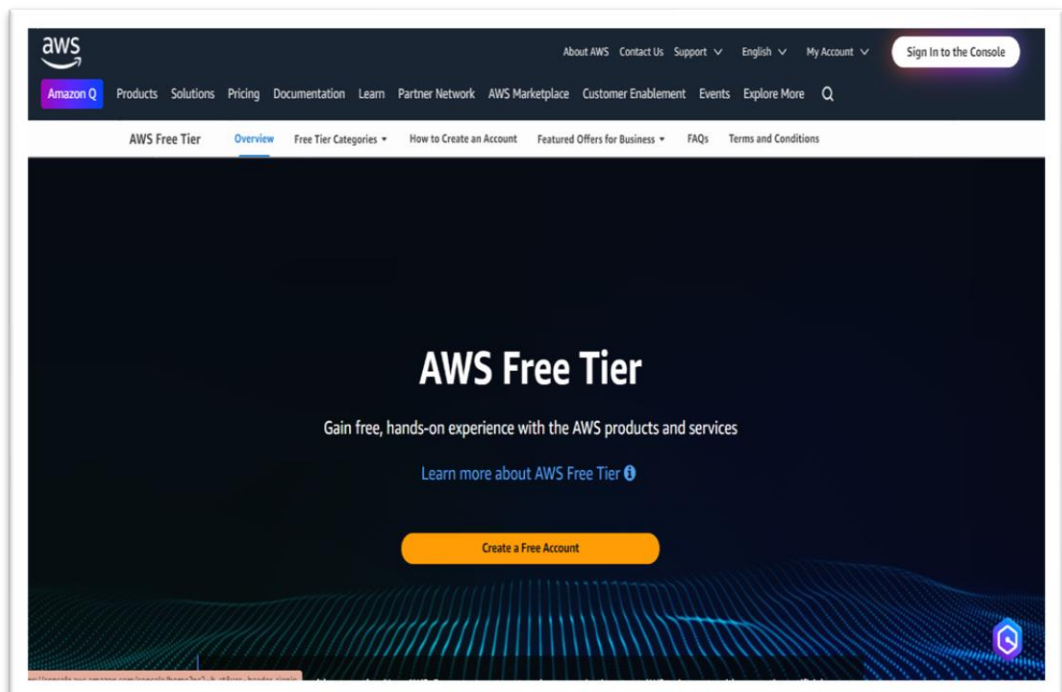


## AWS Documentation

No:-	Documentation of performed task
1.	Signing into AWS console & Creating Ec2 instance.
2.	Installing Nginx and launching web server.
3.	Creating AMI (Amazon Machine Image).
4.	Launching template.

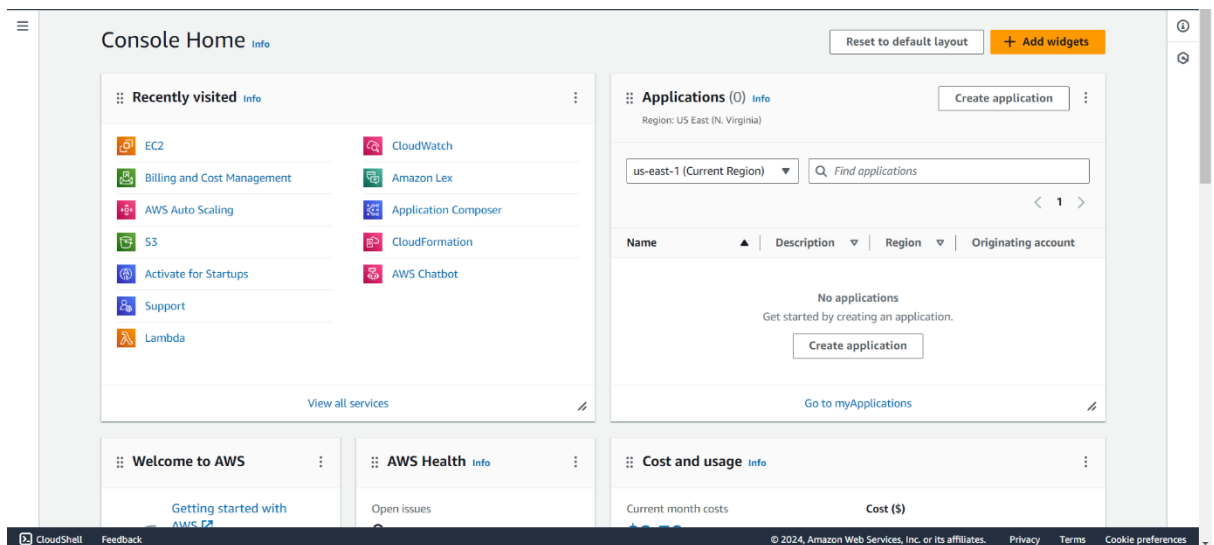
### 1. Signing into AWS console & Creating Ec2 instance.

