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Cloud Computing

Practical Assignment No. 1 - *Working and Implementation of Infrastructure as a service*

Launch EC2 Instance(windows)- AWS Platform .

Step 1: At the top right panel above the console, choose Start Lab to launch your lab.

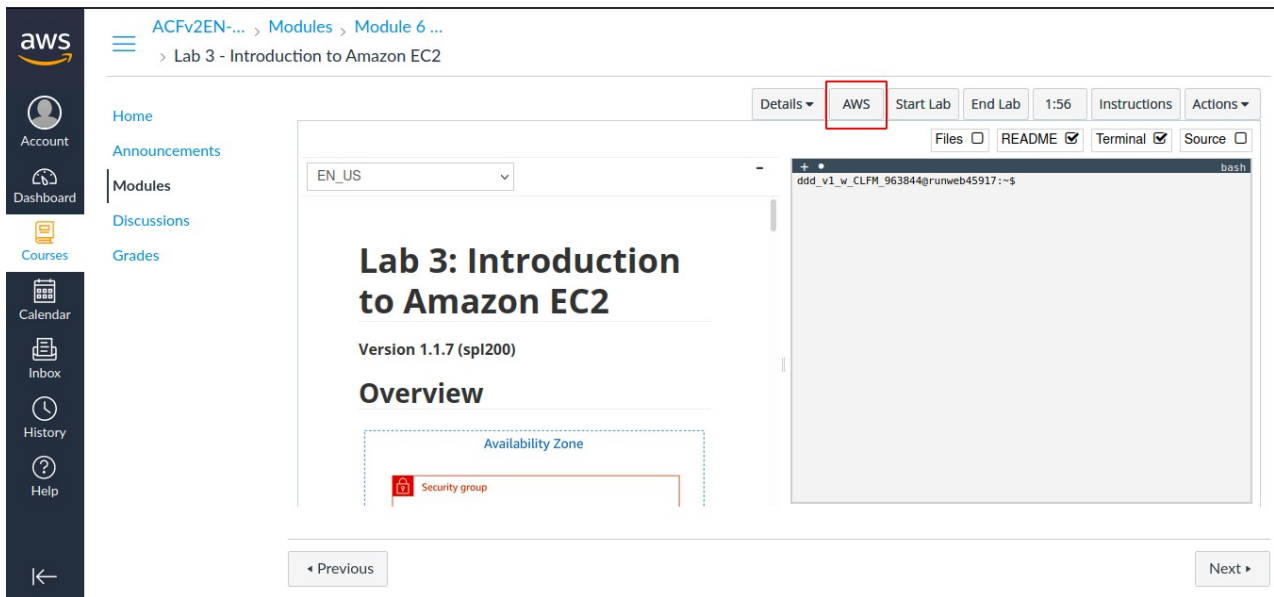
The screenshot shows the AWS Management Console interface. On the left is a navigation sidebar with icons for Account, Dashboard, Courses, Calendar, Inbox, History, and Help. The main content area has a breadcrumb trail: 'ACFv2EN-...' > 'Modules' > 'Module 6 ...' > 'Lab 3 - Introduction to Amazon EC2'. Below this is a 'Home' section with 'Announcements', 'Modules', 'Discussions', and 'Grades'. The 'Modules' section is active, displaying instructions for 'Accessing the AWS Management Console'. The instructions are: 1. At the top of these instructions, choose Start Lab to launch your lab. 2. Wait until you see the message "Lab status: ready", then choose the X to close the Start Lab panel. 3. At the top of these instructions, choose AWS. In the top right corner, there is a toolbar with buttons: 'Details', 'AWS', 'Start Lab' (highlighted with a red box), 'End Lab', '1:59', 'Instructions', and 'Actions'. Below the toolbar is a terminal window showing a bash prompt.

Step 2: Wait until you see the message "Lab status: ready", then choose the X to close the Start Lab panel.

