

Jenkins Task

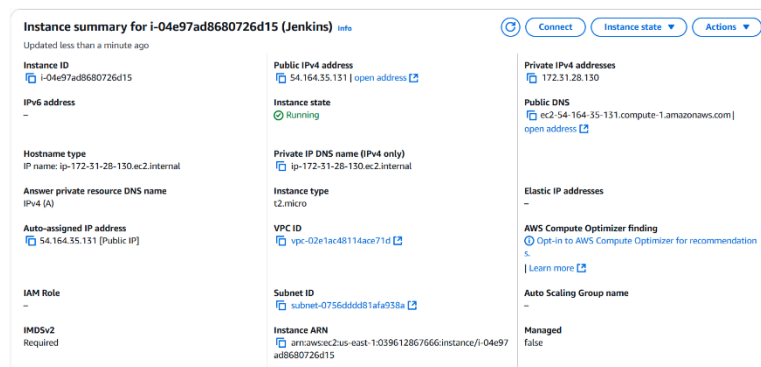
TASKS

Work Flow:

- Create an EC2 instance with the help of AWS Management Console with linux OS of required configuration and ensure that where the instance type should be “t2.medium” and also configure an security group and edit an inbound traffic to “all traffic”.
- Now, Connect an EC2 instance with an help of Windows Terminal or Gitbash or Vbox.
- To connect an EC2 instance the command is:
 - `ssh -i “key_file” ec2-user@“Public_IP_address”`

Key_file --- Key file of the instance with the extension .pem

Public_IP_address --- Public IP address of the instance.



1. Launch jenkins and explore creating projects and users.

Step 1: Install Java and Jenkins in EC2-instance

Install An Java Package :

- ✓ Before installing an Jenkins, we have to install an java package because where Jenkins are developed using java programming language, so we need an java package to run an jenkins. In this case java package installation is mandatory.
- ✓ To list the java package from an repository, The command is:
 - `yum list | grep java`
- ✓ Once you got an right package, now to install that java package, the command is:
 - `sudo yum install java-21-amazon-corretto.x86_64`

```
[ec2-user@ip-172-31-28-130 ~]$ sudo yum install java-21-amazon-corretto.x86_64
amazon Linux 2023 Kernel Livepatch repository
Dependencies resolved.
```

			119 kB/s 16 kB	00:00
Package	Architecture	Version	Repository	Size
Installing:				
java-21-amazon-corretto	x86_64	1:21.0.7+1.amzn2023.1	amazonlinux	214 k
Installing dependencies:				
alsa-lib	x86_64	1:2.7.2-1.amzn2023.0.2	amazonlinux	584 k
cairo	x86_64	1.18.0-4.amzn2023.0.1	amazonlinux	718 k
dejavu-sans-fonts	noarch	2.37-16.amzn2023.0.2	amazonlinux	1.3 M
dejavu-sans-mono-fonts	noarch	2.37-16.amzn2023.0.2	amazonlinux	467 k
dejavu-serif-fonts	noarch	2.37-16.amzn2023.0.2	amazonlinux	1.0 M
fontconfig	x86_64	2.13.94-2.amzn2023.0.2	amazonlinux	272 k
fontconfig-devel	noarch	1:2.0.5-12.amzn2023.0.2	amazonlinux	9.5 k
fontconfig-filesystem	x86_64	2.13.2-5.amzn2023.0.1	amazonlinux	423 k
fonttype	x86_64	5.2.1-9.amzn2023.0.1	amazonlinux	49 k
glib	x86_64	2.0201266-2.amzn2023.0.2	amazonlinux	15 k
google-noto-fonts-common	noarch	20201286-7.amzn2023.0.2	amazonlinux	492 k
graphite2	x86_64	1.3.14-7.amzn2023.0.2	amazonlinux	97 k
harfbuzz	x86_64	7.0.0-2.amzn2023.0.2	amazonlinux	873 k
java-21-amazon-corretto-headless	x86_64	1:21.0.7+1.amzn2023.1	amazonlinux	96 k
javapackages-filesystem	noarch	6.0.0-7.amzn2023.0.6	amazonlinux	12 k
javapackages-core-font-en	noarch	3.0-21.amzn2023.0.4	amazonlinux	18 k
libICE	x86_64	1.1.1-3.amzn2023.0.1	amazonlinux	76 k
libSM	x86_64	1.2.4-3.amzn2023.0.1	amazonlinux	45 k
libX11	x86_64	1.8.10-2.amzn2023.0.1	amazonlinux	659 k
libX11-common	noarch	1.0.10-2.amzn2023.0.1	amazonlinux	147 k
libXau	x86_64	1.0.11-6.amzn2023.0.1	amazonlinux	33 k
libXext	x86_64	1.3.6-1.amzn2023.0.1	amazonlinux	42 k
libXi	x86_64	1.0.2-1.amzn2023.0.1	amazonlinux	42 k
libXinerama	x86_64	1.1.5-6.amzn2023.0.1	amazonlinux	16 k
libXrandr	x86_64	1.5.4-3.amzn2023.0.1	amazonlinux	29 k
libXrender	x86_64	0.9.11-6.amzn2023.0.1	amazonlinux	29 k
libxt	x86_64	1.3.0-3.amzn2023.0.1	amazonlinux	183 k
libxtst	x86_64	1.2.5-1.amzn2023.0.1	amazonlinux	22 k
libxv	x86_64	1.0.0-4.amzn2023.0.2	amazonlinux	315 k
libxv-turbo	x86_64	2.1.0-2.amzn2023.0.5	amazonlinux	190 k
libpng	x86_64	2:1.6.37-10.amzn2023.0.6	amazonlinux	128 k
libsch	x86_64	1.17.0-1.amzn2023.0.1	amazonlinux	235 k

