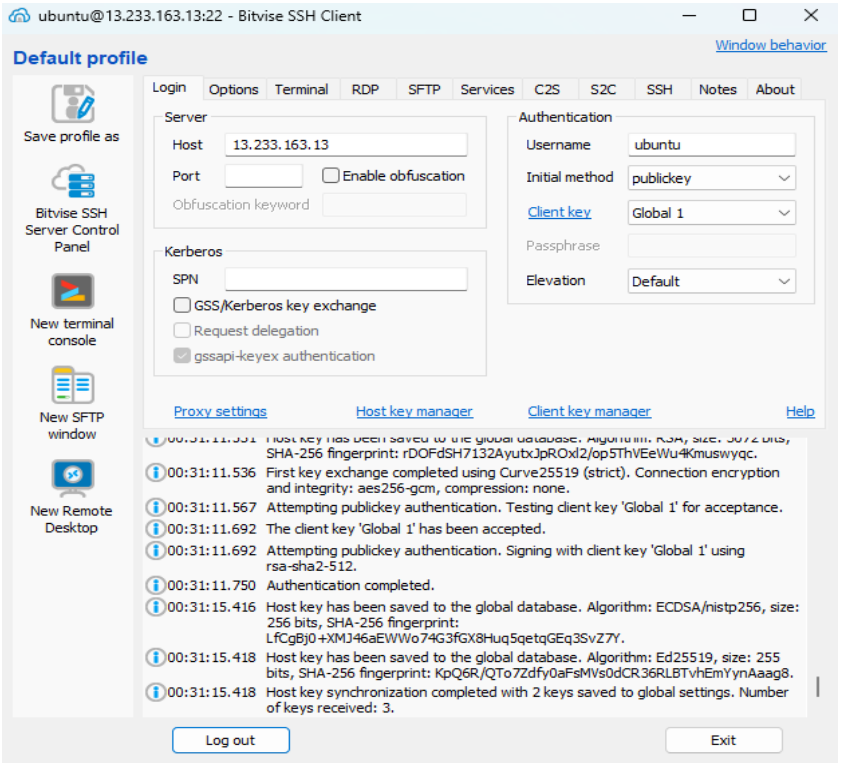
Assignment No. – 9

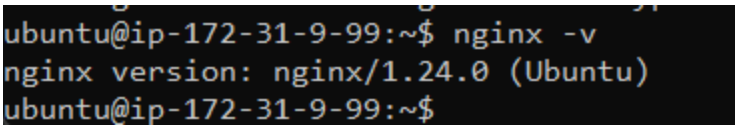
Problem Statement: Deploy a project from GitHub to EC2.

Procedure:

1. Go to **GitHub** Website and **Sign In** to the account. Also, **Sign In** to the **AWS** account.
2. Create an **EC2 instance**.
3. Connect to the instance using the **Bitvise SSH Client**.



4. Now, Click on **New Terminal Console** option in the Left Sidebar of the Bitvise Client.
5. A **terminal** will open and in it type the following commands:
   - **sudo apt-get update**
   - **sudo apt-get upgrade**
   - **sudo apt-get install nginx**



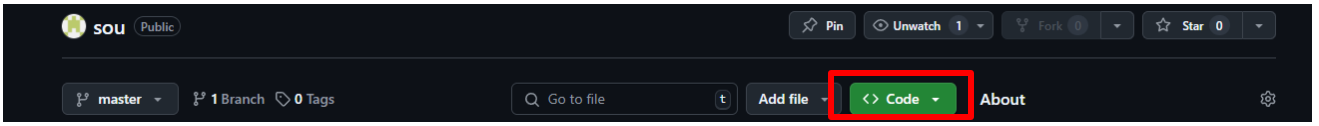
   - **curl -sL https://deb.nodesource.com/setup_18.x | sudo -E bash** –
   - **sudo apt install nodejs**

- **node -v**

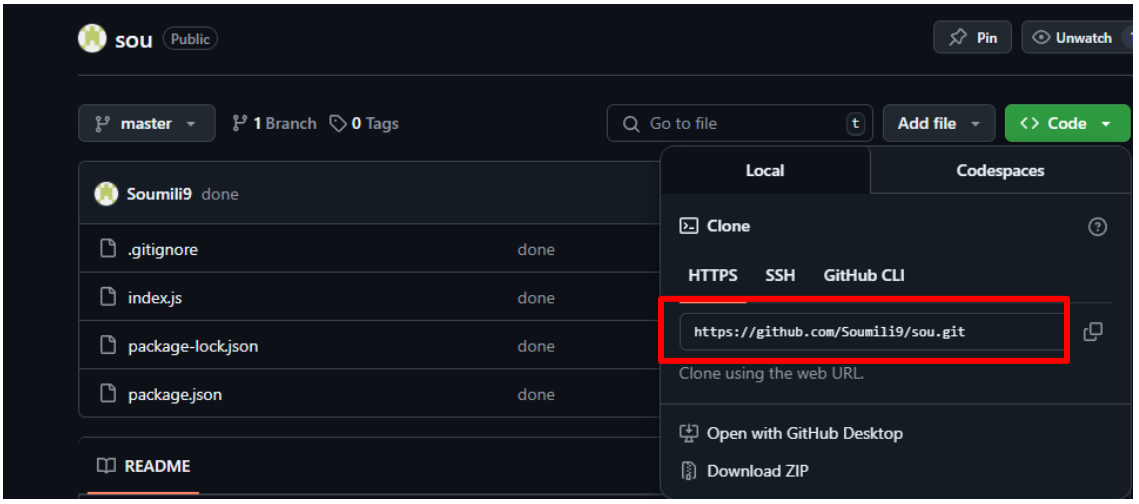
```
ubuntu@ip-172-31-9-99:~$ node -v
v18.20.8
ubuntu@ip-172-31-9-99:~$
```