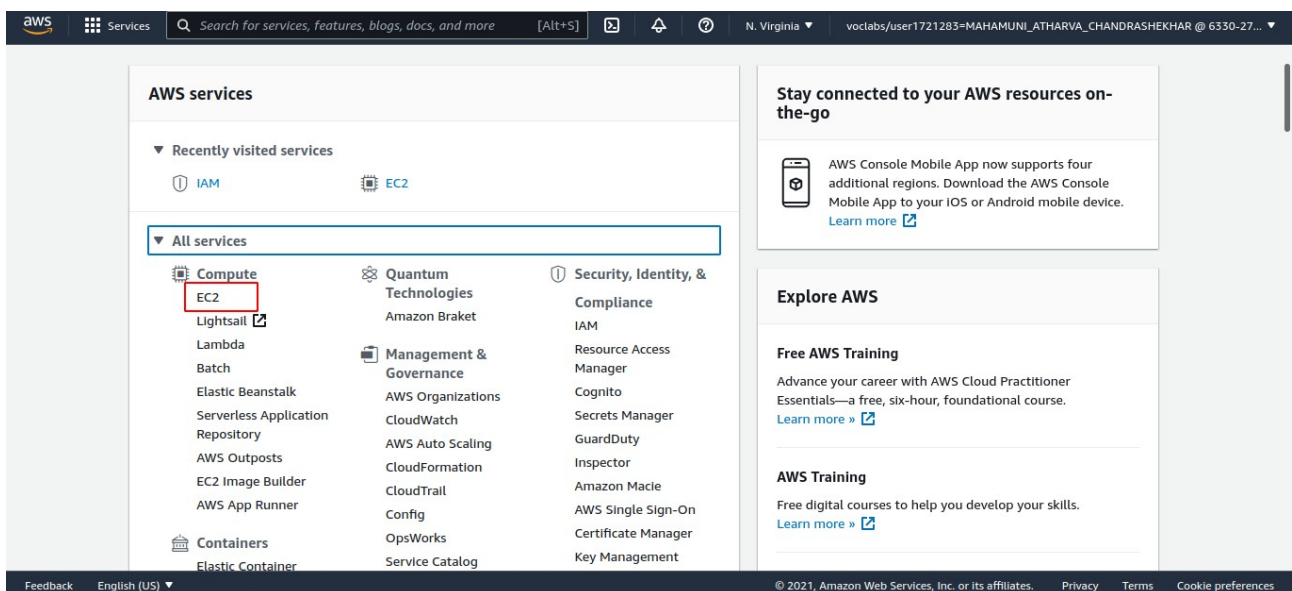
The screenshot shows the AWS Management Console interface, similar to the previous one. The 'Start Lab' button is now highlighted with a red box. The 'Start Lab' panel is open, displaying the following information: Region: us-east-1, Lab ID: arn:aws:cloudformation:us-east-1:633027899401:stack/c45982a63248411400230t1w633027899401/8ecce3d0-6736-11ec-9c81-0e5ae768be0f, Creation Time: 2021-12-27T09:00:56-0800, Refresh session at: 2021-12-27T09:08:24-0800, Remaining session time: 02:00:00 (120 minutes), and Lab status: ready (highlighted with a red box). The 'Start Lab' button is now closed, and the 'X' button is visible in the top right corner of the panel. The terminal window is still open, showing a bash prompt.

