

**Lab 6 CST8912\_011**

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**Submitted to:**

**Prof. Tanishq Bansal**

# Lab-6

## Title

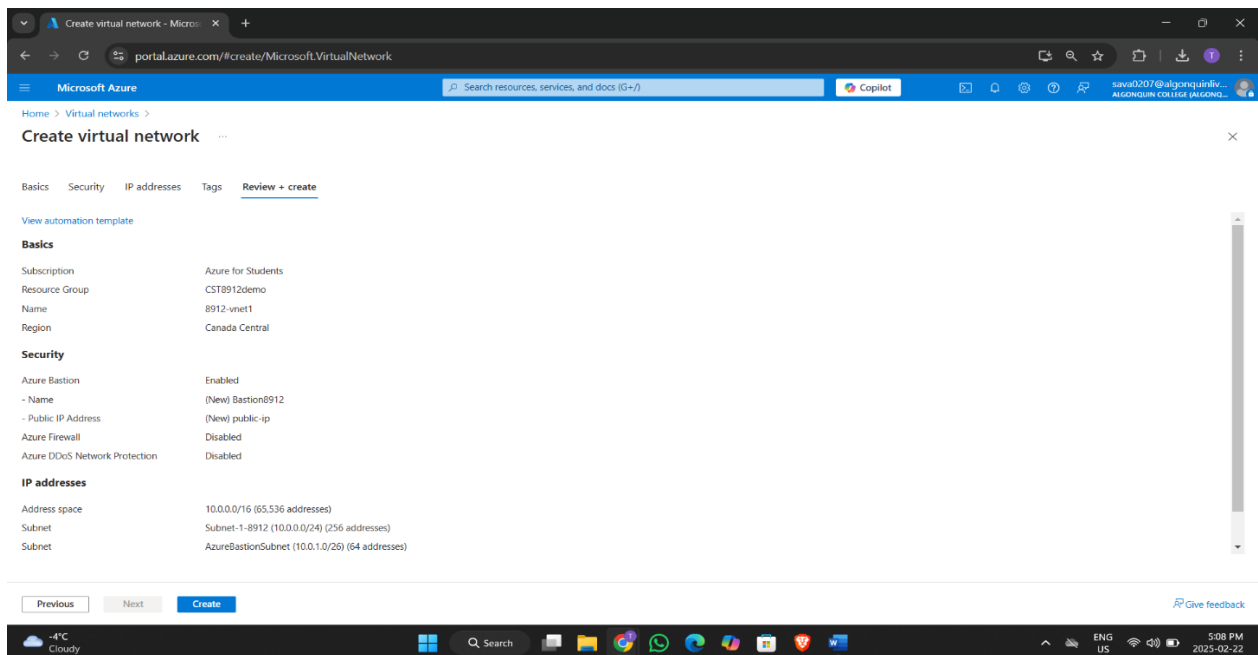
- Implementing and Testing Azure Private Link with Private Endpoints

## Introduction

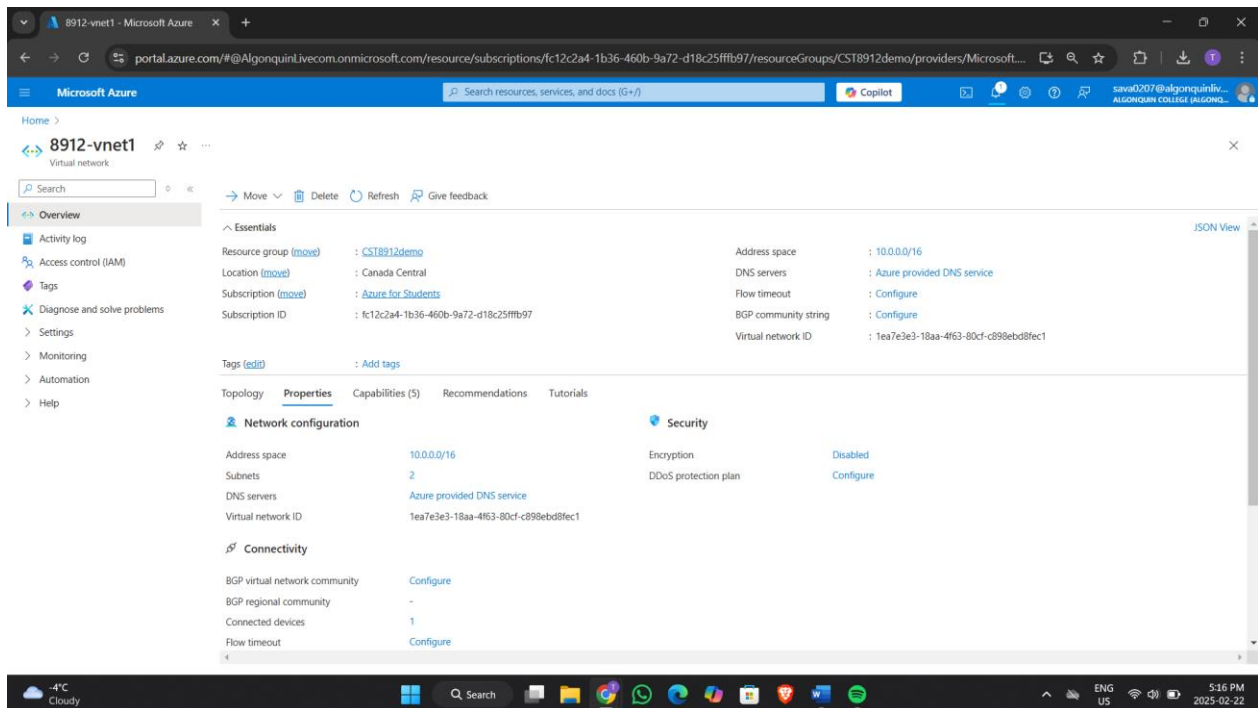
- Using Azure Private Link customers can establish private network connections from their virtual networks to platform as a service or their owned services and partner services as it eliminates public internet traffic exposure. Private Endpoints function as network interfaces to connect Vnets to Azure services through private IP addresses for maintaining internal Azure network traffic. The lab aims to establish Azure Private Link functionality through virtual network and bastion host deployment and storage account and private endpoint creation. This exercise provides hands-on experience to create secure private connections while showing how Azure Private Link enables secure network architecture and data protection through its private IP address feature.

