AWS Notes :

Module 1 >>>

Introduction to cloud computing >>>

Internet : A Global computer network using standardized communcation protocol (eg. UDP , TCP / IP) . providing information and communication facicaties consising of inter connected networks.

Intranet : Intranet is a local private network created using world wide web. (if you want chat with guys in our private network so its works if not use outside network its not working).

Virtualization : Virtualization is primary technology that support cloud computing.

A service that return from Virtualization which is software that modifies hardware is referred to ad cloud computing . Virtualization is necessary for colud computing to exists.

Delpoyment & Service Models >>>

Laas (Infrasturcture as a service) : AWS , Reckspace , MS Azure etc.

Paas (Plateform as a service) : AWS Elastic BeanStalk , Herokcy etc.

Saas (Software as a service) : Google drive , Google docs , MS office 365 etc.

Cloud Deployment Models :

> Public Cloud : AWS , Google Platefrom , MS Azure etc.

> Private Cloud : HPE , VMware , RedHat , OpenStack etc.

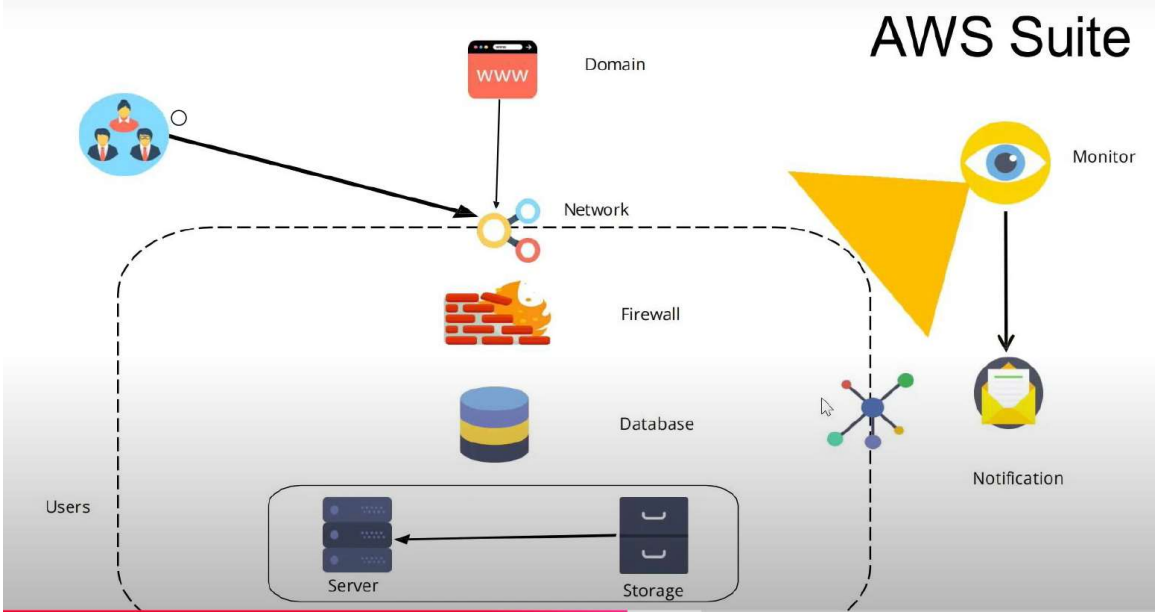
> Hybrid Cloud :

On-site	**Laas**	**Paas**	**Saas**
Application	Application	Application	Application
Data	Data	Data	Data
Runtime	Runtime	Runtime	Runtime

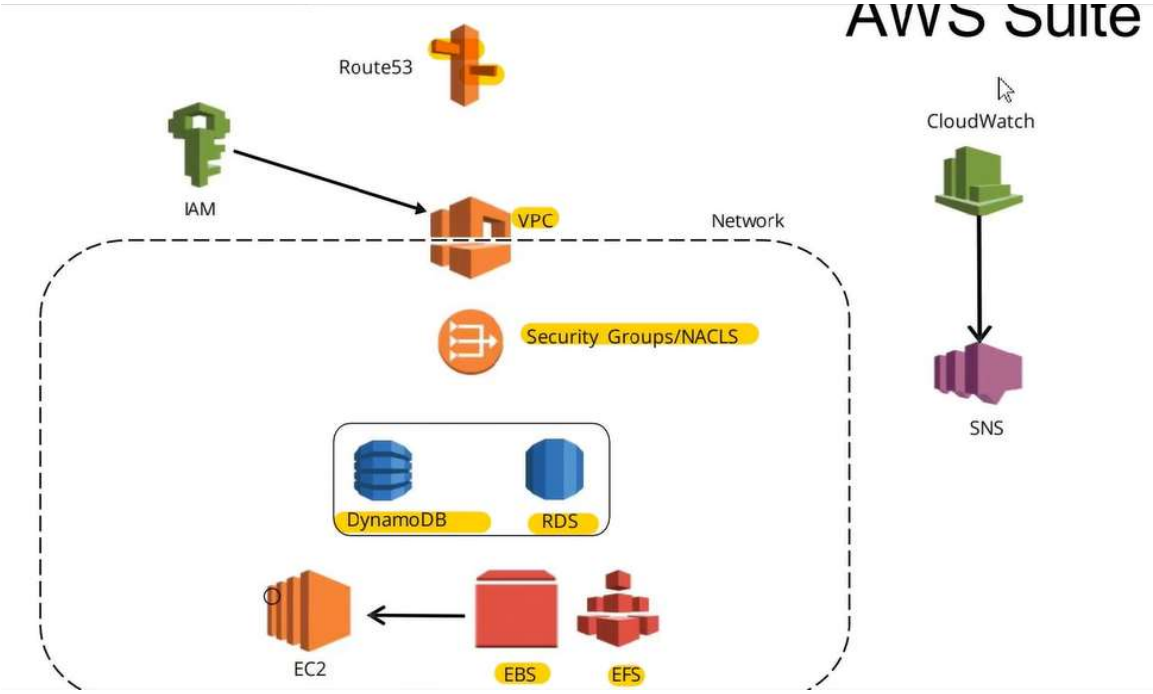
Middleware	Middleware	Middleware	Middleware
O/s	O/s	O/s	O/s
Virtualization	Virtualization	Virtualization	Virtualization
Servers	Servers	Servers	Servers
Strorage	Strorage	Strorage	Strorage
Networking	Networking	Networking	Networking

Which is red then its manage by third party & other black then manage by you .

