

GUVI FINAL PROJECT : APPLICATION DEPLOYMENT

STEP 1 : Run the application in port 80 HTTP

```
Compiled successfully!
You can now view my-react-app in the browser.
Local:      http://localhost:80
On Your Network:  http://172.20.10.2:80
Note that the development build is not optimized.
To create a production build, use npm run build.
webpack compiled successfully
```

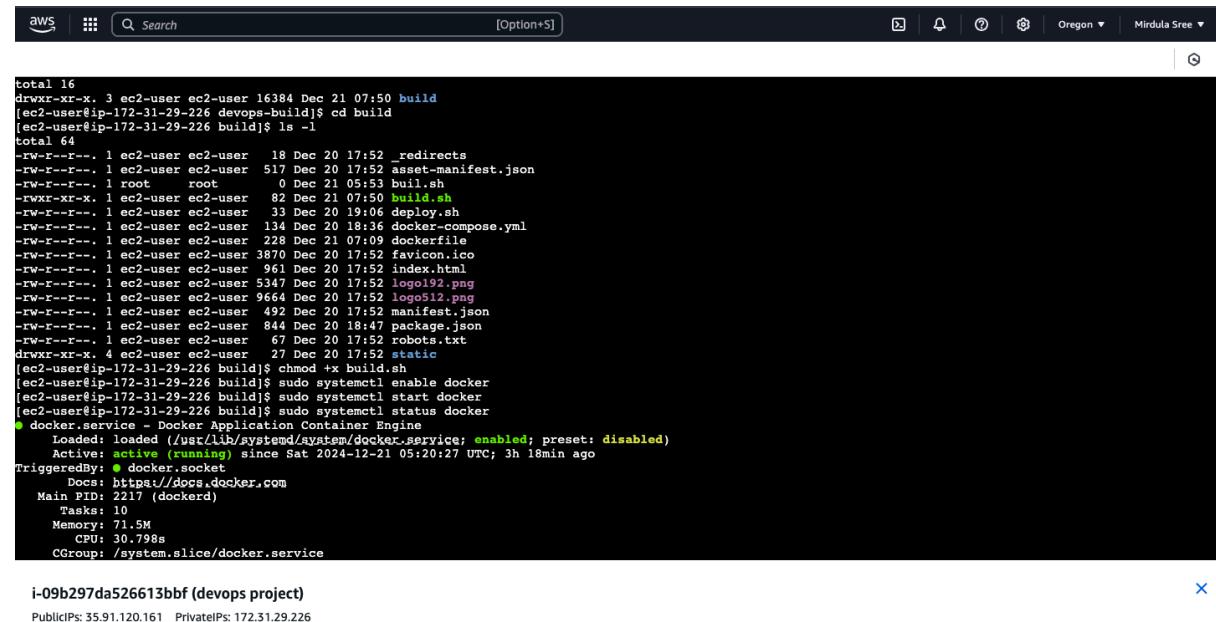

The screenshot shows a browser window titled "React App". The address bar indicates "Not Secure" and the IP address "172.20.10.2". The main content area displays the blue React logo and the text "Edit src/App.js and save to reload." followed by a link "Learn React". This visual confirmation shows that the application has been successfully deployed and is accessible via HTTP on port 80.

STEP 2 : Docker :

- Dockerize the application by creating a Dockerfile
- Create a docker-compose file to use the above image

SOLUTION:

Docker Running



```
total 16
drwxr-xr-x. 3 ec2-user ec2-user 16384 Dec 21 07:50 build
[ec2-user@ip-172-31-29-226 devops-build]$ cd build
[ec2-user@ip-172-31-29-226 build]$ ls -l
total 64
-rw-r--r--, 1 ec2-user ec2-user 18 Dec 20 17:52 redirects
-rw-r--r--, 1 ec2-user ec2-user 517 Dec 20 17:52 asset-manifest.json
-rw-r--r--, 1 root root 0 Dec 21 05:53 buil.sh
-rwxr-xr-x, 1 ec2-user ec2-user 82 Dec 21 07:50 build.sh
-rw-r--r--, 1 ec2-user ec2-user 33 Dec 20 19:06 deploy.sh
-rw-r--r--, 1 ec2-user ec2-user 134 Dec 20 18:36 docker-compose.yml
-rw-r--r--, 1 ec2-user ec2-user 228 Dec 21 07:09 dockerfile
-rw-r--r--, 1 ec2-user ec2-user 3870 Dec 20 17:52 favicon.ico
-rw-r--r--, 1 ec2-user ec2-user 961 Dec 20 17:52 index.html
-rw-r--r--, 1 ec2-user ec2-user 5347 Dec 20 17:52 logo192.png
-rw-r--r--, 1 ec2-user ec2-user 9664 Dec 20 17:52 logo512.png
-rw-r--r--, 1 ec2-user ec2-user 492 Dec 20 17:52 manifest.json
-rw-r--r--, 1 ec2-user ec2-user 844 Dec 20 18:47 package.json
-rw-r--r--, 1 ec2-user ec2-user 67 Dec 20 17:52 robots.txt
drwxr-xr-x, 4 ec2-user ec2-user 27 Dec 20 17:52 static
[ec2-user@ip-172-31-29-226 build]$ chmod +x build.sh
[ec2-user@ip-172-31-29-226 build]$ sudo systemctl enable docker
[ec2-user@ip-172-31-29-226 build]$ sudo systemctl start docker
[ec2-user@ip-172-31-29-226 build]$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: disabled)
     Active: active (running) since Sat 2024-12-21 05:27 UTC; 3h 18min ago
TriggeredBy: ● docker.socket
   Docs: https://docs.docker.com
      Main PID: 2217 (dockerd)
         Tasks: 10
        Memory: 71.5M
          CPU: 30.798s
        CGroup: /system.slice/docker.service

```

i-09b297da526613bbf (devops project)

PublicIPs: 35.91.120.161 PrivateIPs: 172.31.29.226

BUILD.SH

```
#!/bin/bash
docker build -t test .
```

DEPLOY.SH

DOCKERFILE

```
FROM nginx:latest
COPY --from=nginx /etc/nginx/html /var/www/html
CMD build /var/www/html
# Expose port 80 (the default HTTP port)
# Start Nginx and keep it running in the foreground
CMD ["nginx", "-g", "daemon off;"]
```

DOCKER-COMPOSE.YML

```
--> version: '3'  
      container_name: react-capstone  
      image: "react-capstone"  
      ports:  
        - "3001:3001"  
      volumes:  
        - ./src:/app/src  
        - ./public:/app/public  
      networks:  
        - reactcapstonenetwork  
      restart: always  
  
```

INDEX.HTML

DOCKER BUILDING IMAGES

DOCKER IMAGES (Repository name - Test)

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
test	latest	59daaf34a5849	48 minutes ago	194MB
ny-react-app-app	latest	635f5385d3c5	2 weeks ago	1.59GB
madhut26/dev	latest	635f5385d3c5	2 weeks ago	1.59GB
madhut26/dev/my-react-app-app	latest	635f5385d3c5	2 weeks ago	1.59GB
devops-build	latest	c39cc3e4fcac	2 weeks ago	1.59GB
madhut26/dev/devops-build	latest	c39cc3e4fcac	2 weeks ago	1.59GB
madhut26/dev/k8s-build	latest	703a0a33a359	2 weeks ago	1.59GB
docker/desktop-kubernetes	kubernetes	6a6dd6da2ead	2 months ago	435MB
madhut26/devopsnginx-docker-nginx	latest	715829c57d72	3 months ago	188MB
registry.k8s.io/kube-apiserver	v1.38.5	e9addc5c875a8	3 months ago	117MB
registry.k8s.io/kube-controller-manager	v1.38.5	38486642cf08	3 months ago	111MB
registry.k8s.io/kube-scheduler	v1.38.5	25983461e65c	3 months ago	62MB
registry.k8s.io/kubelet	v1.38.5	703a0a33a359	3 months ago	56MB
registry.k8s.io/coredns/coredns	v1.11.3	c49fa2a9cb7e	4 months ago	61.8MB
docker/desktop-kubernetes	kubernetes-v1.38.2-cni-v1.4.0-critools-v1.29.0-cri-dockerd-v0.3.11-1-debian	8b7b9d45b6d5	5 months ago	435MB
registry.k8s.io/kube-apiserver	v1.38.2	56cc9fd95b53	6 months ago	117MB
registry.k8s.io/kube-controller-manager	v1.38.2	e87481b83caa	6 months ago	111MB
registry.k8s.io/kube-scheduler	v1.38.2	7820c83aa139	6 months ago	62MB
registry.k8s.io/kubelet-proxy	v1.38.2	85a0a33a359	6 months ago	56.7MB
registry.k8s.io/etcd	3.4.12-0	8841cfc7c794	19 months ago	14.6MB
docker/welcome-to-docker	latest	c1f619b4a477e	13 months ago	18.6MB
registry.k8s.io/coredns/coredns	v1.11.1	ccb01a7bd410	16 months ago	59.8MB
docker/desktop-vpnkit-controller	dc331cb22858be0cdd97c84a9cfecaf44a1afbf6e	556908075b3d	19 months ago	36.2MB
registry.k8s.io/pause	3.9	e6f181683897	2 years ago	744KB
docker/desktop-storage-provisioner	v2.0	99f89471f478	3 years ago	41.9MB

