Assignment : 09

Title : **Deploy a project from github to EC2**

The following steps to be followed :

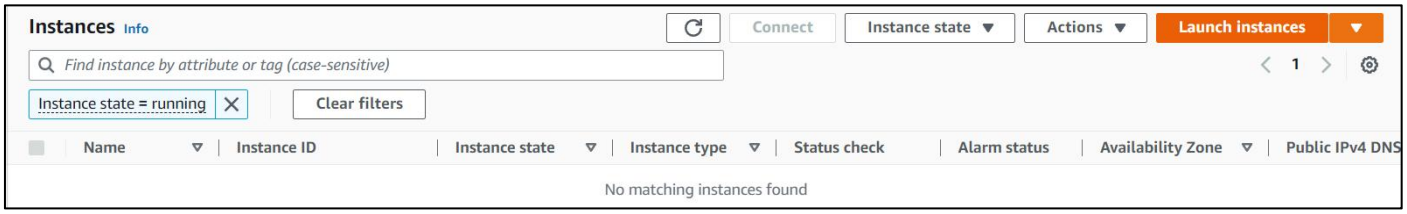
1-- Create an EC2 instance.

2-- Connect to Bitvise SSH and run the commands.

3-- Add the port number and security.

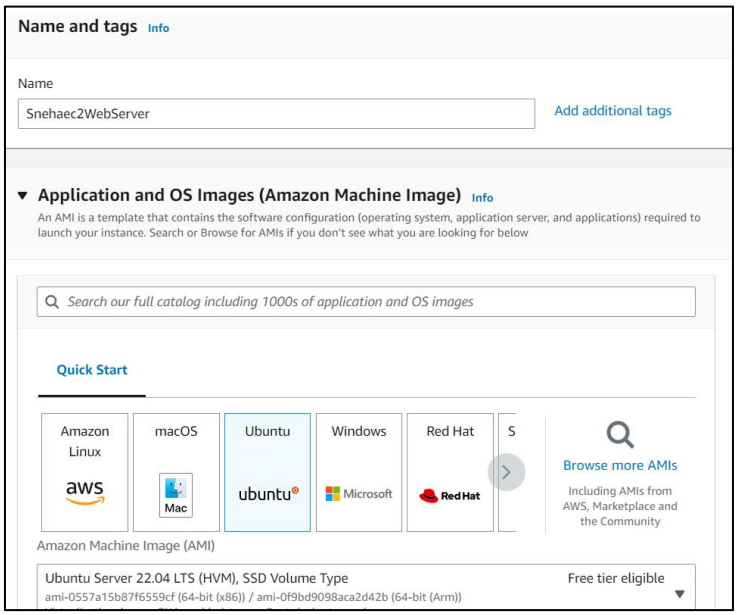
Steps to create an instance on EC2 :

1. Open the Amazon EC2 console.
2. From the EC2 console dashboard, Click on **Instances(Running)**, choose **Launch instance.**

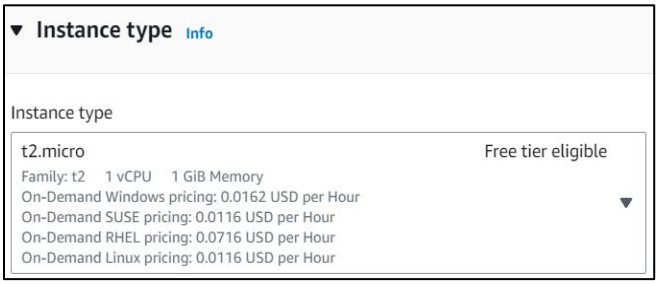


and The **Launch an instance** page opens..

