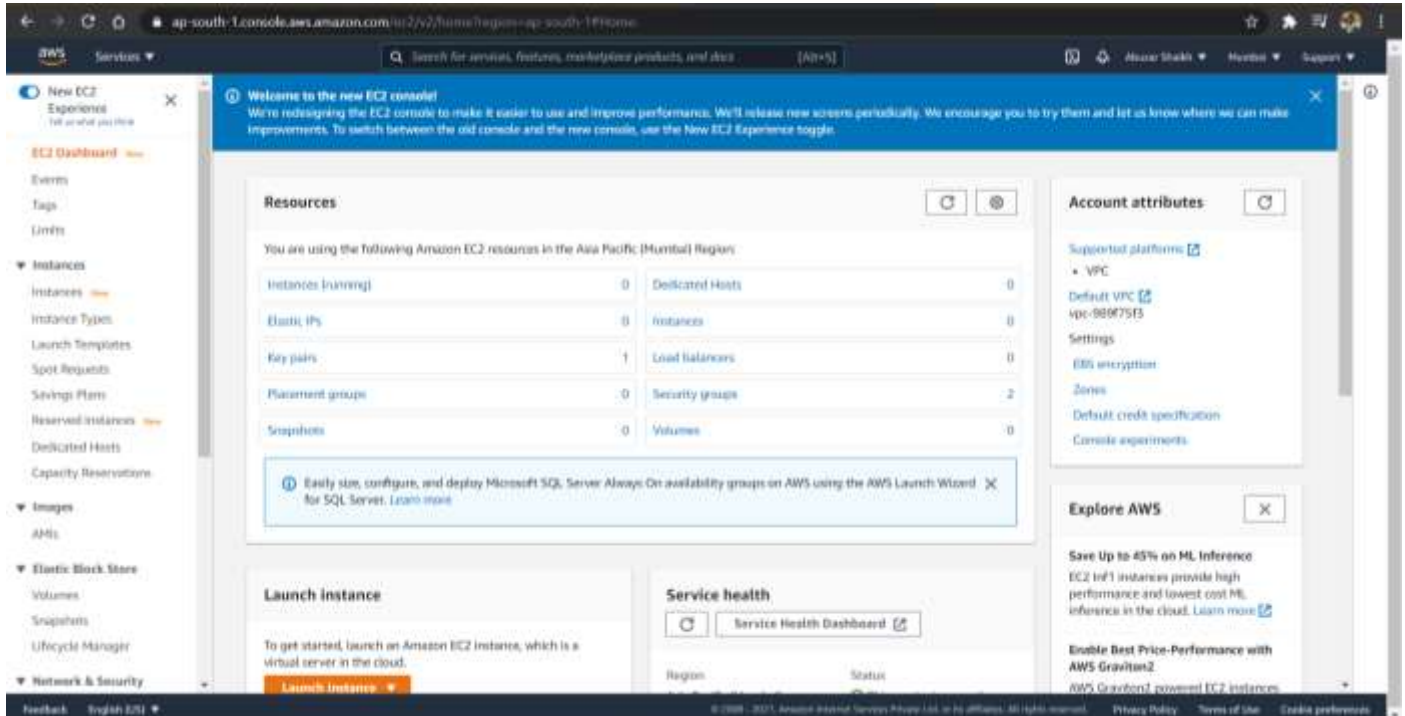


Experiment 5

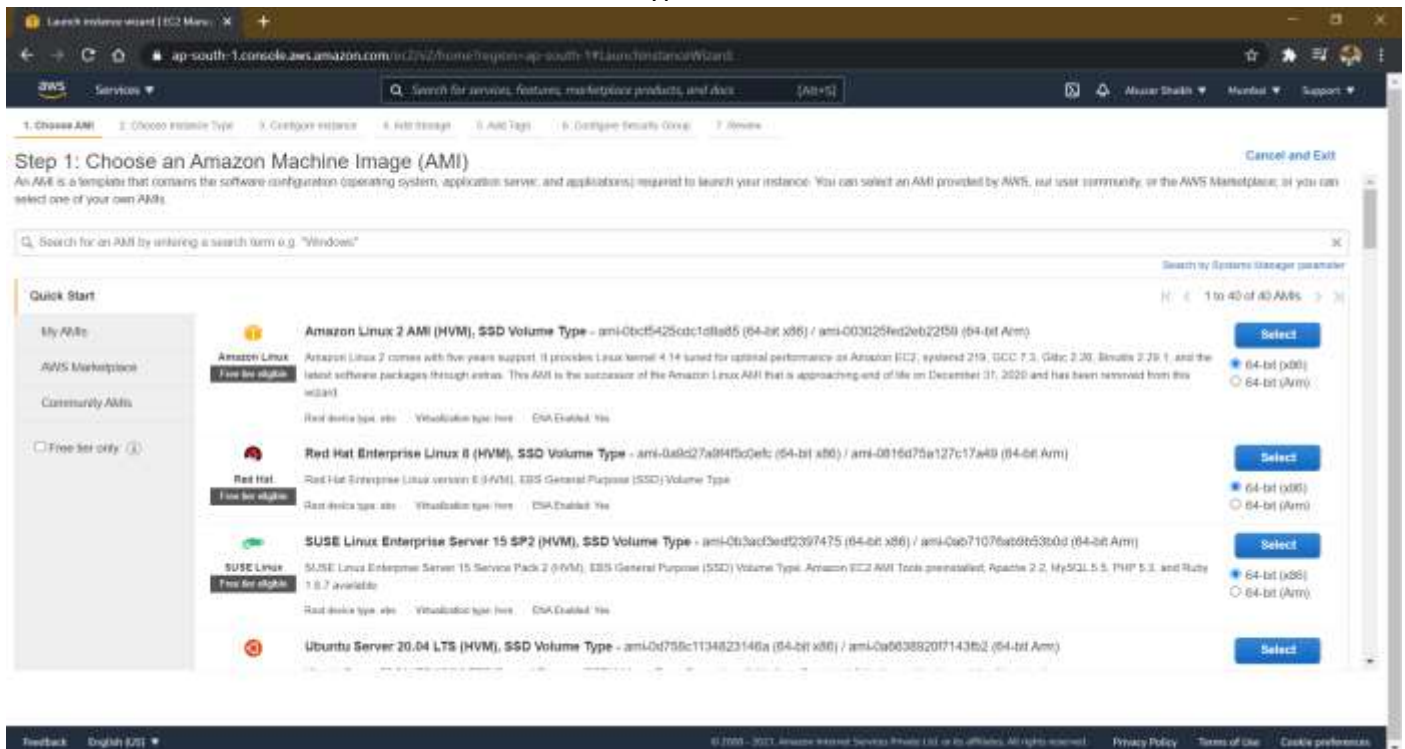
Aim: To demonstrate and implement IAAS service using AWS (Use t2.Micro (Free tier eligible) (instance only)).

