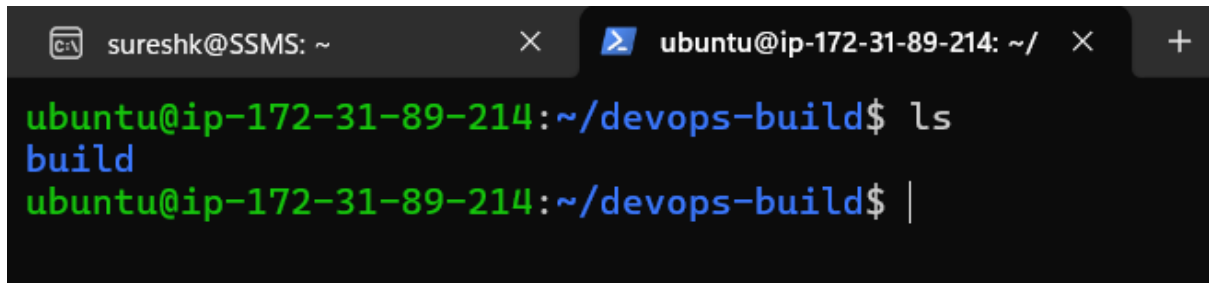


Application Deployment

(Deploy the given react application to a production ready state)

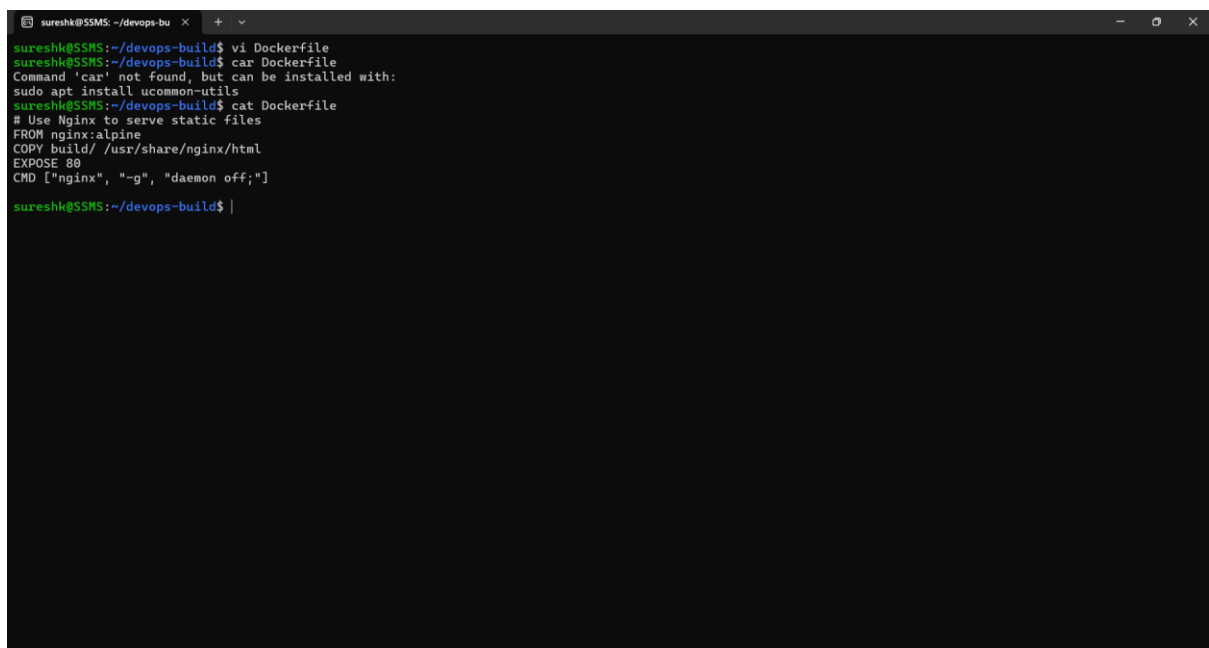
Cloning the Repo:



A terminal window with two tabs. The first tab is titled 'sureshk@SSMS: ~' and the second is 'ubuntu@ip-172-31-89-214: ~/'. The active terminal shows the following commands and output:

```
ubuntu@ip-172-31-89-214:~/devops-build$ ls
build
ubuntu@ip-172-31-89-214:~/devops-build$ |
```

Dockerization:



