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MSC(CS) Part I

Cloud Computing Practical Assignment No 2

Working and Implementation of Infrastructure as a service Launch EC2 Instance (Linux)- AWS Platform.

First of all open Virtual Lab. After opening the lab, you will get an interface like Fig 1.

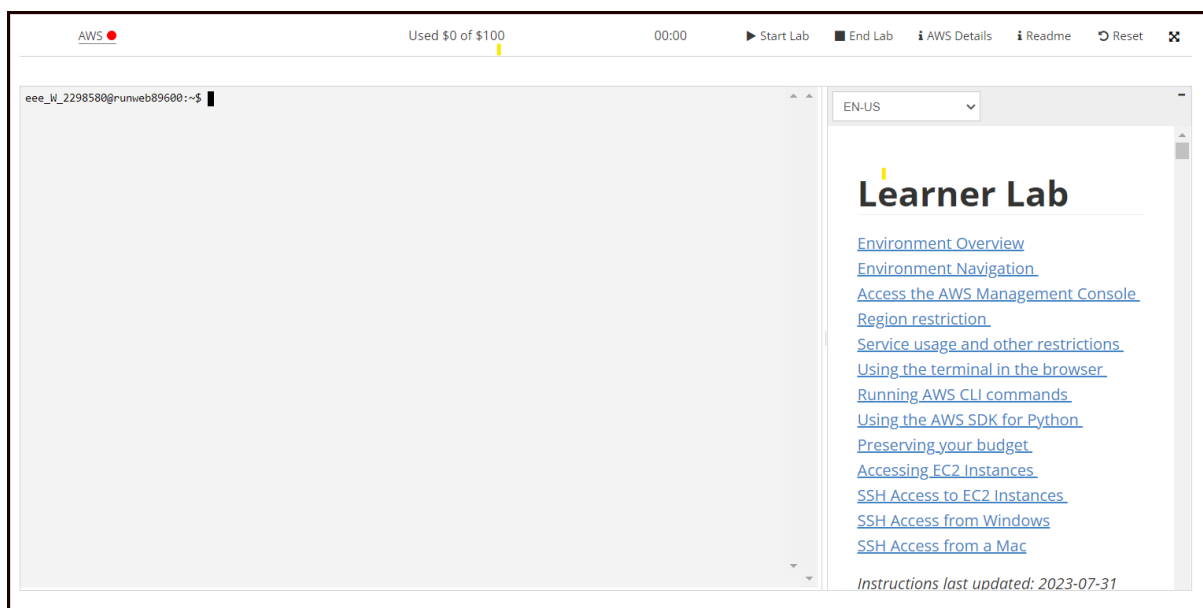


Fig 1

Then click on the Start Lab button. When the circle icon to the right of the AWS link in the upper-left corner turns green, it indicates that the lab environment is ready to use this we can see in Fig 2. To launch the AWS Management Console in a new tab, select the AWS link

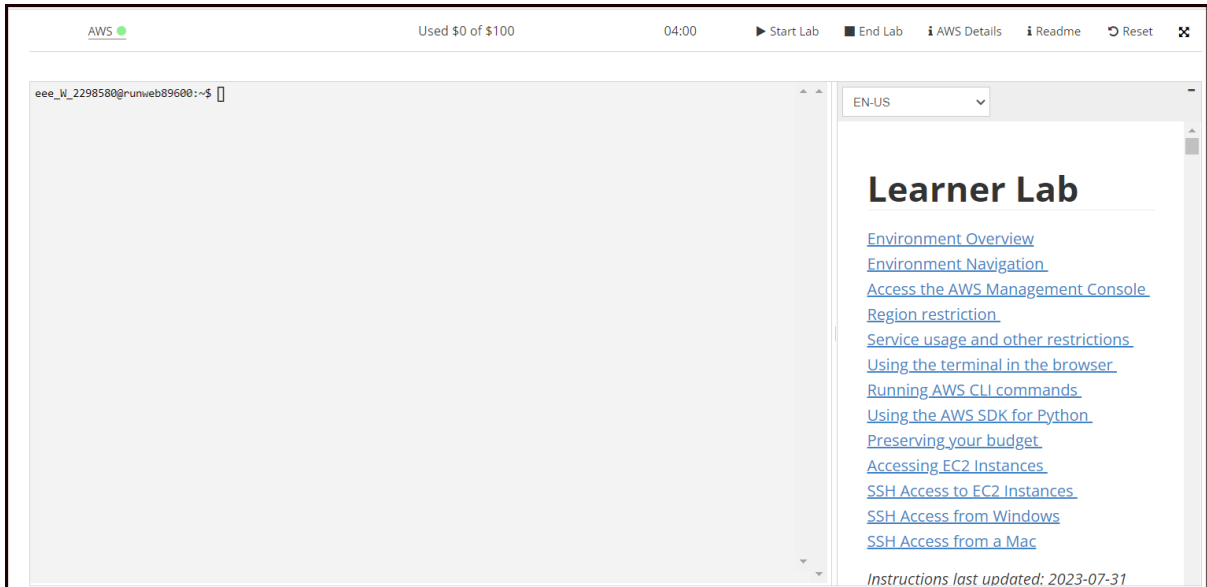


Fig 2

After selecting AWS link new console is open on new tab which we can see in Fig 3. In that we select the EC2 (Elastic Cloud Computing) service. You can see that service in Fig 3. If you have used it before then you can see that service in recently visited service. If you don't see EC2 service then follow the path Services => Compute => EC2.

