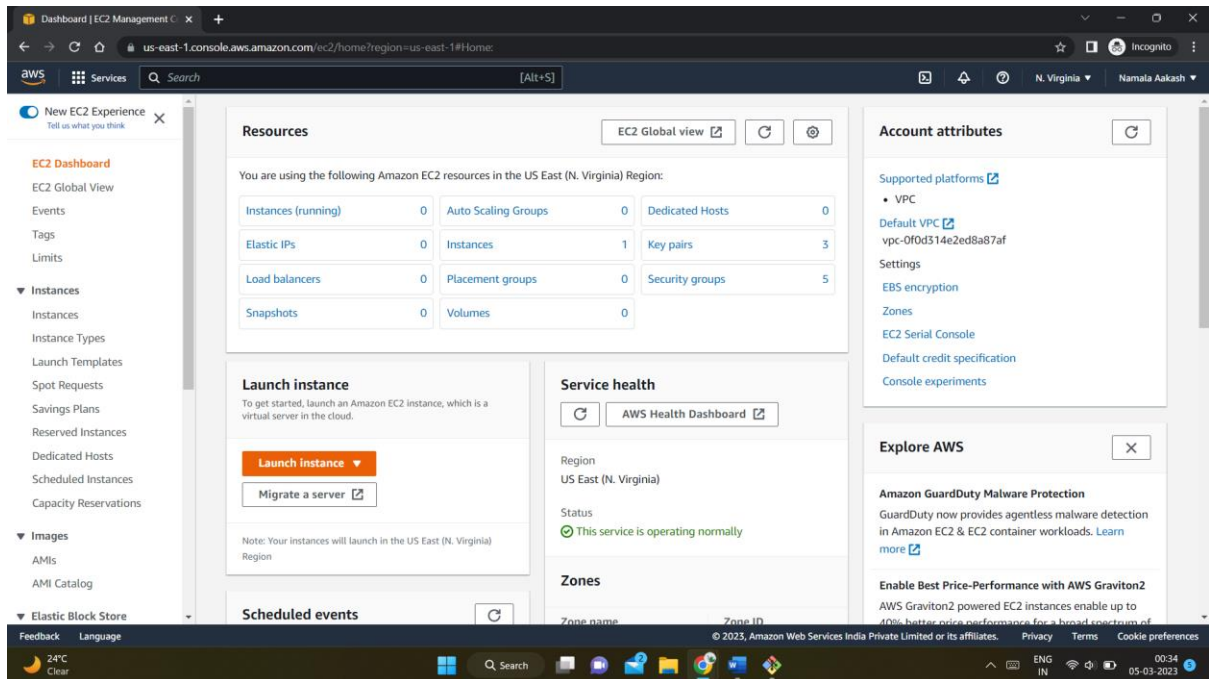


AWS EC2 INSTANCE Assignment

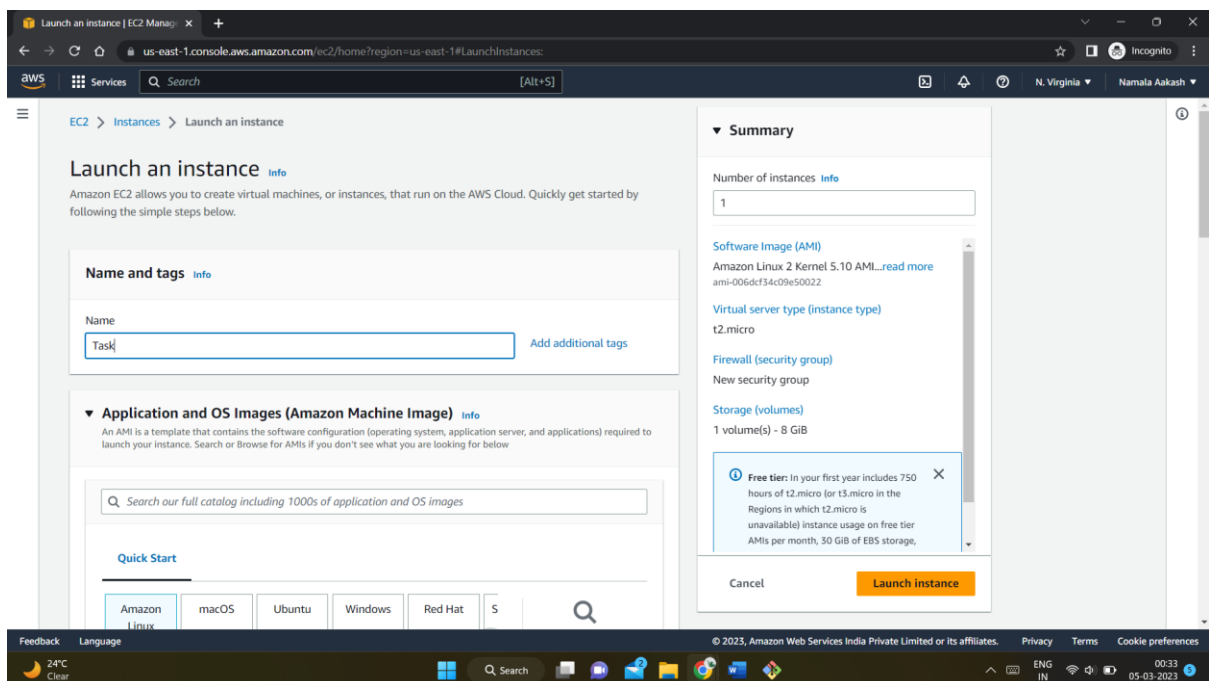
Name: Aakash Namala

Roll No: 20A91A0544

EC2 Instance Launch Page



EC2 Name and Tag Creation



EC2 AMI Selection

The screenshot shows the AWS Management Console's 'Launch instances' page. The 'Quick Start' section displays various operating system options: Amazon Linux, macOS, Ubuntu, Windows, Red Hat, and SUSE. The 'Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type' is selected. The 'Summary' panel on the right shows the configuration: 1 instance, Amazon Linux 2 Kernel 5.10 AMI, t2.micro instance type, new security group, and 1 volume (8 GiB). A 'Free tier' notification indicates that the first year includes 750 hours of t2.micro usage. The 'Launch instance' button is visible at the bottom right.

EC2 Key Pair Creation

The screenshot shows the 'Create key pair' dialog box in the AWS Management Console. The dialog prompts the user to enter a 'Key pair name' (labeled 'task') and select a 'Key pair type' (RSA) and 'Private key file format' (.pem). The dialog also includes a 'Cancel' button and a 'Create key pair' button. The background shows the 'Launch instances' page with the 'Key pair (login)' section visible.

EC2 Security Group Creation (SSH,HTTP,HTTPS)

EC2 Management Console

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

Services Search [Alt+S]

Network settings Info

VPC - required Info
vpc-0f0d314e2ed8a87af (default)

Subnet Info
No preference

Auto-assign public IP Info
Enable

Firewall (security group) Info
Create security group Select existing security group

Security group name - required
launch-wizard-4

Description - required Info
launch-wizard-4 created 2023-03-04T19:04:59.456Z

Inbound security group rules
Security group rule 1 (TCP, 22, 0.0.0.0/0)

Type Info Protocol Info Port range Info
ssh TCP 22

Summary

Number of instances Info
1

Software image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-006dcf54c09e50022

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

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, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel Launch instance

EC2 Management Console

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

Services Search [Alt+S]

Security group rule 1 (TCP, 22, 0.0.0.0/0)

Type Info Protocol Info Port range Info
ssh TCP 22

Source type Info Source Info Description - optional Info
Anywhere 0.0.0.0/0 e.g. SSH for admin desktop

