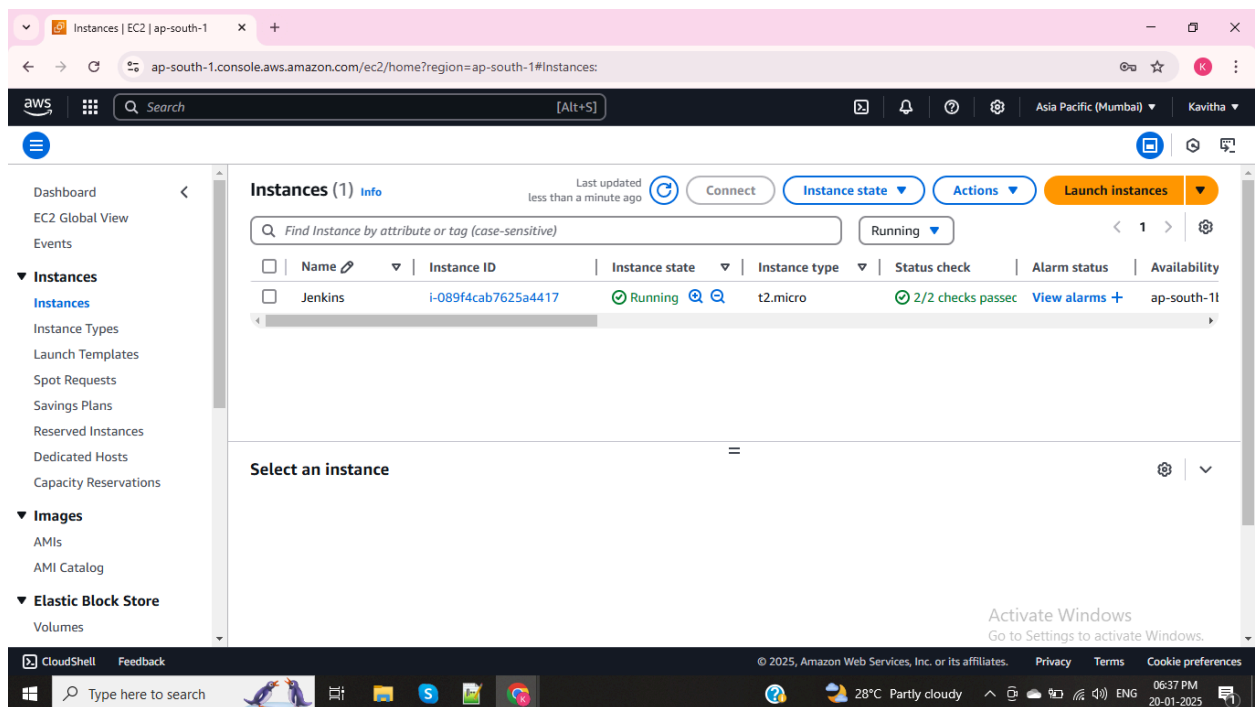


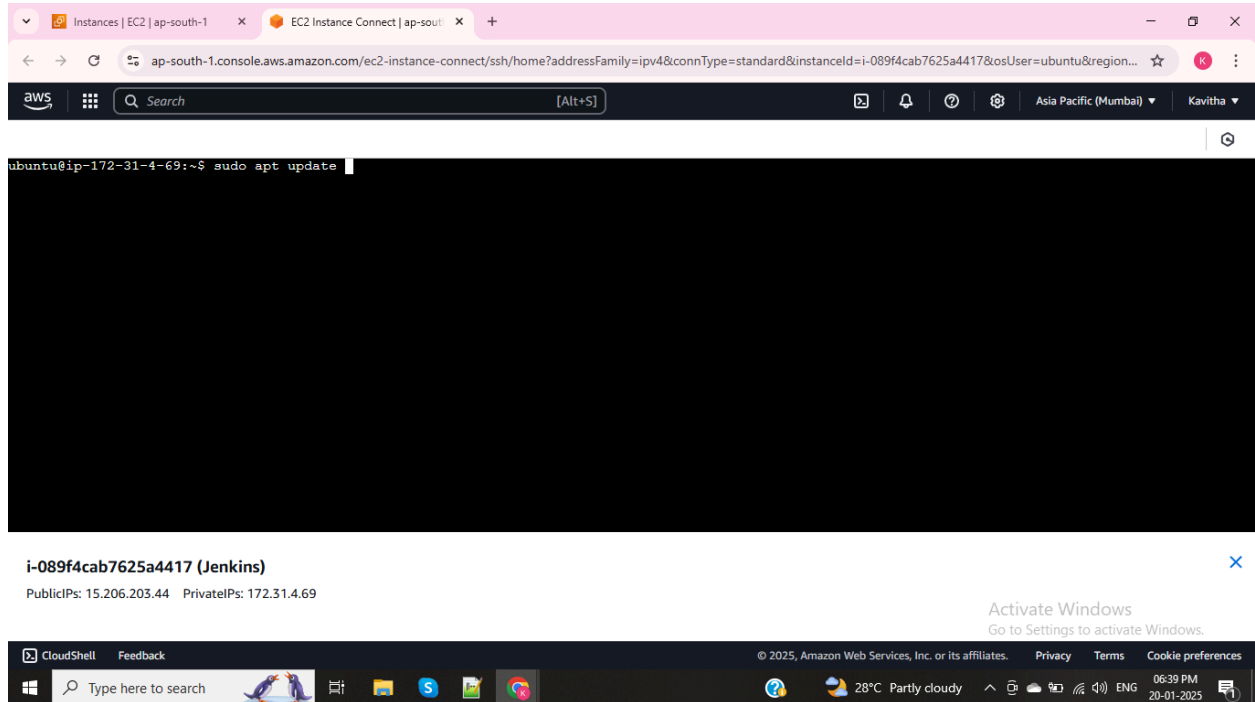
# Deploy Jenkins Application on an EC2 Instance

## Step 1: Launch an EC2 Instance

1. Log in to the AWS Management Console.
2. Navigate to EC2 → Instances → Launch Instances.
3. Configure the instance:
  - **AMI:** Choose an Amazon Machine Image (AMI) with a supported OS like Amazon Ubuntu
  - **Instance Type:** t2.micro
  - **Key Pair:** Choose an existing key pair or create a new one for SSH access.
  - Click **Launch**.



## Step 2: Connect to the EC2 Instance --> Update the packages: `sudo apt update -y`



The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, a search bar, and navigation icons. The main content area displays the EC2 Instance Connect session for instance `i-089f4cab7625a4417` (Jenkins). The terminal window shows the command `sudo apt update` being executed. The bottom status bar includes the CloudShell logo, a search bar, and system information.

