

BRAINWAVE MATRIX SOLUTIONS

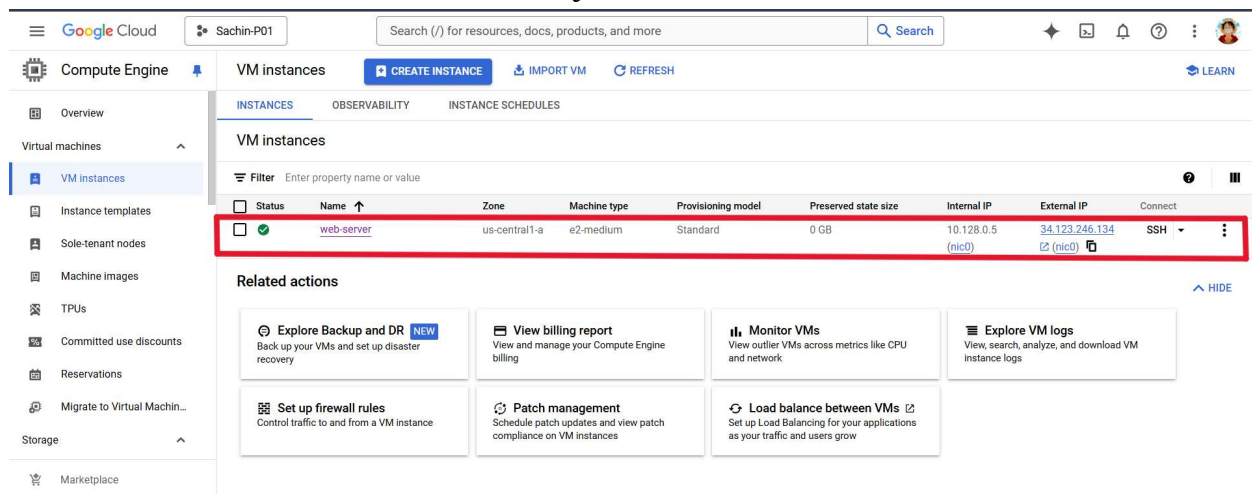
TASK 2 :-

https://drive.google.com/file/d/1kfbO1cISb63TnjV0ivw7qdAxaC1XOzK/view?usp=drive_link

TASK -- 2 – CLOUD COMPUTING INTERNSHIP SIMPLE STATIC WEBSITE AND DEPLOYING IT TO GOOGLE CLOUD.

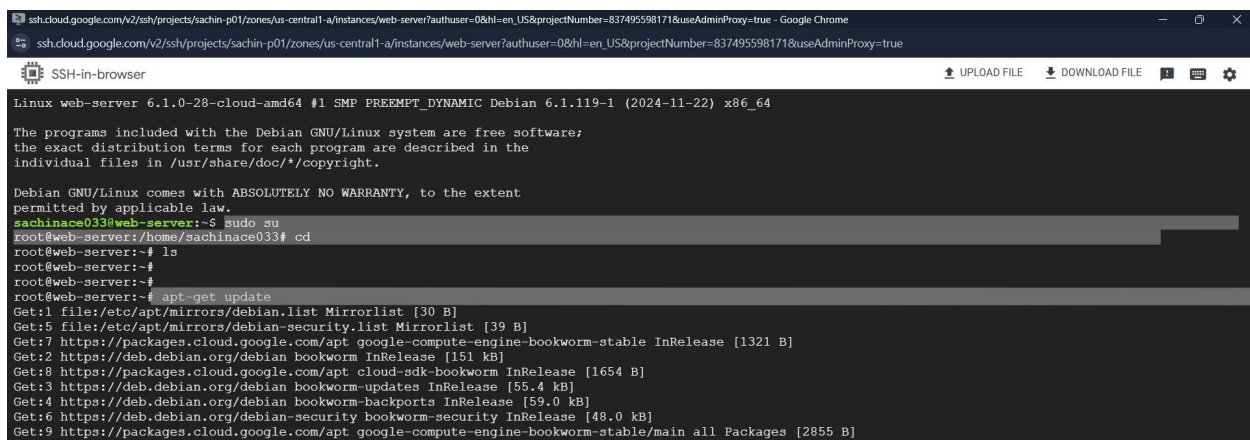
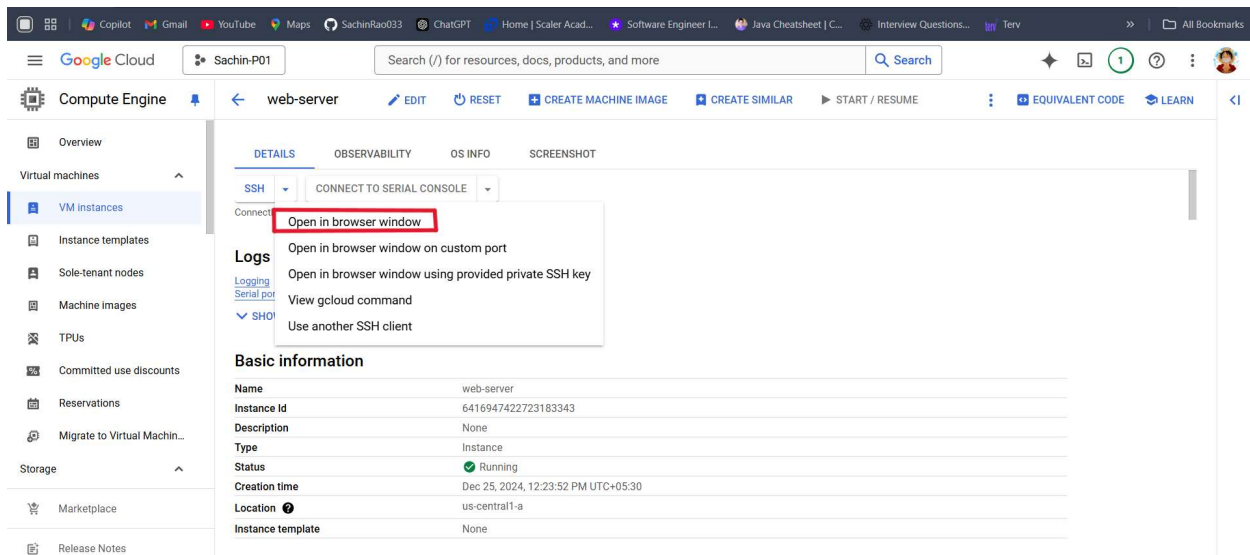
Step 1:- Launch a New VM Instance (“Compute Engine”- Google Cloud).

- 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
[?] UPLOAD FILE [?] DOWNLOAD FILE [?] [?]
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]
```

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.

A screenshot of the Google Cloud console interface. At the top, there's a navigation bar with the Google Cloud logo, a user profile icon labeled 'Sachin-P01', and a search bar. Below this, the 'Cloud Storage' section is active, showing a 'Buckets' view. A sidebar on the left contains links for Overview, Buckets (which is selected), Monitoring, and Settings. The main content area displays a table of buckets. The first bucket, 'sachin-bg01', is highlighted with a red rectangular box. The table has columns for Name, Created, Location type, Location, Default storage class, Last modified, Public access, and Access control. The 'sachin-bg01' bucket was created on Dec 26, 2024, at 11:42:05 AM, is located in the 'us-central1' region, uses the 'Standard' storage class, and is 'Not public'.

- 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 navigation options: Overview, Buckets, Monitoring, and Settings. The main area displays the 'Bucket details' for 'sachin-bg01'. It lists the location as 'us-central1 (Iowa)', storage class as 'Standard', public access as 'Not public', and protection as 'Soft Delete'. Below this is a 'Folder browser' showing a tree structure: 'sachin-bg01' > 'one-page-website-html-css-project-master' > 'img/'. To the right, there's a table of objects in the bucket. The table has columns for Name, Size, Type, Created, and Storage class. The objects listed are LICENSE (1 KB, application/octet-stream), README.md (687 B, application/octet-stream), app.js (842 B, text/javascript), img/ (Folder), index.html (9.9 KB, text/html), and style.css (12.9 KB, text/css). All objects were created on Dec 26, 2024, and are in the Standard storage class.