Install An Jenkins :

- ✓ To install an Jenkins in linux machine go to an official website by using below link.
- ✓ Link : <https://www.jenkins.io/doc/book/installing/linux/#red-hat-centos>
- ✓ Now you can see the instructions given in the official page to install an Jenkins, follow all the steps to install.
- ✓ And also where the command as given below to install an Jenkins from an official Page, run all the commands in your linux machine one by one.

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

```
[ec2-user@ip-172-31-28-130 ~]$ sudo wget -O /etc/yum.repos.d/jenkins.repo \
https://pkg.jenkins.io/redhat-stable/jenkins.repo
--2025-06-02 16:28:10-- https://pkg.jenkins.io/redhat-stable/jenkins.repo
Resolving pkg.jenkins.io (pkg.jenkins.io)... 146.75.34.133, 2a04:4e42:78::645
Connecting to pkg.jenkins.io (pkg.jenkins.io)[146.75.34.133]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 85
Saving to: '/etc/yum.repos.d/jenkins.repo'

/etc/yum.repos.d/jenkins.repo 100%[=====] 85 --.-KB/s in 0s
2025-06-02 16:28:10 (2.52 MB/s) - '/etc/yum.repos.d/jenkins.repo' saved [85/85]
```

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

```
[ec2-user@ip-172-31-28-130 ~]$ sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key
[ec2-user@ip-172-31-28-130 ~]$ sudo yum upgrade
jenkins-stable
Dependencies resolved.
Nothing to do.
Complete!
```

- `sudo yum install fontconfig`

```
[ec2-user@ip-172-31-28-130 ~]$ sudo yum install fontconfig
Last metadata expiration check: 0:00:35 ago on Mon Jun 2 16:28:46 2025.
Package fontconfig-2.13.94-2.amzn2023.0.2.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
```

- `sudo yum install Jenkins`

```
[ec2-user@ip-172-31-28-130 ~]$ sudo yum install jenkins
Last metadata expiration check: 0:00:52 ago on Mon Jun 2 16:28:46 2025.
Dependencies resolved.
=====
Package Architecture Version Repository Size
=====
Installing:
jenkins noarch 2.504.2-1.1 jenkins 90 M
=====
Transaction Summary
=====
Install 1 Package
```

- `sudo systemctl daemon-reload`
- ✓ To start and enable an Jenkins service, The command is:
- `sudo systemctl start jenkins`
 - `sudo systemctl enable jenkins`
- ✓ To check the status of the Jenkins service, The command is:
- `sudo systemctl status Jenkins`

```
[ec2-user@ip-172-31-28-130 ~]$ sudo systemctl enable jenkins
Created symlink /etc/systemd/system/multi-user.target.wants/jenkins.service → /usr/lib/systemd/system/jenkins.service.
[ec2-user@ip-172-31-28-130 ~]$ sudo systemctl start jenkins
[ec2-user@ip-172-31-28-130 ~]$ 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 Mon 2025-06-02 16:30:53 UTC; 8s ago
     Main PID: 26499 (java)
       Tasks: 45 (limit: 1111)
      Memory: 389.1M
         CPU: 15.887s
    CGroup: /system.slice/jenkins.service
            └─26499 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080
```

Step 2: Access Jenkins through an web browser.

- ✓ To accessing an Jenkins through an web browser copy / paste the public IP along with the localhost(:8080), The format is given below:
- <http://54.226.235.178:8080>

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

- ✓ To get an initial admin password run an below command it will give you an password for an initial login, The command is:
- `sudo cat /var/lib/jenkins/secrets/initialAdminPassword`

```
[ec2-user@ip-172-31-28-130 ~]$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
546b30aa1de04c7ab7d27763e4578152
[ec2-user@ip-172-31-28-130 ~]$
```

- ✓ Now copy and paste the password into the Jenkins UI to unlock.
- ✓ Now it will ask you to select an customize plugins, you can choose “Install suggested plugins”.

Customize Jenkins

Plugins extend Jenkins with additional features to support many different needs.