AWS Suite >>>>



Entair sturcture with real website uses examples >>>



Basic Diff Azure & AWS & GCP Services >>>>

Microsoft Azure >>> Initially called Azure , was launched in 2010 with the intent to provide

competent cloud computing plateform for businesses.

AWS >>> Amazon web services Is a subsudlary of amazon.com which provides an on demand Cloud Computing plateform to individuals , companies and goverment on a paid subsription basis.

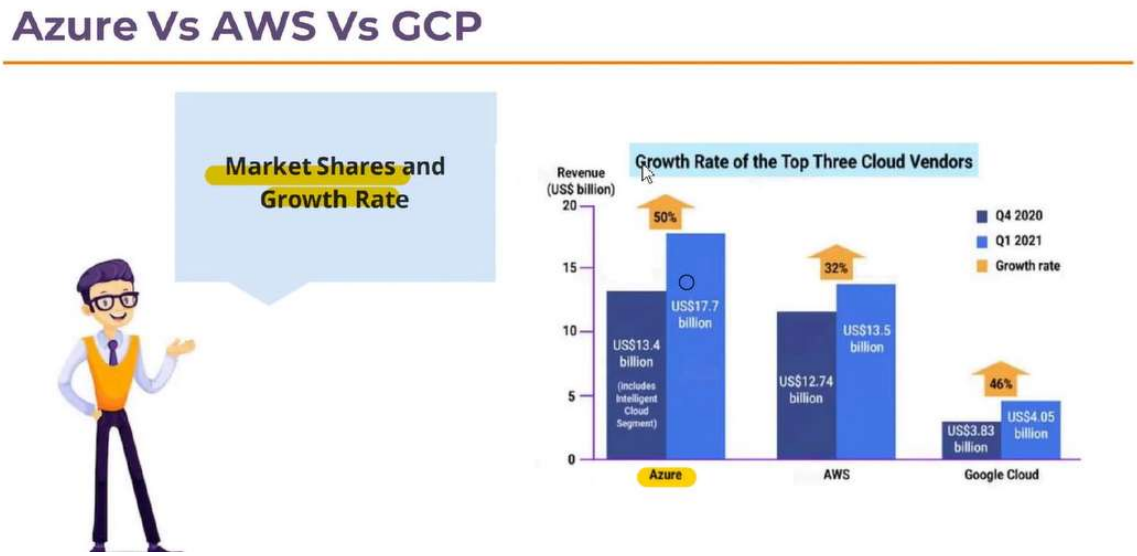
GCP >>> Google Cloud Plateform which is offered by Google is a suite of cloud computing services that runs on the same infrasturcture that Google uses internally for its end user products such as Google search engine.

Availability Zone for Microsoft Azure , AWS or GCP >>>>

AWS has 66 Availability zones with 12 more on the way.

Azure has 54 regions worldwide and is available in 140 countries all around the world.

Google Cloud Plateform has been made available in 20 regions arround the world with 3 more on their way.



Who uses them ?

1) Since **AWS** is the oldest player in the cloud market , it comparatively has bigger comparatively had bigger community supportand user base. Therefore , AWS has more high-profile and well-known customers like **Netflix , Airbnb , Unilever , BMW , Samsung , MI , Zynga** , etc.

2) **Azure** is also gaining its share of high-profile customers with time as of now , Azure has almost 80 percent of Fortune 500 companies as its customers . Some of its major customers are Johnson Controls , polycom , Fujifilm , HP , Honeywell , Apple etc.

3) **Google** , on the other hand , shares the same infrastructure as that of Google Search and YouTube and as a result , many high-end companies have put their faith in Google Cloud , Major clients of Google Cloud are HBSC , Paypal , 20th CenturyFox , Bloomberg , Domaios , and more.

Module 2 >>>

EC2 >>>>

Amazon Elastic compute cloud (Amazon EC2) is a computing capacity that is scalable in the Amazon web service (AWS Cloud) . Using Amazon EC2 eliminates the need to invest in hardware upfront , allowing you to devlop and deploy applications more quickly.

Features >>>

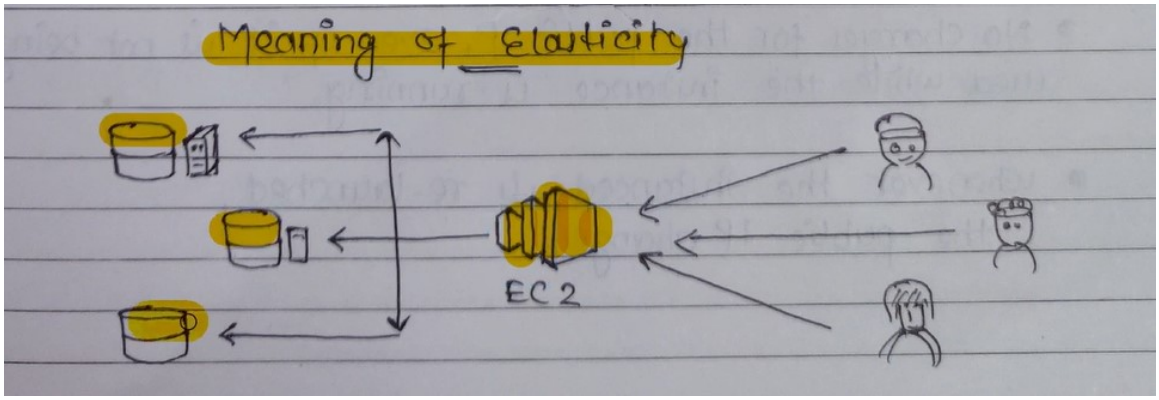
Instances are virtual Computing enviroments .

Amazon Machine Images (AMI) are preconfigured templates for your instances that package the bits you need for your Server (Including the operating system and additional software).

Instance types are different configurations of CPU , memory storage and networking capacity for your instances.

Using key pairs , you can secure login information for your instances (AWS stores the public key and you store the private key in a secure place) .

Meaning of Elasticity >>>>



when people is increase then EC2 instance increase the server so your site in not hang or website . if people is decrease then EC2 instance decrease the server or site in not hang or website same.

Every server add or remove based on count no of people in your server its works based on load balancer thourgh manage server.

Instance Type >>>>

The Instance type determine the hardware of the underlying host computer on which EC2 instance are launched.

How many Types of Storage >>>

>>> General Purpare (T2 , M5 , M4 , M3)

>>> Memory Optimized (X1e , X1 , R4 , R3)

>>> Storage Optimized (H1 , 13 , D2)

>>> Compute Optimized (P3 , P2 , G3 , F1)

>>> Acceterated Computity (C5 , C4 , C3)

AMI (Amazon machine Image) >>>

It Contains the information required to launch on instance.