Steps:

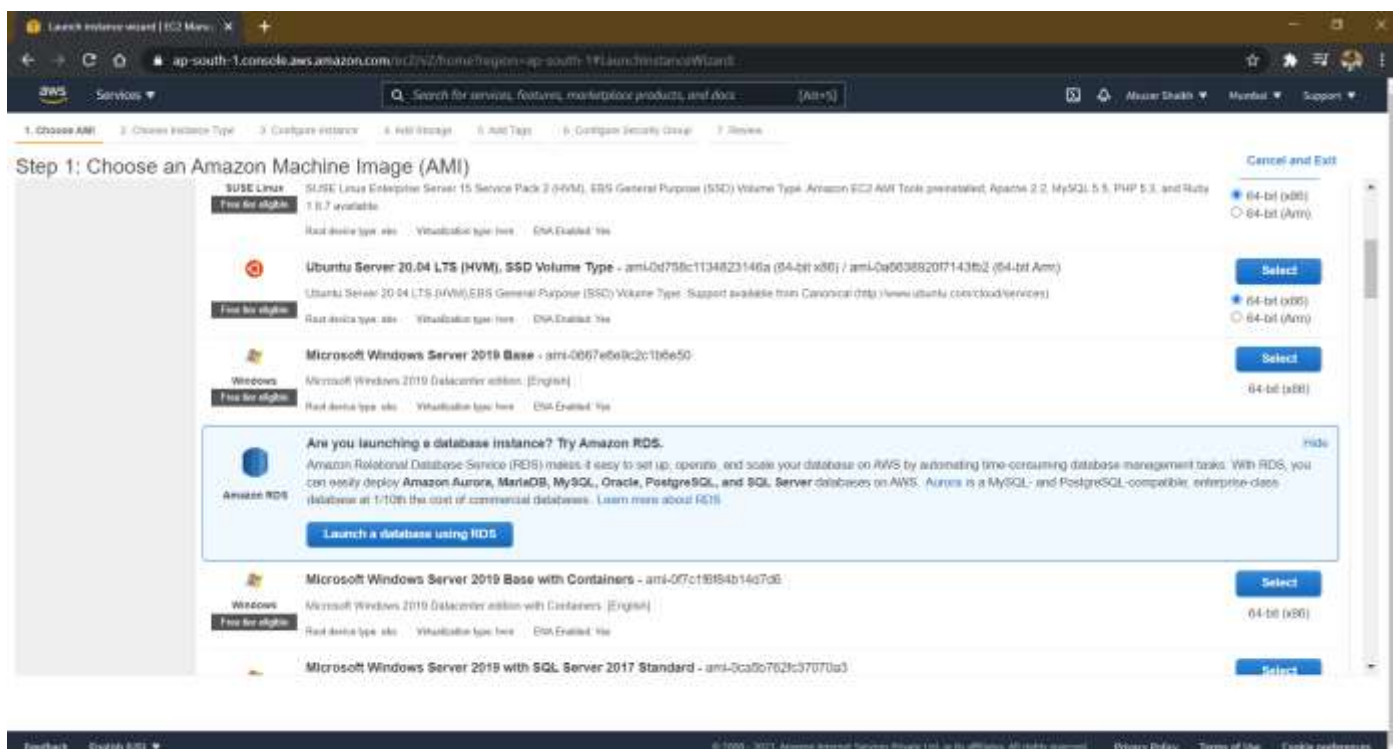
1. Login to AWS portal and Select EC2 service from admin console.



