

# DevOps Task

**Test Case 1:** Verify that Jenkins is successfully installed on the designated server.

**Jenkins installations steps :**

**Create a EC2 instance(ubuntu):**

<input checked="" type="checkbox"/>	tasks	i-03b399928e2d50eb8	<span>Running</span>	QQ	t2.medium	-	0 in alarm	+	ap-south-1a	ec2-3-111-14
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**Security Group :**

Inbound rules <a href="#">Info</a>					
Security group rule ID	Type <a href="#">Info</a>	Protocol <a href="#">Info</a>	Port range <a href="#">Info</a>	Source <a href="#">Info</a>	
sgr-067a3c72c64e1ceba	SSH	TCP	22	Custom	<input type="text" value="0.0.0.0/0"/>
sgr-083bba93c9b6f1e8b	HTTP	TCP	80	Custom	<input type="text" value="0.0.0.0/0"/>
sgr-0b0fcf078302b4c8d	HTTPS	TCP	443	Custom	<input type="text" value="0.0.0.0/0"/>
sgr-0b7fa8112f7d60362	Custom TCP	TCP	8080	Custom	<input type="text" value="0.0.0.0/0"/>
<a href="#">Add rule</a>					

## Install Jenkins :

```
#!/bin/bash
sudo apt update -y
sudo apt install openjdk-11-jdk -y
sudo apt update -y
sudo apt install openjdk-8-jdk -y
sudo apt install maven -y
curl -fsSL https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo
tee \
  /usr/share/keyrings/jenkins-keyring.asc > /dev/null
echo deb [signed-by=/usr/share/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 -y
sudo apt-get install jenkins -y
####
```

```
... 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; vendor
   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
```

# Jenkins Dashboard

Search (CTRL+K)

1

perumal

log

Dashboard

+ New Item

People

Build History

Project Relationship

Check File Fingerprint

Manage Jenkins

My Views

Build Queue

0 builds in the queue.

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

## To add Docker hub Credentials in jenkins

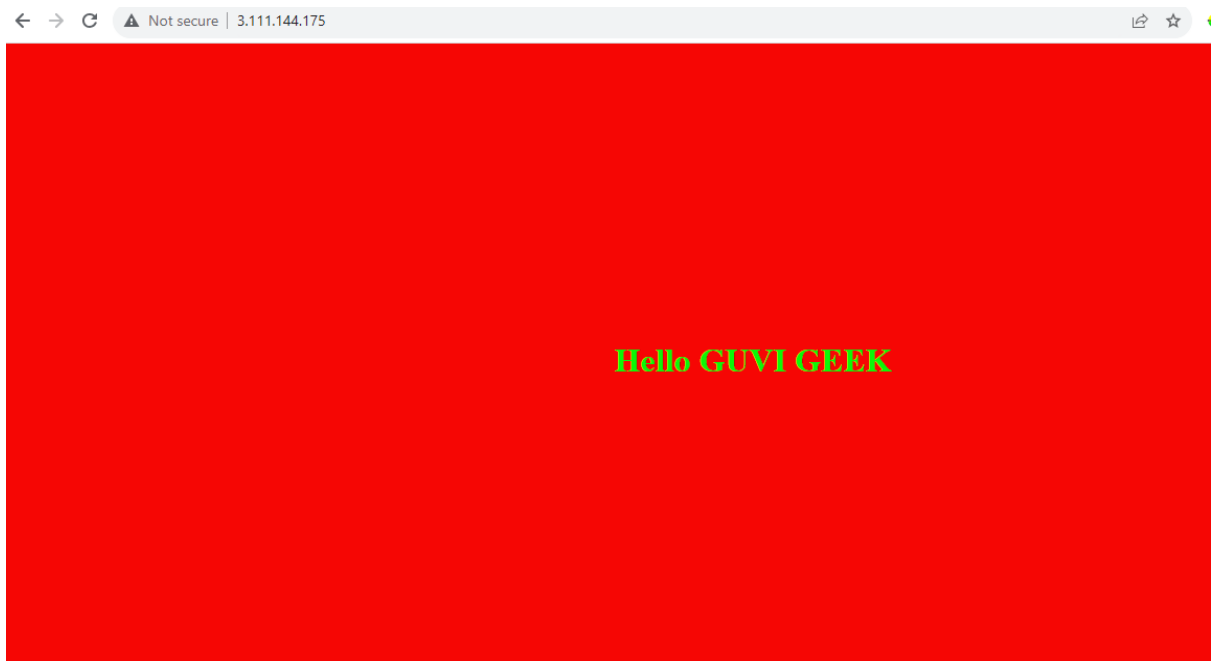
Credentials					
T	P	Store	Domain	ID	Name
		System	(global)	dockerhub-cred-perumal	<a href="#">perumal007/*****</a> (dockerhub-cred-perumal)

**Test Case 2 :** Trigger a sample commit in the version control system and ensure that the CI pipeline is automatically executed.

