**AWS Services**

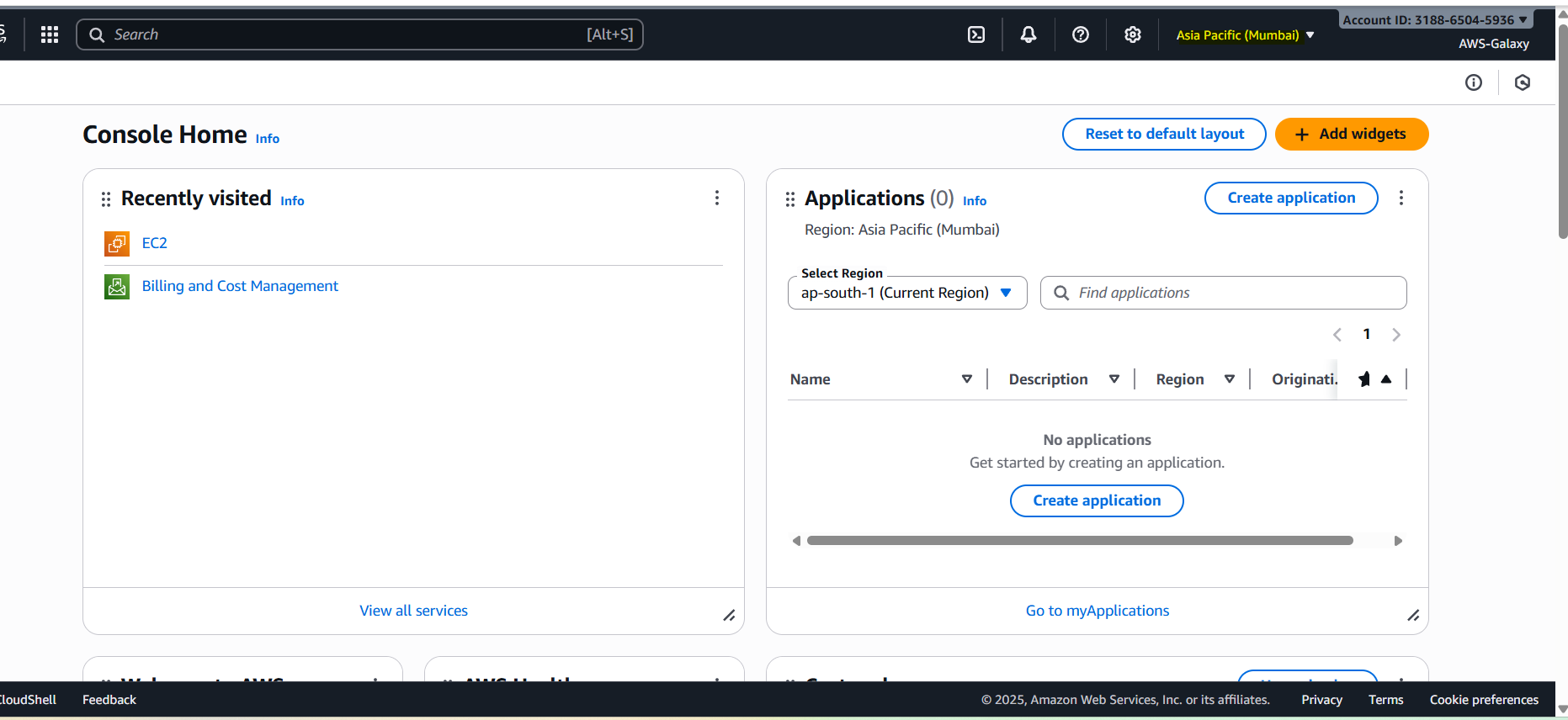
Amazon EC2 (Elastic Compute Cloud)

It is **a core AWS service that provides scalable virtual servers in the cloud, known as EC2 instances.** These instances allow users to run applications without investing in physical hardware, offering flexibility, scalability, and cost-efficiency.