- In this step we are first opening AWS website and after clicking on the link then click on signing on console.

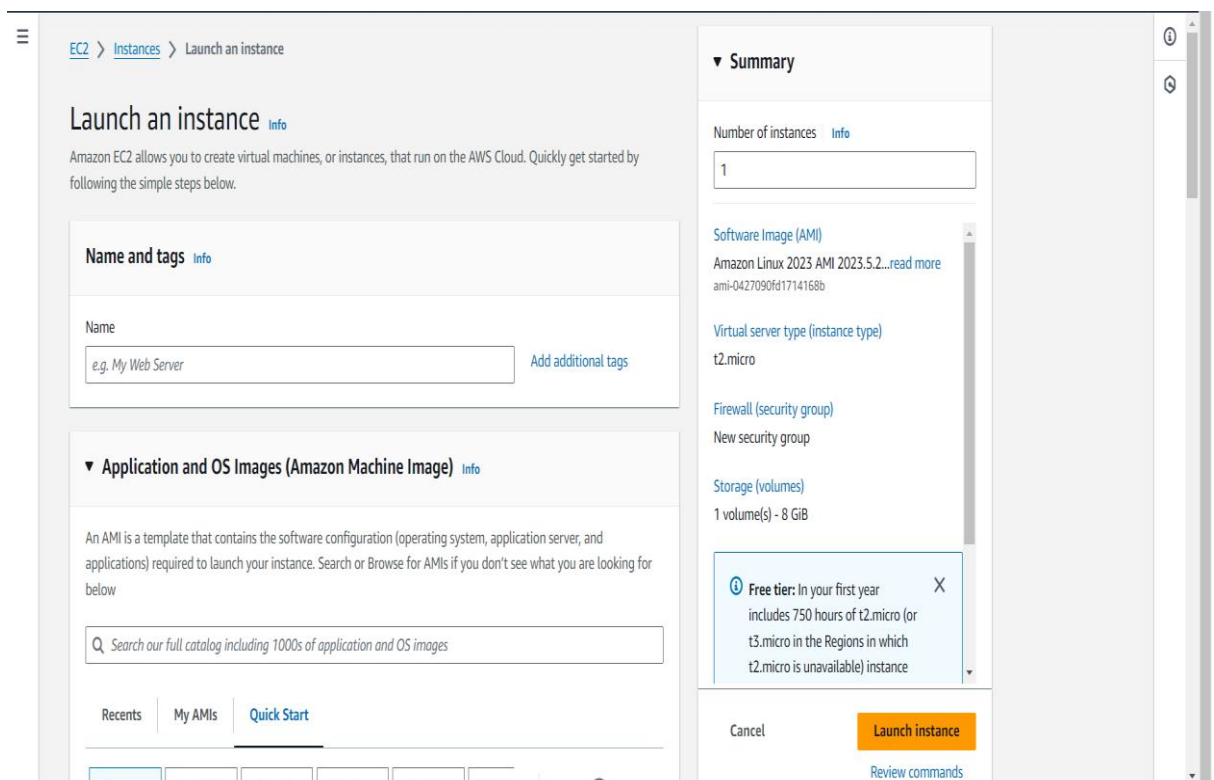