Operating System

Architecture

Storage or root device

Virtualization type (HVM or PV)

What is Public IP ?

- It is not associated with AWS account.
- No charges for the public IP , even if it is not being used white the instance in running.
- When ever the instanced is re-launched the public IP changes.

Static IP is not same IP when its created or applied its automatically changed .....

Elastic IP >>>

- It is associated with AWS account.
- changes will be applied either ip is being used or not.
- This Elastic IP is the same and static for every launch until we manually release it.

Elastic IP is same IP when its created or applied .....

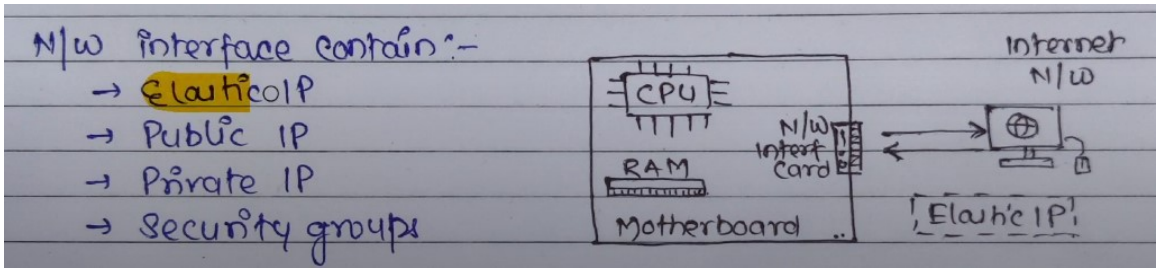
Elastic Network Interface >>>

A network interface is interface between a computer and an internet network .

The Network IO (input or Output) happens through network interface cards.

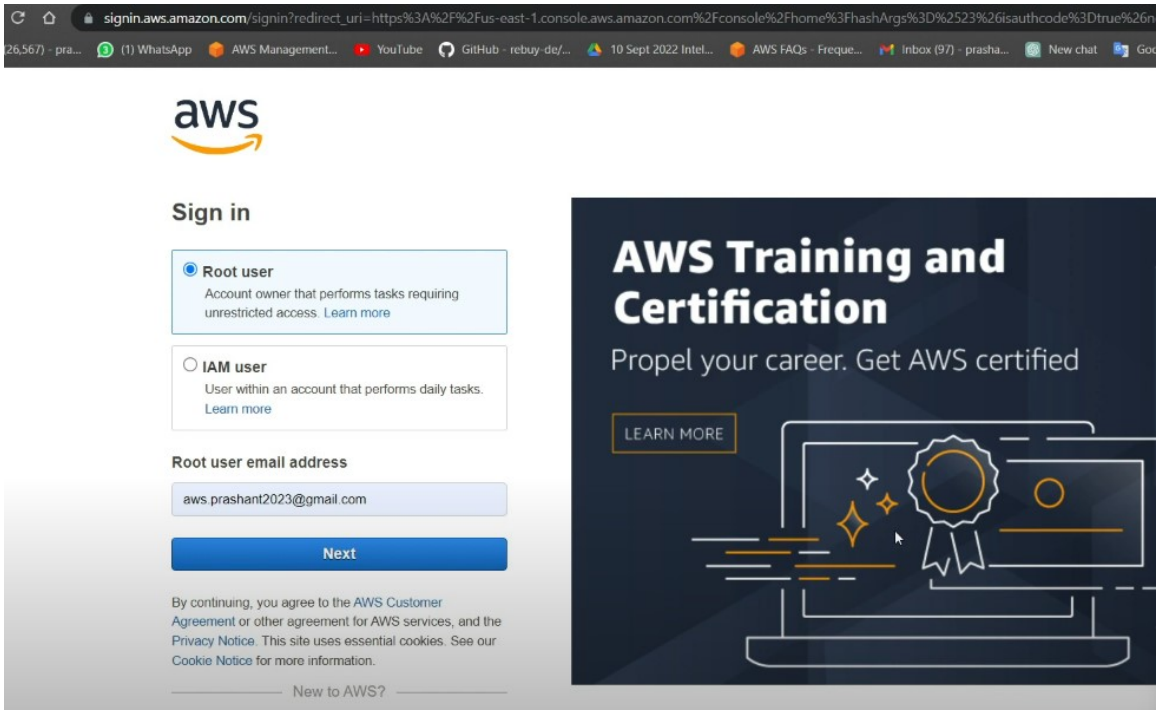
Network Interface Contain >>>

- Elastic IP
- Public IP
- Private IP
- Security Groups.



Like this type is Network Contains.

How to create EC2 instance and connect in AWS >>>>



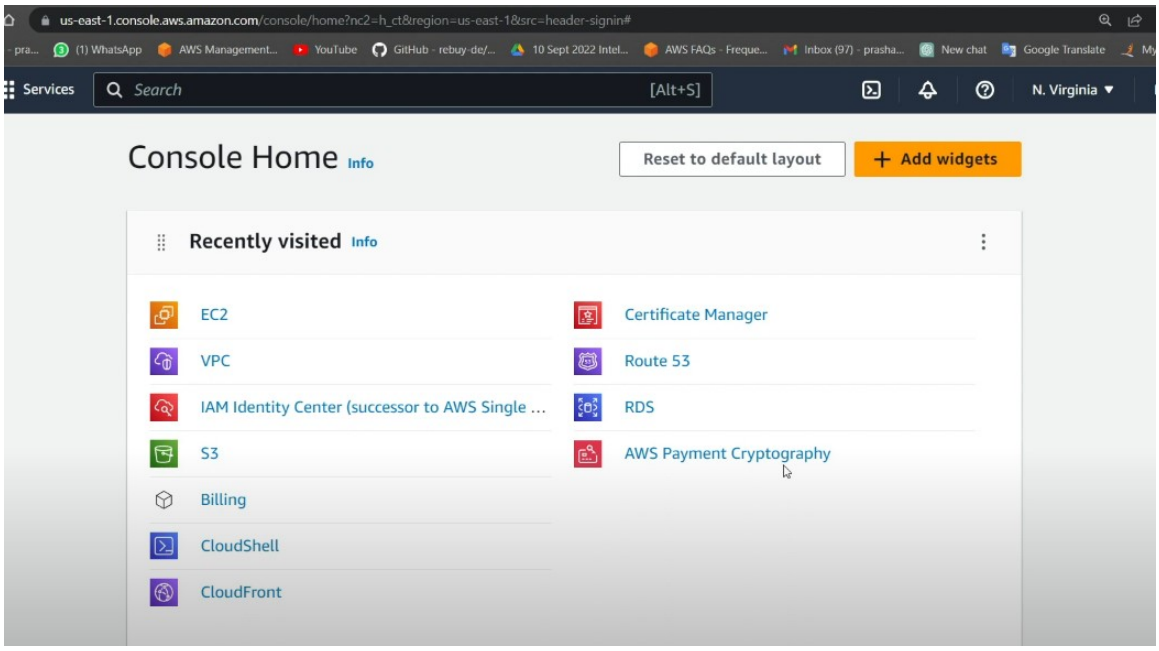
Steps >>>

create account in AWS .

