

# BRAINWAVE MATRIX SOLUTIONS

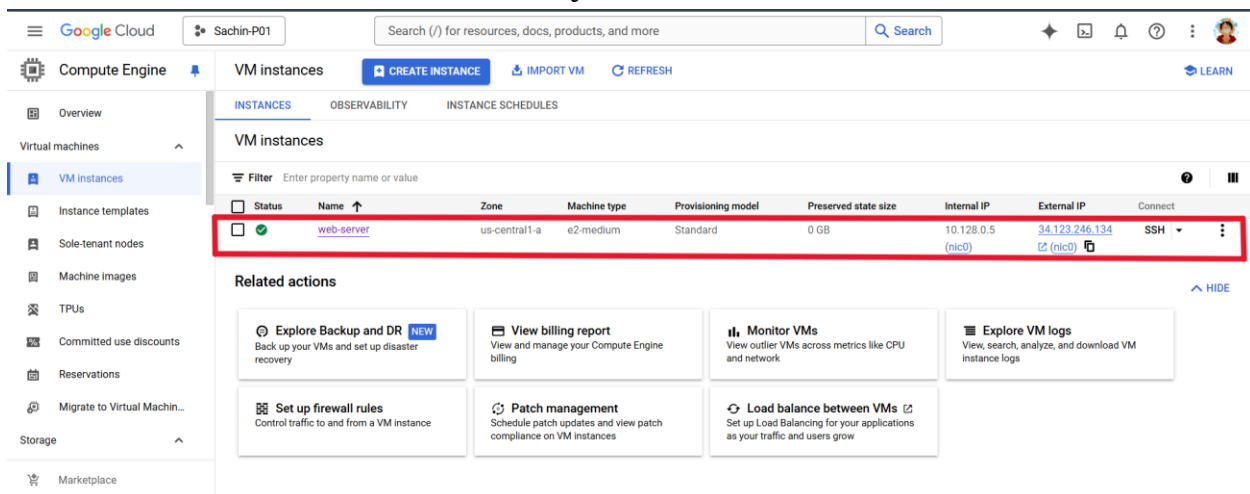
## **TASK 2(Video Link) :-**

[https://drive.google.com/file/d/1kfbO1cISb63TnjV0ivw7qdAxaC1XOzK/view?usp=drive\\_link](https://drive.google.com/file/d/1kfbO1cISb63TnjV0ivw7qdAxaC1XOzK/view?usp=drive_link)

## **TASK -- 2 – CLOUD COMPUTING INTERNSHIP** **DEPLOY A SIMPLE STATIC WEBSITE ON GOOGLE** **CLOUD PLATFORM(GCP) BY USING STORAGE\_BUCKET.**