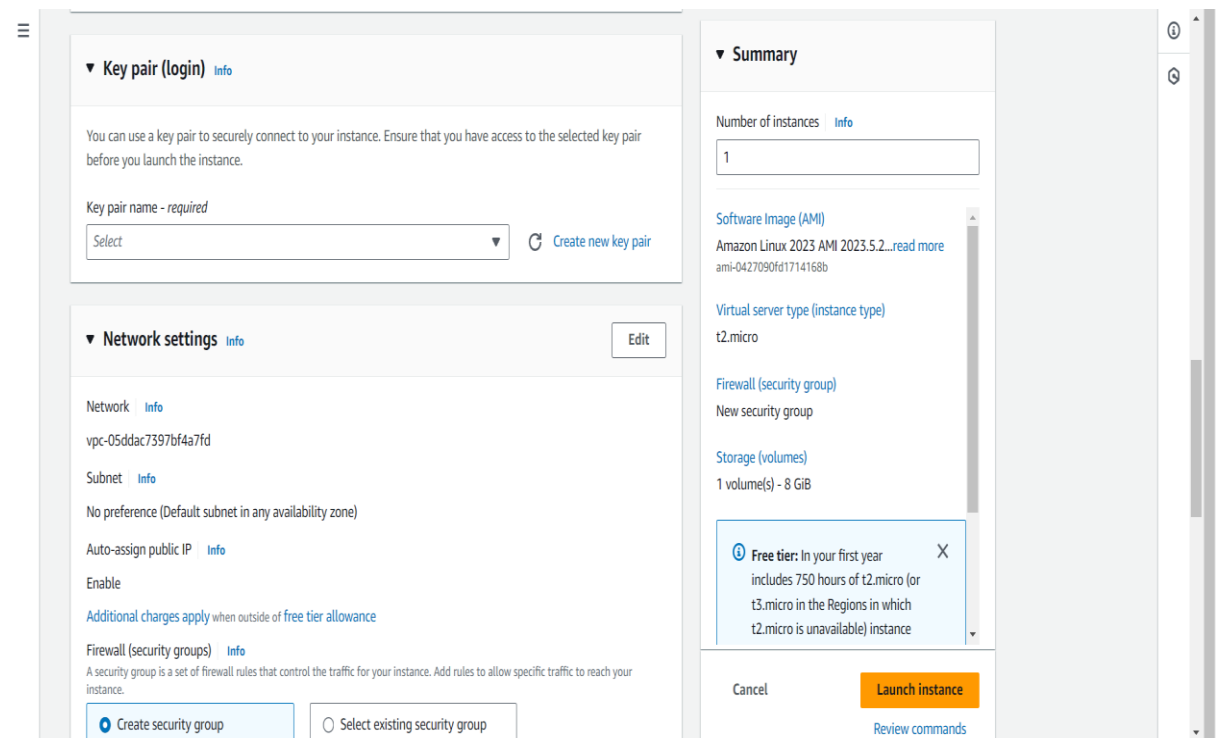
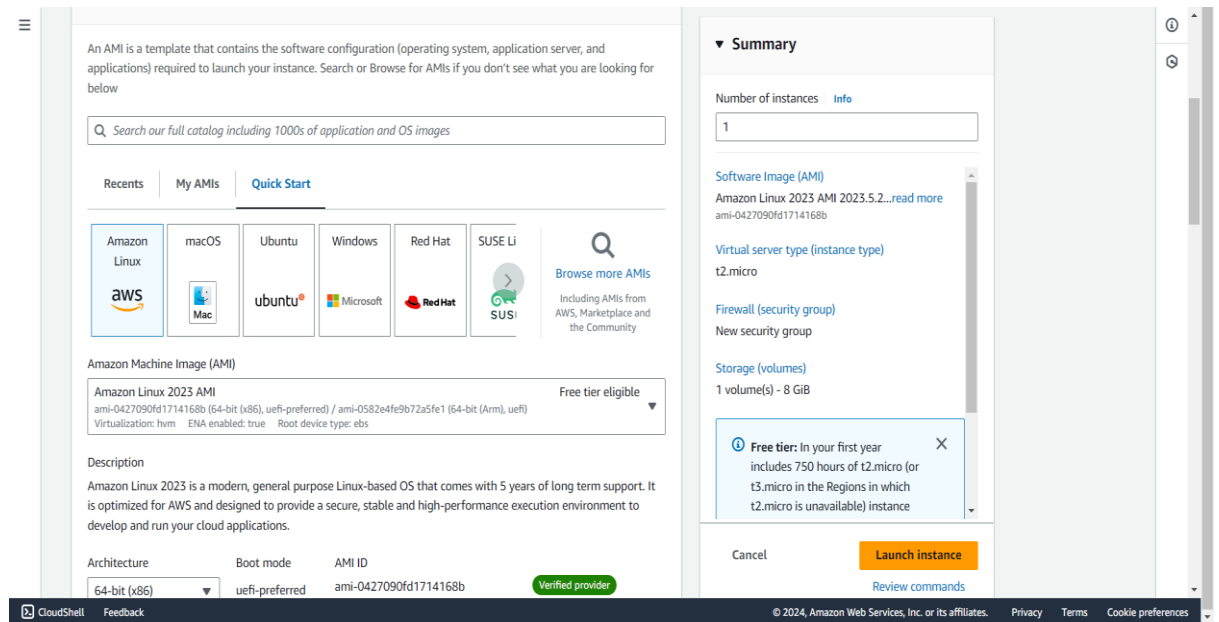
- Enter Email ID and password.