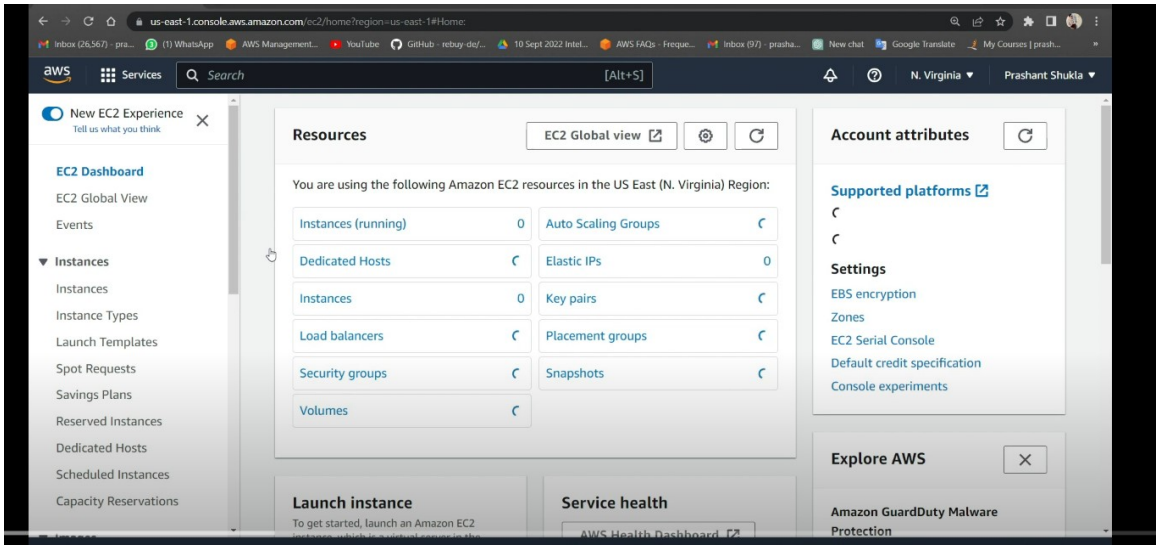
Step 1 :

Select Root User options >> Root user email address need to be filled >> press Next button >> Password Enter >> if you use MFA (multi factor authentication) for Secuirty purpose **MFA Code Enter to check Email and Entered**

Send to next screen ...



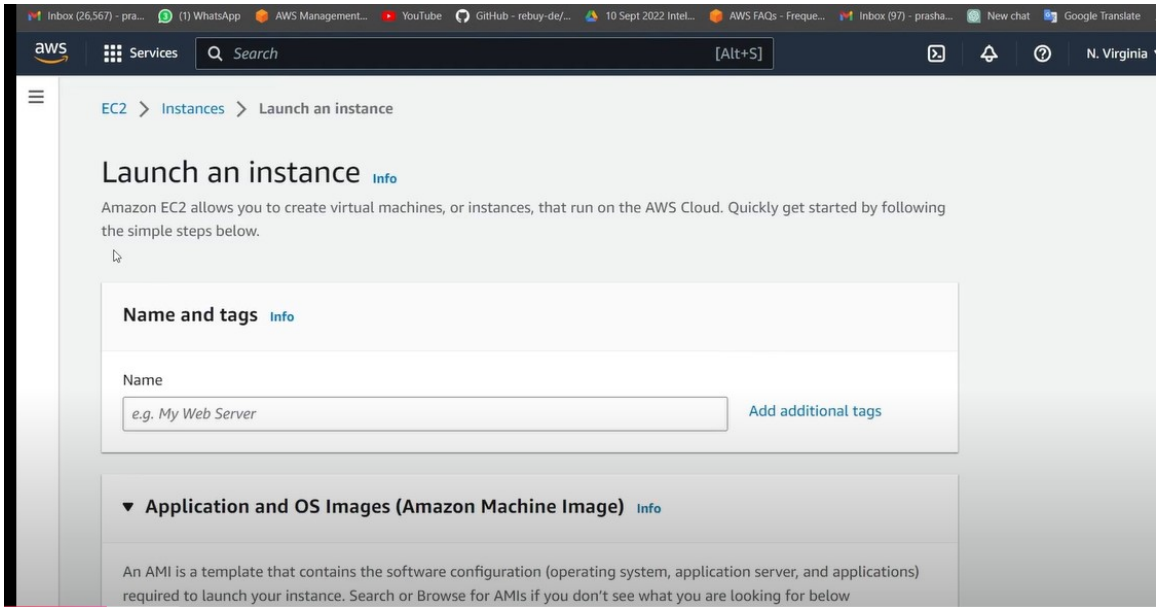
Click on EC2 >>>



Click on Instance (running) >>>

Search EC2 Instance

Click on Launch Instance



its opened this page ..