## Steps

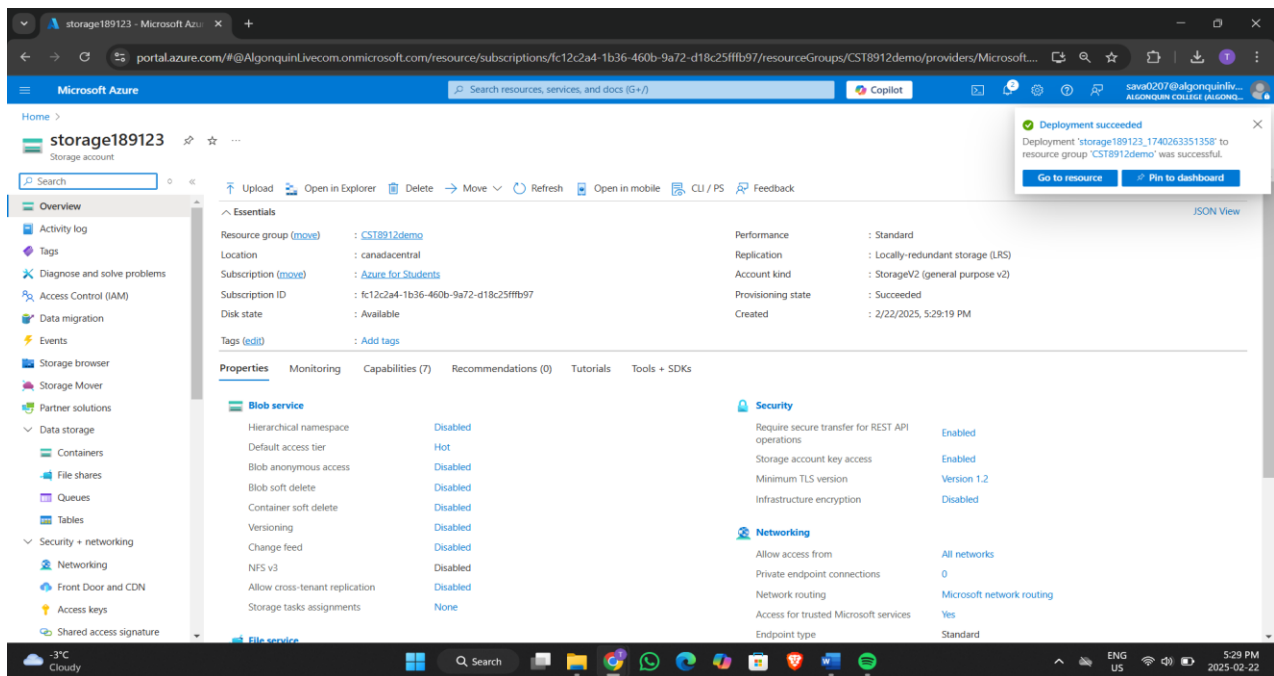
- Construct the Azure Private Link using Virtual Network (8912-vnet1) located in Canada Central and integrating Azure Bastion (Bastion8912) and Subnet-1-8912. Move forward to establish Storage Account (Storage1-8912) along with Local Redundant Storage (LRS) and switch off its Public Access capabilities. The Private Endpoint (Privateendpoint-8912) enables connection of the virtual network to the storage account's blob service through a dynamically reserved private IP address. A virtual machine named Test Virtual Machine (8912-VM1) should be created within the virtual network for the following steps to take place. The process requires using PowerShell to obtain the Storage Access Key followed by creating a private-access Blob Container (container) before checking connectivity through Azure Bastion using both PowerShell and Microsoft Azure Storage Explorer. Finish the procedure by documenting it with screenshots and properly cleanup all allocated resources. screenshots and clean up all resources.



