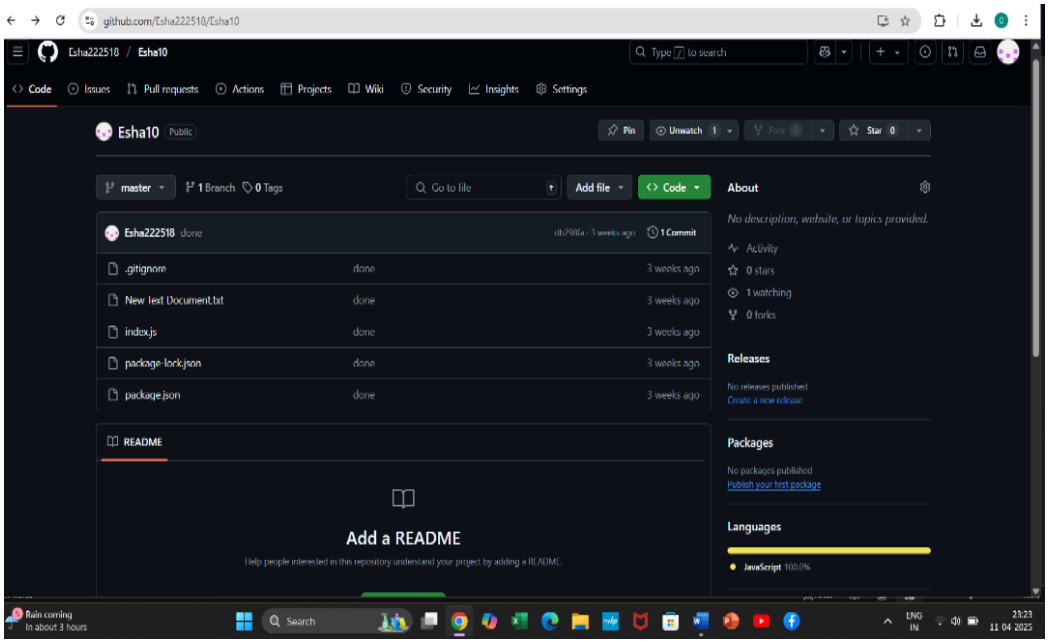
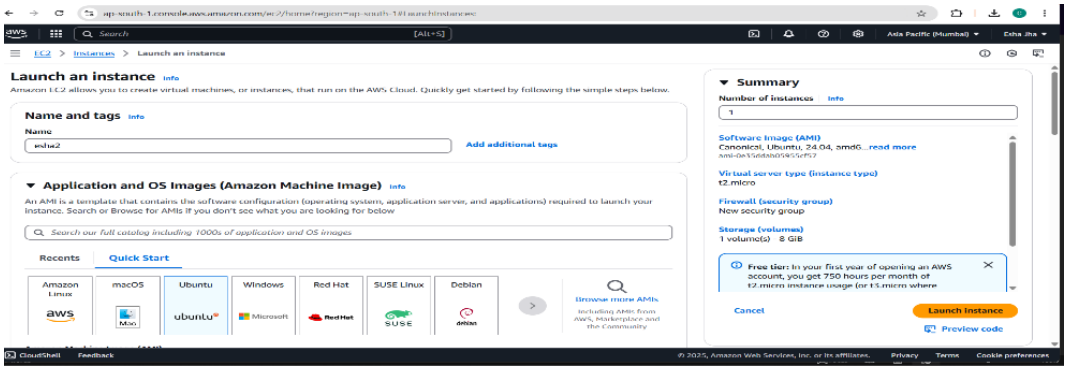
Assignment No: 09

Deploy a project from GitHub to EC2.