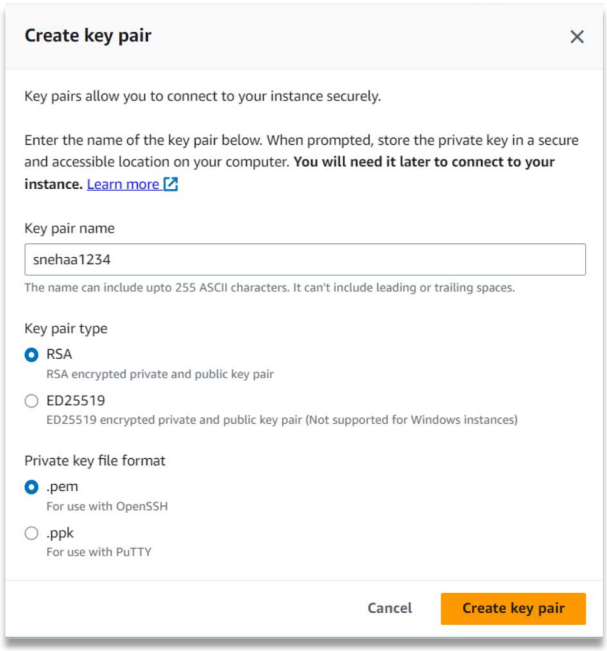
3. Under **Name and tags**, for **Name**, enter a descriptive name for your instance like ' **Snehaec2WebServer** '.
4. Under **Application and OS Images (Amazon Machine Image)**, do the following: Choose **Quick Start**, and then choose **Ubuntu**. This is the operating system (OS) for your instance,
which is Free Tier Eligible.



Under **Instance type**, from the **Instance type** list, you can select the hardware configuration for your instance. Choose the `t2.micro` instance type, which is selected by default. The **`t2.micro`** instance type is eligible for the free tier.



5. Under **Key pair (login)**, for **Key pair name**, choose the key pair that you created already or Choose **Create new key pair**. A dialogue box opens - Give a name to the key pair under the **Key pair name** like **snehaa1234**

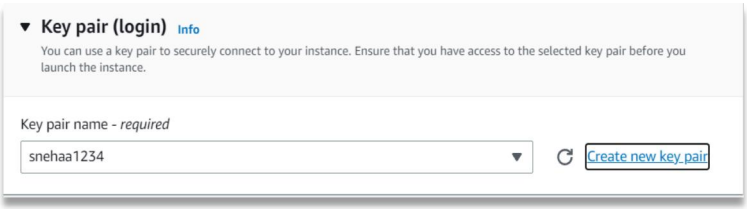


The key pair generated is of:

i. Type - **RSA**

ii. File format - **.pem**

Click on **Create key pair** and the .pem file of your key pair is automatically downloaded. And is saved for further use.



6. In **Network settings** , under the **Firewall (Security groups)** there is a by default selection of **Create security Groups** under which check or select all the three boxes namely :

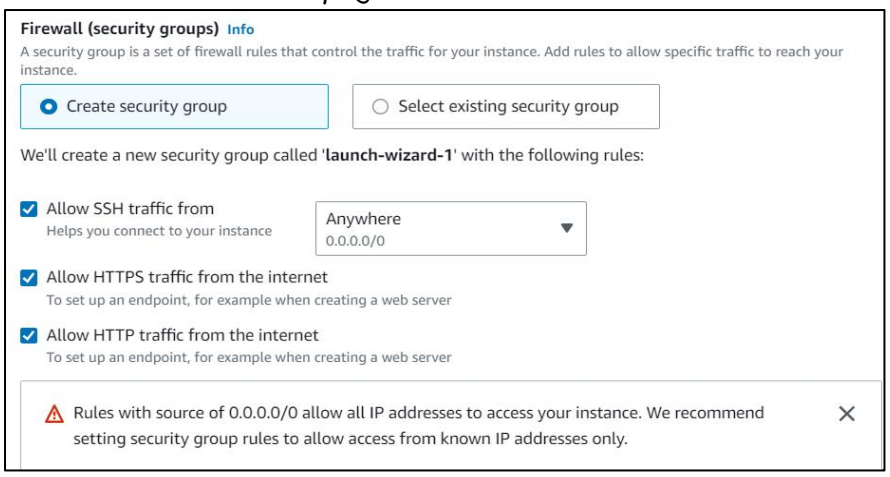
☑ **Allow SSH traffic from** - Helps you connect to your instance

