Assignment - AWS Overview

Q1)List out the types of instance base on the pricing model and write a brief about your understanding about it.

Ans -

Instance Pricing Model allows us to choose the most cost-effective and efficient way to run your workloads based on usage patterns. Here are the main types of instance pricing models:

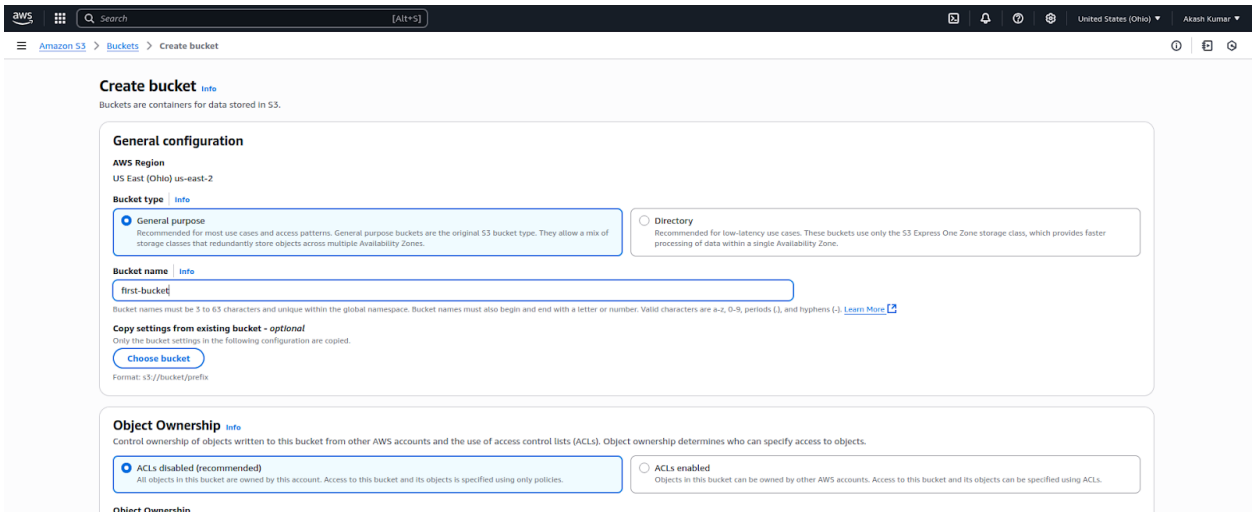
Instance Type	**Description**	**Best for**	**Commitment**	**Cost Saving**	**Flexibility**
On-Demand	pay-per-hour	Short term, Unpredictable workloads	0	low	High
Reserved Instances	Pay for 1 or 3 years for a discount	Predictable, Steady workloads	1 or 3 years	Upto 75%	Low to Medium
Savings Plans	Commit to a consistent per -hour usage for 1 or 3 years for lower rates	Flexible but Predictable workloads	1 or 3 years	Upto 72%	High
Spot Instances	Bid for unused EC2 capacity, can be interrupted	Fault Tolerant, flexible applications	0	Upto 90%	Medium
Dedicated Host	Physical server dedicated to your account	Compliance , licensing, and workload isolation	optional(on demand or reservation)	Moderate to high	Low to Medium
Dedicated Instances	Run instances on hardware dedicated to you without full host control	Security/isolation needs without licensing concerns	0	Slightly higher than on demand	Medium
Capacity Reservations	Reserve capacity in a specific AZ without	Capacity-critical workloads, disaster	flexible(can cancel anytime)	No cost savings on usage itself	High

	pre-paying for instance time	recovery			

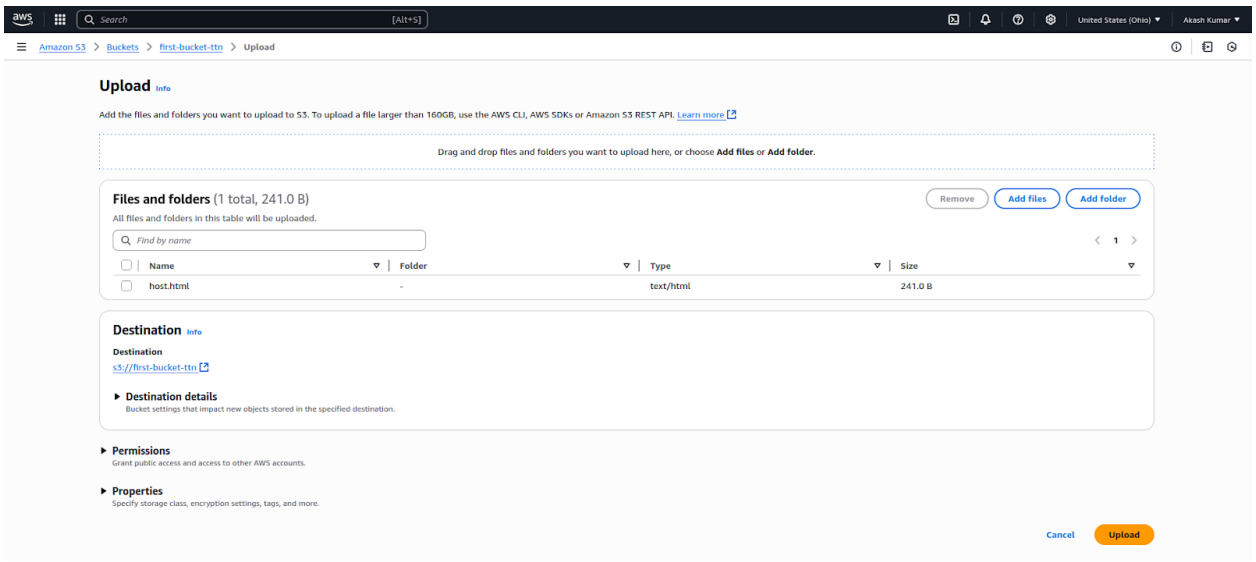
Q2)Host a static website in S3.