DOCKER LOGIN

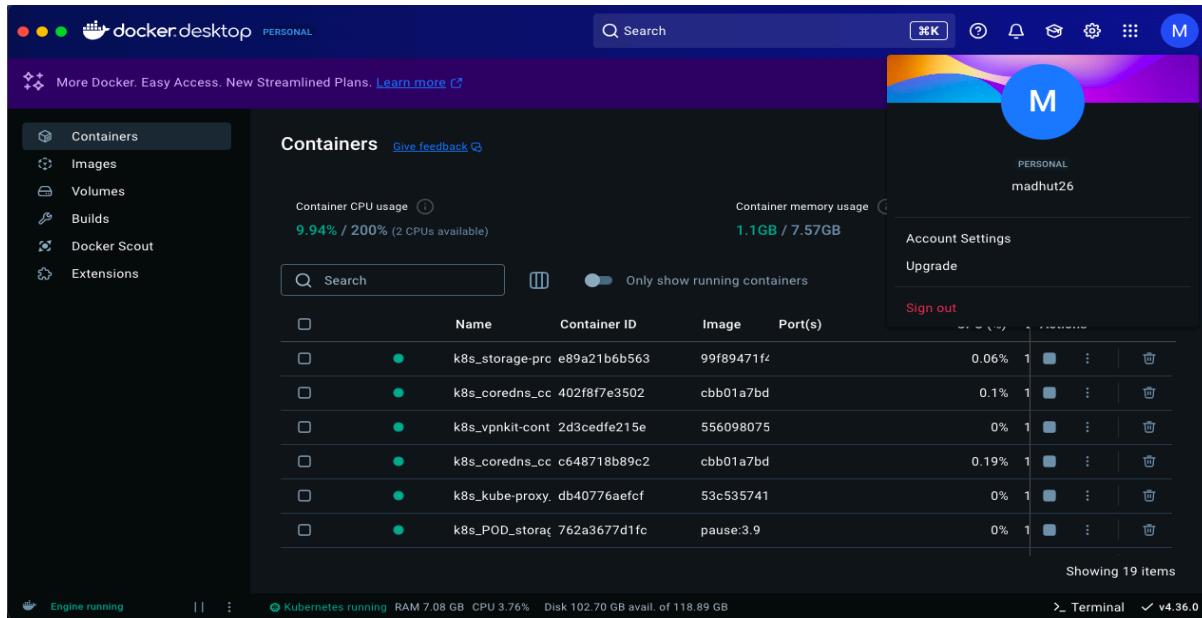


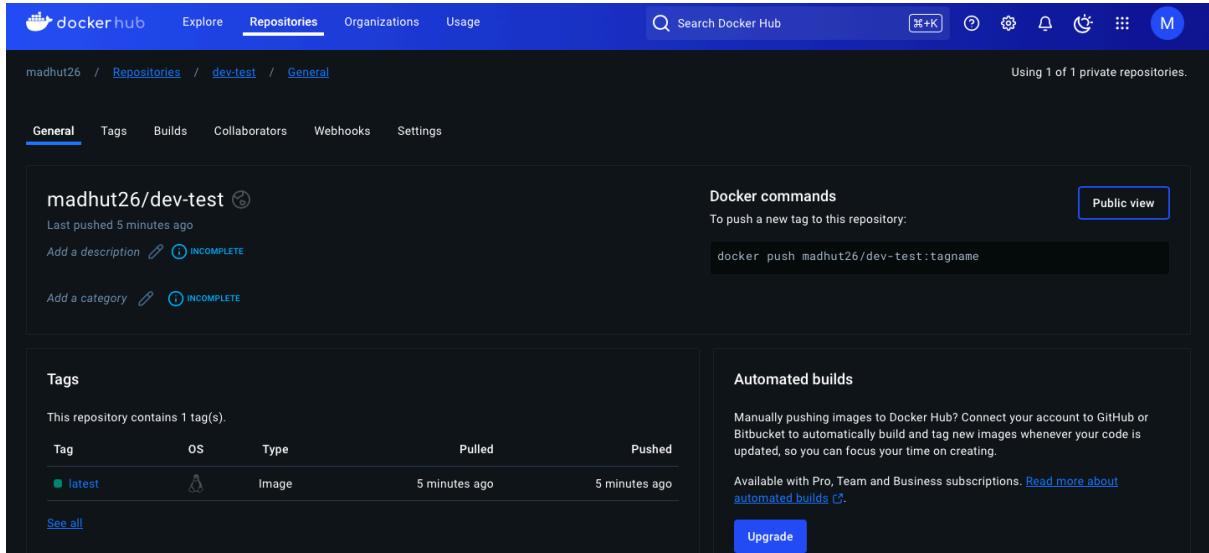
IMAGE PUSHED ON DEV PUBLIC

madhumithathiyagarajan@Madhumithas-MacBook-Air capstone % docker push madhut26/dev-test
Using default tag: latest
The push refers to repository [docker.io/madhut26/dev-test]
4bae850e144: Pushed
d32d82b0fc1: Mounted from library/nginx
c28e8f7a173: Mounted from library/nginx
8aa4057a173: Mounted from library/nginx
be69cc3b03c: Mounted from library/nginx
2c3a053d7b67: Mounted from library/nginx
fc00eb56a35: Mounted from library/nginx
c0f1022b2a9: Mounted from library/nginx
latest: digest: sha256:f49d4f69191882c22236fb0d999c94f7b4a44aa3df6113ceb5feb299078ccc size: 1988
madhumithathiyagarajan@Madhumithas-MacBook-Air capstone %

IMAGE PUSHED ON PROD PUBLIC

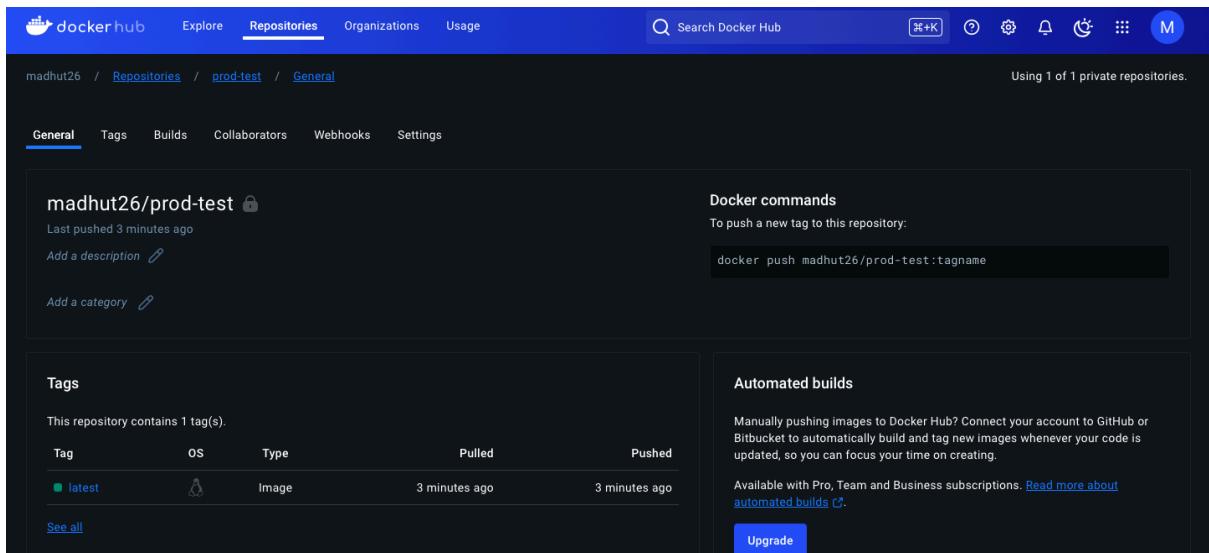
madhumithathiyagarajan@Madhumithas-MacBook-Air capstone % docker tag test:latest madhut26/prod-test
Using default tag: latest
The push refers to repository [docker.io/madhut26/prod-test]
4bae850e144: Mounted from madhut26/dev-test
d32d82b0fc1: Mounted from madhut26/dev-test
c28e8f7a173: Mounted from madhut26/dev-test
8aa4057a173: Mounted from madhut26/dev-test
be69cc3b03c: Mounted from madhut26/dev-test
2c3a053d7b67: Mounted from madhut26/dev-test
fc00eb56a35: Mounted from madhut26/dev-test
c0f1022b2a9: Mounted from madhut26/dev-test
latest: digest: sha256:9d0e4f991292c02c05fb0d999c94f7b4a44aa3df6113ceb5feb299078ccc size: 1988
madhumithathiyagarajan@Madhumithas-MacBook-Air capstone %
madhumithathiyagarajan@Madhumithas-MacBook-Air capstone %

IMAGE PUSHED INTO DOCKER HUB REPO(DEV)



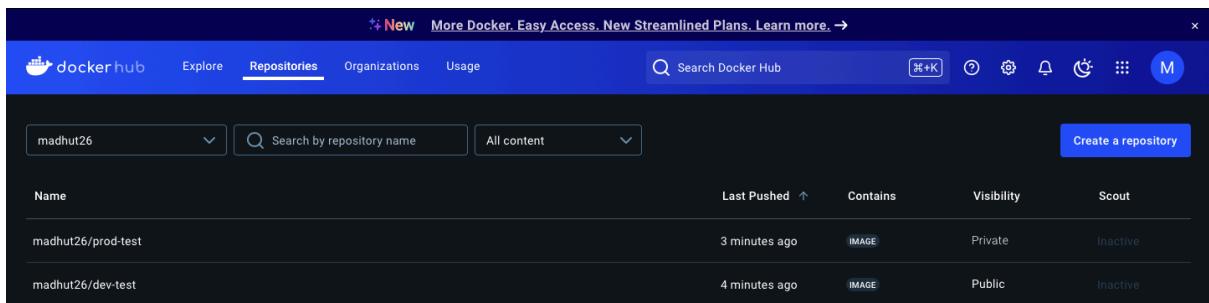
The screenshot shows the Docker Hub interface for a private repository named 'madhut26/dev-test'. The 'General' tab is selected. The repository was last pushed 5 minutes ago. It contains one tag, 'latest', which is an image type pushed 5 minutes ago. The Docker commands section shows the command 'docker push madhut26/dev-test:tagname'. The 'Automated builds' section is available with Pro, Team, and Business subscriptions.