Step 3: Now choose AWS

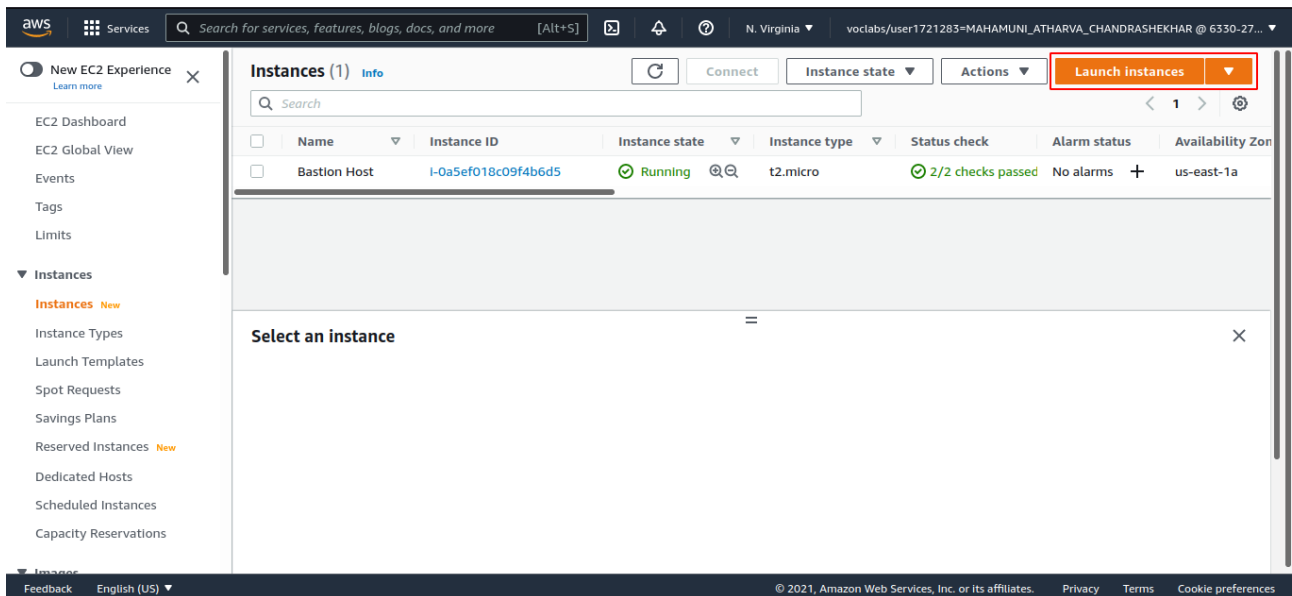
This will open the AWS Management Console in a new browser tab. The system will automatically log you in.



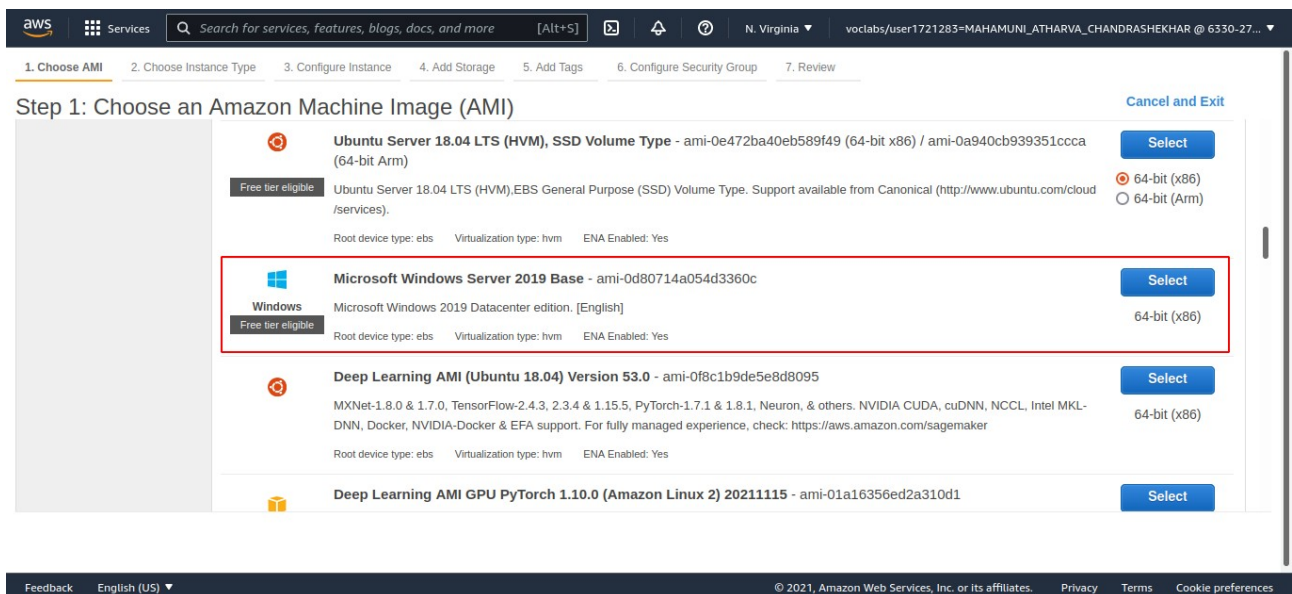
Step 4: In the AWS Management Console on the Services menu, choose EC2.



