

Exp-03 Jenkins Setup on AWS

Step-1

- Open aws account
- Select EC2 instance
- Click on launch instance
- Select ubuntu OS

▼ Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Q ubuntu X

Quick Start



Step-2

- Select ubuntu free tier as amazon in image

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type

Free tier eligible ▼

ami-023a307f3d27ea427 (64-bit (x86)) / ami-054ce975817cc2c02 (64-bit (Arm))

Virtualization: hvm ENA enabled: true Root device type: ebs

Step-3

- Select instance type t2.micro

▼ Instance type [Info](#) | [Get advice](#)

Instance type

t2.micro

Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true

On-Demand Linux base pricing: 0.0124 USD per Hour

On-Demand Windows base pricing: 0.017 USD per Hour

On-Demand RHEL base pricing: 0.0268 USD per Hour

On-Demand Ubuntu Pro base pricing: 0.0142 USD per Hour

On-Demand SUSE base pricing: 0.0124 USD per Hour

☐ All generations

[Compare instance types](#)

Additional costs apply for AMIs with pre-installed software

Step-4

Create key pair

▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

mahikp ▼

[Create new key pair](#)

Step-5

Network add the below rule

▼ Security group rule 2 (All, All, 0.0.0.0/0) Remove

Type Info	Protocol Info	Port range Info
All traffic	All	All
Source type Info	Source Info	Description - optional Info
Anywhere	<input type="text" value="0.0.0.0/0"/>	<input type="text" value="e.g. SSH for admin desktop"/>

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

Add security group rule

Goto the .pem file location from there open gitbash (before you need to download and install gitbash in your computer)

Goto aws click on the connect take the ssh id copy and paste in the gitbash

[EC2](#) > [Instances](#) > [i-03320d16872a6e9dd](#) > [Connect to instance](#)

Connect to instance Info

Connect to your instance i-03320d16872a6e9dd (dev) using any of these options

[EC2 Instance Connect](#) | [Session Manager](#) | [SSH client](#) | [EC2 serial console](#)

Instance ID

[i-03320d16872a6e9dd](#) (dev)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is mahi18.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.
[chmod 400 "mahi18.pem"](#)
4. Connect to your instance using its Public DNS:
[ec2-13-126-66-156.ap-south-1.compute.amazonaws.com](#)

✓ Command copied

[ssh -i "mahi18.pem" ubuntu@ec2-13-126-66-156.ap-south-1.compute.amazonaws.com](#)

```
Admin@DESKTOP-ASGG5M3 MINGW64 ~/Downloads
$ ssh -i "mahi18.pem" ubuntu@ec2-13-126-66-156.ap-south-1.compute.amazonaws.com
The authenticity of host 'ec2-13-126-66-156.ap-south-1.compute.amazonaws.com (13.126.66.156)' can't be established.
ED25519 key fingerprint is SHA256:UvyPb6zcAYpoJGBzL+spFknaVb2FEEqNfBaICOLB08M.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

Step-6

Now u need to install jenkins

First u need to update the apt repository

\$ sudo apt update

```
ubuntu@ip-172-31-14-226:~$ sudo apt update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
```

Step-7

Install java

sudo apt install openjdk-21-jdk -y

```
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-14-226:~$ java --version
openjdk 21.0.5 2024-10-15
OpenJDK Runtime Environment (build 21.0.5+11-Ubuntu-1ubuntu124.04)
OpenJDK 64-Bit Server VM (build 21.0.5+11-Ubuntu-1ubuntu124.04, mixed mode, sharing)
ubuntu@ip-172-31-14-226:~$
```

Step-8

U need to install git and maven and check it

sudo apt-get install -y git maven

git --version

mvn --version

```
Setting up libgjava-java (32.0.1-1) ...
Setting up liberror-prone-java (2.18.0-1) ...
Setting up libguice-java (4.2.3-2) ...
Setting up libmaven3-core-java (3.8.7-2) ...
Setting up maven (3.8.7-2) ...
update-alternatives: using /usr/share/maven/bin/mvn to provide /usr/bin/mvn (mvn) in auto mode
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-14-226:~$ git --version
git version 2.43.0
ubuntu@ip-172-31-14-226:~$ mvn --version
Apache Maven 3.8.7
Maven home: /usr/share/maven
Java version: 21.0.5, vendor: Ubuntu, runtime: /usr/lib/jvm/java-21-openjdk-amd64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "6.8.0-1021-aws", arch: "amd64", family: "unix"
ubuntu@ip-172-31-14-226:~$
```

Step-9

Open [jenkin.io](https://get.jenkins.io) ([Download and deploy](#)) in browsedr and select the generic java package(.war)

Copy and paste link address

\$wgetlinkaddress

