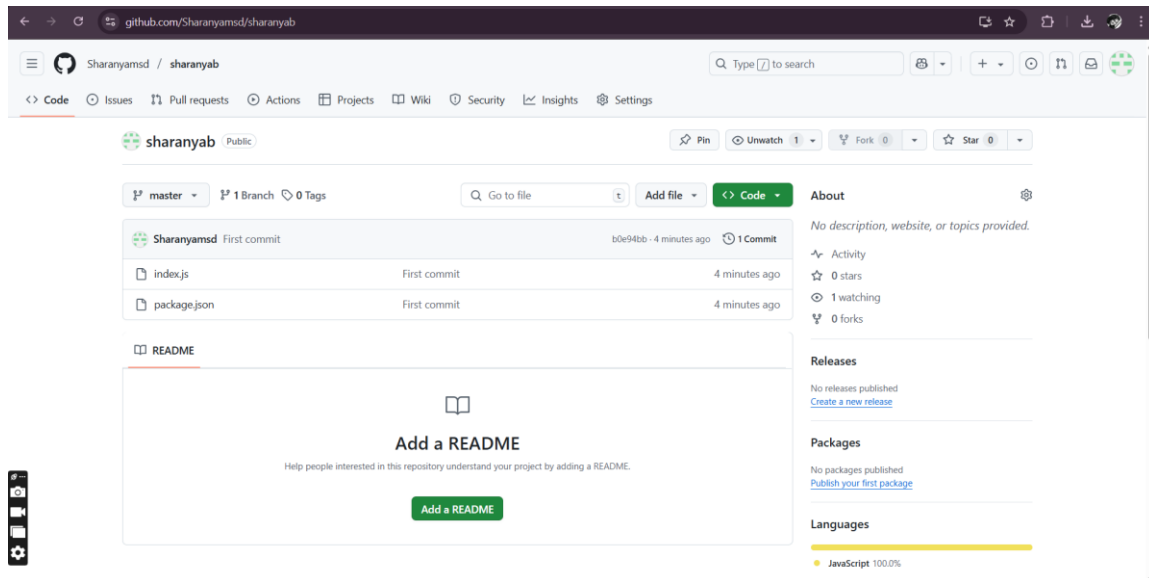


Assignment No:10

Title: Deploy a project from GitHub to EC2 by creating a new security group and user data.

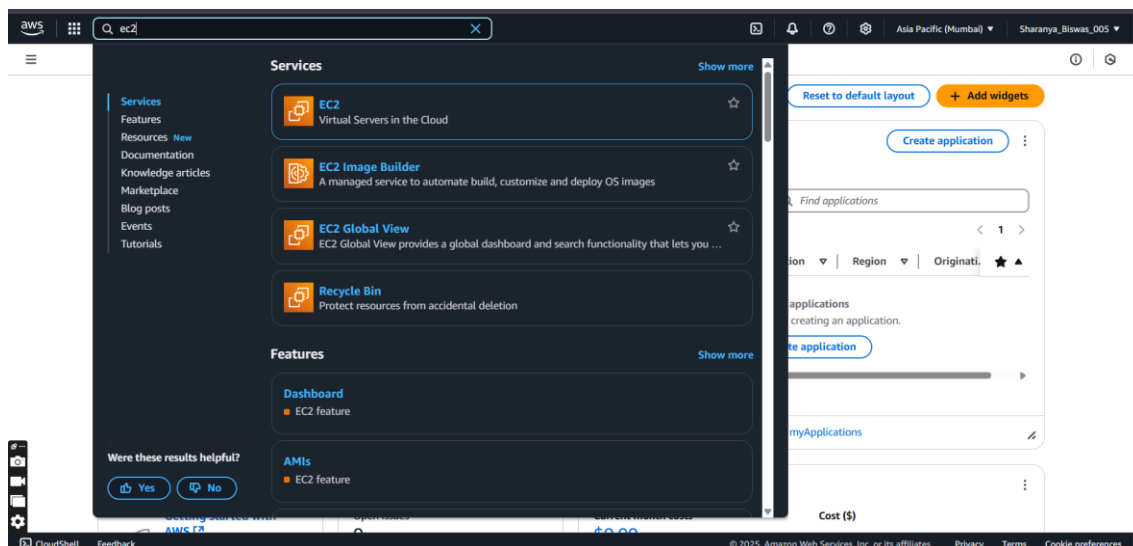
Step-1:

Upload required files to github



Step-2:

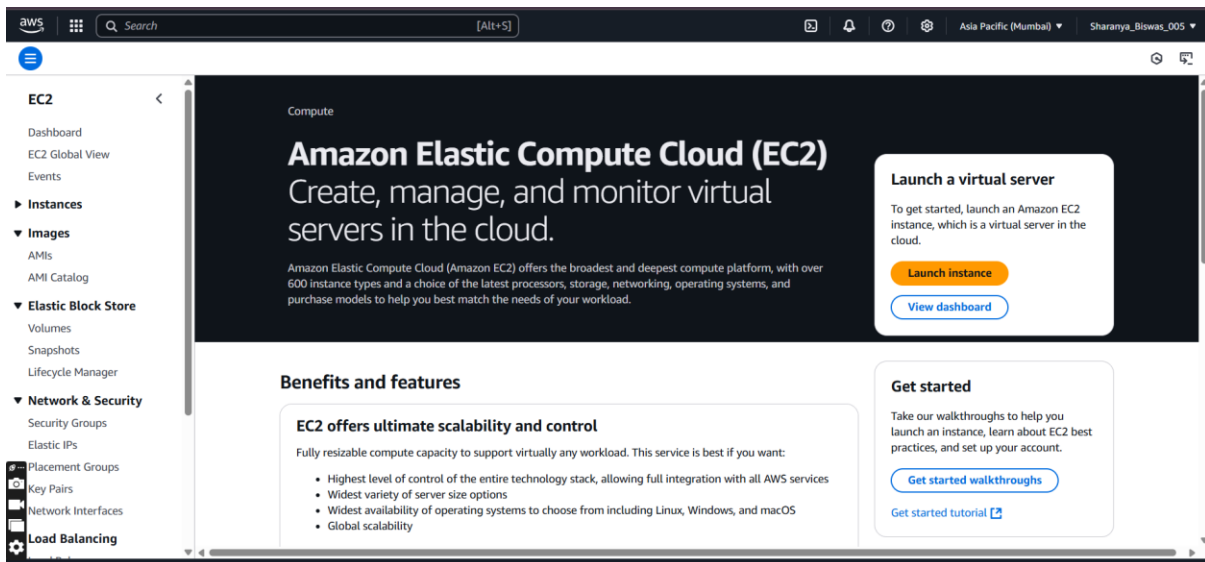
Log into AWS and open EC2.



Step-3:

