# Hosting a website on Virtual Machine

**INTRODUCTION:**

In this POC, we will learn how to host a static website locally using the Apache HTTP server. This involves setting up a local server, configuring it and hosting a simple html file. By following this steps you will get hands-on experience with configuring and running a local Apache server.

**PREREQUSITES:**

- Github account
- AWS Management Console
- Simple HTML file

**Virtual Machine**:

A virtual machine (VM) is a software-based emulation of a physical computer that runs an operating system and applications just like a physical machine. It is created using virtualization technology, which allows multiple VMs to run on a single physical host.

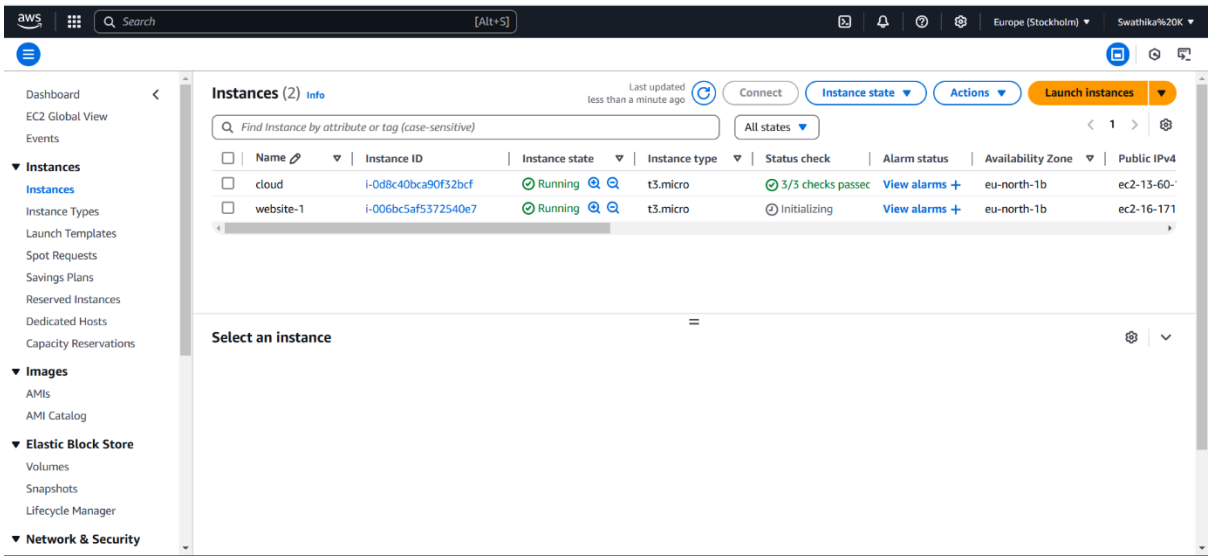
**Launching an EC2 instance**: ✓ EC2 instance is the virtual machine in AWS.

**Steps:**

❖ Login into AWS console.

❖ Navigate into the EC2 service.

❖ Select launch instance and specify the name, instance type, OS and create a Key-Pair value. Finally review and launch the i

