Project-1

Project: Complete DevOps Lifecycle Implementation using CI/CD

Company: Abode Software

Role: Sr. DevOps Engineer

Description: Designed and implemented an end-to-end CI/CD pipeline with automated build, test, and production deployment using Jenkins, Docker, GitHub, and AWS.

Application Repo:
https://github.com/hshar/website.git

Problem Statement:

Abode Software, a product-based organization, required a complete transformation of their software delivery process by implementing an end-to-end DevOps lifecycle.

The objective was to automate the entire workflow from source code management to production deployment in order to improve release speed, ensure application reliability, and eliminate manual deployment errors.

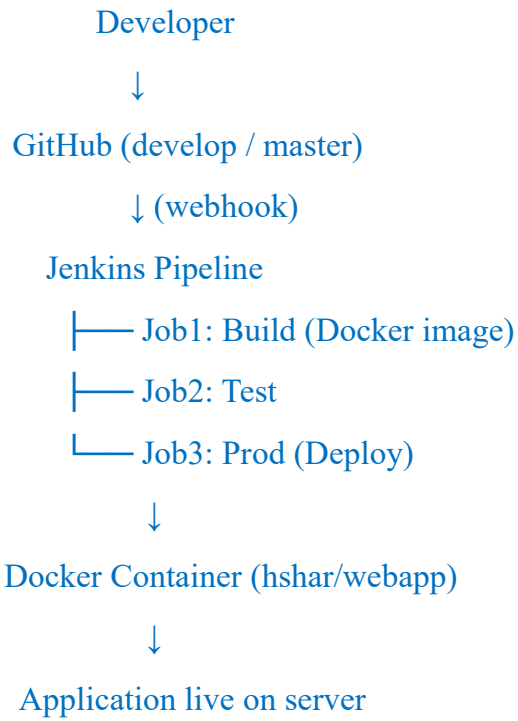
The company needed a system that would:

- Enforce a proper Git workflow for development and production environments
- Automatically build and test code upon every commit
- Containerize the application using Docker for consistent deployments
- Implement a robust CI/CD pipeline using Jenkins
- Enable branch-based deployment logic (develop for testing, master for production)
- Achieve a fully automated production release process with zero manual intervention

The challenge was to design and implement a production-grade DevOps solution that integrates these requirements into a single automated pipeline while ensuring system stability, security, and scalability.

This project delivers a Complete DevOps Lifecycle Implementation that meets all these requirements and operates successfully in a live production environment.

FINAL ARCHITECTURE:



Infrastructure Details:

Server Role	Public IP	Private IP
EC2-1 Jenkins / CI Server	52.207.232.20	10.0.4.224
EC2-2 Production Server	54.198.106.173	10.0.5.125

Tools & Technologies

AWS EC2, GitHub, Jenkins, Docker, Ansible, Linux, Shell Scripting

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1. Base System Setup (Both Servers)

```
sudo apt update -y
sudo apt upgrade -y
sudo apt install -y git curl unzip
```

```
ubuntu@ip-10-0-4-224:~$ sudo apt update -y
sudo apt upgrade -y
sudo apt install -y git curl unzip
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1684 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1391 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [311 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [15.8 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1506 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [306 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [31.4 kB]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [2413 kB]
Get:23 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [225 kB]
Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [550 kB]
```

i-074372a5e59debedd (ec2-1)

```
ubuntu@ip-10-0-5-125:~$ sudo apt update -y
sudo apt upgrade -y
sudo apt install -y git curl unzip
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1684 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [311 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [15.8 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1506 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [306 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [31.4 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [2413 kB]
Get:22 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1391 kB]
Get:23 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [550 kB]
Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
```

i-00a4c23c15518a0e5 (ec2-2)

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2. Jenkins Installation (EC2-1)

sudo apt install -y openjdk-17-jre

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 update -y

sudo apt install -y jenkins

sudo systemctl start jenkins

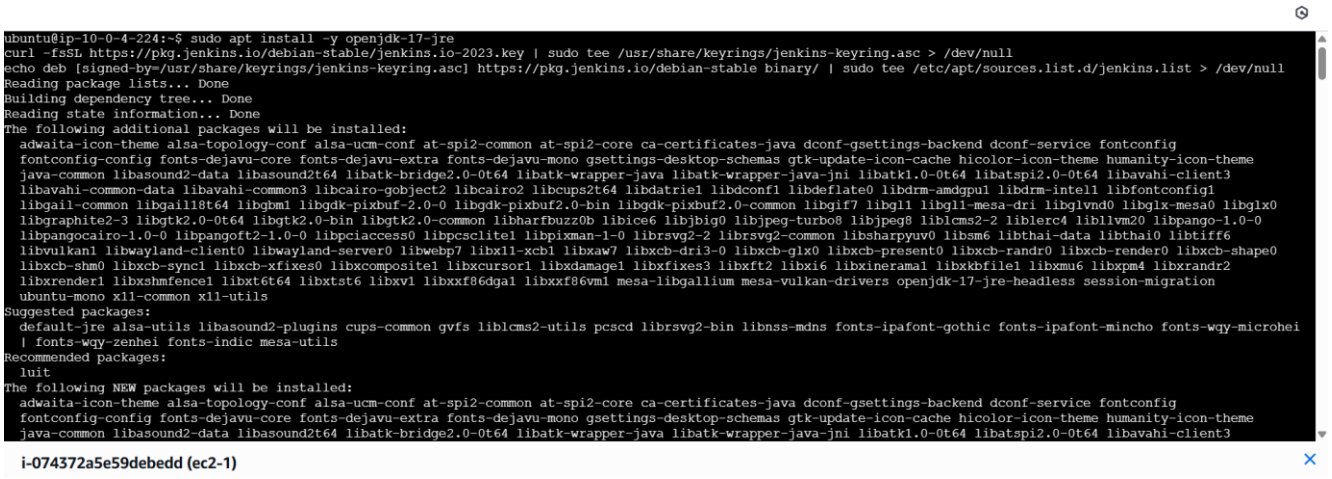
sudo systemctl enable jenkins

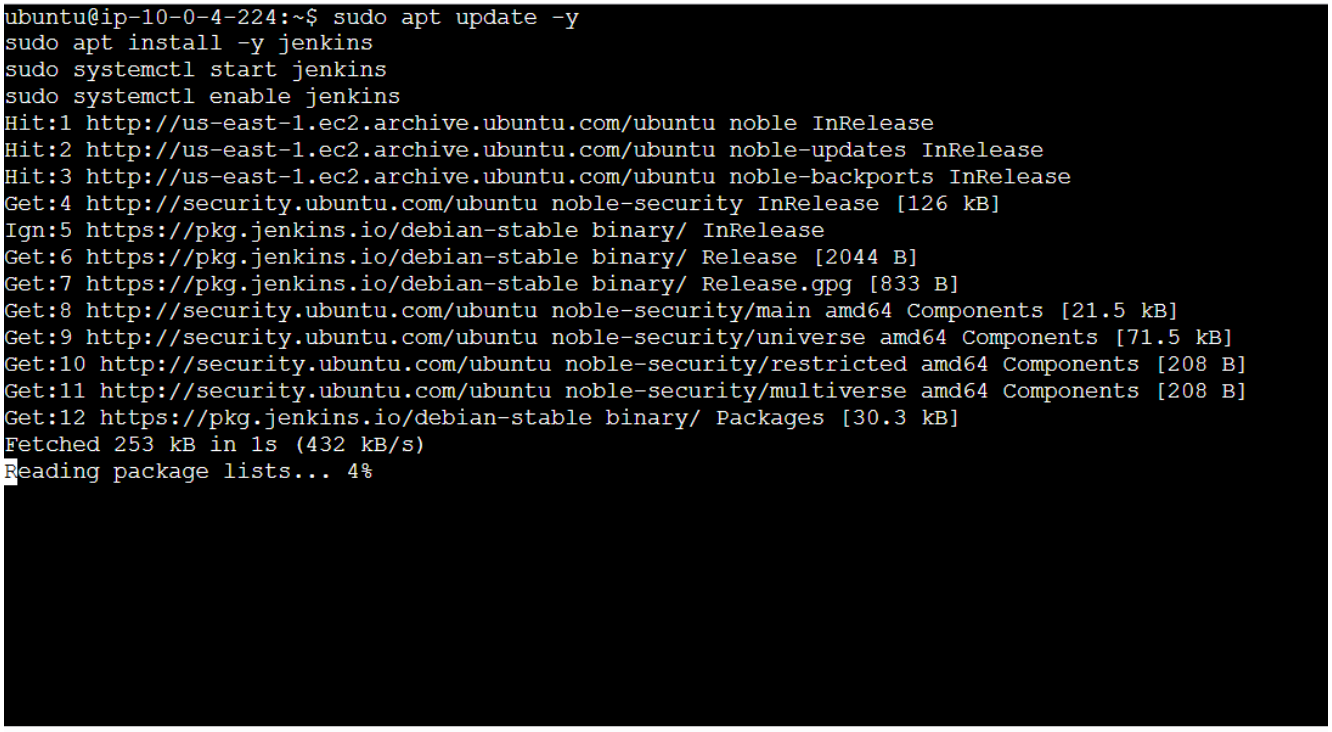
Access Jenkins:

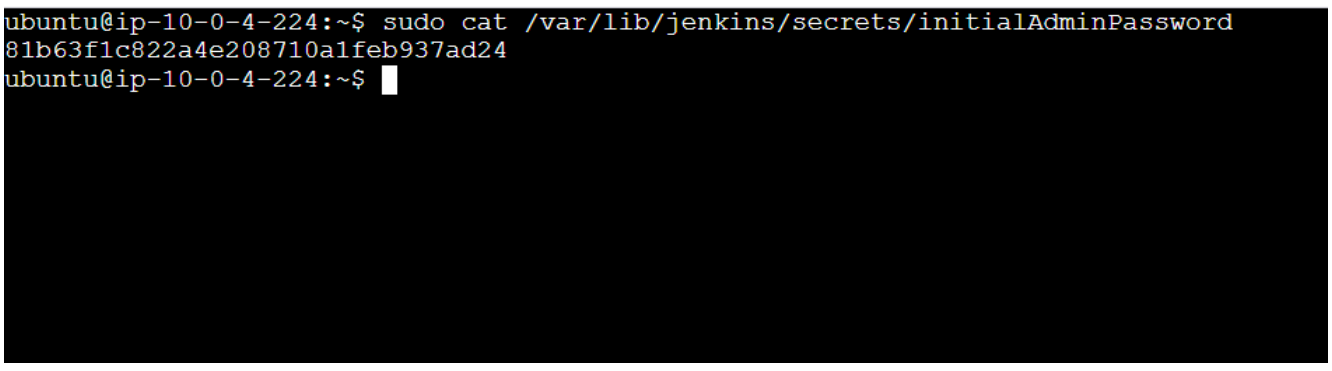
http://52.207.232.20:8080

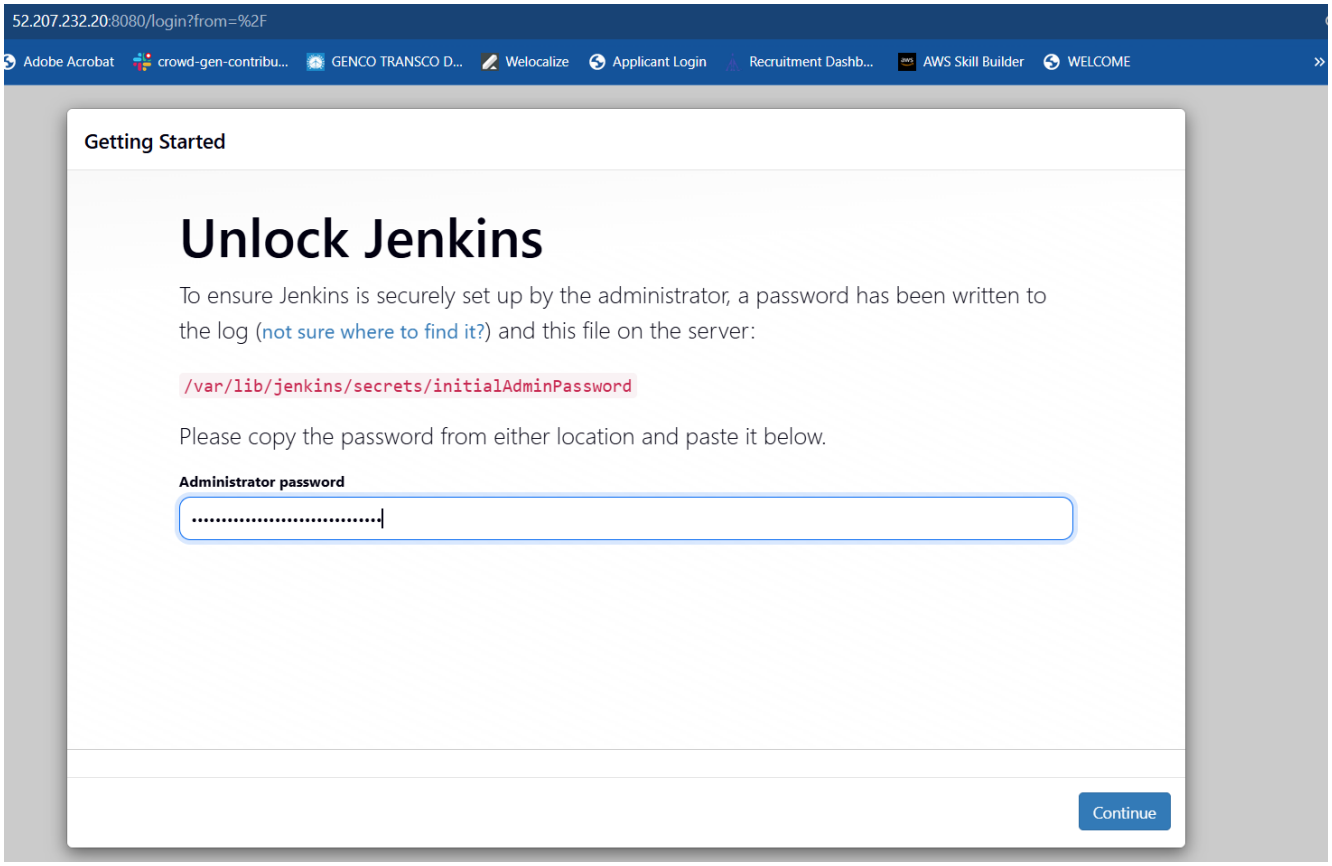
Unlock Jenkins:

sudo cat /var/lib/jenkins/secrets/initialAdminPassword









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3. Docker Installation (Both Servers)

