Practical no: 1

Name: Saloni Vishwakarma
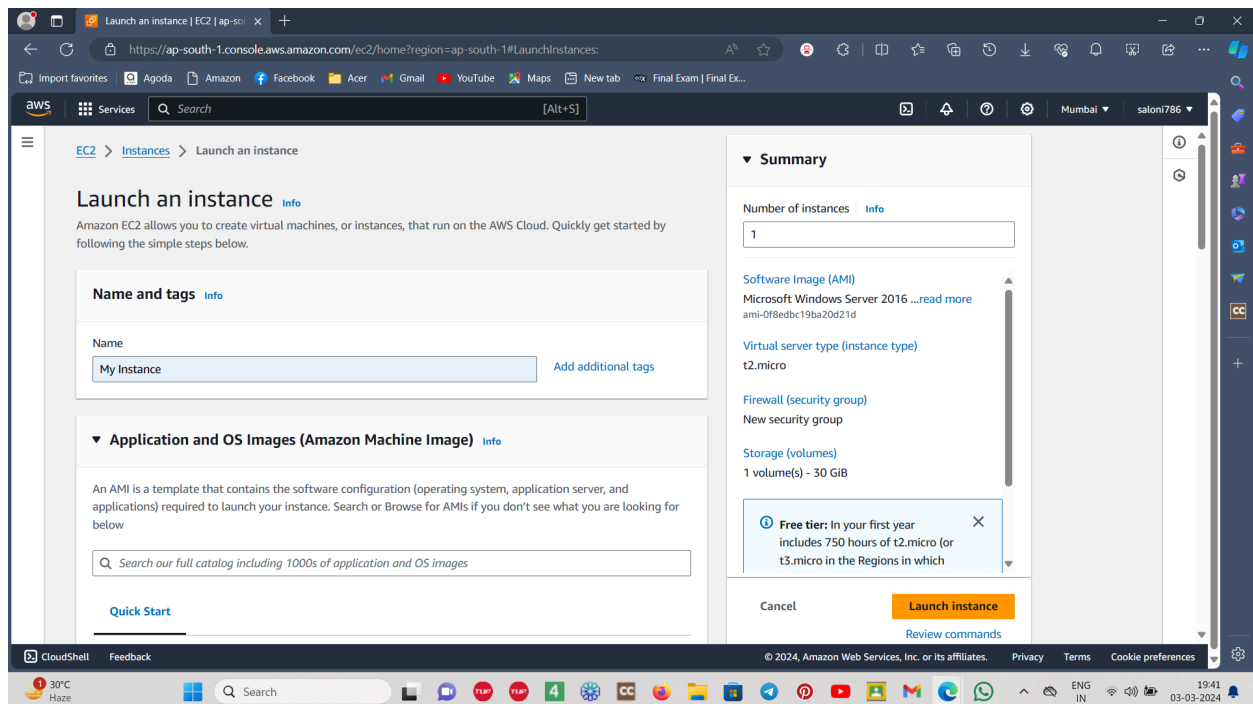
Batch-Roll no: C1-13

Subject: Introduction to Cloud Security Lab

Date of Execution: 19/01/2024

Aim:

1. Create AWS free tire account.
2. Launch Amazon EC2 Windows instances.
3. Connect to Amazon EC2 Windows instances.

Screenshot 1 (top)

Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Linux	macOS	Ubuntu	Windows	Red Hat	SUSE Li

Browse more AMIs
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Microsoft Windows Server 2016 Base   Free tier eligible
ami-0f8edbc19ba20d21d (64-bit (x86))
Virtualization: hvm   ENA enabled: true   Root device type: ebs

Description
Microsoft Windows Server 2016 with Desktop Experience Locale English AMI provided by Amazon

Architecture   **AMI ID**
                          ami-0f8edbc19ba20d21d

Summary

Number of instances Info
1

Software Image (AMI)
Microsoft Windows Server 2016 ...read more
ami-0f8edbc19ba20d21d

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 30 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which

Cancel   **Launch instance**

Review commands

Screenshot 2 (bottom)

Instance type Info | Get advice

Instance type

t2.micro   Free tier eligible
Family: t2   1 vCPU   1 GiB Memory   Current generation: true
On-Demand Linux base pricing: 0.0124 USD per Hour
On-Demand Windows base pricing: 0.017 USD per Hour
On-Demand RHEL base pricing: 0.0724 USD per Hour
On-Demand SUSE base pricing: 0.0124 USD per Hour

All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required

library_96

Create new key pair

For Windows instances, you use a key pair to decrypt the administrator password. You then use the decrypted password to connect to your instance.