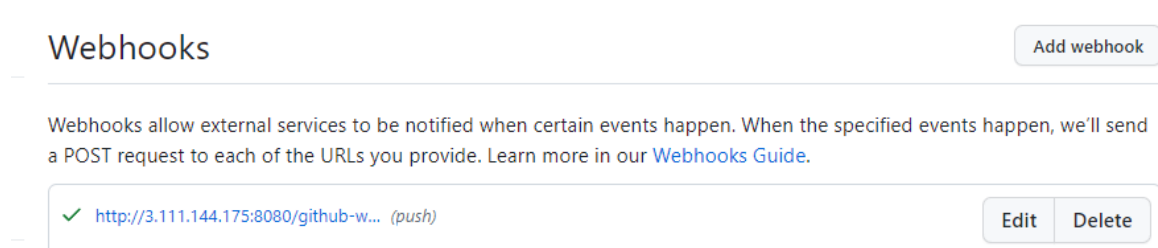
**To create a application file and dockerfile push Github repository :**

root <a href="#">change index.html</a>		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			

## Sample Application output



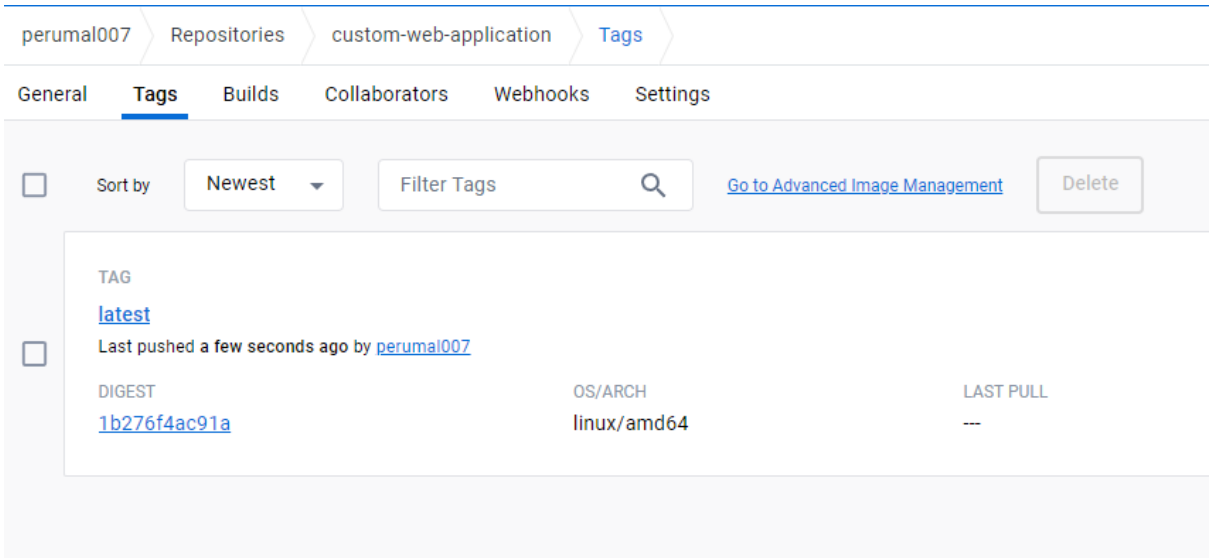
## Adding webhooks :



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

When developer to push the code to github jenkins automatically trigger to run, build and artefact to stored in docker hub

Docker hub :



**Test Case 3:** Manually trigger the CD pipeline and confirm that the application is deployed to a staging environment.

## Trigger the CD Pipeline Manually

Build now to click

### 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



# Output :

**3.111.144.175 :80**