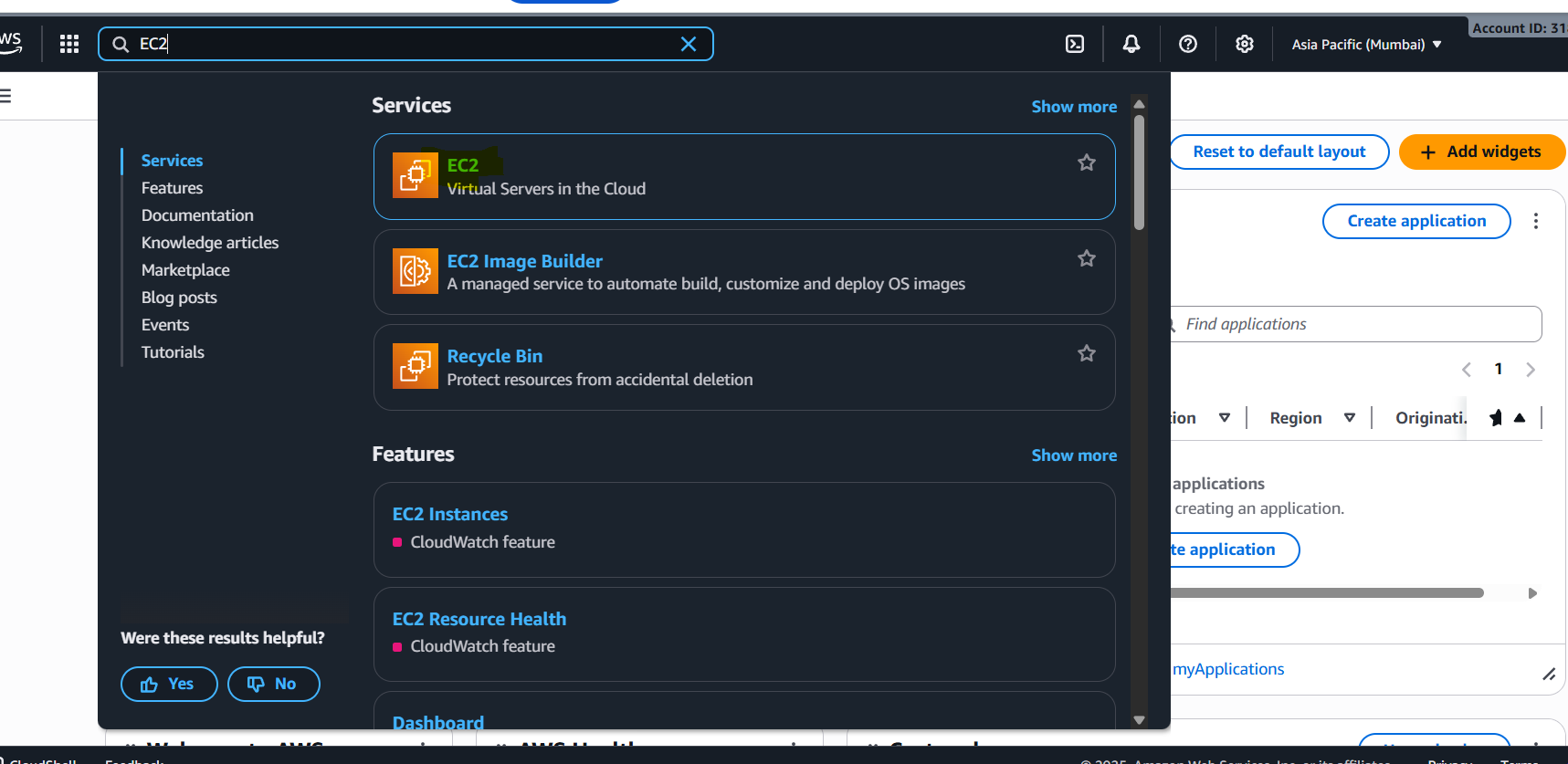
**Rec 1-**

**How to create an windows EC2 machine?**

1. Login to AWS console 🡪 [Amazon Web Services Sign-In](https://signin.aws.amazon.com/signin?client_id=arn%3Aaws%3Asignin%3A%3A%3Aconsole%2Fcanvas&redirect_uri=https%3A%2F%2Fconsole.aws.amazon.com%2Fconsole%2Fhome%3FhashArgs%3D%2523%26isauthcode%3Dtrue%26nc2%3Dh_si%26src%3Dheader-signin%26state%3DhashArgsFromTB_eu-north-1_7e5c9f71b3d0a0ec&page=resolve&code_challenge=3842HMtBFa38f8b8nikuR4XHFIfJO82RwiDVtOqVRmA&code_challenge_method=SHA-256&backwards_compatible=true)
2. Login as root user.
3. Select near by **region** where you want to work

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1. Search for EC2 and select it.