- Click on EC2 service



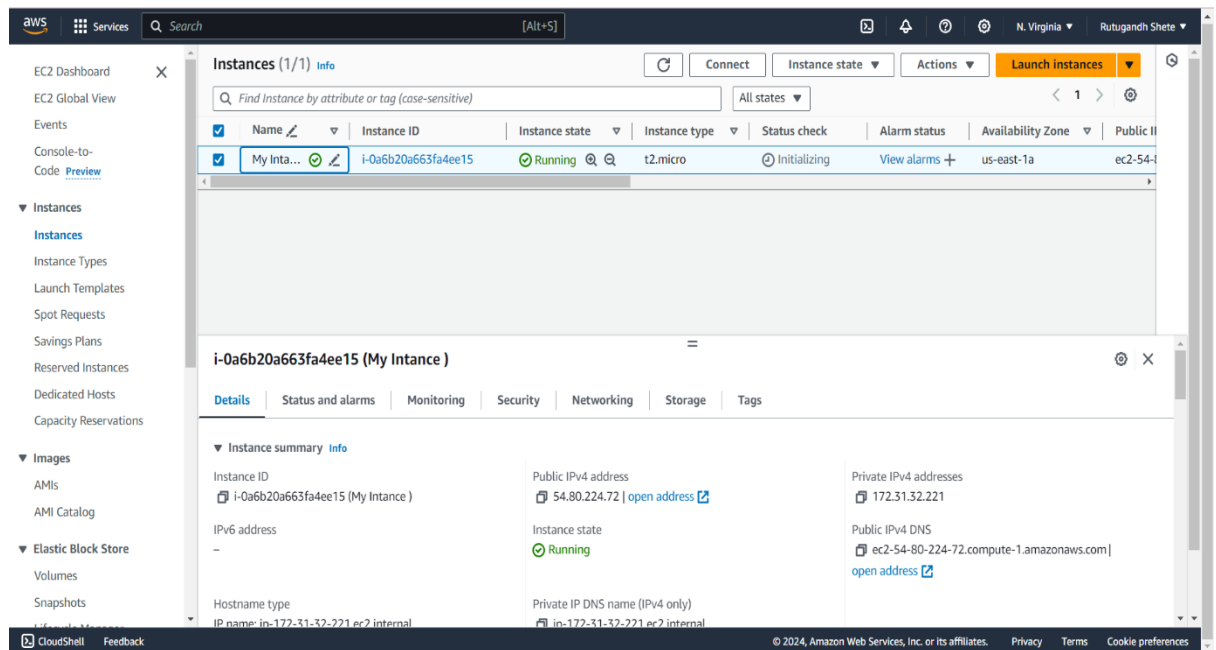
- Click on Launch instance and enter webserver name, which machine want to create, create key value pair and we can also change network settings as per convenience.