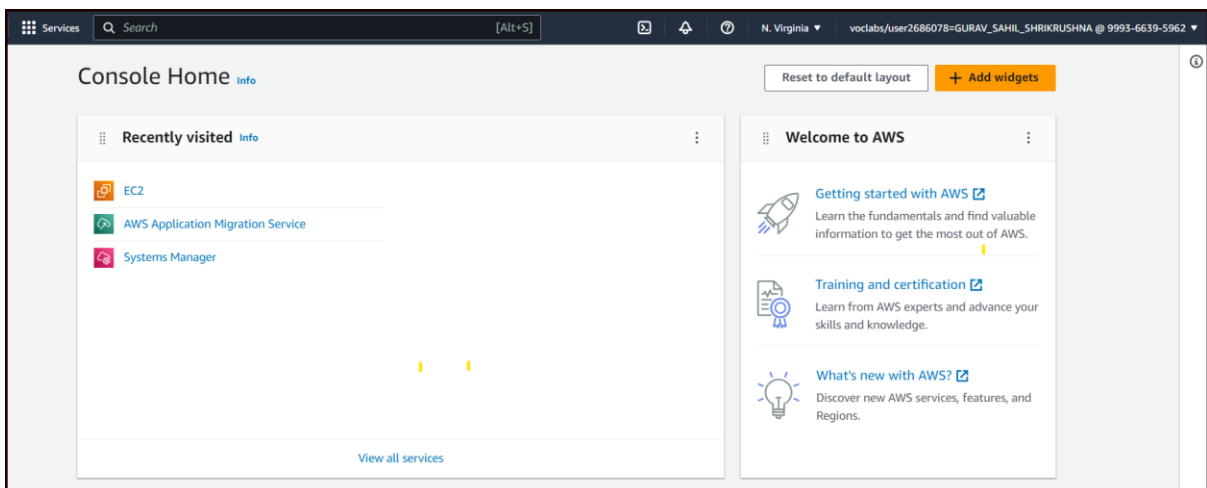


Fig 3

After selecting the EC2 service the new interface will be shown like in Fig 4. In that click on Launch Instance.

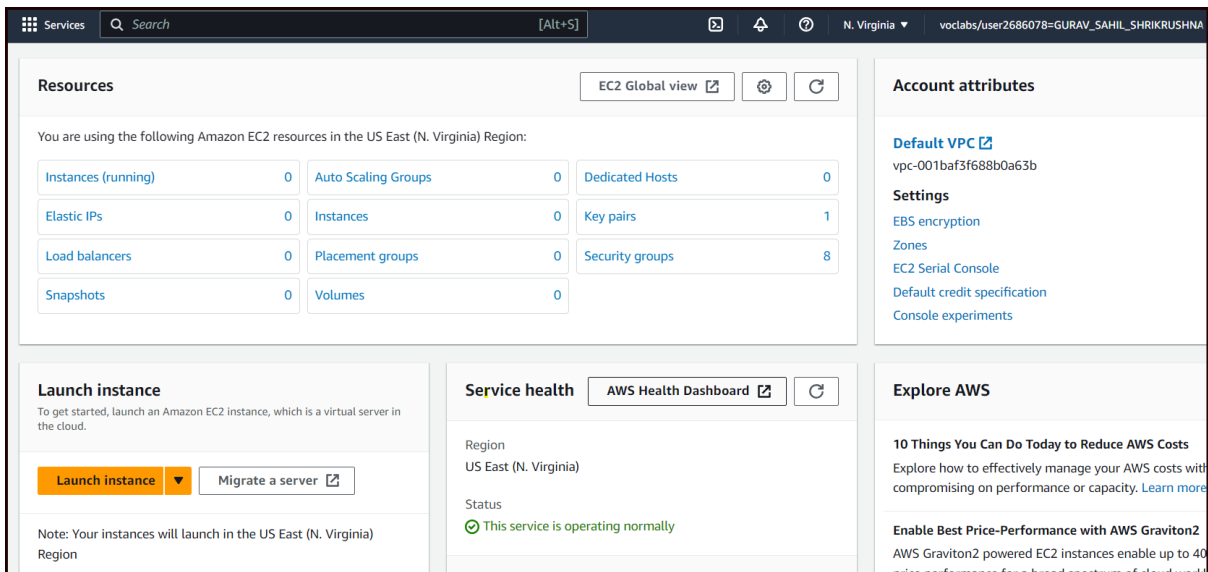


Fig 4

After clicking on Launch Instance some information regarding that instance will appear which we need to fill. That we can see in Fig 5.

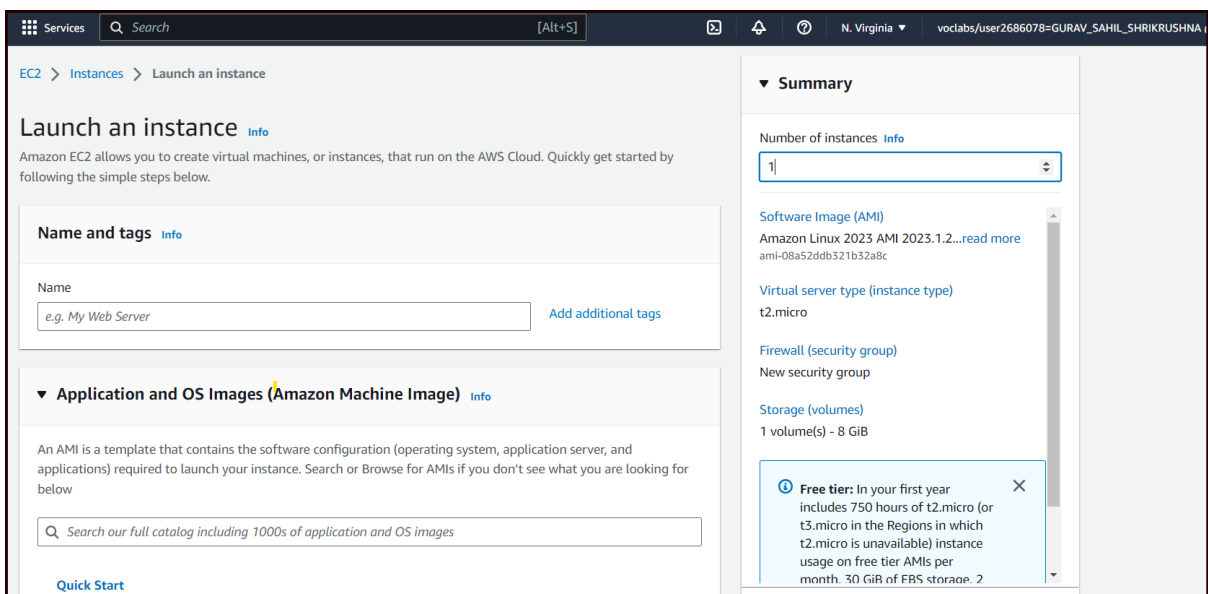


Fig 5

If we create more than one instance then how can we identify our instance? For that reason inside name and tags we write some name for instance so later we can identify them. so here in Fig 6 you can see i named it Linux. Then we need to select the Amazon Machine Image. In this we can specify which operating system (OS) and application server you need to launch in your instance. Here I select Amazon Linux.