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.

The screenshot shows a terminal window with the following commands and output:

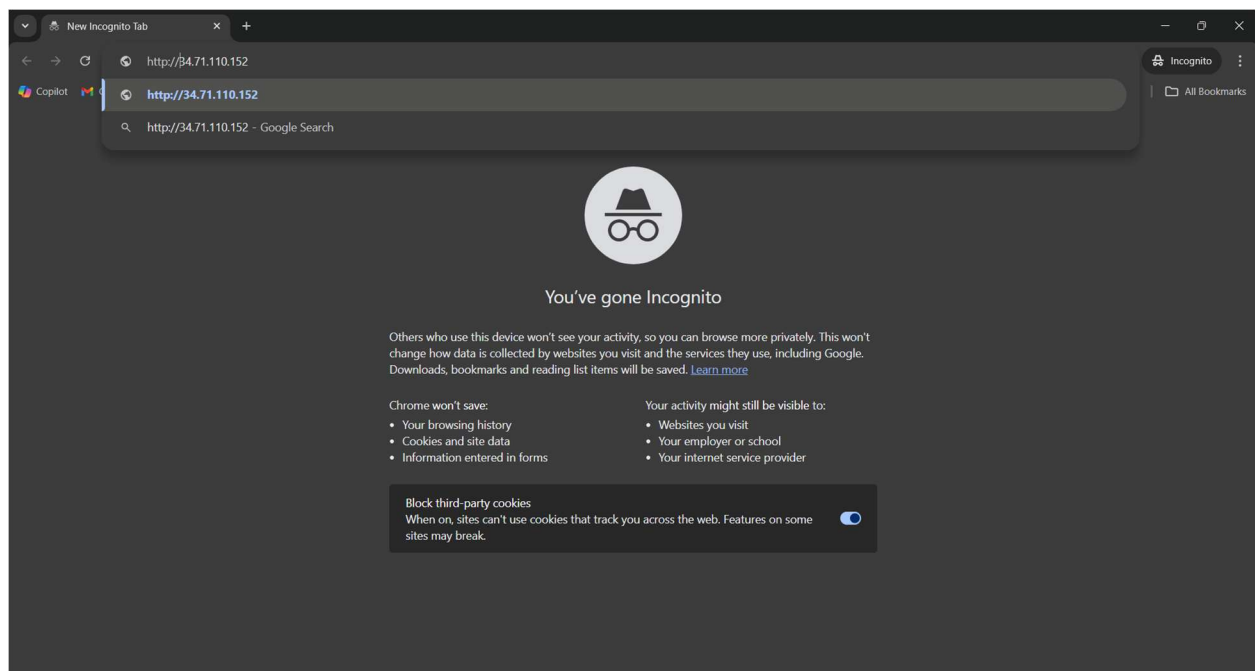
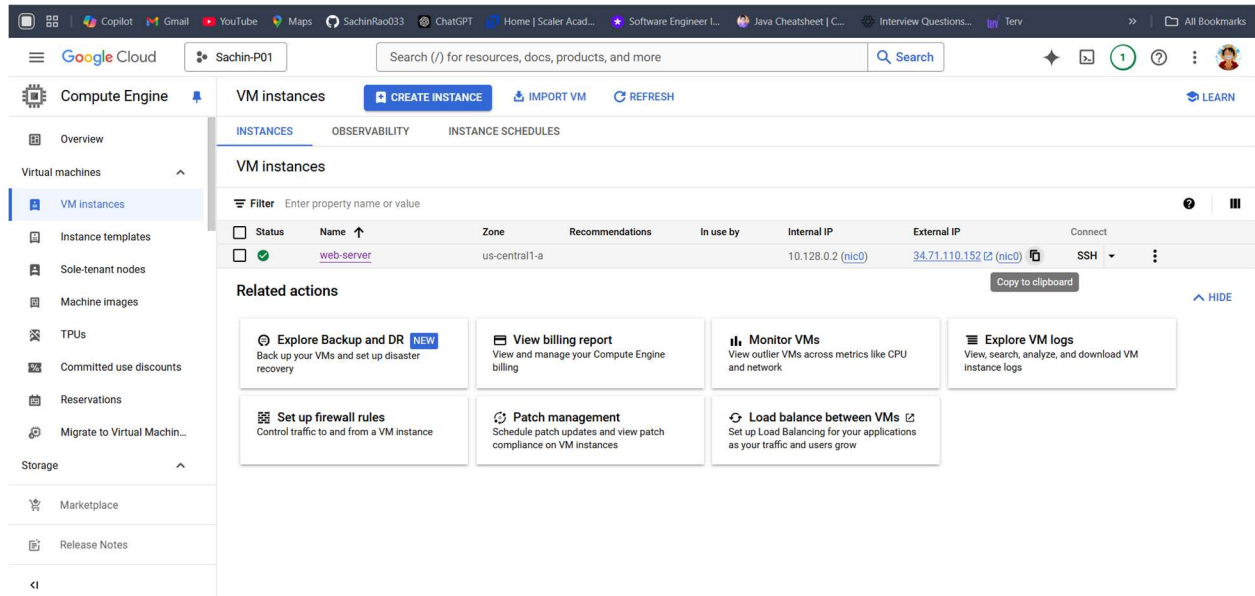
```
root@web-server:~# gsutil cp gs://sachin-bg01/one-page-website-html-css-project-master/* /var/www/html
Copying gs://sachin-bg01/one-page-website-html-css-project-master/LICENSE...