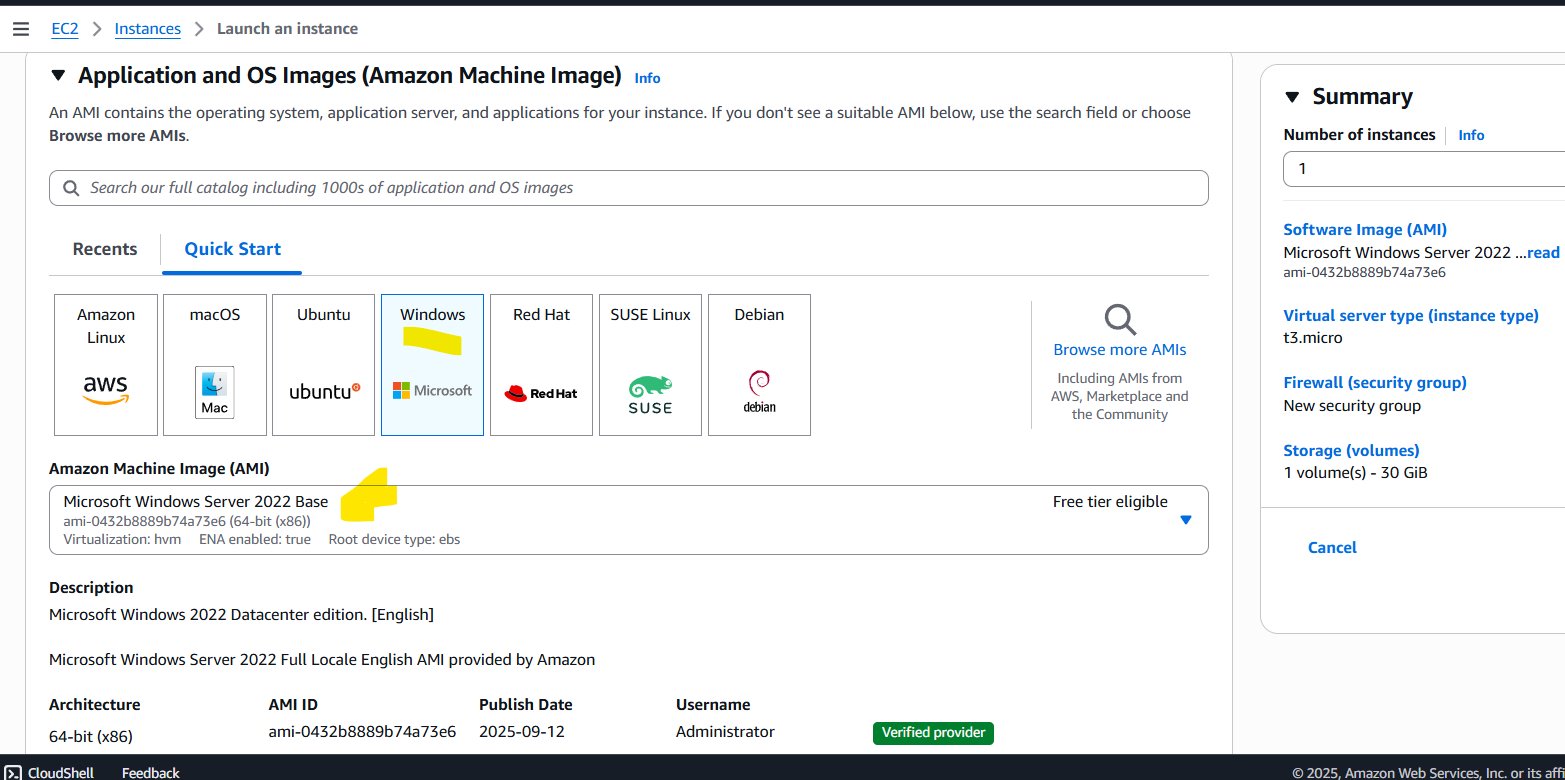


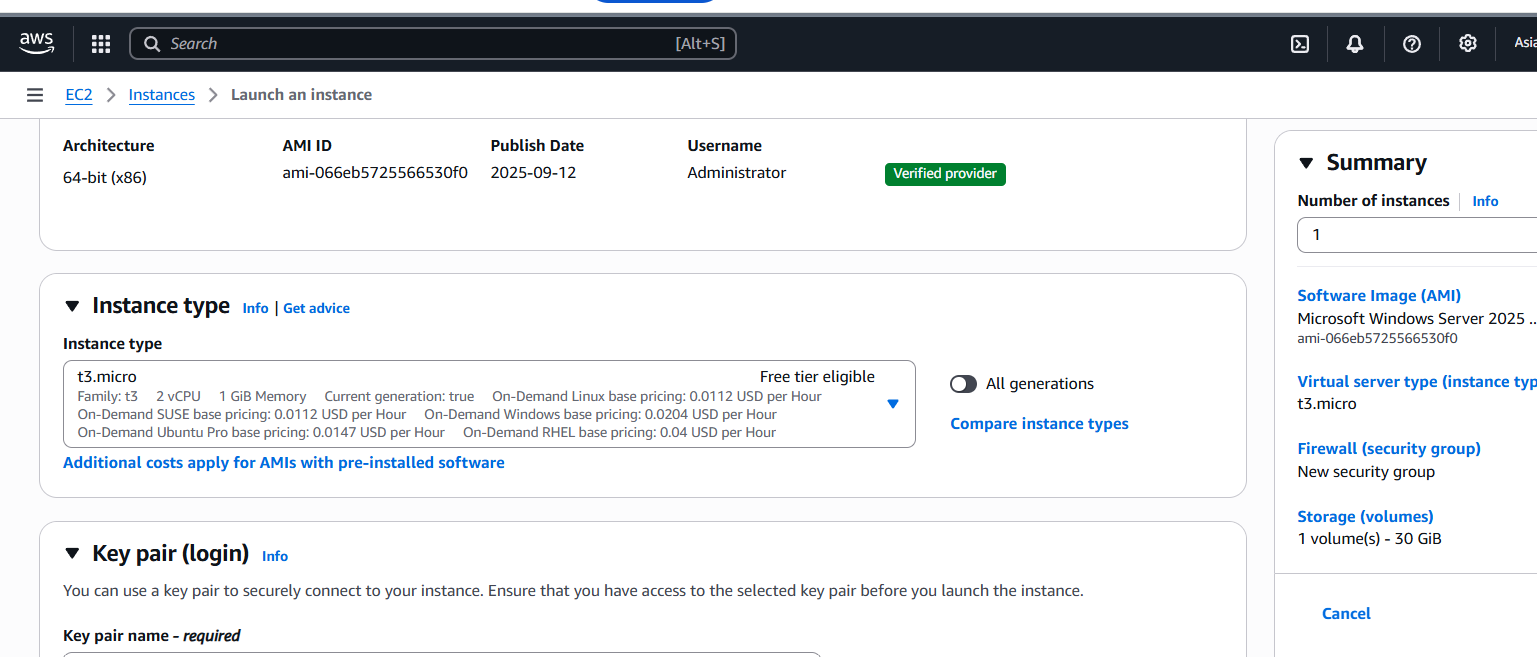
1. Click on launch instanceA screenshot of a computer

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2. Provide the unique name to your EC2 machine.

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1. Select Operating