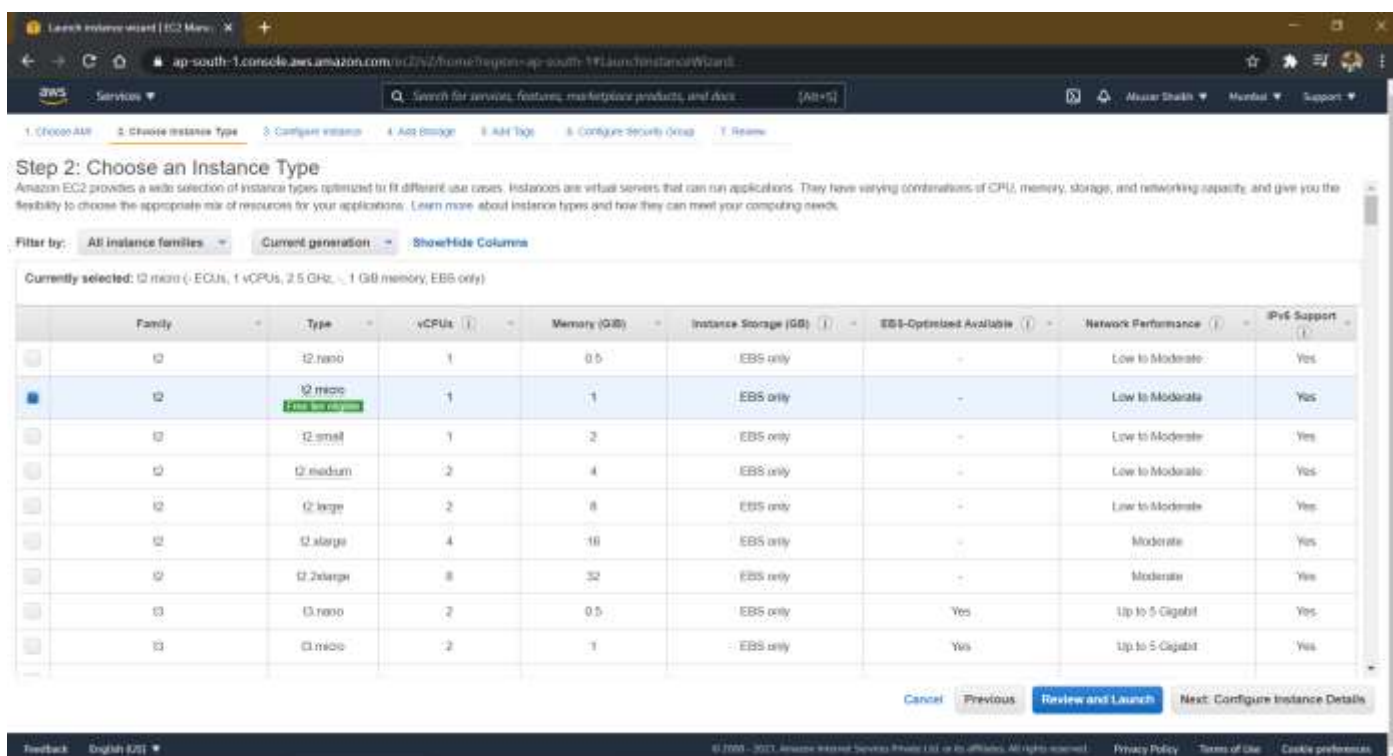
2. The EC2 resource page will appear which will show you the summary of instances. Now click on launch instance to select the VM instance type.



3. Select the operating system type in AMI format. In this example we have selected Windows server instance which is eligible for free tier and click on Next.



4. Now select the hardware type for Virtual machine. In this example we have selected free tier eligible General-purpose hardware and click on Next.



- Now specify the instance details like Number of instances, networking options like VPC, Subnet or DHCP public IP etc. and click on Next.

Launch Instance Wizard | EC2 Menu

ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1:LaunchInstanceWizard

1. Choose AMI 2. Choose Instance Type 3. Configure Instance Details 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access-management role to the instance, and more.

Number of instances: 1 [Launch into Auto Scaling Group](#)

Purchasing option: ☐ Request Spot instances

Network: vpc-888720 (default) [Create new VPC](#)

Subnet: No preference (default subnet in my Availability Zone) [Create new subnet](#)

Auto-assign Public IP: Use subnet setting (Enable)

Placement group: ☐ Add instance to placement group

Capacity Reservation: Open

Domain join directory: No directory [Create new directory](#)

IAM role: none [Create new IAM role](#)

Shutdown behavior: Stop

Stop-Hibernate behavior: ☐ Enable hibernation as an additional stop behavior

Enable termination protection: ☐ Protect against accidental termination

Monitoring: ☐ Enable CloudWatch detailed monitoring [Additional charges apply](#)

Tags: [Add new tag](#)

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

Feedback English (US)

© 2008 – 2021 Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#) [Cookie preferences](#)

- Specify the storage space for VM and click on Next. Click on Add tag to specify VM Name and click on Next. Configure security group to provide access to VM using different protocols. In this example we have selected default RDP protocol.