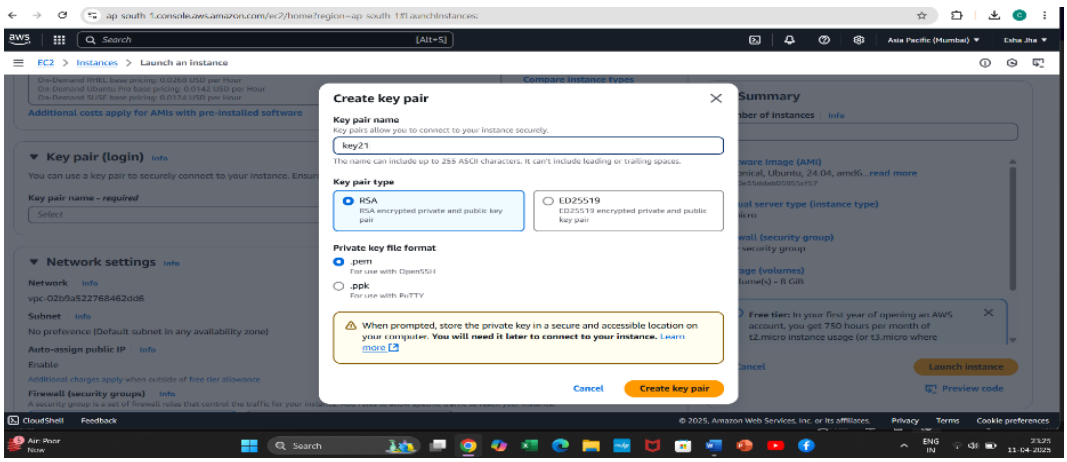
Solution:- Step 1: Upload required files to GitHub



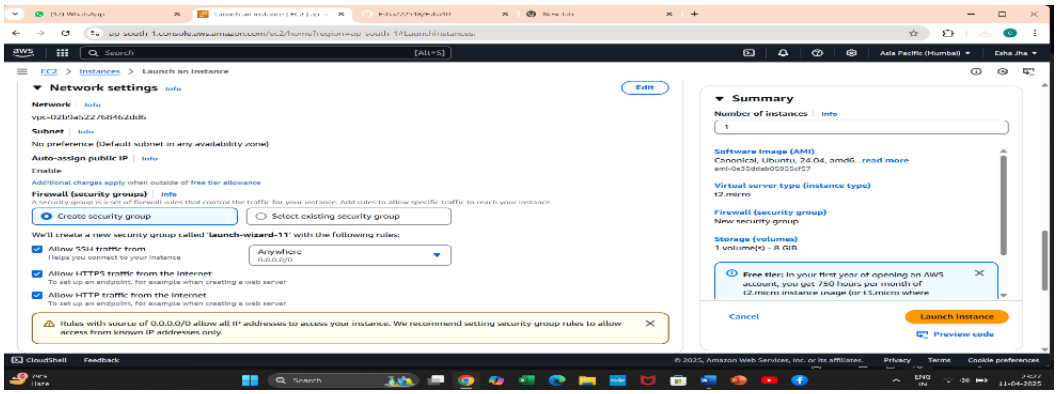
Step 2: Log into AWS and open EC2. Click on launch instance. Give a name to the instance and select the operating system as Ubuntu.



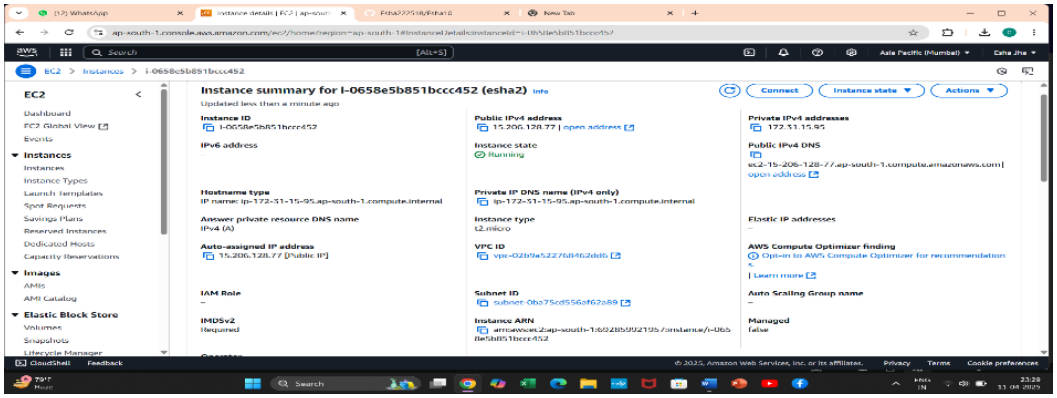
Step 3: Create Key Pair.