Now, minimize the terminal window. Go to the browser where the **GitHub** is Logged In.

6. Go to the GitHub Repository which we want to upload in our EC2 server. Click on the **code** button.



7. Now, copy the **HTTPS address** of the Repository.



8. Now, return to the minimized terminal window and enter the following commands:

- **git clone https-address-copied-in-last-step**

```
ubuntu@ip-172-31-9-99:~$ git clone https://github.com/Soumili9/sou.git
Cloning into 'sou'...
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 6 (delta 0), reused 6 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (6/6), 48.07 KiB | 9.61 MiB/s, done.
```

- **dir**

```
ubuntu@ip-172-31-9-99:~$ dir
sou
```

- **cd sou/**

```
ubuntu@ip-172-31-9-99:~$ cd sou/
ubuntu@ip-172-31-9-99:~/sou$
```

- **ls**

```
ubuntu@ip-172-31-9-99:~/sou$ ls
index.js  package-lock.json  package.json
```

- **npm install**

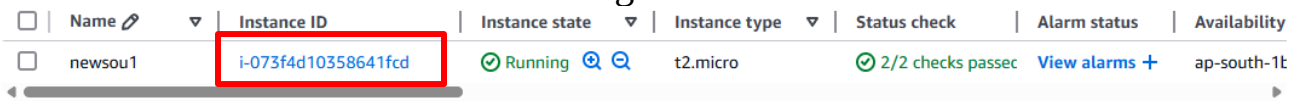
```
npm warn deprecated uuid@3.4.0: Please upgrade  to version 7 or higher.  Older versions may use Math.random() in certain circumstances, which is know
n to be problematic.  See https://v8.dev/blog/math-random for details.

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

Run `npm audit` for details.
npm notice
npm notice New major version of npm available! 10.8.2 -> 11.3.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v11.3.0
npm notice To update run: npm install -g npm@11.3.0
npm notice
```

Now before proceeding further we need to return back to GitHub. Minimize the terminal for now.

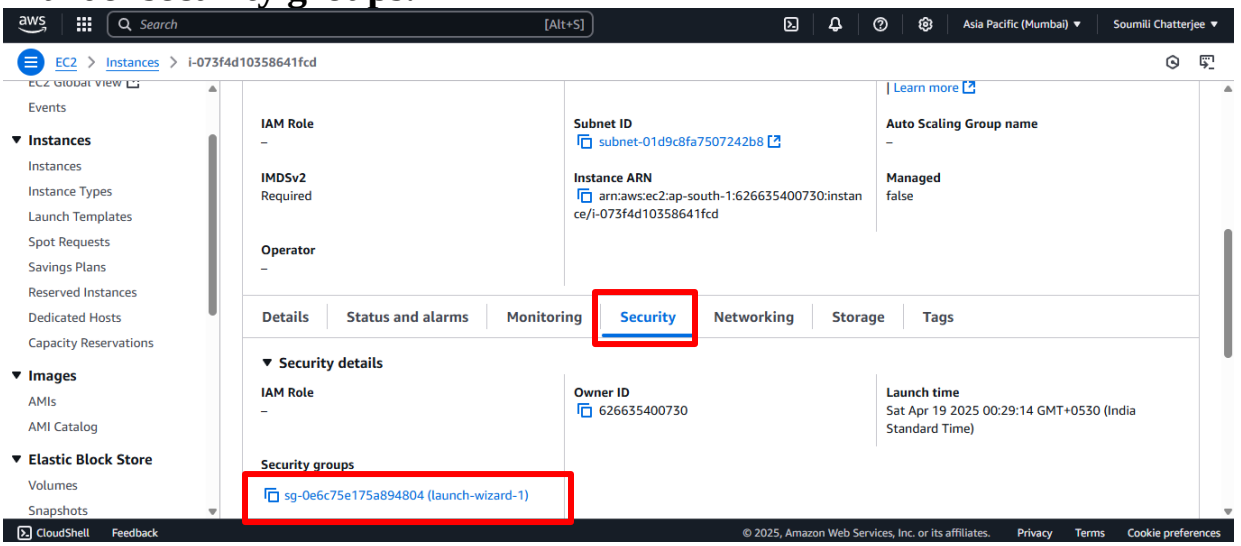
9. Go back to the Repository in **GitHub**. Open **"index.js"** file.