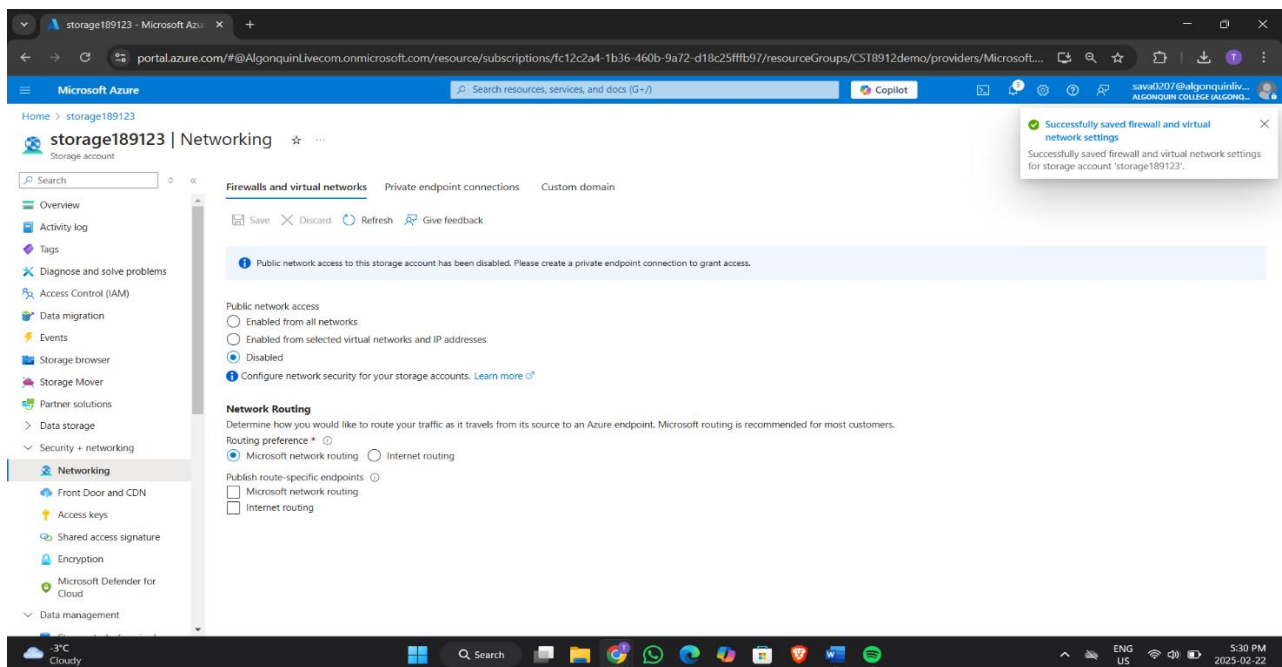
## 1.1 Creating Virtual Network



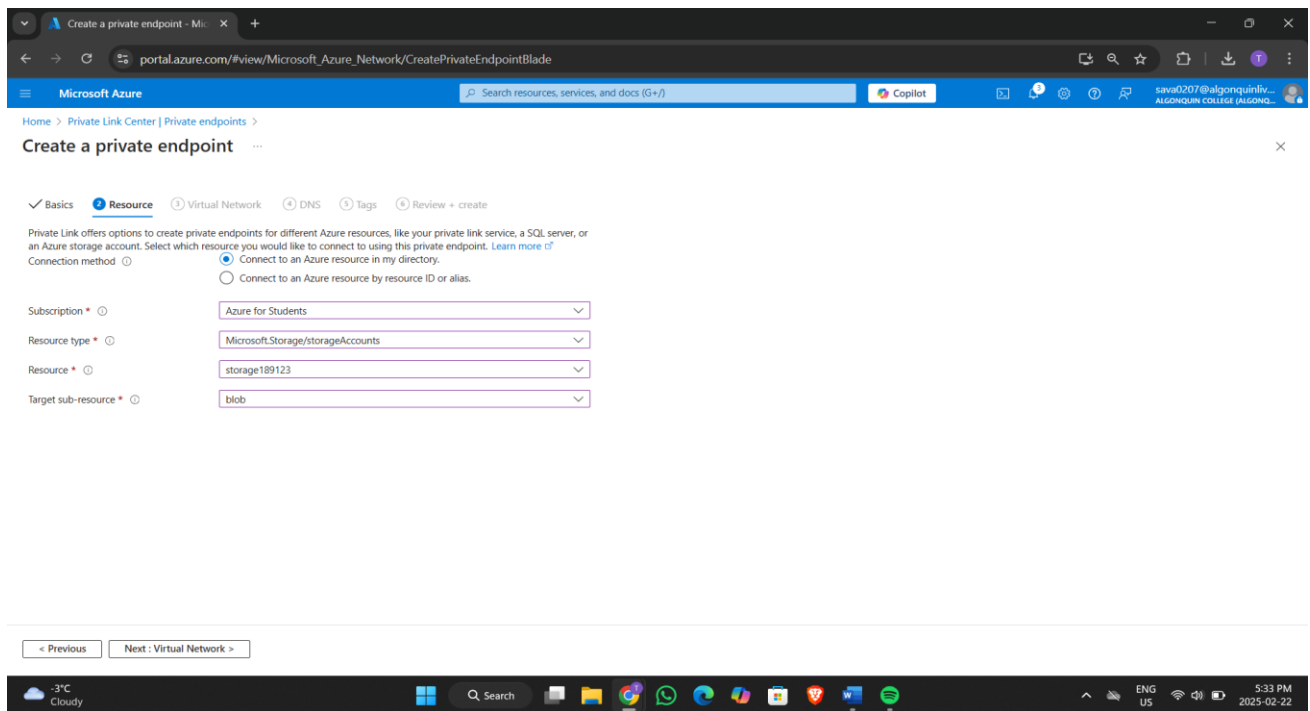
## 1.2 Overview of Virtual Network



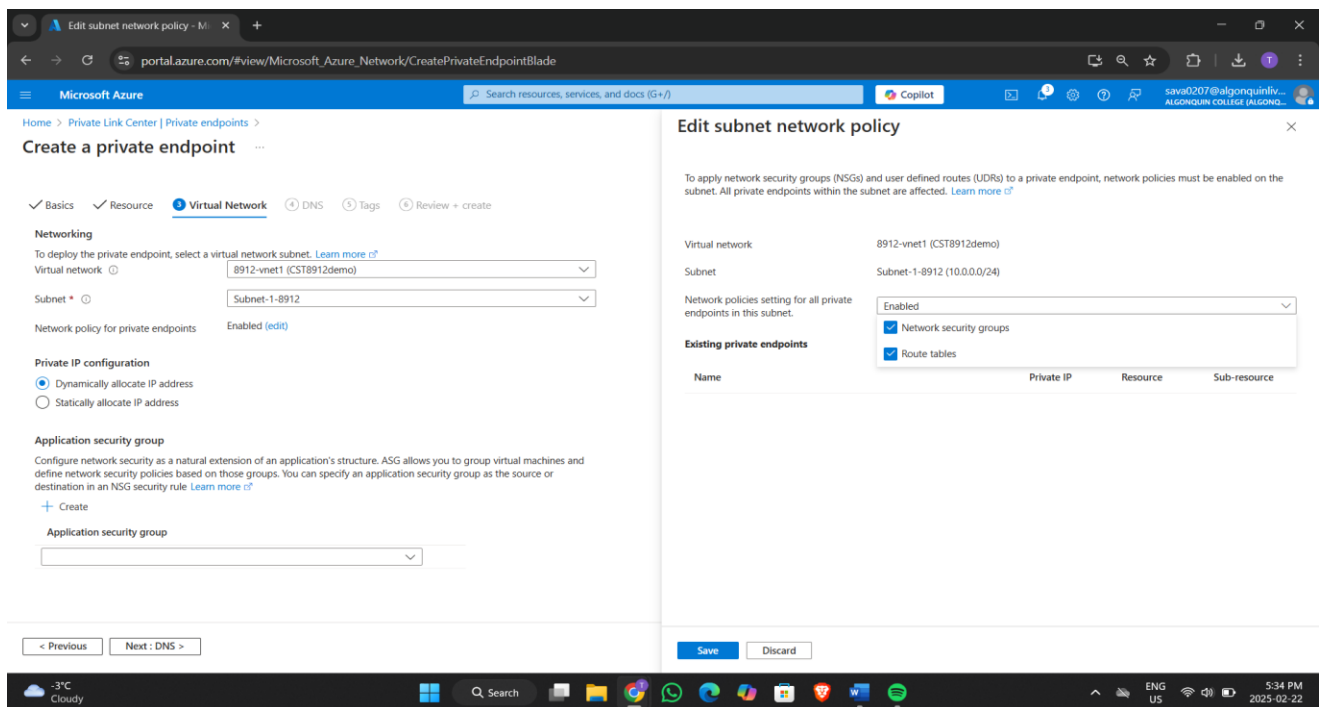
## 2.1 Created Storage account



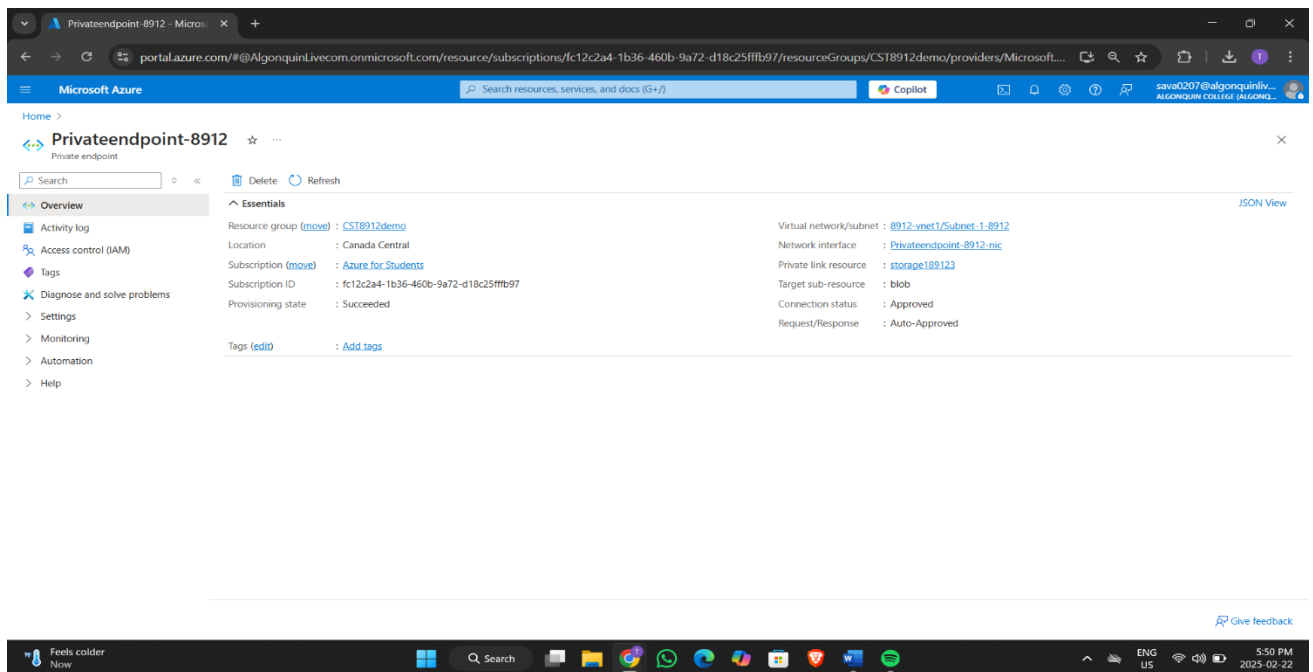
## 2.2 Disable public access to storage account



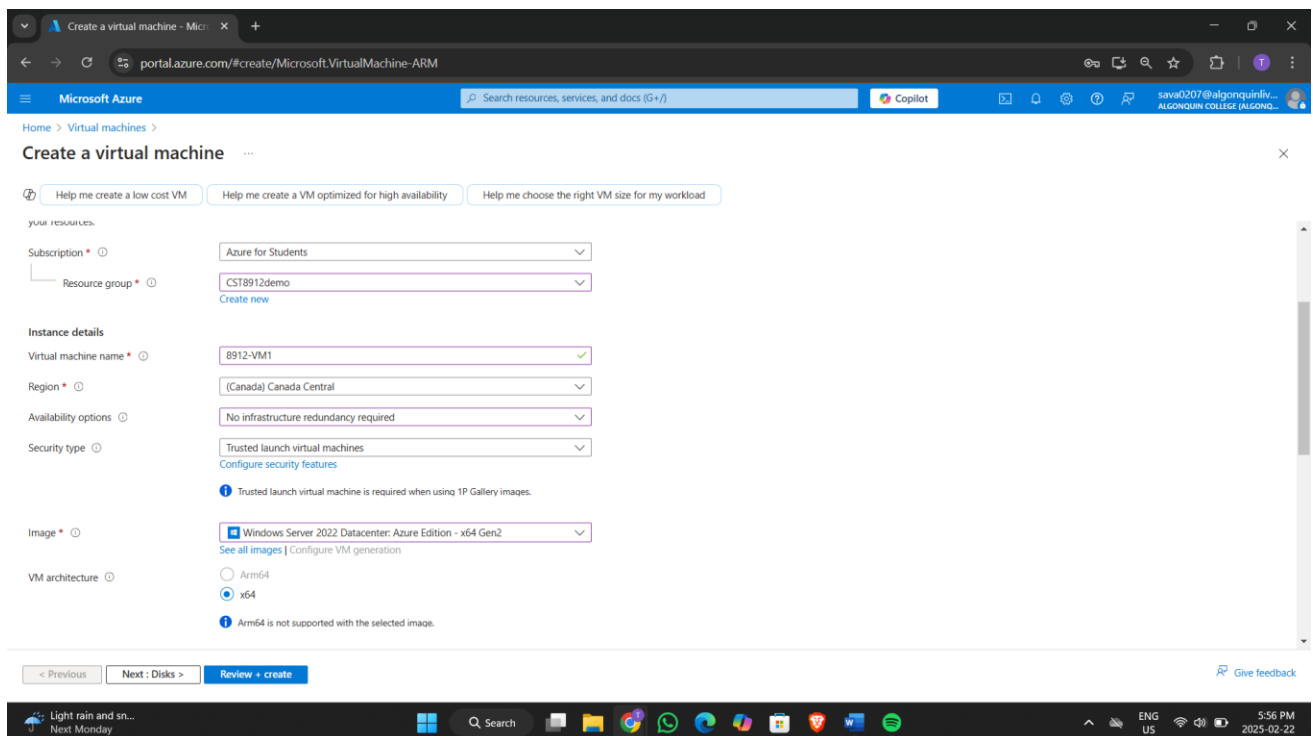
### 3.1 Creating private endpoint



### 3.2 Showing Value of Virtual Network



### 3.3 Created Private Endpoint



### 4.1 Creating Virtual Machine with given value

Create a virtual machine - Microsoft Azure

portal.azure.com/#create/Microsoft.VirtualMachine-ARM

Microsoft Azure

Home > Virtual machines >

### Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Run with Azure Spot discount ☐