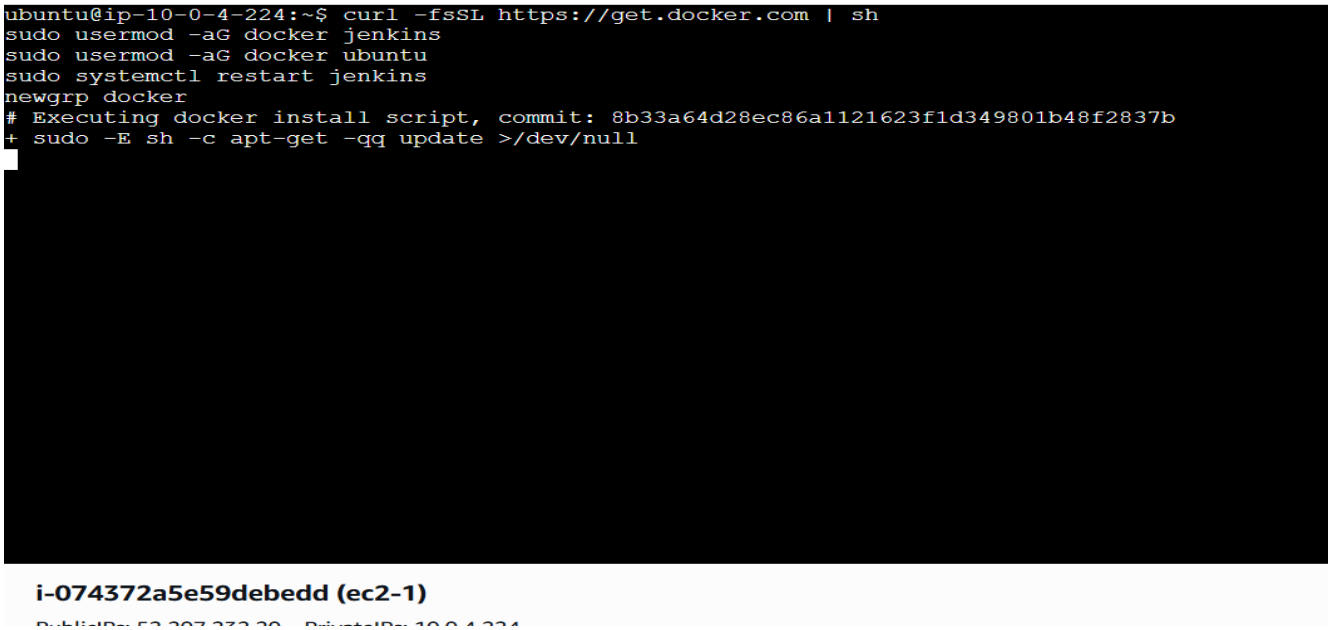
curl -fsSL https://get.docker.com | sh

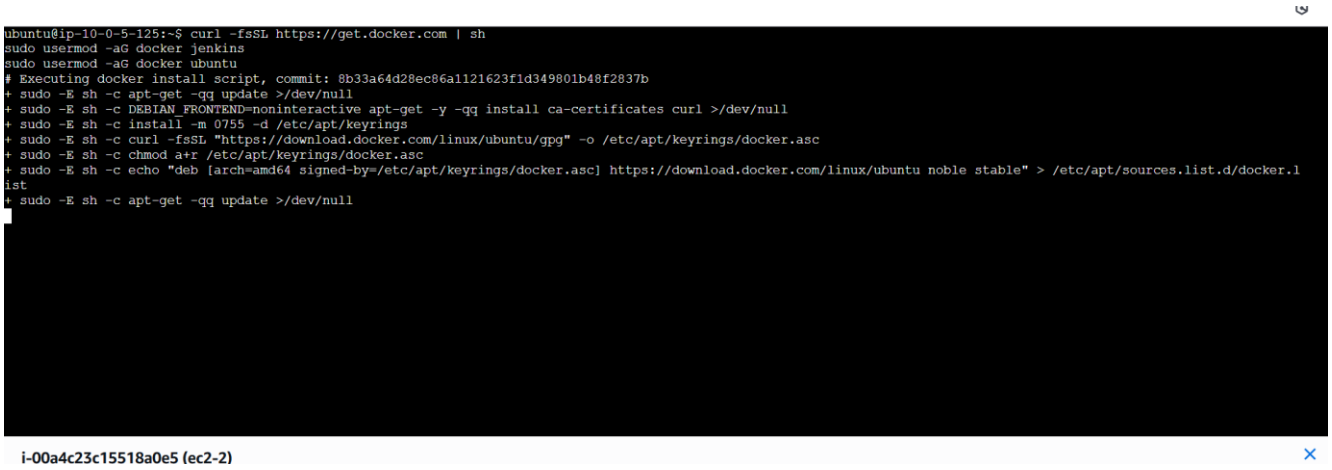
sudo usermod -aG docker jenkins

sudo usermod -aG docker ubuntu

sudo systemctl restart jenkins

newgrp docker





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4. Secure SSH Trust Setup (EC2-1 → EC2-2)

Step-1: Generate SSH Key on Jenkins Server (EC2-1)

ssh-keygen

Step-2: Connect to Production Server via AWS Console

AWS Console → EC2 → Instances →

Select EC2-2 (54.237.228.253) → Connect → EC2 Instance Connect

You will be logged in as:

ubuntu@ip-10-0-11-139

Step-3: Prepare SSH Directory on EC2-2

mkdir -p ~/.ssh

chmod 700 ~/.ssh

nano ~/.ssh/authorized_keys

Step-4: Install Jenkins Public Key

On EC2-1:

cat ~/.ssh/id_ed25519.pub

Copy the entire key.

On EC2-2, paste it as a new line in:

~/.ssh/authorized_keys

Save and exit, then run:

chmod 600 ~/.ssh/authorized_keys

Step-5: Verify Passwordless SSH

Back on EC2-1:

ssh ubuntu@54.237.228.253

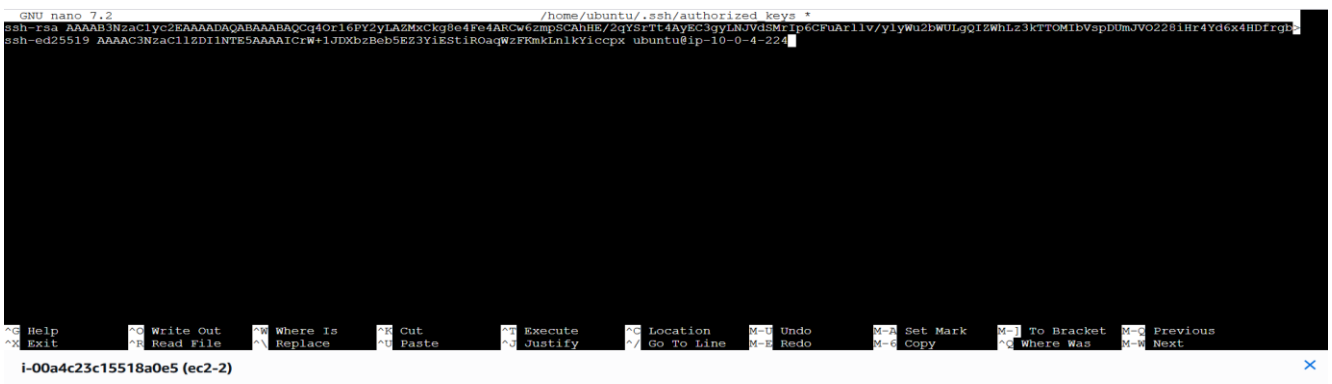
Successful login without key prompt confirms secure trust is established.

```
ubuntu@ip-10-0-5-125:~$ mkdir -p ~/.ssh
chmod 700 ~/.ssh
nano ~/.ssh/authorized_keys
```

i-00a4c23c15518a0e5 (ec2-2)

```
ubuntu@ip-10-0-4-224:~$ cat ~/.ssh/id_ed25519.pub
ssh-ed25519 AAAAC3NzaC11ZDI1NTE5AAAAICrW+1JDXbzBeb5EZ3YiEStiROaqWzFKmkLnlkYiccpx ubuntu@ip-10-0-4-224
ubuntu@ip-10-0-4-224:~$
```

i-074372a5e59debedd (ec2-1)



```
ubuntu@ip-10-0-5-125:~$ chmod 600 ~/.ssh/authorized_keys
ubuntu@ip-10-0-5-125:~$
```

i-00a4c23c15518a0e5 (ec2-2)

```
ubuntu@ip-10-0-4-224:~$ ssh ubuntu@10.0.5.125
The authenticity of host '10.0.5.125 (10.0.5.125)' can't be established.
ED25519 key fingerprint is SHA256:xcf/zzyUdwcsXJ3apE7ZtmBUijJvptCOZM9bGahYaps.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.0.5.125' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1015-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 System information as of Tue Dec 30 12:33:58 UTC 2025

  System load:  0.02              Temperature:           -273.1 C
  Usage of /:   39.7% of 6.71GB   Processes:             120
  Memory usage: 20%               Users logged in:       1
  Swap usage:   0%                IPv4 address for ens5: 10.0.5.125


Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
```

i-074372a5e59debedd (ec2-1)

5. Ansible Setup (EC2-1)

sudo apt install -y ansible

sudo mkdir -p /etc/ansible

sudo nano /etc/ansible/hosts

paste this:

[prod]