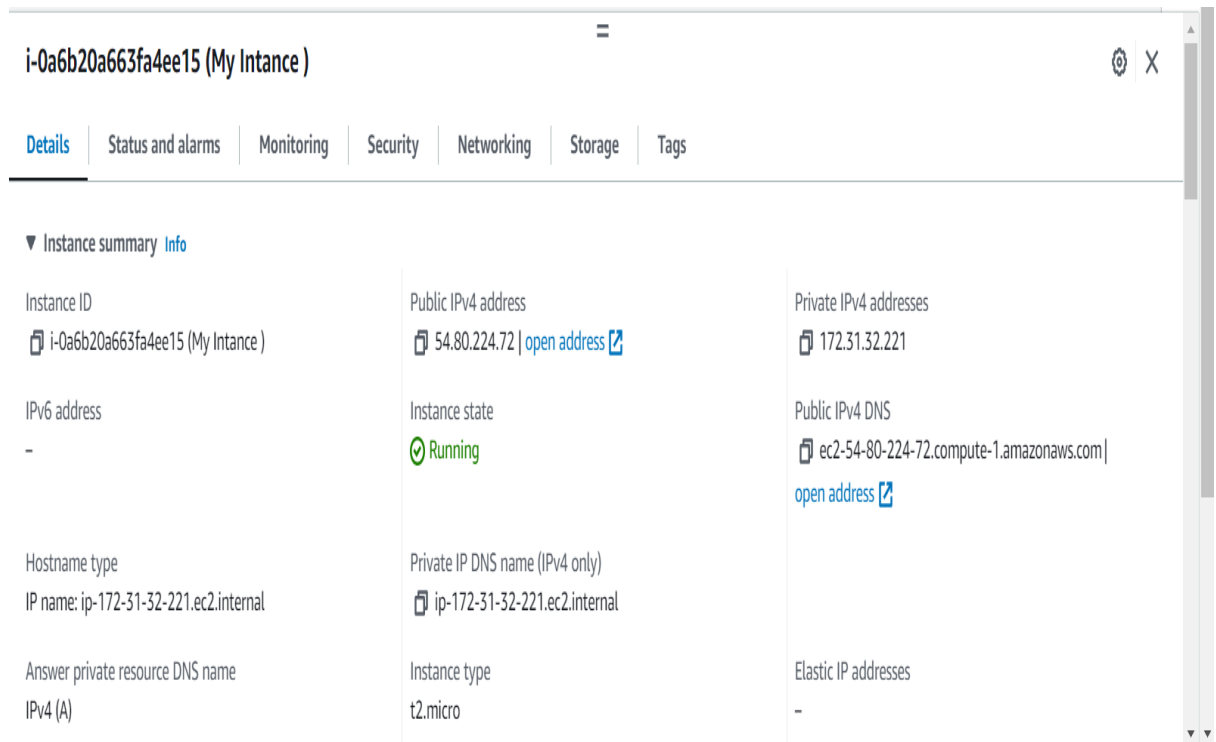


- Click on Launch instance and it will redirect to panel which having basic information of EC2 instance server. It will include information like
  - 1.Instance Name
  - 2.ID
  - 3.Instance state
  - 4.Instace type
  5. Status check

Etc.




- If we click on instance server then we can see information private/public IP address , hostname type , VPC ID , AMI ID etc.



## 2. Installing Nginx and launching web sever.

- We have successfully created instance in previous task now we can connect it with our local terminal which is installed in Windows .
- For connection we can use command  
“ssh -i key\_name.pem ubuntu@public IP”
- Before connection terminal will look like



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22631.3880]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Rutugandh\Documents>
```

- After connection terminal will look like

```

ubuntu@ip-172-31-45-78:~$ ssh -i Nginx.pem ubuntu@3.89.50.6
Microsoft Windows [Version 10.0.22631.3880]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Rutugandh\Downloads>ssh -i Nginx.pem ubuntu@3.89.50.6
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1009-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sun Jul 28 12:21:25 UTC 2024

System load:  0.08          Processes:           106
Usage of /:   22.7% of 6.71GB Users logged in:          0
Memory usage: 21%          IPv4 address for enX0: 172.31.45.78
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-172-31-45-78:~$ |

```

- Install Nginx in it and start Nginx server.

```

ubuntu@ip-172-31-45-78:~$ sudo apt install nginx -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  nginx nginx-common
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 552 kB of archives.
After this operation, 1596 kB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 nginx-common all 1.24.0-2ubuntu7 [31.2 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 nginx amd64 1.24.0-2ubuntu7 [521 kB]
Fetched 552 kB in 0s (15.1 MB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 67739 files and directories currently installed.)
Preparing to unpack ../nginx-common-1.24.0-2ubuntu7_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7) ...
Selecting previously unselected package nginx.
Preparing to unpack ../nginx_1.24.0-2ubuntu7_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7) ...
Setting up nginx (1.24.0-2ubuntu7) ...
Setting up nginx-common (1.24.0-2ubuntu7) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system/nginx.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

```

- Start Nginx service and check status.

```

ubuntu@ip-172-31-45-78:~$ sudo service nginx start
ubuntu@ip-172-31-45-78:~$ sudo service nginx status
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Sun 2024-07-28 12:24:54 UTC; 1min 1s ago
     Docs: man:nginx(8)
   Process: 1368 ExecStartPre=/usr/sbin/nginx -t (code=exited, status=0/SUCCESS)
   Process: 1370 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
   Main PID: 1371 (nginx)
    Tasks: 2 (limit: 1130)
   Memory: 1.7M (peak: 1.9M)
      CPU: 11ms
   CGroup: /system.slice/nginx.service
           └─1371 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─1372 "nginx: worker process"

Jul 28 12:24:54 ip-172-31-45-78 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Jul 28 12:24:54 ip-172-31-45-78 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-45-78:~$ |

```

- Locate Nginx html file and edit it using vim editor.