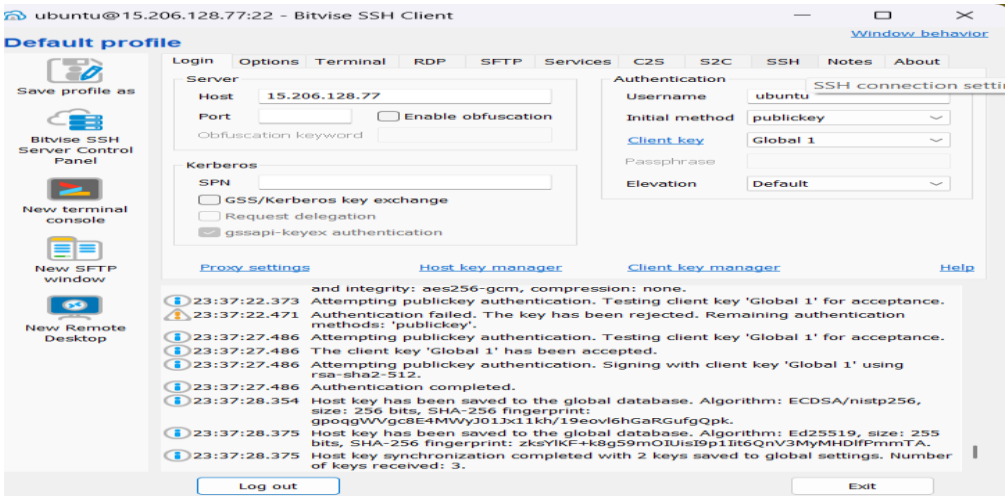
Step 4: Check the 3 boxes to allow SSH, HTTP and HTTPS traffics and click launch instance.



Step 5: Open instances and click of the instance Id of the instance. Copy the IPv4 address.



Step 6: Open Bitvise SSH Client and paste the IP address in host and set up authentication using the key pair then login and after logging in open new terminal window.



Step 7: Then Execute command sudo apt-get update and sudo apt-get upgrade in the Bitvise SSH Client Terminal.

```
ubuntu@ip-172-31-15-95:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-15-95:~$ sudo apt-get update
```

```
Fetched 33.3 MB in 25s (1350 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-15-95:~$ sudo apt-get install nginx
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
```

Step 8: Now Execute sudo apt -get install nginx Cmd for setting up the web server.

```
ubuntu@ip-172-31-15-95:~$ sudo apt-get install nginx
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 59 not upgraded.
Need to get 551 kB of archives.
After this operation, 1596 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx-common all 1.24
.0-2ubuntu7.3 [31.2 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx amd64 1.24.0-2u
buntu7.3 [520 kB]
Fetched 551 kB in 0s (16.3 MB/s)
Preconfiguring packages ...
```

Step 9: After that, then open the directory that is cloned using command cd name of the directory. Then install NodeJS using commands curl:

https://deb.nodesource.com/setup_18.x | sudo -E bash – and sudo apt-get install nodejs.

```
ubuntu@ip-172-31-15-95:~$ curl -SL https://deb.nodesource.com/setup_18.x|sudo -E bash -
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
```

```
Running kernel seems to be up-to-date.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Get:4 https://deb.nodesource.com/node_18.x nodistro InRelease [12.1 kB]
Get:5 https://deb.nodesource.com/node_18.x nodistro/main amd64 Packages [11.5 kB]
Hit:6 http://security.ubuntu.com/ubuntu noble-security InRelease
Fetched 23.7 kB in 1s (38.1 kB/s)
Reading package lists... Done
2025-04-11 18:13:08 - Repository configured successfully.
2025-04-11 18:13:08 - To install Node.js, run: apt-get install nodejs -y
2025-04-11 18:13:08 - You can use N|solid Runtime as a node.js alternative
2025-04-11 18:13:08 - To install N|solid Runtime, run: apt-get install nsolid -y
```

```
ubuntu@ip-172-31-15-95:~$ sudo apt install nodejs
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

Step 10: Now clone the GitHub repository from GitHub using command git clone paste the link of the repository