10.0.5.125 ansible_user=ubuntu

Test:

ansible prod -m ping

```
ubuntu@ip-10-0-4-224:~$ sudo apt install -y ansible
sudo mkdir -p /etc/ansible
sudo nano /etc/ansible/hosts
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  ansible-core python3-argcomplete python3-dnspython python3-kerberos py
  python3-resolvelib python3-selinux python3-simplejson python3-winrm py
Suggested packages:
  cowsay sshpass python3-trio python3-aioquic python3-h2 python3-httpx p
The following NEW packages will be installed:
  ansible ansible-core python3-argcomplete python3-dnspython python3-ker
  python3-resolvelib python3-selinux python3-simplejson python3-winrm py
0 upgraded, 15 newly installed, 0 to remove and 0 not upgraded.
Need to get 19.5 MB of archives.
After this operation, 315 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd6
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 py
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd6
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd6
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/unive
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd6
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd6
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 py
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd6
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd
```

i-074372a5e59debedd (ec2-1)

```
  GNU nano 7.2
[prod]
10.0.5.125 ansible_user=ubuntu
```

```
ubuntu@ip-10-0-4-224:~$ ansible prod -m ping
10.0.5.125 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
ubuntu@ip-10-0-4-224:~$
```

---

6. Git Workflow Implementation

Repository forked:

https://github.com/Vikky9387/website.git

git clone https://github.com/Vikky9387/website.git

cd website

Create develop branch

git checkout -b develop

git push -u origin develop

```
ubuntu@ip-10-0-4-224:~$ git clone https://github.com/Vikky9387/website.git
cd website
Cloning into 'website'...
remote: Enumerating objects: 46, done.
remote: Counting objects: 100% (24/24), done.
remote: Compressing objects: 100% (18/18), done.
remote: Total 46 (delta 11), reused 13 (delta 6), pack-reused 22 (from 2)
Receiving objects: 100% (46/46), 89.73 KiB | 14.96 MiB/s, done.
Resolving deltas: 100% (15/15), done.
ubuntu@ip-10-0-4-224:~/website$
```

```
ubuntu@ip-10-0-4-224:~/website$ git checkout -b develop
git push -u origin develop
Switched to a new branch 'develop'
Username for 'https://github.com': vikky9387
Password for 'https://vikky9387@github.com':
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'develop' on GitHub by visiting:
remote:      https://github.com/Vikky9387/website/pull/new/develop
remote:
To https://github.com/Vikky9387/website.git
 * [new branch]      develop -> develop
branch 'develop' set up to track 'origin/develop'.
ubuntu@ip-10-0-4-224:~/website$
```

---

7. Dockerfile Creation

nano Dockerfile

paste this:

FROM hshar/webapp

COPY . /var/www/html

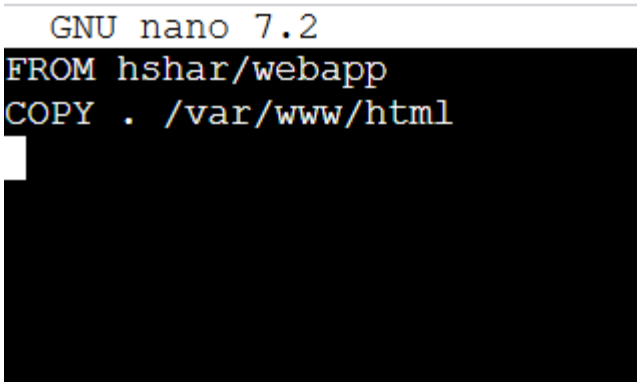
Run:

git add .

git commit -m "Added Dockerfile"

git push origin develop

```
ubuntu@ip-10-0-4-224:~/website$ nano Dockerfile
```



```
ubuntu@ip-10-0-4-224:~/website$ git add .
git commit -m "Added Dockerfile"
git push origin develop
[develop c72a89b] Added Dockerfile
 Committer: Ubuntu <ubuntu@ip-10-0-4-224.ec2.internal>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

 1 file changed, 2 insertions(+)
 create mode 100644 Dockerfile
Username for 'https://github.com': vikky9387
Password for 'https://vikky9387@github.com':
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 2 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 360 bytes | 360.00 KiB/s, done.
```

i-074372a5e59debedd (ec2-1)

---

8. Jenkins Pipeline

nano Jenkinsfile

paste this:

```
pipeline {
   agent any

   stages {

      stage('Build') {
         steps {
            sh 'docker build -t abodeapp .'
         }
      }

      stage('Test') {
         steps {
            sh '''
```

```
                docker rm -f testapp || true
                docker run -d --name testapp -p 8081:80 abodeapp
                sleep 5
                curl http://localhost:8081
                '''
            }
        }

        stage('Prod') {
            when {
                expression {
                    env.GIT_BRANCH == 'origin/master' || env.BRANCH_NAME == 'master'
                }
            }
            steps {
                sh '''
                docker save abodeapp:latest > abodeapp.tar
                scp abodeapp.tar ubuntu@10.0.5.125:/home/ubuntu/

                ssh ubuntu@10.0.5.125 "docker load < /home/ubuntu/abodeapp.tar"
                ssh ubuntu@10.0.5.125 "docker rm -f prodapp || true"
                ssh ubuntu@10.0.5.125 "docker run -d --name prodapp -p 80:80 abodeapp"
                '''
            }
        }

    }
}
```

Now run these commands:

```
git add Jenkinsfile
git commit -m "Fix Jenkinsfile syntax and correct prod stage condition"
git push origin develop
```

```
ubuntu@ip-10-0-4-224:~/website$ nano Jenkinsfile
```

```
  GNU nano 7.2
pipeline {
    agent any
    stages {

        stage('Build') {
            steps { sh 'docker build -t abodeapp .' }
        }

        stage('Test') {
            steps {
                sh '''
                docker rm -f testapp || true
                docker run -d --name testapp -p 8081:80 abodeapp
                sleep 5
                curl http://localhost:8081
                '''
            }
        }

        stage('Prod') {
            when { branch 'master' }
            steps {
                sh '''
^G Help          ^O Write Out     ^W Where Is      ^K Cut           ^T Execute
^X Exit          ^R Read File     ^\ Replace       ^U Paste         ^J Justify
```

i-074372a5e59debedd (ec2-1)

PublicIPs: 52.207.232.20 PrivateIPs: 10.0.4.224

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9. Jenkins Job Setup

Plugins installed:

- Git
- Pipeline
- Docker Pipeline

Pipeline job: **Abode-DevOps-Pipeline**

SCM:

https://github.com/Vikky9387/website.git

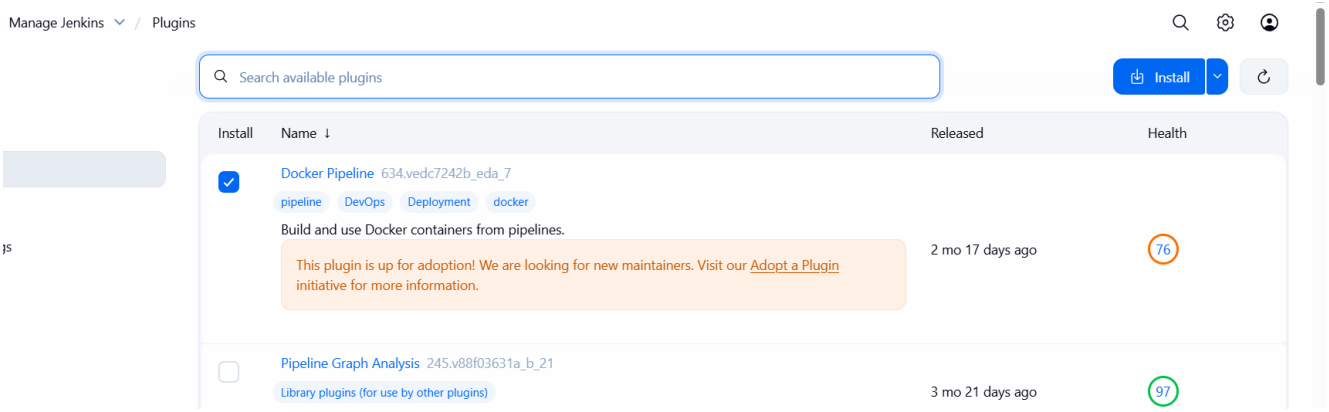
Branch specifier:

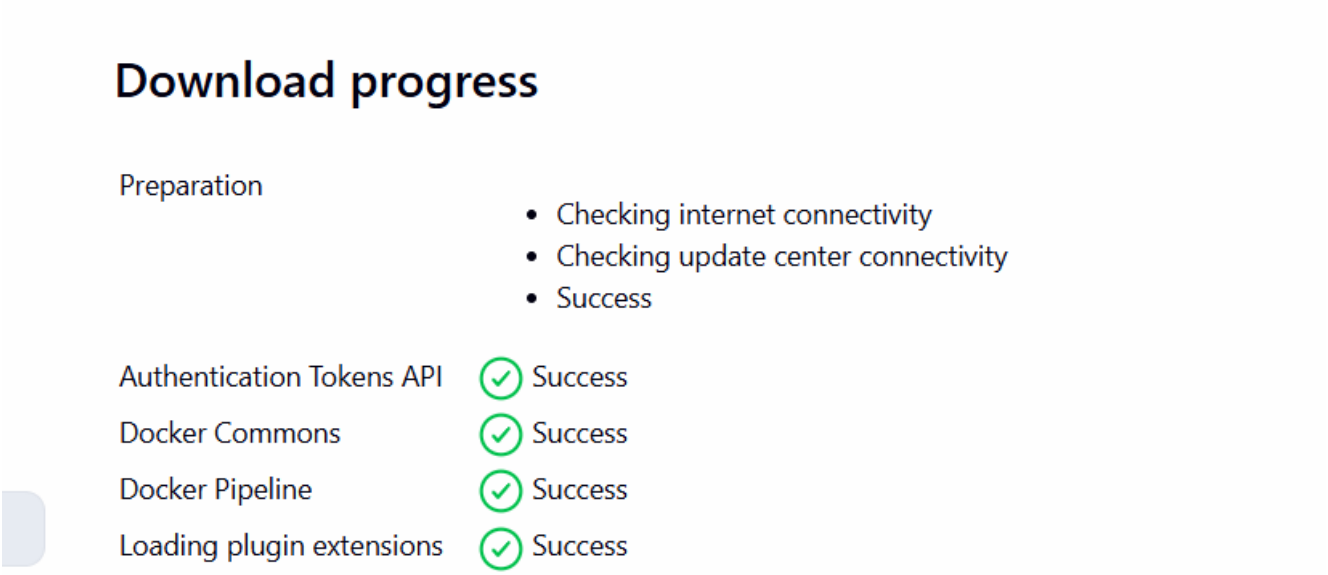
*/develop

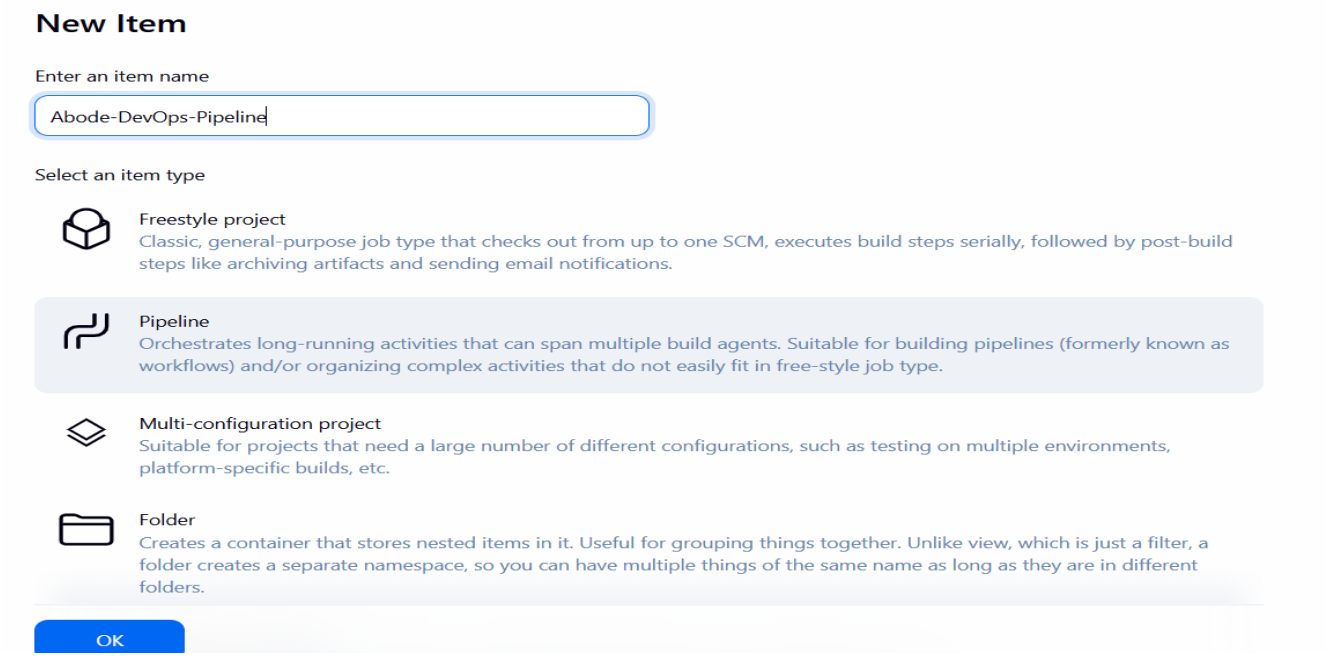
*/master

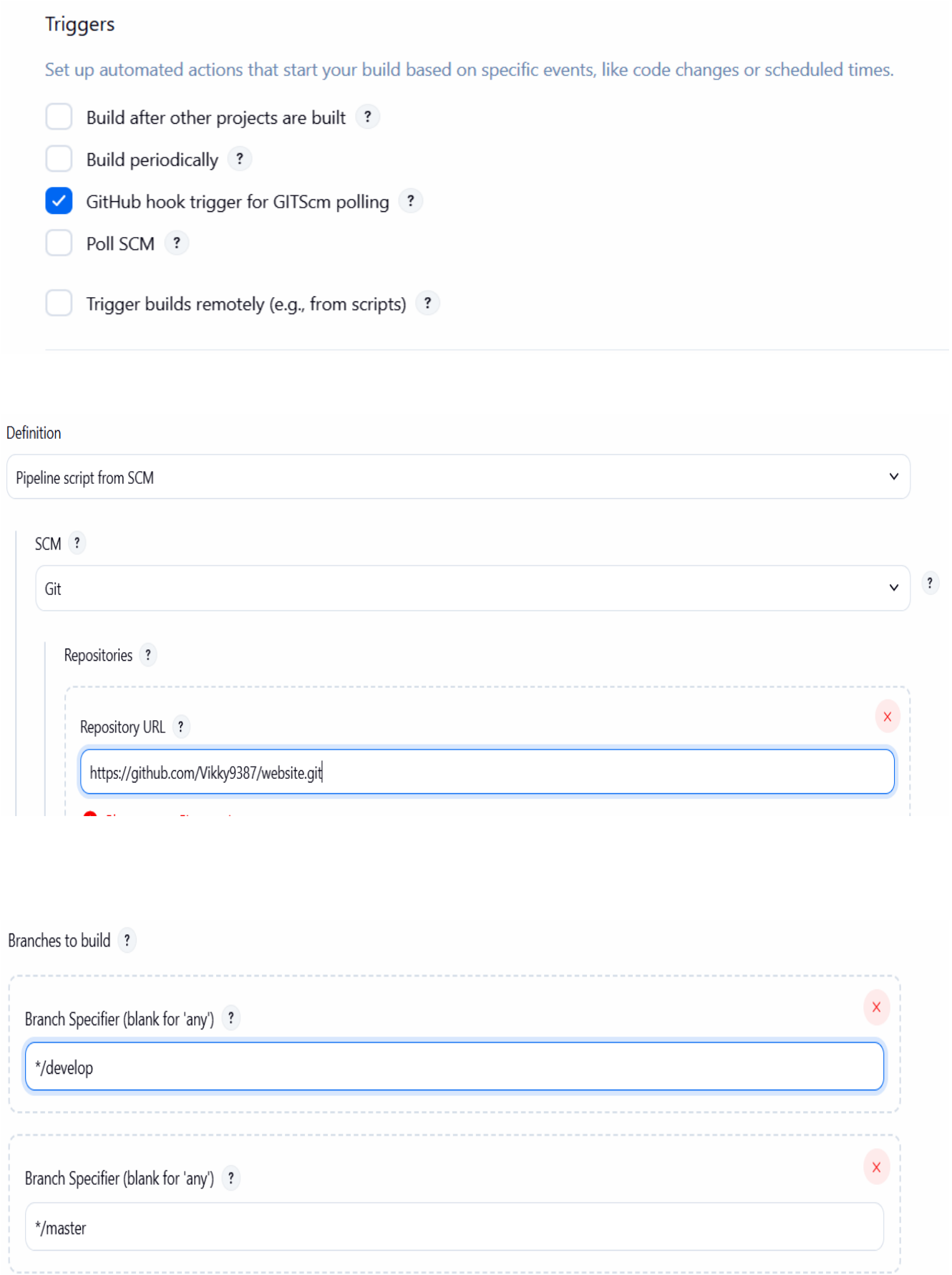
Build Trigger:

☑ GitHub hook trigger for GITScm polling









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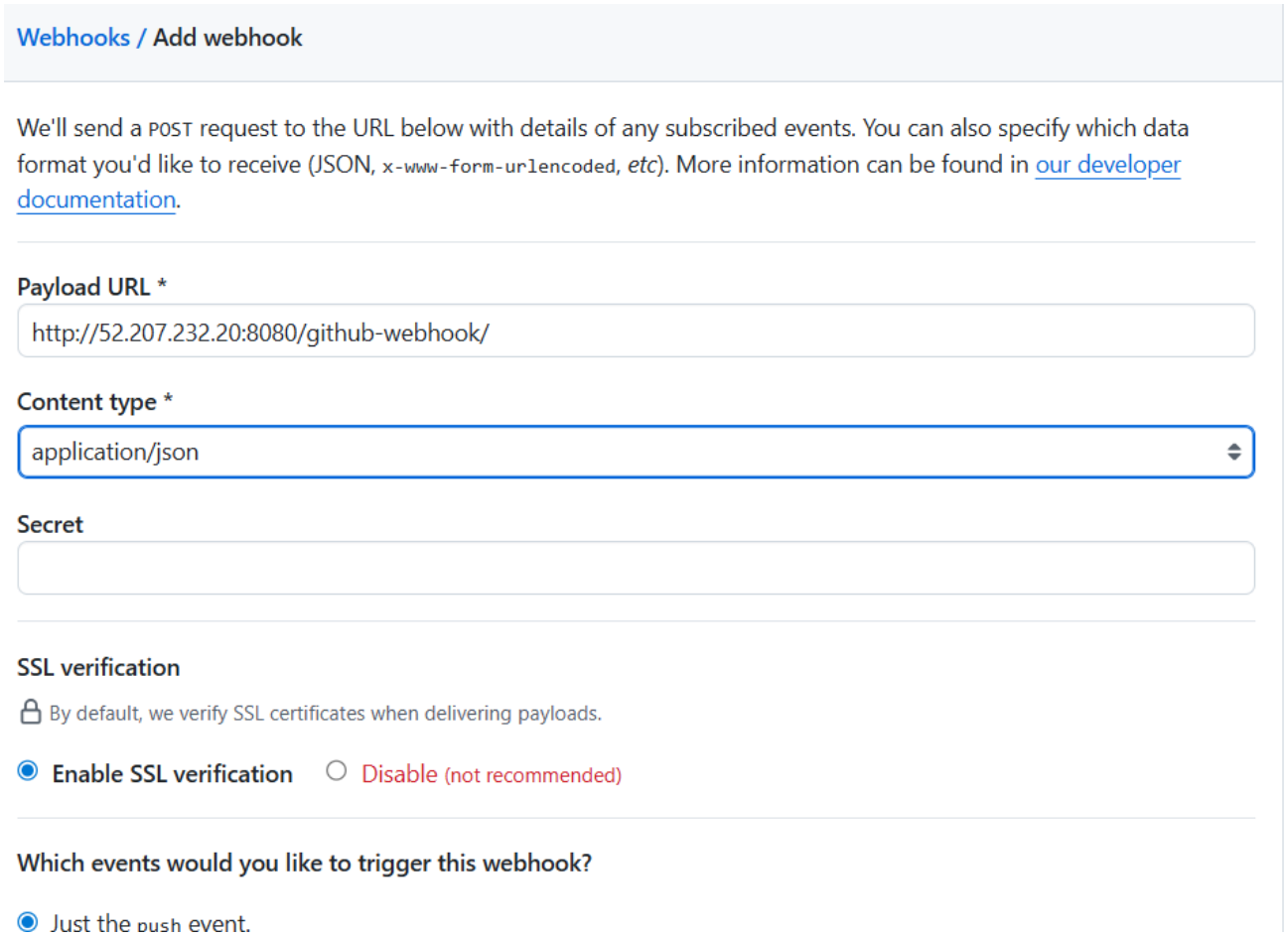
10. GitHub Webhook

http://52.207.232.20:8080/github-webhook/



---

11. CI/CD Execution Flow

Branch Pipeline

develop Build → Test

master Build → Test → Prod

12. Final Verification & Validation

Test Develop Branch (CI Only)

echo "Test change" >> index.html

git add .

git commit -m "Test develop"

git push origin develop

Result:

✓ Jenkins Pipeline triggered

✓ Build + Test stages executed

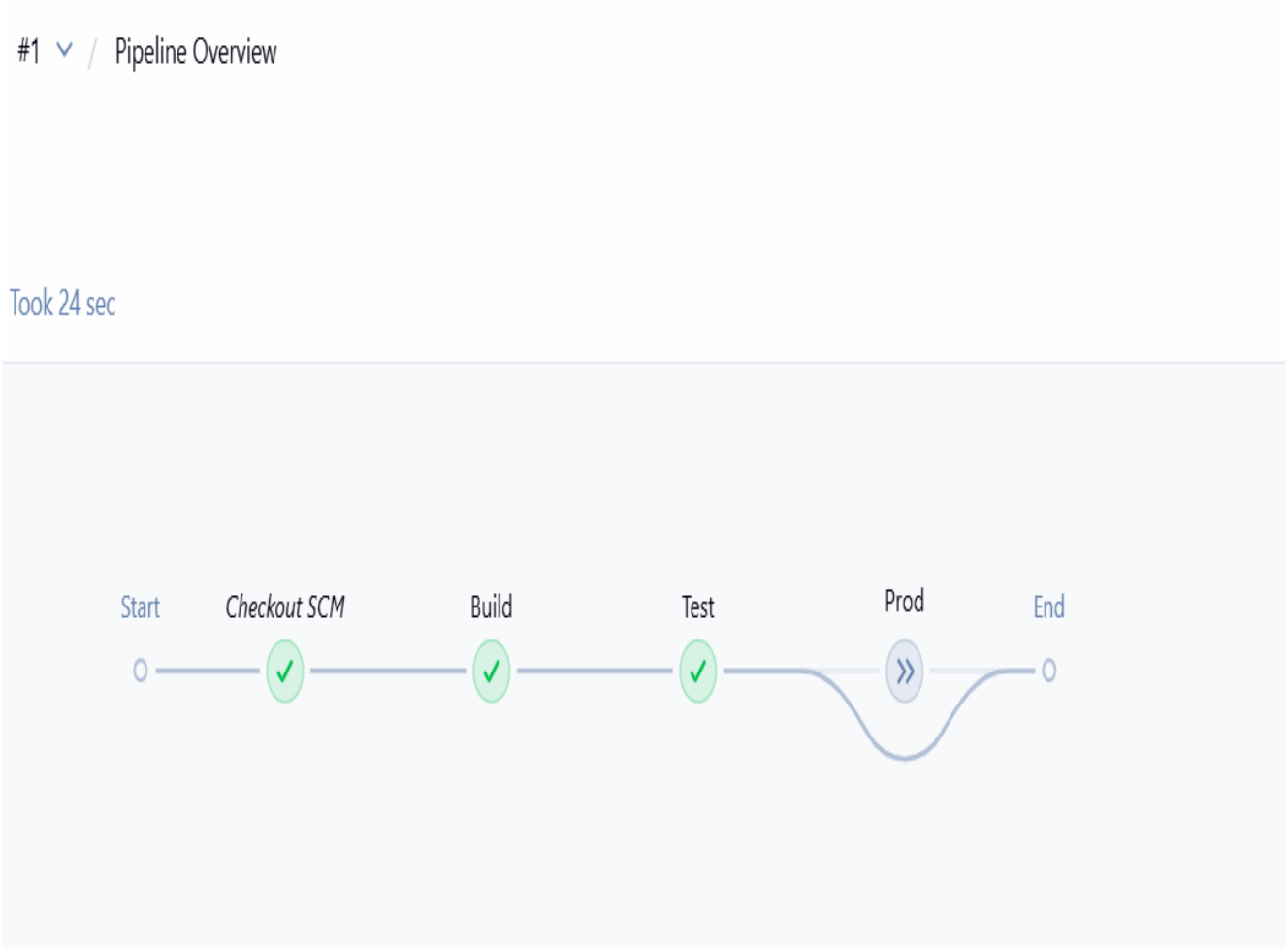
✓ No production deployment (as expected)

```
ubuntu@ip-10-0-4-224:~/website$ echo "Test change" >> index.html
git add .
git commit -m "Test develop"
git push origin develop
[master 8b3e762] Test develop
 Committer: Ubuntu <ubuntu@ip-10-0-4-224.ec2.internal>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

 2 files changed, 15 insertions(+), 11 deletions(-)
Username for 'https://github.com': vikky9387
Password for 'https://vikky9387@github.com':
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Vikky9387/website.git
   8185a54..4ef170b  develop -> develop
ubuntu@ip-10-0-4-224:~/website$
```

