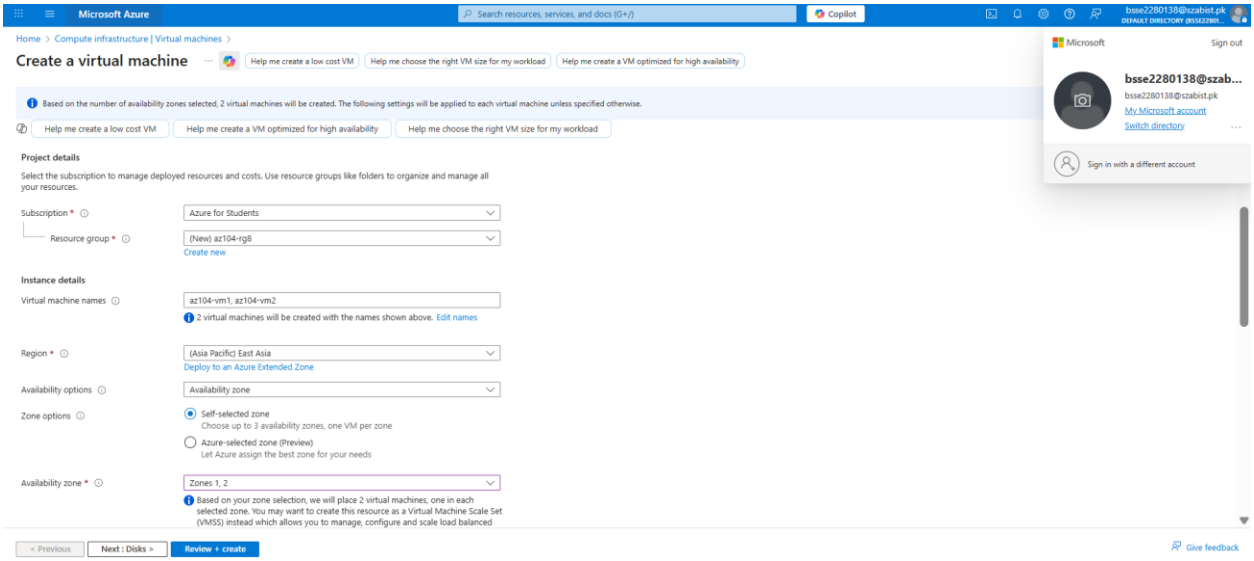
INTRODUCTION TO CLOUD COMPUTING

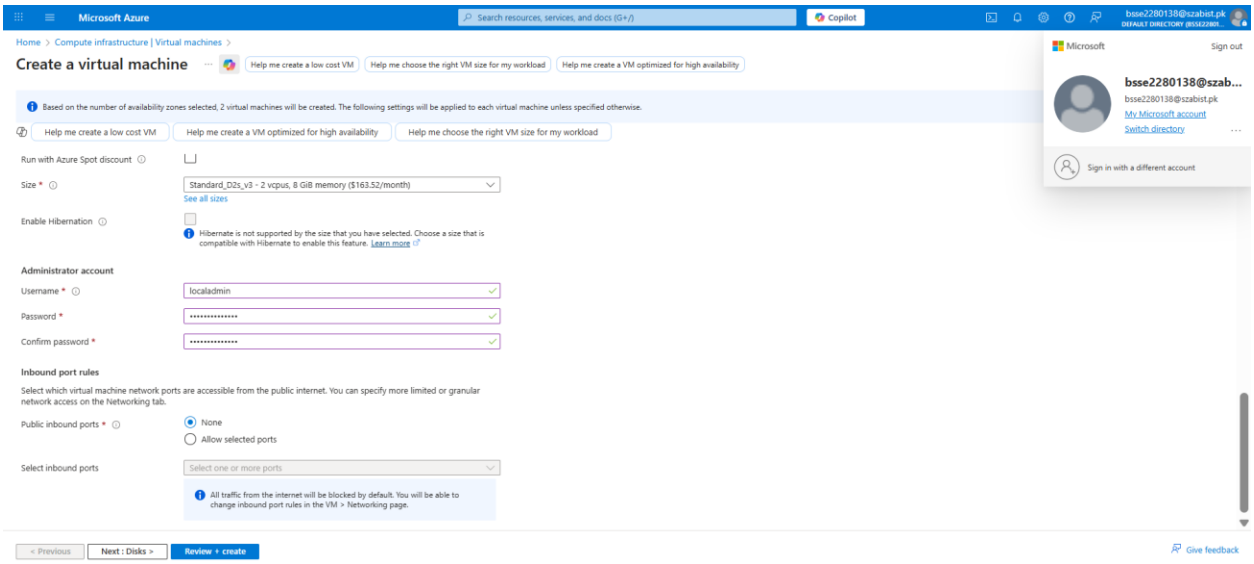
Lab Task 04 (Manage Virtual Machines)