system. Operating system also known as AMI (Amazon Machine Image). From the dropdown you can select any AMI as per you requirement. 
2. Select instance type. Instance type is group where we will get cpu and ram together. And every instance type have name.



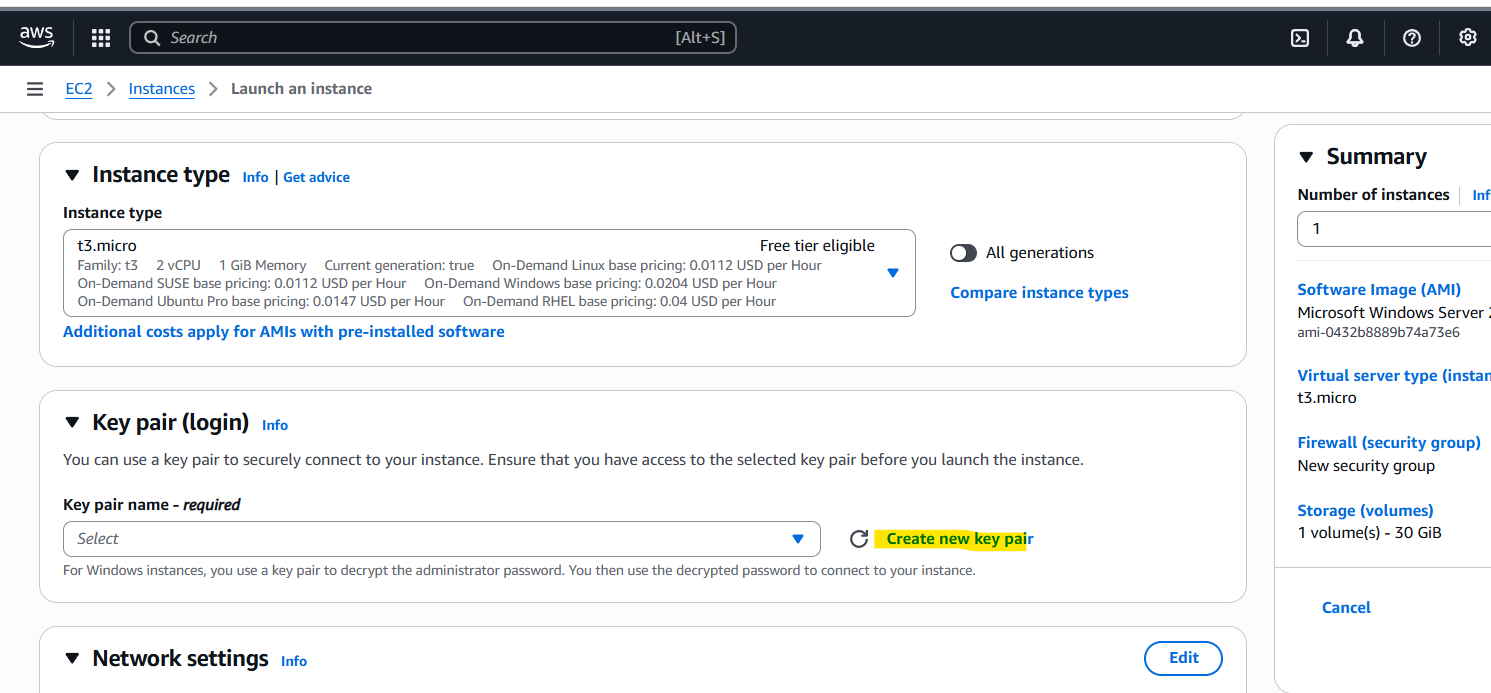
1. Key pair:

Key pair help us to login our EC2 machine. Combination of 2keys.

**Public key**🡪stored by AWS

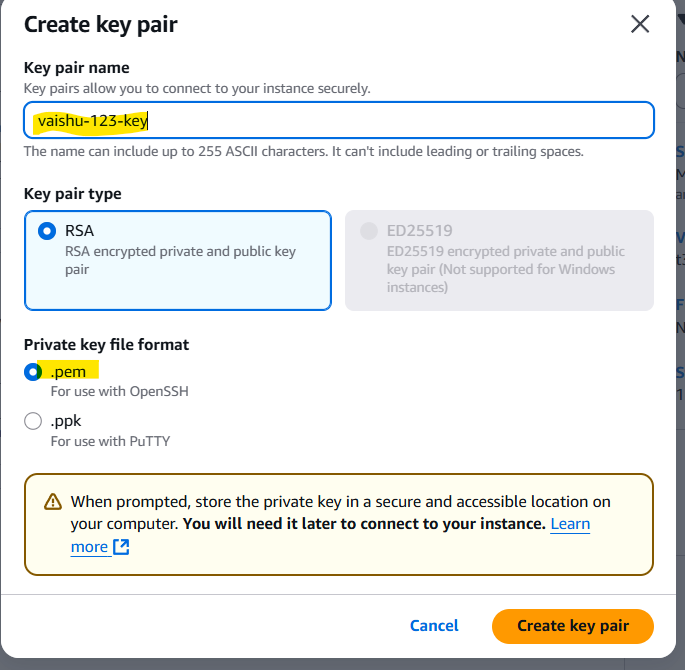
**Private key**🡪 stored by Local

To create key pair click on Create new key pair



Provide name and select file format as **.pem (Privacy Enhanced Mail).** Click on Create key pair.

**Note:** Remember you will get single chance to download it.



1. Network setting section.

* Under security group we are going to enable ports which help us to connect to our EC2 machine. To connect to your windows machine you have to enable one port. As we selected windows os by default AWS enabled RDP port.
* Check Allow RDP(Remote Desktop Protocol) Traffic from.
* Port number of RDP🡪 **3389**
* Select source as Anywhere. I can connect to EC2 machine from any part of location

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1. Configure storage

By default it is 30gb. We can set it as per our requirement. Min 30gb is required for windows EC2 machine.

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1. Summary

Here we can set how many machines we want to create. And we can see the details of EC2 machine.

Once you click on launch instance EC2 machine will get created.

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1. Here you can see our EC2 machine is created and running

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**Generate/Decrypting password:**

1. Select the EC2 Machine & Click on Connect.

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1. Go to RDP Client.

Note down public DNS and Username.