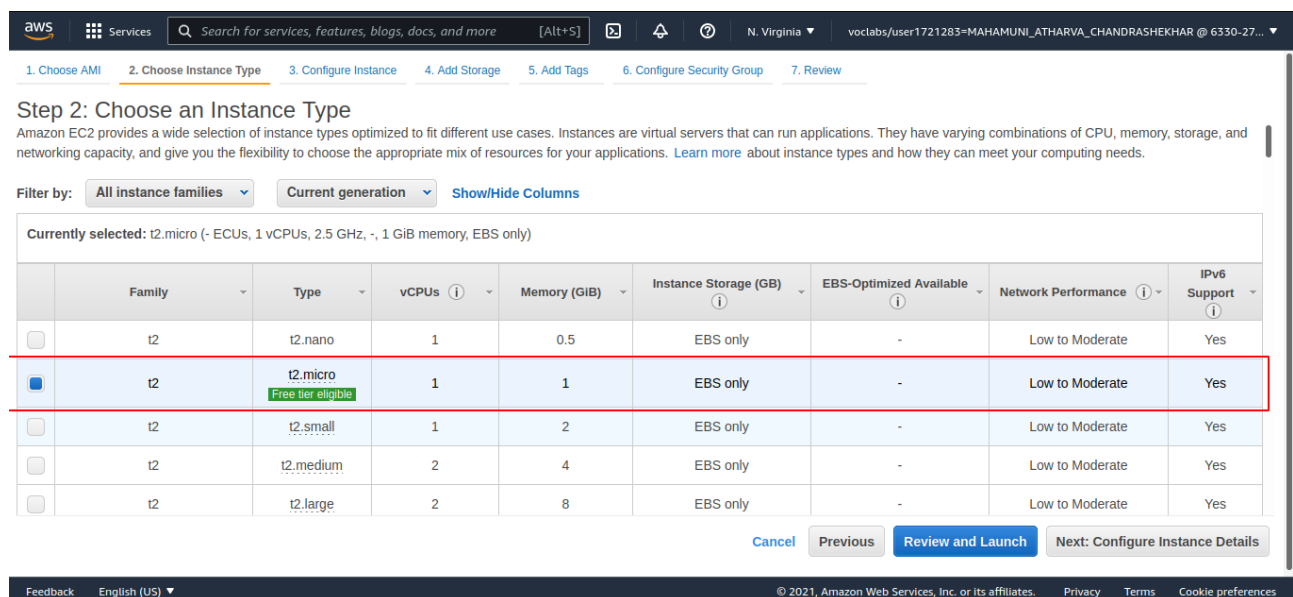
Step 5: Choose Launch instance , then select Launch Instance.



Step 6: Choose an Amazon Machine Image (AMI), select **Microsoft Windows Server 2019 Base**



Step 7: Choose an Instance Type, select t2.micro



Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: **All instance families** **Current generation** [Show/Hide Columns](#)

Currently selected: t2.micro (- ECUs, 1 vCPUs, 2.5 GHz, -, 1 GiB memory, EBS only)