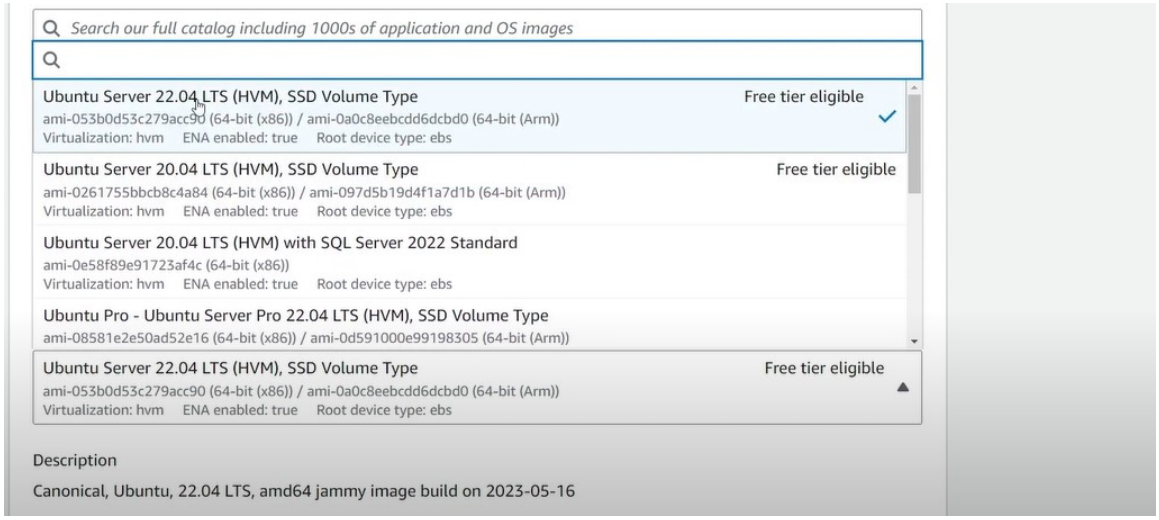
Steps >>>

1) fil the name like that ...

module2-ec2

fill the Application and OS Images (Amazon Machine Image)

2) Select any options like (windows , **Ubuntu**)



Select this for free tier eligible ..

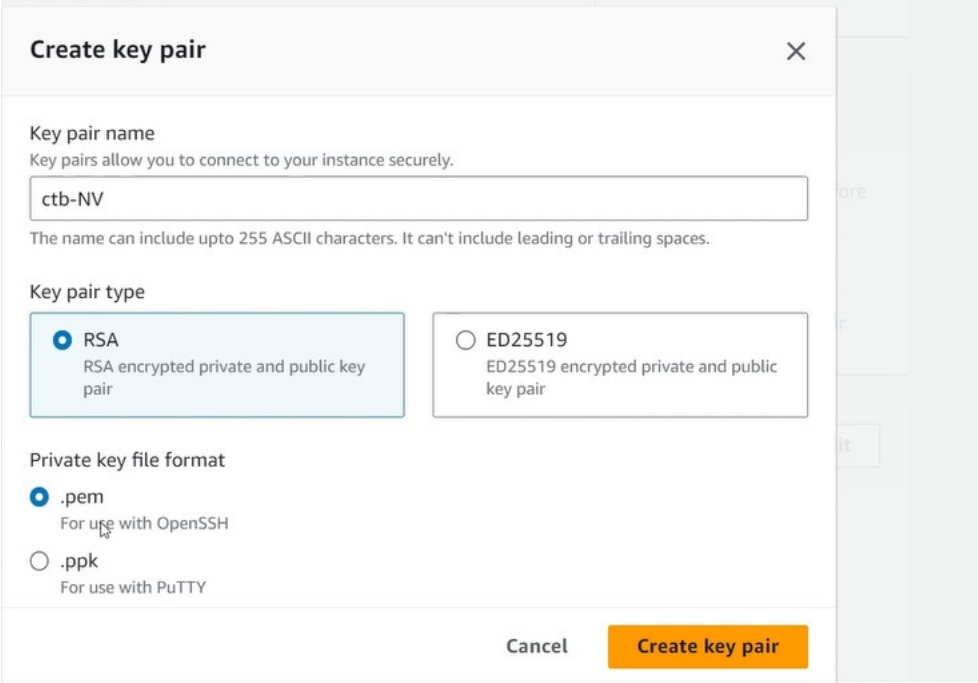
3) Now Select Instance Type

t2.micro (its free tier)

4) key pair (login) for the security purpose.

If i have not key then click on **Create new key pair**

one time create and use this key & value pair every where.



after fill the form key value created successfully now we can use every where.

after create key pair and download file and check path where you store.

5) Network Settings >>>

VPC (virtual private cloud) like Ex. (In hotel every person got private room) its called VPC.

click on Edit button

Firewall Security Groups (choose one option)

1) Create Security group 2) Select existing security group

>>>

if you select **Create Security group** then need to allow some options

Allow SSH traffic from

Allow HTTPS traffic from the internet

Allow HTTP traffic from the internet

>>>

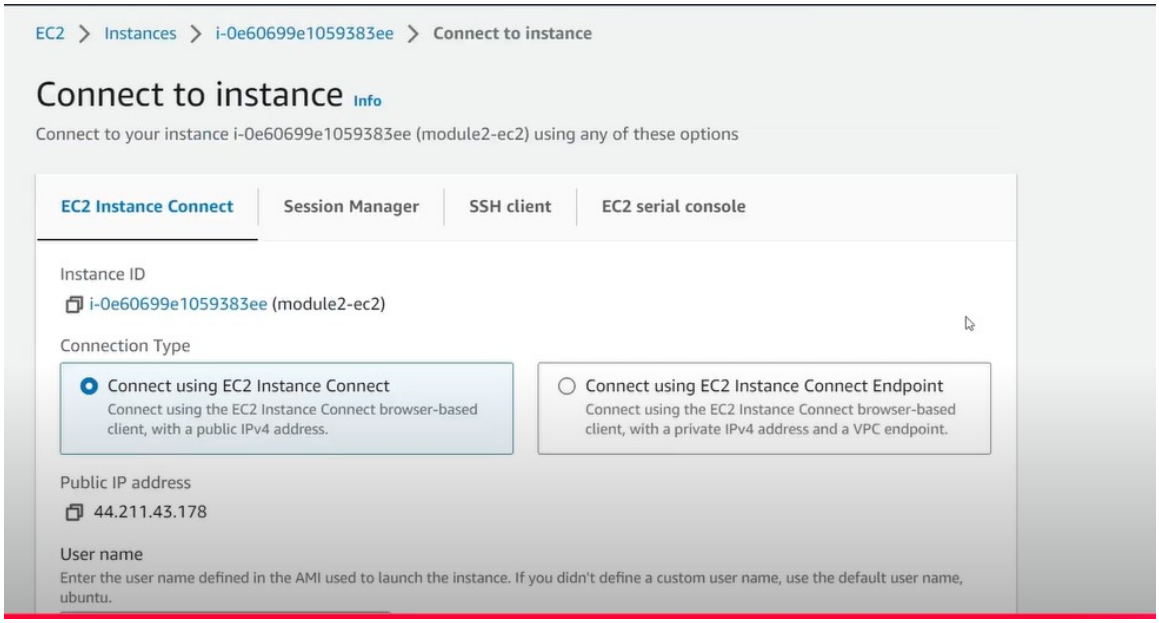
configure storage (info)

8 GIB gp2 Root Volume (Not encrypted)

After doing all verify the summary in AWS account.