10. Check the **port number** specified in the program. Copy or remember this port number as it will be required to connect to the website. We have to add this port number to the **EC2 instance security group rule** otherwise we won't be able to access the website from anywhere. Now, go back to the **AWS EC2 instances** page.

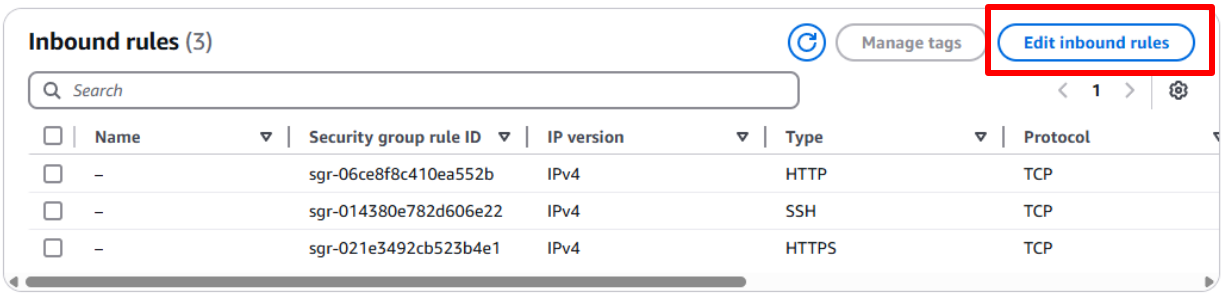
11. Click on the instance id that is being used.



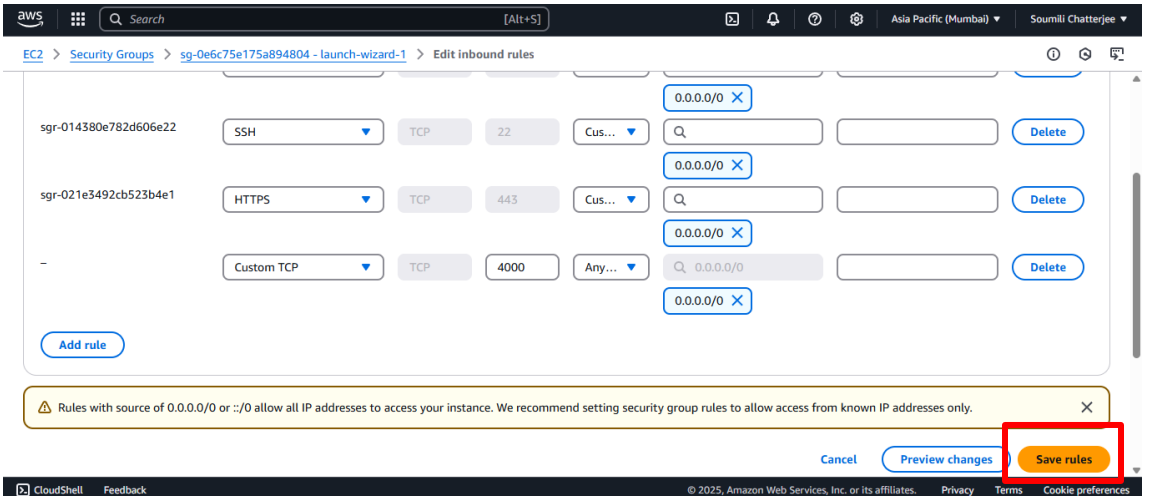
12. Scroll down and we will find a section bar where by default the **Details** option is selected. Select the **Security** option. Then, click on the **security groups link** under **security groups.**



13. Next, click on **Edit Inbound Rules** button and then click on **Add Rule**.

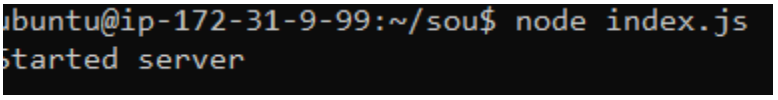


14. A new row will be generated. Let the type remain **Custom TCP**. Under **Port Range** write 4000(as given in index.js file). Next, under **Source** click on the search box and select the first option with value 0.0.0.0/0. Then, click on the **save rules** button.



15. Now, to access our website we need to start the server. So, we return back to the terminal and type:

- **node index.js**



16. Now, copy the **IPv4 address** of the EC2 server and paste it in another browser. After pasting, add a colon and then write the port number i.e. 4000.

We have successfully deployed our project from GitHub to our EC2 server.