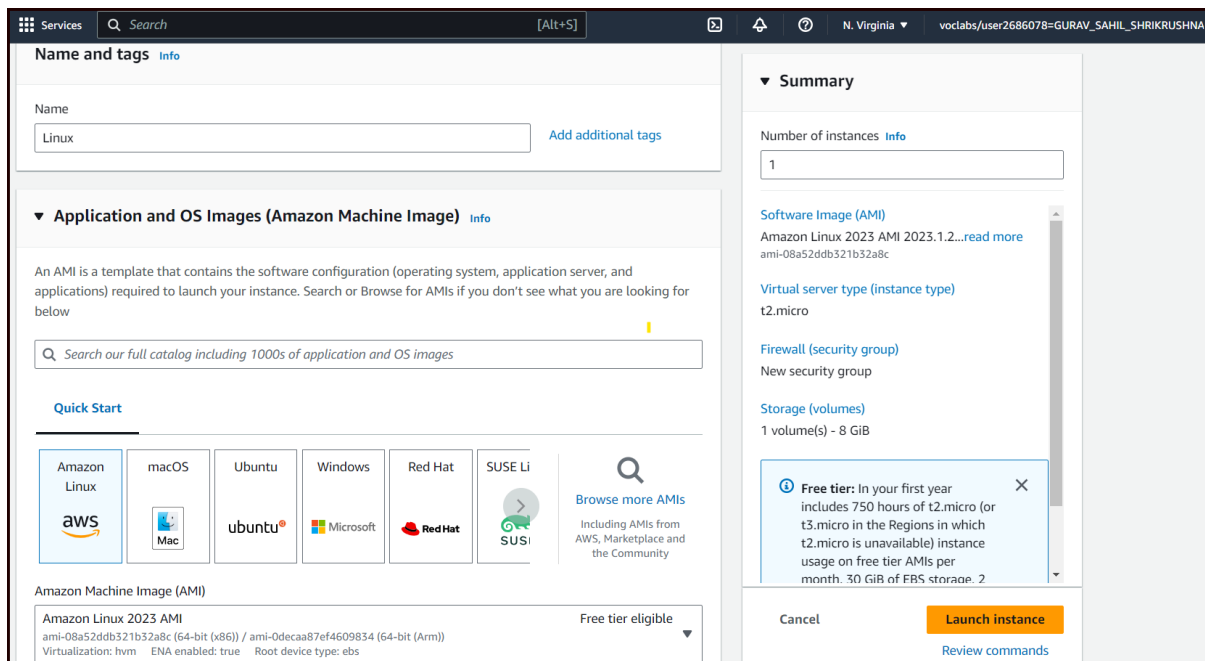


Fig 6

After scrolling the page we will see other details like Fig 7. In instance type we can choose our computing power, memory, networking or storage requirements. Here I have selected default instance type. In t2.micro instance type features 1 virtual CPU and 1 GiB memory. Fig 7 below instance type has key pair (login) it is used for securely connect to your instance. It is a set of security credentials that you use to prove your identity when connecting to an Amazon EC2 instance. There default key pair is available but I will create new key pair for windows EC2 instance. For this click on "Create New Key Pair".

The screenshot displays the AWS Management Console interface for configuring an EC2 instance. The top navigation bar includes the 'Services' menu, a search bar, and the user's profile information. The main content area is divided into two columns. The left column contains the 'Instance type' section, which is currently set to 't2.micro'. Below this is the 'Key pair (login)' section, which includes a dropdown menu for selecting a key pair and a 'Create new key pair' button. The right column contains the 'Summary' section, which provides a overview of the instance configuration, including the number of instances (1), the software image (AMI), the virtual server type (t2.micro), the firewall (security group), and the storage (volumes). A 'Free tier' notification is also visible at the bottom right of the console.

Fig 7

After clicking on "Create New Key Pair" we will get an interface like Figure 8. We can create n number of keys. To identify the key later, we need to give it a name. so here i will give name Linux_key. Other options we choose according to our usage. Here I use default values. Then click "Generate Key Pair".

The screenshot shows a dialog box titled "Create key pair" with a close button (X) in the top right corner. The dialog is divided into several sections:

- Key pair name:** A text input field with the placeholder text "Enter key pair name". Below the field, a note states: "The name can include upto 255 ASCII characters. It can't include leading or trailing spaces."
- Key pair type:** Two radio button options are shown. The first is "RSA" (selected), described as "RSA encrypted private and public key pair". The second is "ED25519", described as "ED25519 encrypted private and public key pair (Not supported for Windows instances)".
- Private key file format:** Two radio button options are shown. The first is ".pem" (selected), described as "For use with OpenSSH". The second is ".ppk", described as "For use with PuTTY".
- Warning:** A yellow box with a warning icon contains the text: "When prompted, store the private key in a secure and accessible location on your computer. You will need it later to connect to your instance. Learn more" with a link icon.
- Buttons:** At the bottom right, there are two buttons: "Cancel" and "Create key pair" (highlighted in orange).

Fig 8

After clicking on "Generate Key Pair" we get the key. we can see in figure 9.

