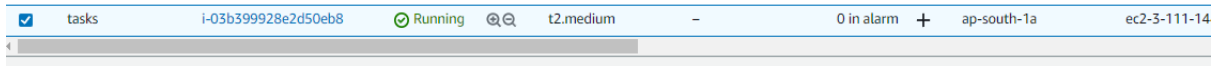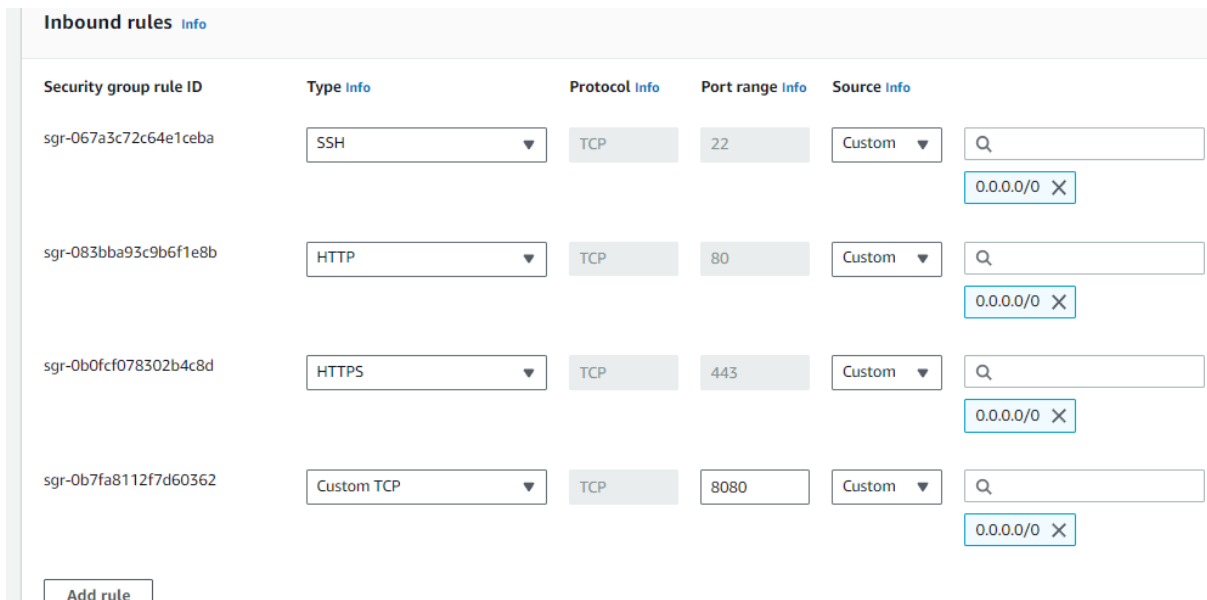# DevOps Task

Tools used : GIT,Jenkins,Docker Hub,AWS EC2 instance(ubuntu),shell script

Create a EC2 instance(ubuntu):

Security Group :

Install Git :

```
ubuntu@ip-172-31-32-219:~$ sudo apt install git -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
git is already the newest version (1:2.25.1-1ubuntu3.11).
0 upgraded, 0 newly installed, 0 to remove and 95 not upgraded.
ubuntu@ip-172-31-32-219:~$
```

Install Jenkins :


```
 upgraded, 0 newly installed, 0 to remove and 93 not upgraded.
ubuntu@ip-172-31-32-219:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
     Loaded: loaded (/lib/systemd/system/jenkins.service; enabled; vendo
     Active: active (running) since Thu 2023-09-14 16:53:06 UTC; 2h 18mi
   Main PID: 26902 (java)
      Tasks: 53 (limit: 4686)
     Memory: 1.5G
     CGroup: /system.slice/jenkins.service
             └─26902 /usr/bin/java -Djava.awt.headless=true -jar /usr/sh
```

Install Docker and Docker compose :


```
ubuntu@ip-172-31-32-219:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
     Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
     Active: active (running) since Thu 2023-09-14 16:45:29 UTC; 2h 27min ago
TriggeredBy: ● docker.socket
       Docs: https://docs.docker.com
   Main PID: 13998 (dockerd)
      Tasks: 27
     Memory: 230.8M
     CGroup: /system.slice/docker.service
             ├─13998 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
             ├─31525 /usr/bin/docker-proxy -proto tcp -host-ip 0.0.0.0 -host-port 80 -container
             └─31531 /usr/bin/docker-proxy -proto tcp -host-ip :: -host-port 80 -container-ip 1
```

Docker-compose version :


```
ubuntu@ip-172-31-32-219:~$ docker-compose --version
docker-compose version 1.29.2, build 5becea4c
ubuntu@ip-172-31-32-219:~$
```

