Name :- Manav Pahilwani
Roll No:- 37
Class:- D11AD

Experiment 2

Aim :- To study and Implement Infrastructure as a Service (IaaS) using AWS/Microsoft Azure

Prerequisites :- Basics of NIST, AWS.

Theory :-

Infrastructure-as-a-Service, commonly referred to as simply “IaaS,” is a form of cloud computing that delivers fundamental compute, network, and storage resources to consumers on-demand, over the internet, and on a pay-as-you-go basis. IaaS enables end users to scale and shrink resources on an as-needed basis, reducing the need for high, up-front capital expenditures or unnecessary “owned” infrastructure, especially in the case of “spiky” workloads. In contrast to PaaS and SaaS (even newer computing models like containers and serverless), IaaS provides the lowest-level control of resources in the cloud.

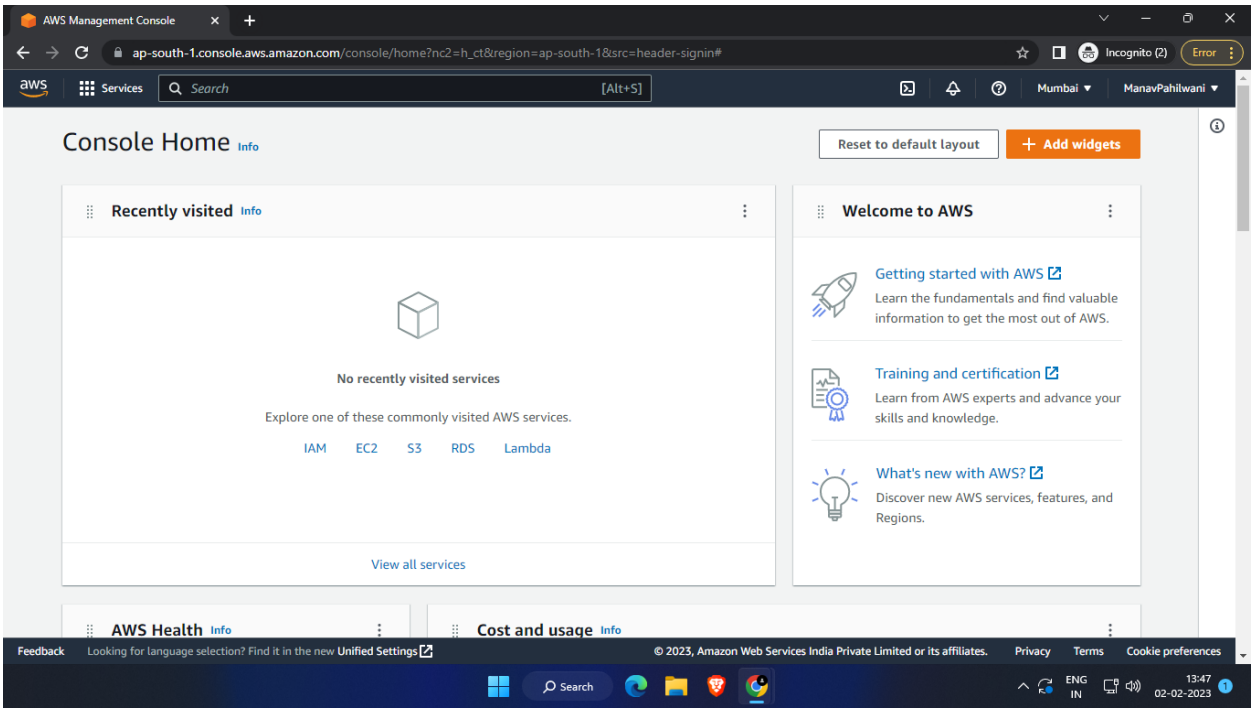
IaaS emerged as a popular computing model in the early 2010s, and since that time, it has become the standard abstraction model for many types of workloads. However, with the advent of new technologies, such as containers and serverless, and the related rise of the microservices application pattern, IaaS remains foundational but is in a more crowded field than ever.