Network settings Info   Edit

Summary

Number of instances Info
1

Software Image (AMI)
Microsoft Windows Server 2016 ...read more
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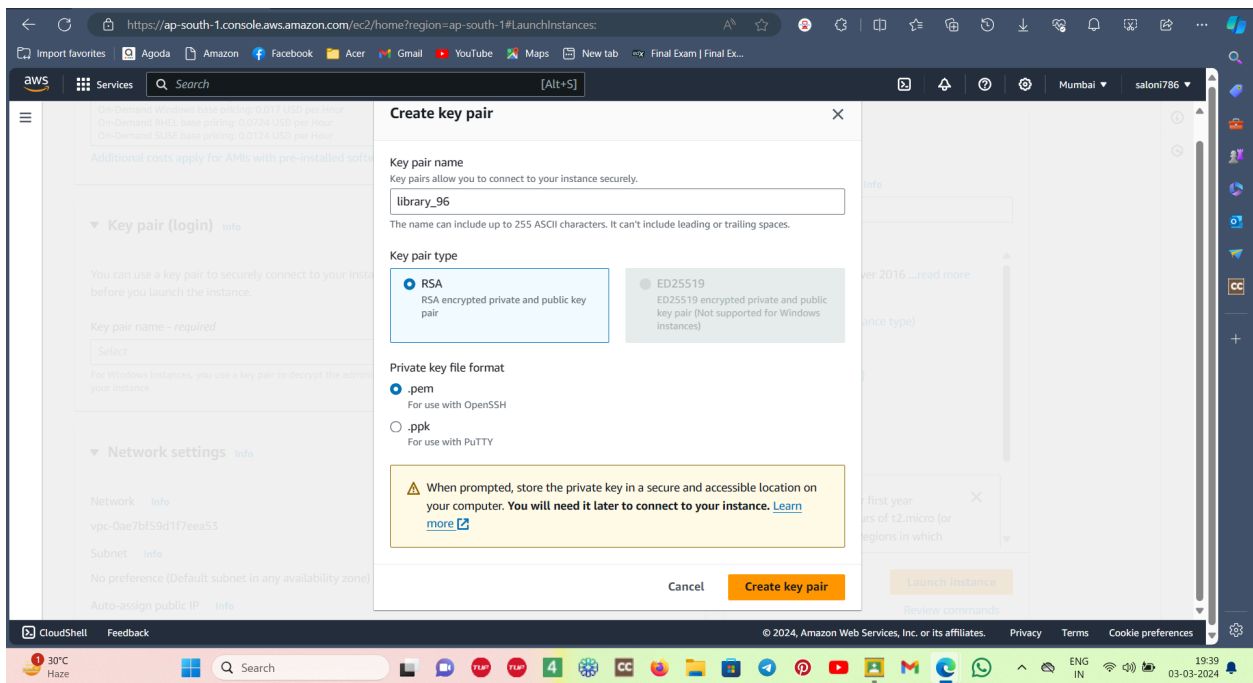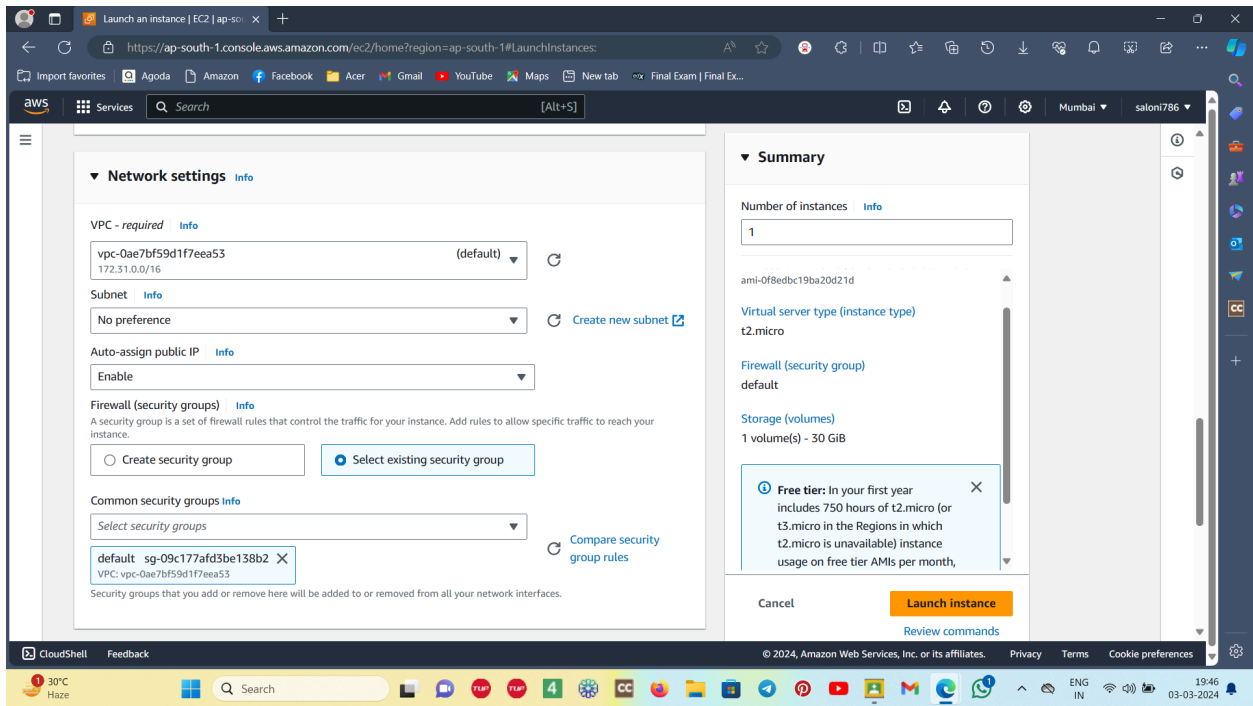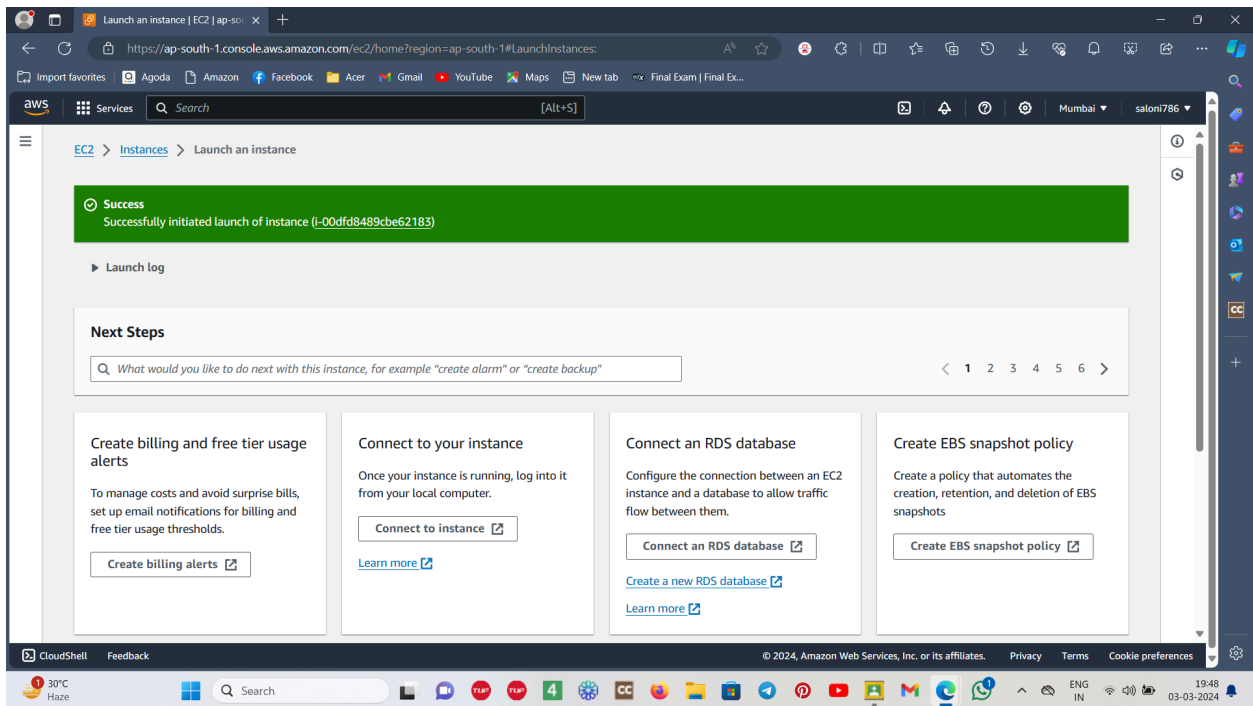Cancel   **Launch instance**