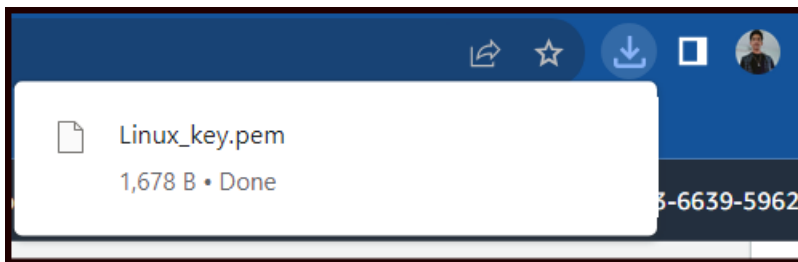


Fig 9

After downloading the key we will get an interface like Figure 10. We haven't changed anything in that network setting, it's default

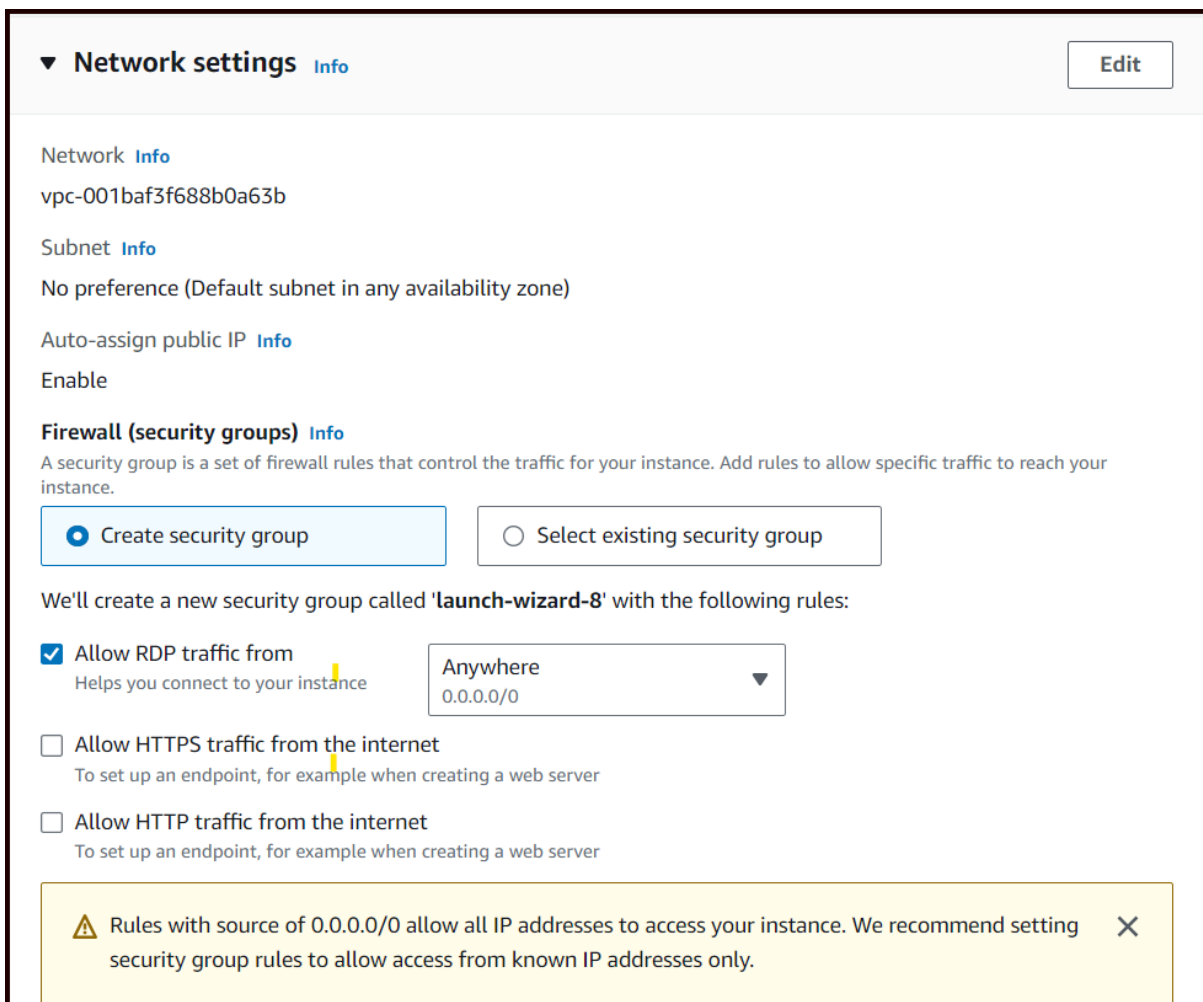


Fig 10

After setting the network, we will get the interface like Figure 11. We have not changed anything in that configuration storage, it is default. Then click on "Launch instance".

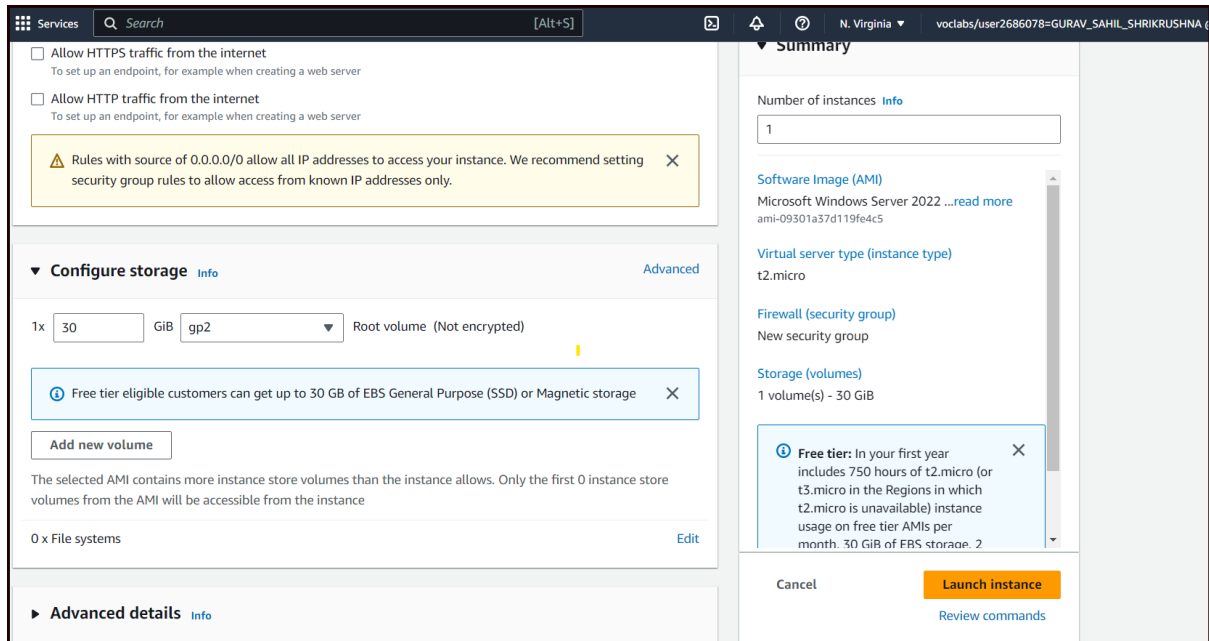


Fig 11

After clicking on "Instances". we can see in the Fig 12 windows instance is created

