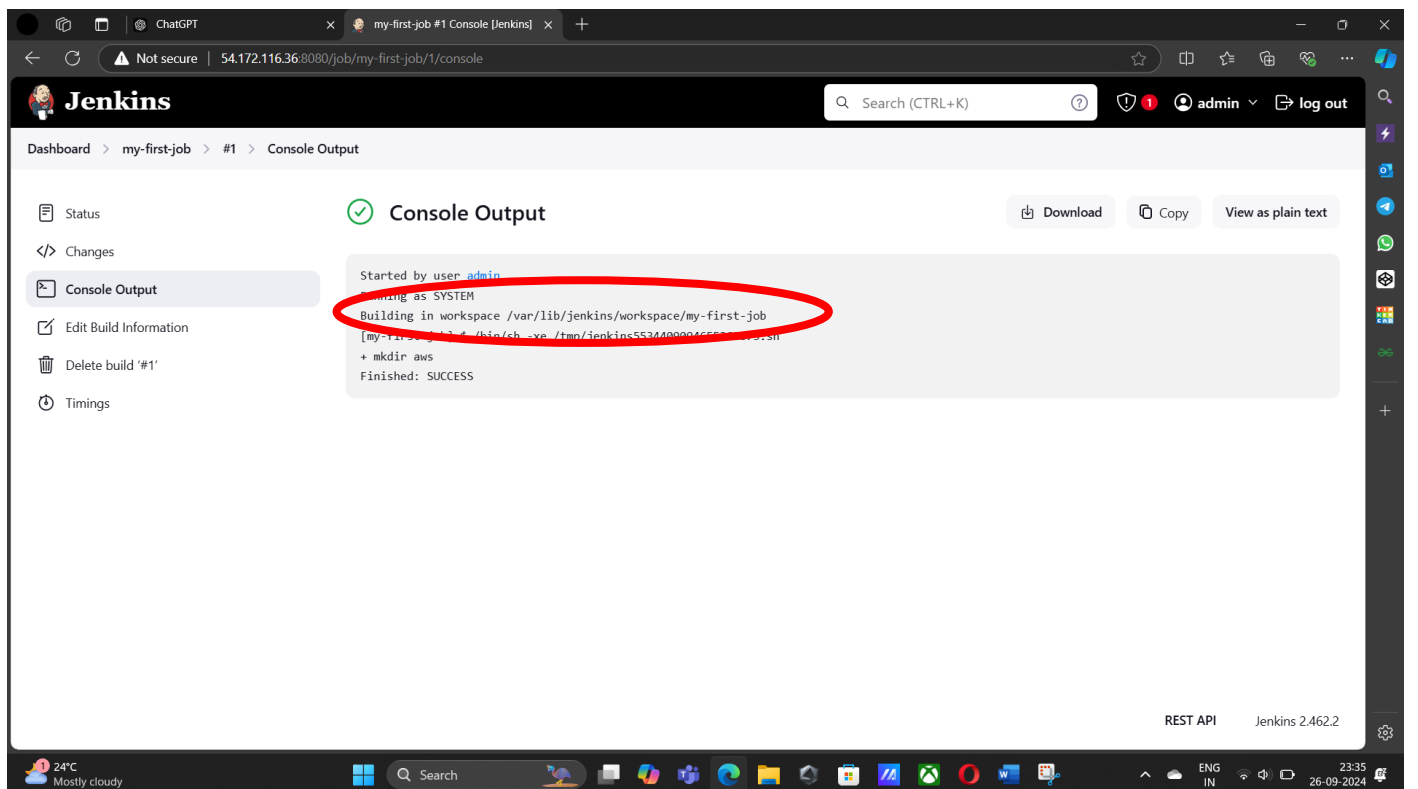
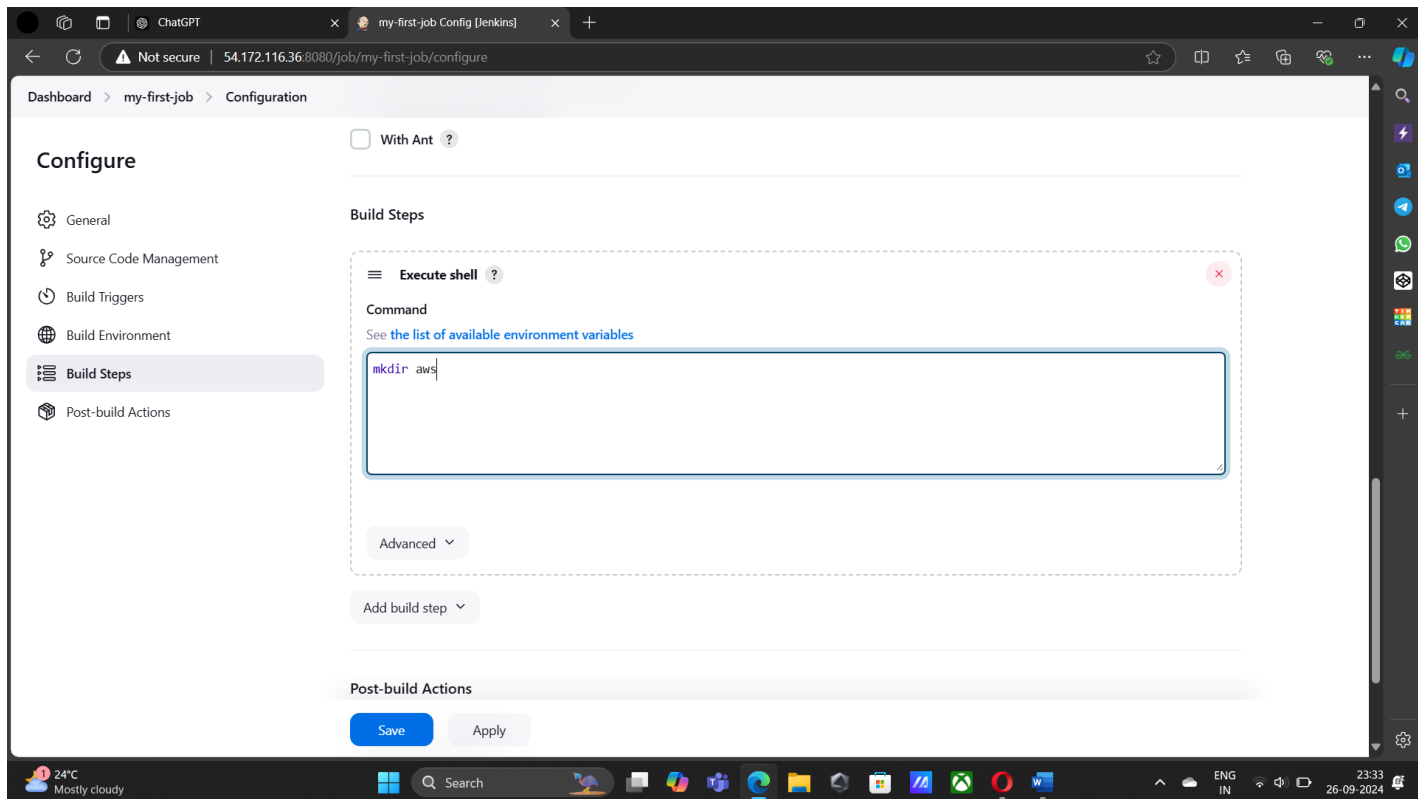
The main content area is titled "Built-In Node". It includes a "Mark this node temporarily offline" button and a help icon. A descriptive paragraph states: "This is the Jenkins controller's built-in node. Builds running on this node will execute on the same system and as the same user as the Jenkins controller. This is appropriate e.g. for special jobs performing backups, but in general you should run builds on agents. [Learn more about distributed builds.](#)".