Ans - Steps Involved -

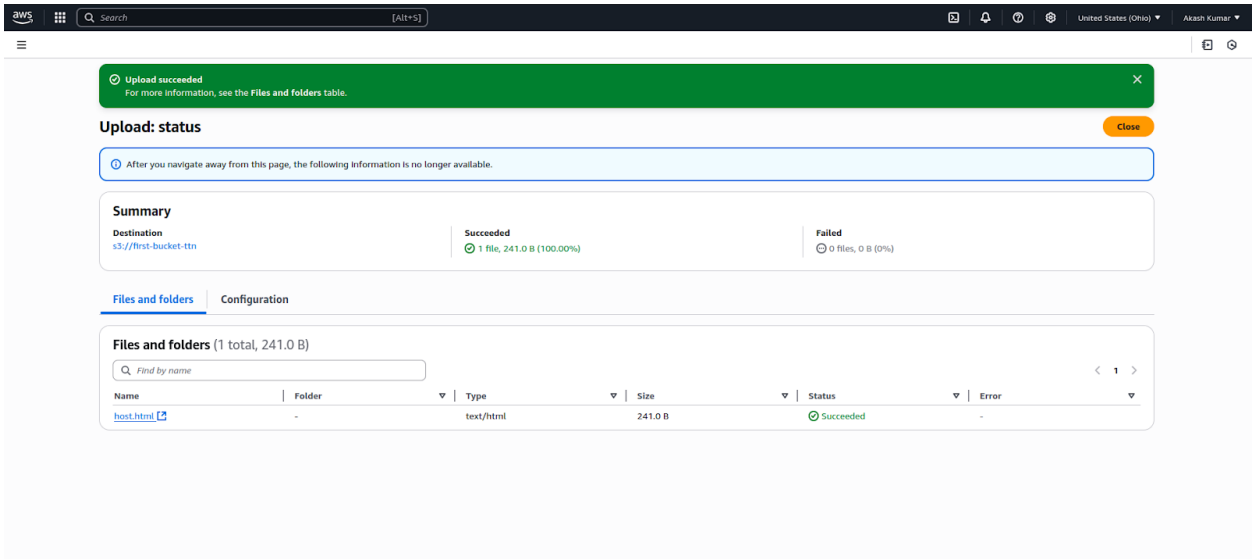
1) Search S3
2) Then in S3 , Click Create bucket.



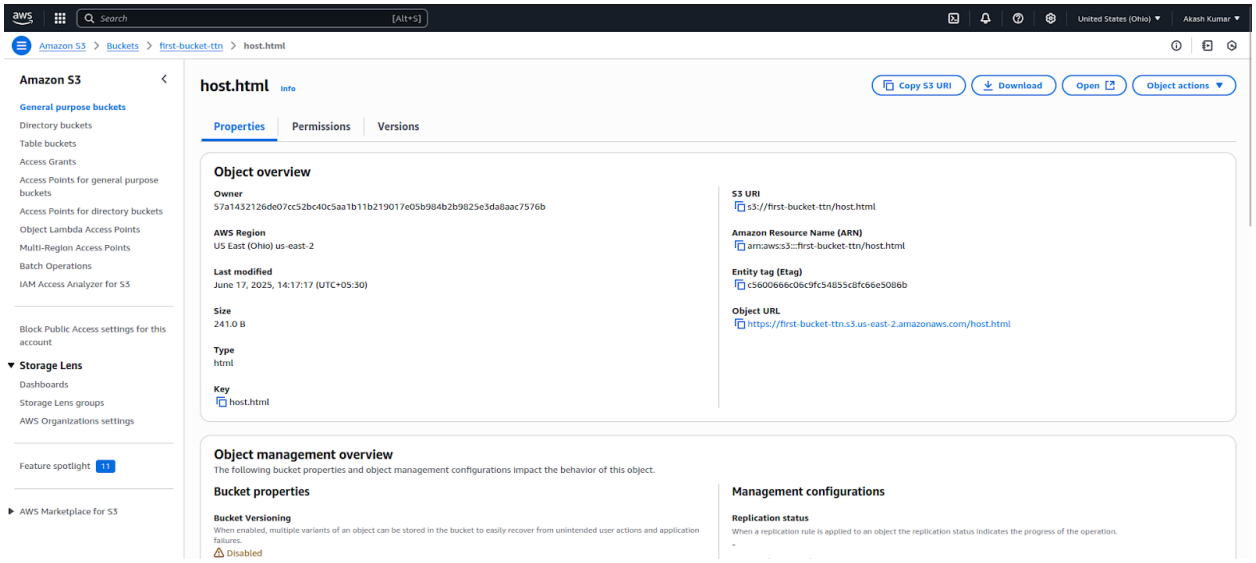
3) Now upload your development files and folders



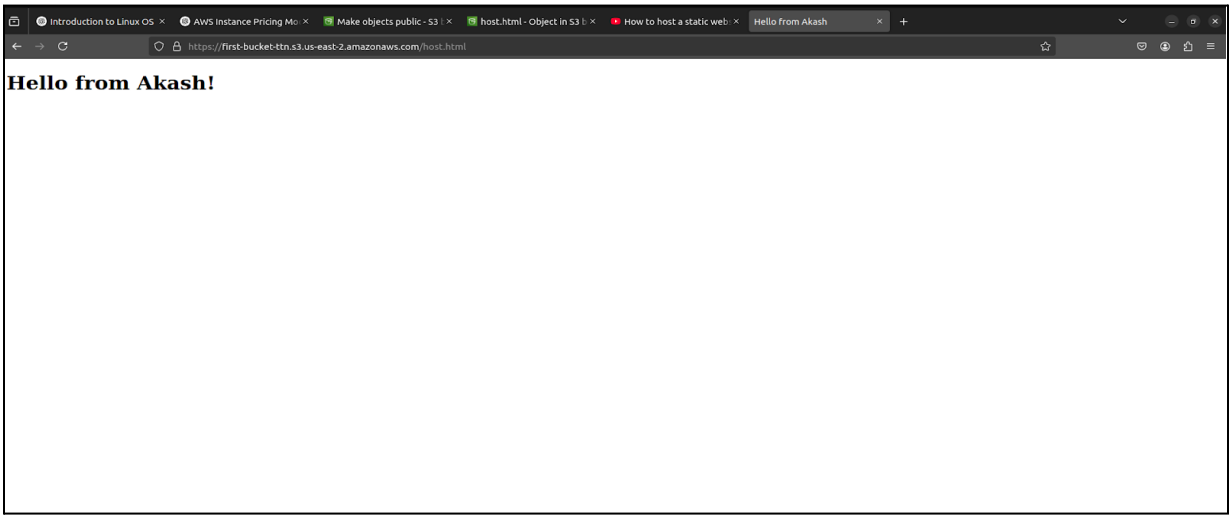
4) Now go to Bucket and provide certain permissions listed below
   - Goto properties -> allow static site hosting
   - Next goto permission -> allow public access and enable ACL(access control list)
   - Now go to objects and select all the objects you want to give public access->goto action -> goto make public using ACL.