```
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

Last login: Sun Jul 28 12:34:10 2024 from 223.178.145.115
ubuntu@ip-172-31-45-78:~$ sudo service nginx status
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Sun 2024-07-28 12:24:54 UTC; 20min ago
     Docs: man:nginx(8)
  Process: 1368 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
  Process: 1370 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
 Main PID: 1371 (nginx)
    Tasks: 2 (limit: 1130)
  Memory: 1.8M (peak: 2.0M)
     CPU: 11ms
  CGroup: /system.slice/nginx.service
          └─1371 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
            └─1372 "nginx: worker process"

Jul 28 12:24:54 ip-172-31-45-78 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy >
Jul 28 12:24:54 ip-172-31-45-78 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy s>
ubuntu@ip-172-31-45-78:~$
ubuntu@ip-172-31-45-78:~$ cd /var/www/html
ubuntu@ip-172-31-45-78:/var/www/html$ ls
index.nginx-debian.html
ubuntu@ip-172-31-45-78:/var/www/html$ |
```

- By pasting public IP on tab we can see result of html file .

## Welcome to nginx!

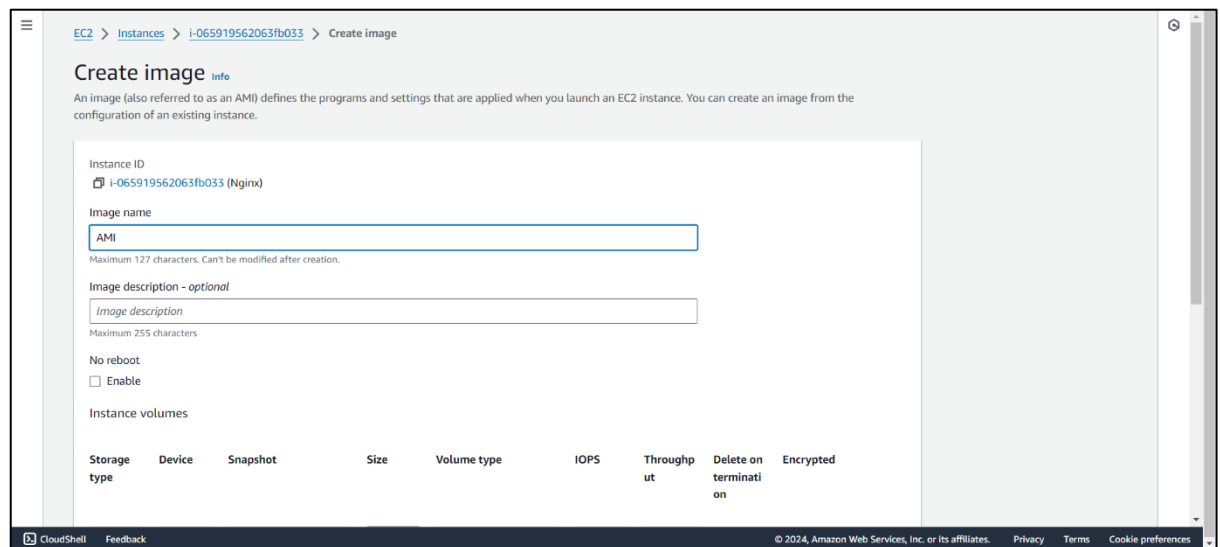
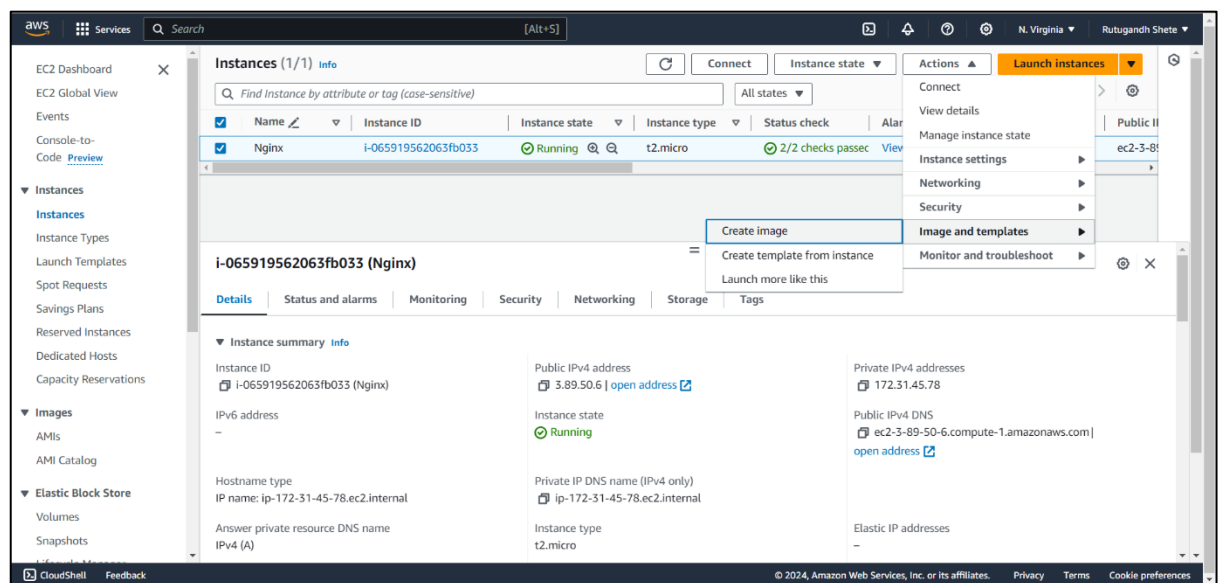
If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to [nginx.org](https://nginx.org).  
Commercial support is available at [nginx.com](https://nginx.com).

*Thank you for using nginx.*

### 3. Creating AMI (Amazon Machine Image)

- AMI is Amazon machine image.
- AMI is pre-configuration.
- Pre-configuration helps us to mount pre default settings/files/directories.
- Create 1-EC2 instance-→Action state →Create Image→Launch Image.





- In 1-EC2 instance we have created file “f1”, same configuration can be used in 2-EC2 instance.