Size \*   
[See all sizes](#)

Enable Hibernation ☐

**Administrator account**

Username \*

Password \*

Confirm password \*

**Inbound port rules**

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports \* ☒ None ☐ Allow selected ports

Select inbound ports

< Previous | Next : Disks > | Review + create

Give feedback

Light rain and sn...  
Next Monday

Search

ENG US

5:56 PM  
2025-02-22

## 4.2 Showing the Value of Virtual Machine

Create a virtual machine - Microsoft Azure

portal.azure.com/#create/Microsoft.VirtualMachine-ARM

Microsoft Azure

Home > Virtual machines >

### Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

**Network interface**

When creating a virtual machine, a network interface will be created for you.

Virtual network \*   
[Create new](#)

Subnet \*   
[Manage subnet configuration](#)

Public IP   
[Create new](#)

NIC network security group ☐ None ☐ Basic ☒ Advanced

Configure network security group \*   
[Create new](#)

Delete NIC when VM is deleted ☐

Enable accelerated networking ☐

The selected VM size does not support accelerated networking.

**Load balancing**

You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

< Previous | Next : Management > | Review + create

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2025-02-22

## 4.3 Adding all the given value

8912-VM1 - Microsoft Azure

portal.azure.com/#@AlgonquinLivecom.onmicrosoft.com/resource/subscriptions/fc12c2a4-1b36-460b-9a72-d18c25fffb97/resourceGroups/CST8912demo/providers/Microsoft.Comp...

Microsoft Azure

Home >

8912-VM1  
Virtual machine

Search

8912-VM1 virtual machine agent status is not ready. Troubleshoot the issue →

Help me copy this VM in any region

Connect Start Restart Stop Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Essentials

Resource group (move) : CST8912demo  
Status : Running  
Location : Canada Central  
Subscription (move) : Azure for Students  
Subscription ID : fc12c2a4-1b36-460b-9a72-d18c25fffb97

Operating system : Windows  
Size : Standard B1s (1 vcpu, 1 GiB memory)  
Public IP address : -  
Virtual network/subnet : 8912-vnet1/Subnet-1-8912  
DNS name : -  
Health state : -  
Time created : 22/02/2025, 22:59 UTC

Tags (edit) : Add tags

Properties Monitoring Capabilities (8) Recommendations Tutorials

Virtual machine

Computer name : 8912-VM1  
Operating system : Windows  
VM generation : V2  
VM architecture : x64  
Agent status : Not Ready  
Agent version : Unknown

Networking

Public IP address : -  
Public IP address (IPv6) : -  
Private IP address : 10.0.0.5  
Private IP address (IPv6) : -  
Virtual network/subnet : 8912-vnet1/Subnet-1-8912  
DNS name : -

JSON View

-5°C Cloudy

Search

ENG US

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## 4.4 Created Virtual Machine

storage189123 - Microsoft Azure

portal.azure.com/#@AlgonquinLivecom.onmicrosoft.com/resource/subscriptions/fc12c2a4-1b36-460b-9a72-d18c25fffb97/resourceGroups/CST8912demo/providers/Microsoft.S...

Microsoft Azure

Home > storage189123

storage189123 | Containers  
Storage account

Search

+ Container Change access level Restore containers Refresh Delete Give feedback

Search containers by prefix

Show deleted containers

Name	Last modified	Anonymous access level	Lease state
<input type="checkbox"/> \$logs	22/02/2025, 17:29:41	Private	Available
<input type="checkbox"/> container	22/02/2025, 18:05:56	Private	Available

Overview  
Activity log  
Tags  
Diagnose and solve problems  
Access Control (IAM)  
Data migration  
Events  
Storage browser  
Storage Mover  
Partner solutions  
Data storage  
Containers  
File shares  
Queues  
Tables  
Security + networking  
Networking  
Front Door and CDN  
Access keys  
Shared access signature