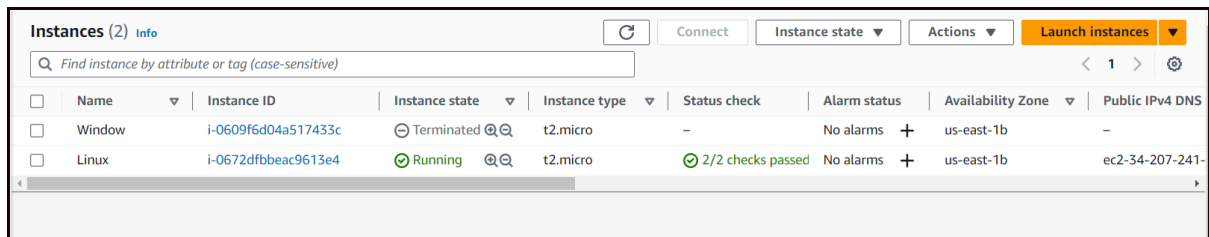


Fig 12

Click on the check box of the given example as in Figure 13 to see the details of the instance. In that we can see information regarding instance details, Security, networking, storage, status check, Monitoring and tags. But in status check we can see that the instance is initializing.

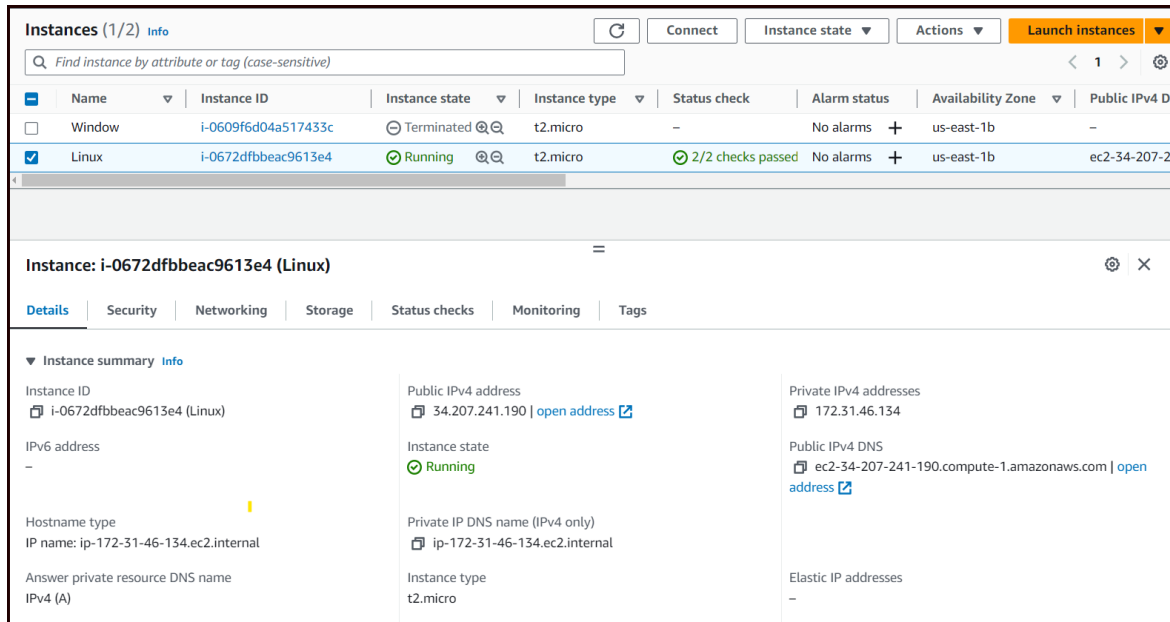


Fig 13

Download PuttyGen. Then open PuTTY Key Generator which is showing interface like Fig 14