Click on Launch Instance its is created easy way.

now you can check connect with EC2 Instance .



Doing connect its direct connect.

If you choose **Select existing security group** then need to allow some options

Select existing security group >>> common security groups info (default VPC)

>>>>>>>>>>>>>>>>>>>>>>

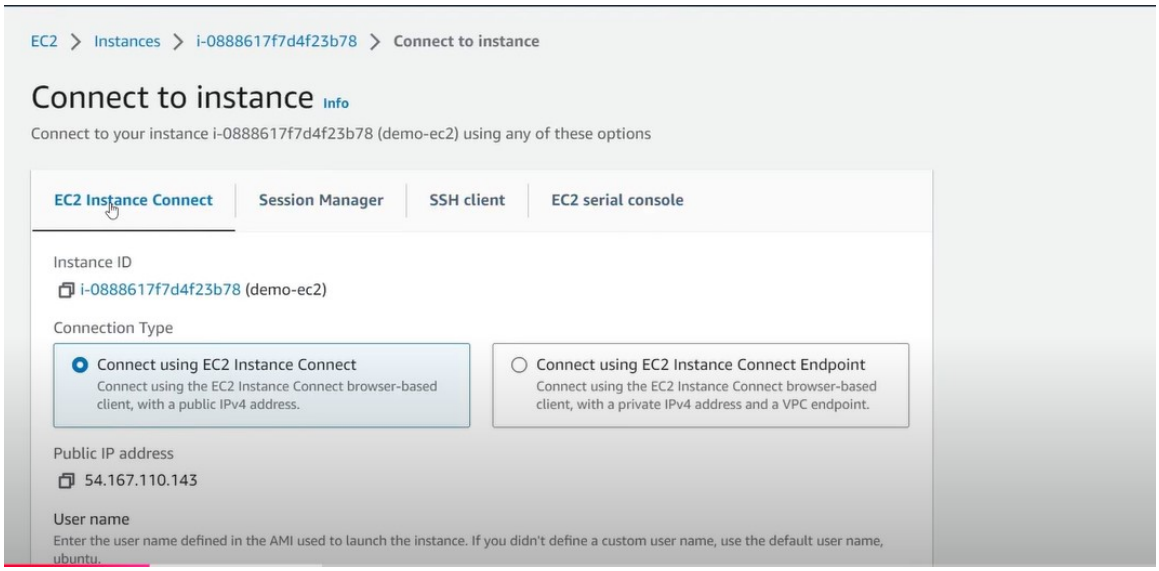
If your instance is connected then we can run command in ubuntu in your server.

 # sudo apt-get update

How to connect EC2 using PuTTY, MobaXterm, gitbash, direct etc in AWS >>>>>>>

Instances >>

select instance name & launch & connect , So its is running.



Press to connect button . its direct connect.

>>

Download putty first

 # putty & puttygen

two software needed to install ..

>>>> putty open >>>> Putty Key Generator >>>> click on load button >>>>

select .pem file >>>> PuTTYgen Gives warning >>>> Yes >>>> Save Private key >>>>

rename file name like abc.ppk file .

>>

Open Putty Software

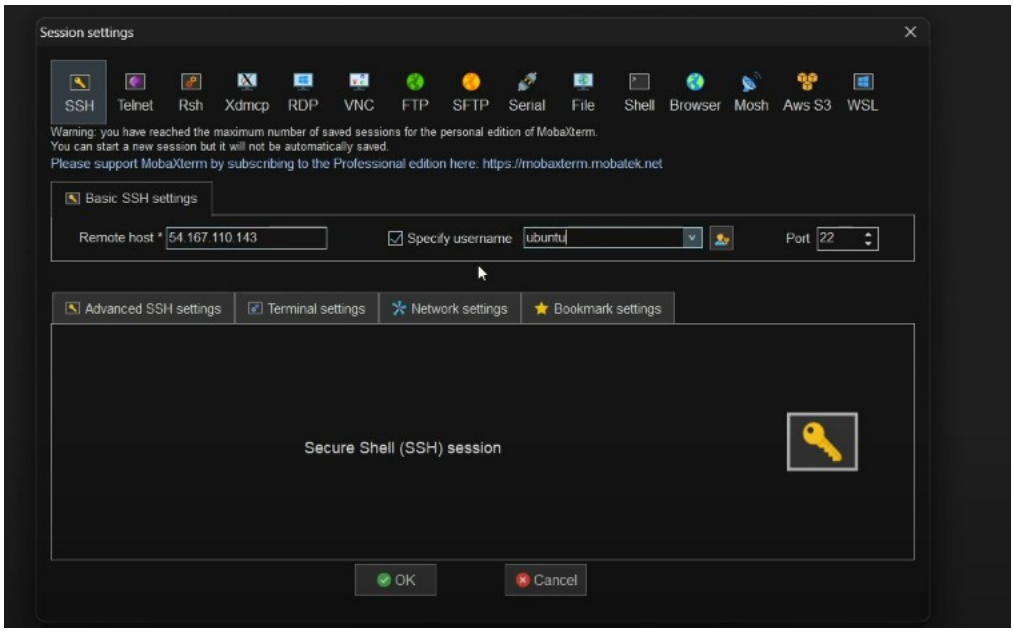
>>>> SSH >>>> AUTH >>>> Credentionals >>>> Browse (Select file) >>>> Login >>>> run command (# sudo apt-get update)