-5°C Cloudy

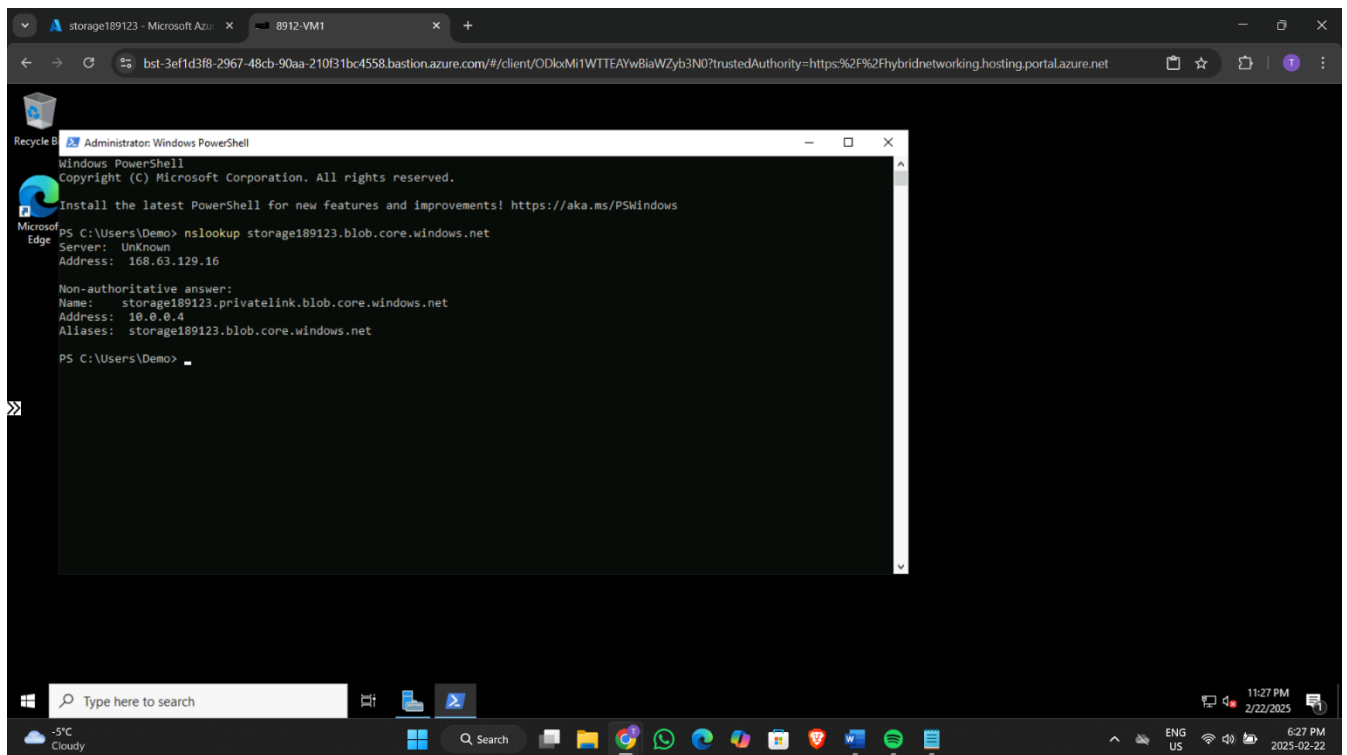
Search

ENG US

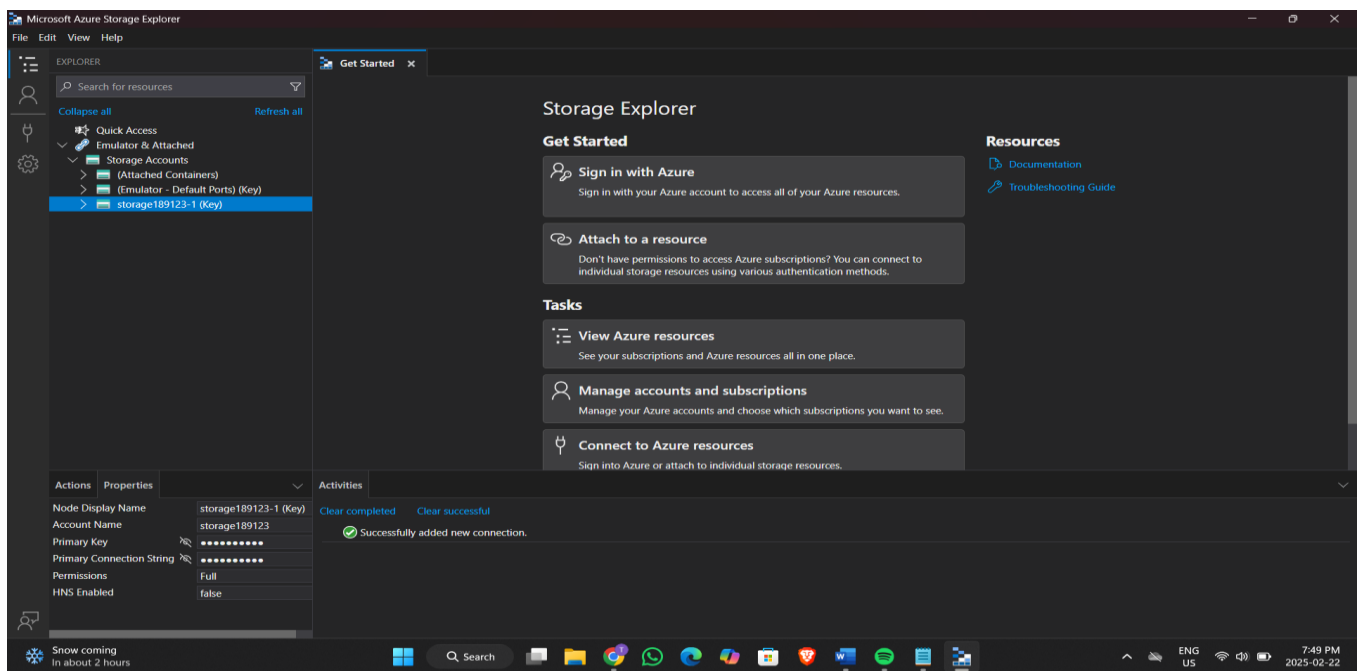
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## 5.1 adding container in storage account