IMAGE PUSHED INTO DOCKER HUB(PROD)



The screenshot shows the Docker Hub interface for a private repository named 'madhut26/prod-test'. The 'General' tab is selected. The repository was last pushed 3 minutes ago. It contains one tag, 'latest', which is an image type pushed 3 minutes ago. The Docker commands section shows the command 'docker push madhut26/prod-test:tagname'. The 'Automated builds' section is available with Pro, Team, and Business subscriptions.

DOCKER HUB REPOSITORIES WITH IMAGES:



The screenshot shows the Docker Hub search results for the user 'madhut26'. Two repositories are listed: 'madhut26/prod-test' (last pushed 3 minutes ago, Private, Inactive) and 'madhut26/dev-test' (last pushed 4 minutes ago, Public, Inactive). A 'Create a repository' button is visible at the top right.

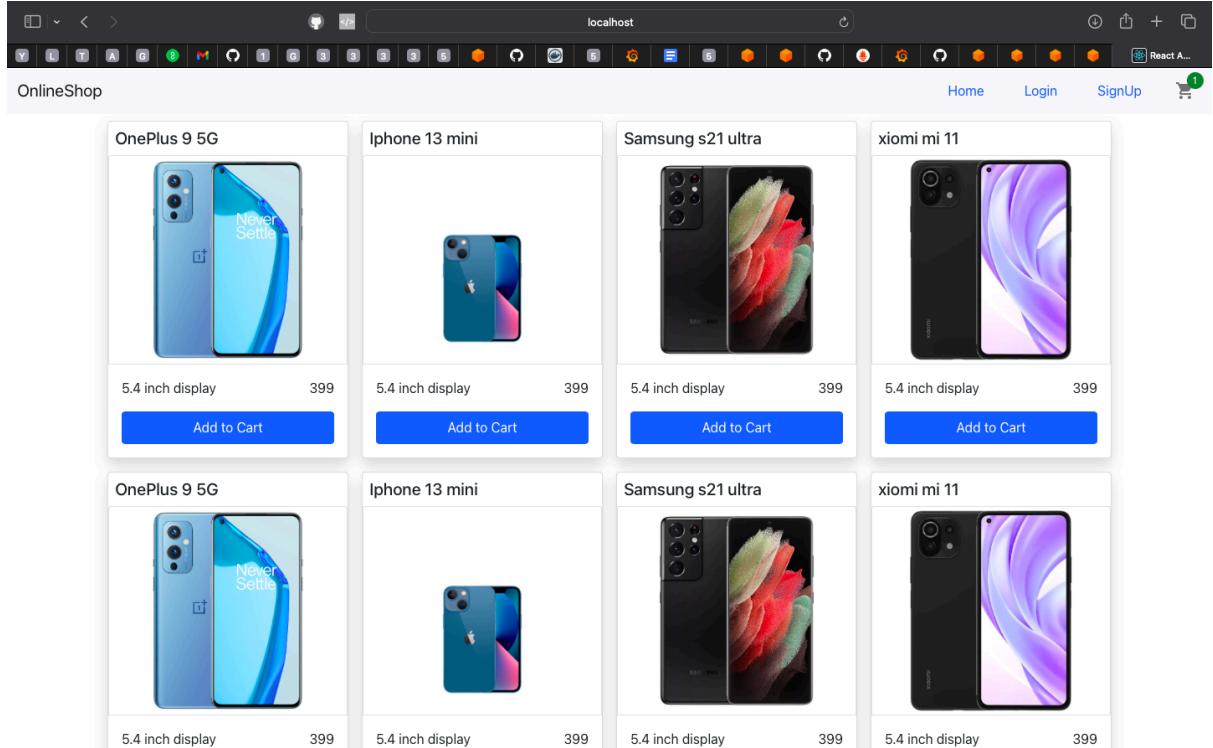
DOCKER PORT RANGE 80 (test)

```
madhumithayagarsjan@Madhumithas-MacBook-Air capstone % docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d4786f94a966 test "/docker-entrypoint..." 50 minutes ago Up 49 minutes 0.0.0.0:9091->80/tcp k8s_vpnkit-controller_vpnlk...
651612e7a7c7 556998075b3d "/kube-vpnkit-forwarder" 59 minutes ago Up 59 minutes k8s_coredns_coredns-7db6d8ff4d-vzxdf_kube-system_6fb1d14-66bc-4677-ba...
4-25d847f0af4_6 cbb01a7bd410 "/coredns -conf /etc..." About an hour ago Up About an hour k8s_coredns_coredns-7db6d8ff4d-vzxdf_kube-system_10922905-8d33-4503-a52-a...
dd2d71e451b2d2 53c59574a6f4 "/coredns -conf /etc..." About an hour ago Up About an hour k8s_coredns_coredns-7db6d8ff4d-vzxdf_kube-system_cc96eb6c-0d57-4cbd...
4edc628a8b95_6 99f59971f470 "/storage-provisioner..." About an hour ago Up About an hour k8s_storage-provisioner_kube-proxy-tqj2z_kube-system_115ac339-34c1-4fec-9ae6-1d3848...
-d1fc-923b64c6b55_12 3073367a3454 53c59574a6f4 "/usr/local/bin/kube..." About an hour ago Up About an hour k8s_coredns_coredns-7db6d8ff4d-vzxdf_kube-system_ad137418-d9f9-4891-993d-f...
2d511a_6 f4772acc59e cbb01a7bd410 "/coredns -conf /etc..." About an hour ago Up About an hour k8s_POD_coredns-7db6d8ff4d-vftjz_kube-system_ed137418-d9f9-4891-993d-f8ec4...
8ec64d34a6f registry.k8s.io/pause:3.9 "/pause" About an hour ago Up About an hour k8s_POD_storage-provisioner_kube-system_c986eb6c-0d57-4cbd-8f5c-923b684c6b...
6fdcc27b_6 abc67d0bb2cf registry.k8s.io/pause:3.9 "/pause" About an hour ago Up About an hour k8s_POD_coredns-7db6d8ff4d-vzxdf_kube-system_10922905-8d33-4503-a52-a4ddc...
55_6 86abdd1d5a70 registry.k8s.io/pause:3.9 "/pause" About an hour ago Up About an hour k8s_POD_vpnlk-controller_kube-system_6f4b1d14-66bc-4677-ba84-25d5847f0af4...
5315cc1_6 57f28005f354 registry.k8s.io/pause:3.9 "/pause" About an hour ago Up About an hour k8s_POD_kube-proxy-tqj2z_kube-system_115ac339-34c1-4fec-9ae6-1d3848d2d51a...
6 468fe45a852db registry.k8s.io/pause:3.9 "/pause" About an hour ago Up About an hour k8s_POD_kube-apiserver_kube-apiserver-docker-desktop_kube-system_3fe1f12ace7990088a27f5a...
a2be82242ba9 56ce0fd9fb53 "kube-apiserver --ad..." About an hour ago Up About an hour k8s_POD_kube-controller-manager_kube-controller-manager-docker-desktop_kube-sy...
80868a2775a6c63bce9_6 b0359811201 registry.k8s.io/pause:3.9 "/pause" About an hour ago Up About an hour k8s_kube-scheduler_kube-scheduler-docker-desktop_kube-system_aa7bfbbe0588...
0363breh_6 e98620a67cf8 e874818b3caa "kube-controller-man..." About an hour ago Up About an hour k8s_etcd_etcd-docker-desktop_kube-system_3436b10c8a489853c5f3ba0f32b03652...
stem_2d884e49a38d39de4a672cbfd8a93ca9_6 ed358ba19997 7829e83a139 "/kube-scheduler --au..." About an hour ago Up About an hour k8s_POD_kube-scheduler-docker-desktop_kube-system_aa7bfbbe0588...
d86569a828da416992_7 3861cfcd7c04 "*etcd --advertise-cl..." About an hour ago Up About an hour k8s_POD_kube-controller-manager_docker-desktop_kube-system_2d884e49e3dd8d...
4 00933188f0c9 registry.k8s.io/pause:3.9 "/pause" About an hour ago Up About an hour k8s_POD_kube-controller-manager_docker-desktop_kube-system_3436b10c8a489853c5f3ba0f32b03652_6...
d4116992_6 1047192a6725 registry.k8s.io/pause:3.9 "/pause" About an hour ago Up About an hour k8s_POD_kube-controller-manager_docker-desktop_kube-system_2d884e49e3dd8d...
ed4b272cbfd8a93ca9_6 be898d979863 registry.k8s.io/pause:3.9 "/pause" About an hour ago Up About an hour k8s_POD_etcd-docker-desktop_kube-system_3436b10c8a489853c5f3ba0f32b03652_6...
madhumithayagarsjan@Madhumithas-MacBook-Air capstone %
```

WEBSITE IP ADDRESS



WEBSITE RUNNING ON PORT 80:



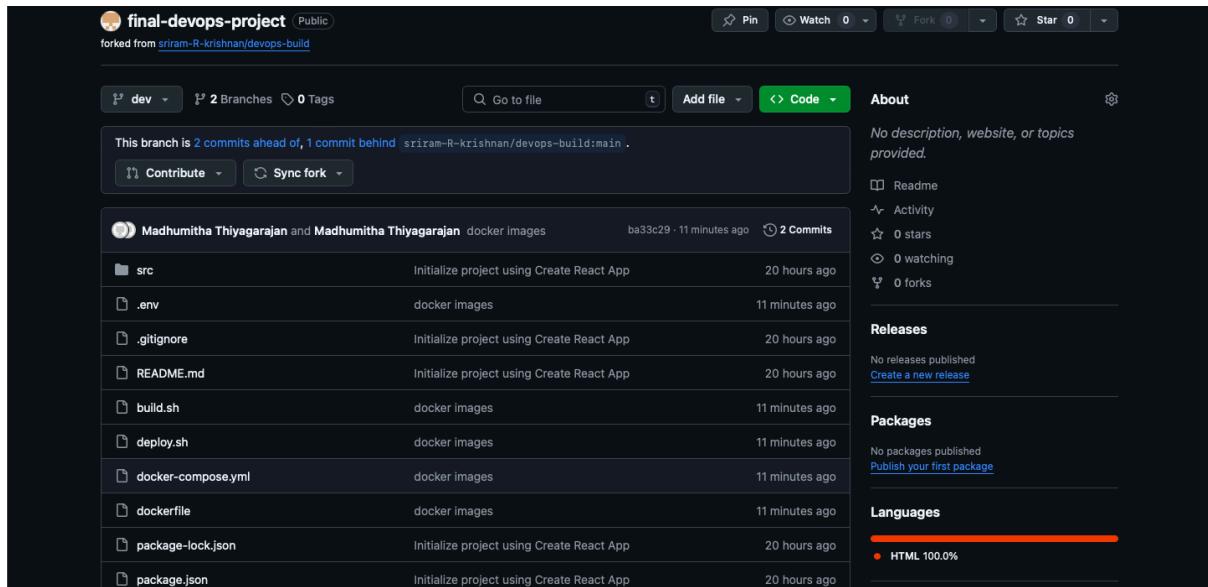
STEP 3 : Version Control:

- Push the code to github to dev branch (use dockerignore & gitignore files)
- Note: Use only CLI for related git commands

PUSHED TO GIT DEV BRANCH

```
madhumithathiagarajan@Madhumithas-MacBook-Air my-react-app % git branch
* main
madhumithathiagarajan@Madhumithas-MacBook-Air my-react-app % git push -u origin dev
Enumerating objects: 29, done.
Counting objects: 100% (29/29), done.
Delta compression objects: 0%, (0/29) done.
Compressing objects: 100% (27/27), done.
Writing objects: 100% (29/29), 177.35 KiB | 6.82 MiB/s, done.
Total 29 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), done.
remote:
remote: Create a pull request for 'dev' on Github by visiting:
remote:   https://github.com/madhumithathiagarajan/final-devops-project/pull/new/dev
remote:
To https://github.com/madhumithathiagarajan/final-devops-project.git
 * [new branch]      dev -> dev
branch 'dev' set up to track 'origin/dev'.
madhumithathiagarajan@Madhumithas-MacBook-Air my-react-app %
```

PUSHED DOC



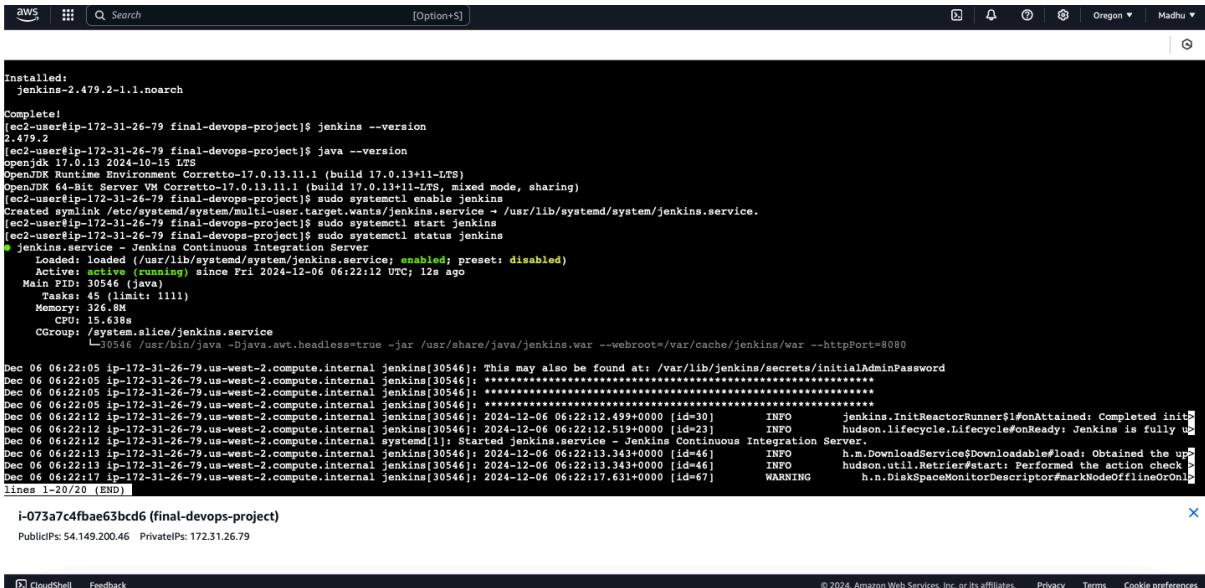
STEP 4 : Jenkins:

- Install and configure jenkins build step as per needs to build, push & deploy the application
- Connect jenkins to the github repo with auto build trigger from both dev & master branch
- If code pushed to dev branch, docker image must build and pushed to dev repo in docker hub
 - If dev merged to master, then docker image must be pushed to prod repo in docker hub.

EC2 IN TERMINAL

```
maxwiththiyagarajan@Madhu's-MacBook-Air devops % ssh -i "newly.pem" ec2-user@ec2-54-149-200-46.us-west-2.compute.amazonaws.com
  _/ \
  ####_ Amazon Linux 2023
  ## \###\
  -- \###|
  -- \#/
  -- \#--> https://aws.amazon.com/linux/amazon-linux-2023
  -- /-
  -- /m/
Last login: Fri Dec  6 05:56:15 2024 from 18.237.140.163
[ec2-user@ip-172-31-26-79 ~]$ ls -l
total 16
drwxr-xr-x  4 ec2-user ec2-user 16384 Dec  6 06:03 final-devops-project
```

JENKINS RUNNING



The screenshot shows the AWS CloudShell interface with a terminal window displaying Jenkins logs. The logs show the installation of Jenkins 2.479.2-1.1.noarch, its configuration, and its successful startup as a service. The log output includes details about Java version, system environment, and Jenkins initialization.

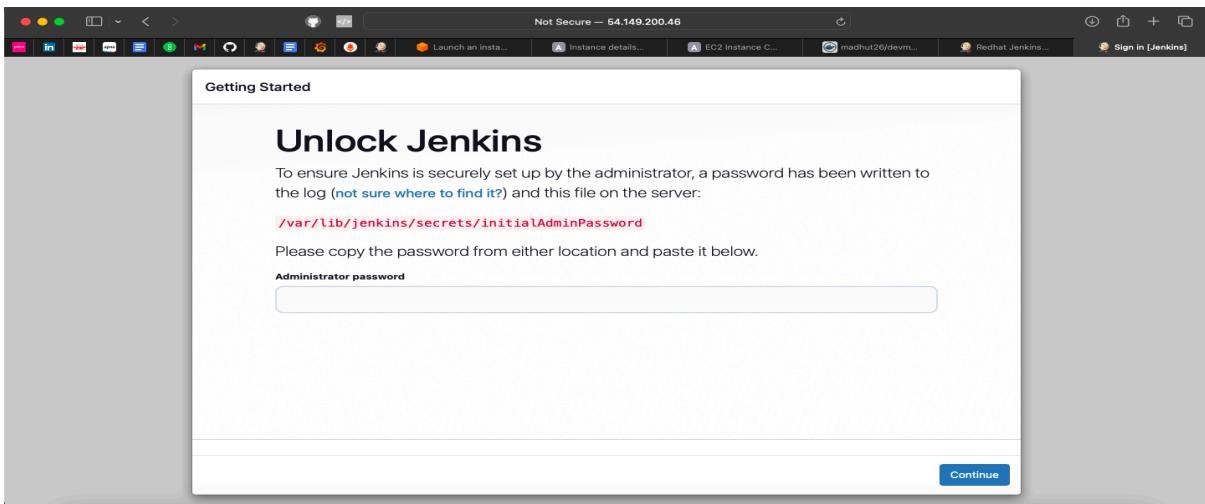
```
Installed:
jenkins-2.479.2-1.1.noarch

Complete!
[ec2-user@ip-172-31-26-79 final-devops-project]$ jenkins --version
2.479.2
[ec2-user@ip-172-31-26-79 final-devops-project]$ java --version
java(TM) SE Runtime Environment Corretto-17.0.13.11.1 (build 17.0.13+11-LTS)
OpenJDK 64-Bit Server VM Corretto-17.0.13.11.1 (build 17.0.13+11-LTS, mixed mode, sharing)
[ec2-user@ip-172-31-26-79 final-devops-project]$ sudo systemctl enable jenkins
Created symlink /etc/systemd/system/multi-user.target.wants/jenkins.service → /usr/lib/systemd/system/jenkins.service.
[ec2-user@ip-172-31-26-79 final-devops-project]$ sudo systemctl start jenkins
[ec2-user@ip-172-31-26-79 final-devops-project]$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: disabled)
     Active: active (running) since Fri 2024-12-06 06:22:12 UTC; 12s ago
       PID: 30546 (java)
      Tasks: 45 (limit: 1111)
     Memory: 326.8M
        CPU: 15.638s
       CGroup: /system.slice/jenkins.service
           └─ 30546 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Dec 06 06:22:05 ip-172-31-26-79.us-west-2.compute.internal jenkins[30546]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
Dec 06 06:22:05 ip-172-31-26-79.us-west-2.compute.internal jenkins[30546]: ****
Dec 06 06:22:05 ip-172-31-26-79.us-west-2.compute.internal jenkins[30546]: ****
Dec 06 06:22:05 ip-172-31-26-79.us-west-2.compute.internal jenkins[30546]: 2024-12-06 06:22:12.459+0000 [id=20] INFO Jenkins.InitReactorRunner$1@onAttained: Completed init
Dec 06 06:22:12 ip-172-31-26-79.us-west-2.compute.internal jenkins[30546]: 2024-12-06 06:22:12.519+0000 [id=23] INFO hudson.lifecycle.Lifecycle$OnReady: Jenkins is fully up
Dec 06 06:22:12 ip-172-31-26-79.us-west-2.compute.internal systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
Dec 06 06:22:13 ip-172-31-26-79.us-west-2.compute.internal jenkins[30546]: 2024-12-06 06:22:13.343+0000 [id=46] INFO h.m.DownloadService$Downloadable#load: Obtained the up
Dec 06 06:22:13 ip-172-31-26-79.us-west-2.compute.internal jenkins[30546]: 2024-12-06 06:22:13.343+0000 [id=46] INFO hudson.util.Retrier#start: Performed the action check
Dec 06 06:22:17 ip-172-31-26-79.us-west-2.compute.internal jenkins[30546]: 2024-12-06 06:22:17.631+0000 [id=67] WARNING h.n.DiskSpaceMonitorDescriptor#markNodeOfflineOrOnli
lines 1-20/20 (END)

i-073a7c4fbae63bcd6 (final-devops-project)
```