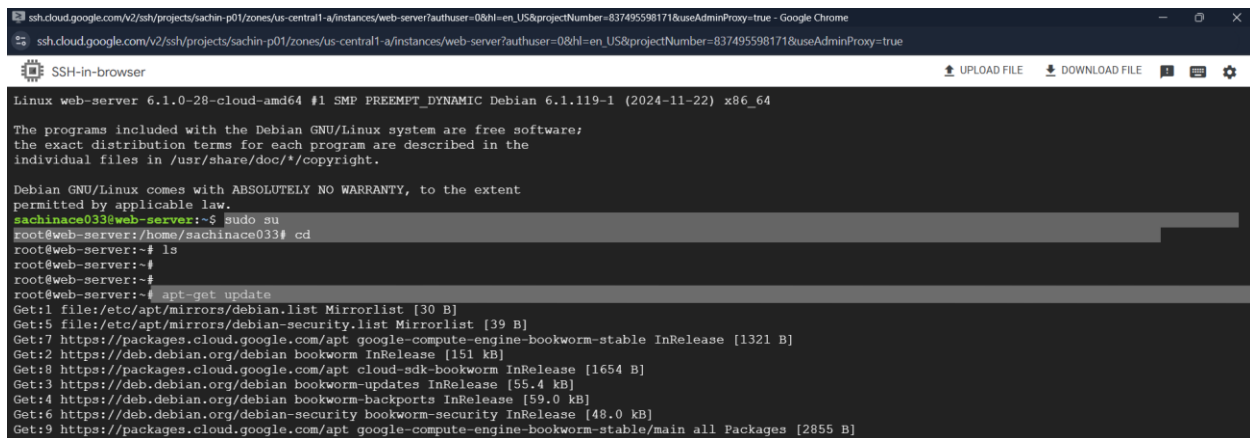
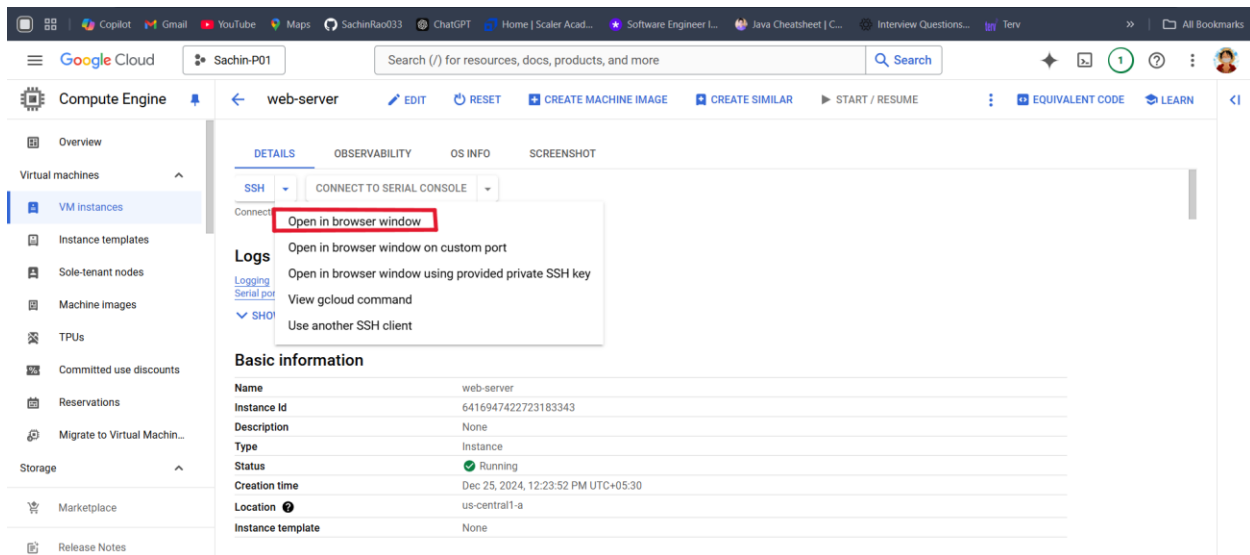
### **Step 1:- Launch a New VM Instance (“Compute Engine”- Google Cloud).**

- Log in to Google Cloud Console, navigate to *Compute Engine*, and create a *new VM instance*, and *Security Traffic & Cloud Key* is taken default.
- This instance will serve as your server.



### **Step 2:- Connect via SSH & Gain Root Access & Update Package Lists.**

- Use the SSH option in the Google Cloud Console to access your instance securely. This provides a command-line interface.
- Run “*sudo su*”- to switch to the root user. This gives you administrative privileges needed for installations and configurations.
- Execute “*apt-get update*”- to ensure your package lists are up-to-date, which is crucial for installing the latest software.