Public DNS: ec2-65-0-97-183.ap-south-1.compute.amazonaws.com

Username : Administrator

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1. Click on get passwordA screenshot of a computer

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2. Upload .pem file generated during key pair creation

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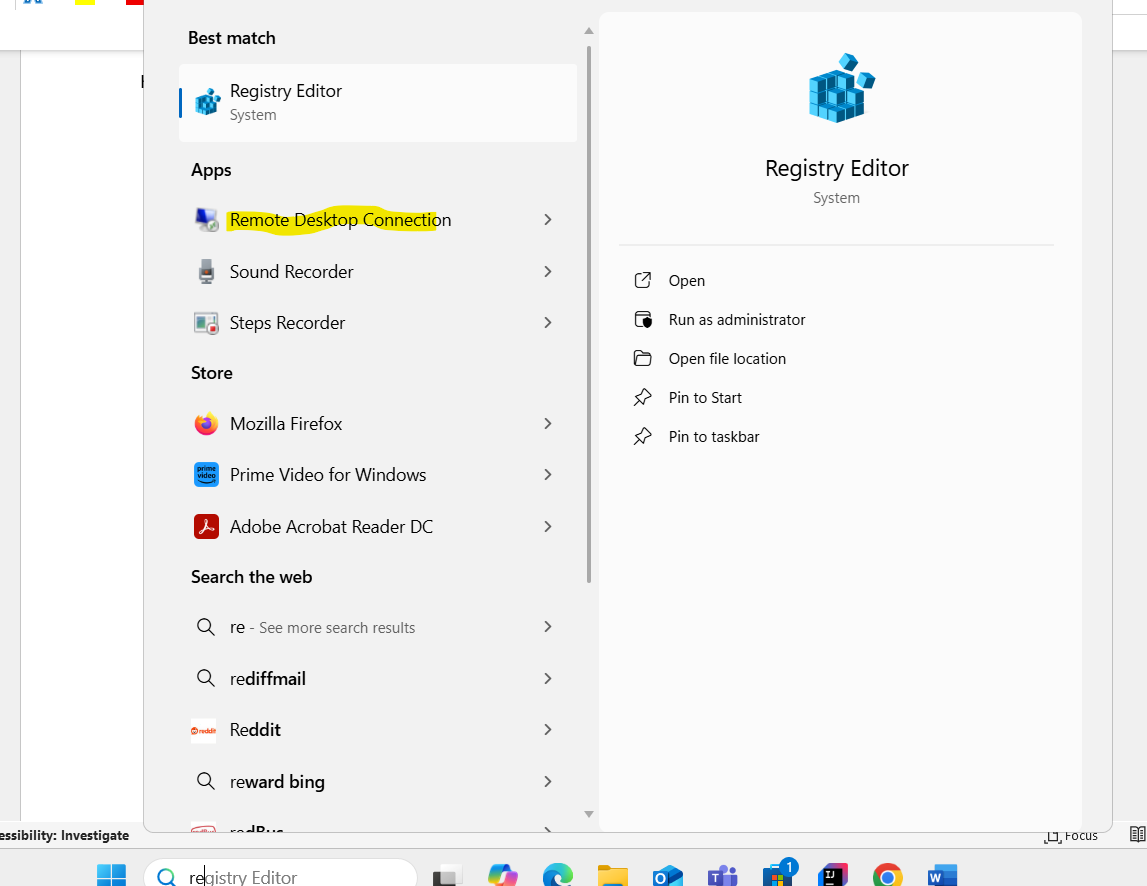
1. Click on Decrypt Password. Password will get generated.

Password: NK=!Qi(k)APjR4CU&=2IBGOfS%D=x59Y

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**How to connect to our windows EC2 machine?**