i-074372a5e59debedd (ec2-1)

Abode-DevOps-Pipeline / #1 / Console Output

```
CI/CD Test
Final Prod Trigger
Auto trigger working now
Final clean run
Production release
LIVE PRODUCTION
CI/CD Test
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Prod)
Stage "Prod" skipped due to when conditional
[Pipeline] getContext
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```



Deploy to Production

git checkout master

git merge develop

git push origin master

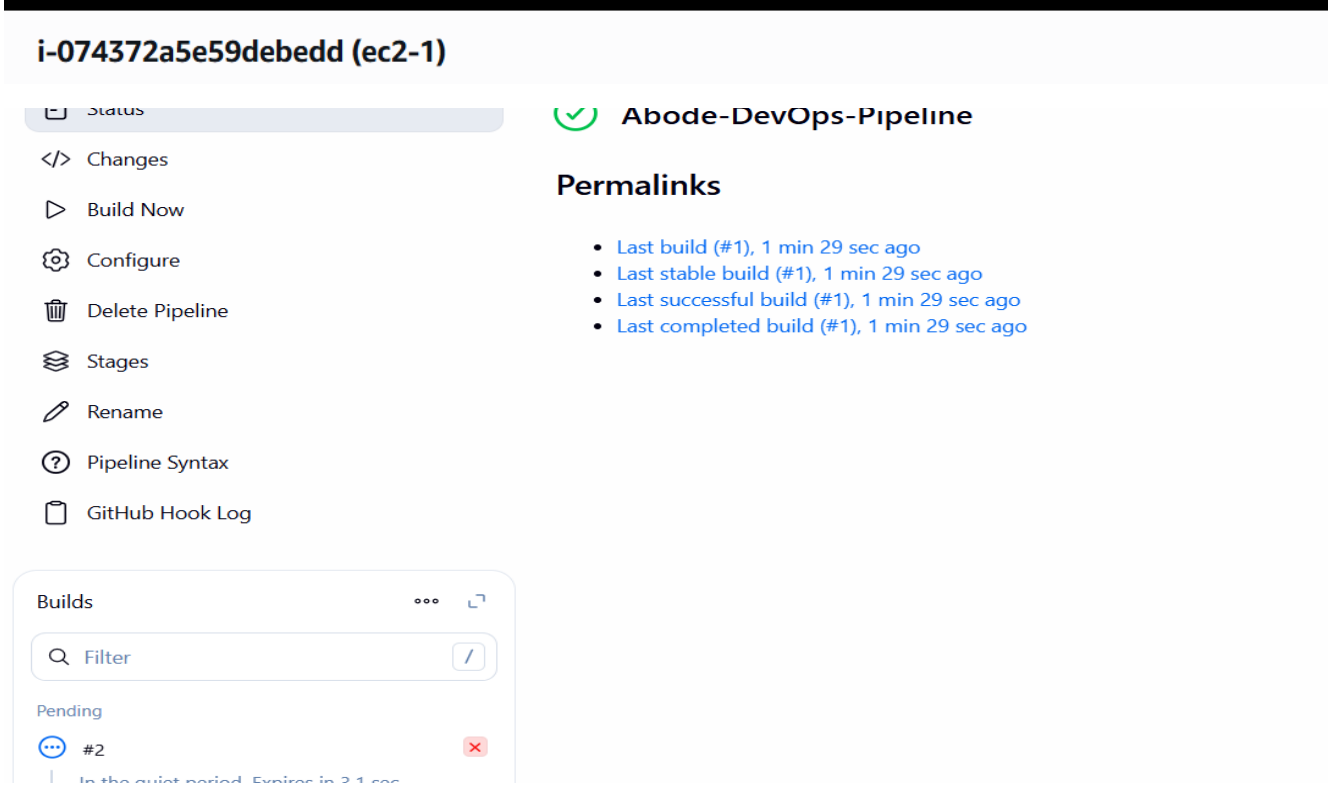
Result:

✓ Jenkins Pipeline triggered

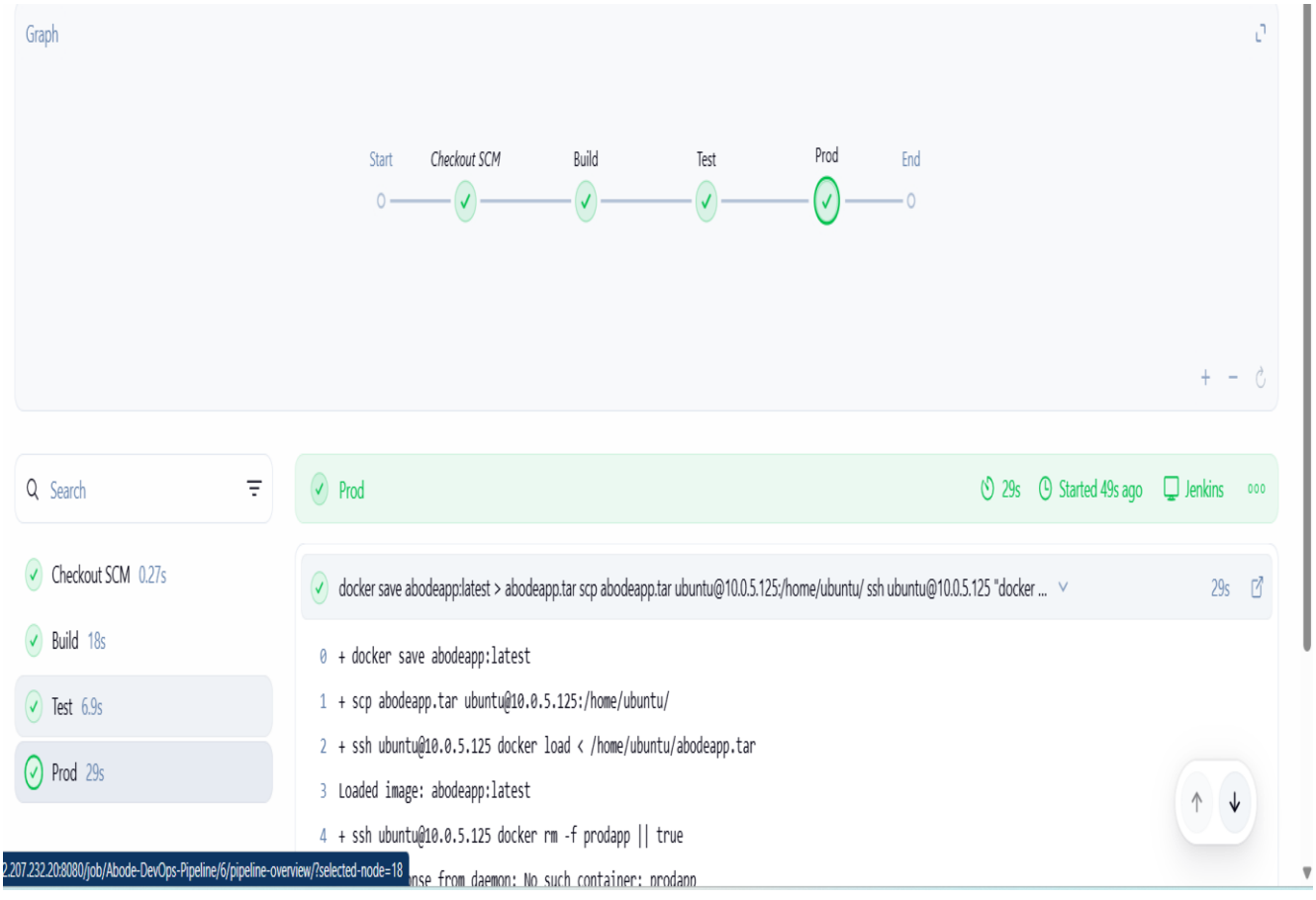
✓ **Build → Test → Prod stages executed**

✓ Docker image deployed automatically on Production Server

