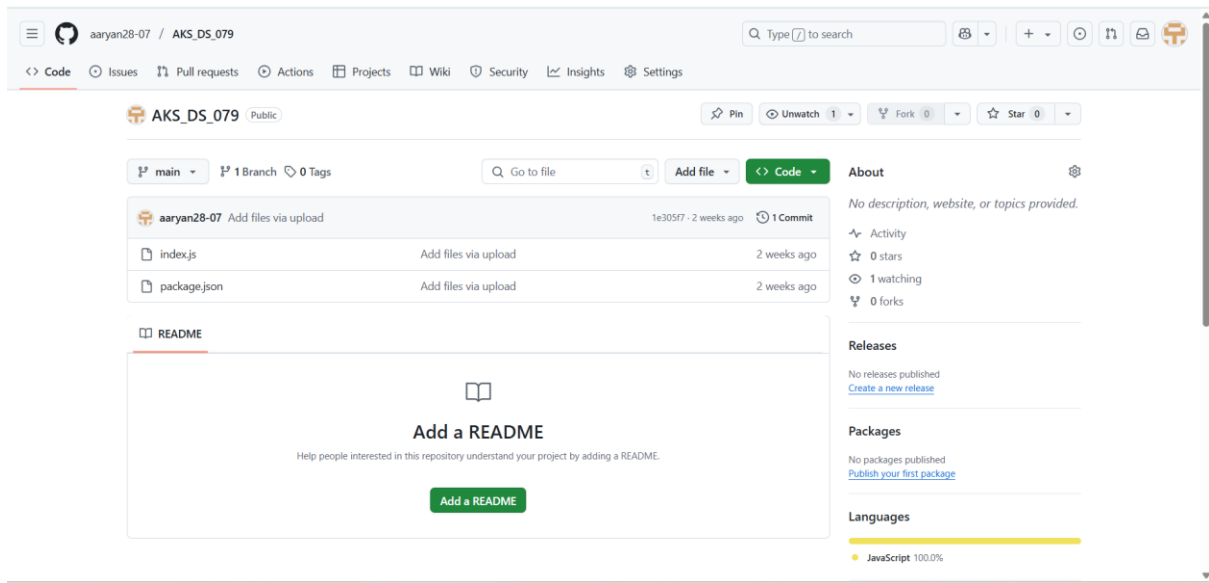


## Assignment No:10

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

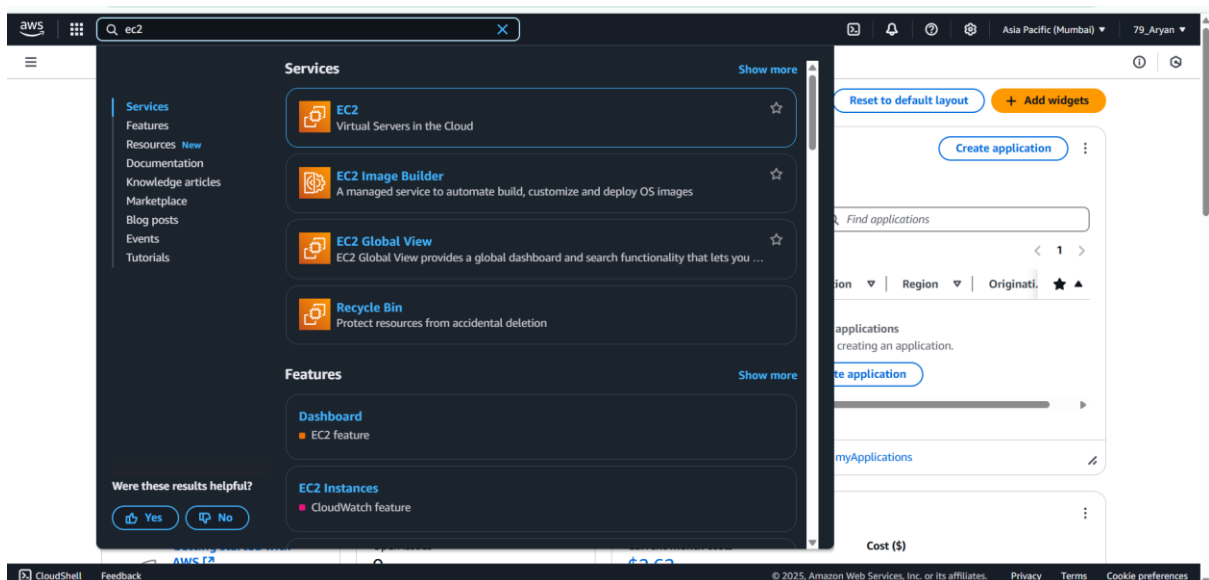
### Step-1:

Upload required files to github



### Step-2:

Log into AWS and open EC2.