JENKINS LOGIN PAGE



JENKINS BUILD 1

Dashboard > Jen-project > Configuration

Configure

Build Steps

Execute shell

Command

See the list of available environment variables

```
docker build -t madhut26/devmy-react-app-app .
```

Advanced

Execute shell

Command

See the list of available environment variables

```
docker login -u madhut26 -p Madhumitha@26  
docker push madhut26/devmy-react-app-app
```

Save Apply

```
graph TD; A[Build Step 1: docker build -t madhut26/devmy-react-app-app .]; B[Build Step 2: docker login -u madhut26 -p Madhumitha@26<br/>docker push madhut26/devmy-react-app-app]
```

JENKINS BUILD 2

Dashboard > Jen-project > Configuration

Configure

General

Source Code Management

Build Triggers

Build Environment

Build Steps

Post-build Actions

Advanced

Execute shell

Command

See the list of available environment variables

```
docker build -t madhut26/proddevops-build .  
docker push madhut26/proddevops-build
```

Advanced

Add build step

Post-build Actions

Save Apply

```
graph TD; A[Build Step: docker build -t madhut26/proddevops-build .<br/>docker push madhut26/proddevops-build]
```

WEBHOOKS

madhumithathiagarajan / final-devops-project

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General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

Webhooks

Environments

Codespaces

Pages

Recent Deliveries

Settings

Webhooks / Manage webhook

Delivery ID	Action	Timestamp	...
fac3f35a-b3b2-11ef-800a-5ffe89d8aacd	push	2024-12-06 14:47:57	[...]
78a46e00-b3b1-11ef-8010-c02a2364a9a5	ping	2024-12-06 14:37:10	[...]

Security

Code security

Deploy keys

Secrets and variables

```
graph TD; A[Delivery 1: fac3f35a-b3b2-11ef-800a-5ffe89d8aacd push]; B[Delivery 2: 78a46e00-b3b1-11ef-8010-c02a2364a9a5 ping]
```

JENKINS SUCCESS

 Jenkins

Dashboard > Jen-project > #2 > Console Output

Status Changes Console Output Edit Build Information Delete build '#2' Timings Git Build Data Open Blue Ocean Previous Build

Console Output

Started by user madhu
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/Jen-project
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/Jen-project/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/madhumithathyagarajan/final-devops-project.git # timeout=10
Fetching upstream changes from https://github.com/madhumithathyagarajan/final-devops-project.git
> git --version # timeout=10
> git --version # 'git version 2.40.1'
> git fetch --tags --force --progress -- https://github.com/madhumithathyagarajan/final-devops-project.git
+refs/heads/*\:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/dev^{commit} # timeout=10
Checking out Revision de3b8f4f34d0ef8b56c71c2b0b6be33943117a1a (refs/remotes/origin/dev)
> git config core.sparsecheckout # timeout=10
> git checkout -f de3b8f4f34d0ef8b56c71c2b0b6be33943117a1a # timeout=10
Commit message: "jenkinsfile"
> git rev-list --no-walk de3b8f4f34d0ef8b56c71c2b0b6be33943117a1a # timeout=10
[Jen-project] \$ /bin/sh -xe /tmp/jenkins1422047803869441978.sh
+ docker build -t madhut26/devmy-react-app .
Building with Dockerfile in workspace using docker driver

Dashboard > Jen-project > #2 > Console Output

```
-----  
3c777d951de2: Waiting  
f8a91dd5fc84: Waiting  
cb81227abde5: Waiting  
e01a454893a9: Waiting  
c45668adde37: Waiting  
fe0fb3ab4a0f: Waiting  
f1186e5061f2: Waiting  
b2dba7477754: Waiting  
0d5f5a015e6d: Layer already exists  
3c777d951de2: Layer already exists  
1df56266fb37: Mounted from madhut26/devmy-react-app-app  
7ae4a025ff26: Mounted from madhut26/devmy-react-app-app  
7348df6bcf0d: Mounted from madhut26/devmy-react-app-app  
b3d0cddd1f75: Mounted from madhut26/devmy-react-app-app  
f8a91dd5fc84: Layer already exists  
e01a454893a9: Layer already exists  
c45668adde37: Layer already exists  
cb81227abde5: Layer already exists  
fe0fb3ab4a0f: Layer already exists  
b2dba7477754: Layer already exists  
f1186e5061f2: Layer already exists  
latest: digest: sha256:fd790f75a221d94f1d86ce10db1664e8e3703cb9f6eff11759bc017cc3ce7c67 size: 3055  
Finished: SUCCESS
```

JENKINS BUILDED DOCKER IMAGE

[+ New](#) More Docker. Easy Access. New Streamlined Plans. Learn more →

docker hub Explore Repositories Organizations Usage

Search Docker Hub

madhut26 / [Repositories](#) / [devmy-react-app-app](#) / [General](#)

Using 1 of 1 private repositories.

General Tags Builds Collaborators Webhooks Settings

madhut26/devmy-react-app-app

Last pushed 1 minute ago

Add a description INCOMPLETE

Add a category INCOMPLETE

Docker commands

To push a new tag to this repository:

```
docker push madhut26/devmy-react-app-app:tagname
```

Tags

This repository contains 1 tag(s).

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

[See all](#)

Automated builds

Manually pushing images to Docker Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#)

[Upgrade](#)

BUILDED PROD FROM JENKINS

New More Docker. Easy Access. New Streamlined Plans. Learn more →

docker hub Explore Repositories Organizations Usage Search Docker Hub

madhut26 / Repositories / proddevops-build / General Using 1 of 1 private repositories.

General Tags Builds Collaborators Webhooks Settings

madhut26/proddevops-build

Last pushed 1 minute ago

Add a description

Add a category

Docker commands

To push a new tag to this repository:

```
docker push madhut26/proddevops-build:tagname
```

Tags

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
latest		Image	---	a few seconds ago

[See all](#)

Automated builds

Manually pushing images to Docker Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#).

[Upgrade](#)

AFTER BUILDED JENKINS THE DOCKER IMAGES

TRIGGERED FROM GITHUB

The screenshot shows the Jenkins interface for a project named 'Jen-project'. The 'Console Output' tab is selected. The output log shows a GitHub push triggered the build. The log details the git fetch and clone process, including the URL <https://github.com/madhumithathyagarajan/final-devops-project.git>. It also shows the Docker build command being executed.

```
Started by GitHub push by madhumithathyagarajan
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/Jen-project
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/Jen-project/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/madhumithathyagarajan/final-devops-project.git # timeout=10
Fetching upstream changes from https://github.com/madhumithathyagarajan/final-devops-project.git
> git --version # timeout=10
> git --version # 'git version 2.40.1'
> git fetch --tags --force --progress -- https://github.com/madhumithathyagarajan/final-devops-project.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/dev^{commit} # timeout=10
Checking out Revision b19ddaa085edfe9e89e78141fa3c3dcfcacbbbc62 (refs/remotes/origin/dev)
> git config core.sparsecheckout # timeout=10
> git checkout -b b19ddaa085edfe9e89e78141fa3c3dcfcacbbbc62 # timeout=10
Commit message: "build.sh"
> git rev-list --no-walk 6e64ec902d39db72bc4357bba6163f15f4efeb1f # timeout=10
[Jen-project] $ /bin/sh -xe /tmp/jenkins2956150400666905256.sh
+ docker build -t madhut26/devmy-react-app-app .
#0 building with "default" instance using docker driver
```

IMAGE TRIGGERED AFTER GITHUB TRIGGER

The screenshot shows the Docker Hub repository page for 'madhut26/devmy-react-app-app'. The repository was last pushed 4 minutes ago. It contains one tag, 'latest', which is an image type. The Docker commands section shows the command to push a new tag: `docker push madhut26/devmy-react-app-app:tagname`. The automated builds section indicates that manually pushing images to Docker Hub is possible by connecting accounts to GitHub or Bitbucket.