Launch Instance Wizard | EC2 Menu

ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1:LaunchInstanceWizard

1. Choose AMI 2. Choose Instance Type 3. Configure Instance Details 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more about storage options in Amazon EC2.](#)

Volume Type	Device	Snapshot	Size (GB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-052446bd409dbd84	30	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

[Add New Volume](#)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Tags](#)

Feedback English (US)

© 2008 – 2021 Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#) [Cookie preferences](#)

7. Now Review the instance and click on Launch button.

Launch Instance Wizard [EC2 Menu] X

ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

Improve your instances' security. Your security group, launch-wizard-2, is open to the world.

Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

Microsoft Windows Server 2019 Base - ami-0667e6e9c2c1b0e50

Free tier eligible Microsoft Windows 2019 (Datacenter edition) [English]
Root Device Type: x86 Virtualization type: hvm
If you plan to use this AMI for an application that benefits from Microsoft License Mobility, fill out the License Mobility Form. Don't show me this again.

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GiB)	EBS-Optimized Available	Network Performance
t2.micro	1	1	1	EBS only	Yes	Low to Moderate

Security Groups [Edit security groups](#)

Security group name	Description
launch-wizard-2	launch-wizard-2 created 2021-04-19T13:10:07.035+05:30

[Cancel](#) [Previous](#) [Launch](#)

Feedback English (IN) 01/2008 - 2021, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#) [Cookie preferences](#)

8. Now to secure VM instance, Encrypt it using public key and create a private key pair to decrypt that. Here specify key pair name and download key pair.

Launch Instance Wizard [EC2 Menu] X

ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

Improve your instances' security. Your security group, launch-wizard-2, is open to the world.

Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

Microsoft Windows Server 2019 Base - ami-0667e6e9c2c1b0e50

Free tier eligible Microsoft Windows 2019 (Datacenter edition) [English]
Root Device Type: x86 Virtualization type: hvm
If you plan to use this AMI for an application that benefits from Microsoft License Mobility, fill out the License Mobility Form. Don't show me this again.

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory
t2.micro	1	1	1

Security Groups [Edit security groups](#)

Security group name	Description
launch-wizard-2	launch-wizard-2 created 2021-04-19T13:10:07.035+05:30

Select an existing key pair or create a new key pair X

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair

Key pair name

aws-experiment

[Download Key Pair](#)

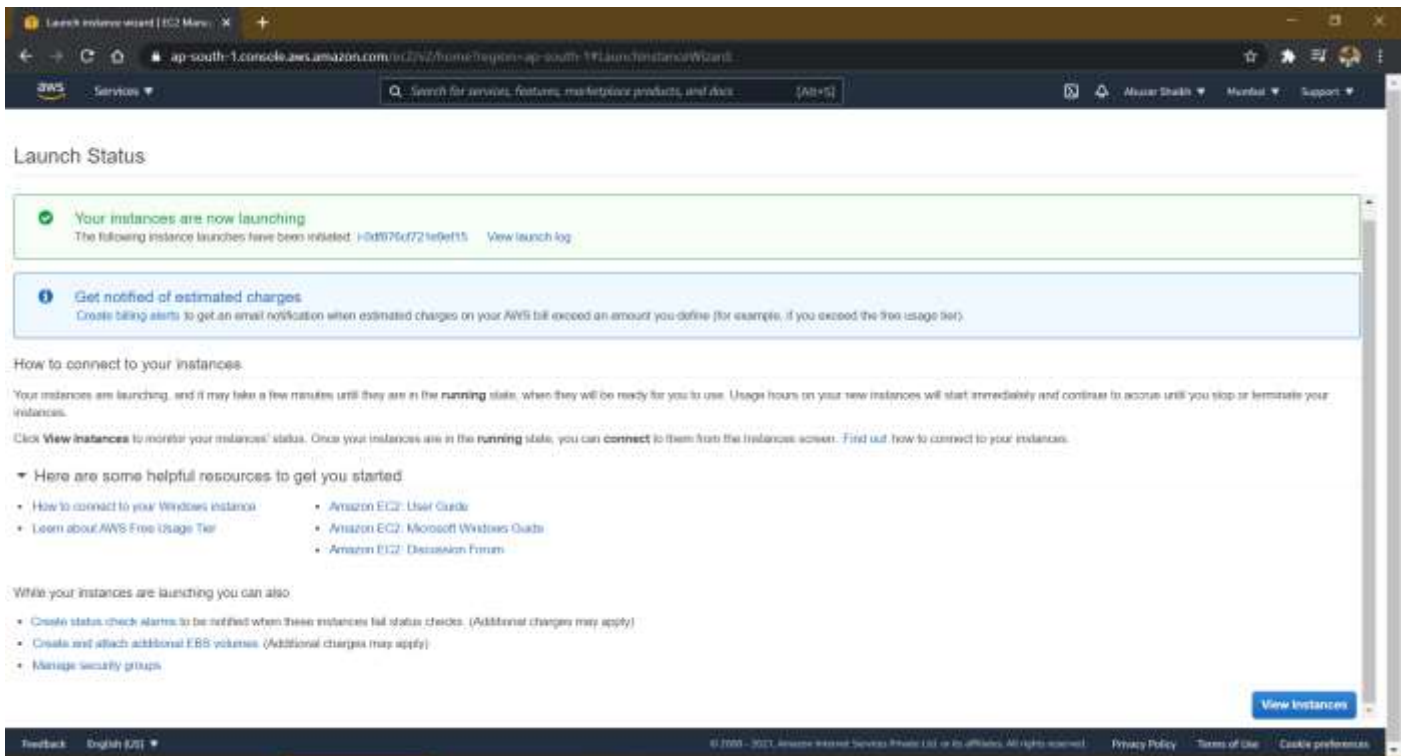
Info You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