**i-089f4cab7625a4417 (Jenkins)**  
PublicIPs: 15.206.203.44 PrivateIPs: 172.31.4.69

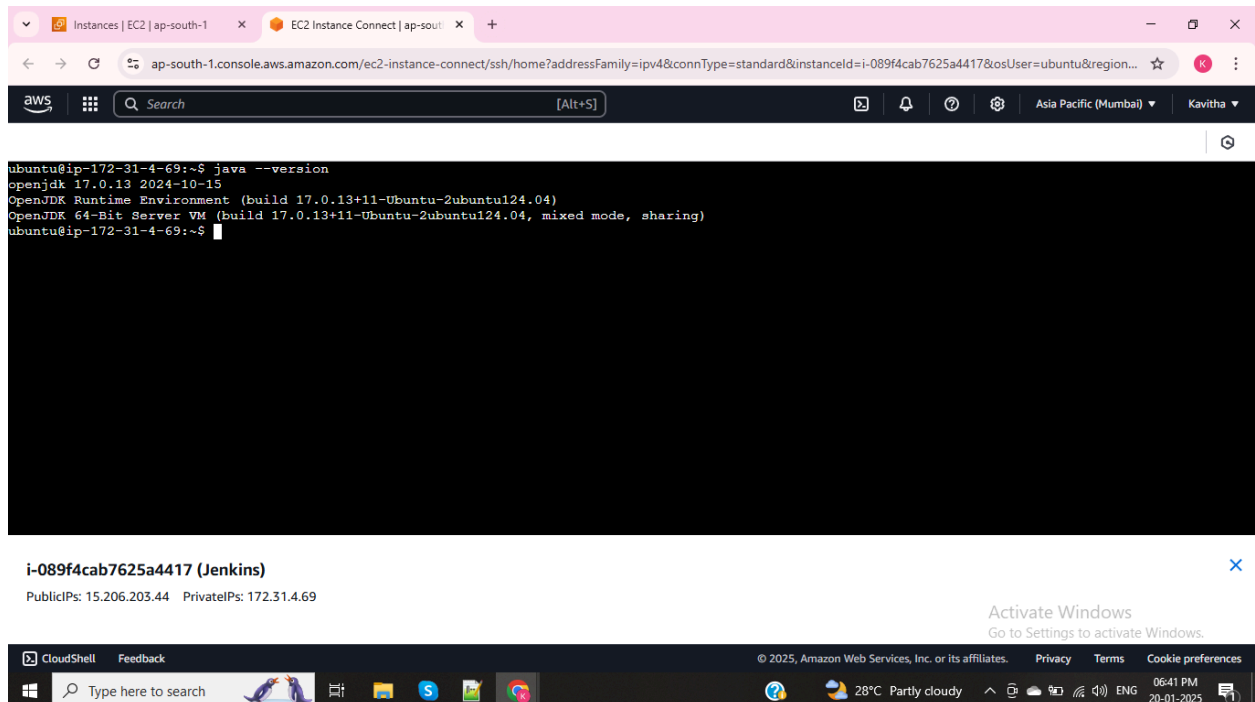
Activate Windows  
Go to Settings to activate Windows.

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Type here to search 28°C Partly cloudy 06:39 PM 20-01-2025

## Step 3: Install Java: `sudo apt install openjdk-17-jdk`

Java is a prerequisite for installing and running Jenkins because Jenkins is written in Java and operates as a Java application.



The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, a search bar, and navigation icons. The main content area displays the EC2 Instance Connect session for instance `i-089f4cab7625a4417` (Jenkins). The terminal window shows the command `java --version` being executed, displaying the OpenJDK 17.0.13 version. The bottom status bar includes the CloudShell logo, a search bar, and system information.

**i-089f4cab7625a4417 (Jenkins)**  
PublicIPs: 15.206.203.44 PrivateIPs: 172.31.4.69

Activate Windows  
Go to Settings to activate Windows.

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Type here to search 28°C Partly cloudy 06:41 PM 20-01-2025

**Step 4: Install Jenkins --> enable and start jenkins with the help of --> `sudo systemctl enable jenkins & sudo systemctl start jenkins` and For checking jenkins installed --> `jenkins --version`**

The screenshot shows the AWS CloudShell interface. The terminal output is as follows:

```
ubuntu@ip-172-31-4-69:~$ jenkins --version
2.479.3
ubuntu@ip-172-31-4-69:~$
```

Below the terminal, the instance details for **i-089f4cab7625a4417 (Jenkins)** are shown, including PublicIPs: 15.206.203.44 and PrivateIPs: 172.31.4.69. An "Activate Windows" watermark is visible in the bottom right corner.

