Experiment 01 - Cloud Computing

December 7, 2022

Aim

Creation of an EC2 instance and hosting a static web page by binding an Elastic IP with remote SSH Service

Theory

The experiment performed is the most rudimentary approach towards any cloud service. In this experiment hosting of a virtual machine by provided by cloud provider is done. The provider used is **Amazon Web Services** where the service of instance is known as **Elastic Cloud Computing** often abbreviated as **EC2**. The experiment is successful execution of an EC2 and is used to host a static webpage using **apache server** by connecting it through **PuTTy** *(SSH service for Windows)* service. The result should suffice the every step of execution in a seamless manner.

Results

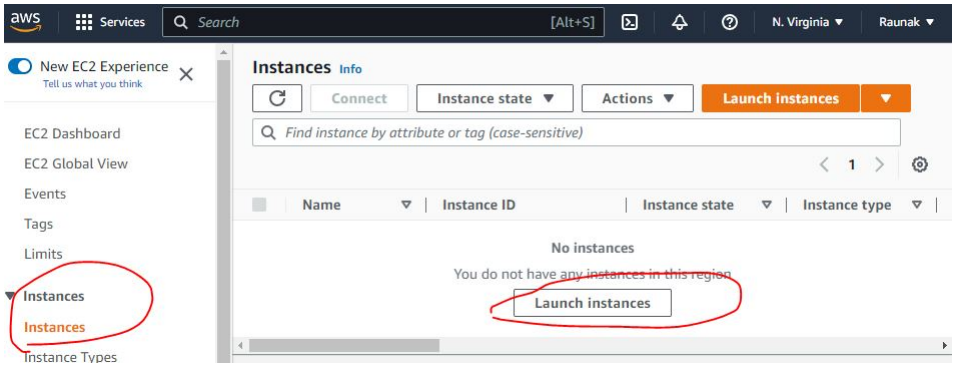

Figure 1: Dashboard for Instance Services offered by AWS

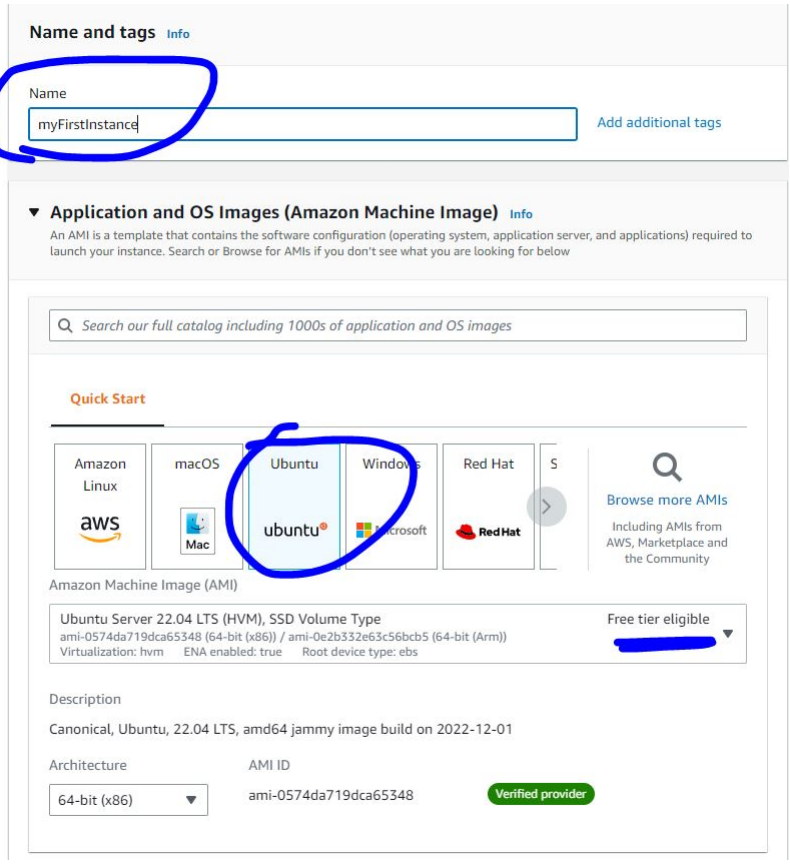

Figure 2: Naming and selecting an Instance. The instance used is Ubuntu Machine

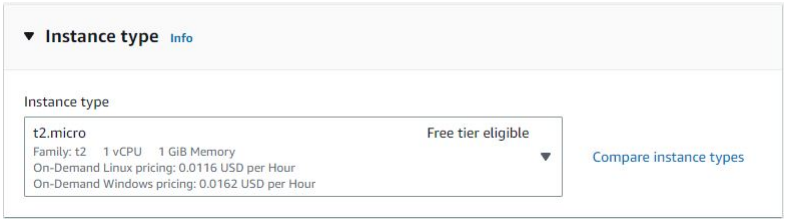

Figure 3: The type of Instance used is a free tier eligible which is t2.micro machine