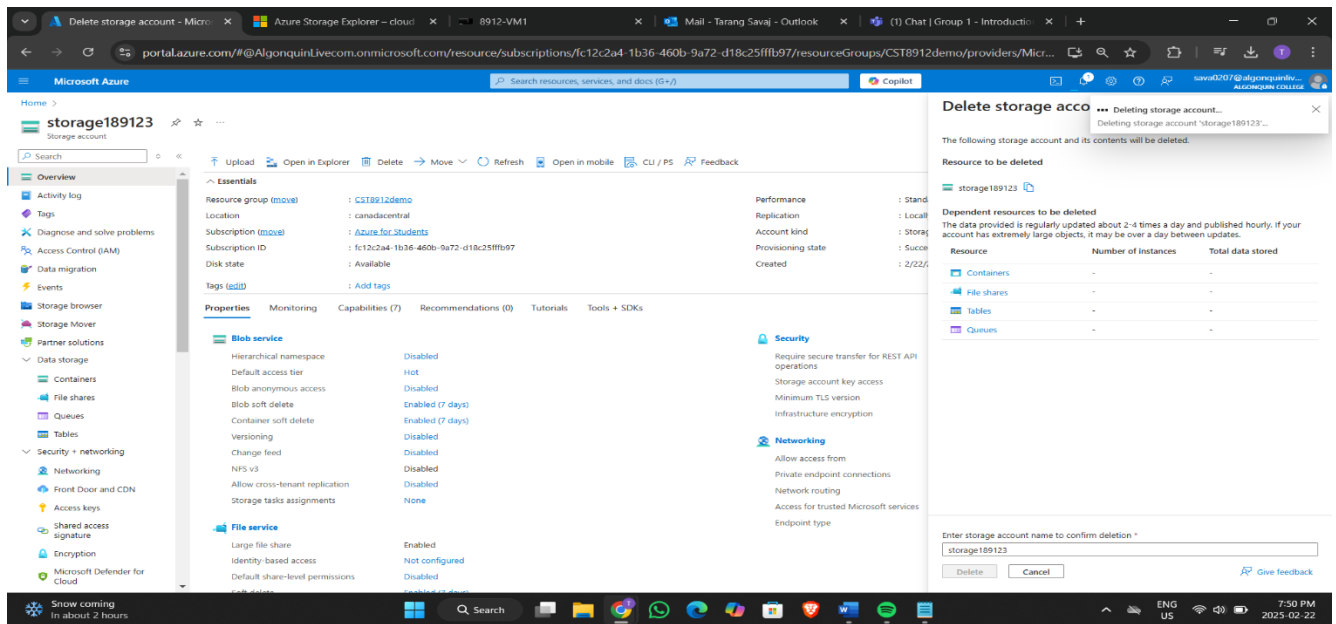




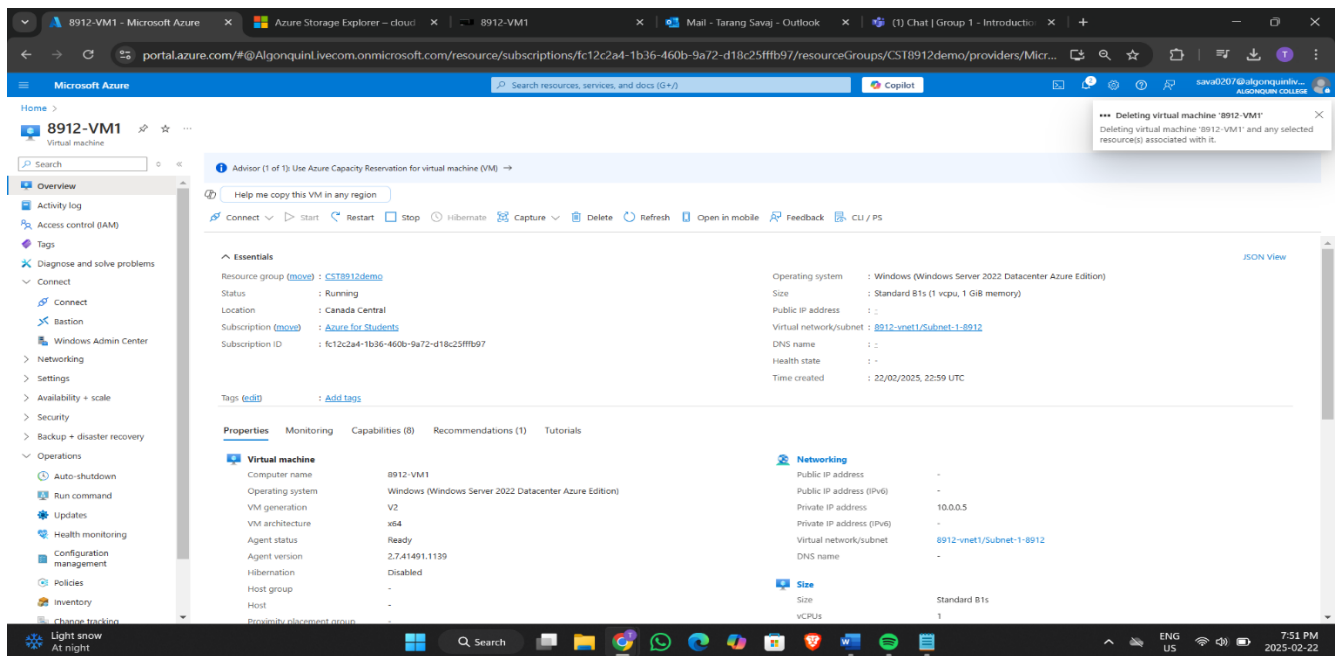
## 6.1 Test connectivity to private endpoint



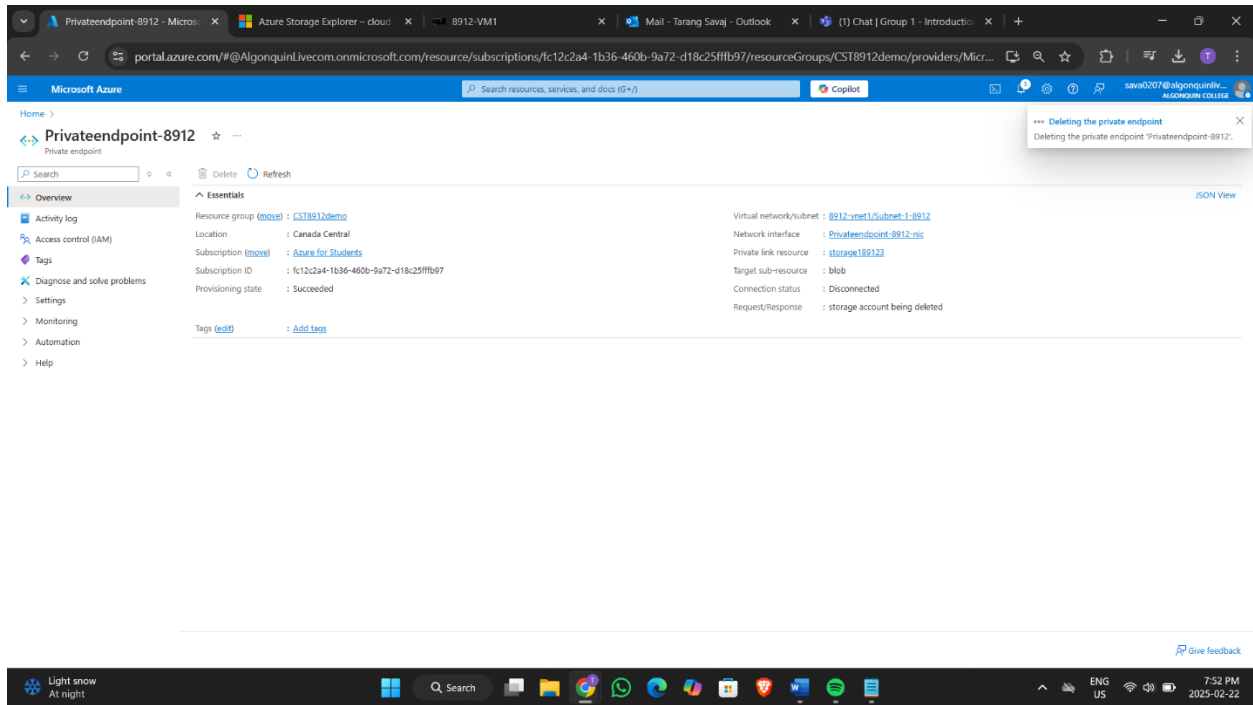
## 7.1 Installed Microsoft Azure Storage Explorer and adding Storage account key