A terminal window with a single tab titled 'sureshk@SSMS: ~/devops-bu'. The terminal shows the following commands and output:

```
sureshk@SSMS:~/devops-build$ vi Dockerfile
sureshk@SSMS:~/devops-build$ cat Dockerfile
Command 'cat' not found, but can be installed with:
sudo apt install ucommon-utils
sureshk@SSMS:~/devops-build$ cat Dockerfile
# Use Nginx to serve static files
FROM nginx:alpine
COPY build/ /usr/share/nginx/html
EXPOSE 80
CMD ["nginx", "-g", "daemon off;"]
sureshk@SSMS:~/devops-build$ |
```

```
sureshk@SSMS: ~/devops-bu x + v
sureshk@SSMS:~/devops-build$ vi docker-compose.yml
sureshk@SSMS:~/devops-build$ cat docker-compose.yml
version: "3"
services:
  react-app:
    build: .
    ports:
      - "80:80"

sureshk@SSMS:~/devops-build$ |
```

```
sureshk@SSMS: ~/devops-bu x + v
sureshk@SSMS:~/devops-build$ vi .dockerignore
sureshk@SSMS:~/devops-build$ cat .dockerignore
node_modules
build
.git
.gitignore
Dockerfile
docker-compose.yml

sureshk@SSMS:~/devops-build$ |
```

Creating Bash scripts:

```
sureshk@SSMS: ~/devops-bu x + v
sureshk@SSMS:~/devops-build$ vi build.sh
sureshk@SSMS:~/devops-build$ vi deploy.sh
sureshk@SSMS:~/devops-build$ cat build.sh deploy.sh
#!/bin/bash
docker build -t your-dockerhub-username/devops-build:latest .

#!/bin/bash
docker-compose down
docker-compose up -d --build

sureshk@SSMS:~/devops-build$ chmod +x build.sh deploy.sh
sureshk@SSMS:~/devops-build$ |
```

Git Version Control:

```
sureshk@SSMS: ~/devops-bu x + v
sureshk@SSMS:~/devops-build$ git init
Reinitialized existing Git repository in /home/sureshk/devops-build/.git/
sureshk@SSMS:~/devops-build$ git checkout -b dev
fatal: a branch named 'dev' already exists
sureshk@SSMS:~/devops-build$ git add .
sureshk@SSMS:~/devops-build$ git commit -m "Initial commit"
[dev 7d37226] Initial commit
4 files changed, 34 insertions(+), 3 deletions(-)
create mode 100644 .gitignore
create mode 100644 nginx.conf
sureshk@SSMS:~/devops-build$ git remote add origin https://github.com/sriram-R-krishnan/devops-build.git
error: remote origin already exists.
sureshk@SSMS:~/devops-build$ git push -u origin dev
Username for 'https://github.com': sureshkrishnan2214
Password for 'https://sureshkrishnan2214@github.com':
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 18 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 981 bytes | 981.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
remote: This repository moved. Please use the new location:
remote: https://github.com/Sureshkrishnan2214/devops-build.git
To https://github.com/sureshkrishnan2214/devops-build.git
316ea77..7d37226 dev -> dev
branch 'dev' set up to track 'origin/dev'.
sureshk@SSMS:~/devops-build$ |
```

```
sureshk@SSMS: ~/devops-bu x + v
sureshk@SSMS:~/devops-build$ vi .gitignore
sureshk@SSMS:~/devops-build$ cat .gitignore
node_modules
build
.env
```

Docker Hub Setup

Creating Dev Repo (Public):

The screenshot shows the Docker Hub 'My Hub' page for user 'sureshkrishnan2214'. The left sidebar contains navigation links: Repositories, Collaborations, Settings, Default privacy, Notifications, Billing, Usage, Pulls, and Storage. The main content area shows the repository 'sureshkrishnan2214/dev' created 1 minute ago, set to 'for Public'. Below this are tabs for General, Tags, Image Management (BETA), Collaborators, Webhooks, and Settings. The 'General' tab is active, showing a 'Tags' section with an 'INCOMPLETE' status and a 'DOCKER SCOUT INACTIVE' warning with an 'Activate' link. The text 'Pushed images appear here.' is displayed at the bottom.