Security group rule 2 (TCP, 80, 0.0.0.0/0)

Type Info Protocol Info Port range Info
HTTP TCP 80

Source type Info Source Info Description - optional Info
Anywhere 0.0.0.0/0 e.g. SSH for admin desktop

Security group rule 3 (TCP, 443, 0.0.0.0/0)

Type Info Protocol Info Port range Info
HTTPS TCP 443

Source type Info Source Info Description - optional Info
Anywhere 0.0.0.0/0 e.g. SSH for admin desktop

Summary

Number of instances Info
1

Software image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-006dcf54c09e50022

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

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, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel Launch instance

EC2 VPC and Subnet Selection

task [Create new key pair](#)

Network settings [Info](#)

VPC - required [Info](#)
vpc-0f0d314e2ed8a87af (default) [Create new VPC](#)

Subnet [Info](#)
No preference [Create new subnet](#)

Auto-assign public IP [Info](#)
Enable

Firewall (security groups) [Info](#)
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.
☒ Create security group ☐ Select existing security group

Security group name - required
launch-wizard-4
This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and _-./@#%&'()*+,-=:;[]{}^`~|!<>?",
This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and _-./@#%&'()*+,-=:;[]{}^`~|!<>?",</small>

Description - required [Info](#)
launch-wizard-4 created 2023-03-04T19:04:59.456Z

Inbound security groups rules
Security group rule 1 (TCP, 22, 0.0.0.0/0) [Remove](#)

Summary

Number of instances [Info](#)
1

Software image (AMI) [Info](#)
Amazon Linux 2 Kernel 5.10 AMI...[read more](#)
ami-006dcf34c09e50022

Virtual server type (instance type) [Info](#)
t2.micro

Firewall (security group) [Info](#)
New security group

Storage (volumes) [Info](#)
1 volume(s) - 8 GiB

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, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

[Cancel](#) [Launch instance](#)

EC2 EBS Volume Selection

[Simple](#) [Hide details](#)

Storage (volumes) [Info](#)

EBS Volumes

Volume 1 (AMI Root)

Storage type [Info](#)
EBS

Device name - required [Info](#)
/dev/xvda

Snapshot [Info](#)
snap-0d521a3c01cf13ee

Size (GiB) [Info](#)
8

Volume type [Info](#)
gp2

IOPS [Info](#)
100 / 3000

Delete on termination [Info](#)
Yes

Encrypted [Info](#)
Not encrypted

KMS key [Info](#)
Select
KMS keys are only applicable when encryption is set on this volume.