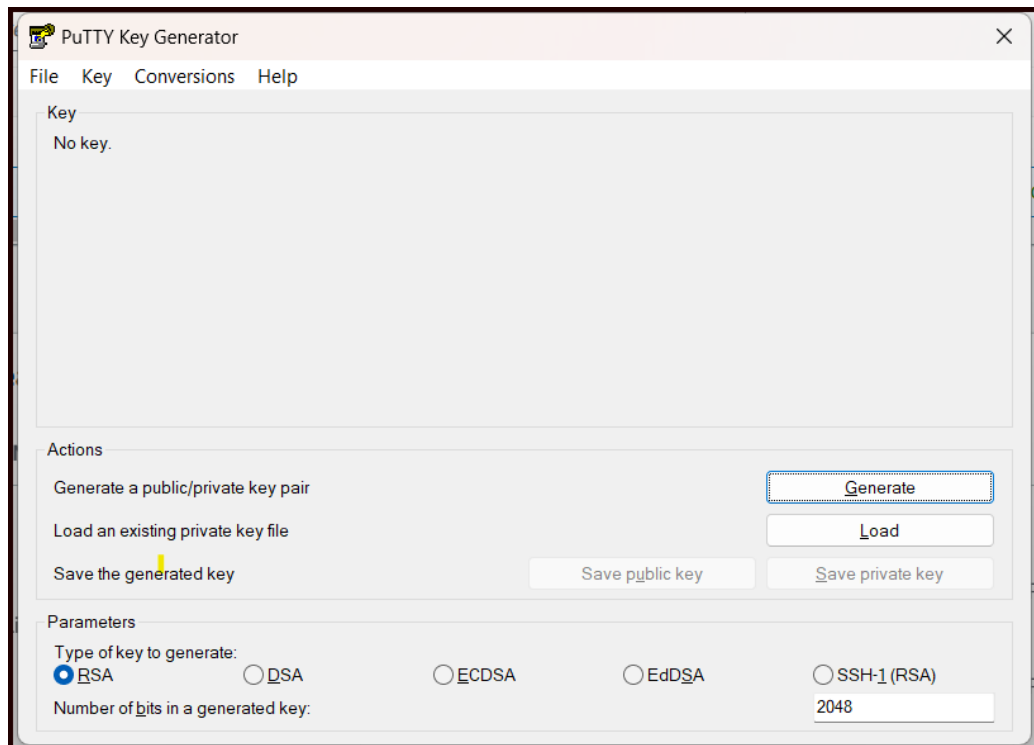


Fig 14

Then click on load, then select the file that we have already downloaded, show in picture 9. Then we will get an interface similar to Figure 15. Then click ok.

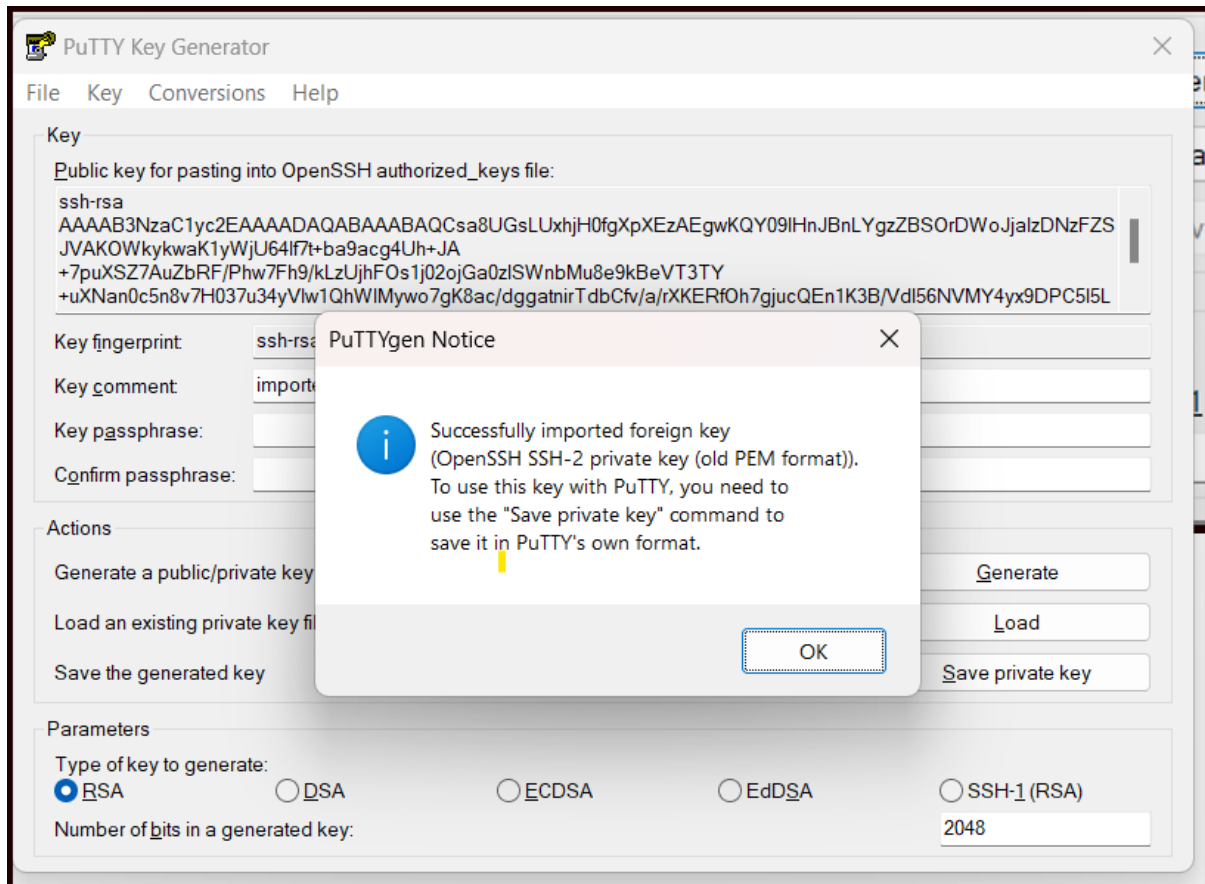


Fig 15

After click on ok we get interface similar to Fig 16. Then Click on “Save private key” and give some name to that file. Here I give that file name is key. And then close the PuTTY key generator.