### Step-3:

Then open the security groups from network and security in the left side and select all the security group except default and delete them then click on create security group

**Security Groups (6)** Info

Find resources by attribute or tag

Name	Security group ID	Security group name	VPC ID	Description
-	sg-035d6785f22ba18d4	launch-wizard-1	ypc-021f327247516bf8a	launch-wizard-1 cr
-	sg-03657bfb910d7b973	AK_79	ypc-021f327247516bf8a	AK_79
-	sg-037cf10f7bc354673	launch-wizard-4	ypc-021f327247516bf8a	launch-wizard-4 cr
-	sg-07662a7ddf4846dd3	launch-wizard-2	ypc-021f327247516bf8a	launch-wizard-2 cr
-	sg-09cfa06e425e5edda	launch-wizard-3	ypc-021f327247516bf8a	launch-wizard-3 cr
-	sg-049fdda5da94d6620	default	ypc-021f327247516bf8a	default VPC securit

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## Step-4:

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  
SD\_SECURITY  
Name cannot be edited after creation.

Description Info  
Security group

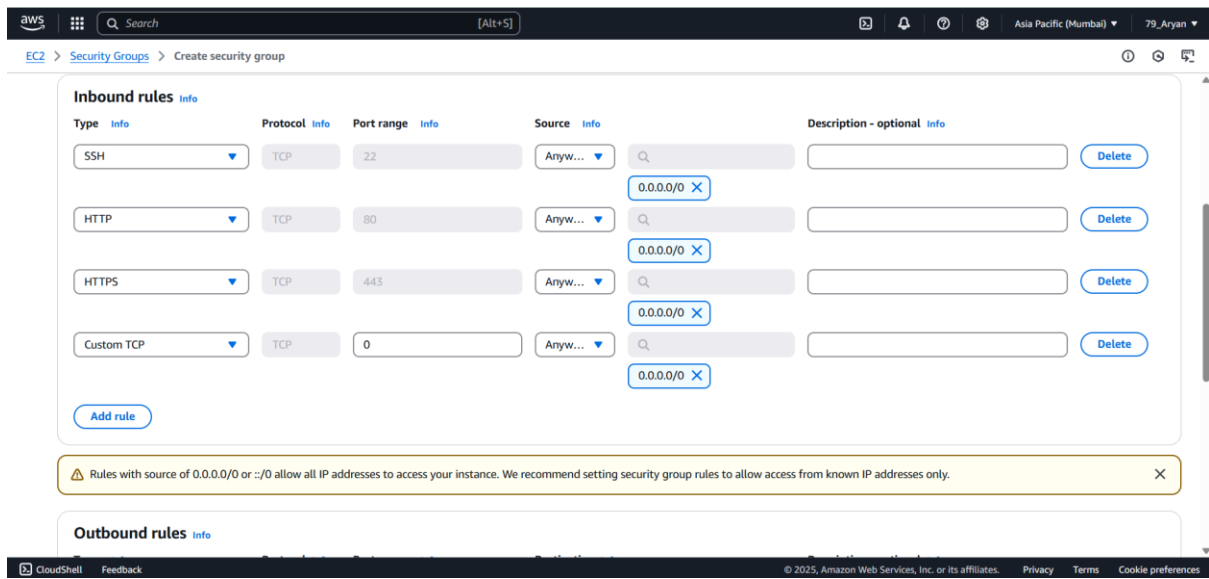
VPC Info  
vpc-021f327247516bf8a

**Inbound rules** Info

Type	Protocol	Port range	Source	Description - optional	Action
SSH	TCP	22	Anyw...		Delete
HTTP	TCP	80	Anyw...		Delete