>>

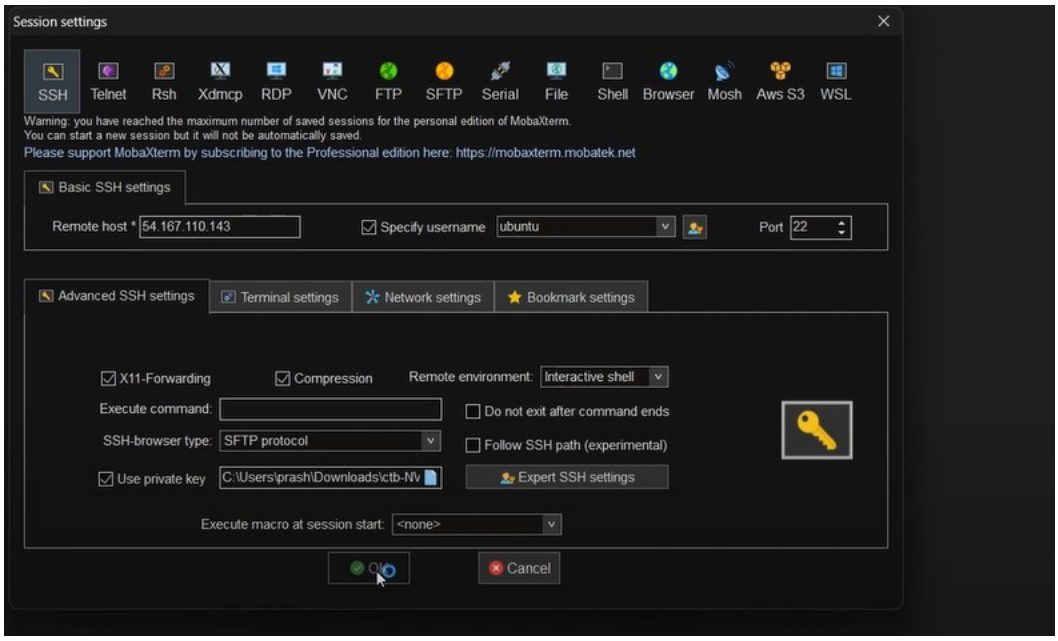
MobaXterm download

Open MobaXterm Software >>>> Click on SSH >>>>

Remote Host fill static IP which && username && port



Click on Advance SSH settings



Select .pem file and get OK .

Its working with SSH key based on Advance SSH settings tab its connect.

In check box use Private key >>> select file and OK

Ok >> Accept done ...

its working to connect Ubuntu@ip-like any one

Now you can run command inside this ..

 # sudo apt-get update

Goto search bar to quick next Icon you can click >>>> Click on Cloud shell >>> close

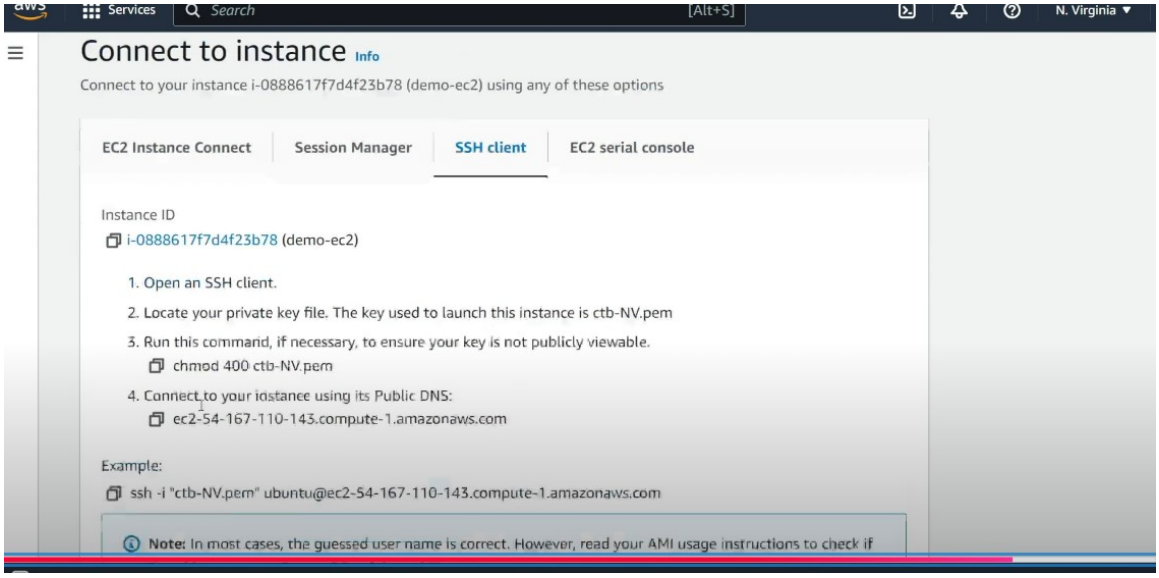
Goto Actions Download file

upload file you can upload your key file and connect.

>>>> cloudshell-userip-10-6-35-233 ~ >>> You can run command easy to use their.

Next Step for connect way next >>>>

Goto to SSH client tab ...



Now you need to download (gitbash) for windows.

Git bash download >>> windows >>> 64 bit Git for windows Setup

Goto SSH client >>> copy to ssh -i key inside this Screen.

Goto show more options >>> right click >>> Goto GitBash need to be opened here >>>

Open one cmd command page >>> paste link which one copy SSH client key.

 # ssh -i "ctb-NV.pem" ubuntu@ec2-54-167-110-143.compute-1.amazonaws.com

after this complete link and enter .

enter >>> Yes

connect your git bash with ubuntu

enter >>> sudo apt-get update

How to Create and Connect Windows Server in AWS >>>>

Launch EC2 Instance for windows server ...

After loggin AWS account >>> Search EC2 instance (Elastic computed cloud) >>> click >>> Launch Instance

Set name >>> window-ec2

Select Quick Start >>> windows

select Instance type >>> t2-micro

key pair (login) >>> you can choose any one you are already download.

Select Security group >>> choose exists (which one you created before) Select default Security group.

Configure storage (info) >>> min you keep 30 GiB gp2 Root Volume (Not encrypted)

>>>> Click on Launch Instance

When Instance is created then select & Goto connect button

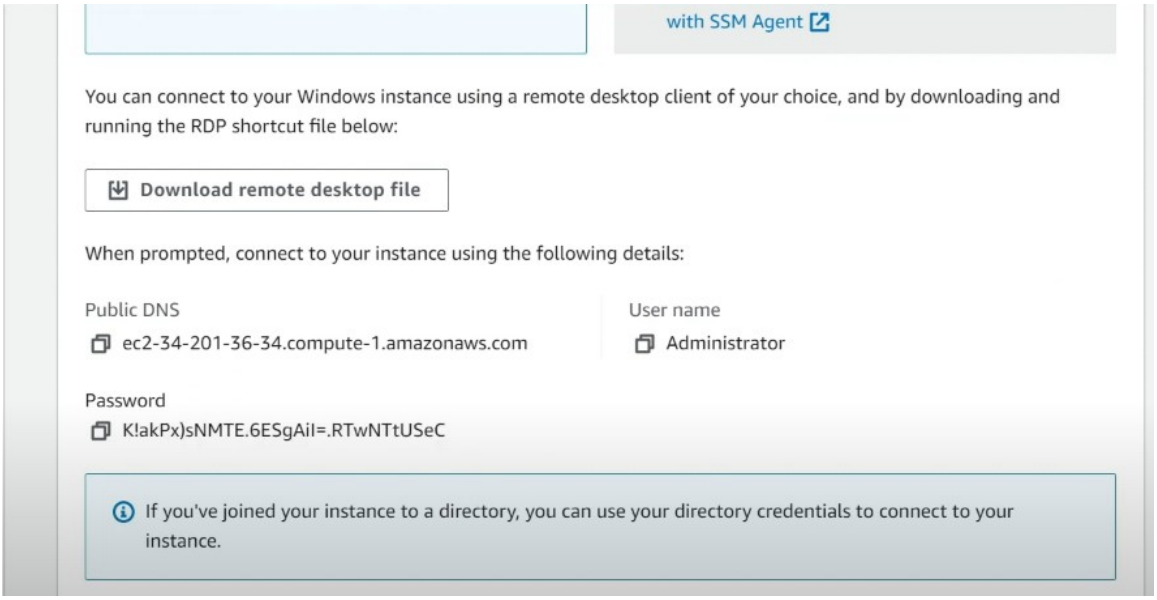
Session manager & EC2 serial console is not available then you can go with only one option