```
ubuntu@ip-172-31-14-226:~$ wget https://get.jenkins.io/war-stable/2.479.3/jenkins.war
--2025-01-21 02:09:50-- https://get.jenkins.io/war-stable/2.479.3/jenkins.war
Resolving get.jenkins.io (get.jenkins.io)... 20.7.178.24, 2603:1030:408:5::15a
Connecting to get.jenkins.io (get.jenkins.io)[20.7.178.24]:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://2.mirrors.in.sahilister.net/jenkins/war-stable/2.479.3/jenkins.war [following]
--2025-01-21 02:09:51-- https://2.mirrors.in.sahilister.net/jenkins/war-stable/2.479.3/jenkins.war
Resolving 2.mirrors.in.sahilister.net (2.mirrors.in.sahilister.net)... 82.180.146.159, 2400:d321:2217:1599::1
Connecting to 2.mirrors.in.sahilister.net (2.mirrors.in.sahilister.net)[82.180.146.159]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 96806970 (92M) [application/java-archive]
Saving to: 'jenkins.war'

jenkins.war
100%[=====] 92.32M 8.67MB/s in 10s

2025-01-21 02:10:02 (9.08 MB/s) - 'jenkins.war' saved [96806970/96806970]

ubuntu@ip-172-31-14-226:~$
```

Start the jenkins services

\$ java -jar jenkins.war

```
2025-01-21 02:11:18.931+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: Started all plugins
2025-01-21 02:11:19.943+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: Augmented all extensions
2025-01-21 02:11:19.329+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: System config loaded
2025-01-21 02:11:19.330+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: System config adapted
2025-01-21 02:11:19.330+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2025-01-21 02:11:19.331+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: Configuration for all jobs updated
2025-01-21 02:11:19.380+0000 [id=45] INFO hudson.util.Retrier$1#start: Attempt #1 to do the action check updates server
2025-01-21 02:11:20.359+0000 [id=32] INFO jenkins.install.SetupWizard#init:

*****
*****
*****
*****

Jenkins initial setup is required. An admin user has been created and a password generated.
Please use the following password to proceed to installation:
$103d95754da497eac50d479875e20d9

This may also be found at: /home/ubuntu/.jenkins/secrets/initialAdminPassword

*****
*****
*****
*****

2025-01-21 02:11:27.629+0000 [id=31] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
2025-01-21 02:11:27.662+0000 [id=24] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running
2025-01-21 02:11:29.272+0000 [id=45] INFO hudson.DownloadServiceDownloadable#load: Obtained the updated data file for hudson.tasks.Maven.MavenInstaller
2025-01-21 02:11:29.274+0000 [id=45] INFO hudson.util.Retrier$1#start: Performed the action check updates server successfully at the attempt #1
```

Step-10

we access the jenkins take the public ip of dev server

The screenshot shows the AWS Management Console interface for a Jenkins instance. At the top, there's a summary bar for 'Instances (1/2)' with a search bar, filters, and a 'Launch instances' button. Below this is a table of instances. The first instance, 'dev', is in a 'Running' state with a 't2.micro' instance type and a 'Status check' of '2/2 checks passed'. The second instance is 'Terminated'. Below the table, the details for the 'dev' instance (i-03320d16872a6e9dd) are shown. The 'Instance summary' tab is active, displaying the instance ID, a public IPv4 address (13.126.66.156) with a 'Public IPv4 address copied' tooltip, and private IPv4 addresses (172.31.14.226). Other tabs like 'Status and alarms', 'Monitoring', 'Security', 'Networking', 'Storage', and 'Tags' are also visible.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
dev	i-03320d16872a6e9dd	Running	t2.micro	2/2 checks passed	View alarms +
	i-0134c6f69bd75cc39	Terminated	t2.micro	-	View alarms +

i-03320d16872a6e9dd (dev)

Instance summary

Instance ID: i-03320d16872a6e9dd

Public IPv4 address: 13.126.66.156 | open address

Private IPv4 addresses: 172.31.14.226

Copy and paste in the browser add :8080 as port number

⚠ Not secure | 13.126.66.156:8080/login?from=%2F

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:

`/home/ubuntu/.jenkins/secrets/initialAdminPassword`

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

Administrator password

Continue

Unlock the jenkins with password which is present in the gitbash