```
System information as of Sun Jul 28 17:10:20 UTC 2024

System load:  0.09          Processes:            108
Usage of /:   23.2% of 6.71GB Users logged in:        0
Memory usage: 19%          IPv4 address for enX0: 172.31.45.78
Swap usage:   0%

* Ubuntu Pro delivers the most comprehensive open source security and
  compliance features.

  https://ubuntu.com/aws/pro

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

Last login: Sun Jul 28 16:58:40 2024 from 223.178.145.115
ubuntu@ip-172-31-45-78:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-45-78:~$ touch f1
ubuntu@ip-172-31-45-78:~$ ls
f1
ubuntu@ip-172-31-45-78:~$
```

- While creating another instance 2-EC2 we can give use AMI that we have created in 1-EC2 instance.

- Pre-configuration

```
* Ubuntu Pro delivers the most comprehensive open source security and
compliance features.

https://ubuntu.com/aws/pro

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.

root@ip-172-31-34-182:~# pwd
/root
root@ip-172-31-34-182:~# cd /home/ubuntu
root@ip-172-31-34-182:/home/ubuntu# ls
fl
root@ip-172-31-34-182:/home/ubuntu#
```

i-01a996f5c3d0168ff (new AMI)

PublicIPs: 54.211.97.129 PrivateIPs: 172.31.34.182

EC2 > Instances > Launch an instance

Success

Successfully initiated launch of instance `i-01a996f5c3d0168ff`

Launch log

Initializing requests

Succeeded

Creating security groups

Succeeded

Creating security group rules

Succeeded

Launch initiation

Succeeded

Next Steps

What would you like to do next with this instance, for example "create alarm" or "create backup"

< 1 2 3 4 5 6 >

Create billing and free tier usage alerts

To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.

Connect to your instance

Once your instance is running, log into it from your local computer.

Connect to instance

Connect an RDS database

Configure the connection between an EC2 instance and a database to allow traffic flow between them.

Connect an RDS database

Create EBS snapshot policy

Create a policy that automates the creation, retention, and deletion of EBS snapshots

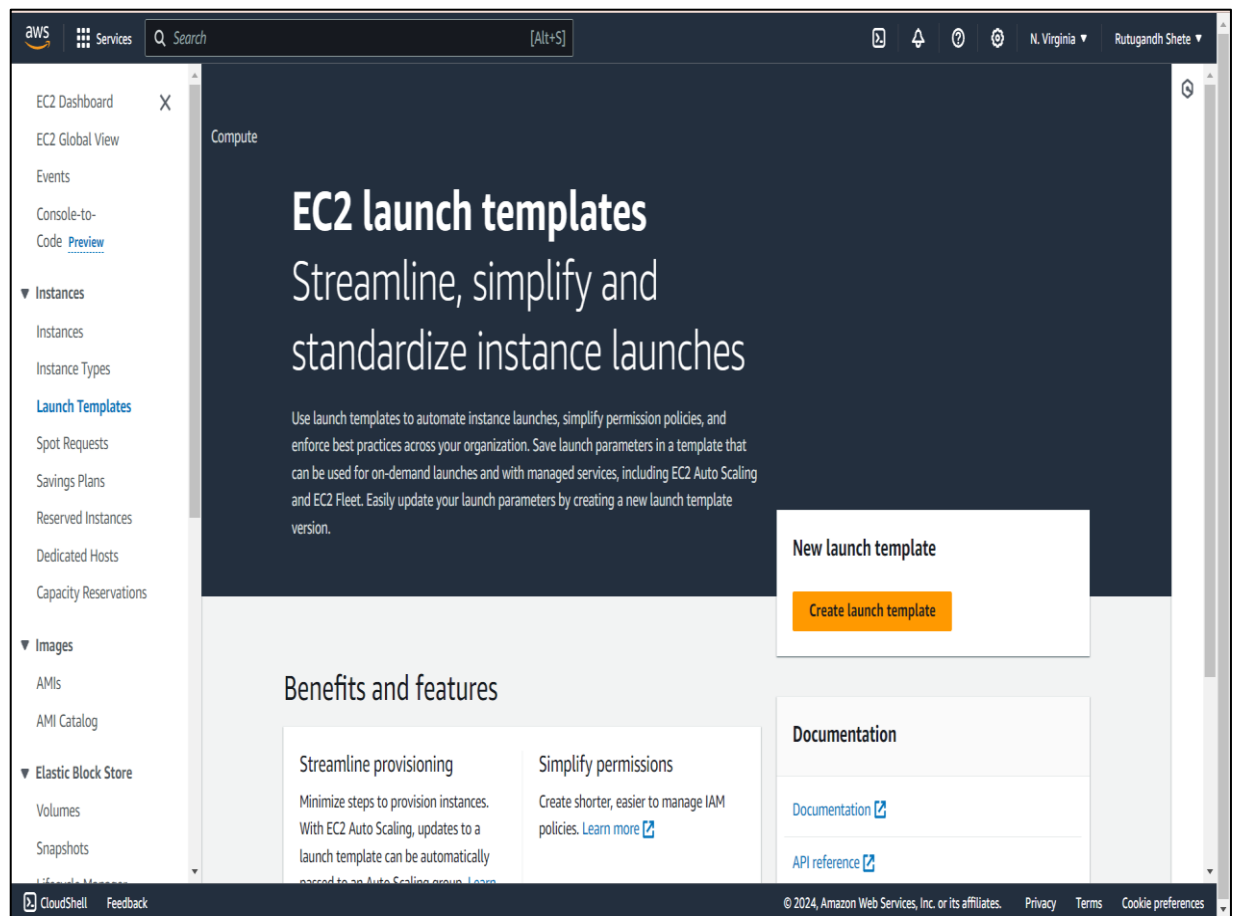
Create EBS snapshot policy

CloudShell Feedback

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## 4. Launching template

- Click on "Launch Templates" in the left-hand menu and select "Create launch template."
- Fill in the required fields such as template name, version description, and instance configuration (AMI, instance type, key pair, security groups).