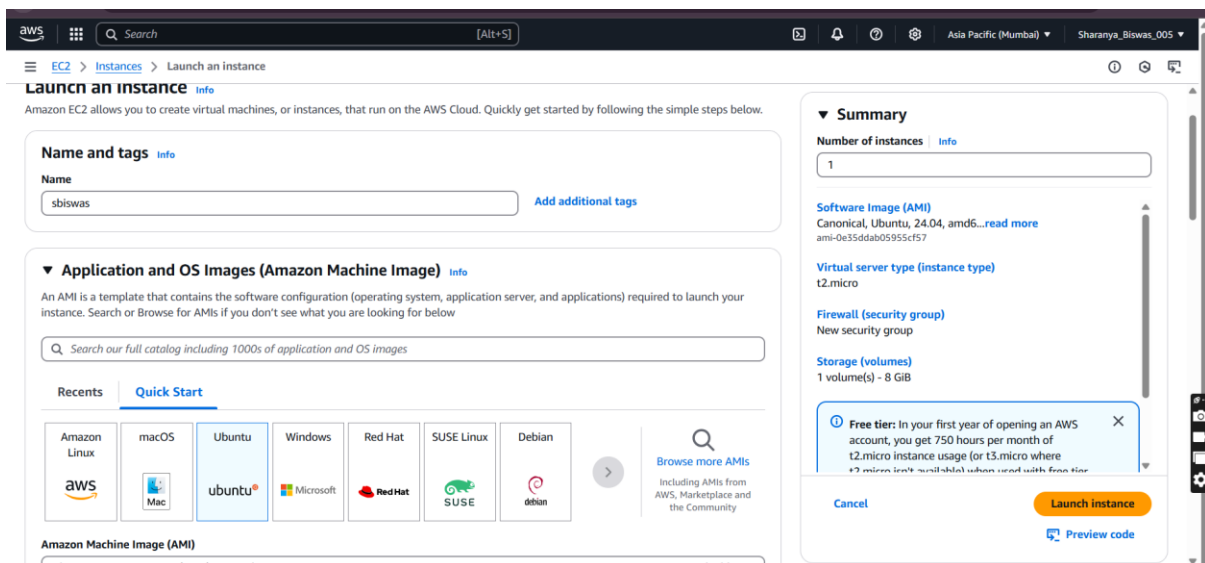
Click on launch instance.

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Class:CSE(DS)/22/038

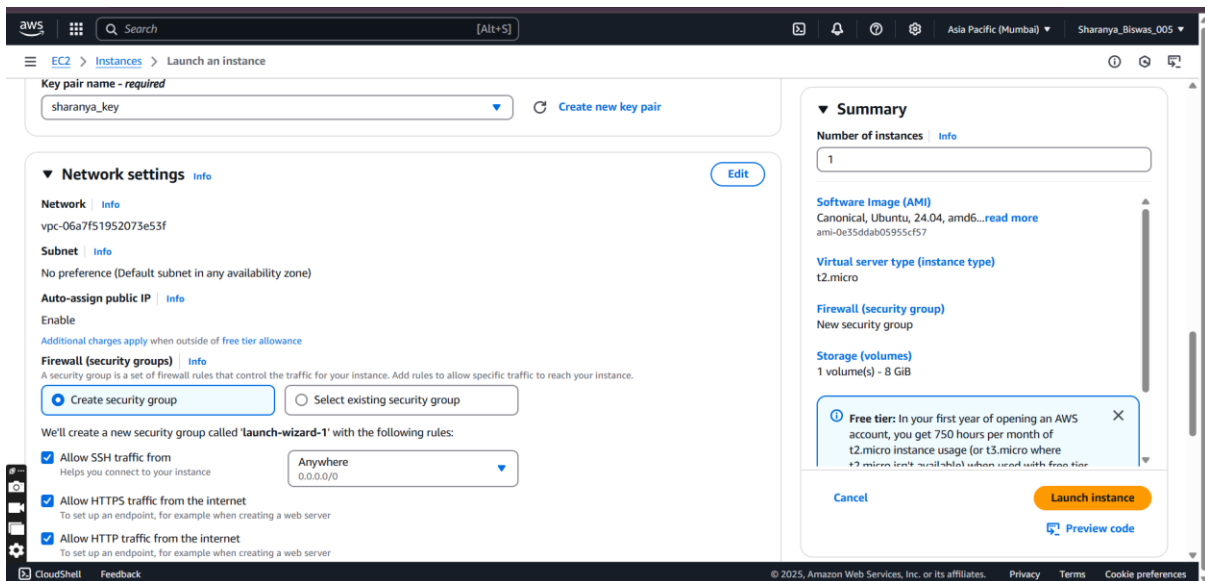


Step-4:

Give a name to the instance and select the operating system then check the 3 boxes to allow SSH, HTTP and HTTPS traffics and click launch instance.