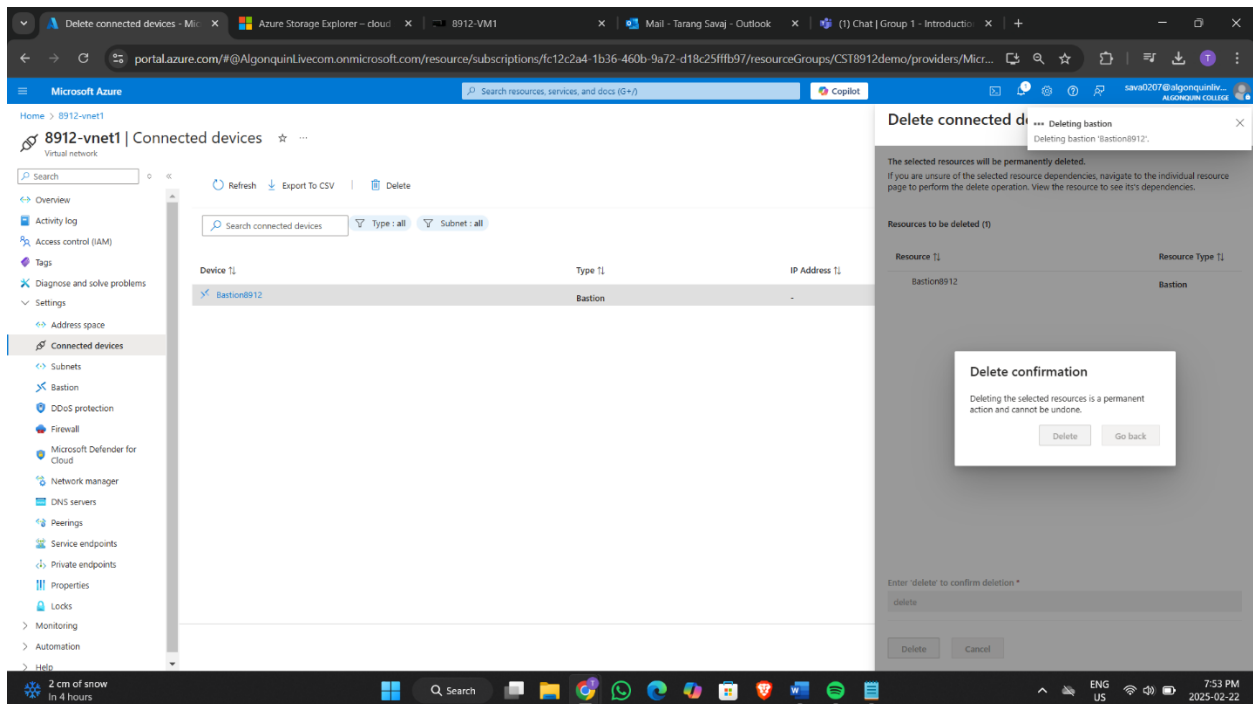
## 8.1 Deleting Storage account



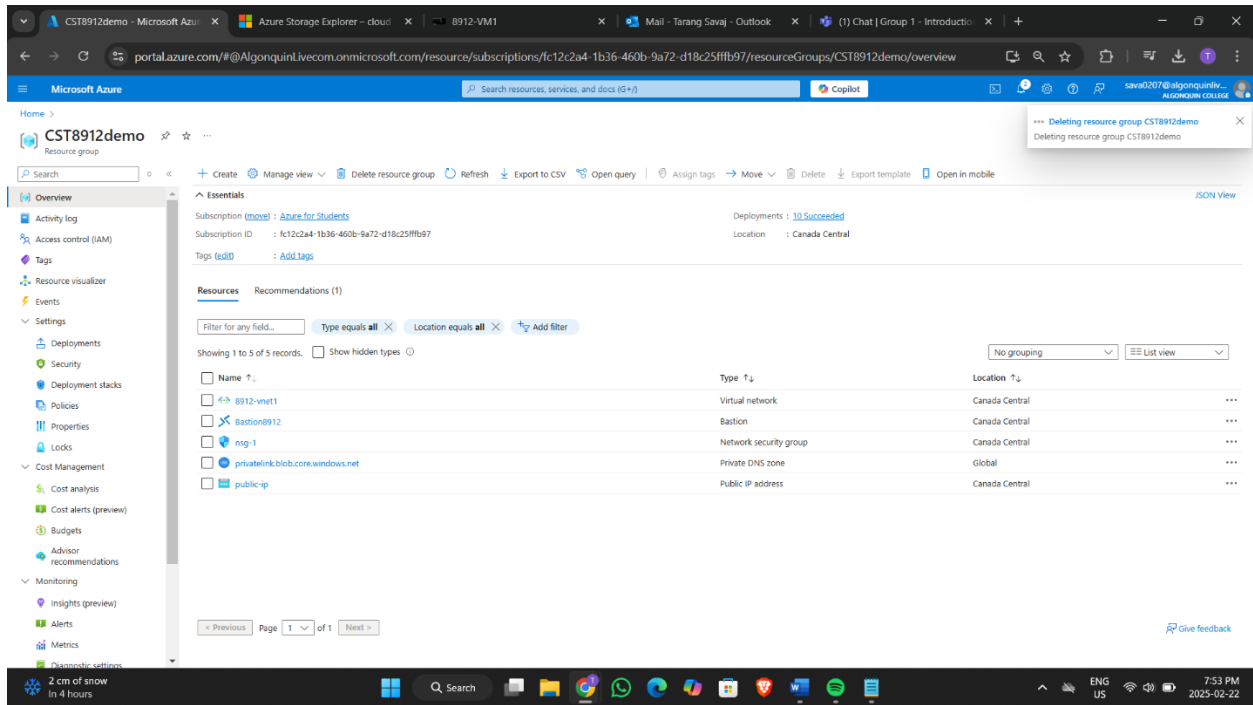
## 8.2 Deleting Virtual Machine



## 8.3 Deleting Private endpoint



## 8.4 Deleting Virtual network



## 8.5 Deleting Resource Group

# References

- References for this task are taken from the provided lab file.