```
Jenkins initial setup is required. An admin user has been created and a password generated.
Please use the following password to proceed to installation:
```

```
5103d95754da97eac50d479875e20d9
```

```
This may also be found at: /home/ubuntu/.jenkins/secrets/initialAdminPassword
```

Select the install suggested pluggins

Getting Started

Customize Jenkins

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

Install suggested plugins

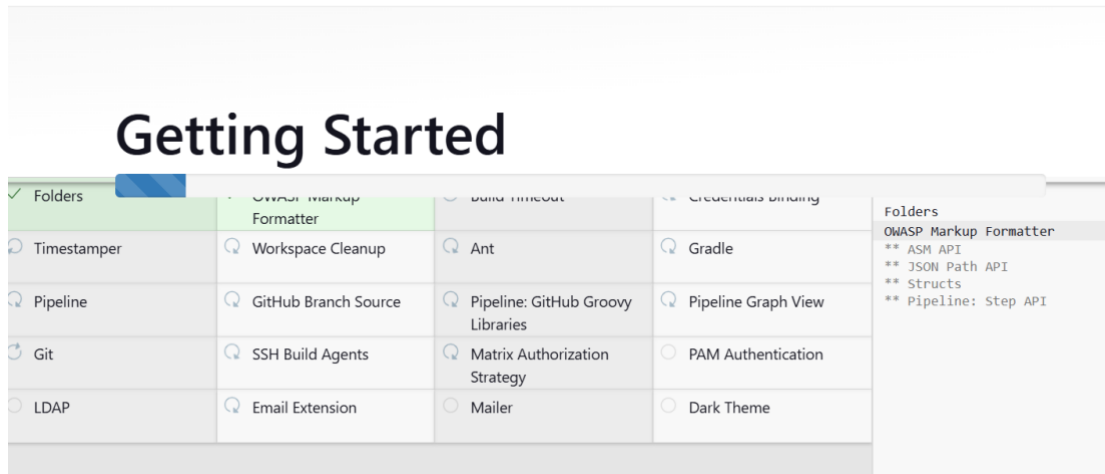
Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

Jenkins 2.479.3

Getting Started



You can give all admin

Click on save and continue

Click on save and finish

Password

.....

Confirm password

.....

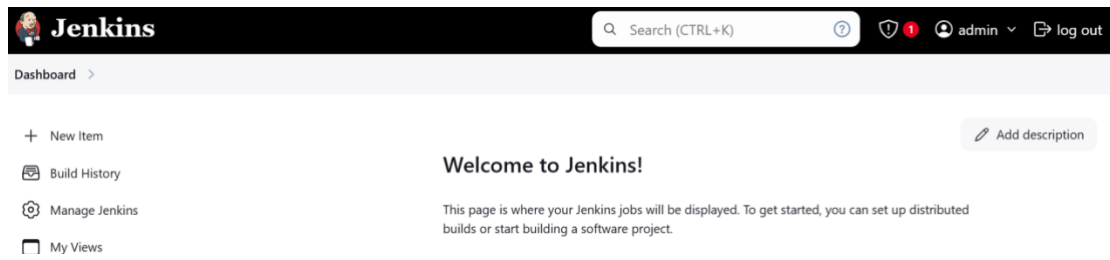
Full name

admin

E-mail address

admin@gmail.com

Your jenkins is ready



Note: don't close the jenkins server

Tools:

Trello, Jira, Azure Boards, or a custom dashboard in GitLab/GitHub.

By starting with this structure, you ensure clear communication, accountability, and efficiency in managing your DevOps tasks. Let me know if you need further elaboration or assistance with setting up tools!