Free tier eligible customers can get up to 30 GiB of EBS General Purpose (SSD) or Magnetic storage

[Add new volume](#)

File systems [Show details](#)

Summary

Number of instances [Info](#)
1

Software image (AMI) [Info](#)
Amazon Linux 2 Kernel 5.10 AMI...[read more](#)
ami-006dcf34c09e50022

Virtual server type (instance type) [Info](#)
t2.micro

Firewall (security group) [Info](#)
New security group

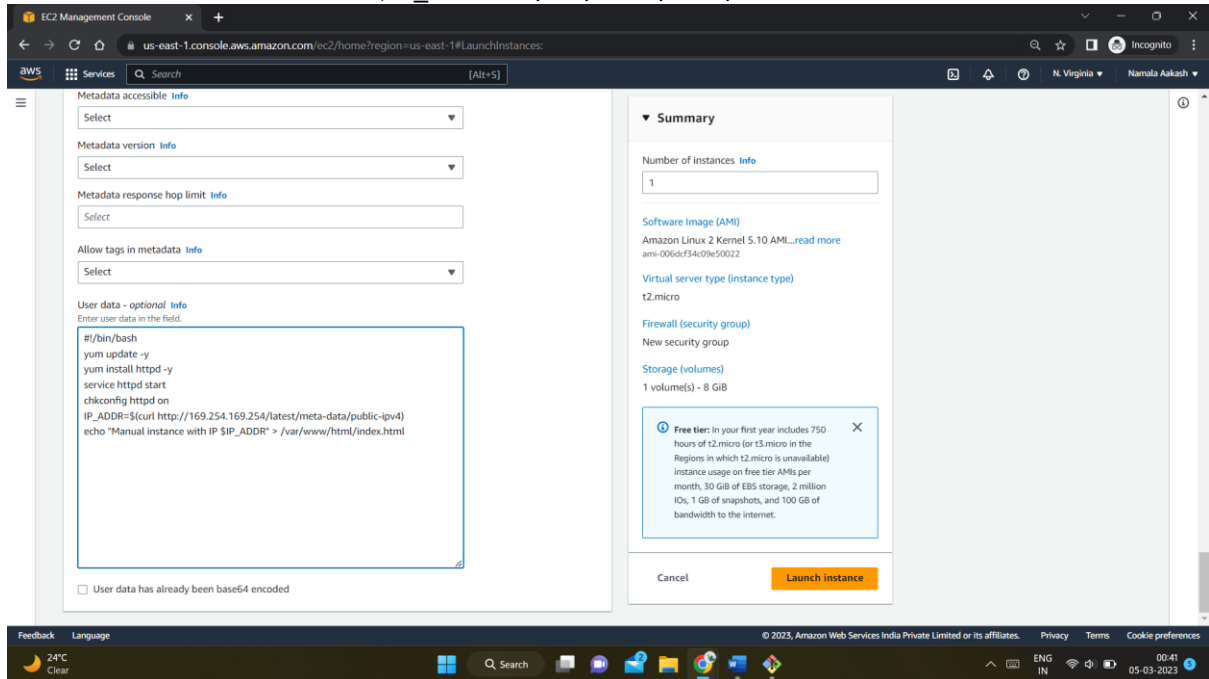
Storage (volumes) [Info](#)
1 volume(s) - 8 GiB

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, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

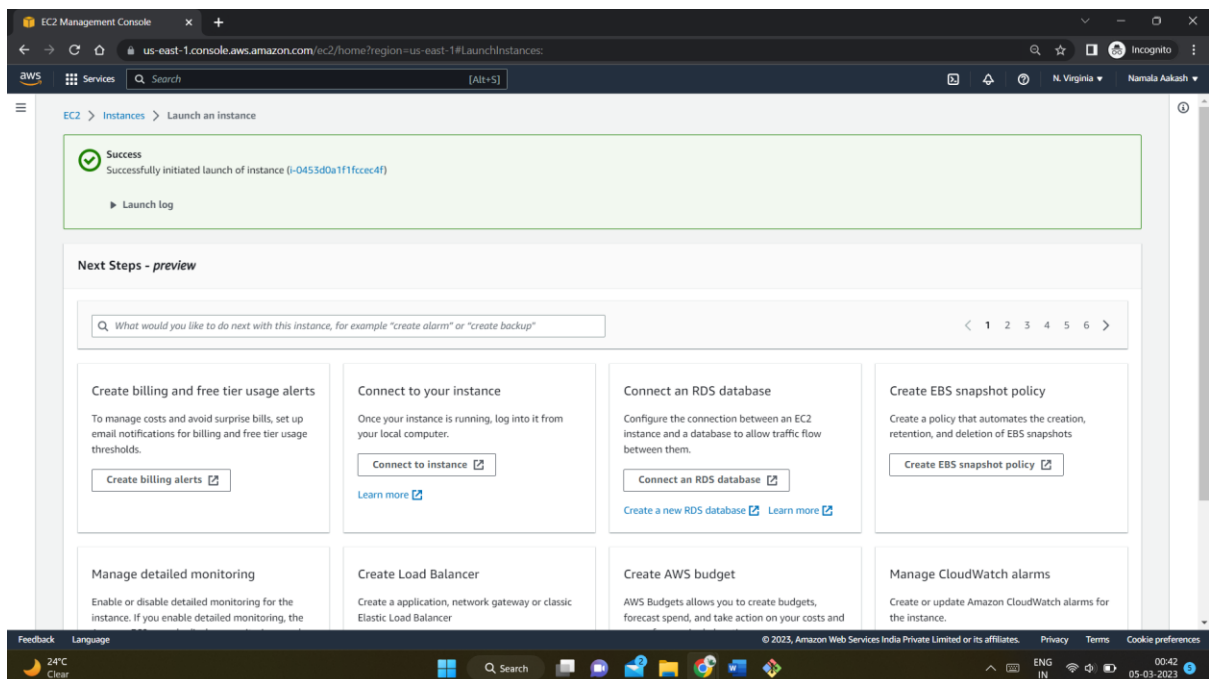
[Cancel](#) [Launch instance](#)