5) Now click on object url



6) Site hosted successfully

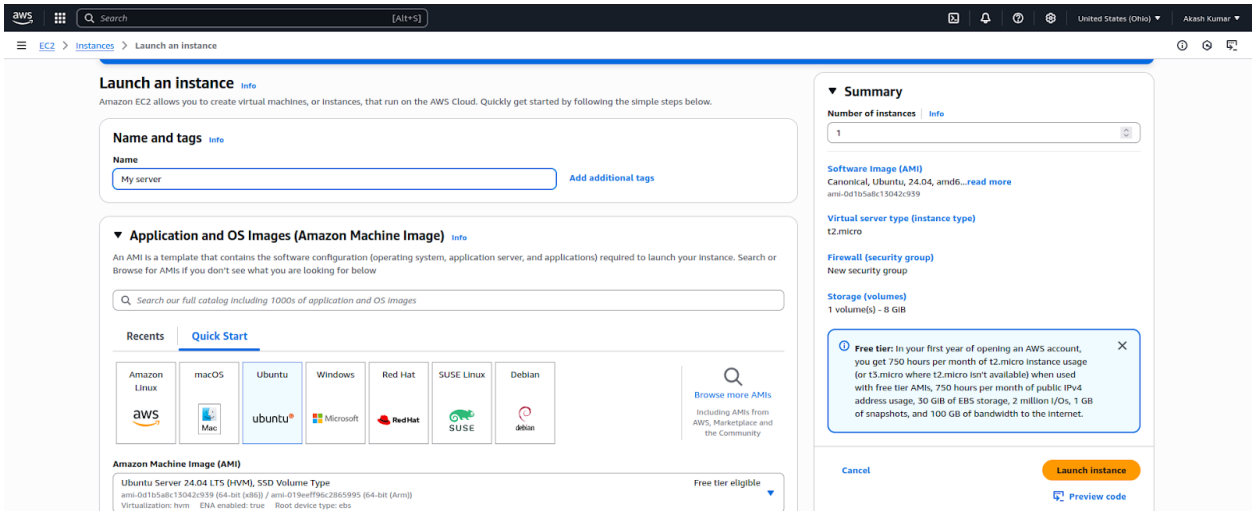


Q3)Launch an Ubuntu EC2 instance on AWS, with 10GB root volume, and SSH from your local machine using the private key.