```
ubuntu@ip-172-31-15-95:~$ git clone https://github.com/Esha222518/Esha10.git
Cloning into 'Esha10'...
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 7 (delta 0), reused 7 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (7/7), 48.20 KiB | 6.89 MiB/s, done.
```

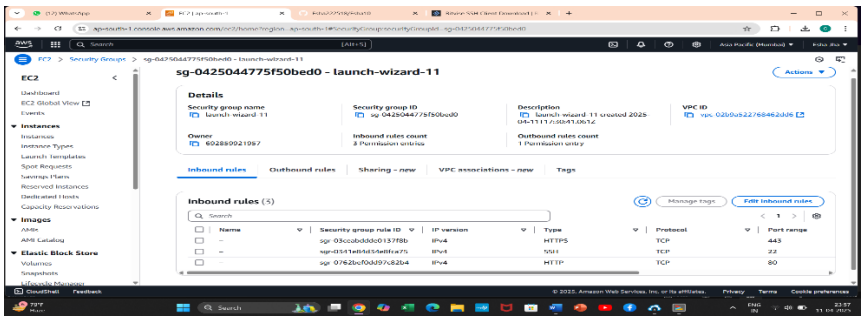
```
ubuntu@ip-172-31-15-95:~$ cd Esha10
ubuntu@ip-172-31-15-95:~/Esha10$ ls
'New Text Document.txt'   index.js   package-lock.json   package.json
```

Step 11: After installing nodejs use npm install command to install required dependencies

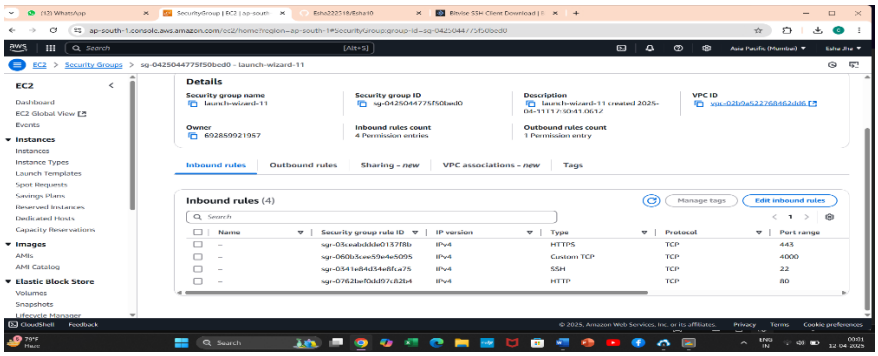
```
ubuntu@ip-172-31-15-95:~/Esha10$ npm install
npm warn deprecated uuid@3.4.0: Please upgrade  to version 7 or higher.  Older versions may use Math
.random() in certain circumstances, which is known to be problematic.  See https://v8.dev/blog/math-
random for details.

added 258 packages, and audited 259 packages in 7s

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

23 vulnerabilities (3 low, 2 moderate, 16 high, 2 critical)

To address all issues, run:
  npm audit fix
```

Step 12: Now open AWS and open the current instance then scroll down and go to security Section.

Then click on the link in security groups then click on edit inbound rules.



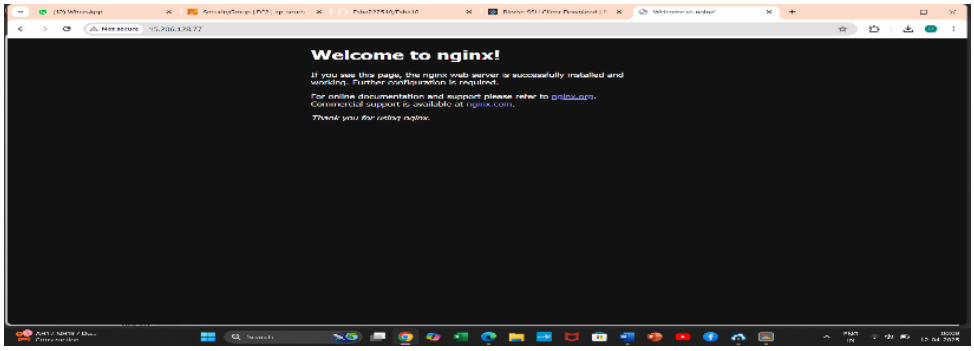
Step 13: Click on add rule and select the type of new rule custom TCP Port range 4000 source 0.0.0.0 or anywhere then click on save rule.



Step 14: Open the Bitvise SSH Client terminal console and start the server using command node index.js

```
ubuntu@ip-172-31-15-95:~/Esha10$ node index.js
Started server
```

Step 15: Now copy the IPv4 address of the instance and paste it on web browser.



Step 16: Then, put the port like this IP address: Port (3.110.158.144:3000)