User Data Insertion Page with below command

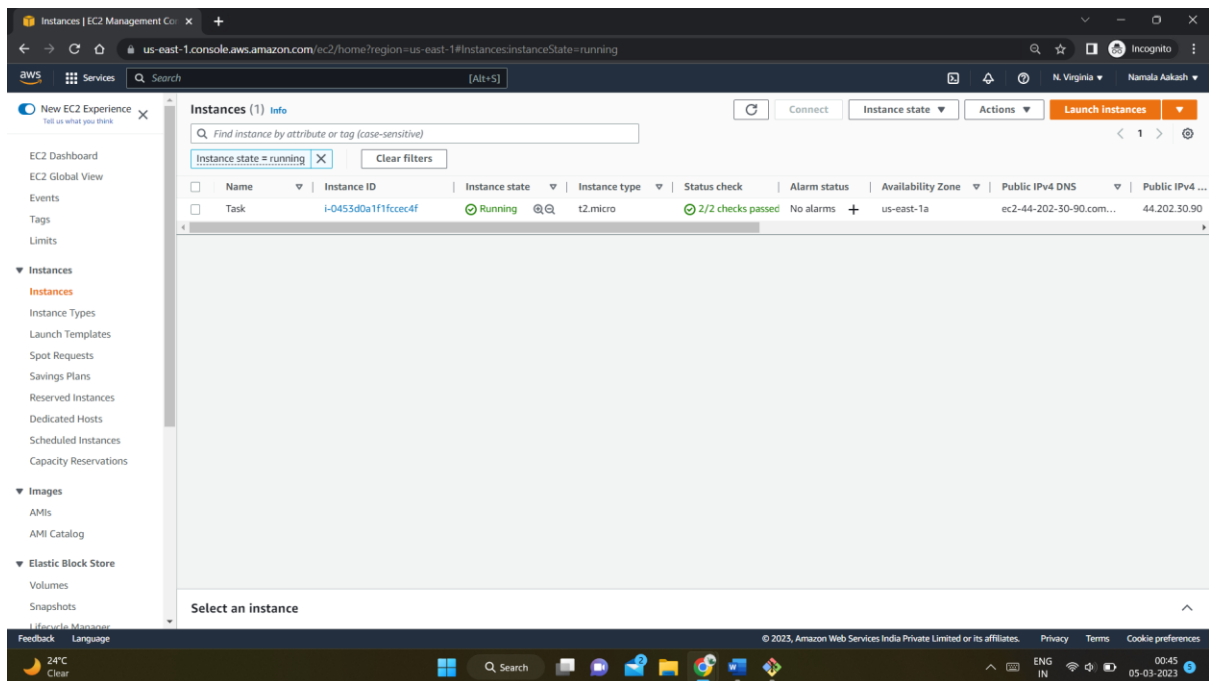
```
#!/bin/bash
yum update -y
yum install httpd -y
service httpd start
chkconfig httpd on
IP_ADDR=$(curl http://169.254.169.254/latest/meta-data/public-ipv4)
echo "Manual instance with IP $IP_ADDR" > /var/www/html/index.html
```