Tags

Tag	OS	Type	Pulled	Pushed
latest		Image	---	4 minutes ago

Docker commands

```
docker push madhut26/devmy-react-app-app:tagname
```

Automated builds

Manually pushing images to Docker Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#).

[Upgrade](#)

STEP 5 : AWS:

Launch t2, micro instance and deploy the create application.

Configure SG as below:

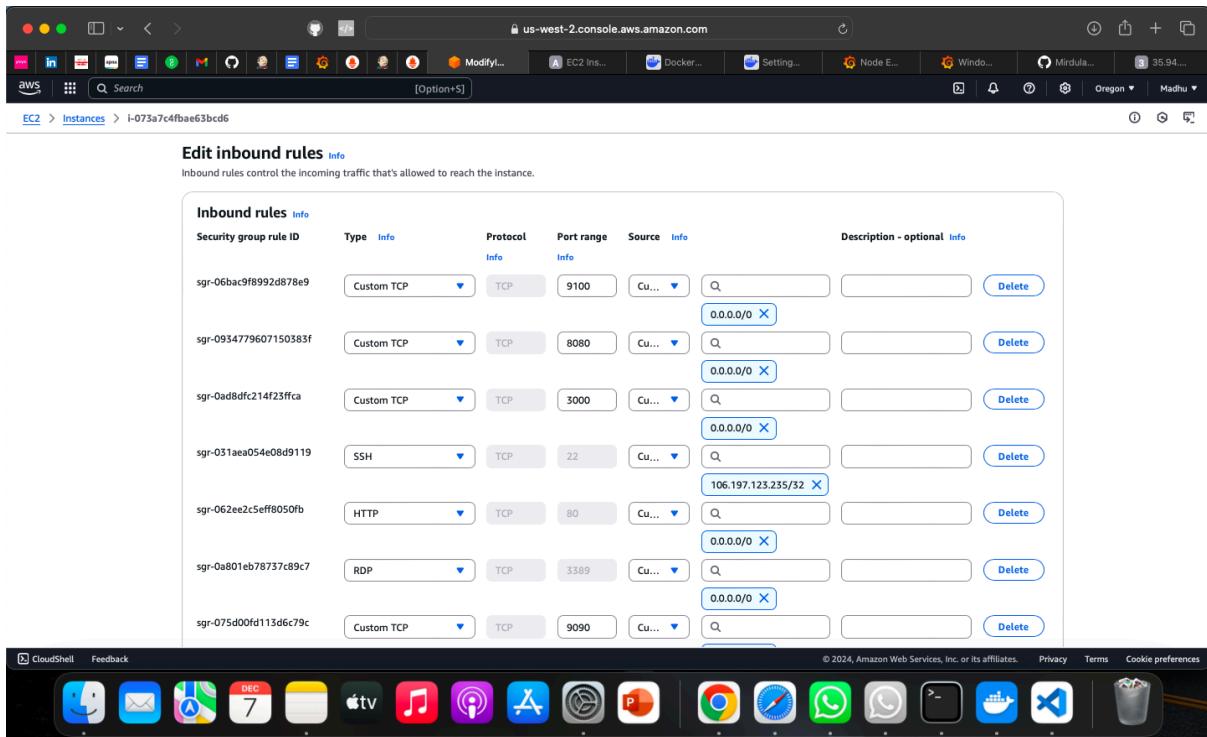
- Whoever has the ip address can access the application
- Login to server can should be made only from your ip address

The screenshot shows the AWS CloudShell interface. At the top, there's a navigation bar with links like 'CloudShell' and 'Feedback'. Below the navigation bar is a toolbar with various icons for different AWS services. The main area displays the AWS Lambda console, showing a list of functions. One function, 'HelloWorld', is highlighted. The details pane for this function shows its configuration, including the code snippet:

```
function helloWorld(event, context) {  
    const response = {  
        statusCode: 200,  
        body: "Hello World!"  
    };  
  
    context.succeed(response);  
}
```

The screenshot shows the AWS CloudShell interface. At the top, there's a navigation bar with links like 'CloudShell' and 'Feedback'. Below the navigation bar is a toolbar with various icons for different AWS services. The main area displays the AWS Lambda console, showing a list of functions. One function, 'HelloWorld', is highlighted. The details pane for this function shows its configuration, including the code snippet:

```
function helloWorld(event, context) {  
    const response = {  
        statusCode: 200,  
        body: "Hello World!"  
    };  
  
    context.succeed(response);  
}
```



STEP 6 : Monitoring:

- Setup a monitoring system to check the health status of the application.
(Open-source)
 - Sending notifications only if the application goes down is highly appreciable.

SOLUTION :

PROMETHEUS INSTALLED

Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-26-79 final-devops-project]\$ wget https://github.com/prometheus/prometheus/releases/download/v2.46.0/prometheus-2.46.0.linux-amd64.tar.gz
--2024-12-21 10:01:02 -- https://github.com/prometheus/prometheus/releases/download/v2.46.0/prometheus-2.46.0.linux-amd64.tar.gz
Resolving github.com (github.com)... 140.82.116.3
Connecting to github.com (github.com)|140.82.116.3|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 94876162 (90M) [application/octet-stream]
Saving to: 'prometheus-2.46.0.linux-amd64.tar.gz'

prometheus-2.46.0.linux-amd64.tar.gz 100%[=====] 90.48M 65.8MB/s in 1.4s

2024-12-21 10:01:04 {65.8B/s} - "prometheus-2.46.0.linux-amd64.tar.gz" saved [94876162/94876162]
[ec2-user@ip-172-31-26-79 final-devops-project]\$ tar -xvzf prometheus-2.46.0.linux-amd64.tar.gz
prometheus-2.46.0.linux-amd64/
prometheus-2.46.0.linux-amd64/console/libraries/
prometheus-2.46.0.linux-amd64/console/libraries/prob.lib
prometheus-2.46.0.linux-amd64/console/libraries/menu.lib
prometheus-2.46.0.linux-amd64/NOTICE
prometheus-2.46.0.linux-amd64/promhttp.col
prometheus-2.46.0.linux-amd64/prometheus.yml
prometheus-2.46.0.linux-amd64/LICENSE
prometheus-2.46.0.linux-amd64/prometheus
prometheus-2.46.0.linux-amd64/consoles/
prometheus-2.46.0.linux-amd64/consoles/node-disk.html
prometheus-2.46.0.linux-amd64/consoles/node-pcpu.html
prometheus-2.46.0.linux-amd64/consoles/prometheus-overview.html
prometheus-2.46.0.linux-amd64/consoles/prometheus-overview.html
prometheus-2.46.0.linux-amd64/consoles/node.html
prometheus-2.46.0.linux-amd64/consoles/index.html.example
prometheus-2.46.0.linux-amd64/consoles/node-overview.html
[ec2-user@ip-172-31-26-79 final-devops-project]\$

i-073a7c4fbae63bcd6 (final-devops-project)

PublicIPs: 54.201.10.76 PrivateIPs: 172.31.26.79

PROMETHEUS CODE

```
aws | Search [Option+S] | Oregon | Madhu | [Close]  
  
global:  
  scrape_interval: 15s  
  
scrape_configs:  
  - job_name: 'node'  
    static_configs:  
      - targets: [ '54.201.10.76:9100' ] # Scraping metrics from Node Exporter  
  
  - job_name: 'app_health'  
    static_configs:  
      - targets: [ '54.201.10.76:8080' ] # Replace with your application health check endpoint  
  
/etc/prometheus/prometheus.yml* 12L, 310B  
  
i-073a7c4fbae63bcd6 (final-devops-project)  
PublicIPs: 54.201.10.76 PrivateIPs: 172.31.26.79  
12,0-1 All
```