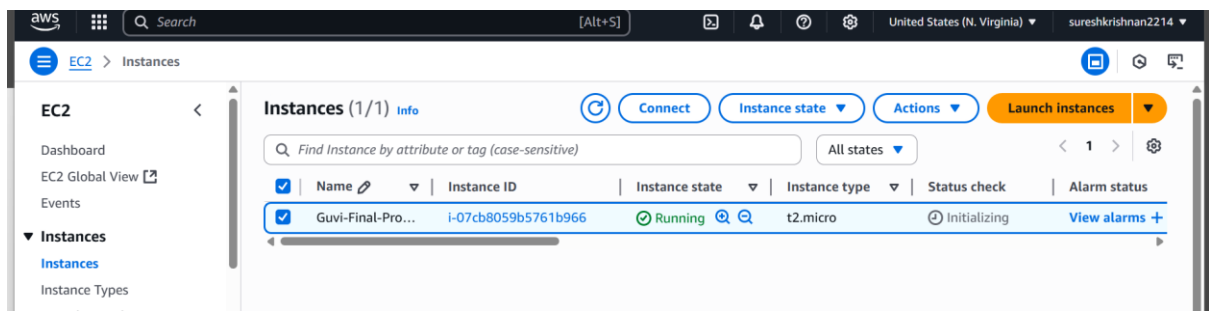
Creating Prod Repo(Private):

The screenshot shows the Docker Hub 'My Hub' page for user 'sureshkrishnan2214'. The left sidebar is identical to the previous screenshot. The main content area shows the repository 'sureshkrishnan2214/prod' created in less than a minute, set to 'for Private'. Below this are tabs for General, Tags, Image Management (BETA), Collaborators, Webhooks, and Settings. The 'General' tab is active, showing a 'Tags' section with a 'DOCKER SCOUT INACTIVE' warning and an 'Activate' link. The text 'Pushed images appear here.' is displayed at the bottom.

Jenkins Setup:

```
sureshk@SSMS: ~/devops-bu x + v
sureshk@SSMS:~/devops-build$ sudo apt install jenkins -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  bridge-utils dns-root-data dnsmasq-base libllvm17t64 ubuntu-fan
Use 'sudo apt autoremove' to remove them.
The following packages will be upgraded:
  jenkins
1 upgraded, 0 newly installed, 0 to remove and 14 not upgraded.
Need to get 87.1 MB of archives.
After this operation, 6815 kB disk space will be freed.
Get:1 https://pkg.jenkins.io/debian binary/ jenkins 2.517 [87.1 MB]
Fetched 87.1 MB in 1min 45s (827 kB/s)
(Reading database ... 110211 files and directories currently installed.)
Preparing to unpack .../archives/jenkins_2.517_all.deb ...
Unpacking jenkins (2.517) over (2.504.2) ...
Setting up jenkins (2.517) ...
sureshk@SSMS:~/devops-build$ sudo systemctl start jenkins
sureshk@SSMS:~/devops-build$ sudo systemctl enable jenkins
Synchronizing state of jenkins.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable jenkins
sureshk@SSMS:~/devops-build$
```

Creating EC2 Instance:



```
sureshk@SSMS: ~/devops-bui X ubuntu@ip-172-31-26-240: ~ X + v
* Management: dscope.canonical.com
* Support: https://ubuntu.com/pro

System information as of Sat Jul 5 08:25:48 UTC 2025

System load: 0.32          Processes:           105
Usage of /: 25.4% of 6.71GB Users logged in:      0
Memory usage: 21%          IPv4 address for enX0: 172.31.26.240
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-26-240:~$
```