**For checking the status: `sudo systemctl status jenkins`**

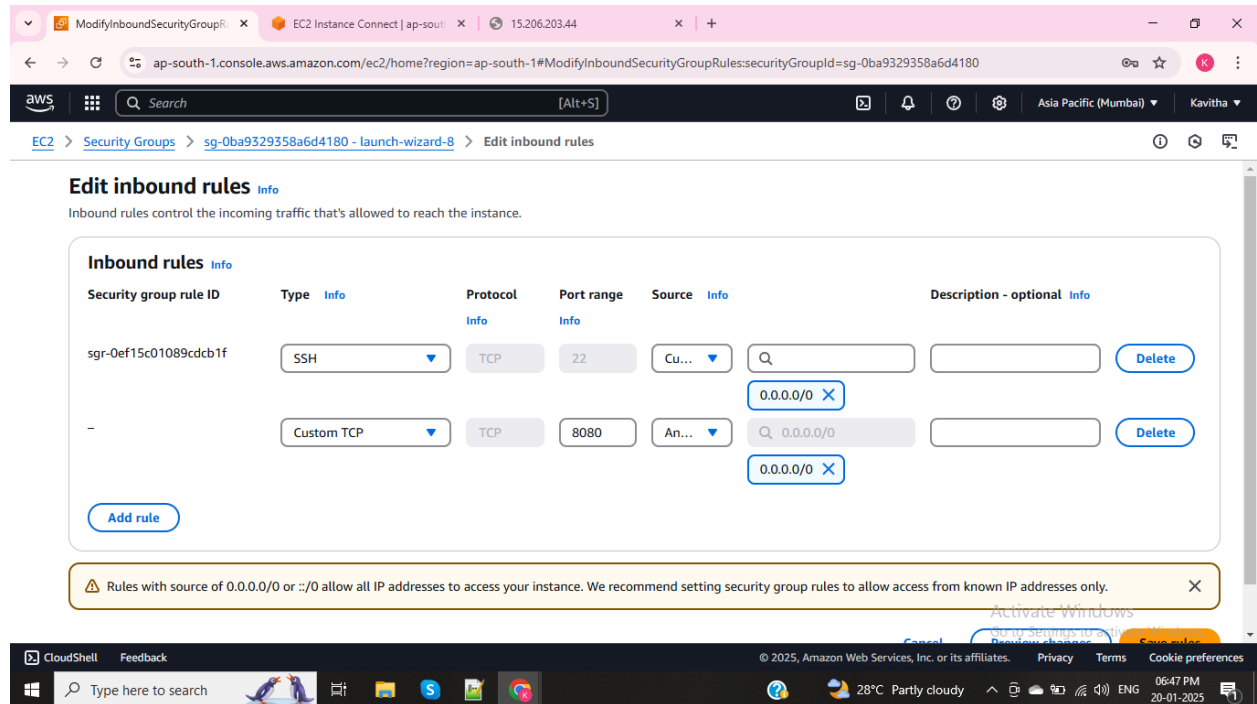
The screenshot shows the AWS CloudShell interface. The terminal output is as follows:

```
ubuntu@ip-172-31-4-69:~$ jenkins --version
2.479.3
ubuntu@ip-172-31-4-69:~$ sudo systemctl status jenkins
jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: enabled)
   Active: active (running) since Mon 2025-01-20 13:12:43 UTC; 4min 2s ago
     Main PID: 4482 (java)
       Tasks: 38 (limit: 1130)
      Memory: 286.5M (peak: 330.4M)
         CPU: 15.671s
    CGroup: /system.slice/jenkins.service
            └─4482 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Jan 20 13:12:35 ip-172-31-4-69 jenkins[4482]: 95fe78fb93c34934addaf21133fe28b2
Jan 20 13:12:35 ip-172-31-4-69 jenkins[4482]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
Jan 20 13:12:35 ip-172-31-4-69 jenkins[4482]: .....
Jan 20 13:12:35 ip-172-31-4-69 jenkins[4482]: .....
Jan 20 13:12:43 ip-172-31-4-69 jenkins[4482]: 2025-01-20 13:12:43.124+0000 [id=30] INFO jenkins.InitReactorRunner$1$onAttained: Completing initialization
Jan 20 13:12:43 ip-172-31-4-69 jenkins[4482]: 2025-01-20 13:12:43.148+0000 [id=23] INFO hudson.lifecycle.Lifecycle$onReady: Jenkins is ready
Jan 20 13:12:44 ip-172-31-4-69 jenkins[4482]: 2025-01-20 13:12:44.761+0000 [id=46] INFO h.m.DownloadService$Downloadable#load: Obtaining data for https://d3f595sc88q828.cloudfront.net/releases/lifecycle-releases/jenkins-lifecycle.jar
Jan 20 13:12:44 ip-172-31-4-69 jenkins[4482]: 2025-01-20 13:12:44.763+0000 [id=46] INFO hudson.util.Retrier#start: Performed the action 1 times
lines 1-20/20 (END)
```

Below the terminal, the instance details for **i-089f4cab7625a4417 (Jenkins)** are shown, including PublicIPs: 15.206.203.44 and PrivateIPs: 172.31.4.69. An "Activate Windows" watermark is visible in the bottom right corner.