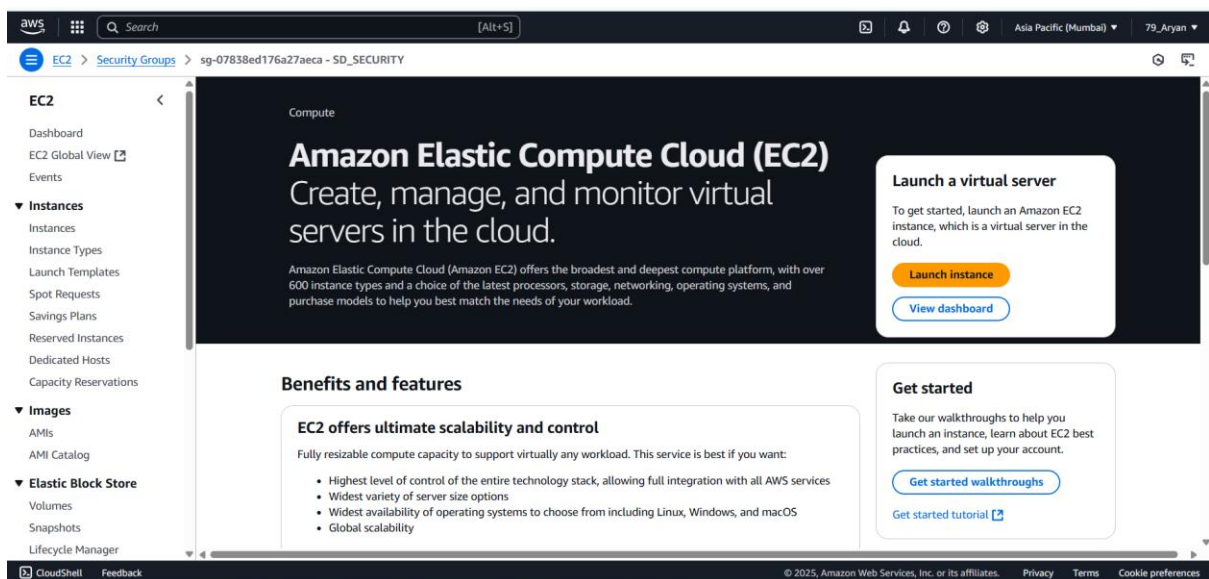
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## Step-5:

Click on launch instance.



## Step-6:

Give a name to the instance and select the operating system then in the network settings click on existing security group and select the security group just created.

**Launch an instance** [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

**Name and tags** [Info](#)

Name

[Add additional tags](#)

**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

Recents

Amazon Linux

macOS

Ubuntu

Windows

Red Hat

SUSE Linux

Debian

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

**Summary**

Number of instances [Info](#)

**Software Image (AMI)**

Amazon Linux 2023 AMI 2023.7.2...[read more](#)

ami-002f6e91abff6eb96

**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 of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t3.micro where t2.micro isn't available) when used with free tier AMIs. [750](#)

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

Amazon Machine Image (AMI)

[CloudShell](#) [Feedback](#)

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**Key pair (login)** [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

**Key pair name - required**

[Create new key pair](#)

[Edit](#)

<input type="checkbox"/>	launch-wizard-1	sg-035d6785f22ba18d4
<input type="checkbox"/>	AK_79	sg-03657bfb910d7b973
<input type="checkbox"/>	launch-wizard-4	sg-037cf10f7bc354673
<input type="checkbox"/>	default	sg-049fdda5da94d6620
<input type="checkbox"/>	launch-wizard-2	sg-07662a7ddf4846dd3
<input type="checkbox"/>	SD_SECURITY	sg-07838ed176a27aeca
<input type="checkbox"/>	launch-wizard-3	sg-09cfa06e425eSedda

[Select security groups](#) [Compare security group rules](#)

Security groups that you add or remove here will be added to or removed from all your network interfaces.

**Summary**

Number of instances [Info](#)

**Software Image (AMI)**

Canonical, Ubuntu, 24.04, amd6...[read more](#)

ami-0e35ddab05955cf57

**Virtual server type (instance type)**

t2.micro

**Firewall (security group)**

-

**Storage (volumes)**

1 volume(s) - 8 GiB

**Free tier:** In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t3.micro where t2.micro isn't available) when used with free tier AMIs. [750](#)

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

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## Step-7:

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

Rules with source or destination allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

### Configure storage Info

Advanced

1x 8 GiB gp3 Root volume, 3000 IOPS, Not encrypted

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

Add new volume

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

Click refresh to view backup information

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems

### Advanced details Info

Domain join directory

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Metadata response hop limit

2

Allow tags in metadata

Select

User data - optional Info

Upload a file with your user data or enter it in the field.