- Review the settings and click "Create launch template" to save your configurations.

The screenshot displays the AWS Management Console interface for creating a new Launch Template. The top navigation bar includes the AWS logo, 'Services', a search bar, and user information for 'Rutugandh Shete' in the 'N. Virginia' region. The main content area is divided into two columns. The left column contains the 'Launch template' configuration fields: a name field (placeholder: 'MyTemplate'), a version description field (placeholder: 'A prod webserver for MyApp'), and an 'Auto Scaling guidance' section with a checkbox to 'Provide guidance to help me set up a template that I can use with EC2 Auto Scaling'. Below these are expandable sections for 'Template tags' and 'Source template'. The right column features a 'Summary' panel with a list of configuration sections: 'Software Image (AMI)', 'Virtual server type (instance type)', 'Firewall (security group)', and 'Storage (volumes)'. A 'Free tier' notification box is overlaid on the summary, stating that the first year includes 750 hours of t2.micro (or t3.micro) instance usage, 750 hours of public IPv4 address usage, 30 GiB of EBS storage, 2 million IOs, 1 GiB of snapshots, and 100 GiB of snapshots. At the bottom right of the summary panel are 'Cancel' and 'Create launch template' buttons. The footer of the console shows 'CloudShell', 'Feedback', and copyright information for 2024.

aws Services Search [Alt+S] N. Virginia Rutugandh Shete

MyTemplate  
Must be unique to this account. Max 128 chars. No spaces or special characters like %, ", \*, @.

Template version description  
A prod webserver for MyApp  
Max 255 chars

Auto Scaling guidance Info  
Select this if you intend to use this template with EC2 Auto Scaling  
☐ Provide guidance to help me set up a template that I can use with EC2 Auto Scaling

► Template tags  
► Source template

Launch template contents  
Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

▼ Application and OS Images (Amazon Machine Image) Info  
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below  
Search our full catalog including 1000s of application and OS images

▼ Summary

Software Image (AMI)  
-

Virtual server type (instance type)  
-

Firewall (security group)  
-

Storage (volumes)  
-

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GiB of snapshots, and 100 GiB of snapshots

Cancel Create launch template

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