### Step 3:- Install Apache2 & Check Apache Status.

- Use “[apt-get install apache2](#)” - to install the Apache server, which will host your web application or static website.
- Verify Apache is running by using - “[systemctl status apache2](#)” or “[service apache2 status](#)”. This ensures your server is active and ready.

```
ssh.cloud.google.com/v2/ssh/projects/sachin-p01/zones/us-central1-a/instances/web-server?authuser=0&hl=en_US&projectNumber=837495598171&useAdminProxy=true - Google Chrome
ssh.cloud.google.com/v2/ssh/projects/sachin-p01/zones/us-central1-a/instances/web-server?authuser=0&hl=en_US&projectNumber=837495598171&useAdminProxy=true

SSH-in-browser

Get:17 https://deb.debian.org/debian bookworm-backports/main Translation-en T-2024-12-24-0805.40-F-2024-12-11-0230.41.pdf [7213 B]
Get:18 https://deb.debian.org/debian-security bookworm-security/main Sources [133 kB]
Get:19 https://deb.debian.org/debian-security bookworm-security/main amd64 Packages [236 kB]
Get:20 https://deb.debian.org/debian-security bookworm-security/main Translation-en [139 kB]
Fetched 6240 kB in 1s (7280 kB/s)
Reading package lists... Done
root@web-server:~#
root@web-server:~#
root@web-server:~# apt-get install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap libgdbm-compat4 libjansson4 liblua5.3-0 libperl5.36
  perl perl-modules-5.36 ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser perl-doc libterm-readline-gnu-perl | libterm-readline-perl-perl make
  libtap-harness-archive-perl
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap libgdbm-compat4 libjansson4 liblua5.3-0
  libperl5.36 perl perl-modules-5.36 ssl-cert
0 upgraded, 15 newly installed, 0 to remove and 3 not upgraded.
Need to get 9699 kB of archives.
After this operation, 57.0 MB of additional disk space will be used.
Get:1 file:/etc/apt/mirrors/debian.list Mirrorlist [30 B]

Processing triggers for man-db (2.11.2-2) ...
Processing triggers for libc-bin (2.36-9+deb12u9) ...
root@web-server:~#
root@web-server:~#
root@web-server:~# service apache2 status
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; preset: enabled)
   Active: active (running) since Wed 2024-12-25 06:55:36 UTC; 21s ago
     Docs: https://httpd.apache.org/docs/2.4/
    Main PID: 1970 (apache2)
      Tasks: 55 (limit: 4682)
    Memory: 10.9M
       CPU: 38ms
    CGroup: /system.slice/apache2.service
            └─1970 /usr/sbin/apache2 -k start
              └─1971 /usr/sbin/apache2 -k start
                └─1972 /usr/sbin/apache2 -k start

Dec 25 06:55:36 web-server systemd[1]: Starting apache2.service - The Apache HTTP Server...
Dec 25 06:55:36 web-server systemd[1]: Started apache2.service - The Apache HTTP Server.
root@web-server:~#
root@web-server:~#
```

Step 4:-Create a Storage Bucket & Upload Files to the Bucket.

- Navigate to the Cloud Storage page.
- Click *Create Bucket*.
- Set the *Bucket name* (must be globally unique).
- Choose the *Storage class* and *Location* based on your needs.
- Configure permissions (e.g., allow public or private access) & Click Create.

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Google Cloud

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Search (/) for resources, docs, products, and more

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Cloud Storage

📌

Buckets

➕ CREATE

🔄 REFRESH

🔗 GO TO PATH

📖 LEARN

☰

Overview

📁 Buckets

📊 Monitoring

⚙️ Settings

☰

Filter

Filter buckets

ⓘ

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<input type="checkbox"/>	Name <span>↑</span>	Created	Location type	Location	Default storage class ⓘ	Last modified	Public access ⓘ	Access control ⓘ
<input type="checkbox"/>	sachin-bq01	Dec 26, 2024, 11:42:05 AM	Region	us-central1	Standard	Dec 26, 2024, 12:17:01 PM	Not public	Uniform

- Go to your bucket.
- Click Upload Files or Upload Folder.
- Select the file(s) from your local machine and upload.

The screenshot shows the Google Cloud Storage interface. On the left is a sidebar with 'Cloud Storage' selected. The main area displays 'Bucket details' for 'sachin-bg01'. Below this, there are tabs for 'OBJECTS', 'CONFIGURATION', 'PERMISSIONS', 'PROTECTION', 'LIFECYCLE', 'OBSERVABILITY', 'INVENTORY REPORTS', and 'OPERATIONS'. The 'OBJECTS' tab is active, showing a 'Folder browser' on the left with a tree view containing 'sachin-bg01' and 'one-page-website-html-css-project-master'. The main pane shows a list of objects in the bucket:

Name	Size	Type	Created	Storage class
LICENSE	1 KB	application/octet-stream	Dec 26, 2024, 12:16:23 PM	Standard
README.md	687 B	application/octet-stream	Dec 26, 2024, 12:16:27 PM	Standard
app.js	842 B	text/javascript	Dec 26, 2024, 12:16:23 PM	Standard
img/	—	Folder	—	—
index.html	9.9 KB	text/html	Dec 26, 2024, 12:16:25 PM	Standard
style.css	12.9 KB	text/css	Dec 26, 2024, 12:16:28 PM	Standard