EC2 Launch Logs



EC2 Instance Running State

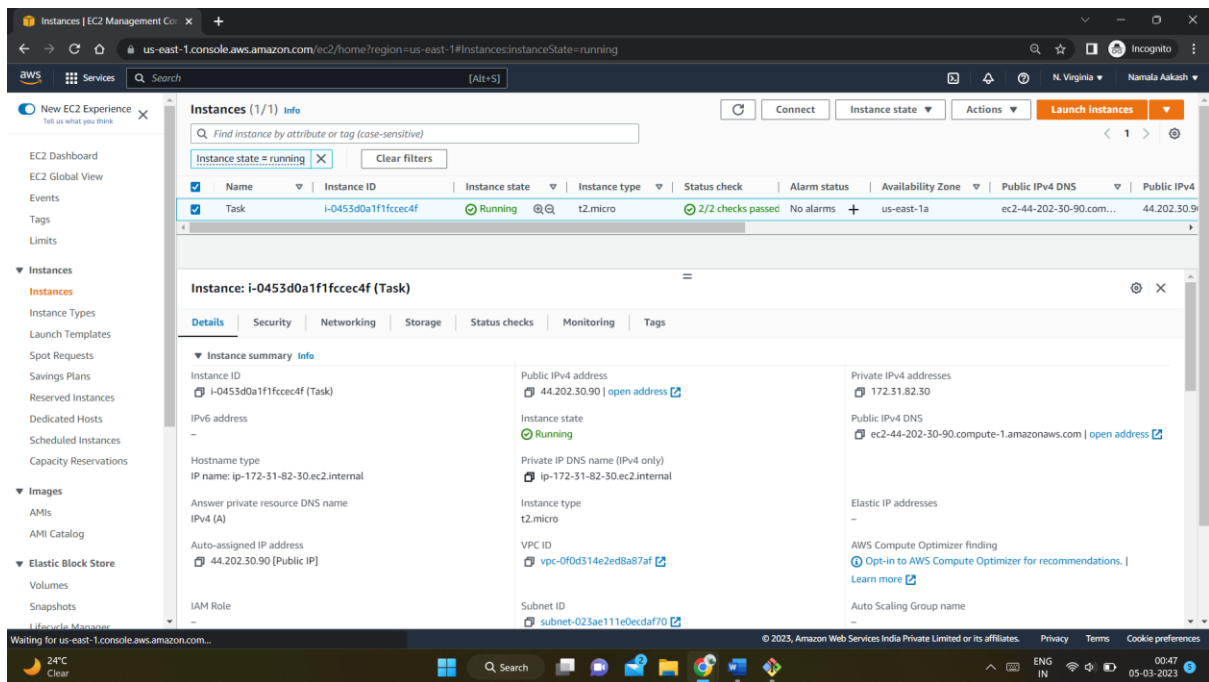


The screenshot shows the AWS Management Console for the 'us-east-1' region. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Tags, Limits, and various EC2 services. The main content area displays the 'Instances (1)' page with a filter 'Instance state = running'. A table lists the instance details:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
Task	i-0453d0a1f1fccc4f	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-44-202-30-90.com...	44.202.30.90

Below the table, there is a 'Select an instance' button. The bottom of the console shows the Windows taskbar with the date and time as 05-03-2023, 00:45.

. EC2 Summary Page with Public and Private IP



The screenshot shows the AWS Management Console for the 'us-east-1' region. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Tags, Limits, and various EC2 services. The main content area displays the 'Instances (1/1)' page with a filter 'Instance state = running'. A table lists the instance details:

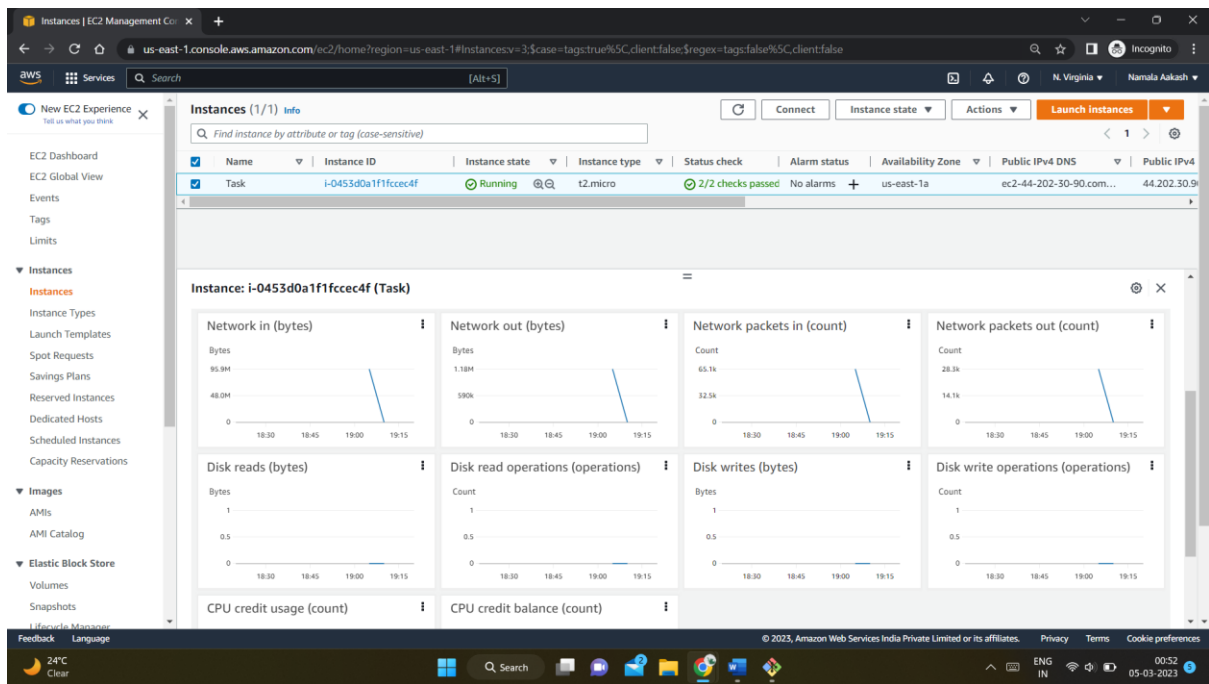
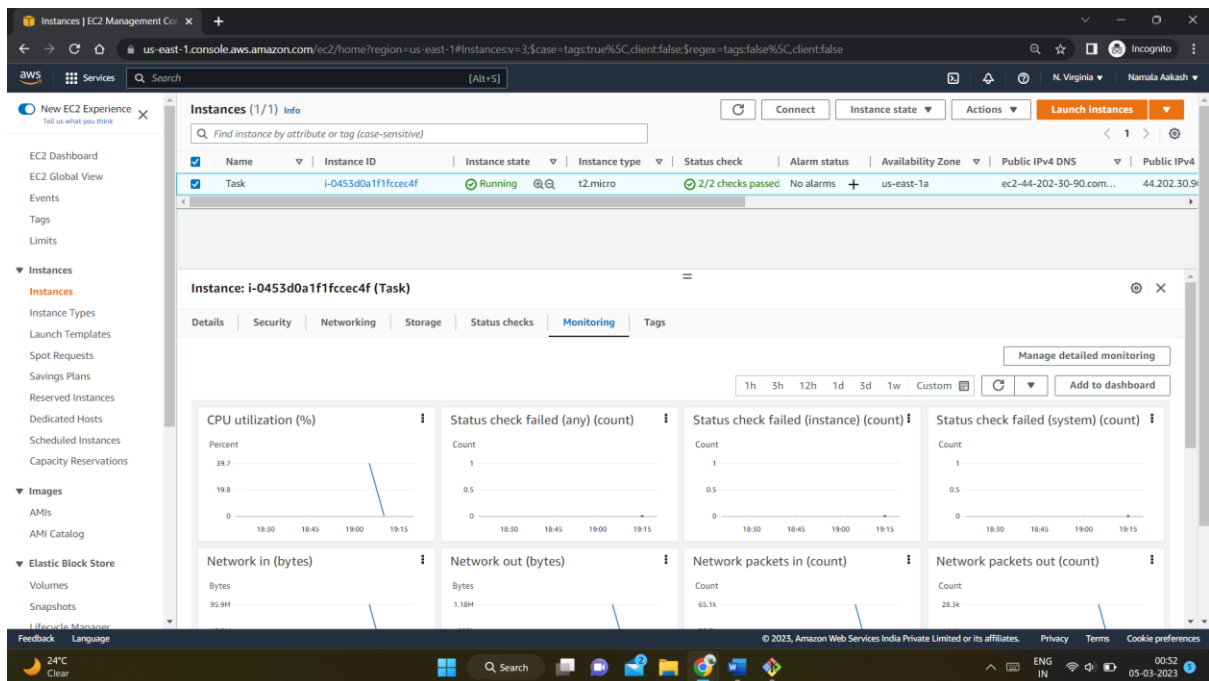
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4
Task	i-0453d0a1f1fccc4f	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-44-202-30-90.com...	44.202.30.90

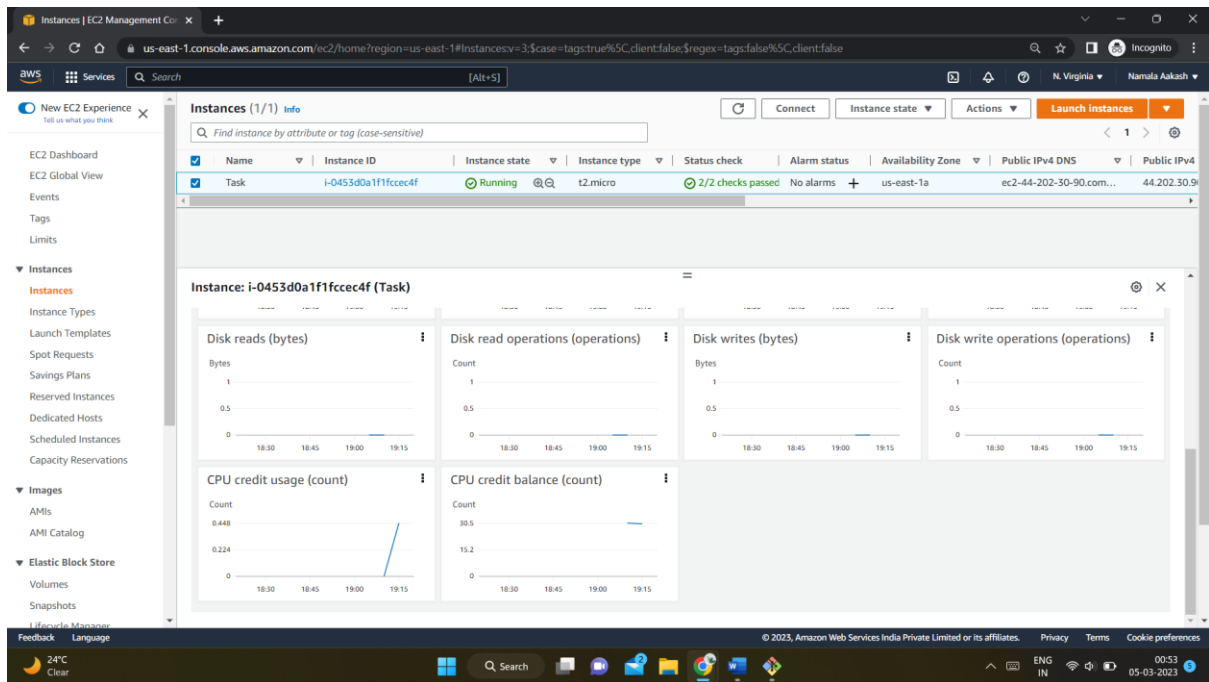
Below the table, the 'Instance: i-0453d0a1f1fccc4f (Task)' summary page is displayed. The 'Details' tab is selected, showing the following information:

- Instance ID: i-0453d0a1f1fccc4f (Task)
- IPv6 address: -
- Hostname type: IP name: ip-172-31-82-30.ec2.internal
- Answer private resource DNS name: IPv4 (A)
- Auto-assigned IP address: 44.202.30.90 [Public IP]
- IAM Role: -
- Public IPv4 address: 44.202.30.90 | [open address](#)
- Instance state: Running
- Private IP DNS name (IPv4 only): ip-172-31-82-30.ec2.internal
- Instance type: t2.micro
- VPC ID: vpc-0f0d314e2ed8a87af
- Subnet ID: subnet-023ae111e0ccdaf70
- Private IPv4 addresses: 172.31.82.30
- Public IPv4 DNS: ec2-44-202-30-90.compute-1.amazonaws.com | [open address](#)
- Elastic IP addresses: -
- AWS Compute Optimizer finding: Opt-in to AWS Compute Optimizer for recommendations. | [Learn more](#)
- Auto Scaling Group name: -

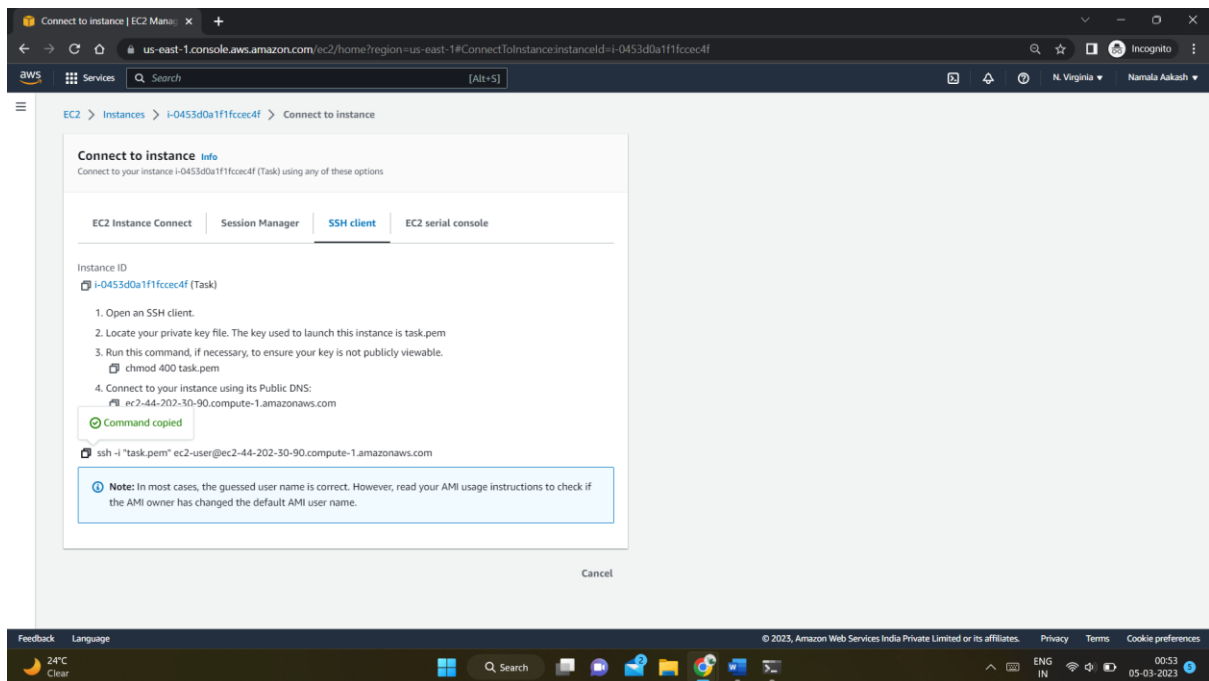
The bottom of the console shows the Windows taskbar with the date and time as 05-03-2023, 00:47.