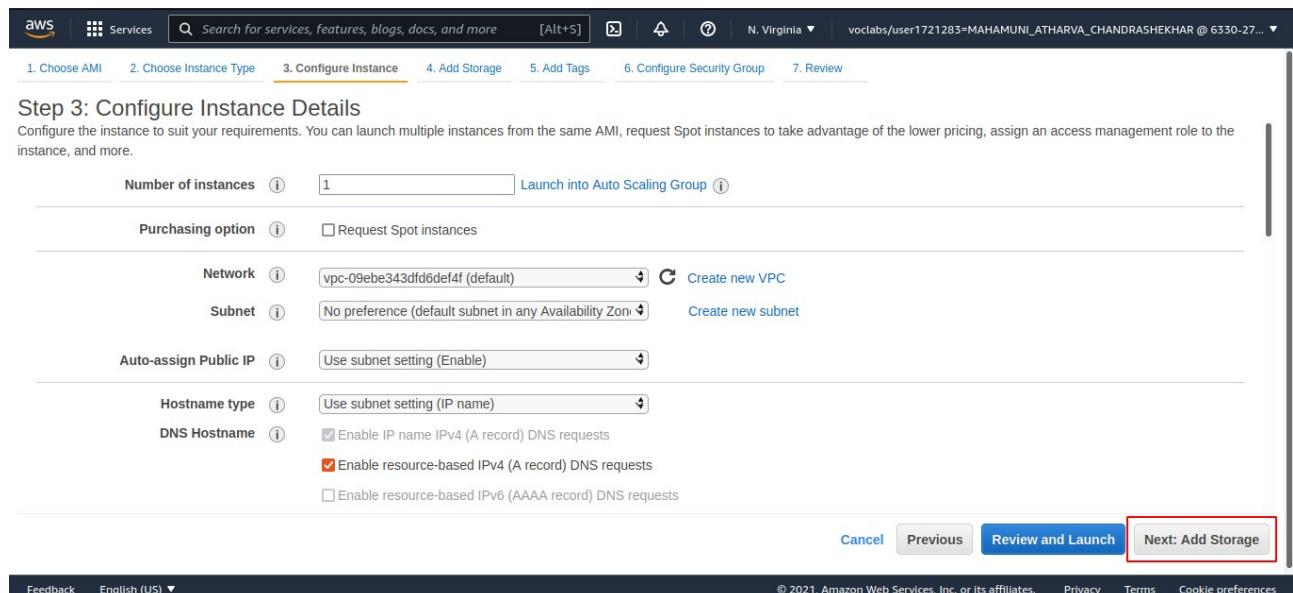
	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	t2	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

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Choose Next: Configure Instance Details

Step 8: Configure Instance Details



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 [Launch into Auto Scaling Group](#)

Purchasing option ☐ Request Spot instances

Network [Create new VPC](#)

Subnet [Create new subnet](#)

Auto-assign Public IP

Hostname type

DNS Hostname ☒ Enable IP name IPv4 (A record) DNS requests
☒ Enable resource-based IPv4 (A record) DNS requests
☐ Enable resource-based IPv6 (AAAA record) DNS requests

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

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Choose Next: Add Storage

Step 9: Select default Storage

The screenshot shows the 'Add Storage' step in the AWS Management Console. The top navigation bar includes the AWS logo, 'Services', a search bar, and user information. The breadcrumb trail shows steps 1 through 7, with '4. Add Storage' highlighted. The main heading is 'Step 4: Add Storage', followed by explanatory text about storage options. Below this is a table with columns: Volume Type, Device, Snapshot, Size (GiB), Volume Type, IOPS, Throughput (MB/s), Delete on Termination, and Encryption. The first row shows 'Root' as the device, 'snap-09061491925740c2e' as the snapshot, '30' as the size, 'General Purpose SSD (gp2)' as the volume type, '100 / 3000' as IOPS, 'N/A' as throughput, a checked 'Delete on Termination' box, and 'Not Encrypt' as encryption. Below the table is an 'Add New Volume' button and a blue informational box about free tier eligibility. At the bottom right, there are buttons for 'Cancel', 'Previous', 'Review and Launch', and 'Next: Add Tags', with the 'Next: Add Tags' button highlighted by a red rectangle.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
	Root	snap-09061491925740c2e	30	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypt

Choose Next: Add Tags

Step 10: Choose Add Tag then configure (key: value):

The screenshot shows the 'Add Tags' step in the AWS Management Console. The top navigation bar and breadcrumb trail are similar to the previous step, with '5. Add Tags' highlighted. The main heading is 'Step 5: Add Tags', followed by text explaining what a tag is and how to apply it. Below this is a table with columns: Key, Value, Instances, Volumes, and Network Interfaces. The first row shows 'Name' as the key, 'WinServer' as the value, and checked boxes for 'Instances', 'Volumes', and 'Network Interfaces'. Below the table is an 'Add another tag' button with the text '(Up to 50 tags maximum)'. At the bottom right, there are buttons for 'Cancel', 'Previous', 'Review and Launch', and 'Next: Configure Security Group', with the 'Next: Configure Security Group' button highlighted by a red rectangle.

Key	Value	Instances	Volumes	Network Interfaces
Name	WinServer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Choose Next: Configure Security Group

Step 11: Select a **security group**, either an existing one or create a new group.

