

Scripted pipeline

More flexible but harder to maintain comparing to declarative approach.
Because it is more focused on code.

```
node{
    stage('1'){
        checkout scm
    }
    stage('2'){
        clean install
    }
    stage('3'){
        test
    }
    stage('4'){
        deploy
    }
}
```

Summary

Up Stream Job: The job that triggered another JOB

DownStream Job: The Job that is triggered by another

```
pipeline {
    agent any

    stages {
        stage('Build UpStream') {
            steps {
                echo 'Runing Upstream Job.....'
            }
        }
        stage('Trigger DownStream') {
```

```

steps {
  build job: 'Job1' , wait:true
}
}
}
}
}

```

In this above example Job1 is the Downstream Job
 and the script written in which its called upstream Job
 How to do this??

If you are creating pipeline then you can join by using build
 If its free style project then you can do it by using post-build action

Jenkins Master-Agent Setup

Go to AWS Console Screen

Launch Instance

Give name: JenkinsMaster

select ubuntu

instance type: t2.micro

network setting:

launch new security group with 2 rules

ssh :: 22 port (which is coming by default)

custom tcp: type port 8080

select everywhere: 0.0.0.0/0

storage size: 8 GB

Launch Instance

Connect to your instance:

follow the process of installing Jenkins here

install JDK first:

```
sudo apt update
```

```
sudo apt install fontconfig openjdk-21-jre
```

```
java -version
```

```
openjdk version "21.0.3" 2024-04-16
```

```
OpenJDK Runtime Environment (build 21.0.3+11-Debian-2)
```

```
OpenJDK 64-Bit Server VM (build 21.0.3+11-Debian-2, mixed mode, sharing)
```

Then install Jenkins:

```
sudo wget -O /etc/apt/keyrings/jenkins-keyring.asc \
https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
echo "deb [signed-by=/etc/apt/keyrings/jenkins-keyring.asc]" \
https://pkg.jenkins.io/debian-stable binary/ | sudo tee \
/etc/apt/sources.list.d/jenkins.list > /dev/null
sudo apt-get update
sudo apt-get install jenkins
```

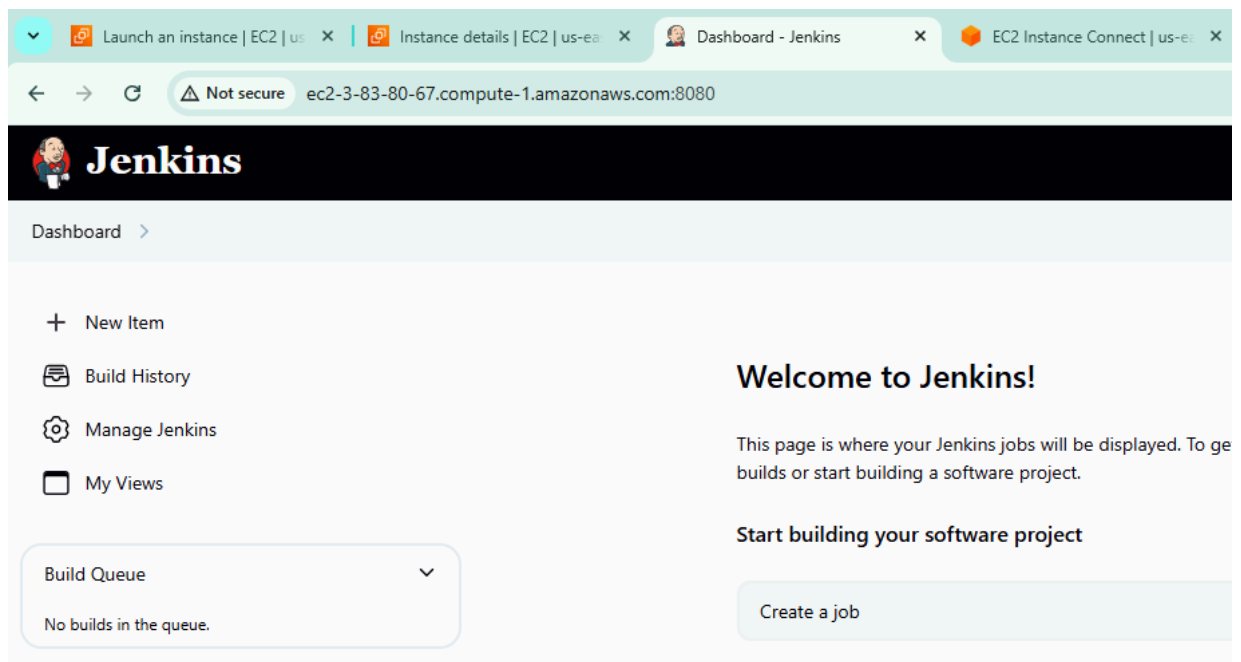
Then enable, start and check status:

```
sudo systemctl enable jenkins
```

```
sudo systemctl start jenkins
```

```
sudo systemctl status jenkins
```