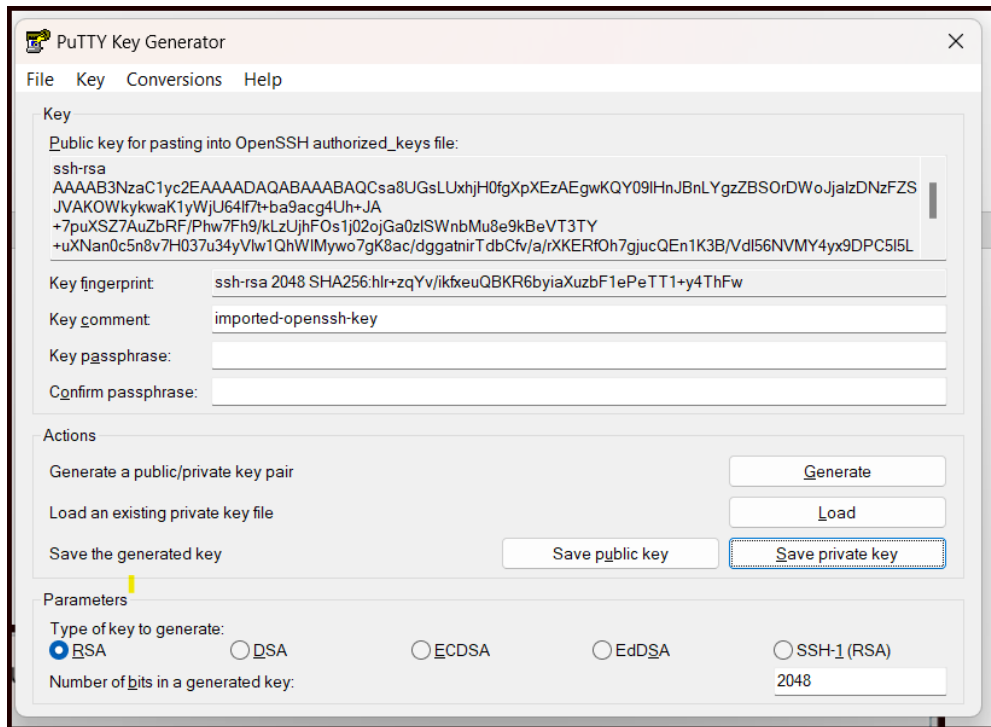


Fig 16

After closing the PuTTY key generator open the PuTTY configuration similar to Fig 17. Copy the public IPv4 address from Fig 13 and then click on SSH -> Auth -> Credentials, then we get an interface like Fig 14.

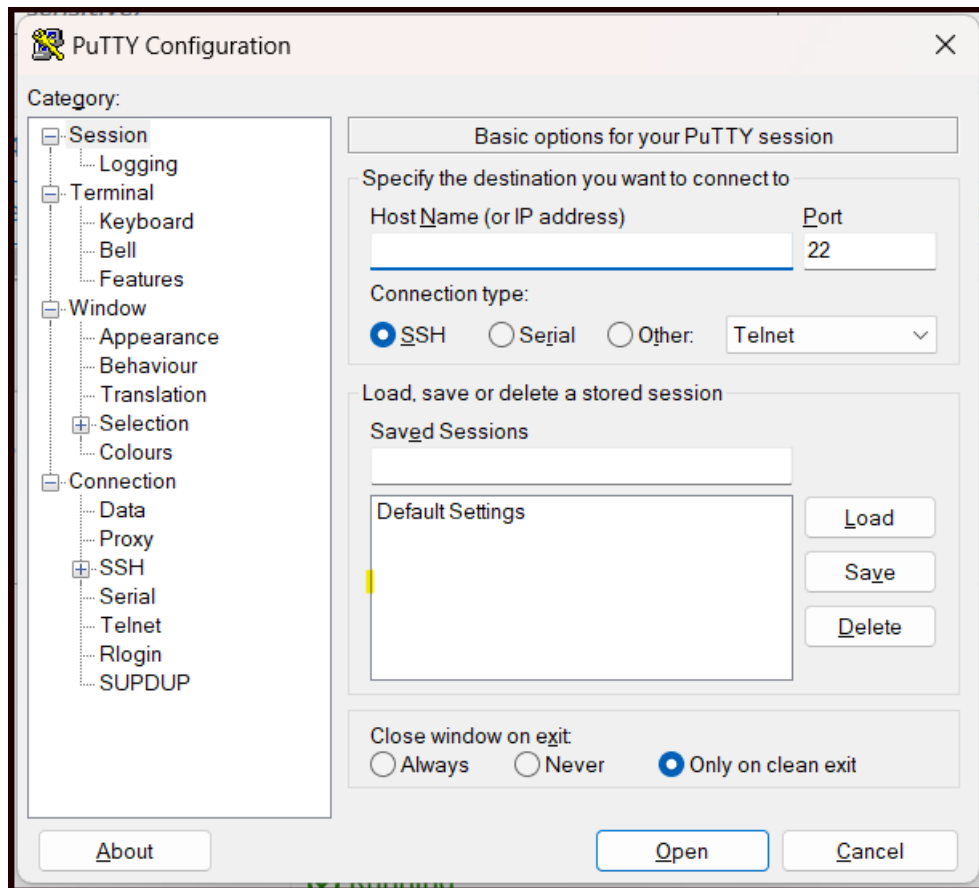


Fig 17

Then select browse button from private key file for authentication and select the file which is already downloaded in Fig 16 we save as file name key. Then click on open.

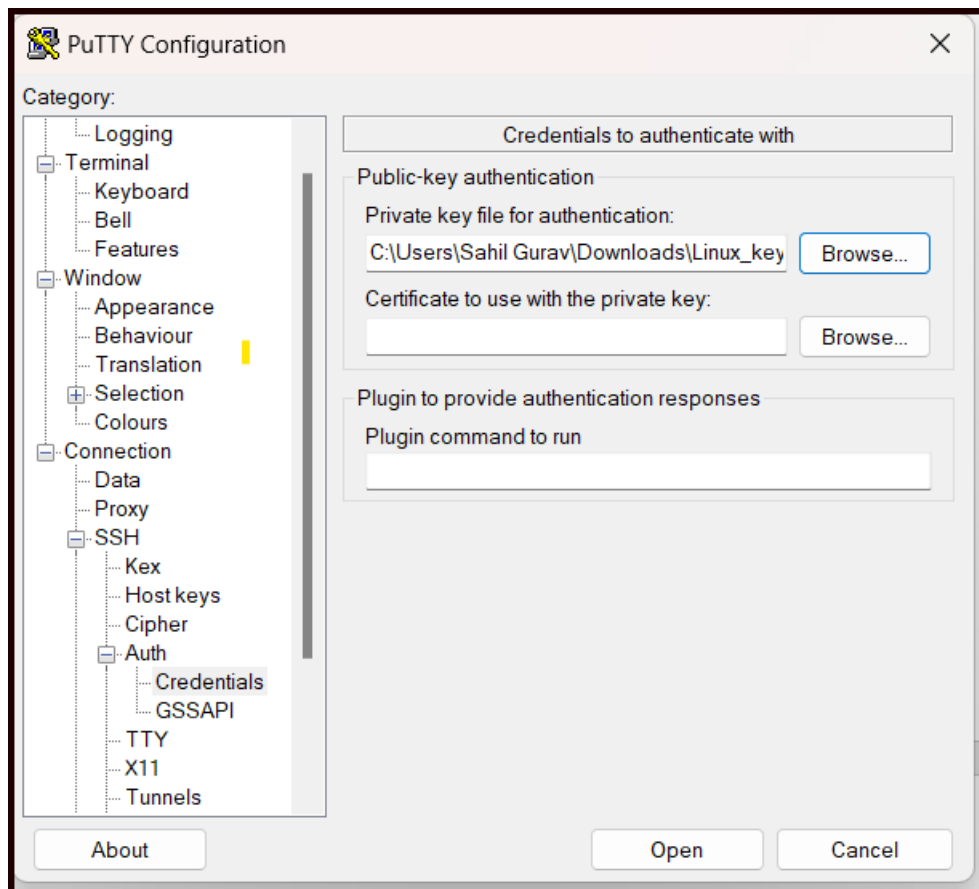


Fig 18

After clicking on Open, the interface like Fig 19 opens. In this we have to type command `ec2-user` then we get image of bird similar to Fig 19