IaaS architecture

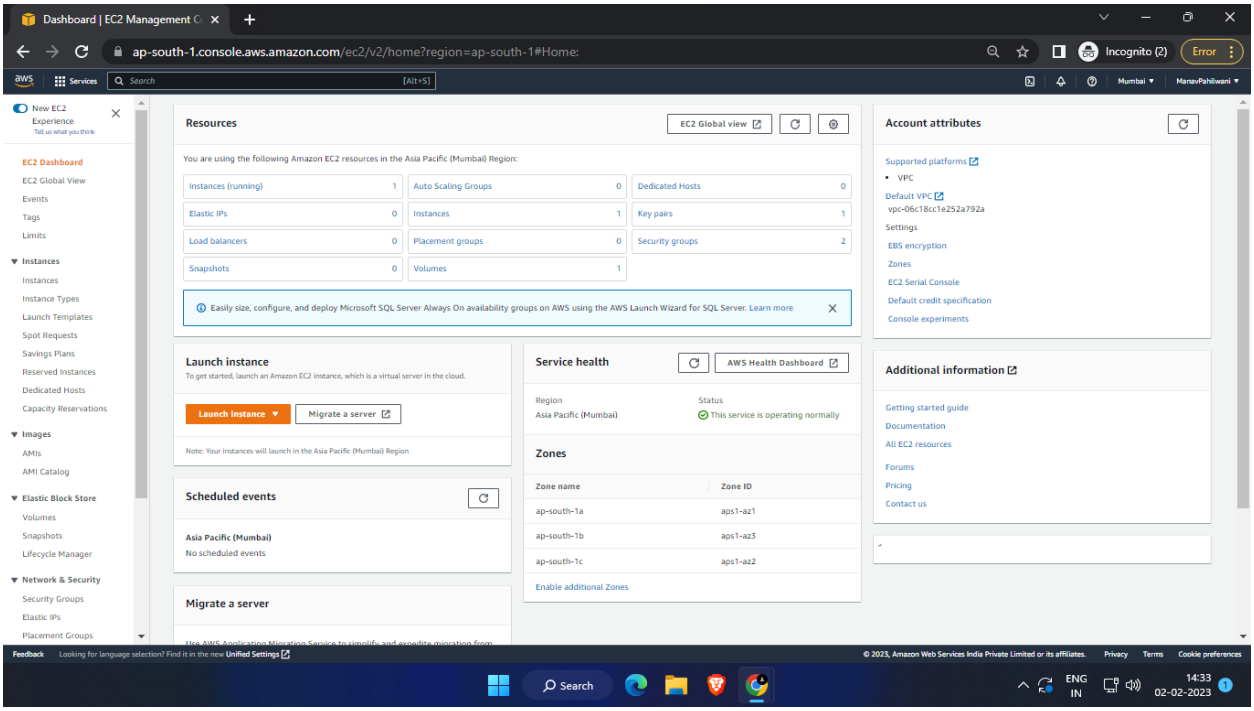
In an IaaS service model, a cloud provider hosts the infrastructure components that are traditionally present in an on-premises data center. This includes servers, storage and networking hardware, as well as the virtualization or hypervisor layer.
IaaS providers also supply a range of services to accompany those infrastructure components. These can include the following:

- Detailed billing
- Monitoring
- Log access
- Security
- Load balancing
- Clustering
- Storage resiliency, such as backup, replication and recovery