Review commands

▼ Network settings Info

VPC - required Info

vpc-0ae7bf59d1f7eea53 (default)
172.31.0.0/16

Subnet Info

No preference

Create new subnet ⧉

Auto-assign public IP Info

Enable

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

○ Create security group   ● Select existing security group

Common security groups Info

Select security groups

default   sg-09c177afd3be138b2 ✕   Compare security
VPC: vpc-0ae7bf59d1f7eea53   group rules

Security groups that you add or remove here will be added to or removed from all your network interfaces.

▼ Summary

Number of instances Info

1

ami-0f8edbc19ba20d21d

Virtual server type (instance type)
t2.micro

Firewall (security group)
default

Storage (volumes)
1 volume(s) - 30 GiB

ⓘ **Free tier:** In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, ✕

Cancel   **Launch instance**

Review commands

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Screenshot 2

On-Demand Windows base pricing: 0.017 USD per Hour
On-Demand RHEL base pricing: 0.0774 USD per Hour
On-Demand SUSE base pricing: 0.0174 USD per Hour

Additional costs apply for AMIs with pre-installed software

▼ Key pair (login) Info

You can use a key pair to securely connect to your instance before you launch the instance.

Key pair name - required

Select

Create key pair   ✕

Key pair name

Key pairs allow you to connect to your instance securely.

library_96

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

● **RSA**
RSA encrypted private and public key pair

○ **ED25519**
ED25519 encrypted private and public key pair (Not supported for Windows instances)

Private key file format

● **.pem**
For use with OpenSSH

○ **.ppk**
For use with PuTTY

⚠ 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 ⧉

Cancel   **Create key pair**

▼ Network settings Info

Network Info

vpc-0ae7bf59d1f7eea53

Subnet Info

No preference (Default subnet in any availability zone)

Auto-assign public IP Info

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https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:

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aws | Services | Search [Alt+S] | Mumbai ▼ | saloni786 ▼

Security groups that you add or remove here will be added to or removed from all your network interfaces.

▼ Configure storage   Info   Advanced

1x | 30 | GiB | gp2 ▼ | Root volume (Not encrypted)

ⓘ Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage   ×

Add new volume

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

Click refresh to view backup information
The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.   ↻

0 x File systems   Edit

▶ Advanced details   Info

▼ Summary

Number of instances | Info

1

ami-0f8edbc19ba20d21d

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1 volume(s) - 30 GiB

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Cancel   **Launch instance**

Review commands

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EC2 > Instances > Launch an instance

✓ **Success**
Successfully initiated launch of instance (i-00dfd8489cbe62183)

▶ Launch log

Next Steps

What would you like to do next with this instance, for example "create alarm" or "create backup"   ❮ **1** 2 3 4 5 6 ❯

Create billing and free tier usage alerts

To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.

Create billing alerts

Connect to your instance

Once your instance is running, log into it from your local computer.