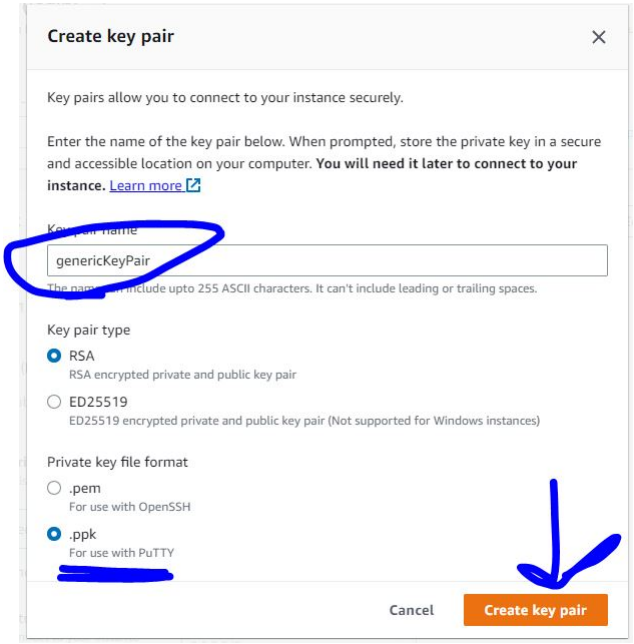

Figure 4: Creation of key pair for connecting the instance using SSH tools

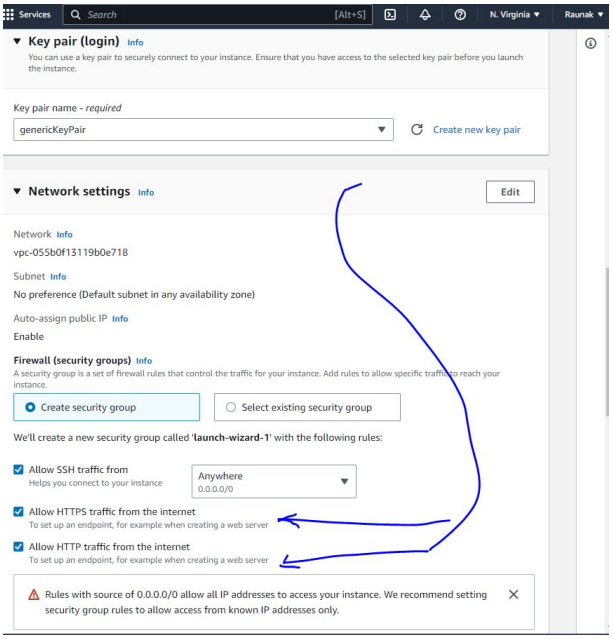

Figure 5: Enabling the HTTP traffic for hosting pages

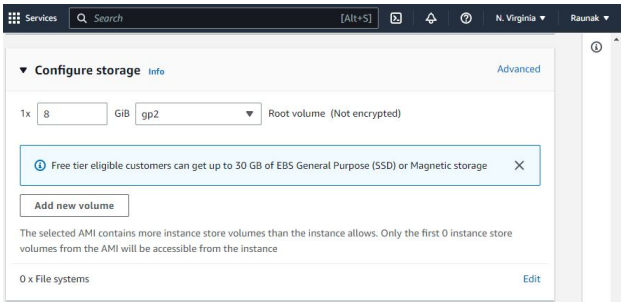

Figure 6: Configuring the basic level storage

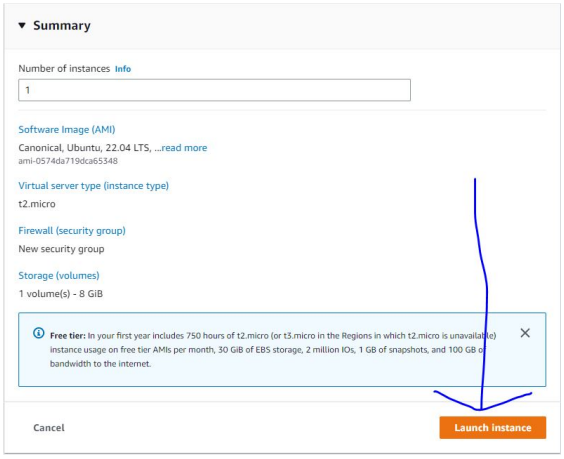

Figure 7: Launching the instance which creates it

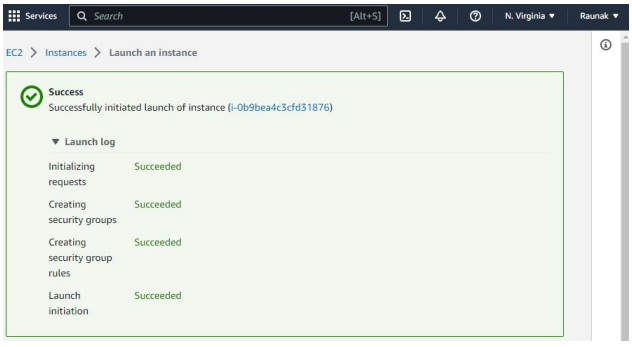