[Cancel](#) [Launch Instances](#)

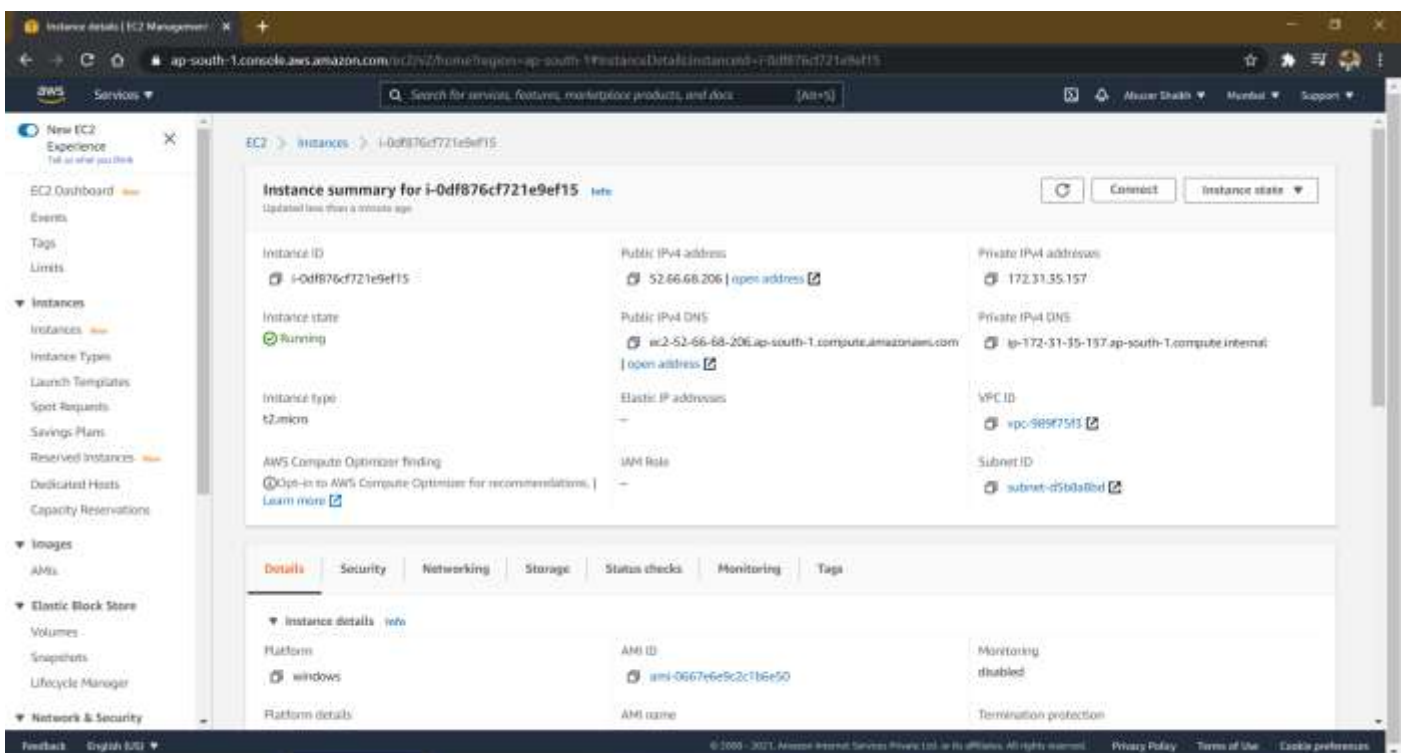
[Cancel](#) [Previous](#) [Launch](#)

Feedback English (IN) 01/2008 - 2021, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#) [Cookie preferences](#)