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☐ Create a new security group ☒ Select an existing security group

Security Group ID	Name	Description	Actions
sg-0957a99566bdab957	default	default VPC security group	Copy to new

Inbound rules for sg-0957a99566bdab957 (Selected security groups: sg-0957a99566bdab957)

Type	Protocol	Port Range	Source	Description
All traffic	All	All	sg-0957a99566bdab957 (default)	

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

Choose **Review and Launch**

Step 12: Choose **Launch**

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.

▼ AMI Details [Edit AMI](#)

Microsoft Windows Server 2019 Base - ami-0d80714a054d3360c

Free tier eligible Microsoft Windows 2019 Datacenter edition, [English]
Root Device Type: ebs 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](#)

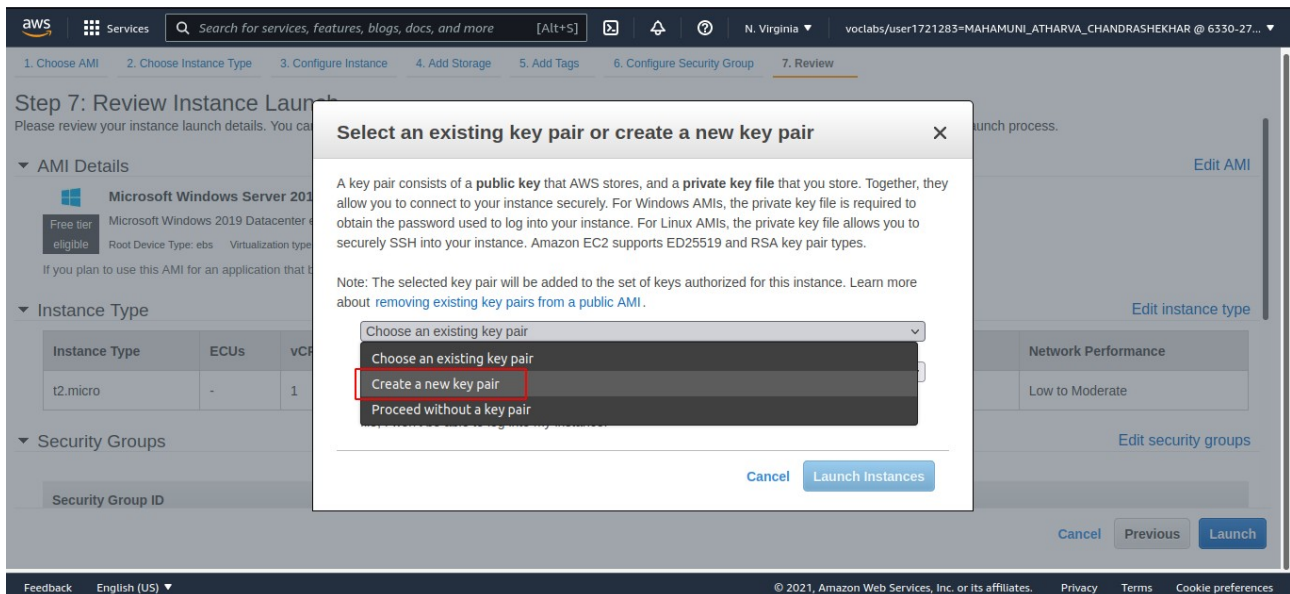
Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	-	1	1	EBS only	-	Low to Moderate

▼ Security Groups [Edit security groups](#)