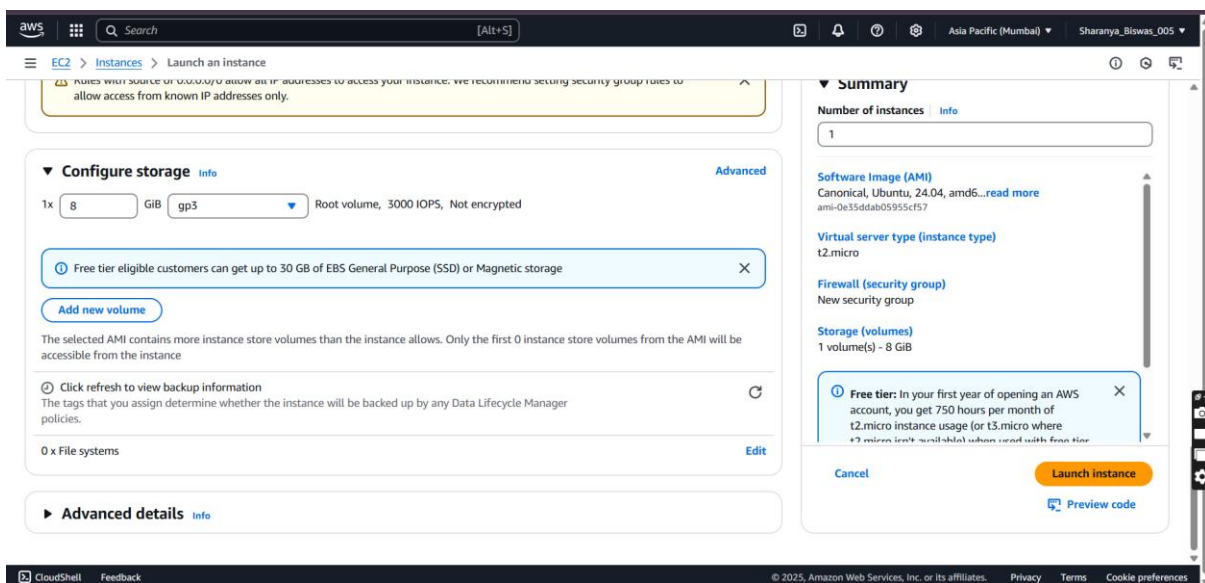


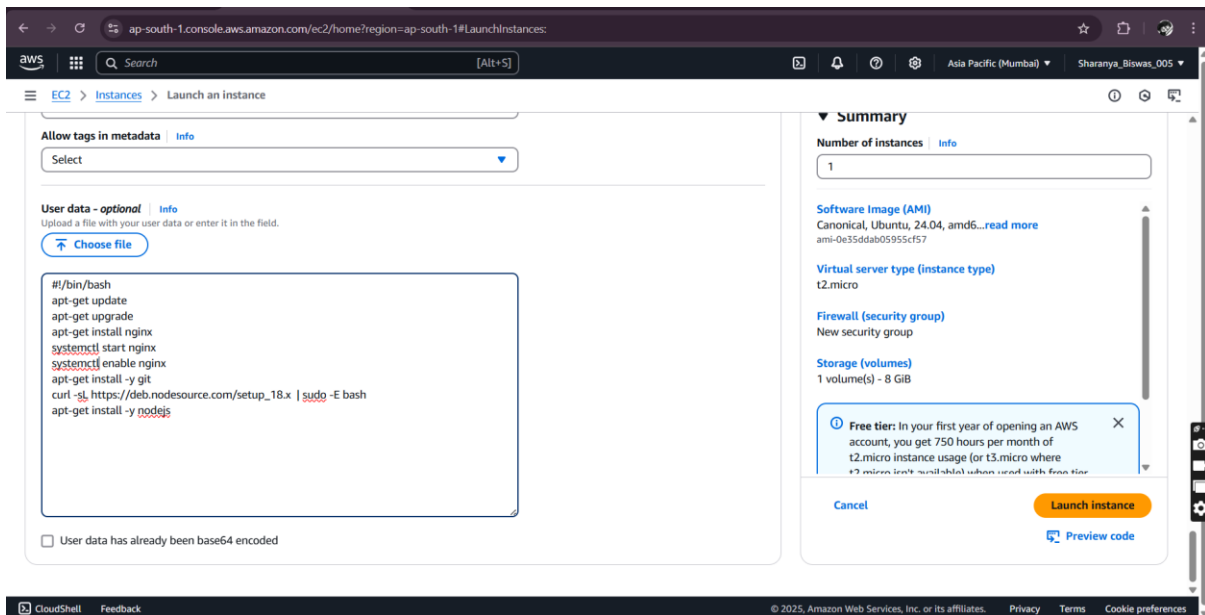
Name:Sagnick Das
Class:CSE(DS)/22/038



Step-5:

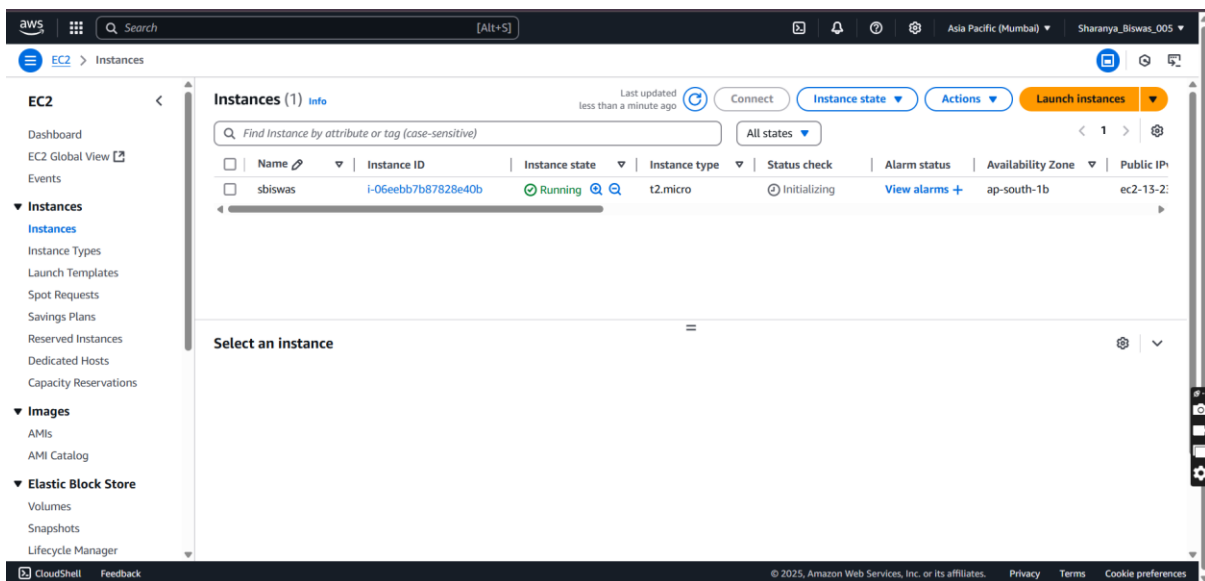
Click on the advance details and scroll down to the user data and run all required commands then press launch instance.





Step-6:

Now open instances and click of the instance Id of the instance.



Step-7:

Now scroll down and open security then click on the link under security groups.