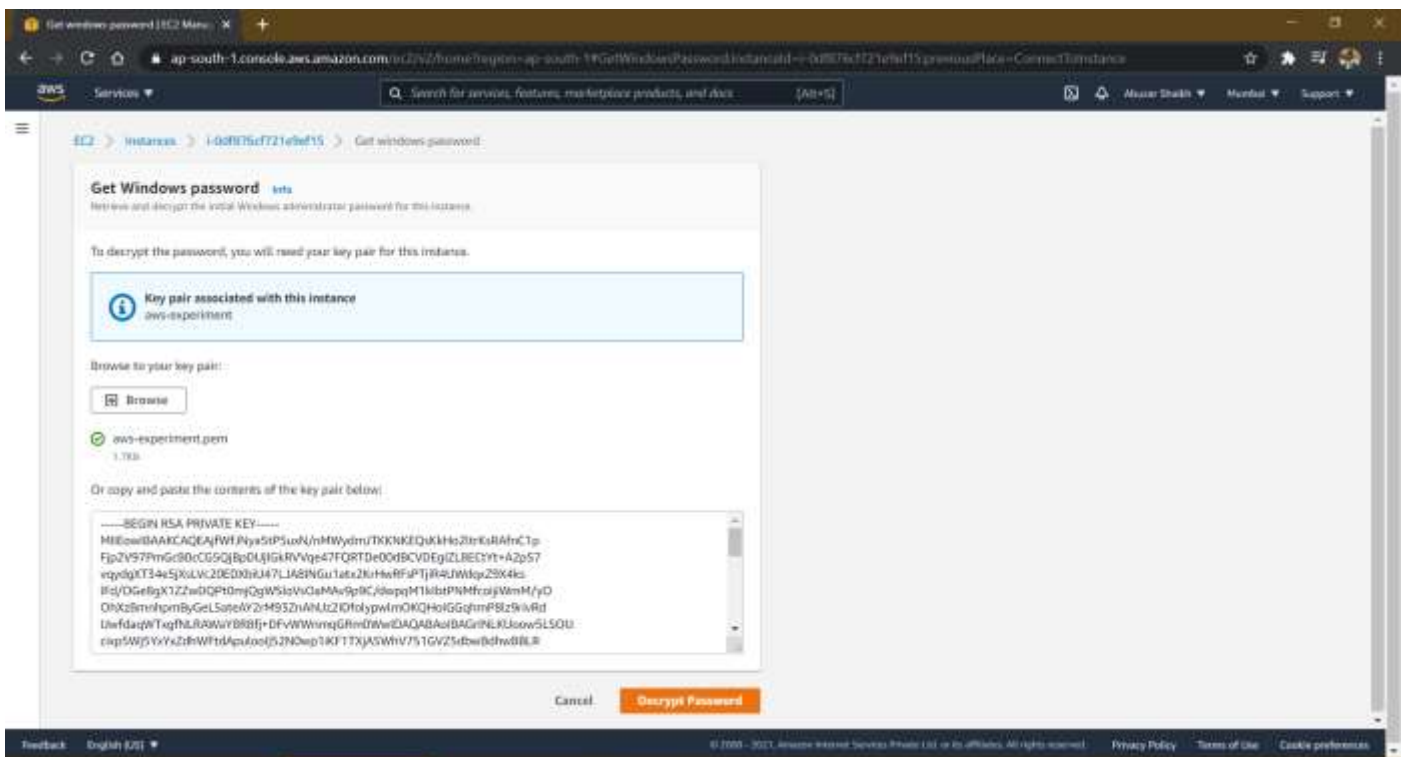
9. Now from summary page click on View instance to see the instance state. After some time you will see the running instance of your VM.



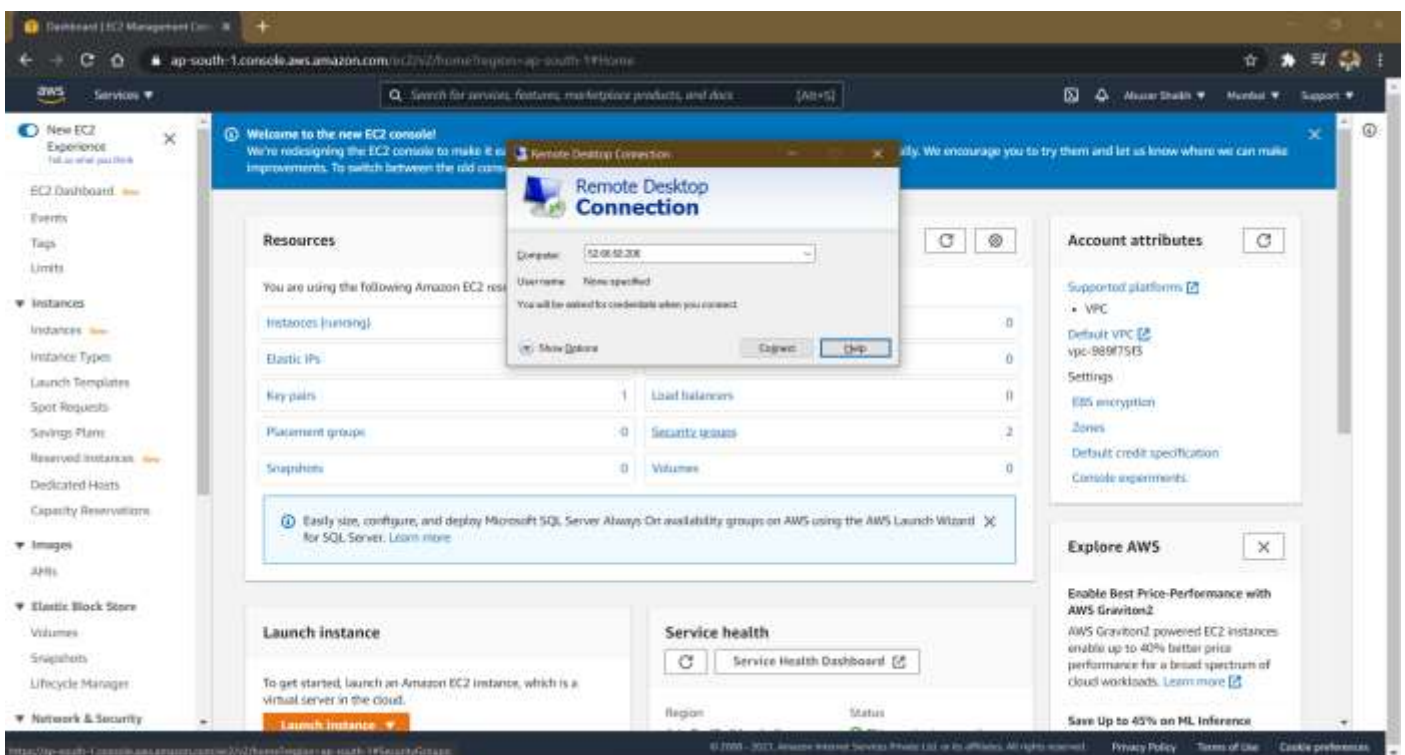
10. Now Click on Connect to get the password for VM to access it over RDP protocol.