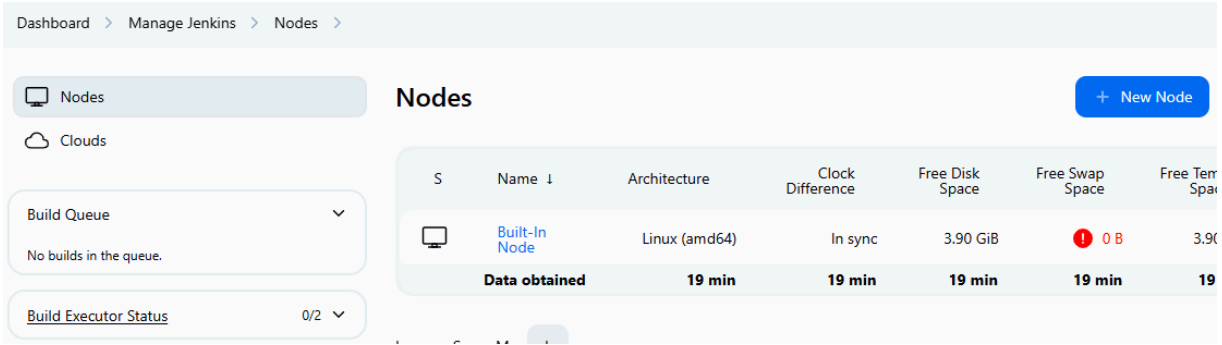
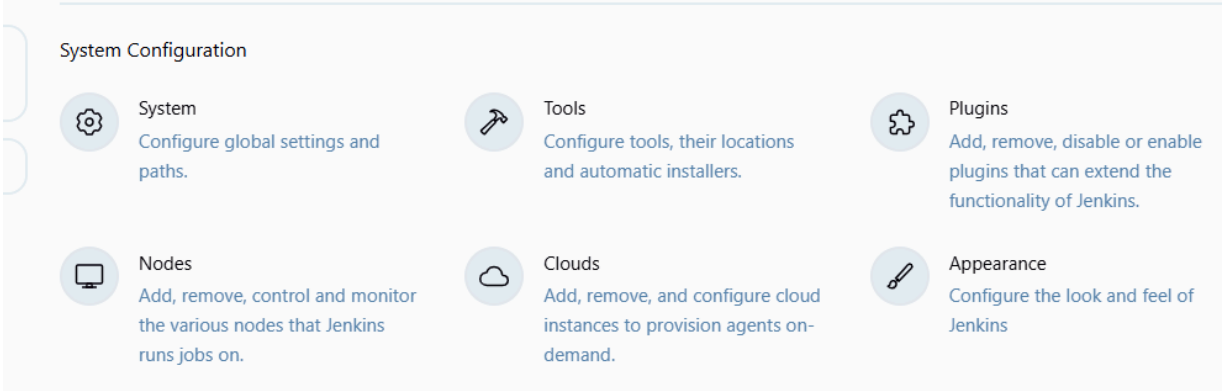
Last once you copy password from status
copy the public ip of your instance or public DNS after that attach :8080
you can see the Jenkins setup screen
follow the same installation process and you can see the Jenkins dashboard.
(make sure you access it using http not https)



Now Let's Setup Agent Jenkins Node

Again create one more EC2 instance using ubuntu or amazon linux AMI.
install same jdk version which is installed on master node

Open Jenkins dashboard
manage Jenkins --> nodes --> new node



click on new node

New node

Node name

agent-1

Type



Permanent Agent

Adds a plain, permanent agent to Jenkins. This is called "permanent" because Jenkins doesn't provide higher level of integration with these agents, such as dynamic provisioning. Select this type if no other agent types apply — for example such as when you are adding a physical computer, virtual machines managed outside Jenkins, etc.

Create

click on create

click on configure:

Name ?

agent-1

Description ?

This is my agent node

Plain text [Preview](#)

Number of executors ?

2

Remote root directory ?

/home/ubuntu/jenkins

Labels ?

ubuntu jobs

Usage ?

Use this node as much as possible

Select Launch via ssh

Launch method ?

Launch agents via SSH

Launch agent by connecting it to the controller

Launch agents via SSH

Launch method ?

Launch agents via SSH

Host ?

172.31.89.40

Credentials ?

ubuntu (jenkins pem)

+ Add

Host Key Verification Strategy ?

Non verifying Verification Strategy

Advanced

Edited

For credentials you have to click on add

Jenkins Credentials Provider: Jenkins

Add Credentials

Domain

Global credentials (unrestricted)

Kind

SSH Username with private key

Scope ?

Global (Jenkins, nodes, items, all child items, etc)

ID ?

key-name

Description ?

any description

Username

username for ubuntu its ubuntu and linux - ec2-user

☐

Treat username as secret ?

Private Key



Enter directly

Key

Enter New Secret Below

paste your `.pem` file content here

click on Add

after this you can select this created credentials and save.

once you save it will try connecting your instance as agent.

check logs

```
<===[JENKINS REMOTING CAPACITY]===>channel started  
Remoting version: 3301.v4363ddcca_4e7  
Launcher: SSHLauncher  
Communication Protocol: Standard in/out  
This is a Unix agent  
Agent successfully connected and online
```

Means we are able to create agent-master Jenkins structure.