Set up a CI/CD pipeline with Jenkins and an EC2 instance. The website needs to be launched via the EC2 public IP.
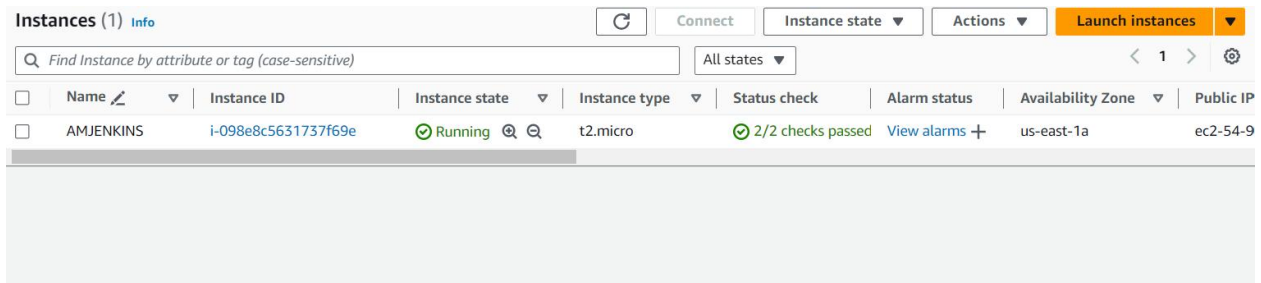
Name: R.Vedha Dharshini

Roll No: 21ISR054

Steps:

1. **Creating an AWS EC2 INSTANCE:**
   - Sign up to Aws console Login
   - After signing up go to EC2 dashboard
   - Click "Launch Instance"

Instances (1) Info								
☐	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
☐	AMJENKINS	i-098e8c5631737f69e	⊘ Running ⊕ ⊖	t2.micro	⊘ 2/2 checks passed	View alarms +	us-east-1a	ec2-54-9

Connect to the Ec2 Instances:

- Open command Prompt in which you have pem files
- Give the pem file with *
- Give the entire ssh command

```
:\Users\Admin\Downloads>ssh -i "jenk.pem" ec2-user@ec2-13-208-172-158.ap-northeast-3.compute.amazonaws.com
he authenticity of host 'ec2-13-208-172-158.ap-northeast-3.compute.amazonaws.com (13.208.172.158)' can't be established

ED25519 key fingerprint is SHA256:ZXV9gnFiZjOcgUSHEk0AGqlFO/X/iD7T5TcoyZyzEUE.
his key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-13-208-172-158.ap-northeast-3.compute.amazonaws.com' (ED25519) to the list of known host
.
   ,     #_
   ~\_  ####_         Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___    https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
     ~~._.   _/
        _/ _/
       _/m/'
[ec2-user@ip-172-31-39-194 ~]$
```

Step: 3 After connecting ec2 instance Go to the Jenkins.io and redhat.io

- At First Install the Java Version.

```
Installed:
  alsa-lib-1.2.7.2-1.amzn2023.0.2.x86_64                                    cairo
  dejavu-sans-fonts-2.37-16.amzn2023.0.2.noarch                            dejav
  dejavu-serif-fonts-2.37-16.amzn2023.0.2.noarch                          fontc
  fonts-filesystem-1:2.0.5-12.amzn2023.0.2.noarch                         freet
  google-noto-fonts-common-20201206-2.amzn2023.0.2.noarch                 googl
  graphite2-1.3.14-7.amzn2023.0.2.x86_64                                  harfb
  java-17-amazon-corretto-devel-1:17.0.11+9-1.amzn2023.1.x86_64           java-
  javapackages-filesystem-6.0.0-7.amzn2023.0.6.noarch                     langp
  libX11-1.7.2-3.amzn2023.0.4.x86_64                                      libX1
  libXau-1.0.9-6.amzn2023.0.2.x86_64                                      libXe
  libXrender-0.9.10-14.amzn2023.0.2.x86_64                                libbr
  libjpeg-turbo-2.1.4-2.amzn2023.0.5.x86_64                               libpn
  libxcb-1.13.1-7.amzn2023.0.2.x86_64                                     pixma
  xml-common-0.6.3-56.amzn2023.0.2.noarch

Complete!
[ec2-user@ip-172-31-39-194 ~]$ java --version
openjdk 17.0.11 2024-04-16 LTS
OpenJDK Runtime Environment Corretto-17.0.11.9.1 (build 17.0.11+9-LTS)
OpenJDK 64-Bit Server VM Corretto-17.0.11.9.1 (build 17.0.11+9-LTS, mixed mode, sharing)
```