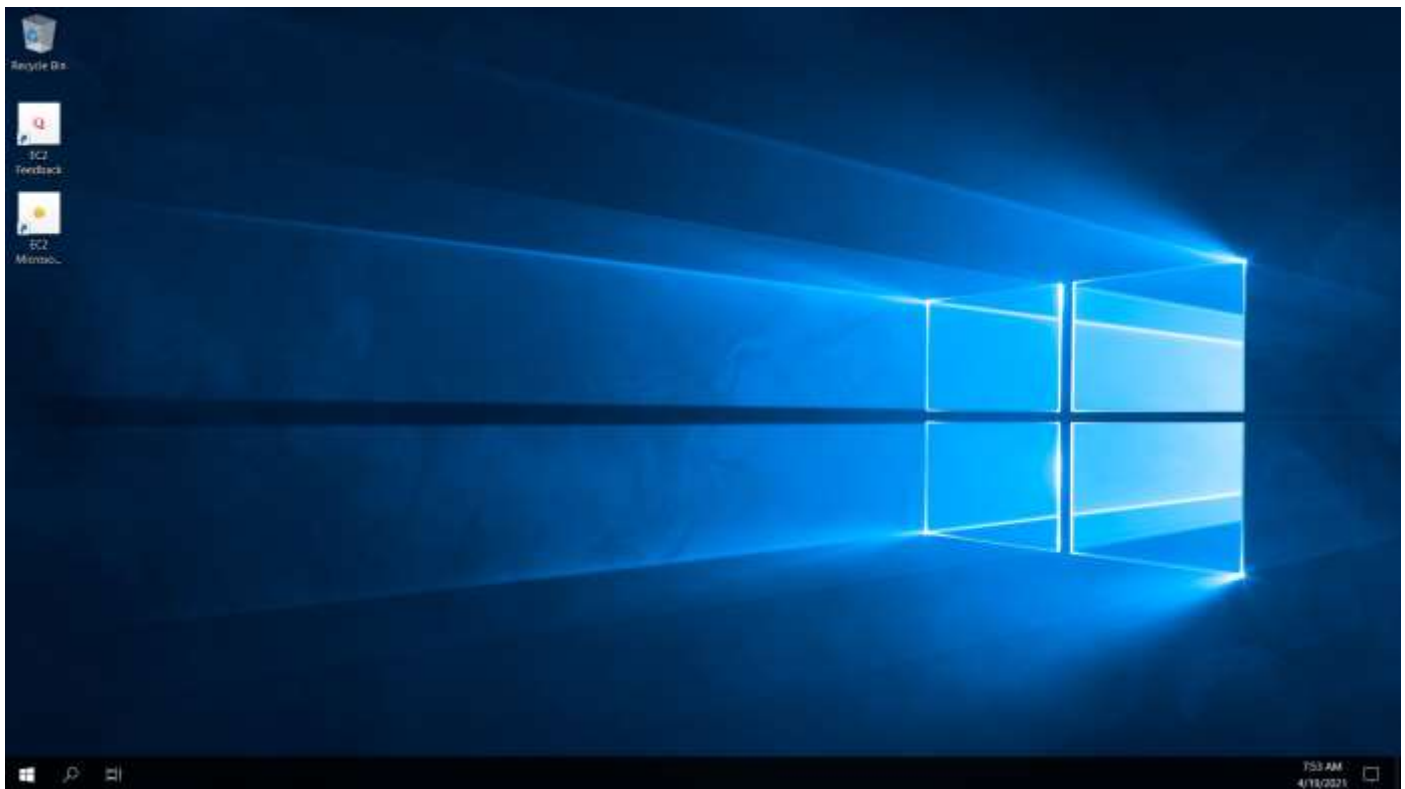
11. Select the downloaded key pair file to decrypt the password.