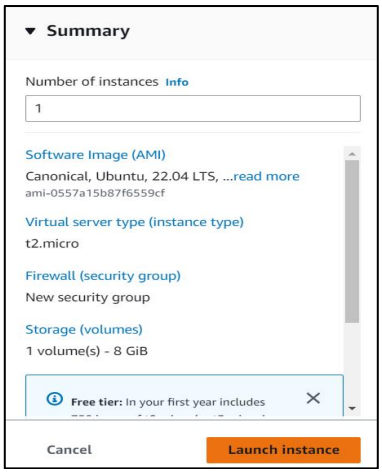
☑ **Allow HTTPS traffic from the internet** - To set up an end point.

☑ **Allow HTTP traffic from the internet** - To set up an endpoint .

7. Keep the default selections for the other configuration settings for your instance.Review a summary of your instance configuration in the **Summary** panel, and when you're ready, choose **Launch instance.**

A confirmation page lets you know that your instance is launching. Choose **View all instances** to close the confirmation page and return to the console.





Steps to connect client to server (EC2) using Bitvise SSH :

1. Click on the **Instance ID** of the instance you created. The instance summary opens .
2. Copy the **Public IPv4 Address**.

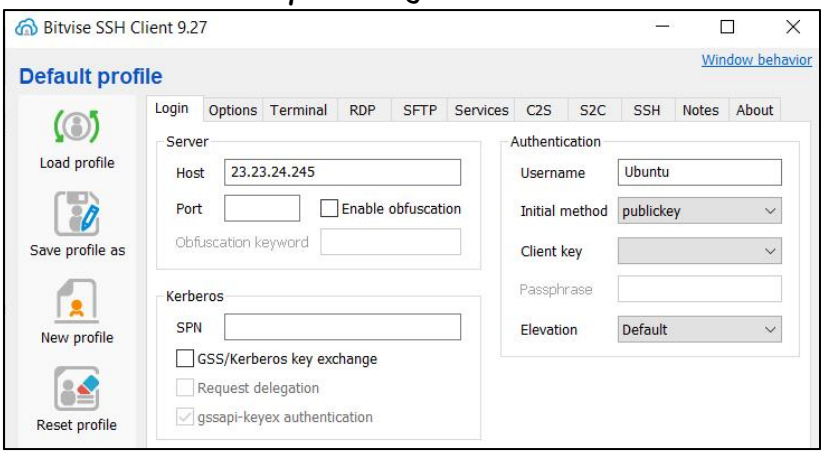
3. Download the **Bitvise SSH client** from browser - Install it and open the application to move further.

4. Under **Login** section ,In **Server** - **Host** paste the **public IPv4 address** of the instance

In the **Authentication** part do as follows:

Username - **Ubuntu**

Initial method - **publickey**



Click on **Client key manager** , in the dialogue box Click on **Import** . Import the **key pair** generated while making the instance ->choose **open** -> **import**.

It is visible in the client key manager as **Global 1**. Return back (close the window)

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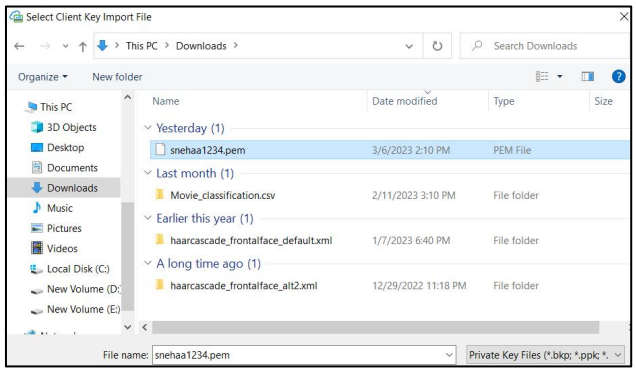
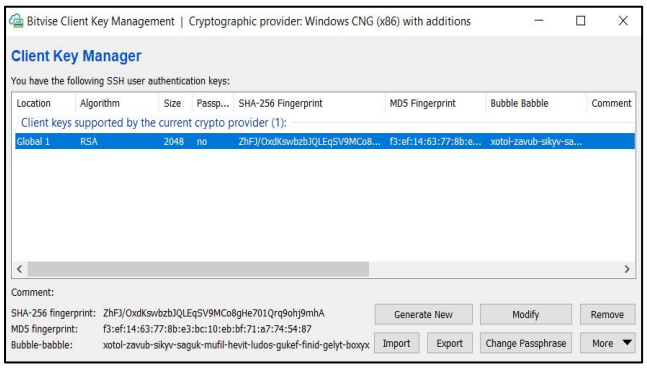
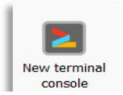