PROMETHEUS DASHBOARD

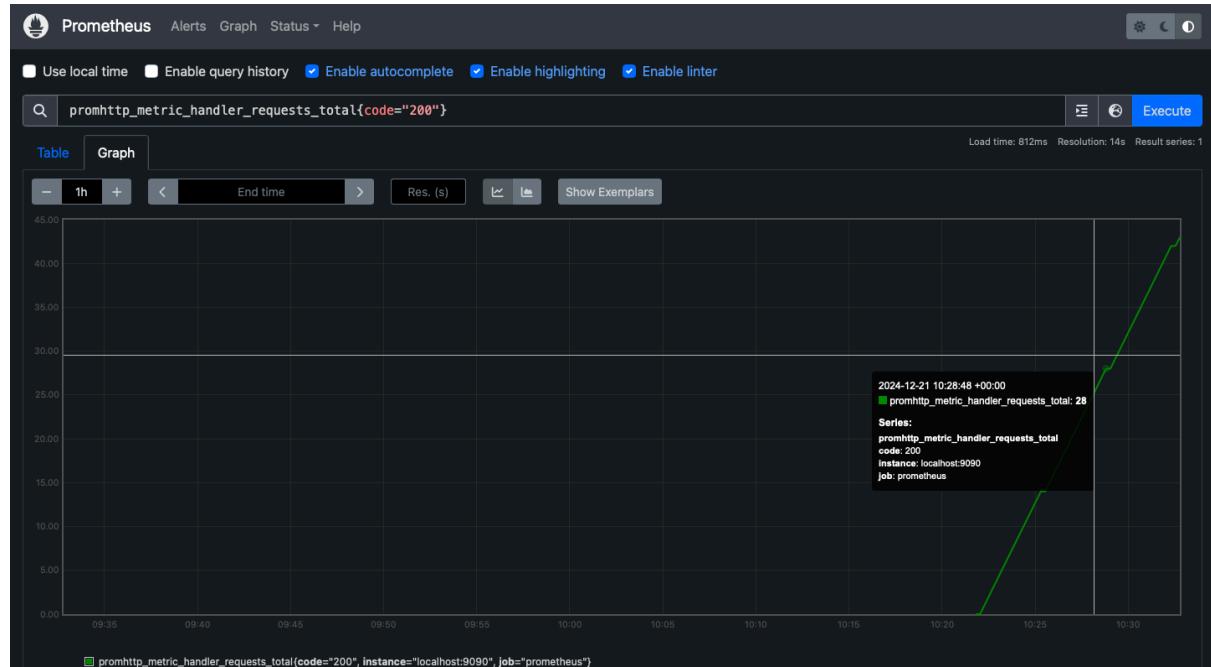
The screenshot shows the Prometheus web interface. At the top, there's a navigation bar with links for Prometheus, Alerts, Graph, Status, and Help. On the far right are settings and refresh icons. Below the navigation, there are several configuration checkboxes: "Use local time" (unchecked), "Enable query history" (unchecked), "Enable autocomplete" (checked), "Enable highlighting" (checked), and "Enable linter" (checked). A search bar contains the placeholder "Expression (press Shift+Enter for newlines)". To the right of the search bar are three small icons: a grid, a circle with a dot, and a magnifying glass. Next to these is a blue "Execute" button. Below the search bar, there are two tabs: "Table" (disabled) and "Graph" (selected). Under the "Graph" tab, there's a timestamp range selector with arrows for navigating between evaluation times. The main content area displays the message "No data queried yet". In the bottom right corner of this area, there's a "Remove Panel" link. At the very bottom left, there's a blue "Add Panel" button.



HEALTH CHECK : HEALTHY

The screenshot shows the Prometheus Targets page. At the top, there are tabs for 'All', 'Unhealthy', and 'Collapse All'. A search bar is present, and a filter dropdown shows 'Unknown', 'Unhealthy', and 'Healthy' with 'Unknown' selected. Below this, a table lists one target: 'http://localhost:9090/metrics' with state 'UP', labels 'instance=localhost:9090', 'job=prometheus', last scraped 4.742s ago, and a scrape duration of 4.019ms.

PROMETHEUS GRAPH



GRAFANA INSTALLED

```
[ec2-user@ip-172-31-26-79 final-devops-project]$ sudo yum install grafana -y
Last metadata expiration check: 14:56:07 ago on Fri Dec 20 19:40:20 2024.
Package grafana-9.4.0-1.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-26-79 final-devops-project]$
```

i-073a7c4fbbae63bcd6 (final-devops-project)
PublicIPs: 54.201.10.76 PrivateIPs: 172.31.26.79

GRAFANA ACTIVE

```
aws | ⋮ | Search [Option+S] |
```

```
drwxr-xr-x. 5 ec2-user ec2-user 167 Sep 6 2023 prometheus-2.47.0.linux-amd64
drwxr-xr-x. 2 ec2-user ec2-user 24 Dec 21 05:36 public
drwxr-xr-x. 2 ec2-user ec2-user 150 Dec 6 06:03 src
[ec2-user@ip-172-31-26-79 final-devops-project]$ cd public
[ec2-user@ip-172-31-26-79 public]$ ls -l
total 1
-rw-r--r--, 1 ec2-user ec2-user 962 Dec 21 05:33 index.html
[ec2-user@ip-172-31-26-79 public]$ vi index.html
[ec2-user@ip-172-31-26-79 public]$ cd ..
[ec2-user@ip-172-31-26-79 final-devops-project]$ sudo yum install grafana -y
Last metadata expiration check: 14:56:07 ago on Fri Dec 20 19:40:20 2024.
Package grafana-9.4.0-1.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-26-79 final-devops-project]$ sudo systemctl enable grafana-server
Synchronizing state of grafana-server.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing /usr/lib/systemd/systemctl enable grafana-server.service
[ec2-user@ip-172-31-26-79 final-devops-project]$ sudo systemctl start grafana-server
[ec2-user@ip-172-31-26-79 final-devops-project]$ sudo systemctl status grafana-server
● grafana-server.service - Grafana instance
   Loaded: loaded (/usr/lib/systemd/system/grafana-server.service; enabled; preset: disabled)
     Active: active (running) since Fri 2024-12-20 13:26:03 UTC; 2h ago
       Docs: http://docs.grafana.org
 Main PID: 1 (grafana)
 Tasks: 11 (limit: 1111)
 Memory: 72.3M
      CPU: 40.426s
 CGrou... 2203 /usr/share/grafana/bin/grafana server --config=/etc/grafana/grafana.ini --pidfile=/var/run/grafana/grafana-server.pid --packaging=rpm cfg;default.paths.logs=/var/log/
Dec 21 09:40:59 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-alertmanager org=1 t=2024-12-21T09:40:59.479307133Z level=error msg="Running maintenance failed" err="co...
Dec 21 09:46:03 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-cleanup t=2024-12-21T09:46:03.340510041Z level=info msg="Completed cleanup jobs" duration=11.584448ms
Dec 21 09:55:59 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-alertmanager org=1 t=2024-12-21T09:55:59.480102937Z level=error msg="Running maintenance failed" err="co...
Dec 21 10:06:03 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-cleanup t=2024-12-21T10:06:03.341875014Z level=info msg="Completed cleanup jobs" duration=13.181167ms
Dec 21 10:06:03 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-cleanup t=2024-12-21T10:06:03.384140234Z level=info msg="Completed cleanup jobs" duration=54.638568ms
Dec 21 10:16:03 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-alertmanager org=1 t=2024-12-21T10:10:59.482532429Z level=error msg="Running maintenance failed" err="co...
Dec 21 10:22:03 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-cleanup t=2024-12-21T10:22:03.344936516Z level=info msg="Completed cleanup jobs" duration=16.253199ms
Dec 21 10:26:03 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-alertmanager org=1 t=2024-12-21T10:26:03.340779494Z level=error msg="Running maintenance failed" err="co...
Dec 21 10:36:03 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-cleanup t=2024-12-21T10:36:03.340983009Z level=info msg="Completed cleanup jobs" duration=11.840768ms
Dec 21 10:36:03 ip-172-31-26-79.us-west-2.compute.internal grafana[2203]: logger-cleanup t=2024-12-21T10:36:03.340983009Z level=info msg="Completed cleanup jobs" duration=11.367066ms
lines: 1-21/21 (END)
[ec2-user@ip-172-31-26-79 final-devops-project]$
```

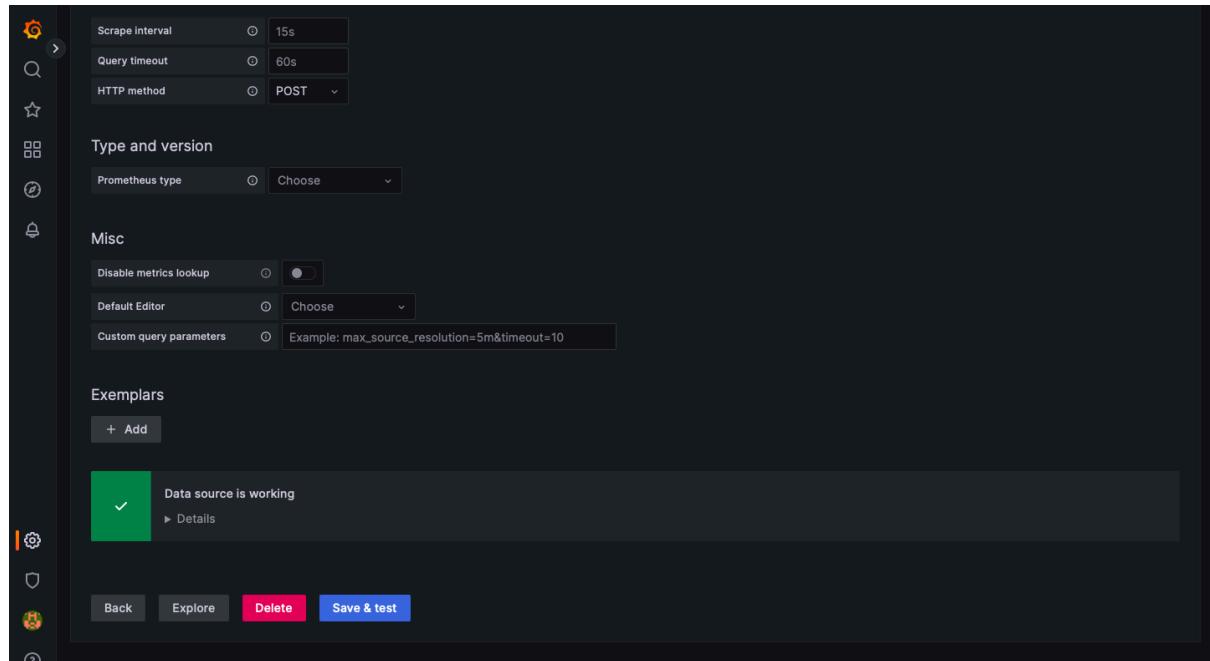
i-075a7c4fbae63bcd6 (final-devops-project)