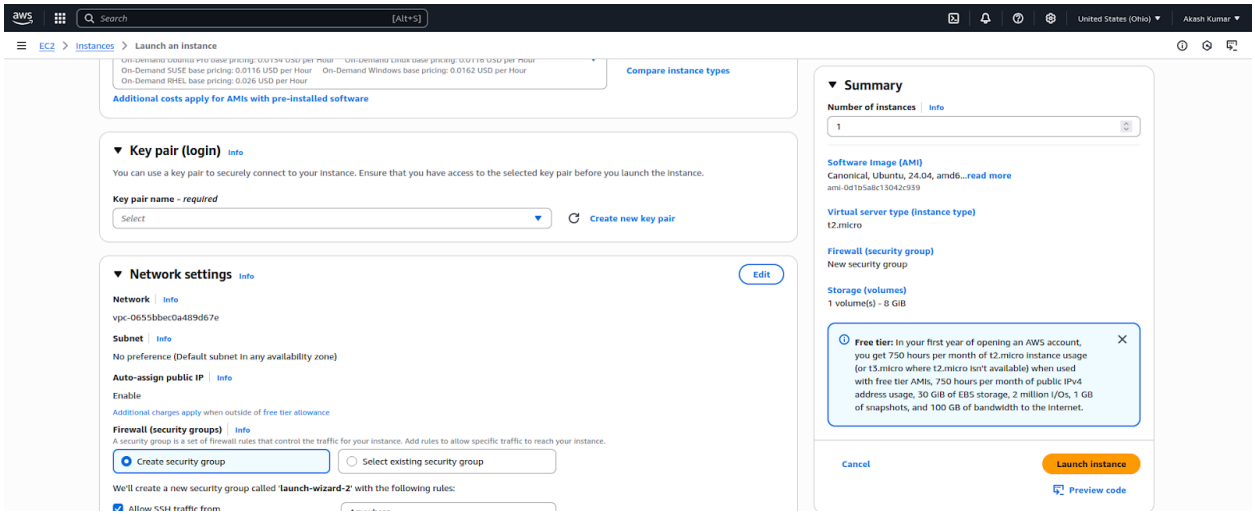
Ans -

Steps Involved -

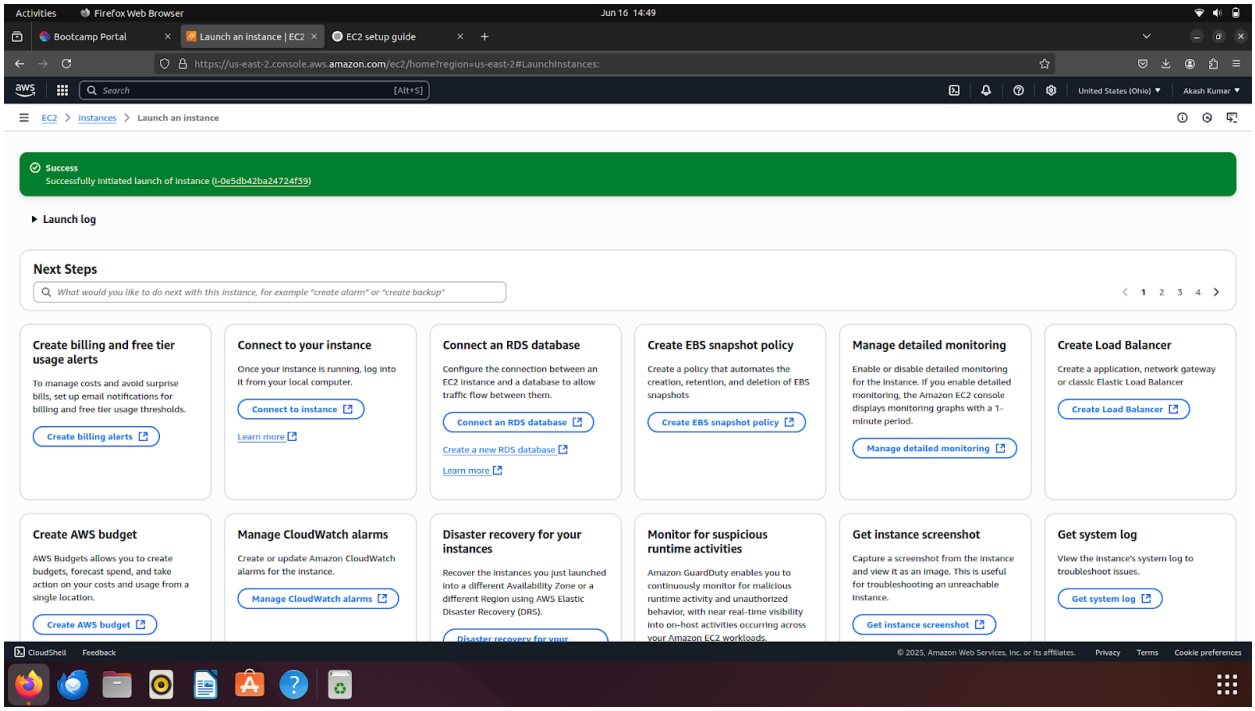
1) Goto EC2 -> Instances
2) Click on launch instance and fill required details



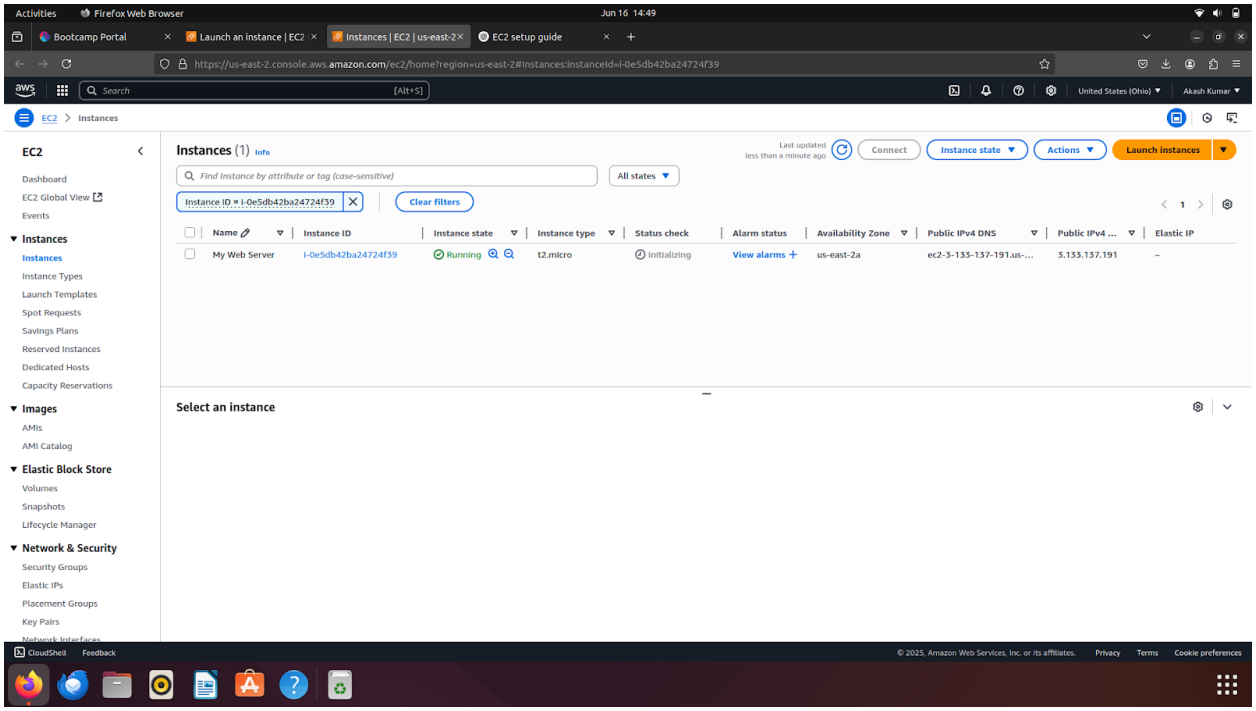
3) Generate Key Pair (Pem Key)