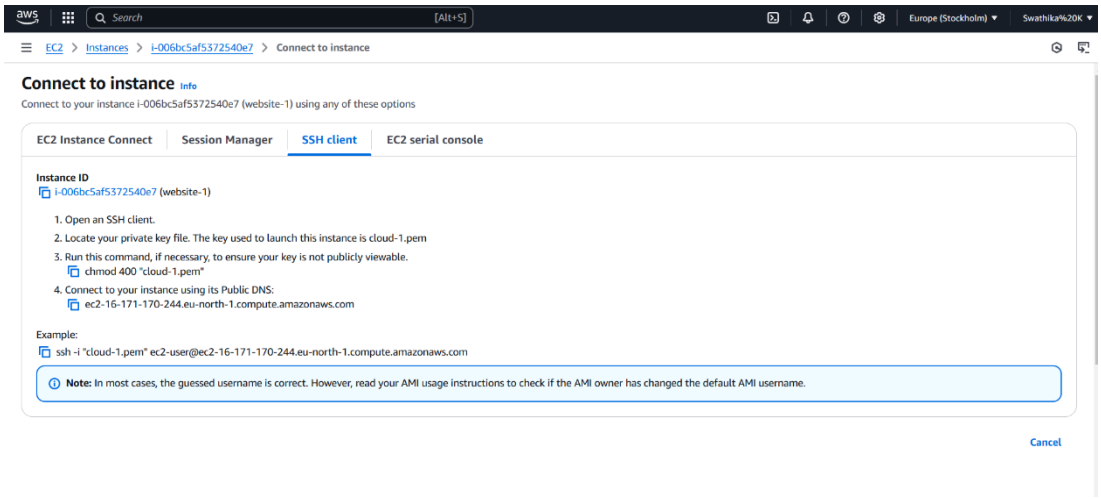



**Apache** – Apache generally refers to the Apache HTTP Server, an open-source web server software maintained by the Apache Software Foundation (ASF). It is one of the most widely used web servers in the world.

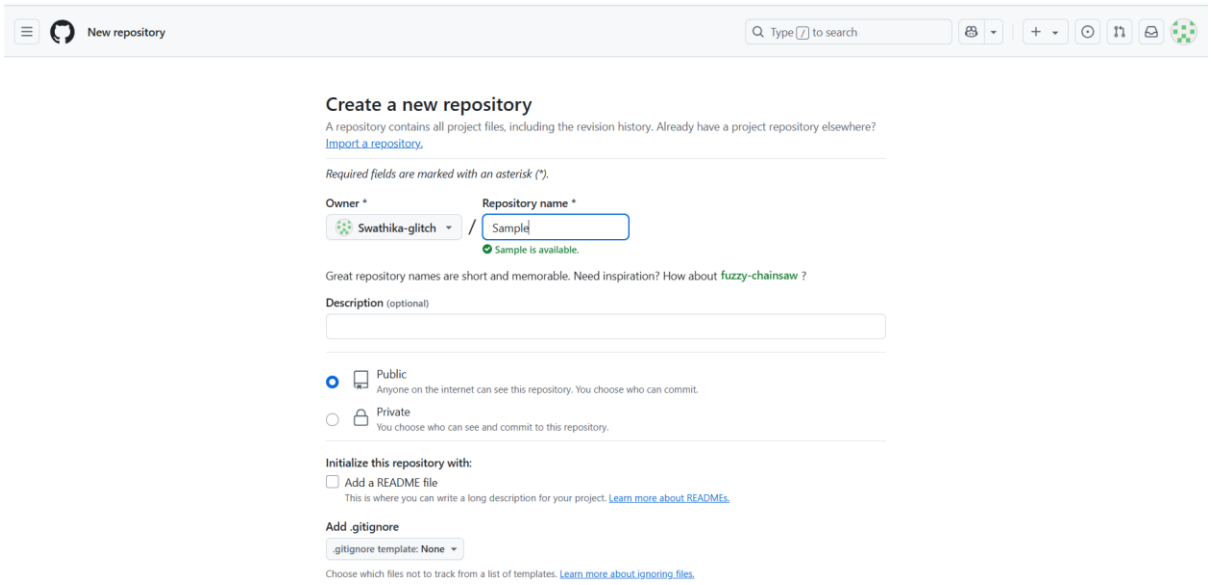
**Hosting a static website using local-server(Apache):**