```
ubuntu@ip-10-0-4-224:~/website$ git checkout master
git merge develop
git push origin master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
Updating 33914b2..4ef170b
Fast-forward
 Dockerfile  |  2 ++
 Jenkinsfile | 34 ++++++++++++++++++++++++++++++++++
 index.html  |  2 ++
 3 files changed, 38 insertions(+)
 create mode 100644 Dockerfile
 create mode 100644 Jenkinsfile
Username for 'https://github.com': vikky9387
Password for 'https://vikky9387@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 2 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 307 bytes | 307.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/Vikky9387/website.git
   33914b2..4ef170b  master -> master
ubuntu@ip-10-0-4-224:~/website$
```



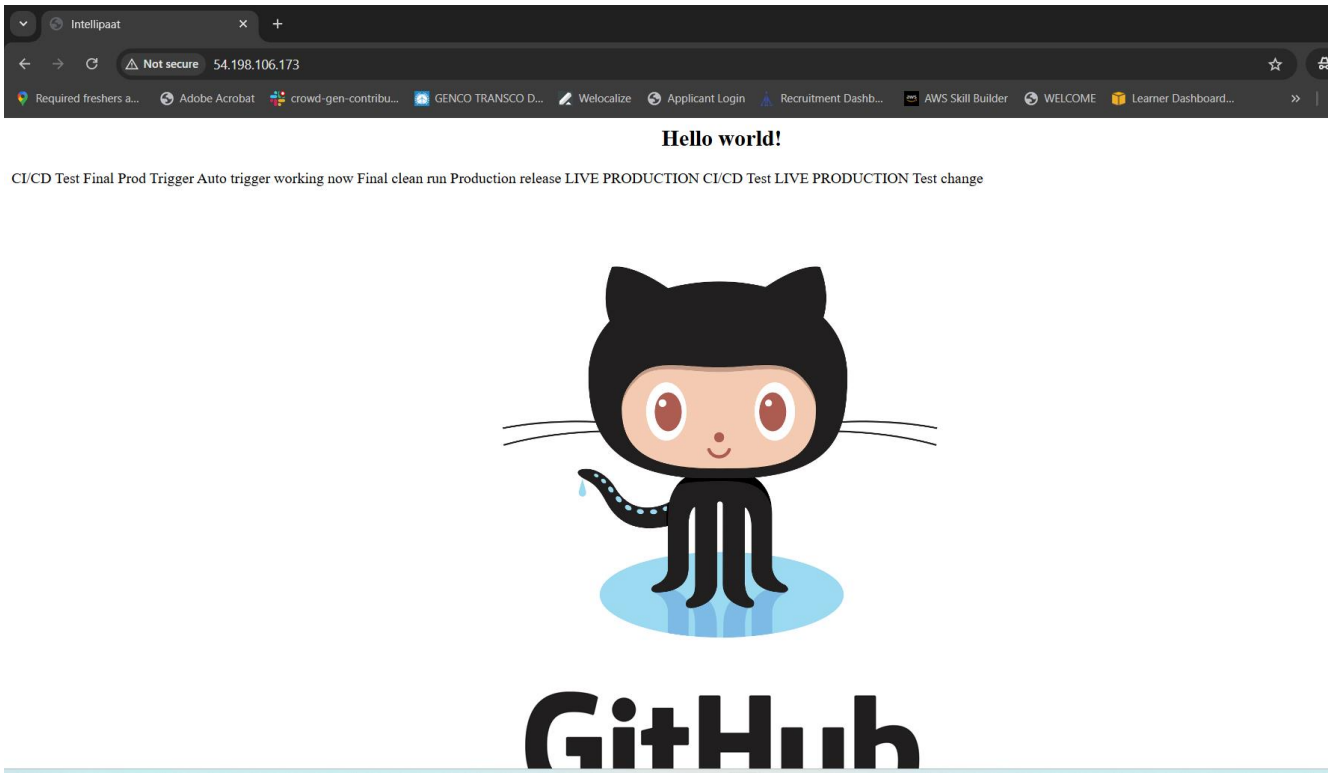
```
CI/CD Test
Final Prod Trigger
Auto trigger working now
Final clean run
Production release
LIVE PRODUCTION
CI/CD Test
LIVE PRODUCTION
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Prod)
Stage "Prod" skipped due to when conditional
[Pipeline] getContext
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```



13. Final Live Check

Open in browser:

http://54.198.106.173



14. Production Image Distribution Fix:

If the image does NOT exist, reload it:

On **EC2-1** (Jenkins server)**:**

docker save abodeapp:latest > abodeapp.tar

scp abodeapp.tar ubuntu@3.81.164.105:/home/ubuntu/

On **EC2-2**:

docker load < abodeapp.tar

docker run -d --name prodapp -p 80:80 abodeapp

Verify:

docker ps

curl http://localhost

```
ubuntu@ip-10-0-12-71:~/website$ docker save abodeapp:latest > abodeapp.tar
scp abodeapp.tar ubuntu@3.81.164.105:/home/ubuntu/
abodeapp.tar
abodeapp.tar
abodeapp.tar

ubuntu@ip-10-0-12-71:~/website$
```

i-0fa7c9278c7605841 (ec2-1)

```
ubuntu@ip-10-0-6-109:~$ docker load < abodeapp.tar
docker run -d --name prodapp -p 80:80 abodeapp
Loaded image: abodeapp:latest
83a7c4c85161f023fa5252fa6a6e6acf4ed85a479da688b199527437e69a1c55
ubuntu@ip-10-0-6-109:~$
```

i-0a4303ba6d475e8b0 (ec2-2)

```
ubuntu@ip-10-0-6-109:~$ docker ps
curl http://localhost
CONTAINER ID   IMAGE      COMMAND                  CREATED          STATUS          PORTS                                   NAMES
83a7c4c85161   abodeapp   "/bin/sh -c 'apachec…"   37 seconds ago   Up 36 seconds   0.0.0.0:80->80/tcp, [::]:80->80/tcp   prodapp
<html>
<head>
<title> Intellipaat </title>
</head>
<body style = "background-image:url('images/github3.jpg'); background-size: 100%">
<h2 ALIGN=CENTER>Hello world!</h2>
</body>
</html>
CI/CD Test
Final Prod Trigger
Auto trigger working now
Final clean run
Production release
LIVE PRODUCTION
CI/CD Test
LIVE PRODUCTION
Test change
Another test
Another test
Production deploy trigger
ubuntu@ip-10-0-6-109:~$
```

i-0a4303ba6d475e8b0 (ec2-2)

---

15. Final Result & Conclusion

A complete production-grade DevOps lifecycle was implemented with:

- Automated CI/CD
- Branch-based deployments
- Dockerized application
- Zero-manual production release
- Live production system

Project Implemented By:

Vikram Gangadhara.