4) EC2 instance created successfully



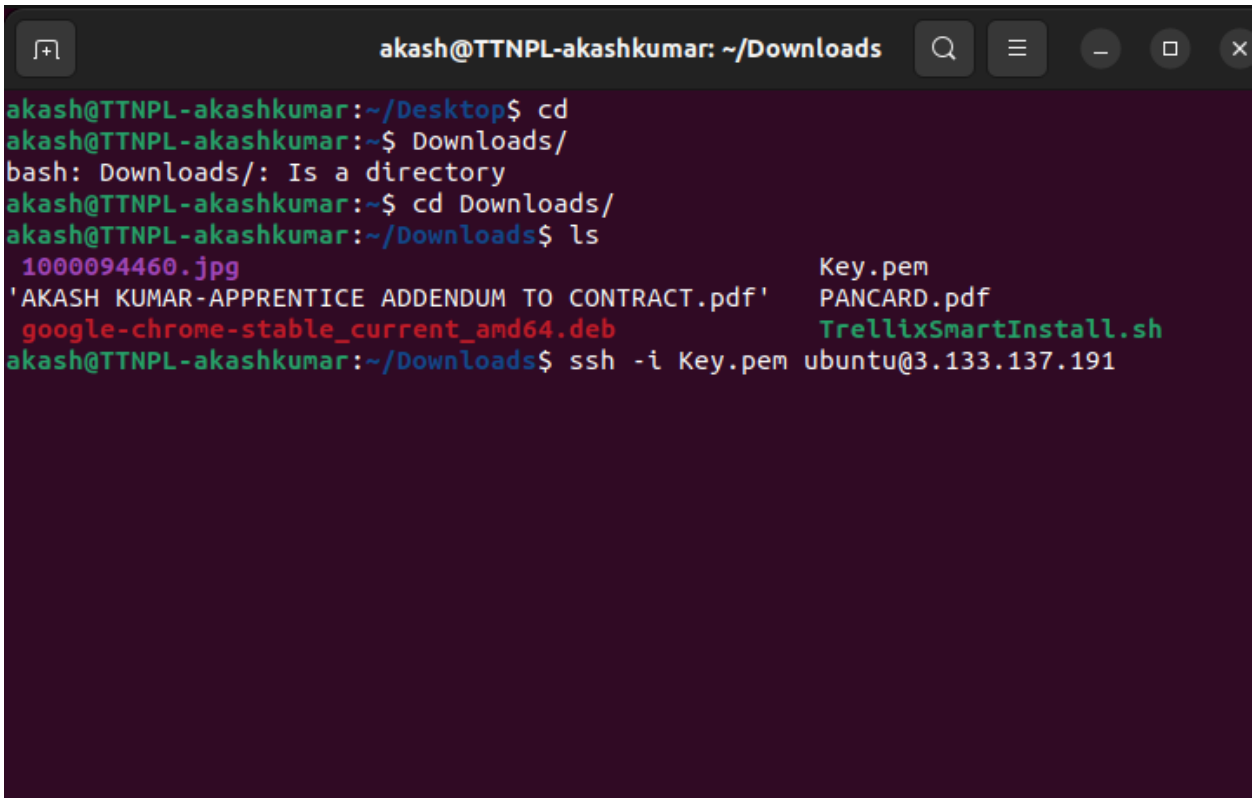
5) Now you can see all the available instances

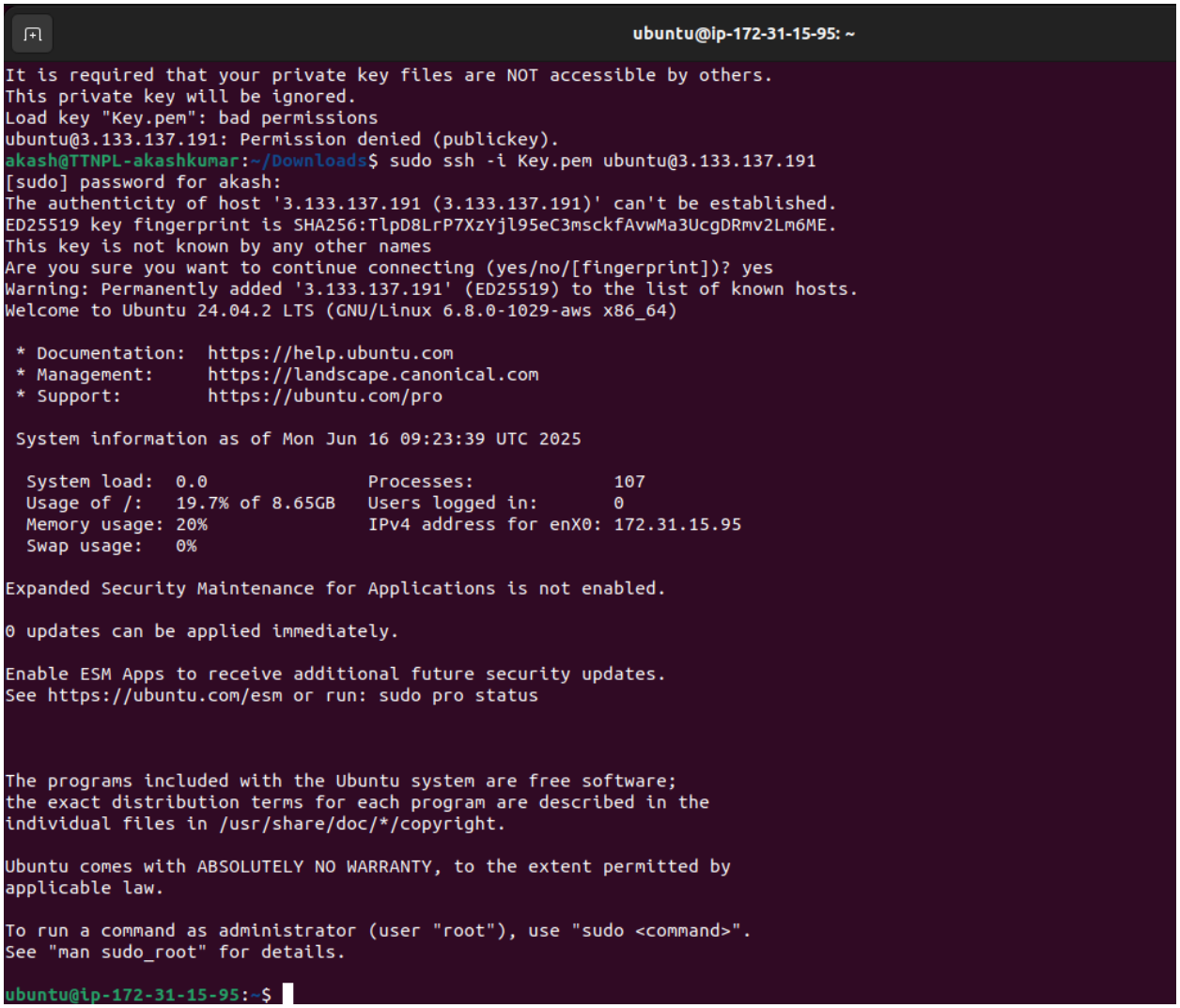


Q4)Install nginx package in the above server and access this page from your local browser using a domain name instead of IP address of the server.