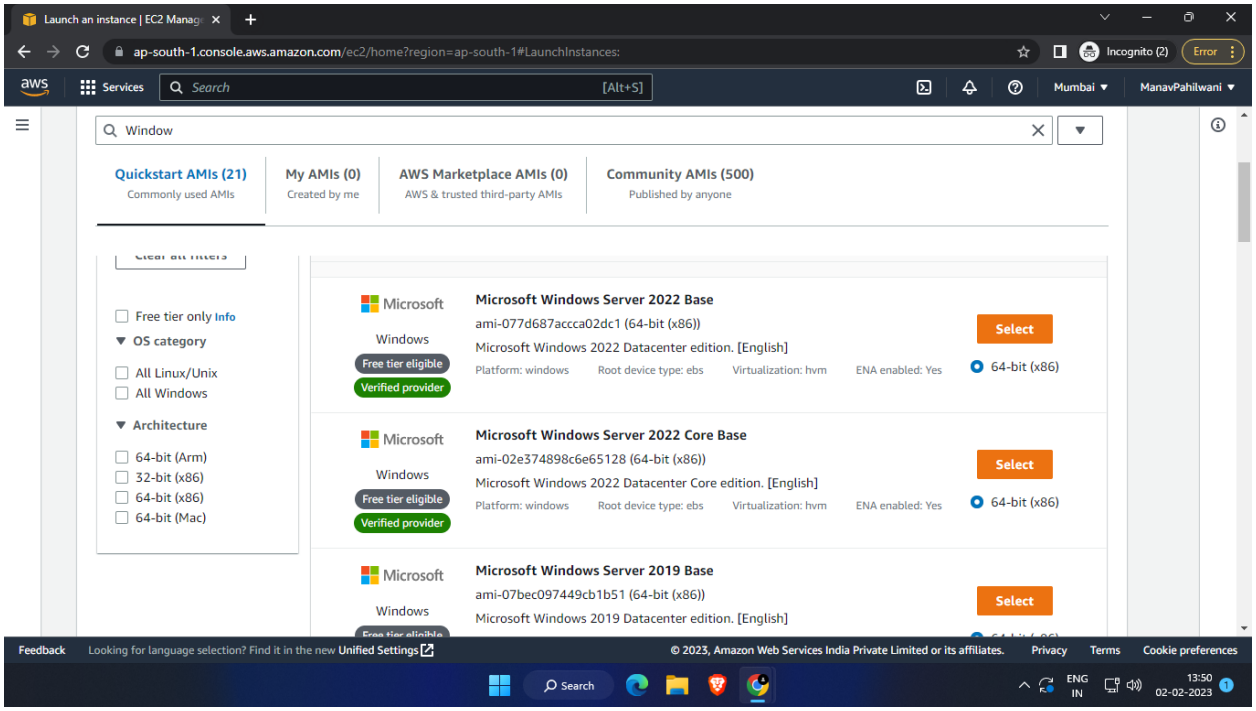
Steps to implement IaaS on AWS :-
Step 1 - Create an Instance (Click on EC2 from Console Home)