Before deploy an application in web server, Have to enable and open the port **8080** for display the jenkins application in web server.

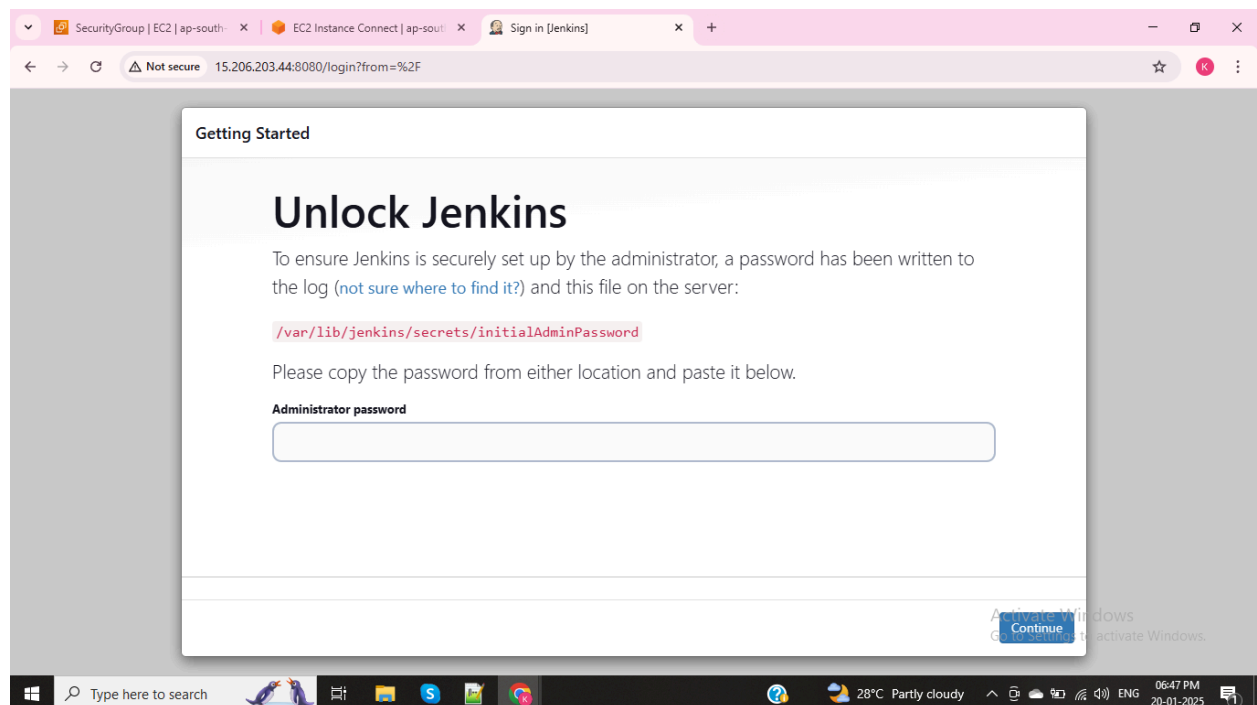


The screenshot shows the AWS Management Console interface for editing inbound rules on a Security Group. The page title is "Edit inbound rules" with a sub-header "Inbound rules control the incoming traffic that's allowed to reach the instance." Below this, there is a table of inbound rules. The first rule is for SSH on port 22, and the second rule is for Custom TCP on port 8080. Both rules have a source of 0.0.0.0/0. A warning message at the bottom states: "Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only."

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	Actions
sgr-0ef15c01089cdbc1f	SSH	TCP	22	Cu...		Delete
-	Custom TCP	TCP	8080	An...		Delete

Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

**Now,** To check the application is running in web server use public IP address of EC2 instance with port 8080 and **OUTPUT**



The screenshot shows the Jenkins "Getting Started" page. The page title is "Unlock Jenkins". It states: "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/lib/jenkins/secrets/initialAdminPassword". It asks the user to copy the password from either location and paste it below. There is a text input field for the "Administrator password".