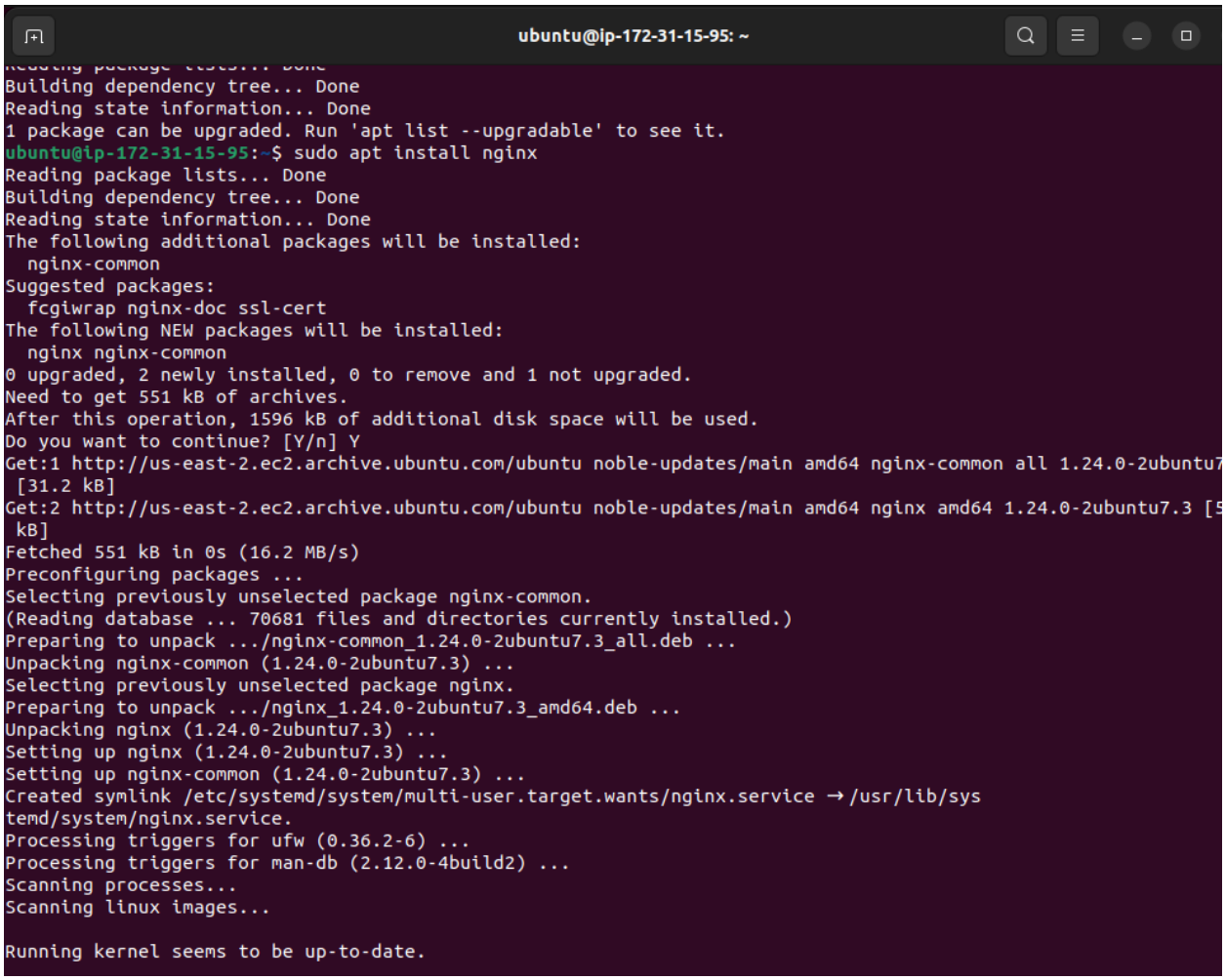
Ans- Steps Involved

1) Goto folder where you pem key is stored
2) Then run command -
    - sudo ssh -i pem_key_name.pem system@public_ip_of_instances