Figure 8: Successful process of Instance creation

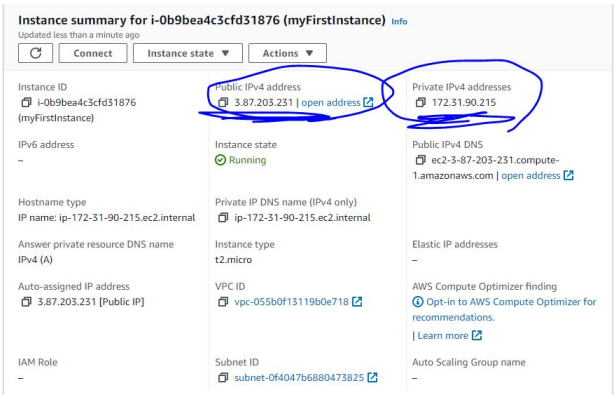

Figure 9: The public and private IP addresses of EC2

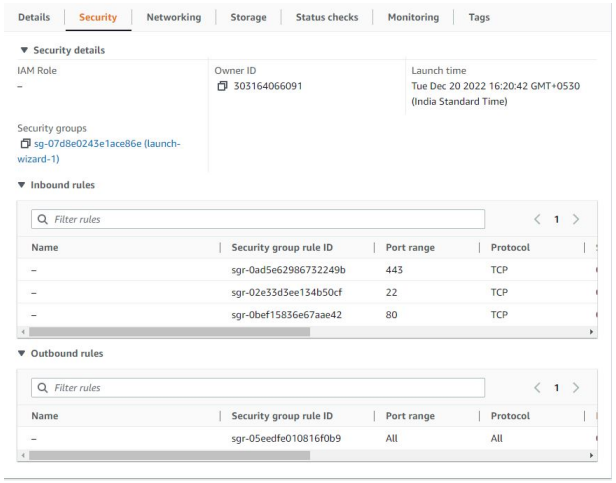

Figure 10: Checking the security groups of the web ports

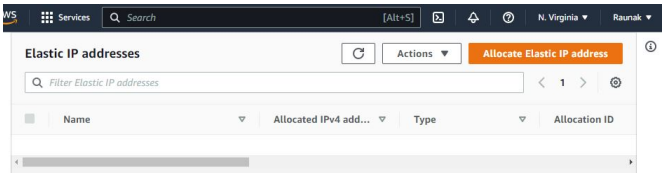

Figure 11: Elastic IP Dashboard

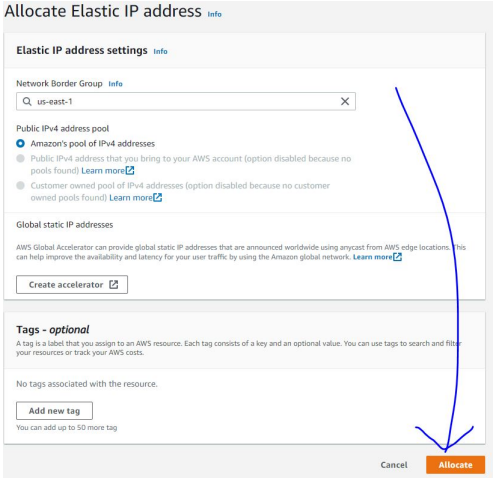

Figure 12: Creating an Elastic IP with default settings