## Step 5:-Copy File from Cloud Storage to VM Instance

- Use the gsutil command to copy the file from the bucket to the VM:  
 --"gsutil cp gs://sachin-bg01/one-page-website/\* /var/www/html"
- -sachin-bg01 with the name of storage bucket.
- -one-page-website with the name of the uploaded file.
- -/var/www/html with the destination directory on our VM instance.

```
ssh.cloud.google.com/v2/ssh/projects/sachin-p01/zones/us-central1-a/instances/web-server?authuser=0&hl=en_US&projectNumber=837495598171&useAdminProxy=true - Google Chrome
ssh.cloud.google.com/v2/ssh/projects/sachin-p01/zones/us-central1-a/instances/web-server?authuser=0&hl=en_US&projectNumber=837495598171&useAdminProxy=true

SSH-in-browser

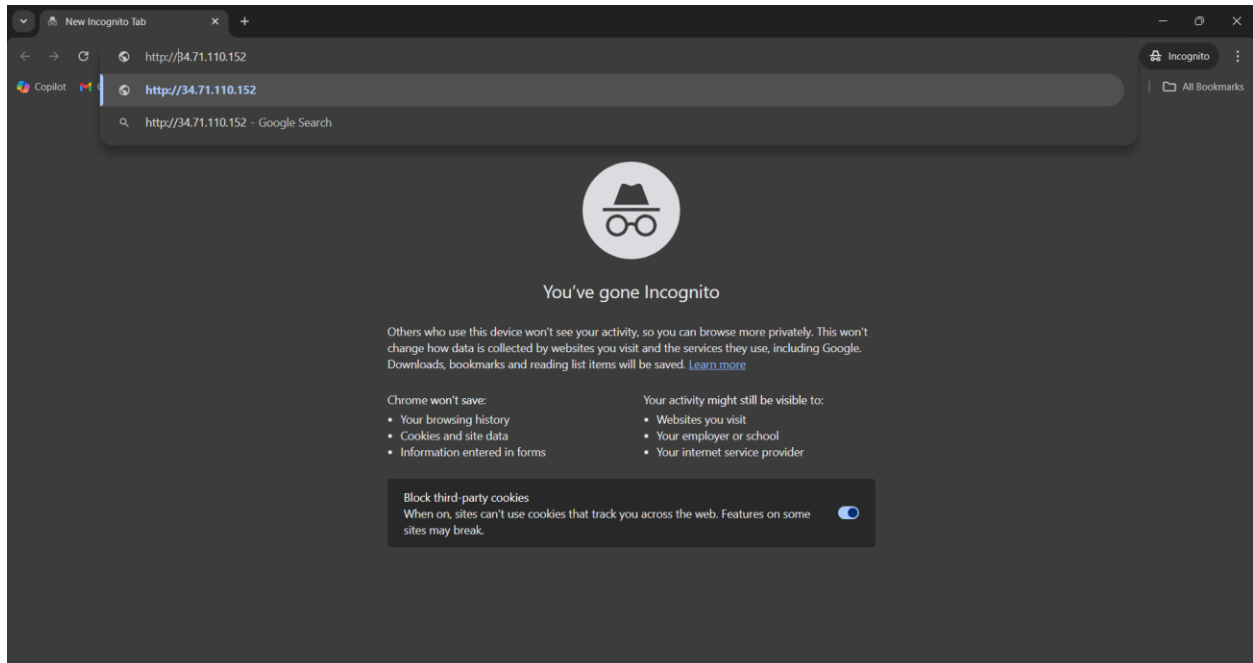
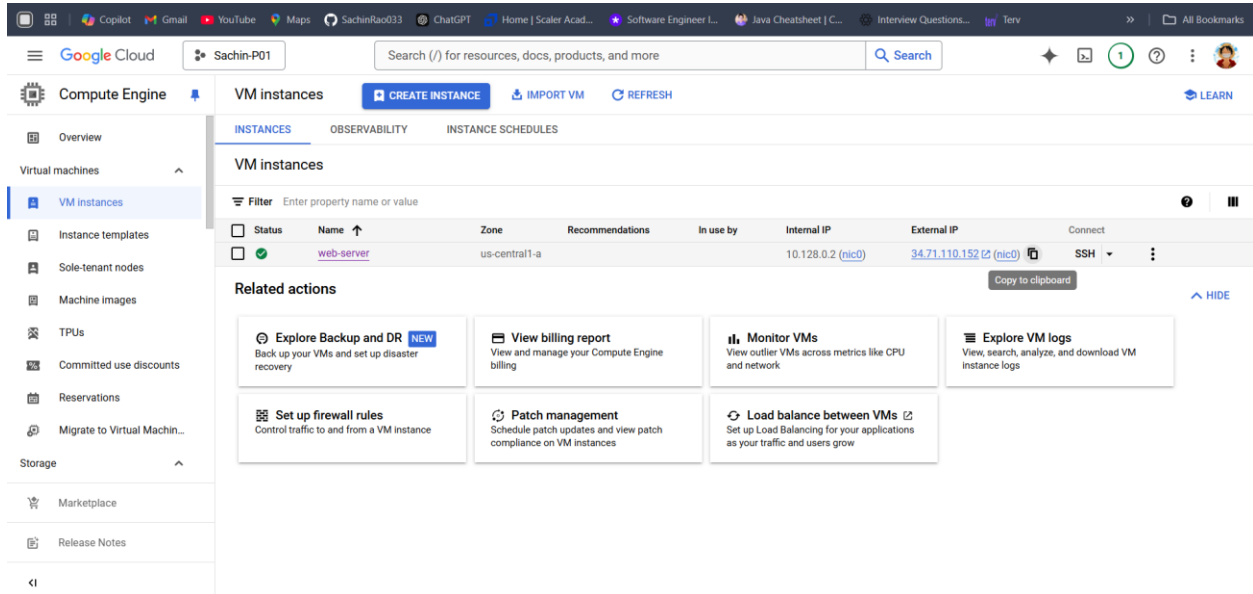
root@web-server:~#
root@web-server:~#