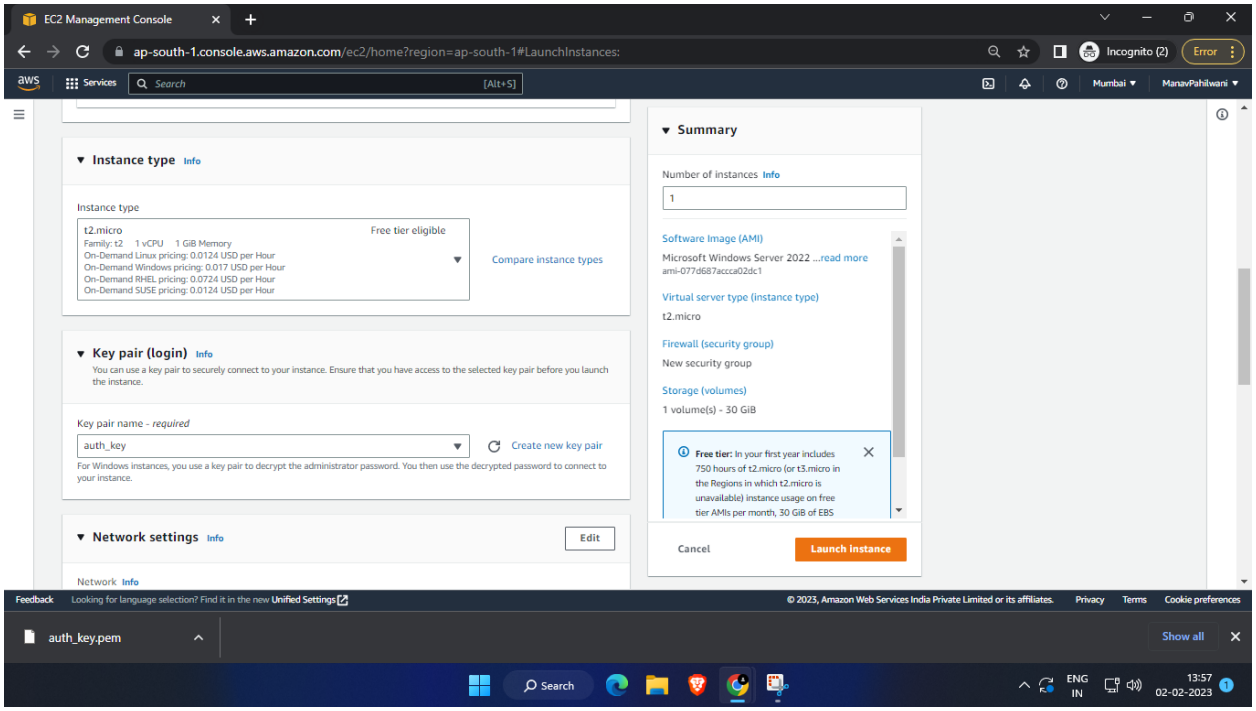


Step 2 - Click on **Launch Instance**

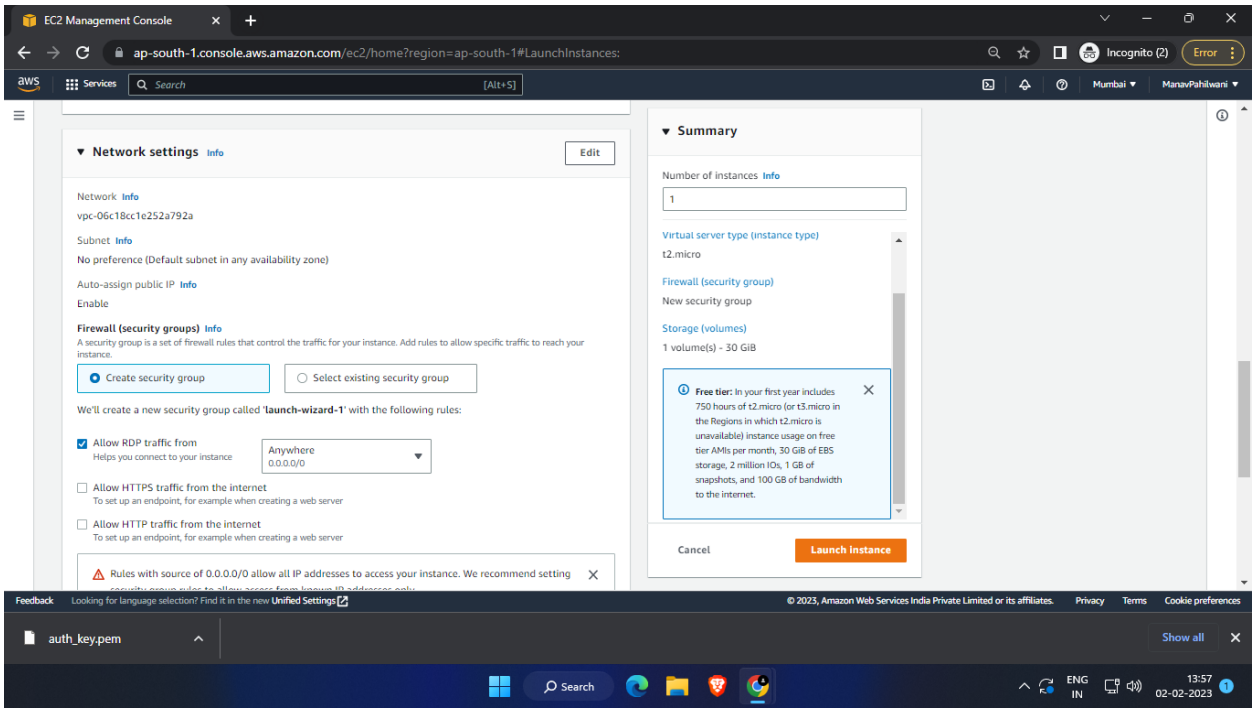


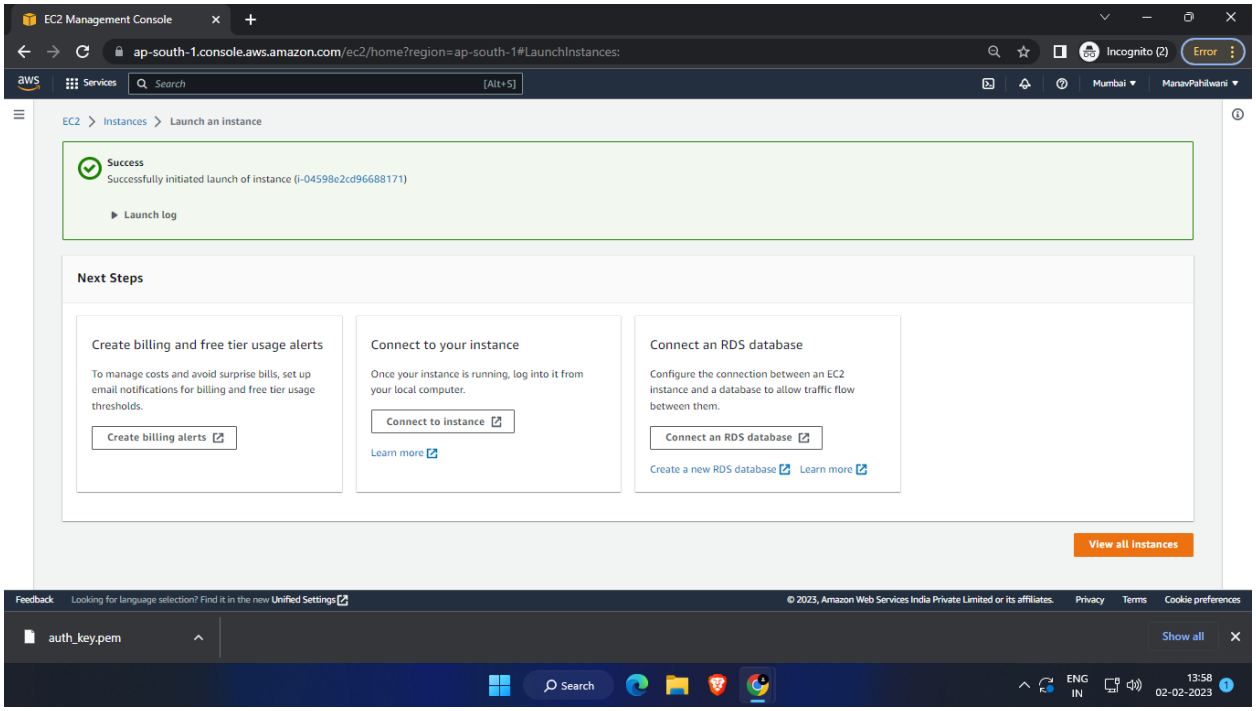
Step 3 - Write a Server name and then search for AMS(Amazon Machine Image) which will be the operating system we want to run our server on then create a new key pair which is the authentication key used to access our server