PublicIPs: 54.201.10.76 PrivateIPs: 172.31.26.79

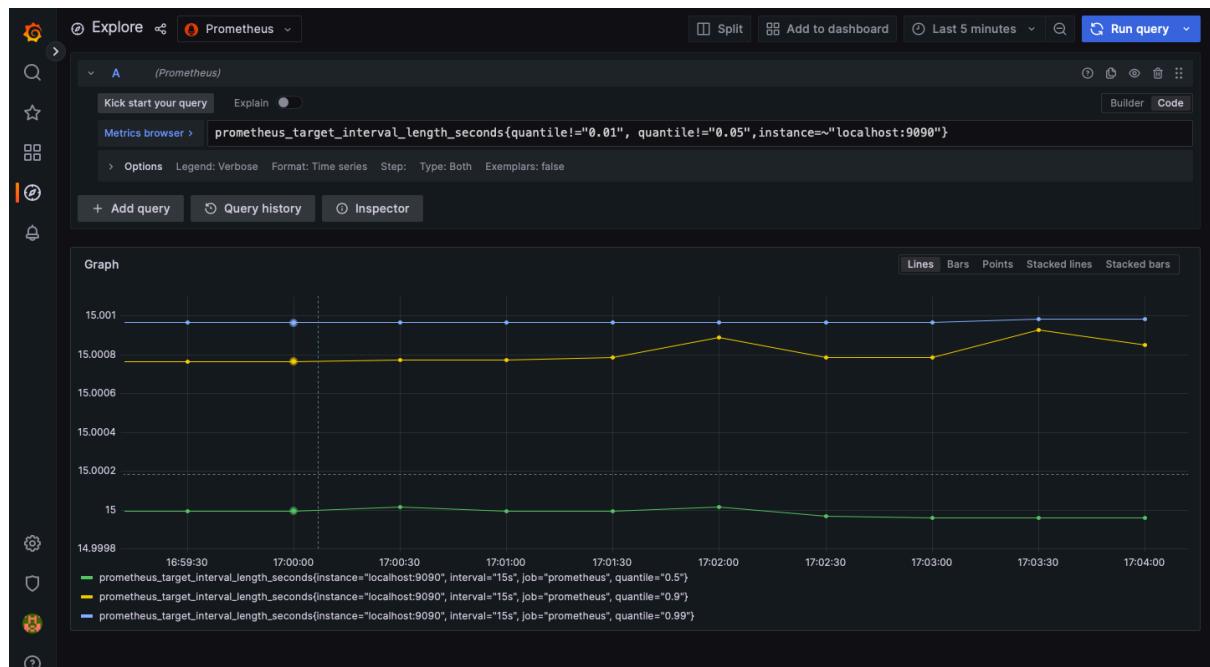
GRAFANA DASHBOARD

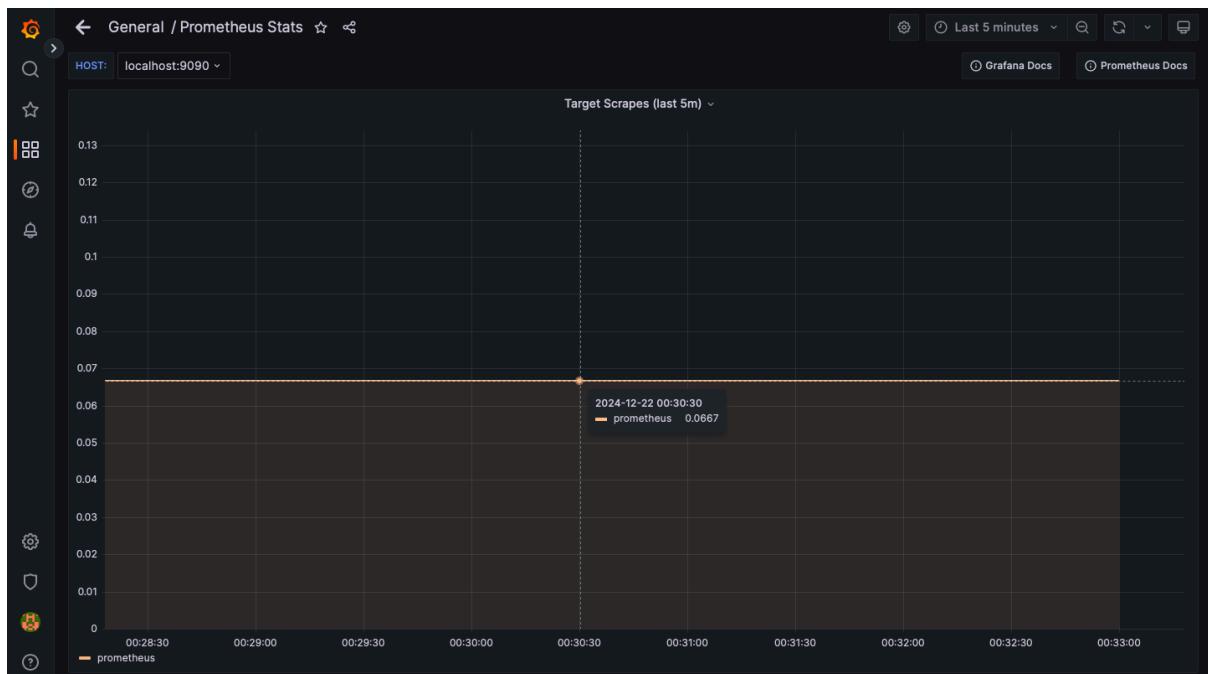
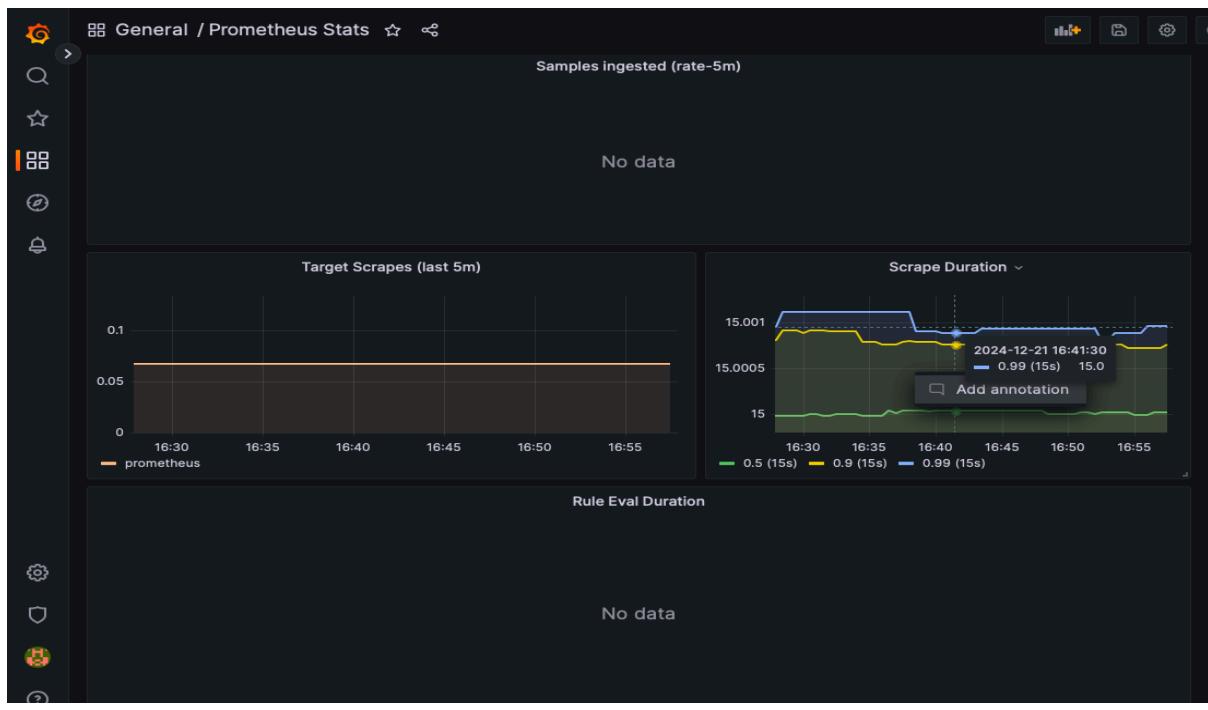
The screenshot shows the Grafana homepage with the title "Welcome to Grafana". On the left, there's a sidebar with navigation links like "General / Home", "Starred dashboards", "Recently viewed dashboards", "Prometheus Stats", "Node Exporter Full", and "Node Exporter Full". The main content area has several sections: "Basic" (with a tutorial and "Grafana fundamentals" link), "TUTORIAL DATA SOURCE AND DASHBOARDS" (with a link to "Grafana fundamentals"), "COMPLETE Add your first data source" (with a "Learn how in the docs" link), "COMPLETE Create your first dashboard" (with a "Learn how in the docs" link), "Dashboards" (listing "Starred dashboards", "Recently viewed dashboards", "Prometheus Stats", "Node Exporter Full", and "Node Exporter Full"), and "Latest from the blog" (listing articles like "OpenTelemetry: past, present, and future" and "Inside Grafana Labs: how we foster a culture of continuous learning").

PROMETHEUS ADDED TO GRAFANA



GRAFANA MONITORING IMAGES





URL :

- I) INSTANCE : <http://54.201.10.76>
- II) JENKINS : <http://35.94.51.102:8080>
- III) PROMETHEUS : <http://54.201.10.76:9090>
- IV) GRAFANA : <http://54.201.10.76:3000>

THANK YOU