EC2 Instance Monitoring Page





SSH Access of EC2 instance in Local Machine




```
ec2-user@ip-172-31-82-30:~$ ssh -i "task.pem" ec2-user@ec2-44-202-30-90.compute-1.amazonaws.com
Microsoft Windows [Version 10.0.22621.1265]
(c) Microsoft Corporation. All rights reserved.

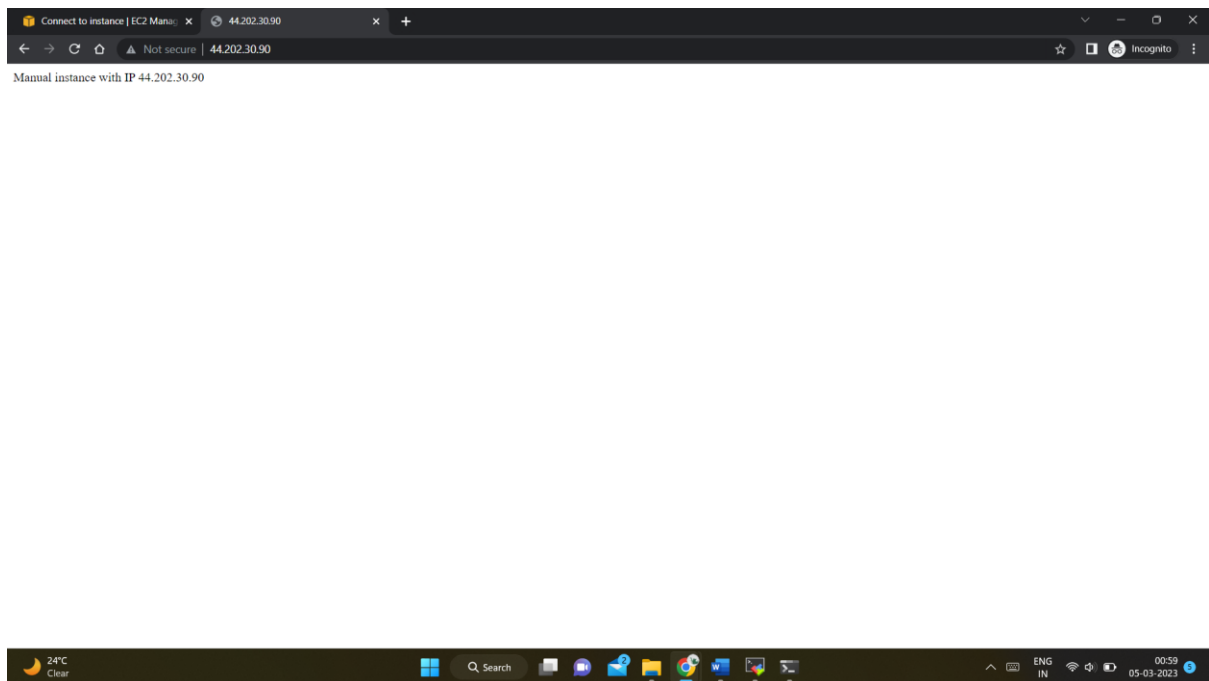
C:\Users\Aakash007>cd Downloads

C:\Users\Aakash007\Downloads>ssh -i "task.pem" ec2-user@ec2-44-202-30-90.compute-1.amazonaws.com
The authenticity of host 'ec2-44-202-30-90.compute-1.amazonaws.com (44.202.30.90)' can't be established.
ED25519 key fingerprint is SHA256:RbsFhExH9GGbwtHdbDQG7T19KcaLwt0sLTcYLscRrOM.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-44-202-30-90.compute-1.amazonaws.com' (ED25519) to the list of known hosts.

  _ _ | _ _ | _ )
 _ | ( _ | _ /   Amazon Linux 2 AMI
--| \ _ _ | _ _ |

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-82-30 ~]$
```

Browsing EC2 instance in the Browser Local Machine



Terminating the Resource

The screenshot shows the AWS Management Console for the 'us-east-1' region. The 'Instances' page displays a single EC2 instance named 'Task' with ID 'i-0453d0a1f1fccc4f'. The instance is in a 'Running' state. The 'Actions' dropdown menu is open, showing options: 'Stop instance', 'Start instance', 'Reboot instance', 'Hibernate instance', and 'Terminate instance'. The 'Terminate instance' option is highlighted. Below the instance list, the 'Instance summary' for 'Task' is visible, showing details like Instance ID, Public IPv4 address (44.202.30.90), Private IPv4 address (172.31.82.30), and Instance type (t2.micro).

The screenshot shows the AWS Management Console after the instance has been terminated. A green banner at the top of the console area displays the message 'Successfully terminated i-0453d0a1f1fccc4f'. The 'Instances' table now shows the instance 'Task' with ID 'i-0453d0a1f1fccc4f' in a 'Terminated' state. The 'Actions' dropdown menu is no longer open.