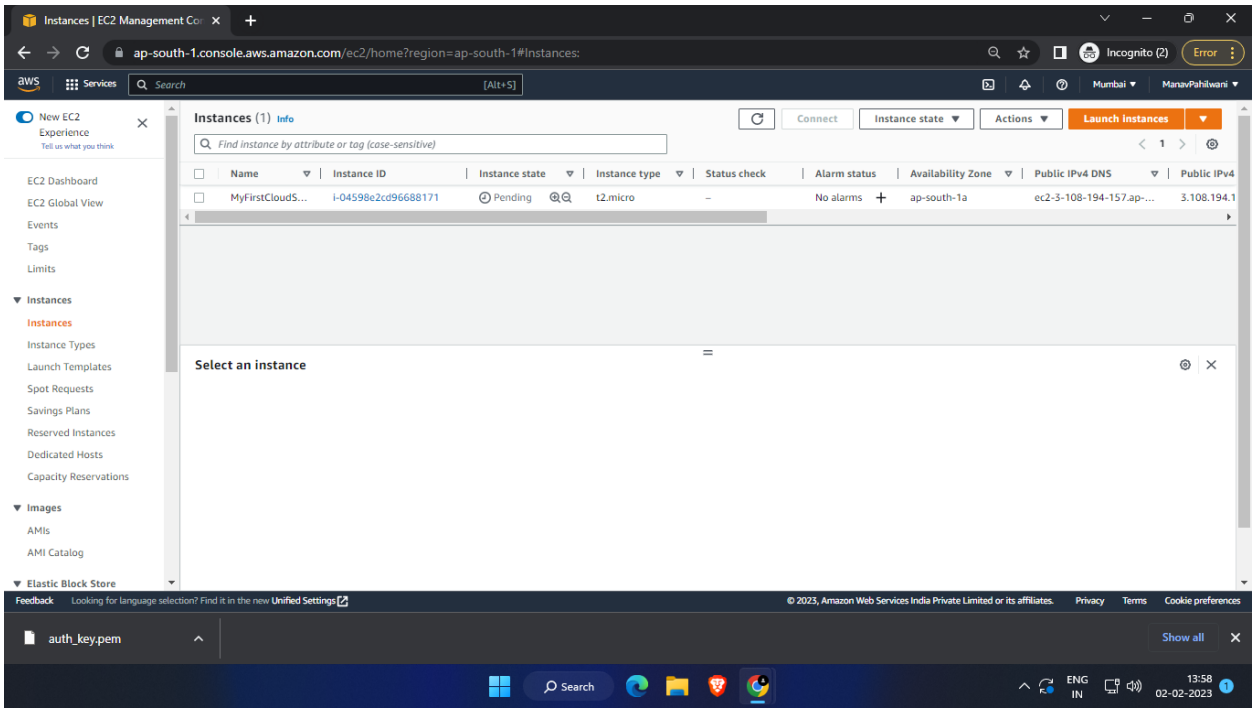


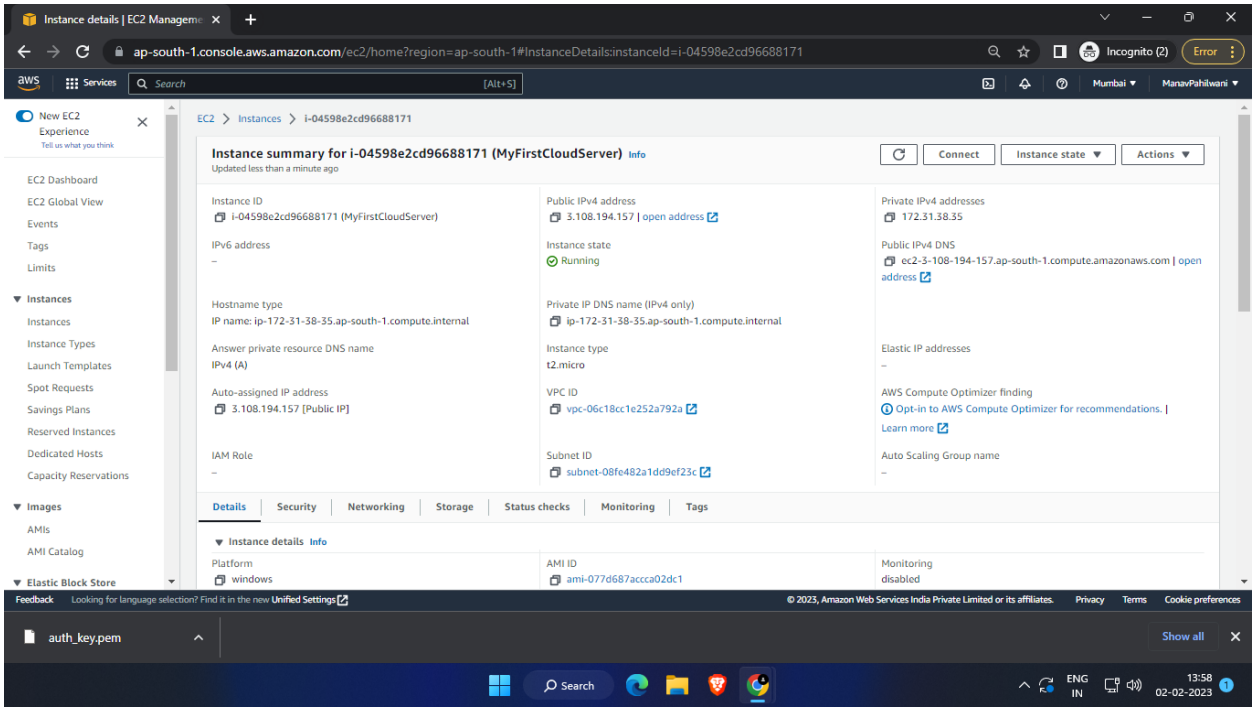
Step 4 - Create a security group and click on Launch Instance, Our Cloud Server will be initialized