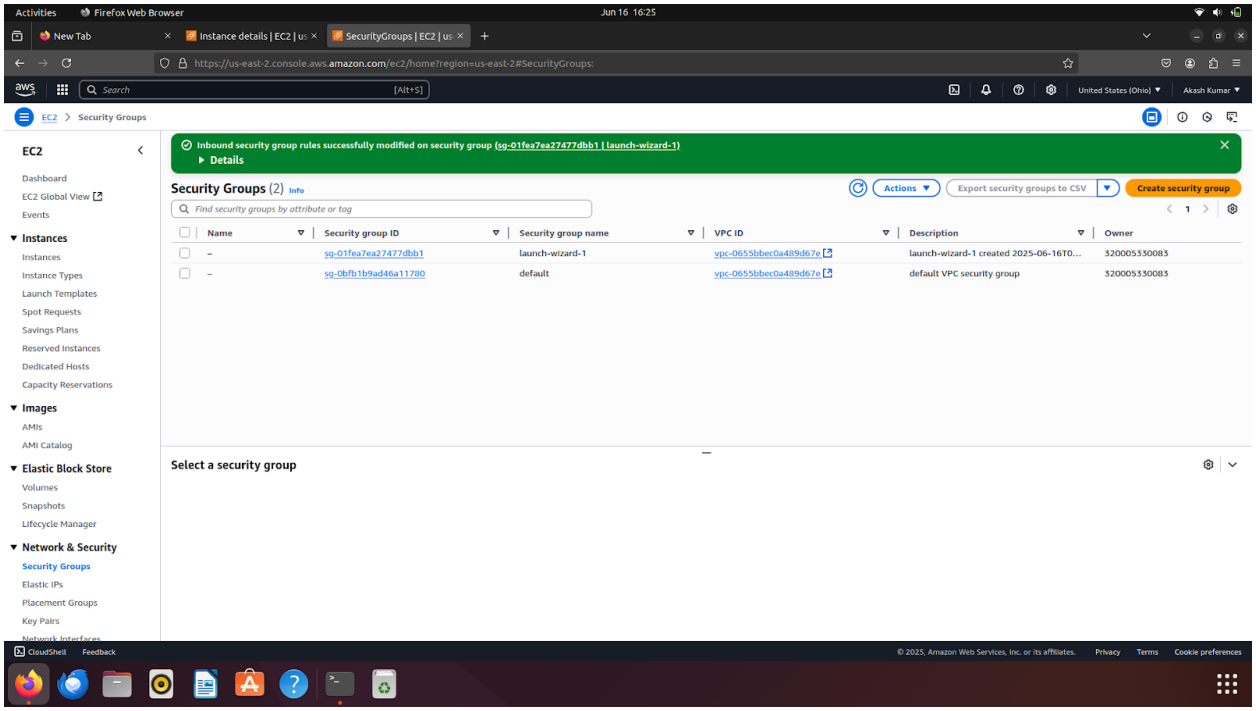


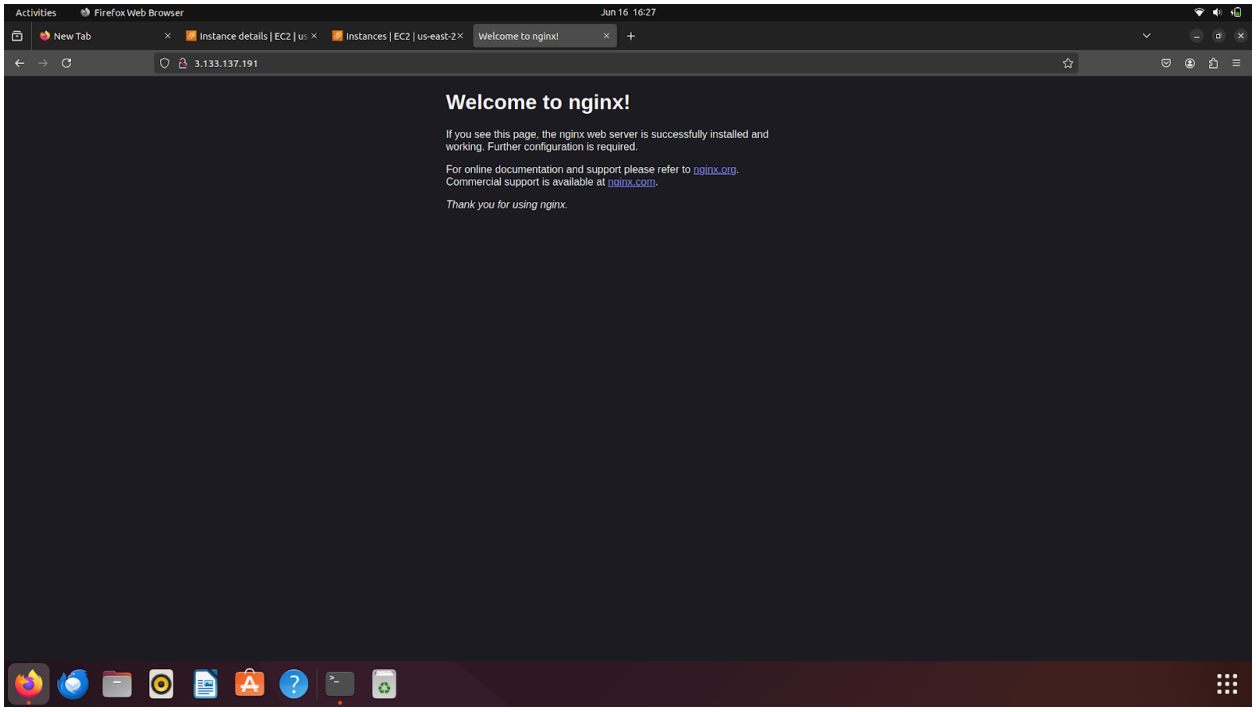

ubuntu@ip-172-31-15-95: ~
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "Key.pem": bad permissions
ubuntu@3.133.137.191: Permission denied (publickey).
akash@TTNPL-akashkumar:~/Downloads$ sudo ssh -i Key.pem ubuntu@3.133.137.191
[sudo] password for akash:
The authenticity of host '3.133.137.191 (3.133.137.191)' can't be established.
ED25519 key fingerprint is SHA256:TlpD8LrP7XzYjl95eC3msckfAvwMa3UcgDRmv2Lm6ME.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '3.133.137.191' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1029-aws x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/pro
System information as of Mon Jun 16 09:23:39 UTC 2025
System load: 0.0
Usage of /: 19.7% of 8.65GB
Memory usage: 20%
Swap usage: 0%
Processes: 107
Users logged in: 0
IPv4 address for enX0: 172.31.15.95
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 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-172-31-15-95:~$

3) Now install nginx using command
    - sudo apt update
    - sudo apt install nginx



4) Creating inbound rule to expose port 80
5) Using duckdns to get free domain name