Getting Started

## Unlock Jenkins

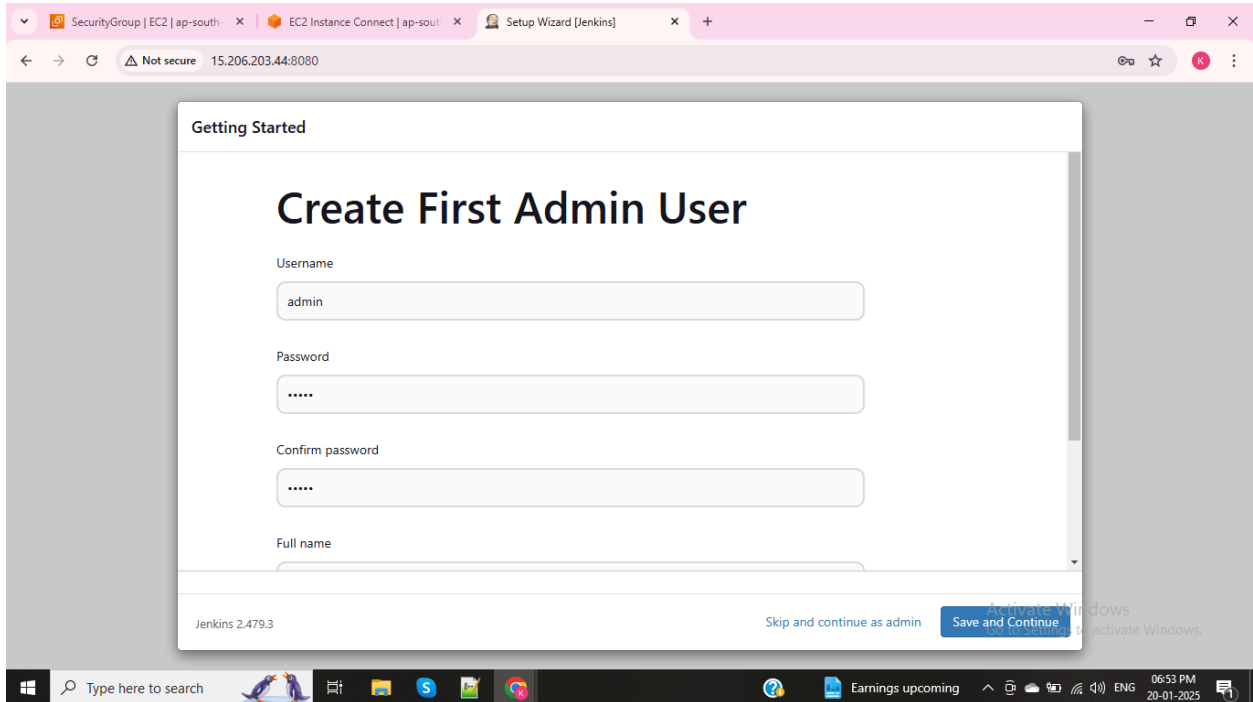
To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

`/var/lib/jenkins/secrets/initialAdminPassword`

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

Administrator password

## After Jenkins installed creating user to access jenkins



The screenshot shows a web browser window with the Jenkins Setup Wizard. The page is titled "Getting Started" and "Create First Admin User". It contains four input fields: "Username" (with "admin" entered), "Password" (with "\*\*\*\*\*" entered), "Confirm password" (with "\*\*\*\*\*" entered), and "Full name" (empty). At the bottom, there is a "Skip and continue as admin" link and a "Save and Continue" button. The Jenkins version "Jenkins 2.479.3" is displayed in the bottom left corner. The browser's address bar shows "15.206.203.44:8080".