Now Install The Jenkins Using The command sudo yum install Jenkins


```
[ec2-user@ip-172-31-39-194 ~]$ sudo yum install jenkins
Last metadata expiration check: 0:07:25 ago on Sun May 12 15:11:52 2024.
Dependencies resolved.
================================================================================================================================
 Package                  Architecture              Version                       Repository                         Size
================================================================================================================================
Installing:
 jenkins                  noarch                    2.440.3-1.1                   jenkins                            89 M

Transaction Summary
================================================================================================================================
Install  1 Package

Total download size: 89 M
Installed size: 89 M
Is this ok [y/N]: y
Downloading Packages:
jenkins-2.440.3-1.1.noarch.rpm                                                            17 MB/s |  89 MB     00:05
```

After Installing the Jenkins start the Jenkins Command:


```
[ec2-user@ip-172-31-39-194 ~]$ sudo systemctl start jenkins
[ec2-user@ip-172-31-39-194 ~]$ []
```

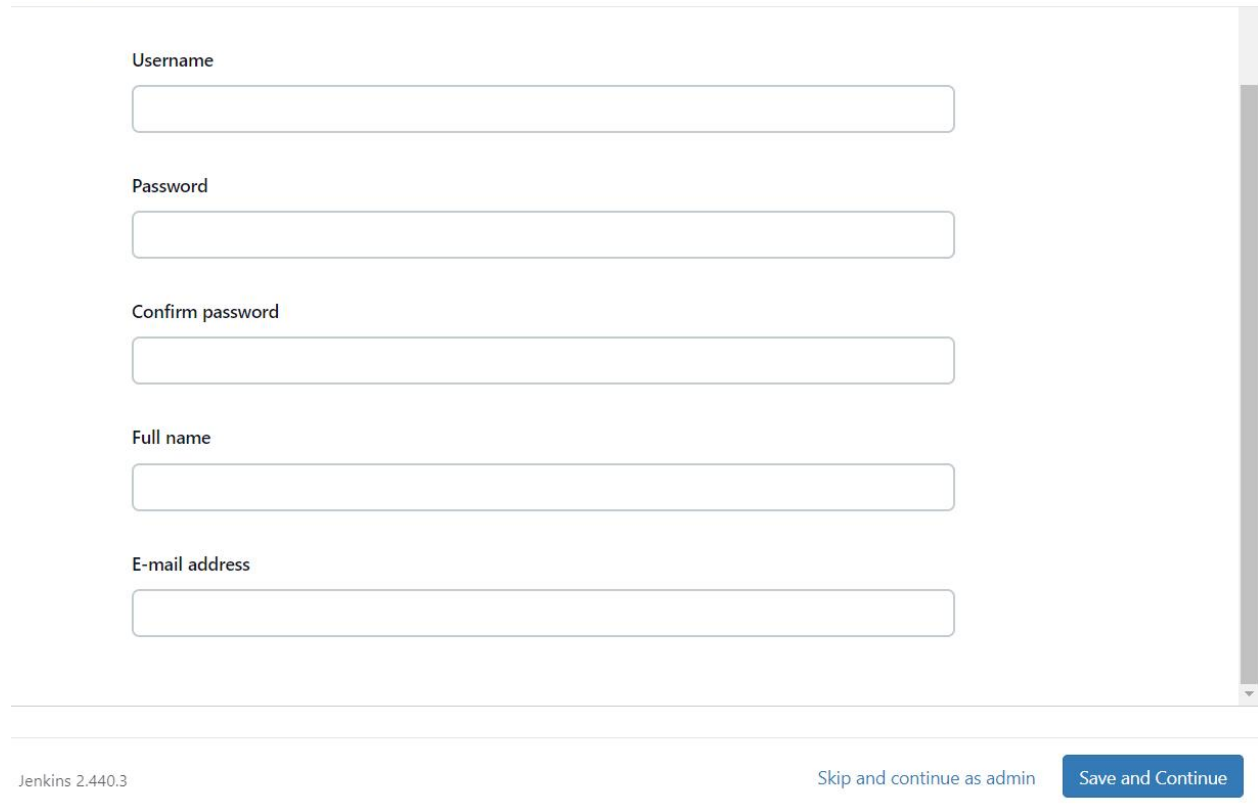Copy The public Ipv4 Address of your Instance You Will Get this Page as an output:
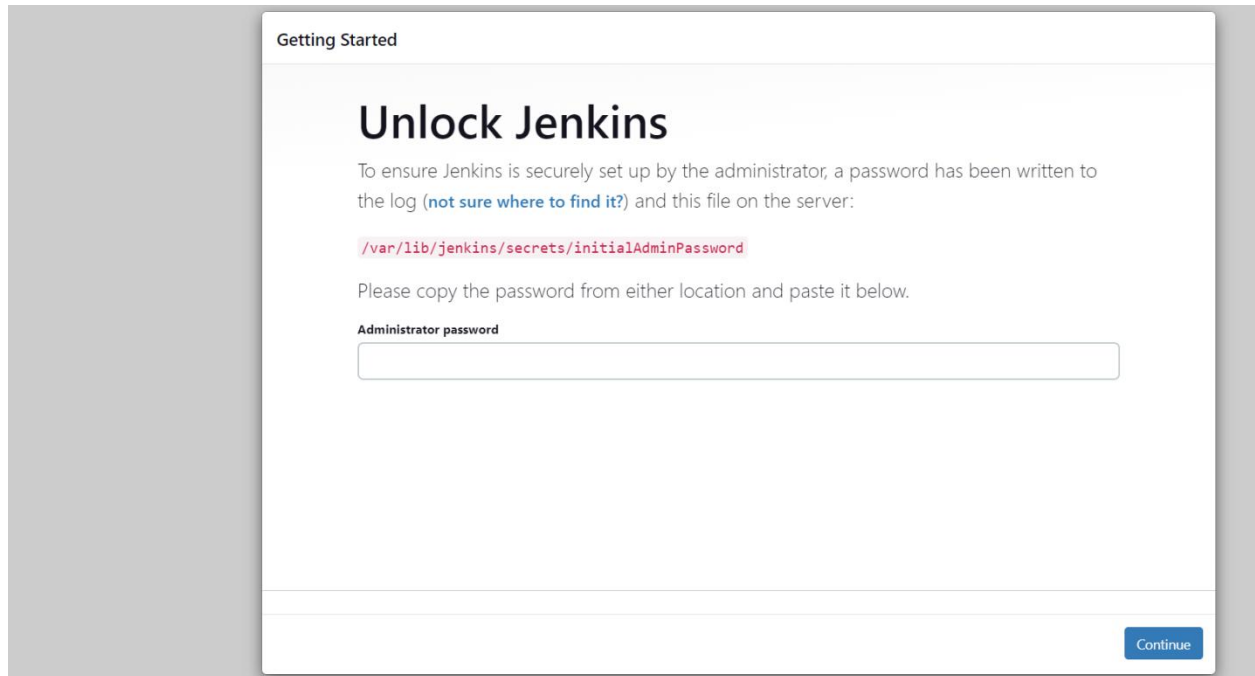
After Giving The Jenkins Password it will ask for customize Jenkins
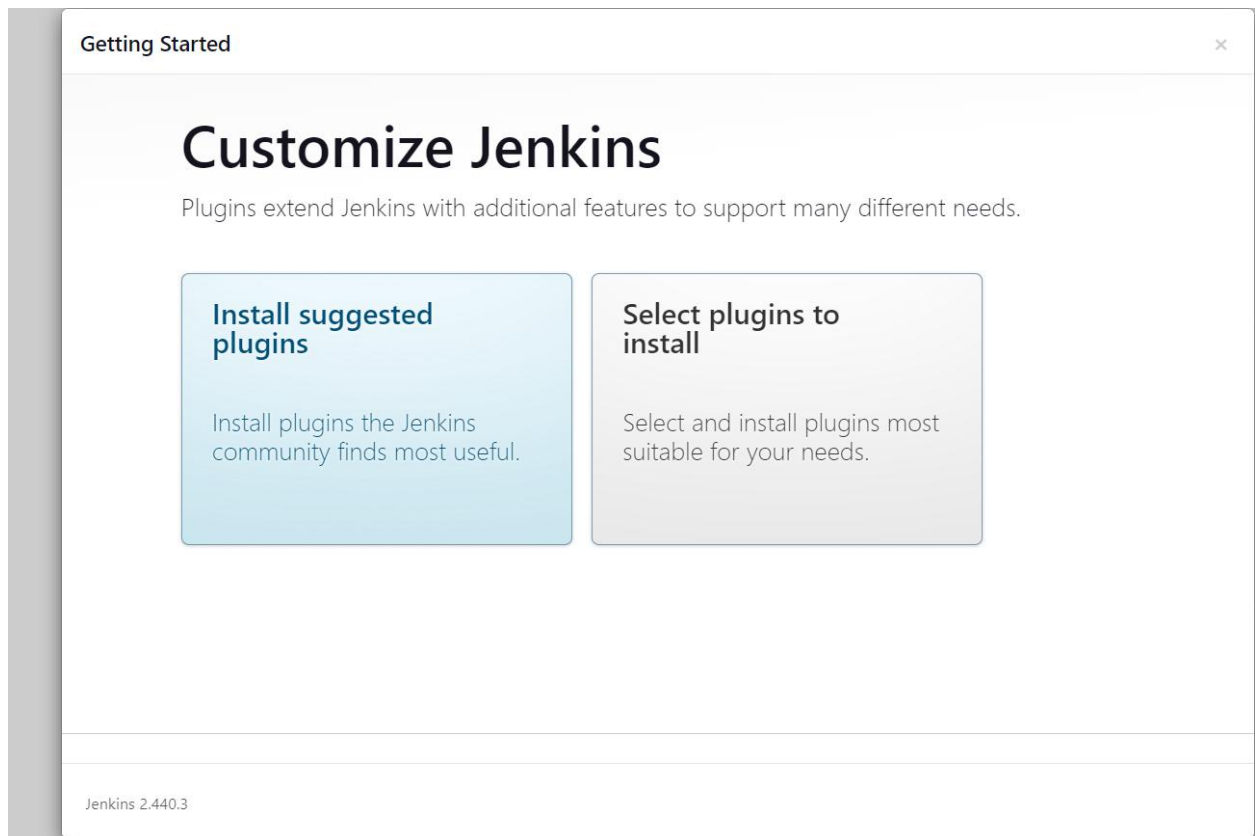
After Installing Jenkins It Will user Forms