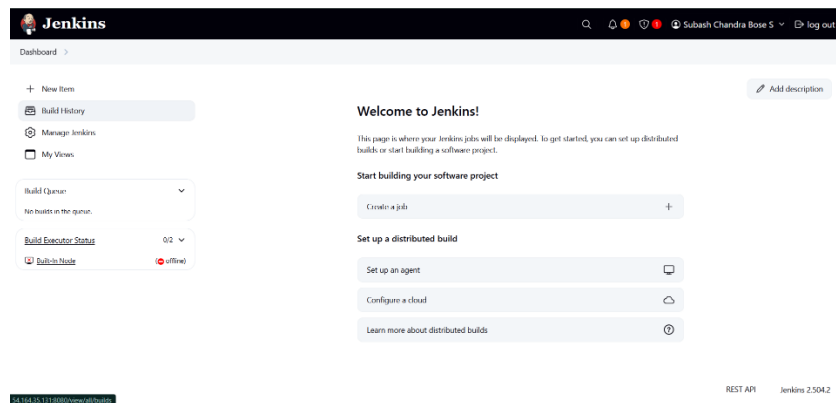
Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

- ✓ And then it will move you to create an your first admin user account, Once created it will move you to the Jenkins dashboard.



Step 3: Create a New Project.

- ✓ To create an new project in Jenkins dashboard, where there is an option called “New Item” click it.
- ✓ Now you where get into to create an new job for your project, their you should select an project category.
- ✓ For an simple project I will go with an “Freestyle Project” and click OK

New Item

Enter an item name

Jenkins-demo

Select an item type



Freestyle project

Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.



Pipeline

Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.



Multi-configuration project

Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.



Folder

Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different

OK

- ✓ Now Configure your project (add description, source code, build steps, etc.).
- ✓ Click save, now where new project job was created

Configure Enabled

General

Description

This is an demo Jenkins's job build

Plain text [Preview](#)

☐ Discard old builds [?](#)

☐ GitHub project

☐ This project is parameterized [?](#)

☐ Throttle builds [?](#)

☐ Execute concurrent builds if necessary [?](#)

Advanced [v](#)

Save **Apply**

- ✓ Now Their will be an option called “build”, where it will build your project and if their no any error it will gives you an output as per your shell script, given an command as hostname.

- hostname

Build Steps

Automate your build process with ordered tasks like code compilation, testing, and deployment.

Add build step [^](#)

Filter

- Execute Windows batch command
- Execute shell
- Invoke Ant
- Invoke Gradle script
- Invoke top-level Maven targets
- Run with timeout
- Set build status to "pending" on GitHub commit

...sending notifications, archiving artifacts, or triggerir

Build Steps

Automate your build process with ordered tasks like code compilation, testing, and deployment.

Execute shell [?](#)

Command

[See the list of available environment variables](#)

hostname

Advanced [v](#)

- ✓ On the project page, click “**Build #1**” (or whichever build number you want to see)

Dashboard > Jenkins-demo >

Status

[Changes](#)

[Workspace](#)

[Build Now](#)

[Configure](#)

[Delete Project](#)

[Rename](#)

Jenkins-demo

This is an demo jenkins tasks

Permalinks

- Last build (#1), 1 min 3 sec ago
- Last stable build (#1), 1 min 3 sec ago
- Last successful build (#1), 1 min 3 sec ago
- Last completed build (#1), 1 min 3 sec ago

Builds *** [v](#)

Filter [/](#)

Today

#1 4:26 PM

- ✓ Click “**Console Output**” to see your shell script output.
- ✓ You’ll now see the full terminal output of the shell script Jenkins ran:

Status

</> Changes

Console Output

Edit Build Information

Delete build '#1'

Timings

Console Output

Started by user Subash Chandra Bose S

Started by user Subash Chandra Bose S

Running as SYSTEM

Building in workspace /var/lib/jenkins/workspace/jenkins-demo

[Jenkins-demo] \$ /bin/sh -xe /tmp/jenkins13807807322875178201.sh

+ hostname

ip-172-31-20-152.ec2.internal

Finished: SUCCESS

Step 4: Create New Users in Jenkins.

- ✓ Now we are going to create an user in Jenkins. In Jenkins dashboard, Go to **Manage Jenkins > Manage Users > Create User**.

Users 1

+ Create User

These users can log into Jenkins. This is a sub set of [this list](#), which also contains auto-created users who really just made some commits on some projects and have no direct Jenkins access.

User ID	Name
Bose2512	Subash Chandra Bose S

- ✓ Provide your details to create an user such as username, password, full name, and email.
- ✓ Click **Create User**, it will create an user in Jenkins.

Create User

Username

Subash2512

Password

Confirm password

Full name

Subash

E-mail address

boseawslern@gmail.com

Create User

Users 2

+ Create User

These users can log into Jenkins. This is a sub set of [this list](#), which also contains auto-created users who really just made some commits on some projects and have no direct Jenkins access.

User ID	Name
Bose2512	Subash Chandra Bose S
Subash2512	Subash

- ✓ Creating users in Jenkins is essential for managing **access control**, **collaboration**, and **security** within your CI/CD pipeline

***** **TASK COMPLETED** *****