Below this is a "Monitoring Data" dropdown menu. The "Projects tied to Built-In Node" section shows "None".

At the bottom right of the page, it says "REST API" and "Jenkins 2.462.2". The Windows taskbar at the bottom shows the system clock as 23:30 on 26-09-2024.

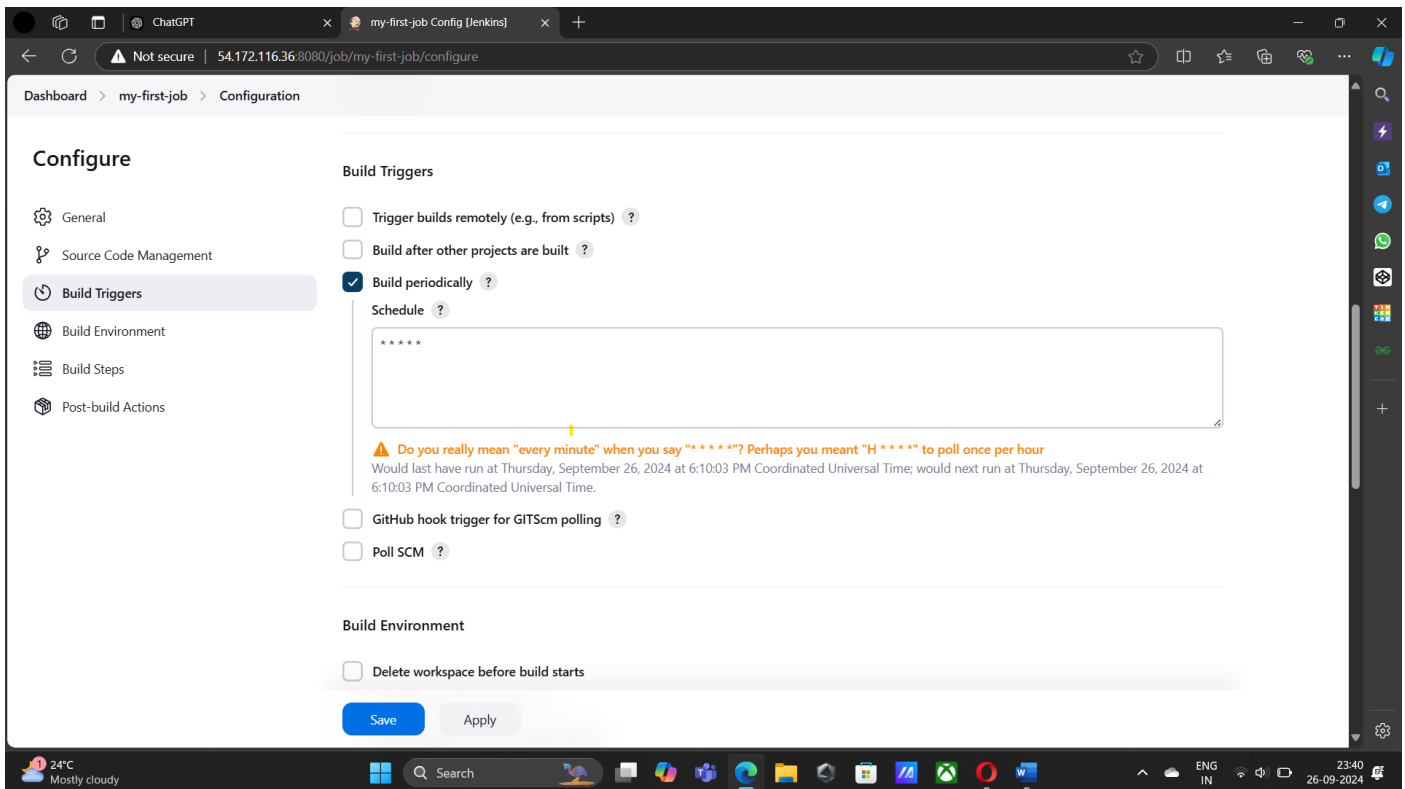
Now we can build Jobs in Jenkins

➔ Using pipeline job