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EC2 > Instances > i-06eebb7b87828e40b

Instance summary for i-06eebb7b87828e40b (sbiswas) Info

Updated less than a minute ago

Instance ID i-06eebb7b87828e40b	Public IPv4 address 13.233.36.155 open address	Private IPv4 addresses 172.31.14.163
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-13-233-36-155.ap-south-1.compute.amazonaws.com open address
Hostname type IP name: ip-172-31-14-163.ap-south-1.compute.internal	Private IP DNS name (IPv4 only) ip-172-31-14-163.ap-south-1.compute.internal	Elastic IP addresses -
Answer private resource DNS name IPv4 (A)	Instance type t2.micro	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendation s. Learn more
Auto-assigned IP address 13.233.36.155 [Public IP]	VPC ID vpc-06a7f51952073e53f	Auto Scaling Group name -
IAM Role -	Subnet ID subnet-0f55967727cdac17f	Managed false
IMDSv2 Required	Instance ARN arn:aws:ec2:ap-south-1:897729139669:instance/i-06eebb7b87828e40b	

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EC2 > Instances > i-06eebb7b87828e40b

Instance details Info

Updated less than a minute ago

IAM Role -	Subnet ID subnet-0f55967727cdac17f	Auto Scaling Group name -
IMDSv2 Required	Instance ARN arn:aws:ec2:ap-south-1:897729139669:instance/i-06eebb7b87828e40b	Managed false
Operator -		

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

AMI ID ami-0e35ddab05955cf57	Monitoring disabled	Platform details Linux/UNIX
AMI name ubuntu/images/hvm-ssd-gp3/ubuntu-noble-24.04-amd64-server-20250305	Allowed image -	Termination protection Disabled
Stop protection Disabled	Launch time Tue Apr 01 2025 20:06:31 GMT+0530 (India Standard Time) (1 minute)	AMI location amazon/ubuntu/images/hvm-ssd-gp3/ubuntu-noble-24.04-amd64-server-20250305
Instance auto-recovery Default	Lifecycle normal	Stop-hibernate behavior Disabled
AMI Launch index 0	Key pair assigned at launch sharanya_key	State transition reason -

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Step-8:

Click on the Security Groups in above and select all the security groups except the default one then go to actions and delete them.

sg-0a95576dd651bec20 - launch-wizard-2

Details

Security group name launch-wizard-2	Security group ID sg-0a95576dd651bec20	Description launch-wizard-2 created 2025-04-01T14:16:02.804Z	VPC ID vpc-06a7f51952073e53f
Owner 897729139669	Inbound rules count 3 Permission entries	Outbound rules count 1 Permission entry	

Inbound rules (3)

<input type="checkbox"/>	Name	Security group rule ID	IP version	Type	Protocol	Port range
<input type="checkbox"/>	-	sgr-0dd16f5b58bb38ad9	IPv4	HTTP	TCP	80
<input type="checkbox"/>	-	sgr-06fbff101fe081073	IPv4	SSH	TCP	22
<input type="checkbox"/>	-	sgr-076f4f3d153ce5207	IPv4	HTTPS	TCP	443

Security Groups (4/5)

<input type="checkbox"/>	Name	Security group ID	Security group name	VPC ID	Description
<input checked="" type="checkbox"/>	-	sg-016056e2a14921f93	launch-wizard-3	vpc-06a7f51952073e53f	launch-wizard-3
<input checked="" type="checkbox"/>	-	sg-0a95576dd651bec20	launch-wizard-2	vpc-06a7f51952073e53f	launch-wizard-2
<input checked="" type="checkbox"/>	-	sg-09c25788a794c1bbc	launch-wizard-1	vpc-06a7f51952073e53f	launch-wizard-1
<input checked="" type="checkbox"/>	-	sg-0efa611f3021705ee	sb1	vpc-06a7f51952073e53f	allow
<input type="checkbox"/>	-	sg-0663ea4276a1b18c5	default	vpc-06a7f51952073e53f	default VPC security group

Security Groups: sg-016056e2a14921f93, sg-0a95576dd651bec20, sg-09c25788a794c1bbc, sg-0efa611f3021705ee

Step-9:

Click on Create security group then give a name and description of the security group and set up all inbound rules. Include SSH, HTTP, HTTPS and custom TCP then click on save rules.

Create security group [Info](#)

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

Basic details

Security group name [Info](#)

SB_Grp

Name cannot be edited after creation.