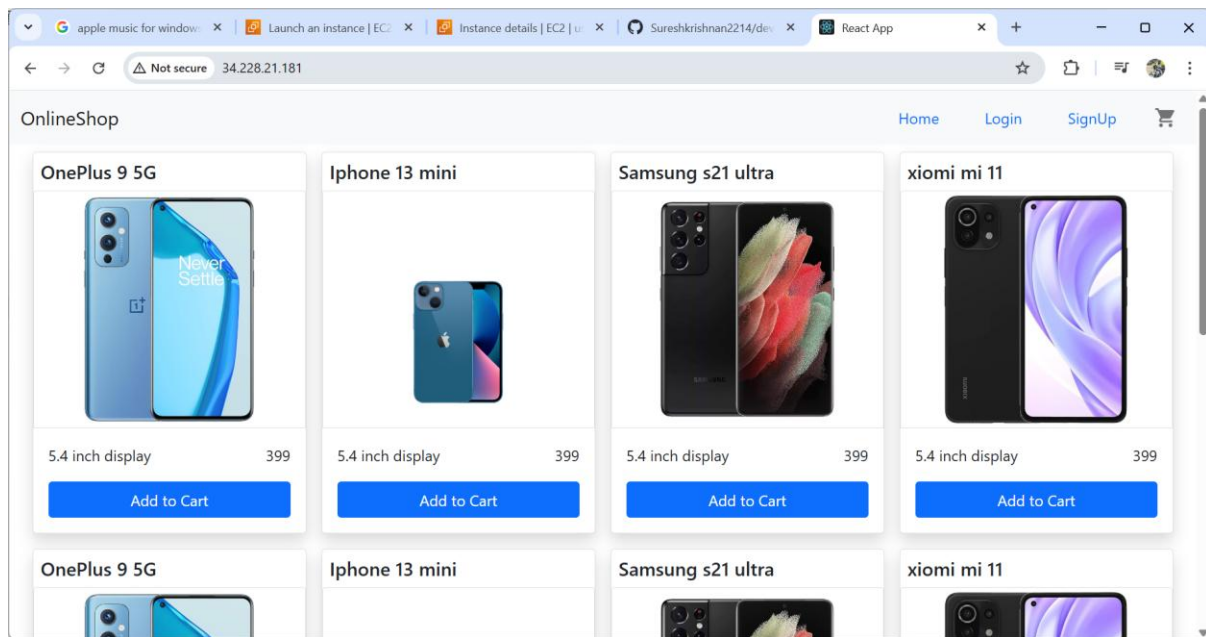
Deploying Project:

```
ubuntu@ip-172-31-26-240:~$ git clone https://github.com/Sureshkrishnan2214/Guvi-finalproject.git
fatal: destination path 'Guvi-finalproject' already exists and is not an empty directory.
ubuntu@ip-172-31-26-240:~$ cd Guvi-finalproject
ubuntu@ip-172-31-26-240:~/Guvi-finalproject$ ./deploy.sh
Traceback (most recent call last):
```

```
ubuntu@ip-172-31-26-240:~/devops-build$ ./deploy.sh
Removing network devops-build_default
Creating network "devops-build_default" with the default driver
Building react-app
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
            Install the buildx component to build images with BuildKit:
            https://docs.docker.com/go/buildx/

Sending build context to Docker daemon 2.623MB
Step 1/6 : FROM nginx:alpine
----> 77656422f700
Step 2/6 : RUN rm -rf /usr/share/nginx/html/*
----> Using cache
----> ae3a517566f0
Step 3/6 : COPY nginx.conf /etc/nginx/nginx.conf
----> Using cache
----> 426cd54797a8
Step 4/6 : COPY build/ /usr/share/nginx/html/
----> 1c21f1dbelc8
Step 5/6 : EXPOSE 80
----> Running in a2e093271f88
----> Removed intermediate container a2e093271f88
----> 9cb417787ab8
Step 6/6 : CMD ["nginx", "-g", "daemon off;"]
----> Running in a01e49850f1e
----> Removed intermediate container a01e49850f1e
----> 9db05355fd8f
Successfully built 9db05355fd8f
Successfully tagged devops-build_react-app:latest
Creating devops-build_react-app_1 ... done
ubuntu@ip-172-31-26-240:~/devops-build$ |
```

Output:



Monitoring:

```
ubuntu@ip-172-31-26-240:~/devops-build$ docker volume create uptime-kuma
uptime-kuma
ubuntu@ip-172-31-26-240:~/devops-build$ docker run -d --restart=always -p 3001:3001 \
-v uptime-kuma:/app/data \
--name uptime-kuma \
louislam/uptime-kuma
Unable to find image 'louislam/uptime-kuma:latest' locally
latest: Pulling from louislam/uptime-kuma
b338562f40a7: Pull complete
874bf4d93720: Pull complete
b16337721583: Pull complete
7d955db85b85: Pull complete
2c706596bd17: Pull complete
88a5c59ed14f: Pull complete
5a1d0a896c33: Pull complete
e68c2f25b946: Pull complete
2e6c90f010d6: Pull complete
ff15b10fabbb8: Pull complete
4f4fb700ef54: Pull complete
d2a400cc8adb: Pull complete
Digest: sha256:431fee3be822b04861cf0e35daf4beef6b7cb37391c5f26c3ad6e12ce280fe18
Status: Downloaded newer image for louislam/uptime-kuma:latest
340bf62762f37c75dabc3f11dc0336404912a950a5852efc23c4ee3d1e84c8be
```