5. In the Authentication section , **Client key - Global 1**

Click On **log in -> Accept & Save.**

6. Open **new terminal console** - and type ⟶

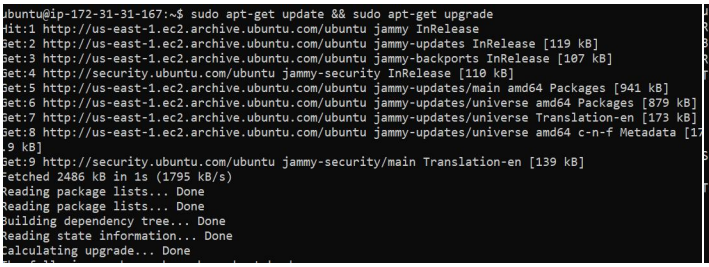


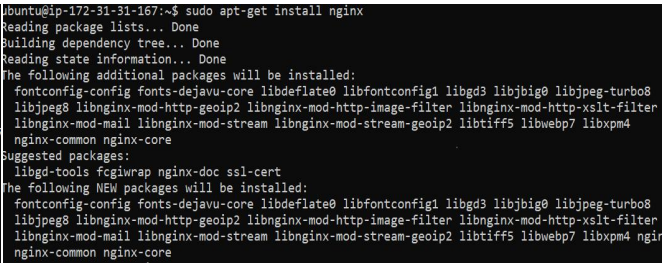
(i) Sudo apt-get update && sudo apt-get upgrade

Followed by typing y when asked for yes/no and then pressing enter when finished.

(ii) Sudo apt-get install nginx

Followed by typing y when asked for yes/no and then pressing enter when finished.





(iii) **curl -sL https://deb.nodesource.com/setup_16.x|sudo -E bash -**
-(***curl***: a command-line tool used to transfer data from or to a server.
-***sL***: two options for the curl command. -s is used to silence any progress or error messages, and -L tells curl to follow redirects if any.
https://deb.nodesource.com/setup_16.x: the URL of the script that adds the Node.js package source.
|: a pipe character, which redirects the output of the curl command to the input of the next command.
sudo -E bash -: runs the script with elevated privileges using the sudo command. The -E option preserves the environment variables, and the - option tells bash to read commands from standard input.)

(iv) ***sudo apt install nodejs***(server side scripting runtime environment. It allows developers to run JavaScript code outside of a web browser, making it useful for server-side applications and command-line tools)

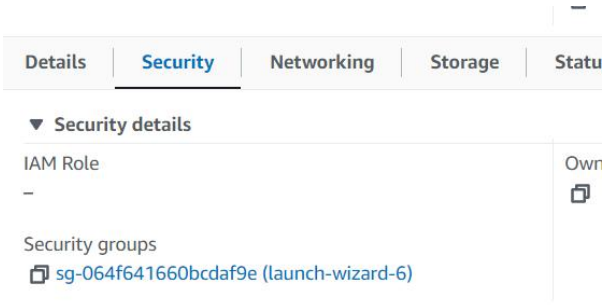
(v) **git clone** https://github.com/itsmesneha/MYNEWREPO.git(repository name)
after giving repo name, username and password will come .for username we have to give email of github acct and for password we have to give that token(ex-tok2).Then we can see that repo is copied and by typing **ls** we can see that repo-**MYNEWREPO**