Connect to instance ⎘

Learn more ⎘

Connect an RDS database

Configure the connection between an EC2 instance and a database to allow traffic flow between them.

Connect an RDS database ⎘

Create a new RDS database ⎘

Learn more ⎘

Create EBS snapshot policy

Create a policy that automates the creation, retention, and deletion of EBS snapshots

Create EBS snapshot policy ⎘

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Screenshot 1 — Instances page:

Instances | EC2 | ap-south-1

https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Instances:

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EC2 Dashboard ✕
EC2 Global View
Events

Instances ▾
 Instances
 Instance Types
 Launch Templates
 Spot Requests
 Savings Plans
 Reserved Instances
 Dedicated Hosts
 Capacity Reservations
  New

Images ▾
 AMIs
 AMI Catalog

Elastic Block Store ▾
 Volumes
 Snapshots
 Lifecycle Manager

Instances (1/1) Info
Connect | Instance state ▾ | Actions ▾ | Launch instances ▾

Find Instance by attribute or tag (case-sensitive) | Any state ▾ | 1

☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public
☑	My Instance	i-00dfd8489cbe62183	⊘ Running	t2.micro	⊙ Initializing	View alarms +	ap-south-1a	ec2-43-

Instance: i-00dfd8489cbe62183 (My Instance)

Details | Status and alarms New | Monitoring | Security | Networking | Storage | Tags

▾ Instance summary Info

Instance ID
 i-00dfd8489cbe62183 (My Instance)

IPv6 address
 –

Instance state
 ⊘ Running

Public IPv4 address
 43.205.216.102 |open address

Hostname type

Private IP DNS name (IPv4 only)

Private IPv4 addresses
 172.31.44.141

Public IPv4 DNS
 ec2-43-205-216-102.ap-south-1.compute.amazonaws.com |open address

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Screenshot 2 — Connect to instance page:

Practical No. 1 | C1-13(ICS-1) - Google Docs | Tutorial: Get started with Amazo... | Connect to instance | EC2 | ap-so...

https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#ConnectToInstance:instanceId=i-00dfd...

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EC2 > Instances > i-00dfd8489cbe62183 > Connect to instance

Connect to instance Info

Connect to your instance i-00dfd8489cbe62183 (My Instance) using any of these options

Session Manager | **RDP client** | EC2 serial console

Instance ID
 i-00dfd8489cbe62183 (My Instance)

Connection Type

● Connect using RDP client
Download a file to use with your RDP client and retrieve your password.

○ Connect using Fleet Manager
To connect to the instance using Fleet Manager Remote Desktop, the SSM Agent must be installed and running on the instance. For more information, see Working with SSM Agent

You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:

⊞ Download remote desktop file

When prompted, connect to your instance using the following username and password:

Public DNS
 ec2-43-205-216-102.ap-south-

Username Info
 Administrator

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EC2 > Instances > i-00dfd8489cbe62183 > Get Windows password

Get Windows password Info

Use your private key to retrieve and decrypt the initial Windows administrator password for this instance.

Instance ID

i-00dfd8489cbe62183 (My Instance)

Key pair associated with this instance

library_96

Private key

Either upload your private key file or copy and paste its contents into the field below.

[Upload private key file]

✓ library_96.pem
   1.674KB

Private key contents - optional

```
-----BEGIN RSA PRIVATE KEY-----
MIIEogIBAAKCAQEAkLAMG2RE3xZ5EhFVxG6G2VUVk0y/Ra7G5Mk+kGbJsJOYkmmu
W4VuVkQnCSObH8uVG9PbztNCaqeZh5+N4yc17LLaQ1wymTrXPCYQpOqQSkks/s2Z
ghalRmG5MSaF9zoPbz3+FZugygDpb/Pdel/LCpZeqvyYp6vRiN429pNnnNz0dcle
3AklV1yJISerY8XoDGgnD1HISGfcpB1ra4SLobjG41qd7wvcExTngu1HgYxJN+im
Bz6l/y/QWL6M53iH4wvfFK+NEwiugMY3qSA5i6TdqVWPOwDGeORUxtub0EARDBfO
vaCy4/mBGlX0e+cEe4SdEEMJ/KYpT0yUTOtP9QIDAQABAoIBAHS4M4z53y11EkzV
tDdoORzdP2eqzQIW3Kl8suA7yI485T8NeydqgWCMX+agJebr56EUVWz6wnJBn3Sp
```