Permission to Run Docker Command :

sudo usermod -aG docker ${USER}

Sudo id ${USER}

Sudo newgrp docker

Permission to Run Jenkins Command :

sudo usermod -aG docker jenkins

Docker hub Credentials to jenkins

Credentials

T	P	Store ↓	Domain	ID	Name
		System	(global)	dockerhub-cred-perumal	perumal007/****** (dockerhub-cred-perumal)

Jenkins Dashboard

Jenkins   Search (CTRL+K)   ?   1   perumal ∨   log

Dashboard >

- + New Item
- People
- Build History
- Project Relationship
- Check File Fingerprint
- Manage Jenkins
- My Views

Add description

All   +

S	W	Name ↓	Last Success	Last Failure	Last Duration	
✓	⛅	pipeline	37 min #10	1 hr 13 min #6	17 sec	▷

Icon: S   M   L   Icon legend   Atom feed for all   Atom feed for failures   Atom feed for just latest builds

Build Queue   ∨

No builds in the queue.

To create a application file and dockerfile push Github repository :

root change index.html		aef1bf0 43 minutes ago	⟳ 7 commits
🗋 Dockerfile	second commit		1 hour ago
🗋 README.md	Initial commit		4 hours ago
🗋 build.sh	second commit		1 hour ago
🗋 deploy.sh	thrid commit		1 hour ago
🗋 docker-compose.yml	fourths commit		1 hour ago
🗋 index.html	change index.html		43 minutes ago
🗋 nginx.conf	second commit		1 hour ago

README.md   ✎

Write a pipeline as a code using jenkins :

Definition

Pipeline script   ⌄

Script ?

```
1
2 ▾ pipeline {
3       agent any
4 ▾     environment {
5           DOCKERHUB_CREDENTIALS = credentials('dockerhub-cred-perumal')
6       }
7
8 ▾     stages {
9 ▾         stage('Pull Code') {
10 ▾            steps {
11                 // Pull code from GitHub repository
12                 git 'https://github.com/perumal83733/Guvi-Tasks.git'
13             }
14         }
15
16 ▾         stage('Grant Permissions') {
17 ▾            steps {
18                 // Grant executable permissions to a file
```
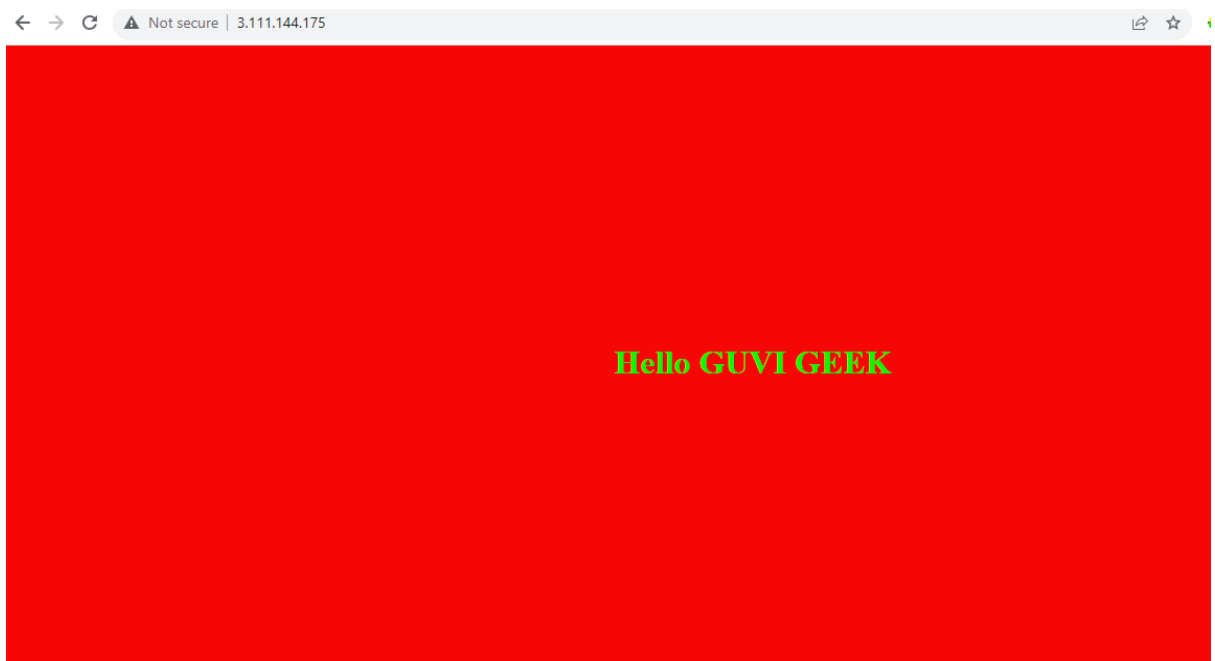
Output :