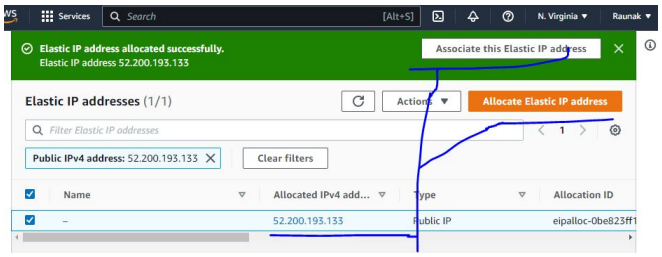

Figure 13: Successful creation of Elastic IP and can be further allocated to a resource such as an running instance

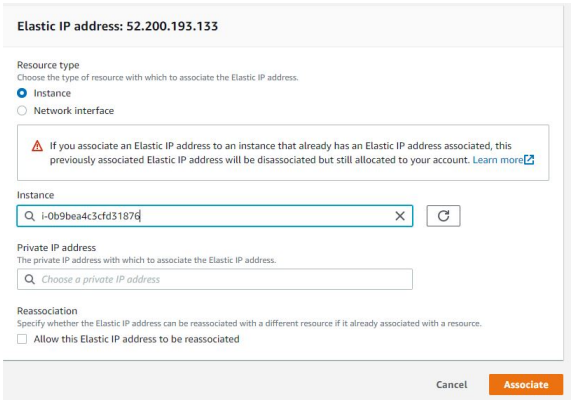

Figure 14: Selecting the recently created instance and allocating the elastic IP to it

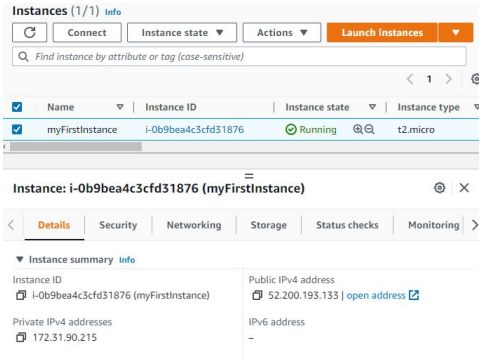

Figure 15: Changes the IP to static which does not change upon changing the state of the EC2