Copying gs://sachin-bg01/one-page-website-html-css-project-master/README.md...
Copying gs://sachin-bg01/one-page-website-html-css-project-master/app.js...
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.

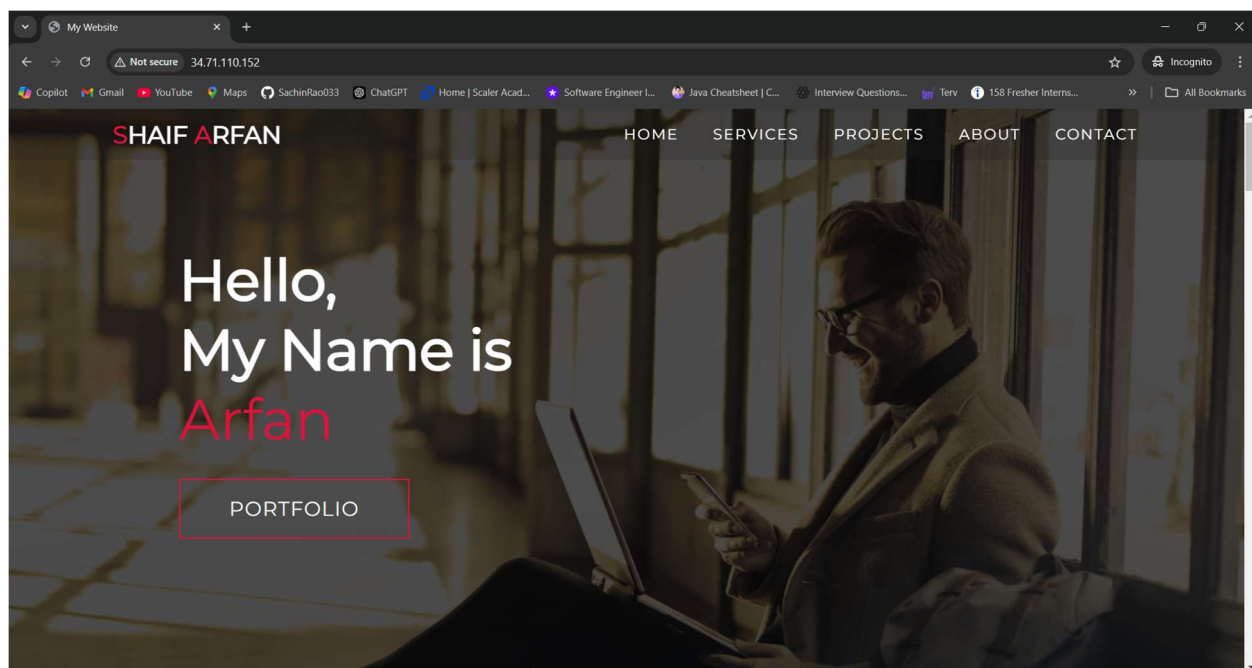
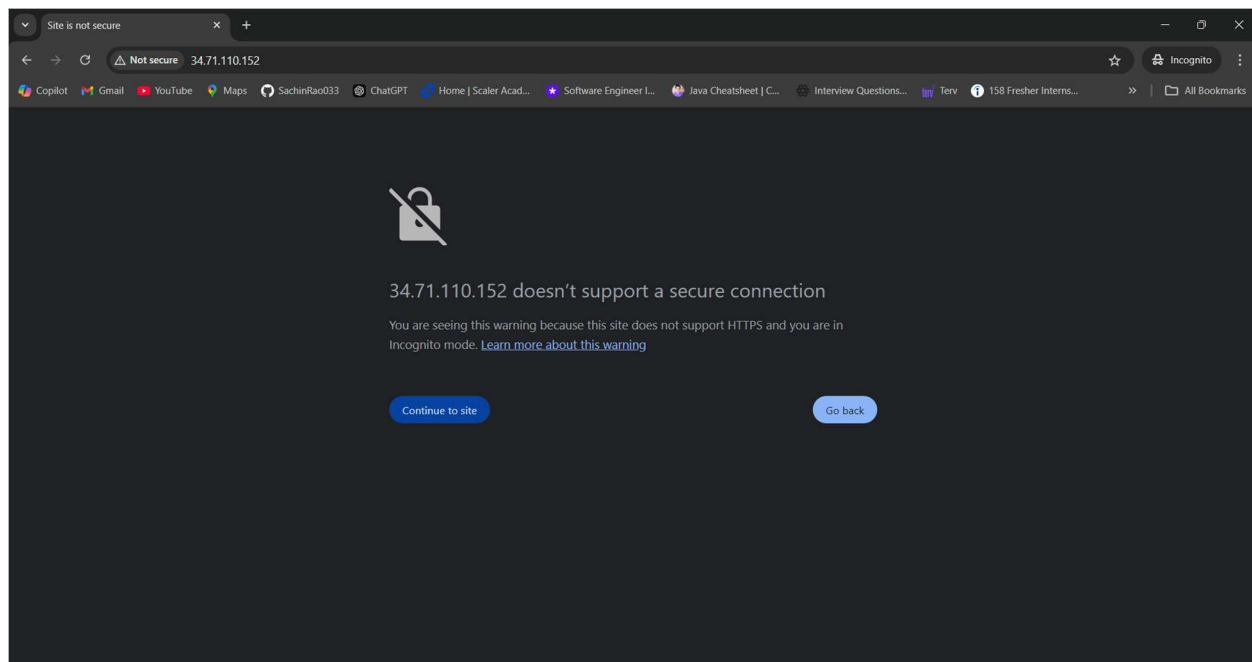
Copying gs://sachin-bg01/one-page-website-html-css-project-master/style.css...
Omitting prefix "gs://sachin-bg01/one-page-website-html-css-project-master/img/". (Did you mean to do cp -r?)

Operation completed over 5 objects/25.3 KiB.
root@web-server:~#
root@web-server:~#
root@web-server:~# 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#
```

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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ABOUT ME

Front End Developer

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