RDP Client (Remote desktop **connection** protocol) in window you can search on desktop rdp >>>

Steps to connect >>>>

RDP Client >>> Download Remote desktop file >>> file download need to open >>> connect >>> password >>> if you not know what is password then You click on Get Password >>> upload private key file >>> NV.pem file >>> Click on decrypt password

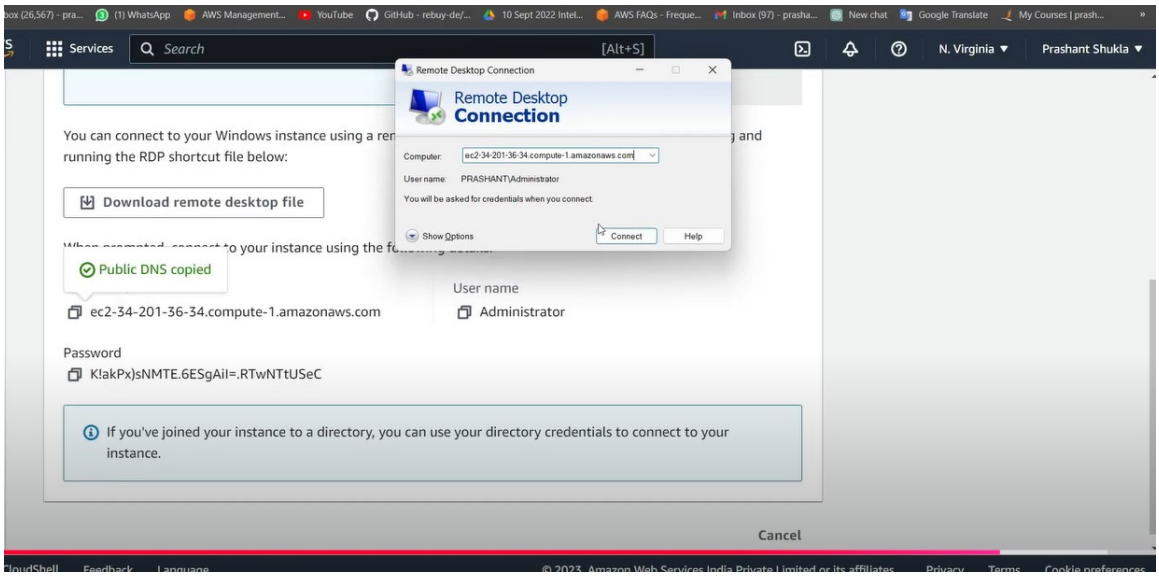
Now you show the password like this Screen Shot



Window Security get username & password its connected to easy.

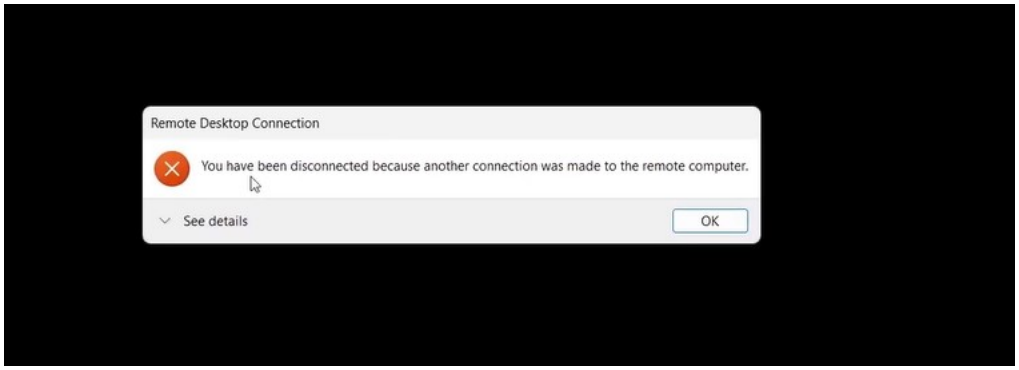
now connected then RDP is working (Remote desktop collection)

You can use this steps for windows server connected.



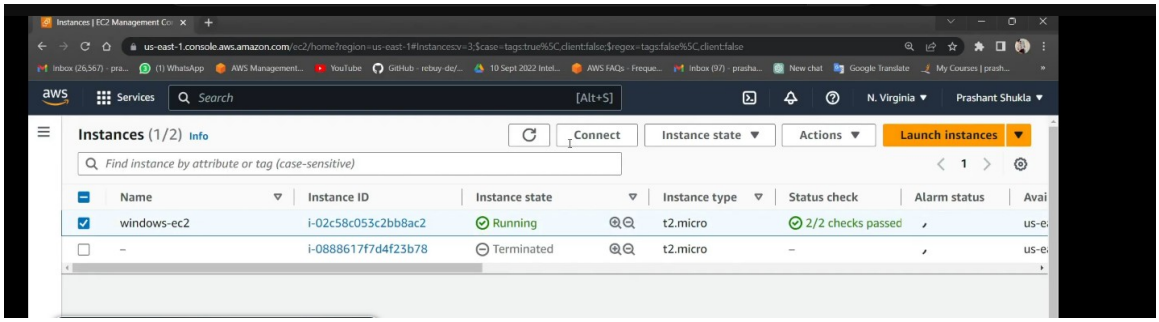
when you connect server in window Secuirty Enter the username & password based on SSH key

after fill values >>> OK >>> this connection is not working



because you are logged more than one PC to account in same time , so its failed.

When you are used then do terminate EC2 instance.



Goto **Instance State** and select terminate instance >>> **terminate**

its automatically terminate instance.

How to Copy EC2 from one region to another using AMI >>>>