Description [Info](#)

SB_Grp

VPC [Info](#)

vpc-06a7f51952073e53f

Inbound rules [Info](#)

Type	Protocol	Port range	Source	Description - optional	
HTTP	TCP	80	Anyw... 0.0.0.0/0		Delete
HTTPS	TCP	443	Anyw... 0.0.0.0/0		Delete

Inbound rules [Info](#)

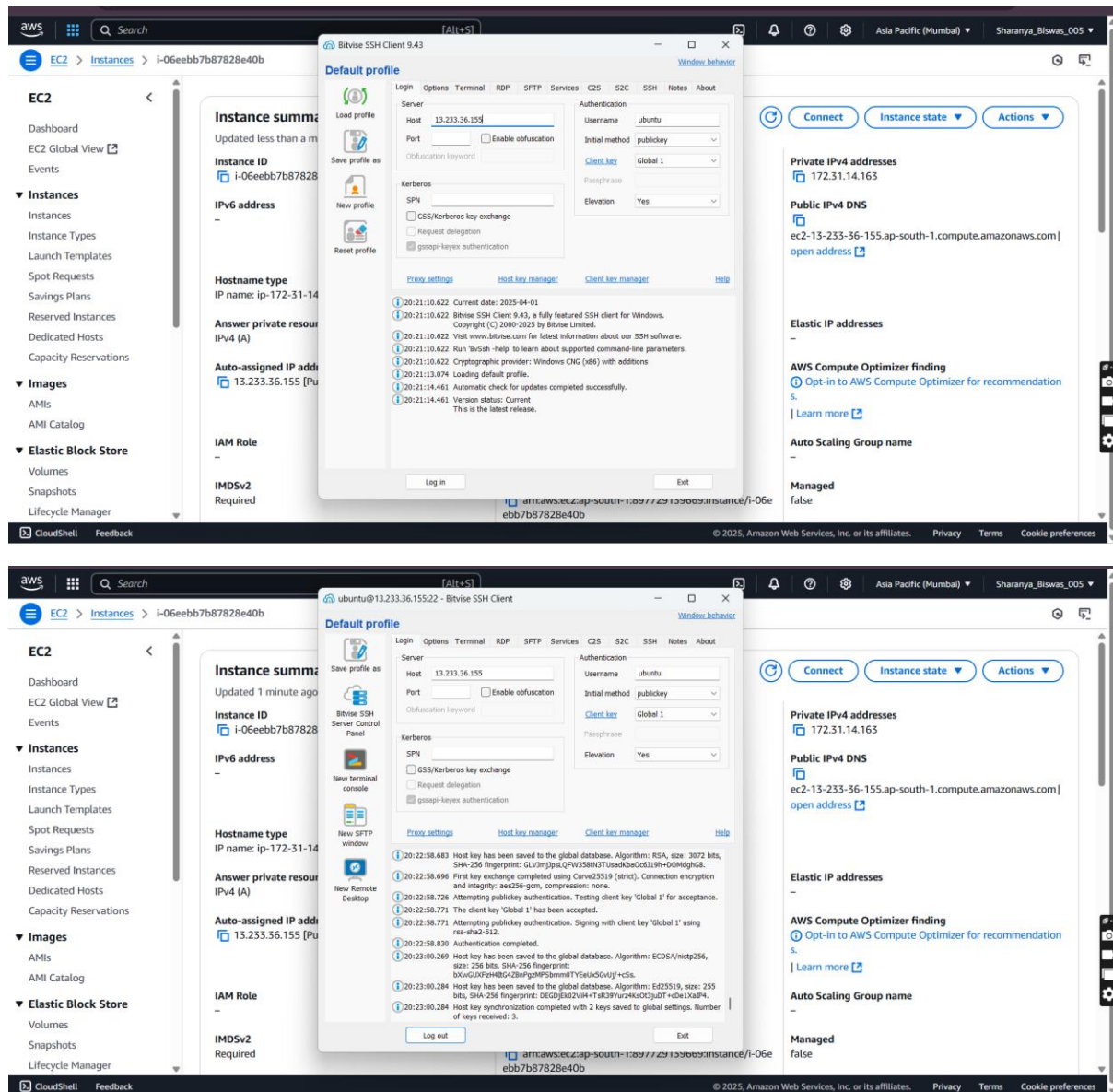
Type	Protocol	Port range	Source	Description - optional	
HTTP	TCP	80	Anyw... 0.0.0.0/0		Delete
HTTPS	TCP	443	Anyw... 0.0.0.0/0		Delete
SSH	TCP	22	Anyw... 0.0.0.0/0		Delete
Custom TCP	TCP	4000	Anyw... 0.0.0.0/0		Delete