Getting Started

### Create First Admin User

Username  
admin

Password  
\*\*\*\*\*

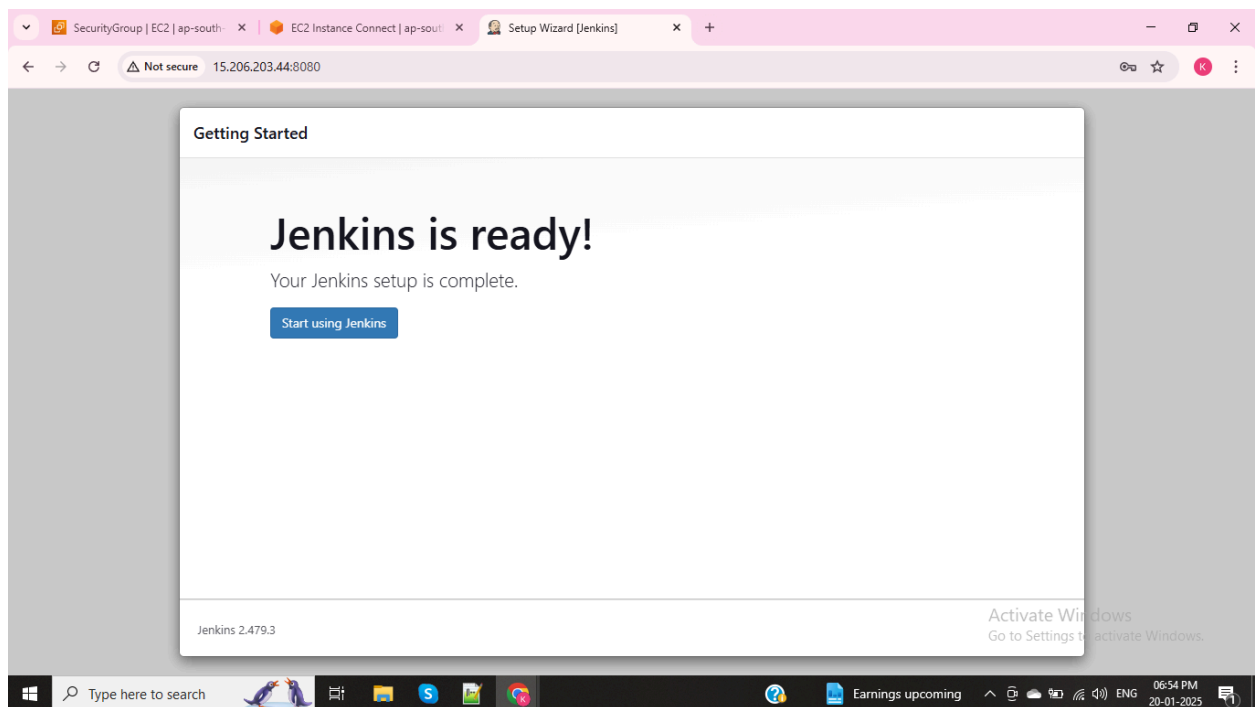
Confirm password  
\*\*\*\*\*

Full name

Jenkins 2.479.3

[Skip and continue as admin](#) [Save and Continue](#)

## Jenkins is ready!



# Dashboard of the Jenkins application

The screenshot shows the Jenkins web interface in a browser. The browser's address bar displays the URL `15.206.203.44:8080/user/admin/`. The Jenkins header includes the logo, a search bar, and user information for 'Kavitha' with a 'log out' link. Below the header, the breadcrumb 'Dashboard > Kavitha' is visible. The main content area is divided into a left sidebar with navigation links (Status, Builds, My Views, Account, Appearance, Preferences, Security, Experiments, Credentials) and a central profile section for 'Kavitha' showing the 'Jenkins User ID: admin' and an 'Add description' button. A Windows activation watermark is present in the bottom right of the browser window. The Windows taskbar at the bottom shows the search bar, taskbar icons, and system tray with the time '06:54 PM' and date '20-01-2025'.

SecurityGroup | EC2 | ap-south | x | EC2 Instance Connect | ap-south | x | Kavitha [Jenkins] x +

← → ↻ ⚠ Not secure 15.206.203.44:8080/user/admin/ ☆ (K) ⋮

**Jenkins** 🔍 Search (CTRL+K) 🛡 1 👤 Kavitha ↗ log out

Dashboard > Kavitha

👤 **Status** 👤 **Kavitha** ✎ Add description

📁 Builds Jenkins User ID: admin

📄 My Views

⚙ Account

✎ Appearance

☰ Preferences

🔒 Security

🧪 Experiments

📁 Credentials

Activate Windows  
Go to Settings to activate Windows.  
REST API Jenkins 2.479.3

Windows Type here to search [Taskbar Icons] [System Tray] 06:54 PM 20-01-2025