Getting Started

Username

Password

Confirm password

Full name

E-mail address

Jenkins 2.440.3   Skip and continue as admin   **Save and Continue**

After Filling This Form it shows the url and ask for save and finish.

Jenkins is ready!

Your Jenkins setup is complete.

Start using Jenkins

Jenkins 2.440.3

After Installing The Jenkins We need to a setup a CICD pipeline.

- Go The Jenkins Dashboard page Using your Username and Password:

Dashboard >

+ New Item

People

Build History

Manage Jenkins

My Views

Build Queue
No builds in the queue.

Build Executor Status
Built-In Node   (offline)

Welcome to Jenkins!

This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project.

Start building your software project

Create a job   +

Set up a distributed build

Set up an agent

Configure a cloud

Learn more about distributed builds

Add description

REST API   Jenkins 2.440.3

- Click the New Item from the selected list select the Freestyle Project

Demo1

» Required field

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 folders.

Multibranch Pipeline
Creates a set of Pipeline projects according to detected branches in one SCM repository.

Organization Folder
Creates a set of multibranch project subfolders by scanning for repositories.

OK

Add Git hub Link to the source code Management:

Source Code Management

◯ None

◯ AWS CodePipeline

● Git ?

Repositories ?

Repository URL ?

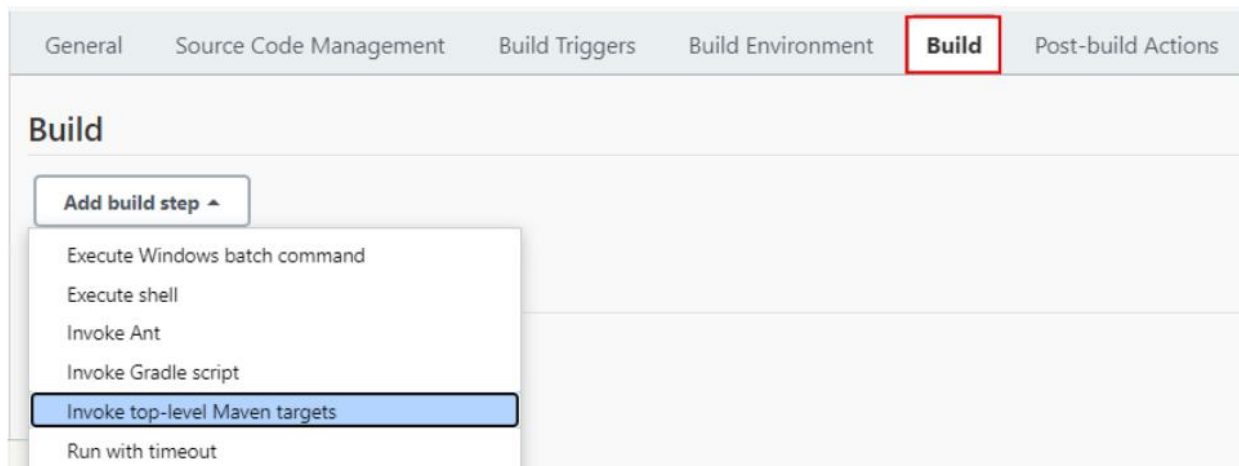https://github.com/vedha123-ux/aws-task
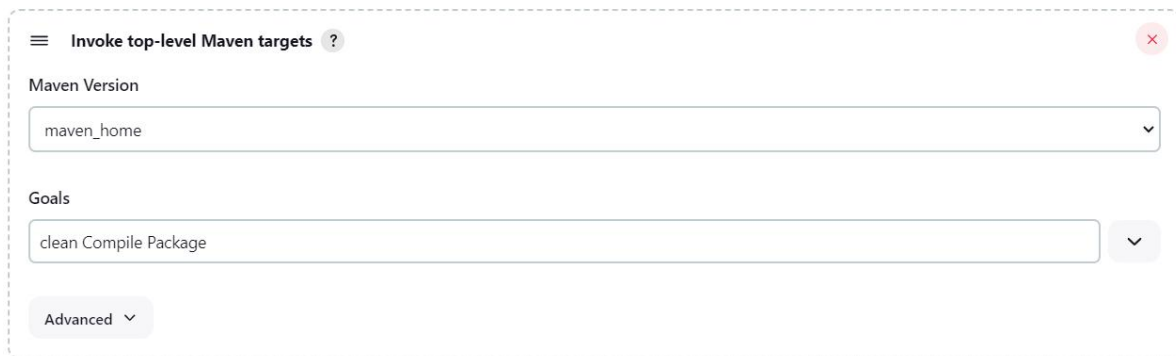
Credentials ?

- none - ⌄

+ Add ⌄

Advanced ⌄

Click on Build Tab and select build step as '*Invoke top-level Maven targets*'.

After Clicking Ivoke top-level Maven targets:

Now go back to Configure and visit the 'Post Build Actions' tab. Click the drop-down and select 'Archive the Artifacts' from the options. In the field, write down '**/*.war' as shown in the image below. It will fetch all the directories and get the war file wherever it is present. Click again on Build Now button, and you will now see the Artifacts in the Jenkins dashboard.

Post-build Actions

Click on the Available tab and search for the 'Deploy to Container' plugin. Select the plugin and click on the 'Install without restart' button.

Step 16) Now click on the 'Add Container' button and select the 'Tomcat 9.x Remote' as we are using version 9 of the Tomcat. Fill in the URL of the same virtual machine with the new port number 8090. On the credentials drop-down button, select Jenkins.

In this window, fill in the username and password that we have used in the 'tomcat-users.xml' file (in Step 10). Fill in the ID, description and click on the button 'Add'.

Final Web Page Output is:

BEST PLACE TO FIND AND EXPLORE
THAT ALL YOU NEED

Find Best Place, Restaurant, Hotel, Real State and many more think in just One click

What? Ex: Palce, Resturent, Food, Automobile   ☰   Location Ex: London, Newyork, Rome   ⊕   Search 🔍