[Add rule](#)

Outbound rules [Info](#)

Step-10:

Open Bitwise and paste the IP address of the instance in the host and give required credentials in authentication and click log in .



Step-11:

After then open a new terminal window and clone the git repository using command git clone link of the repository.


```
ubuntu@13.233.36.155:22 - Bitwise xterm - ubuntu@ip-172-31-14-163: ~
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1024-aws x86_64)

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

System information as of Tue Apr  1 14:52:59 UTC 2025

System load:  0.11           Processes:      104
Usage of /:   31.6% of 6.71GB Users logged in:    0
Memory usage: 22%          IPv4 address for enX0: 172.31.14.163
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

40 updates can be applied immediately.
16 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

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-172-31-14-163:~$ git clone https://github.com/Sharanyamsd/sharanyab.git
Cloning into 'sharanyab'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 0), reused 4 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (4/4), done.
ubuntu@ip-172-31-14-163:~$
```

Step-12:

Change the directory to the github repository name and install required dependencies using command npm install.

```
ubuntu@13.233.36.155:22 - Bitwise xterm - ubuntu@ip-172-31-14-163: ~/sharanyab
To see these additional updates run: apt list --upgradable

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-172-31-14-163:~$ git clone https://github.com/Sharanyamsd/sharanyab.git
Cloning into 'sharanyab'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 0), reused 4 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (4/4), done.
ubuntu@ip-172-31-14-163:~$ ls
sharanyab
ubuntu@ip-172-31-14-163:~$ cd sharanyab
ubuntu@ip-172-31-14-163:~/sharanyab$ ls
index.js  package.json
ubuntu@ip-172-31-14-163:~/sharanyab$ npm install

added 227 packages, and audited 228 packages in 13s

25 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
npm notice
npm notice New major version of npm available! 10.8.2 -> 11.2.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v11.2.0
npm notice To update run: npm install -g npm@11.2.0
npm notice
ubuntu@ip-172-31-14-163:~/sharanyab$
```

Step-13:

Then start the server using command node index.js .

Name:Sagnick Das
Class:CSE(DS)/22/038

```

ubuntu@13.233.36.155:22 - Bitwise xterm [disconnected]
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-172-31-14-163:~$ git clone https://github.com/Sharanyamsd/sharanyab.git
Cloning into 'sharanyab'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 0), reused 4 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (4/4), done.
ubuntu@ip-172-31-14-163:~$ ls
sharanyab
ubuntu@ip-172-31-14-163:~$ cd sharanyab
ubuntu@ip-172-31-14-163:~/sharanyab$ ls
index.js  package.json
ubuntu@ip-172-31-14-163:~/sharanyab$ npm install

added 227 packages, and audited 228 packages in 13s

25 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
npm notice
npm notice New major version of npm available! 10.8.2 -> 11.2.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v11.2.0
npm notice To update run: npm install -g npm@11.2.0
npm notice
ubuntu@ip-172-31-14-163:~/sharanyab$ node index.js
Started server

```

Step-14:

Now copy the IPv4 address of the instance and paste it and the put the port like this IP address:Port here IP address:4000 .