Choose file

```
#!/bin/bash
apt-get update
apt-get upgrade
apt-get install -y nginx
systemctl start nginx
systemctl enable nginx
apt-get install -y git
curl -SL https://deb.nodesource.com/setup_18.x | sudo -E bash -
apt-get install -y nodejs
```

☐ User data has already been base64 encoded

### Summary

Number of instances

1

Software Image (AMI)  
Canonical, Ubuntu, 24.04, amd64...[read more](#)  
ami-0e35ddab05955cf57

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 of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t3.micro where t2.micro isn't available) when used with free tier AMIs.

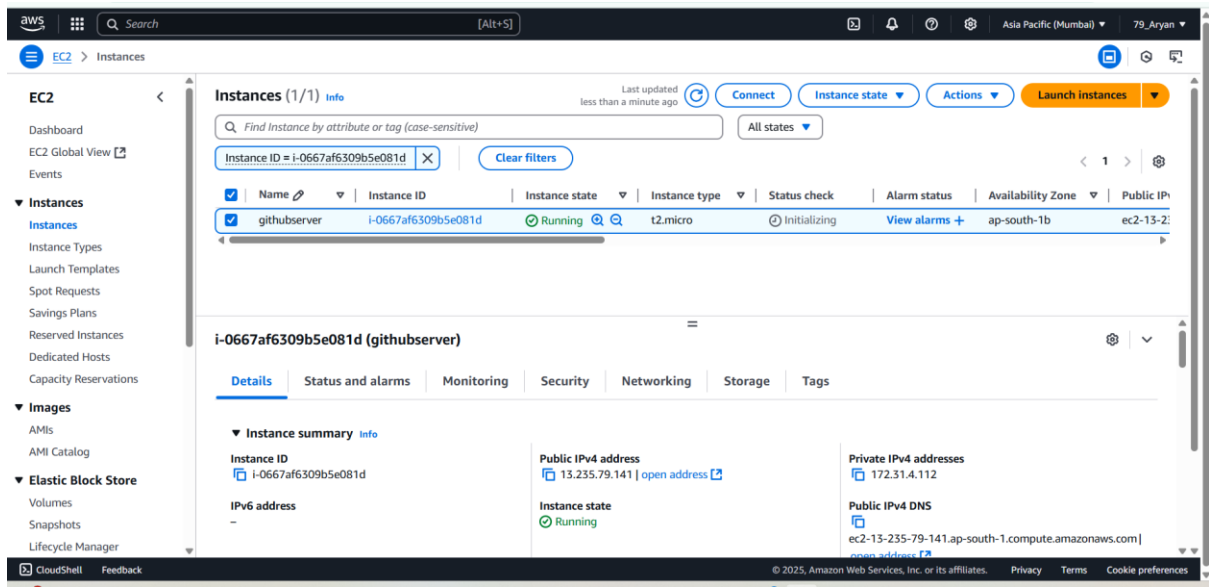
Cancel Launch instance Preview code

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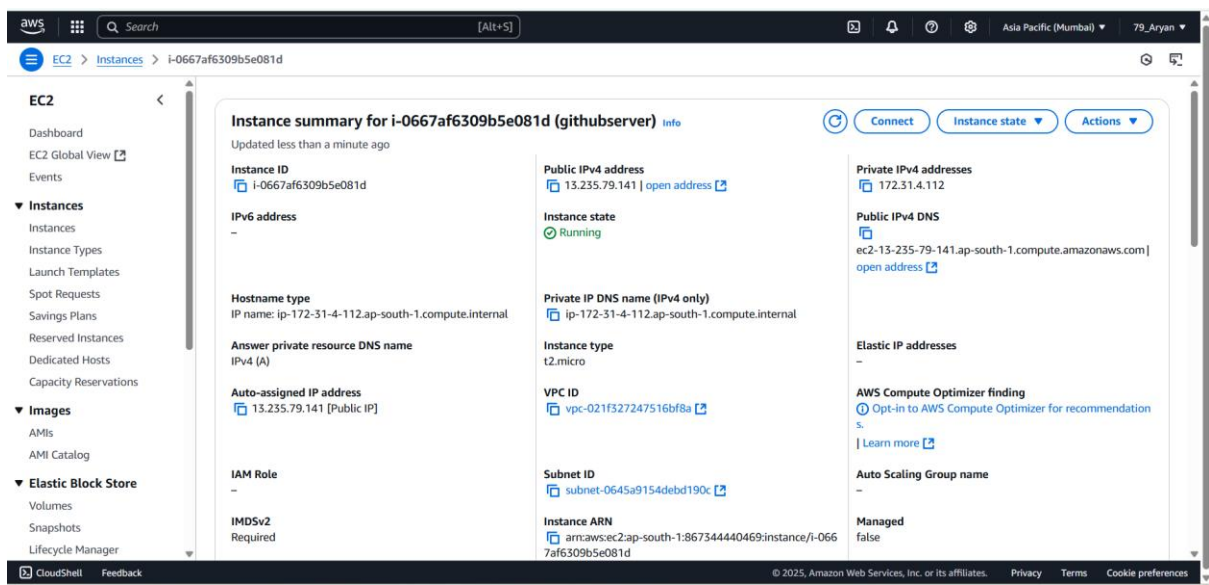
## Step-8:

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



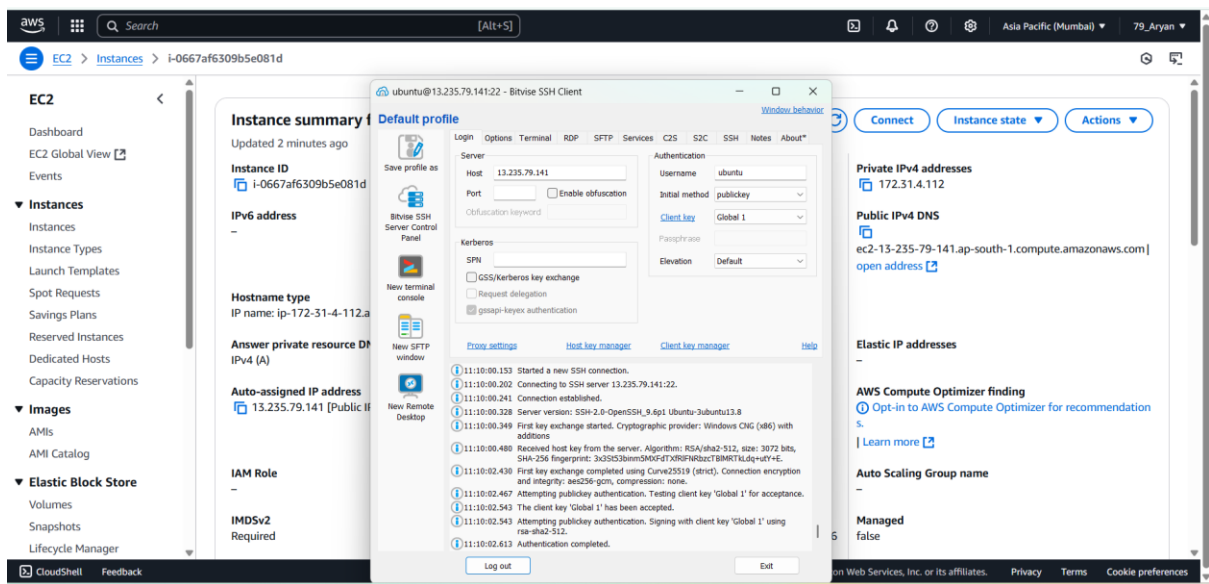
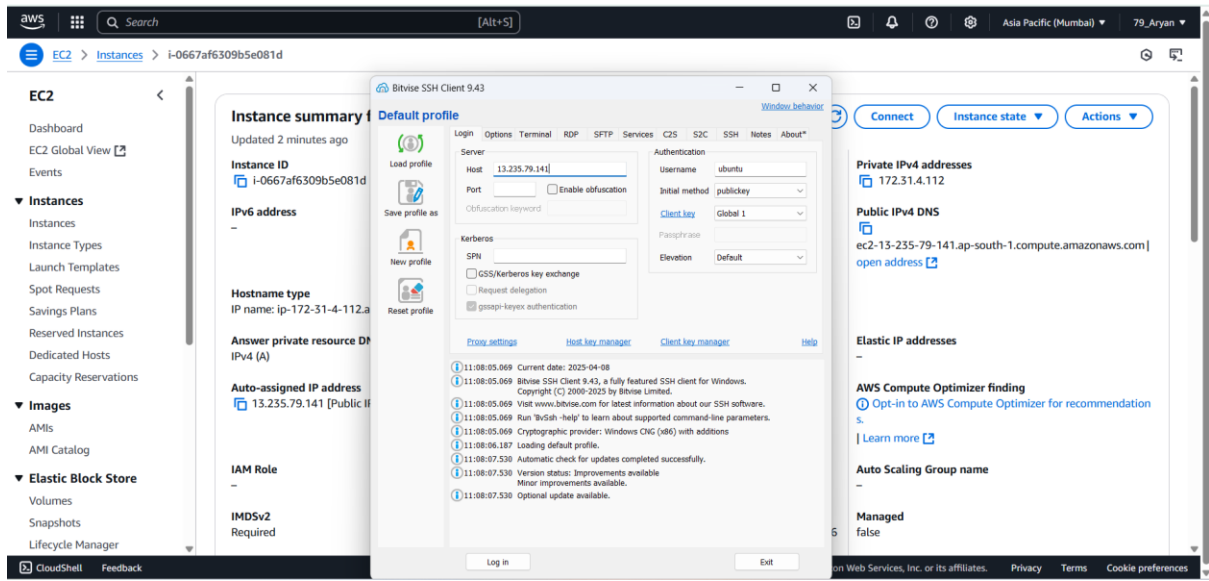
## Step-9:

Now copy the IPv4 address.



## 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@13.232.120.160:22 - Bitwise xterm - ubuntu@ip-172-31-15-107: ~
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 Mon Mar 31 04:17:34 UTC 2025

System load:  0.0           Processes:      107
Usage of /:   28.4% of 6.71GB Users logged in:  0
Memory usage: 21%          IPv4 address for enX0: 172.31.15.107
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

Last login: Mon Mar 31 04:02:50 2025 from 152.58.183.65
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-15-107:~$ git clone https://github.com/imnick48/SD_GH
Cloning into 'SD_GH'...
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 7 (delta 1), reused 3 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (7/7), done.
Resolving deltas: 100% (1/1), done.
ubuntu@ip-172-31-15-107:~$

```

## Step-12:

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

```

ubuntu@13.232.120.160:22 - Bitwise xterm - ubuntu@ip-172-31-15-107: ~/SD_GH
System information as of Mon Mar 31 04:19:40 UTC 2025

System load:  0.1           Processes:      108
Usage of /:   31.2% of 6.71GB Users logged in:  0
Memory usage: 23%          IPv4 address for enX0: 172.31.15.107
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

Last login: Mon Mar 31 04:17:36 2025 from 152.58.183.65
ubuntu@ip-172-31-15-107:~$ git clone https://github.com/imnick48/SD_GH
Cloning into 'SD_GH'...
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 7 (delta 1), reused 3 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (7/7), done.
Resolving deltas: 100% (1/1), done.
ubuntu@ip-172-31-15-107:~$ cd SD_GH
ubuntu@ip-172-31-15-107:~/SD_GH$ ls
index.js  package.json
ubuntu@ip-172-31-15-107:~/SD_GH$ npm install

added 227 packages, and audited 228 packages in 29s

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-172-31-15-107:~/SD_GH$

```



## Step-13:

Then start the server using command `node index.js` .

```
ubuntu@13.232.120.160:22 - Bitwise xterm - ubuntu@ip-172-31-15-107: ~/SD_GH

System load:  0.1          Processes:    108
Usage of /:   31.2% of 6.71GB Users logged in: 0
Memory usage: 23%         IPv4 address for enX0: 172.31.15.107
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

Last login: Mon Mar 31 04:17:36 2025 from 152.58.183.65
ubuntu@ip-172-31-15-107:~$ git clone https://github.com/imnick48/SD_GH
Cloning into 'SD_GH'...
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 7 (delta 1), reused 3 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (7/7), done.
Resolving deltas: 100% (1/1), done.
ubuntu@ip-172-31-15-107:~$ cd SD_GH
ubuntu@ip-172-31-15-107:~/SD_GH$ ls
index.js  package.json
ubuntu@ip-172-31-15-107:~/SD_GH$ npm install

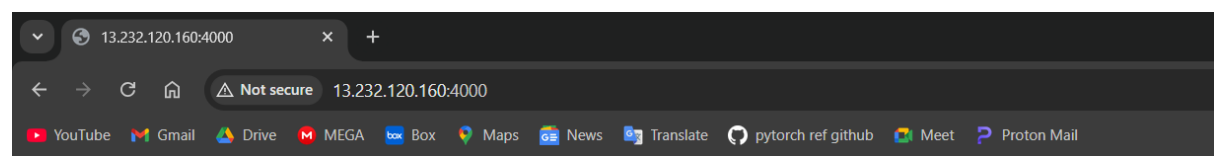
added 227 packages, and audited 228 packages in 29s

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-172-31-15-107:~/SD_GH$ 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 .



Hello MCKV Sagnick Here