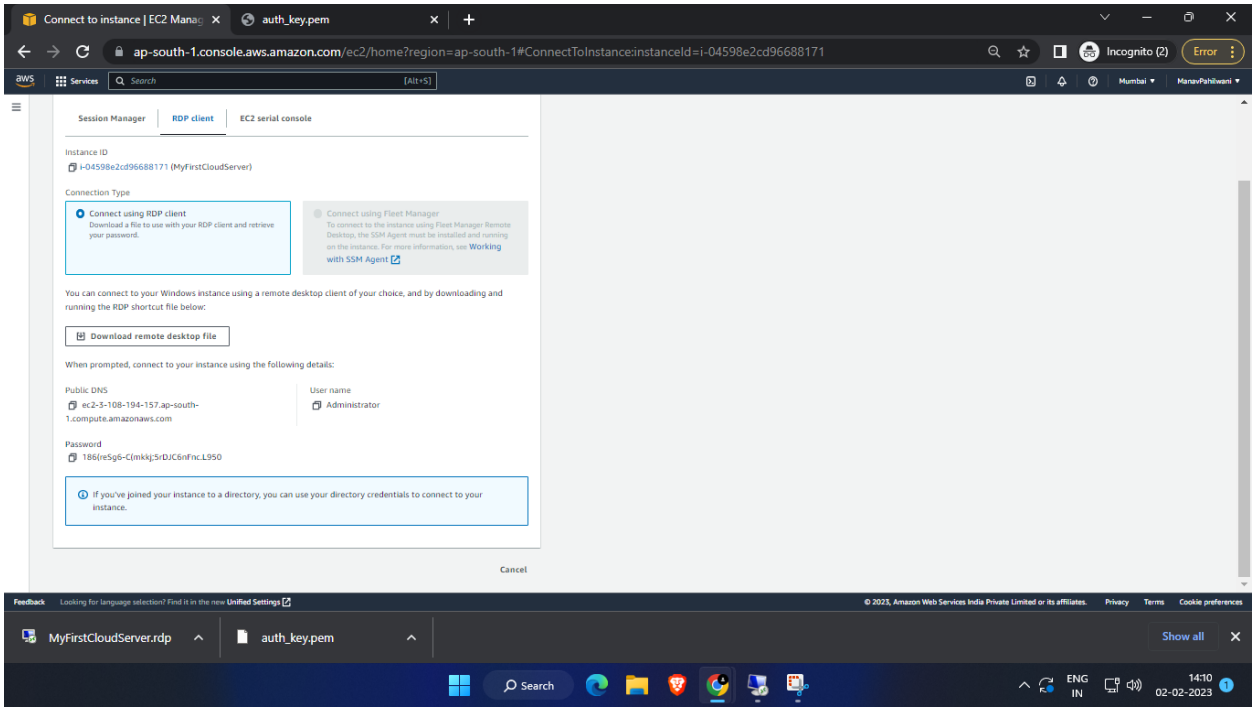


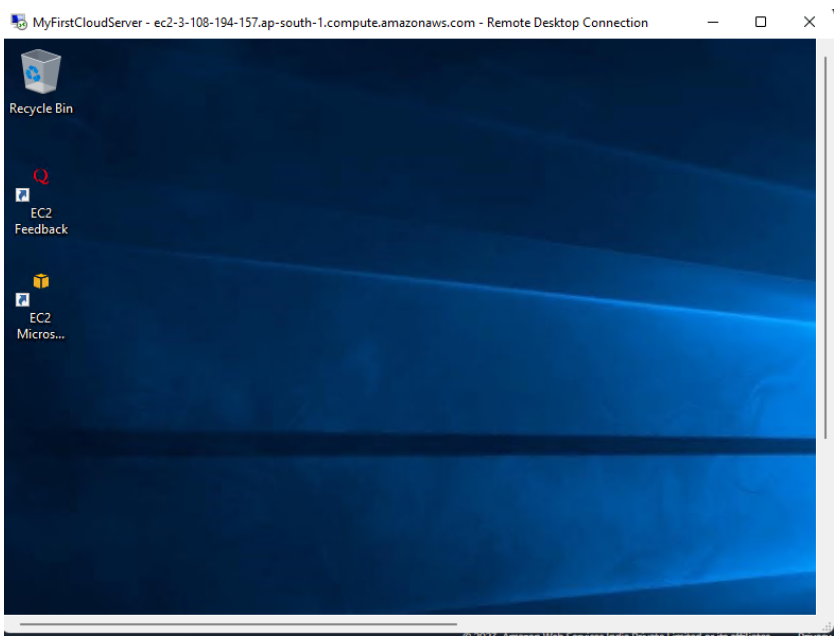
Step 5- This is the summary of the Server we have created after the status check turns green select the server and click on connect





After successful creation of the server it will ask for the key upload the key downloaded to your device and then decrypt it, the password can be entered to access the cloud server





Conclusion - We have successfully created a Cloud based windows server on AWS using EC2.