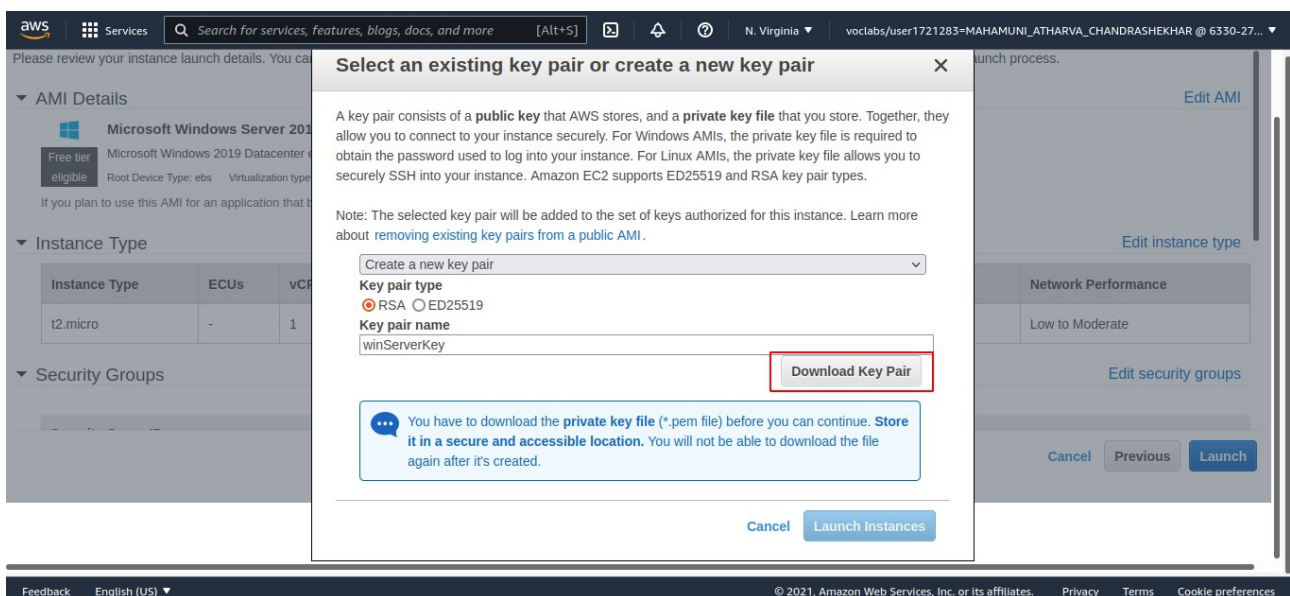
Security Group ID	Name	Description
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[Cancel](#) [Previous](#) [Launch](#)

Step 13: A box will appear then select **Create a new key pair**.



Give it a name and select **Download Key Pair**



Select **Launch Instances**.

Step 14: Review launch status and choose **view instances**

The screenshot shows the 'Launch Status' page in the AWS Management Console. At the top, there's a green notification box stating 'Your instances are now launching' with the instance ID 'i-0c67e8a395a494d55' and a link to 'View launch log'. Below this is a blue information box about estimated charges. The main content area has a section 'How to connect to your instances' explaining that instances will be in the 'running' state and providing instructions on how to connect. It also lists helpful resources like 'Amazon EC2: User Guide' and 'Amazon EC2: Microsoft Windows Guide'. The footer includes 'Feedback', 'English (US)', and copyright information for 2021 Amazon Web Services.

Launch Status

✓ **Your instances are now launching**
The following instance launches have been initiated: i-0c67e8a395a494d55 [View launch log](#)

ℹ **Get notified of estimated charges**
[Create billing alerts](#) to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

▼ Here are some helpful resources to get you started

- [How to connect to your Windows instance](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: User Guide](#)
- [Amazon EC2: Microsoft Windows Guide](#)
- [Amazon EC2: Discussion Forum](#)

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The windows instance is running.

The screenshot shows the 'Instances' page in the AWS Management Console. A table lists two instances: 'WinServer' (ID: i-0c67e8a395a494d55) and 'Bastion Host' (ID: i-0a0e515ba780b26cf). Both are in the 'Running' state. The 'WinServer' instance is highlighted with a red box. Below the table, the details for the 'WinServer' instance are shown, including its public IPv4 address (3.83.118.219) and private IPv4 address (172.31.84.178).

Instances (1/2) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
WinServer	i-0c67e8a395a494d55	Running	t2.micro	2/2 checks passed	No alarms	us-east-1d
Bastion Host	i-0a0e515ba780b26cf	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a

Instance: i-0c67e8a395a494d55 (WinServer)

Details Security Networking Storage Status checks Monitoring Tags

▼ Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0c67e8a395a494d55 (WinServer)	3.83.118.219 open address	172.31.84.178
IPv6 address	Instance state	Public IPv4 DNS

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Now **terminate** the instance and close the window.
Choose **End Lab**