#6 Sep 14 23:50	No Changes	605ms	602ms	323ms	2s	4s	343ms failed
#5 Sep 14 23:49	1 commit	760ms	337ms	329ms	2s	4s	
#4 Sep 14 23:40	No Changes	512ms	329ms	329ms	2s	5s	
#3 Sep 14 23:36	No Changes	540ms	332ms	10s	2s	18s	
#2 Sep 14 23:33	No Changes	512ms	346ms	348ms	355ms failed	57ms failed	
#1 Sep 14 23:32	No Changes	4s	565ms failed	130ms failed	80ms failed	63ms failed	

Permalinks

	Pull Code	Grant Permissions	Build	Login	Push	Deploy
Average stage times: (Average <u>full</u> run time: ~14s)	959ms	490ms	1s	1s	5s	1s
#10 Sep 15 24:26 / 3 commits	755ms	600ms	323ms	2s	10s	1s
#9 Sep 15 24:08 / No Changes	494ms	595ms	322ms	2s	5s	1s
#8 Sep 15 24:03 / No Changes	472ms	601ms	322ms	2s	5s	882ms
#7 Sep 15 24:01 / No Changes	481ms	598ms	331ms	2s	5s	1s

Create a web application :

3.111.144.175 :80

Docker hub :

Adding webhooks :

Webhooks

Add webhook

Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our Webhooks Guide.

✓ http://3.111.144.175:8080/github-w... *(push)*   Edit   Delete

code is committed to your repository, the webhook will trigger a Jenkins build for code, and jenkinsfile defined in the pipeline will be executed automatically.

When you commit code to your GitHub repository, Jenkins will automatically trigger a webhook, which in turn initiates the execution of your defined pipeline
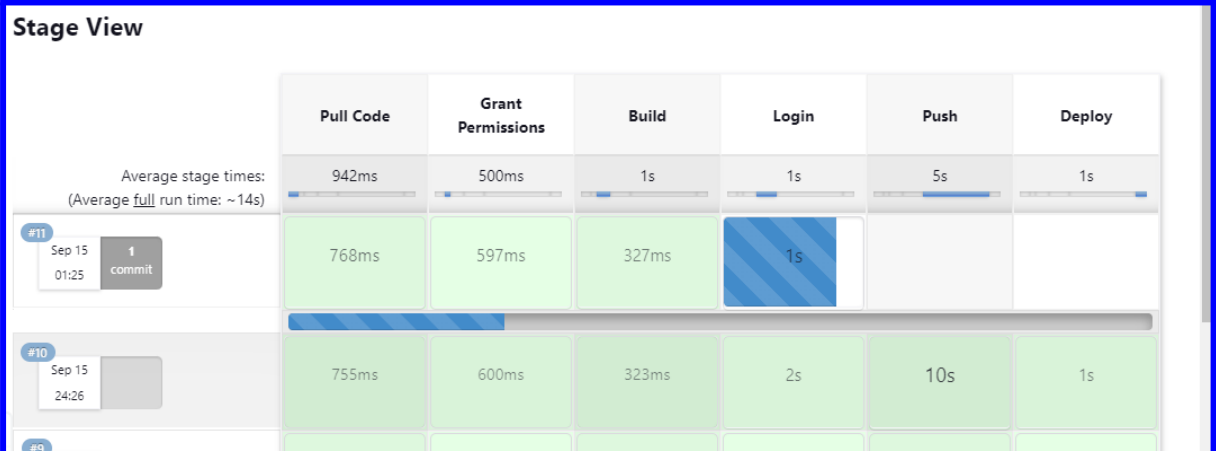
Stage View

	Pull Code	Grant Permissions	Build	Login	Push	Deploy
Average stage times: (Average full run time: ~14s)	942ms	500ms	1s	1s	5s	1s
#11 Sep 15 01:25 1 commit	768ms	597ms	327ms	1s		
#10 Sep 15 24:26	755ms	600ms	323ms	2s	10s	1s

Stage View

	Pull Code	Grant Permissions	Build	Login	Push	Deploy
Average stage times: (Average full run time: ~14s)	942ms	500ms	1s	1s	6s	1s
#11 Sep 15 01:25 — 1 commit	768ms	597ms	327ms	2s	10s	1s
#10 Sep 15 24:26 — 3 commits	755ms	600ms	323ms	2s	10s	1s
#9 Sep 15 24:08 — No Changes	494ms	595ms	322ms	2s	5s	1s

perumal007 / **custom-web-application**

Description

This repository does not have a description 🖉

🕓 Last pushed: a minute ago

Tags

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
🟢 latest	🐧	Image	---	a minute ago

See all   Go to Advanced Image Management

Output :

3.111.144.175 :80