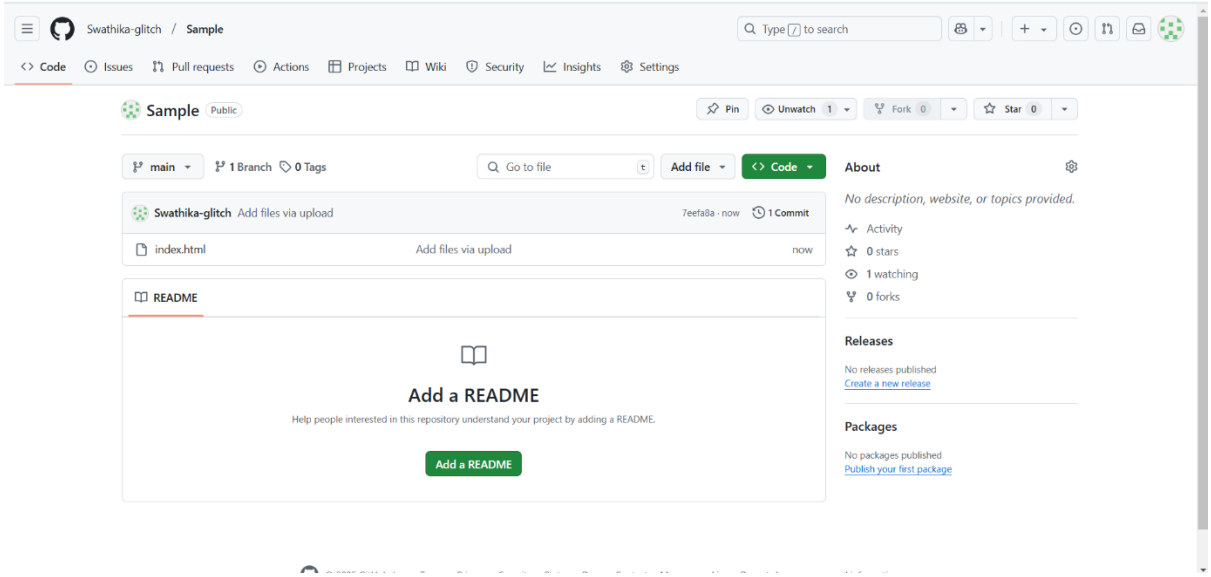
**Step by step overview:**

1) Go to instance id , go to connect and copy the SSH Id.



2) Go to Git-hub. Create a repository and upload a simple HTML - file and give commit changes.




3) Open PowerShell. Give cd downloads command and copy the ssh command and paste it.

```
PS C:\Users\Swathika> cd downloads
PS C:\Users\Swathika\downloads> ssh -i "cloud-1.pem" ec2-user@ec2-16-171-170-244.eu-north
```

4) Give the command sudo apt update

```
ubuntu@ip-172-31-94-210:~$ sudo apt update
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://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [611 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [822 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [186 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [981 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [244 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [313 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [19.9 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [623 kB]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [120 kB]
Get:23 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [16.0 kB]
Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [3844 B]
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [552 B]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [112 B]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [13.4 kB]
Get:31 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [11.4 kB]
Get:32 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.6 kB]
Get:33 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1104 B]
Get:34 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:35 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 c-n-f Metadata [116 B]
Get:36 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:37 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:38 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [116 kB]
```