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i-00dfd8489cbe62183 (My Instance)

Connection Type

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You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:

[⬇ Download remote desktop file]

When prompted, connect to your instance using the following username and password:

Public DNS

ec2-43-205-216-102.ap-south-1.compute.amazonaws.com

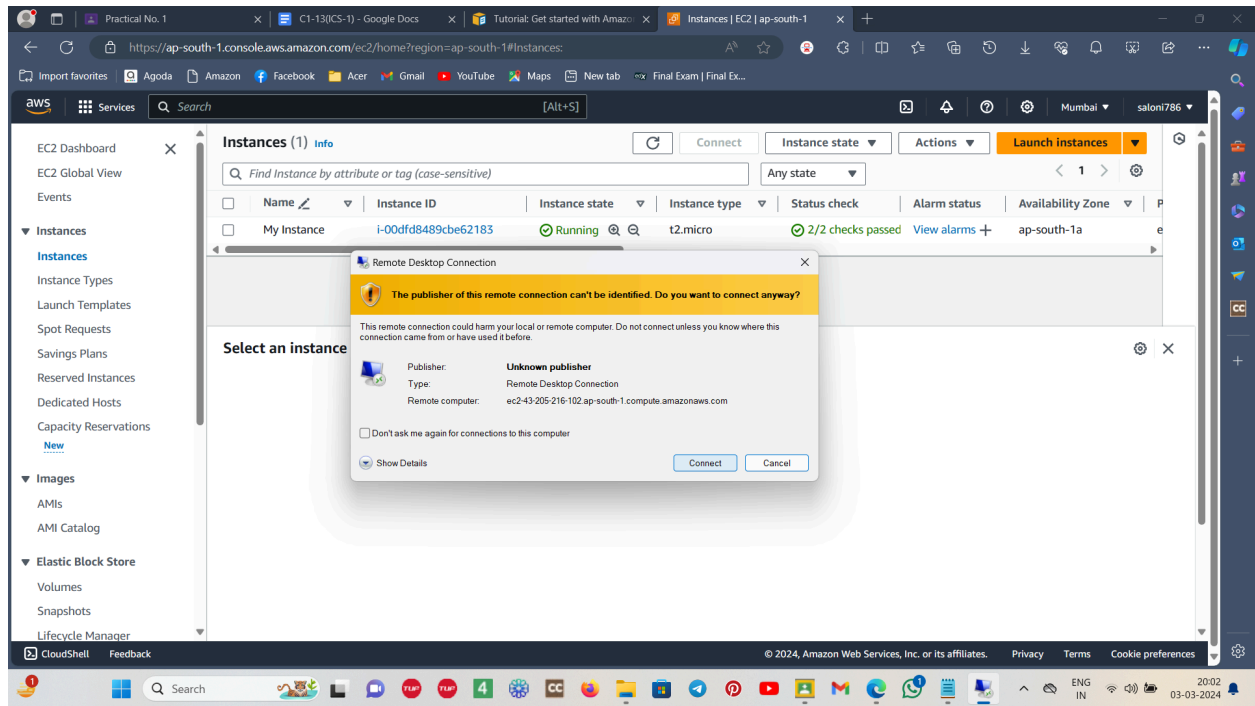**Username** Info

[Administrator ▼]

Password

A?o)%GspBg7%PrhoAnyH=t-2Cu3;@$Z*

ⓘ If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.

Cancel

Remote Desktop Connection ✕

⚠ **The identity of the remote computer cannot be verified. Do you want to connect anyway?**

The remote computer could not be authenticated due to problems with its security certificate. It may be unsafe to proceed.

Certificate name

Name in the certificate from the remote computer:
EC2AMAZ-7AHASQR

Certificate errors

The following errors were encountered while validating the remote computer's certificate:

⚠ The certificate is not from a trusted certifying authority.

