

Jenkins is a self contained, open source automation server which can be used to automate all tasks related to building , testing and delivery activities.

Jenkins can be installed even on standalone be any machine with a java runtime envirowment (JRE) Installed.

Jenkins is a tool for Implmenting CI-CD (Continuous Integration - Continuous Delivery)

Stages in CI-CD

Stage 1 : Continuous Download  
Stage 2: Continuous Build  
Stage 3: Continuous Deployment  
Stage 4: Continuous Testing  
Stage 5: Continuous Delivery

1-4      -----      Continuous Integration  
5        ----        Continuous Delivery

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Create Instance in AWS

- 1) Create the AWS Account
- 2) Login with your aws account
- 3) Click on Services
- 4) Click on EC2
- 5) Click on Instance
- 6) Click on launch instance
- 7) Select Ubuntu Server 18 (Free For Eligble)
- 8) Select t2.micro (Free For Eligble)
- 9) Click on Next: Configure Instance Details
- 10) Enter 3 in Number of Instance
- 11) Click on Add storage

- 12) Click on Next : Add Tags
- 13) Click on Next : Configure Security Group
- 14) Click on Add Rule
- 15) Select Type as All Traffic
- 16) Select Source as Anywhere
- 17) Click on Review and launch
- 18) If you are doing first time then you need to select Create a new key pair
- 19) Enter any name in key pair name
- 20) Click on download key pair

This key pair helps us to connect us to our data center.

- 21) Click on launch instance
- 22) Give all 3 instance proper name ( Dev Server, QA Server, Prod Server )

How to Connect with the AWS Instance

- 1) Select that Instance
- 2) Press Connect
- 3) You will get the SSH Command
- 4) Copy the SSH Command
- 5) Go to the folder where you have place your key then Open GITBASH in local machine

Git Bash you will get automatically when you have install GIT in your local machine.

- 6) Check your current location using pwd command
- 7) Now Paste the SSH Command in GITBASH
- 8) Just Type Yes
- 9) Now you are connect to the AWS Instance

Now we run any command that command run in the AWS Intance

Important Point : If you are not doing practice in AWS Stop all the instance.

Install Jenkins in AWS Instance

To install Jenkins the first thing we need java file so first we need to install java like we have done in the local instance.

We need to download Java 1.8 or more.

1) Update the apt repository

```
sudo apt update
```

2) `sudo apt install openjdk-8-jdk -y`

3) Check the Java Version

```
java -version
```

4) Install Maven & Git

```
sudo apt-get install -y git maven
```

5) Check the Version of Git & Maven

```
For Git : git --version
```

```
For Maven : mvn --version
```

6) Download & install Jenkins

Open Jenkins website (<https://jenkins.io/download/>)

Go to Long Term Support

Select Generic Java Package (.war)

We are selecting generic java package file because jenkins will install on those machine where java is already install. If we have java install in windows machine jenkins will work. Only pre requirement is java needs to be install.

For Windows we just need to click on the file and it will download automatically.

For Linux machine enter command `wget` and paste the url to download the file.

To get the URL right click on generic java package and click on copy link address.

```
(wget http://mirrors.jenkins.io/war-stable/latest/jenkins.war)
```

```
wget https://get.jenkins.io/war-stable/2.277.2/jenkins.war
```

11) Start the Jenkins.war file

```
java -jar jenkins.war
```

Every day if we want to run the jenkins we need to run this command.

12) Access Jenkins Home Page

Select DEV Instance & Press Connect.

Copy the Domain Name On 4th point.

Paste the Domain name in the browser and in the end enter :8080 with the default port number.

We can access the jenkins with dev server Public IP.

Copy the public ip of the dev server and paste the ip address in the browser and in the end enter :8080 with the default port number.

Public

### 13) Unclock Jenkins

When we are installing jenkins it will automatically give you the password in the github terminal.

Copy the password and paste the browser.

You will get the password on the step 11

### 14) Press Install Suggested Plugins

### 15) Create First admin user

The first user which we create here is the admin user of the jenkins.

Click on save and continue.

Click on save and finish

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### Create Sample Job

Build tab

Click on execute Shell

In Command Box Enter echo " Hello Jenkins"

Click on Console Output

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