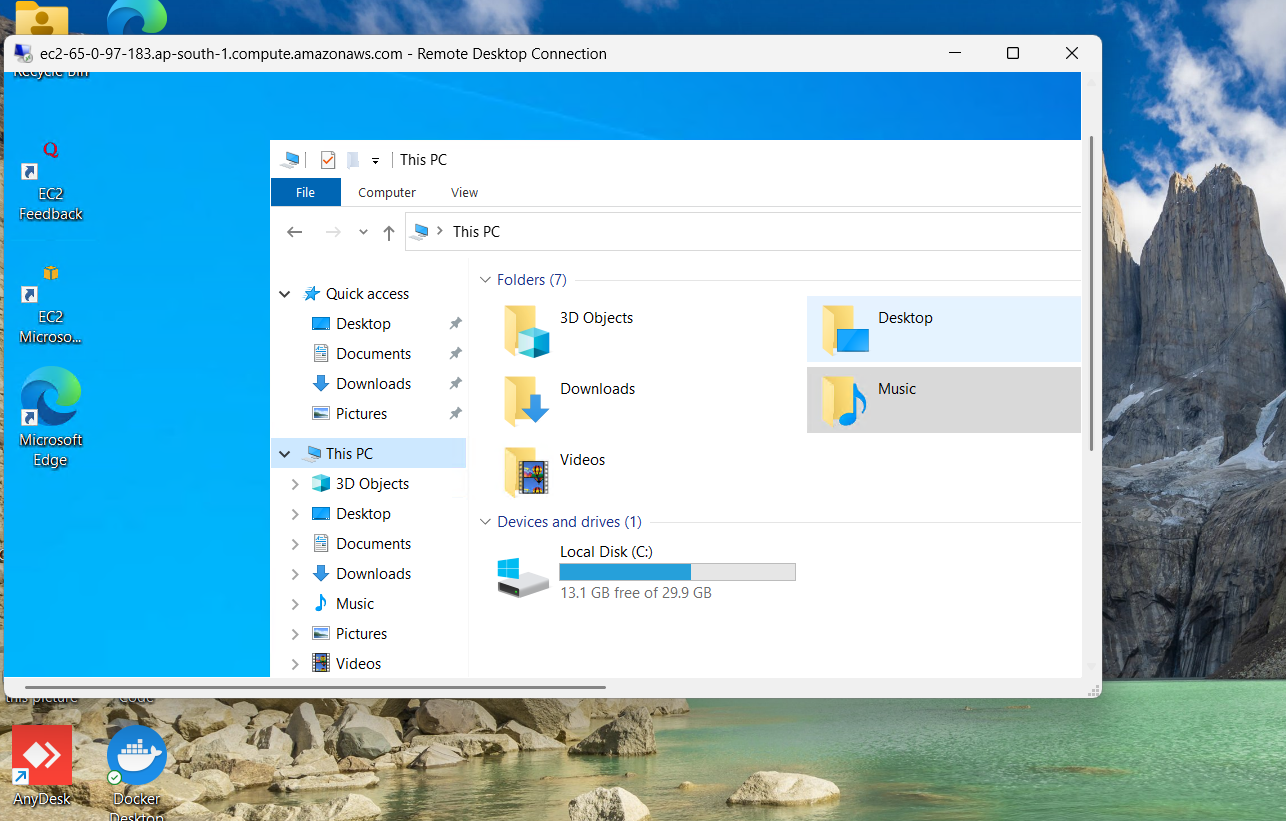
1. Open Remote Desktop Connection
2. Enter the Public DNS click on connect A screenshot of a computer

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3. Enter Username and Generated Password

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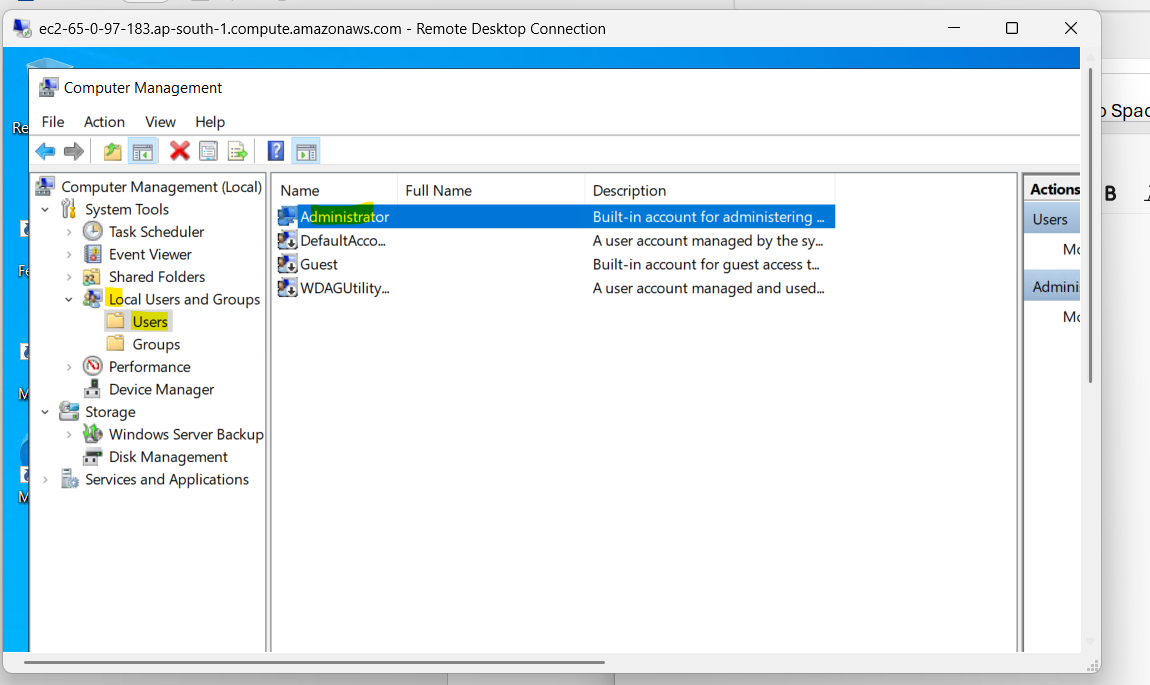
1. You are successfully connected to EC2 machine