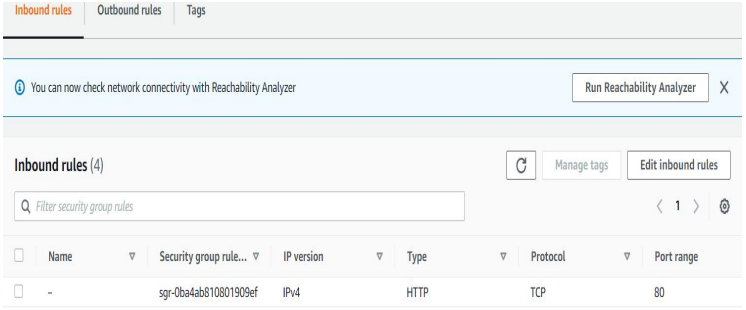
(vi) **cd** MYNEWREPO : by giving this command we can move to this directory.

(vii) **npm install** by giving this command in repo2 we have to install npm. npm stands for Node Package Manager. It is a package manager for the Node.js runtime environment, and it is used to install, manage, and share packages or modules of JavaScript code that can be used in Node.js projects.
Now, before starting the server we have to add port number as in index.js file the port is 4000.so we need to add that.

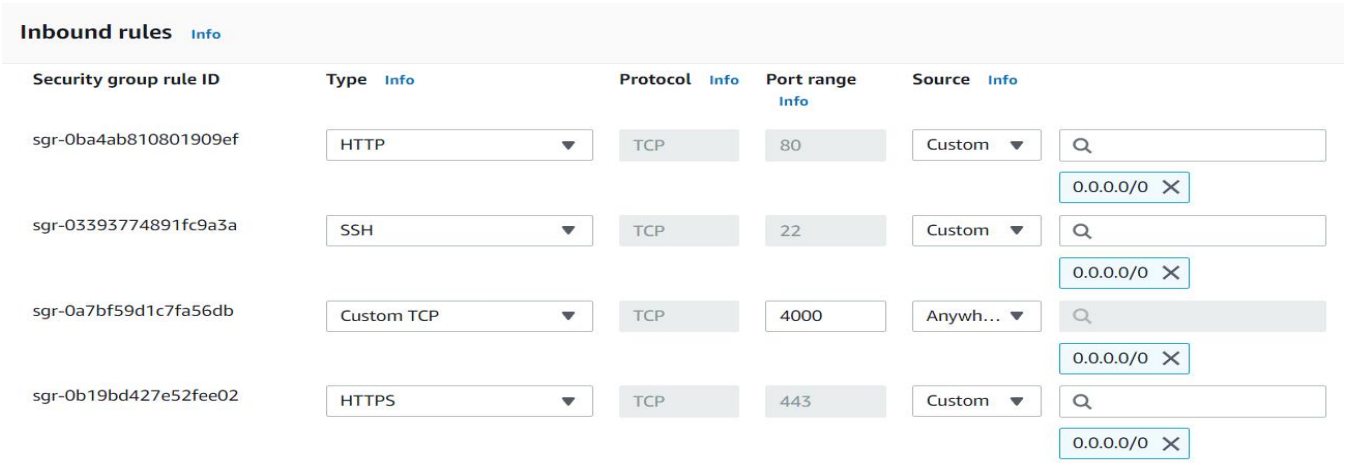
Steps to add the port number :

1. go to instances and click instance id(which is used here) and go to security and click security groups.
2. in security groups click ***Edit inbound rules.***





3. in edit inbound rules click ***add rule*** and in ***type*** select custom TCP ,in ***port range*** give 4000 and in ***Source*** select Anywhere public IPv4.



4. now in bitvise terminal type node index.js and the server is started.

Now, copy that ec2 IPv4 address and paste it in a new tab with ***:4000*** and by clicking we can run the website.