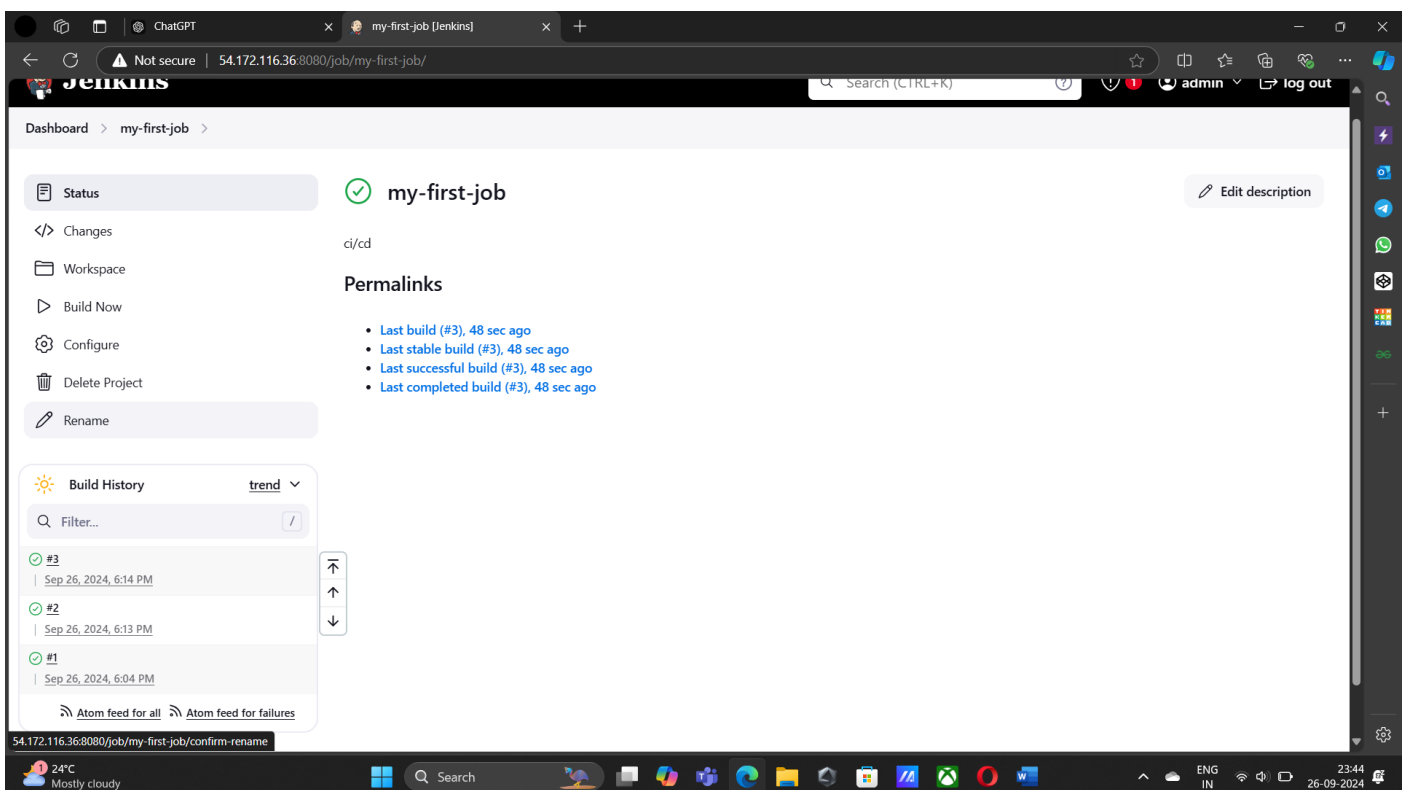


Location of the directory

Now using Build Periodically



For every min it going to execute the command .



➔ Using poll SCM .

We can trigger Jenkins to do particular task . to build a maven project make sure to attach maven in tools .

When ever the new updates are given to git hub it will build the target file .