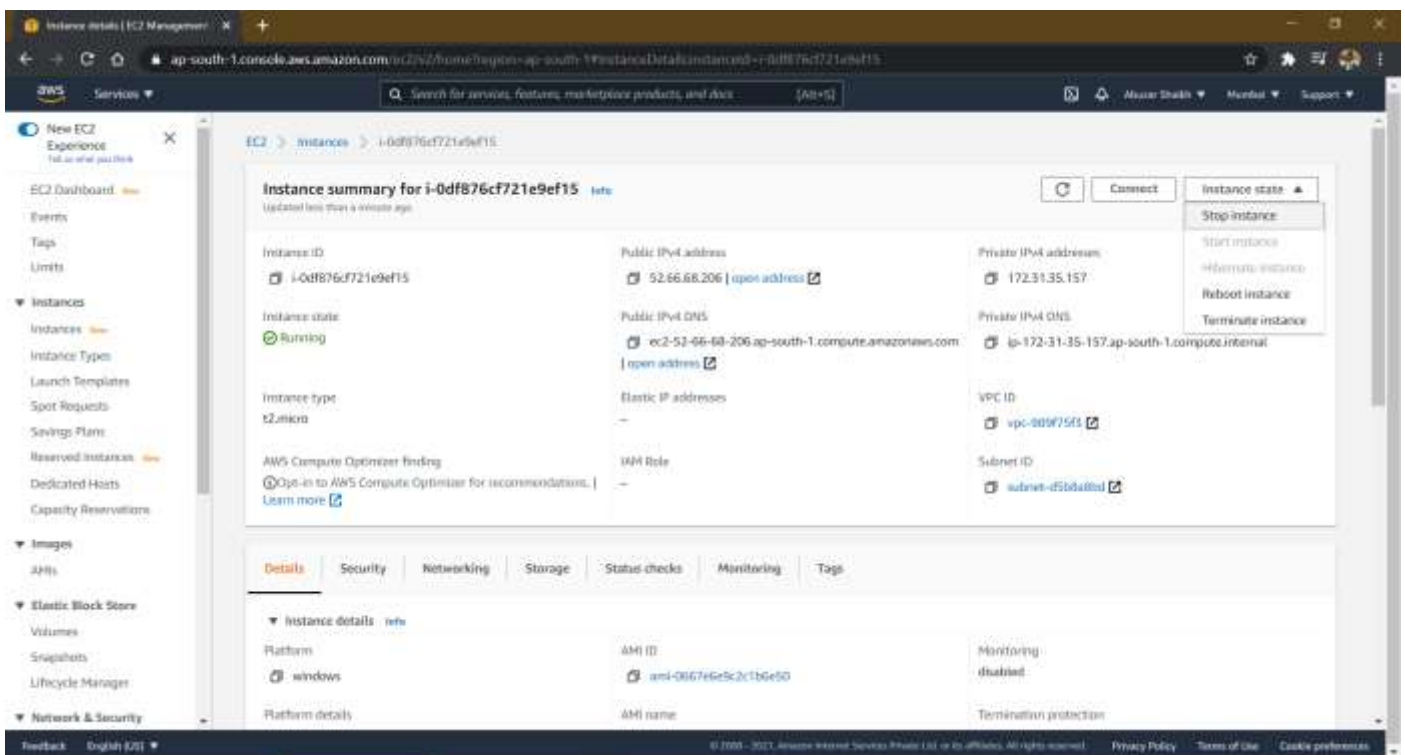
12. Now connect the instance using RDP tool by using IP address/DNS, username and Password decrypted in last step.



13. Once you click on connect, you will see the running Windows virtual machine as shown below.



14. You can shut down instance by selecting instance state followed by stop.



15. You can delete the instance permanently by selecting instance state followed by terminate.

The screenshot displays the AWS Management Console interface for an EC2 instance. The left sidebar shows the navigation menu with categories like EC2 Dashboard, Events, Tags, Limits, Instances, Images, Elastic Block Store, and Network & Security. The main content area shows the 'Instance summary for i-0df876cf721e9ef15'. The instance is in the 'Running' state. The 'Instance state' dropdown menu is open, showing options: Stop instance, Start instance, Reboot instance, and Terminate instance. The 'Terminate instance' option is highlighted. Below the summary, there are tabs for Details, Security, Networking, Storage, Status checks, Monitoring, and Tags. The 'Details' tab is selected, showing information about the instance's platform (windows), AMI ID (ami-0867e6e5c2c1b6e5d), and AMI name.

Instance summary for i-0df876cf721e9ef15		
Instance ID	Public IPv4 address	Private IPv4 address
i-0df876cf721e9ef15	52.66.68.206 open address	172.31.35.157
Instance state	Public IPv4 DNS	Private IPv4 DNS
Running	ec2-52-66-68-206.ap-south-1.compute.amazonaws.com open address	ip-172-31-35-157.ap-south-1.compute.internal
Instance type	Elastic IP addresses	VPC ID
t2.micro	—	vpc-809f75f3
AWS Compute Optimizer finding	IAM Role	Subnet ID
Opt-in to AWS Compute Optimizer for recommendations. Learn more	—	subnet-d5bdab0d

Instance details		
Platform	AMI ID	Monitoring
windows	ami-0867e6e5c2c1b6e5d	disabled
Platform details	AMI name	Termination protection