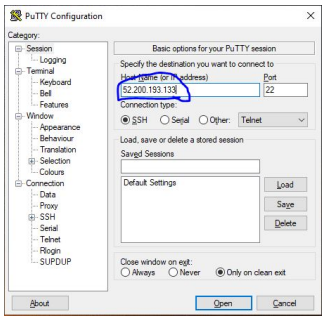

Figure 16: Using the PuTTy client on Windows for connecting the EC2

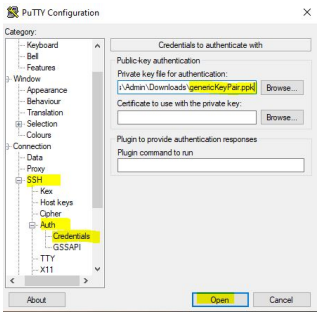

Figure 17: Giving the key pair of the instance for connecting the instance

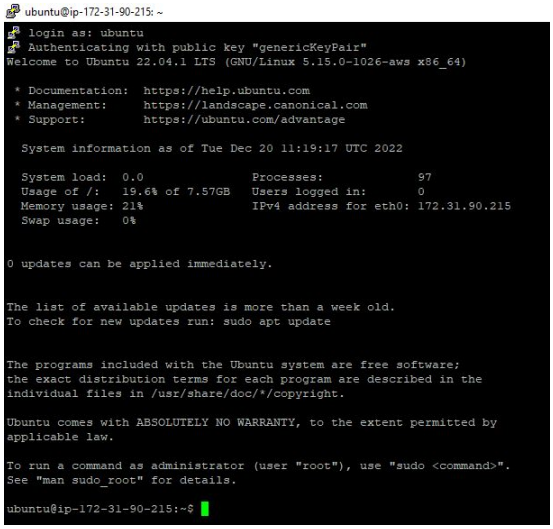

Figure 18: Successful connection established using the PuTTy with EC2

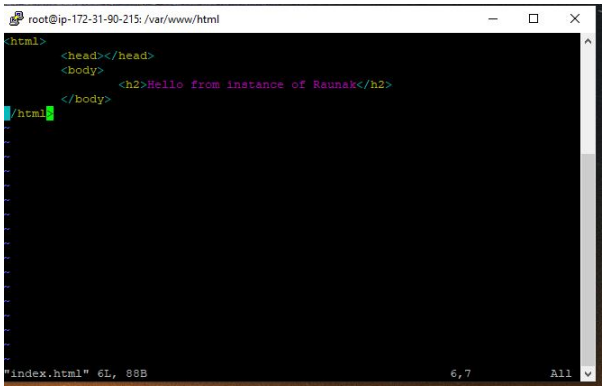

Figure 19: Creation of basic static web-page that returns an output using vim editor in var/www/html directory of the root user for saving the page

Figure 20: Output of the hosted page on the public IP address that was allocated with Elastic IP service

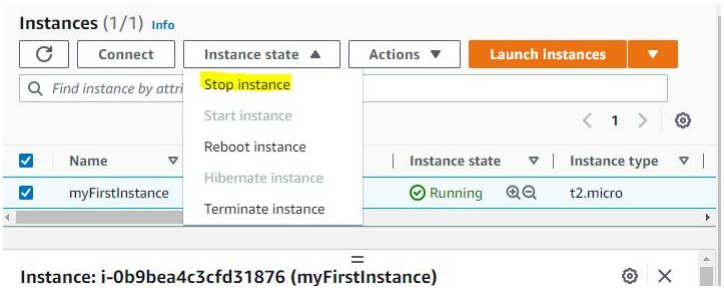

Figure 21: Stopping the instance using the Instance State option on Instance Dashboard

Conclusion

In this experiment successful interpretation and implementation of the EC2 basics are covered. Apart from that a detailed walk-through of the Elastic IP service offered by AWS was also used. After that remotely establishing the connection with the EC2 using PuTTy client for Windows based machine was done. Hosting of a static web page was also done in a concise manner.