**How to set our own password?**

1. Login to your EC2 machine.
2. Seach type run
3. There run below command

**compmgmt.msc**

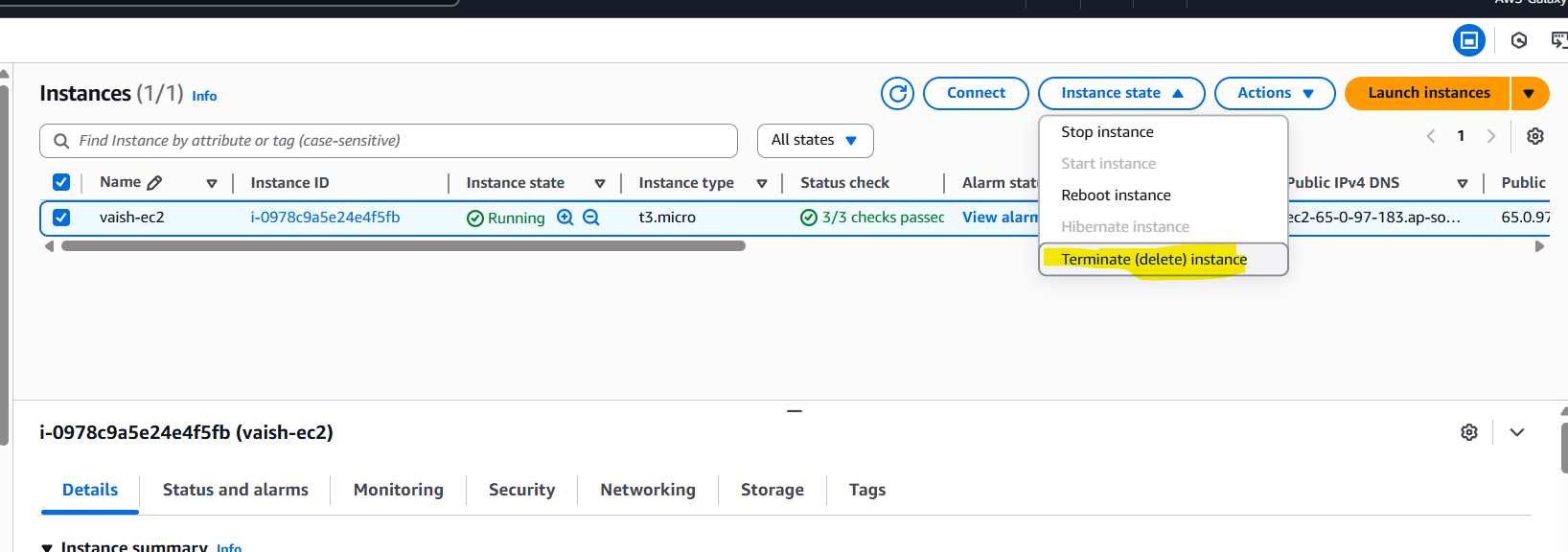
1. Click on local users 
2. Right click on username and set password

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1. Provide the password which you want to set.
2. Try to login your password will be successfully set.

**How to terminate EC2 machine?**



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**Questions**

**What Is a .pem File?**

**PEM** stands for **Privacy Enhanced Mail**, but today it's mostly used for **cryptographic data** like certificates and keys—not email.

A .pem file is a **text-based format** that stores cryptographic elements in a **Base64-encoded** structure, wrapped with specific header and footer lines.

**Structure of a PEM File:**

|  |
| --- |
| -----BEGIN CERTIFICATE-----  (base64 encoded data)  -----END CERTIFICATE----- |

Other types of PEM blocks include:

* -----BEGIN RSA PRIVATE KEY-----
* -----BEGIN PUBLIC KEY-----
* -----BEGIN CERTIFICATE REQUEST-----

Each block tells you what kind of data is inside.

**Commonly used:**  
PEM files are widely used in:

* **SSL/TLS certificates** for securing websites
* **SSH keys** for secure server access
* **Certificate chains** that include root, intermediate, and leaf certificates
* **Web servers** like Apache and Nginx to configure HTTPS

**Why They Matter?**

PEM files are:

* **Human-readable** (you can open them in Notepad or any text editor)
* **Flexible** (can contain multiple certificates or keys in one file)
* **Standardized** (used across many platforms and tools like OpenSSL)