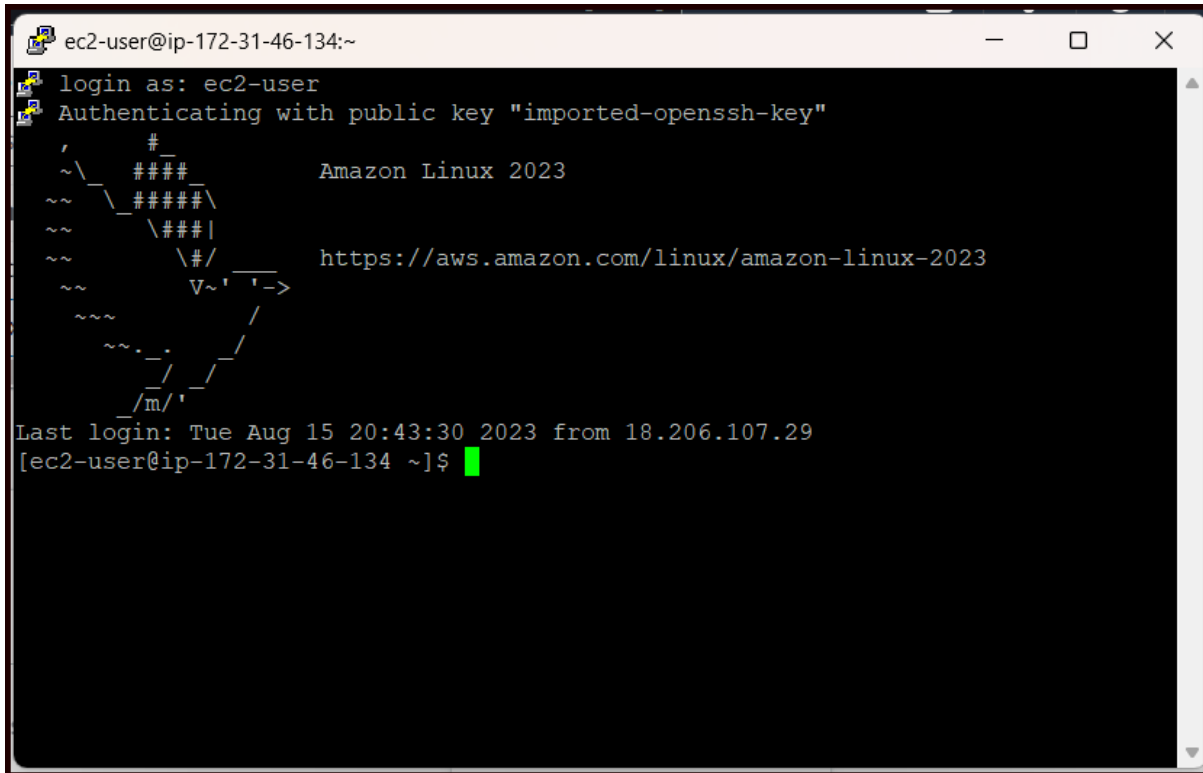


Fig 19

We get an interface like in Fig 21. Then click on "Instance State" select the option as per your choice. Here I select "Terminate Instance".

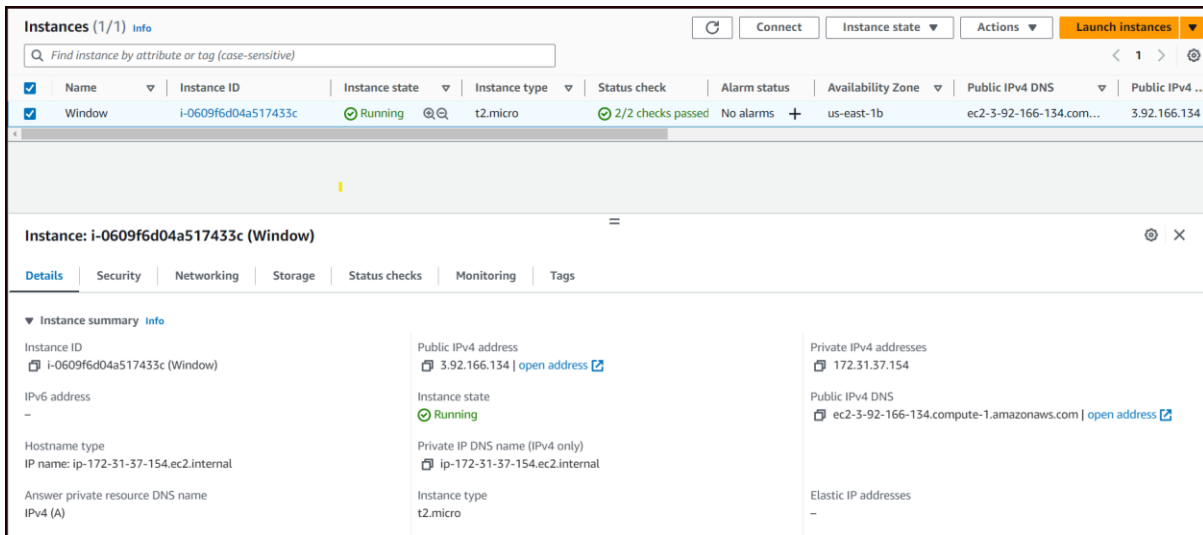


Fig 20