5) Now, give sudo apt upgrade command

```
ubuntu@ip-172-31-94-210:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following upgrades have been deferred due to phasing:
  bpftrace kmod libaio1t64 libattr1 libbsd0 libcap2 libcap2-bin libdw1t64 libelf1t64 libkmod2 libmd0 libnl-3-200
  libnl-genl-3-200 libnl-route-3-200 libpam-cap libunistring5
The following packages will be upgraded:
  bsdextrautils bsdutils eject fdisk libblkid1 libfdisk1 libgmp10 libgpg-error-l10n libgpg-error0 libidn2-0 libmount1
  libpolkit-agent-1-0 libpolkit-gobject-1-0 libpython3.12-minimal libpython3.12-stdlib libpython3.12t64 libselinux1
  libsmartcols1 libuuid1 linux-tools-common mount polkitd python3.12 python3.12-minimal rsync util-linux uuid-runtime
  vim vim-common vim-runtime vim-tiny xfsprogs xxd
33 upgraded, 0 newly installed, 0 to remove and 16 not upgraded.
12 standard LTS security updates
Need to get 23.3 MB of archives.
After this operation, 12.3 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

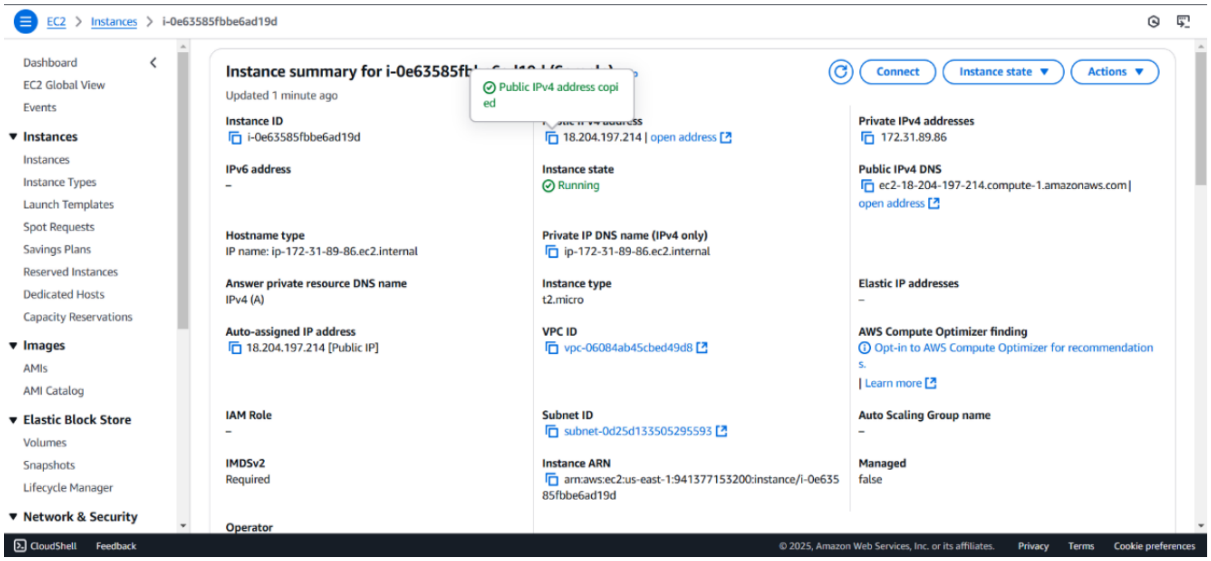
6)Sudo apt install apache2

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-94-210:~$ sudo apt install apache2
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 libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
  liblua5.4-0 ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
  liblua5.4-0 ssl-cert
0 upgraded, 10 newly installed, 0 to remove and 16 not upgraded.
Need to get 2084 kB of archives.
After this operation, 8094 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

7)Now, clone the Github id and paste in it the terminal.

```
ubuntu@ip-172-31-94-210:~$ git clone https://github.com/Nidhisha-A-Dhas/Sample.git
Cloning into 'Sample'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.
ubuntu@ip-172-31-94-210:~$ cd /var/www/html
ubuntu@ip-172-31-94-210:/var/www/html$ ls
index.html
ubuntu@ip-172-31-94-210:/var/www/html$ sudo rm index.html
ubuntu@ip-172-31-94-210:/var/www/html$ ls
ubuntu@ip-172-31-94-210:/var/www/html$ cd
ubuntu@ip-172-31-94-210:~$ cd Sample/
ubuntu@ip-172-31-94-210:~/Sample$ sudo cp index.html /var/www/html
ubuntu@ip-172-31-94-210:~/Sample$ cd
ubuntu@ip-172-31-94-210:~$ cd /var/www/html
ubuntu@ip-172-31-94-210:/var/www/html$ ls
index.html
ubuntu@ip-172-31-94-210:/var/www/html$
```

8)Go to EC2 Instance id, copy IPv4 address from the instance id and open in new website.





# Welcome to My Simple Webpage!

This is a basic HTML page with a heading and a paragraph.

**Conclusion:**

By completing this POC, you will: 1. Successfully configure and run an Apache server locally. 2. Host a static HTML website that displays your name. 3. Understand the basics of web server configuration and file hosting.