root@web-server:~# gsutil cp gs://sachin-bg01/one-page-website-html-css-project-master/* /var/www/html
Copying gs://sachin-bg01/one-page-website-html-css-project-master/LICENSE...
Copying gs://sachin-bg01/one-page-website-html-css-project-master/README.md...
Copying gs://sachin-bg01/one-page-website-html-css-project-master/app.js...
Copying gs://sachin-bg01/one-page-website-html-css-project-master/index.html...
/ [4 files] [ 12.4 KiB/ 12.4 KiB]
==> NOTE: You are performing a sequence of gsutil operations that may
run significantly faster if you instead use gsutil -m cp ... Please
see the -m section under "gsutil help options" for further information
about when gsutil -m can be advantageous.

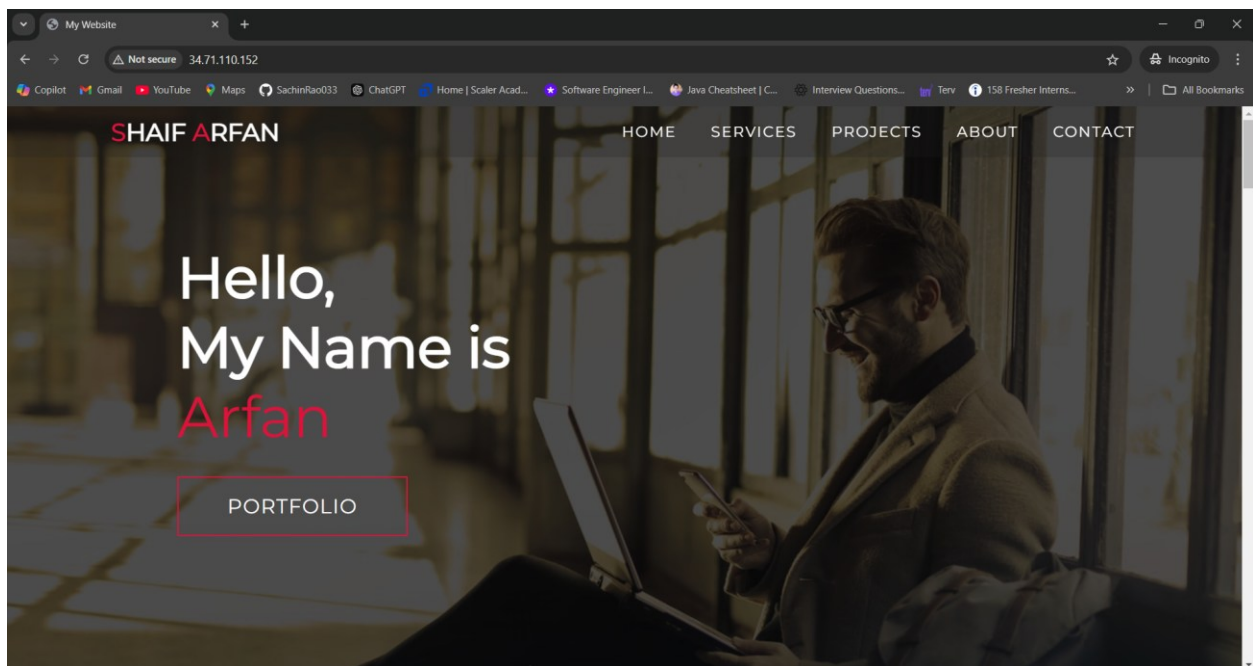
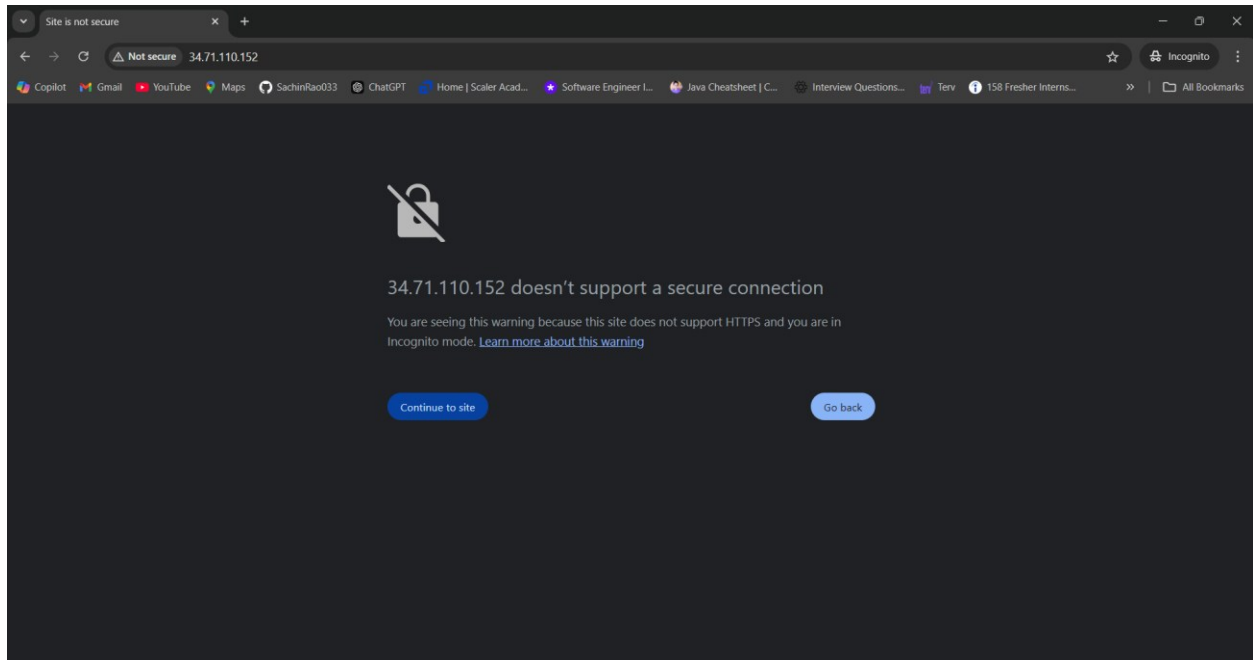
Copying gs://sachin-bg01/one-page-website-html-css-project-master/style.css...
Omitting prefix "gs://sachin-bg01/one-page-website-html-css-project-master/img/". (Did you mean to do cp -r?)

Operation completed over 5 objects/25.3 KiB.
root@web-server:~#
root@web-server:~#
root@web-server:~#
root@web-server:~# cd /var/www/html
root@web-server:/var/www/html#
root@web-server:/var/www/html# ls
LICENSE README.md app.js index.html style.css
root@web-server:/var/www/html#
root@web-server:/var/www/html#
root@web-server:/var/www/html#
```

## Step 5:- OUTPUT - Deploy Static Web Application.

- Copy the public IP address of your VM, open a browser, and navigate to it. Your application should now be running.





## SERVICES

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### WEB DESIGN

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## ABOUT ME

### Front End Developer

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[DOWNLOAD RESUME](#)

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