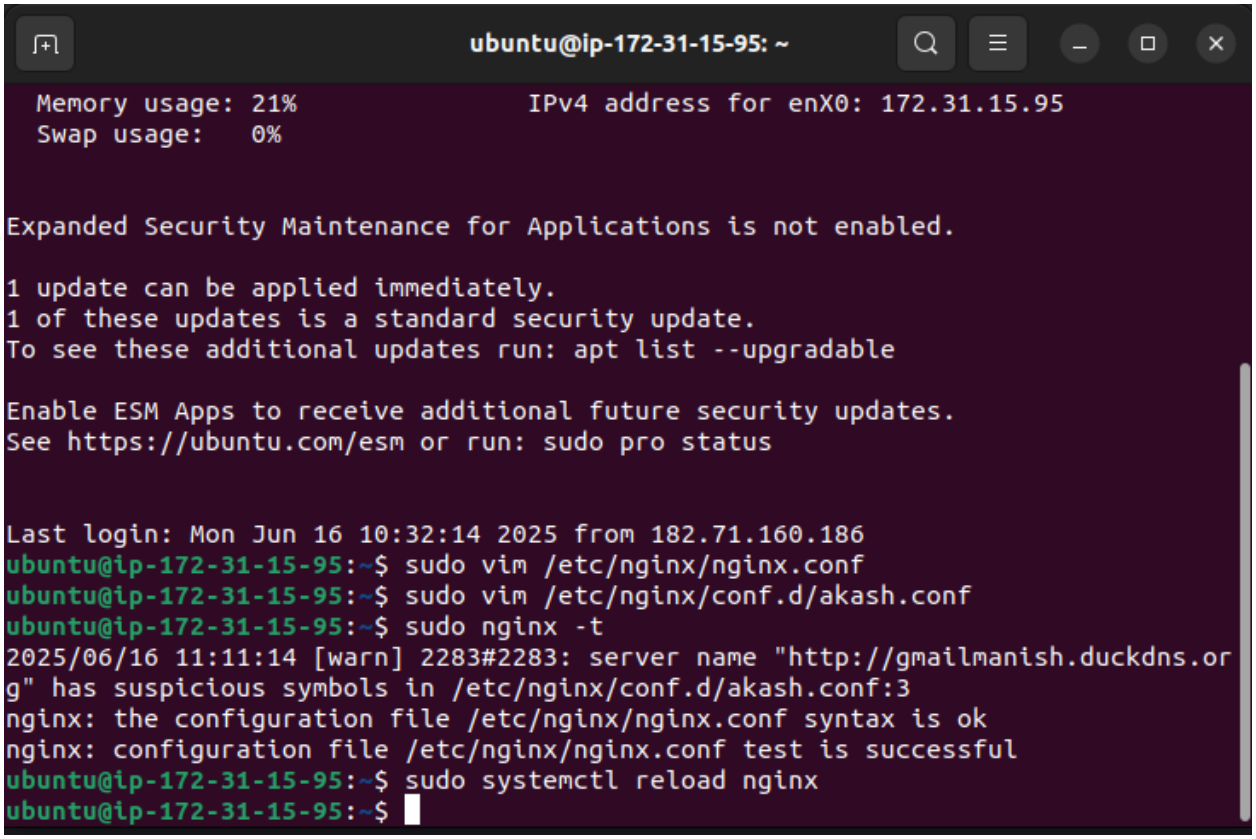


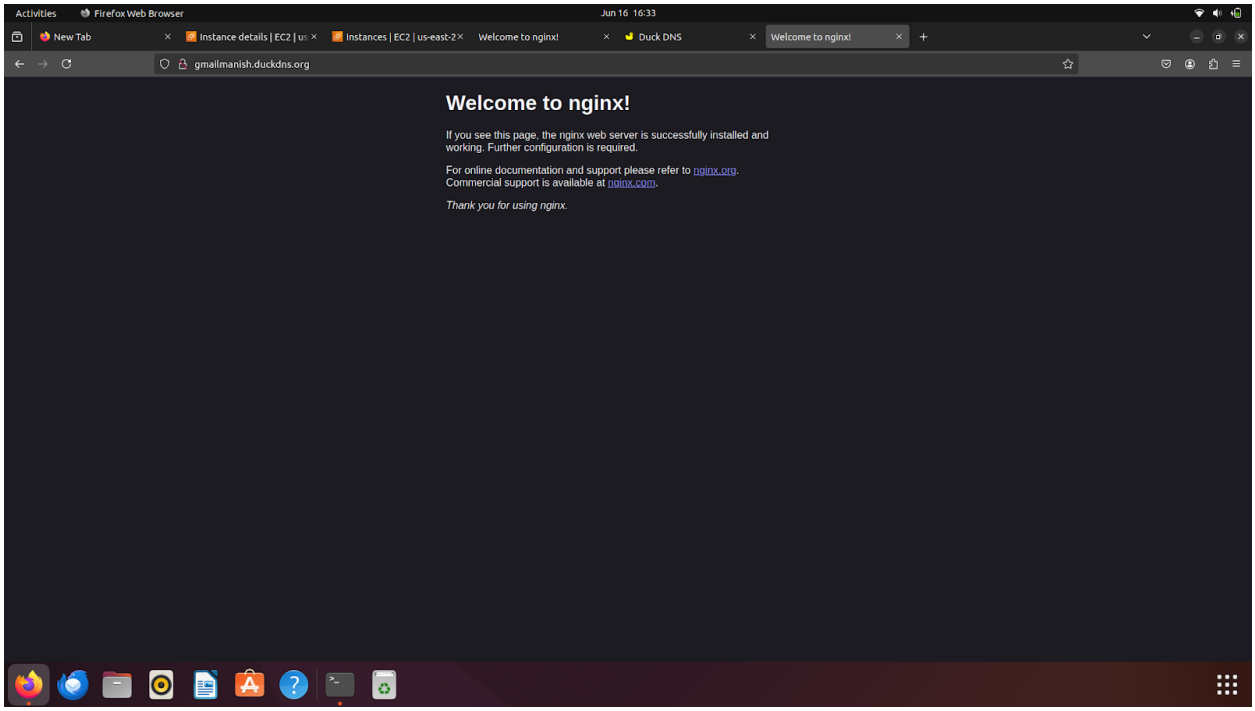
6) Now we need to edit the nginx config file to add the domain name
7) Add following details in config file -
    - server {
        listen 80;
        server_name <your_domain_on duckdns>;
        location / {
            root /usr/share/nginx/html;
            Index index.html
        }
    }

What above configuration do

- DNS resolves it to your server's public IP (set in DuckDNS)
- NGINX receives the request on port 80.
- This config matches the hostname
- It serves the index.html file from /usr/share/nginx/html.

8) Now we reload the nginx using sudo systemctl reload nginx




Activities
Firefox Web Browser
Jun 16 16:33
New Tab
Instance details | EC2 | us
Instances | EC2 | us-east-2
Welcome to nginx!
Duck DNS
Welcome to nginx!
gmailmanish.duckdns.org
Welcome to nginx!
If you see this page, the nginx web server is successfully installed and working. Further configuration is required.
For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.
Thank you for using nginx.