Do you want to connect despite these certificate errors?
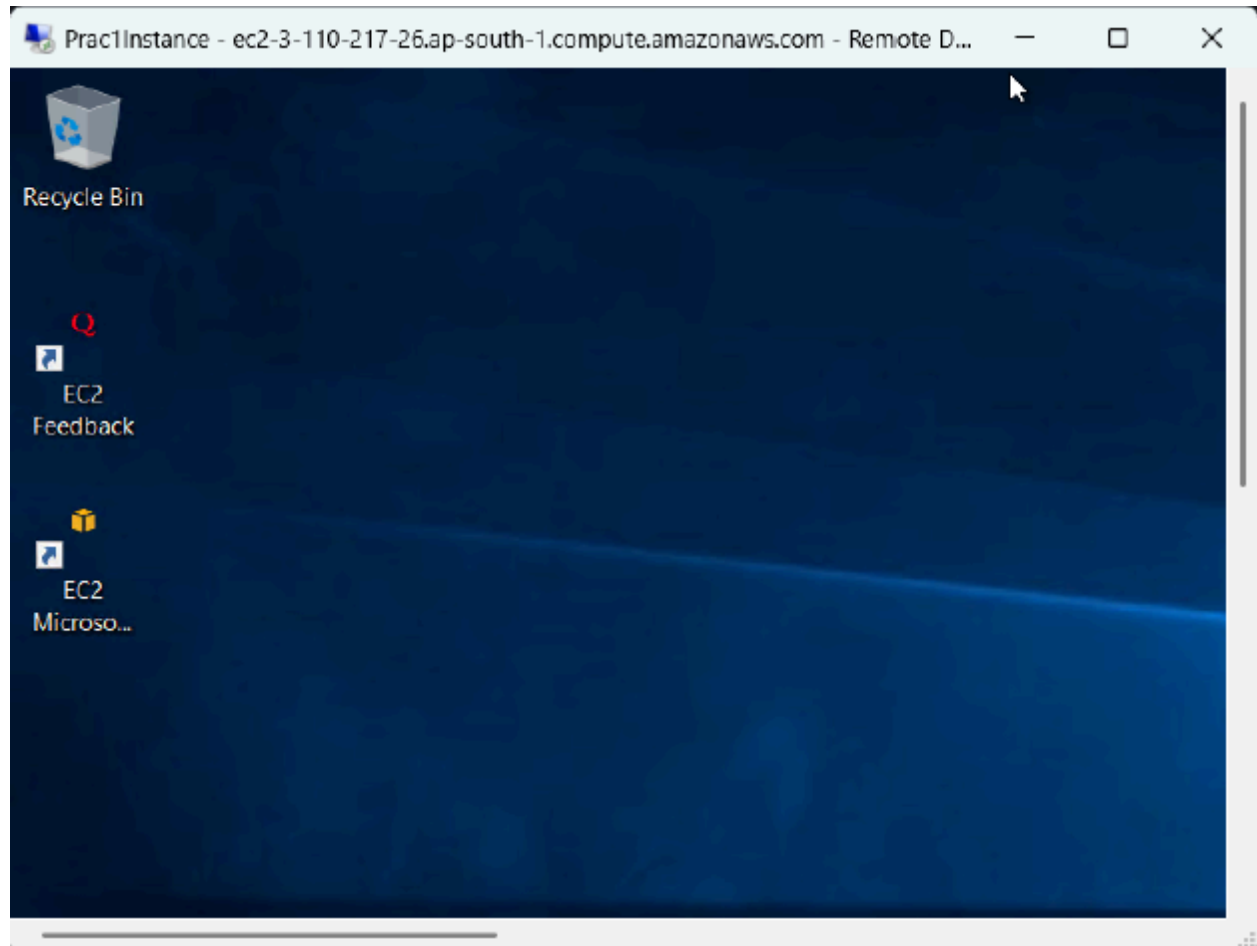
☐ Don't ask me again for connections to this computer

View certificate...   Yes   No

Conclusion: We have successfully learnt and implemented how to create an aws free tier account, launch amazon EC2 windows instance and connect to it.