Name: M. Talha Arif

Task 1: Deploy zone-resilient Azure virtual machines by using the Azure portal

- **Creating a new Azure Virtual Machine**





- **Configuring Premium SSD for Virtual Machines**

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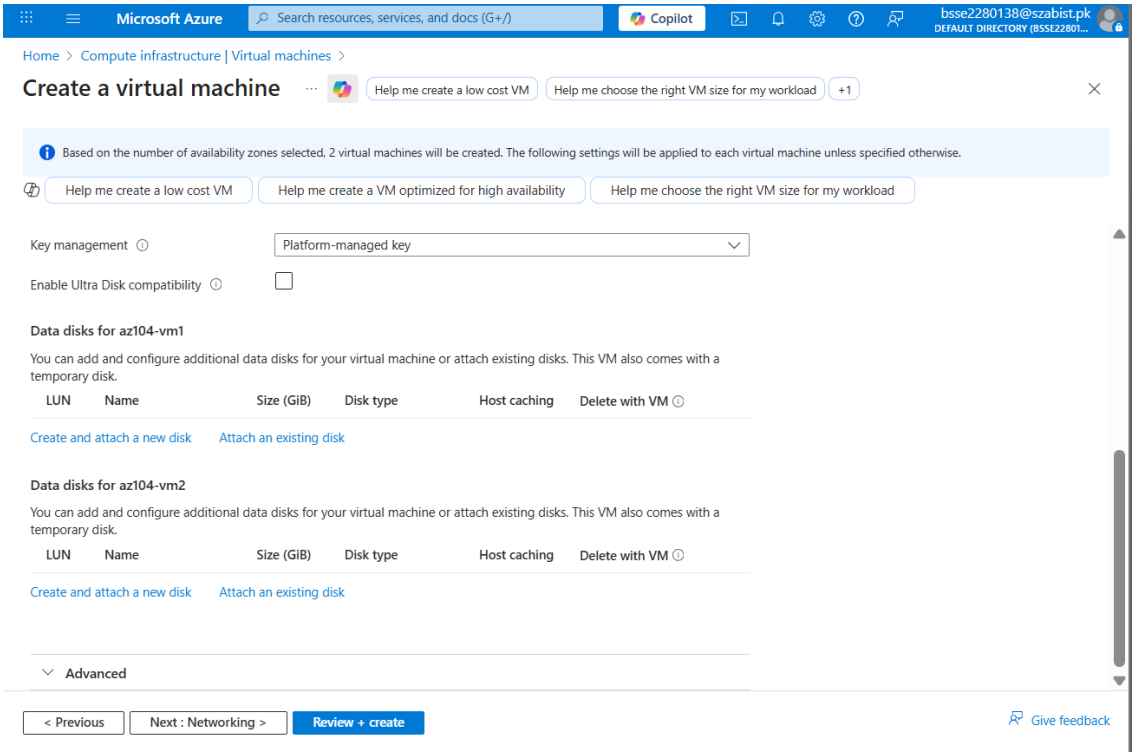
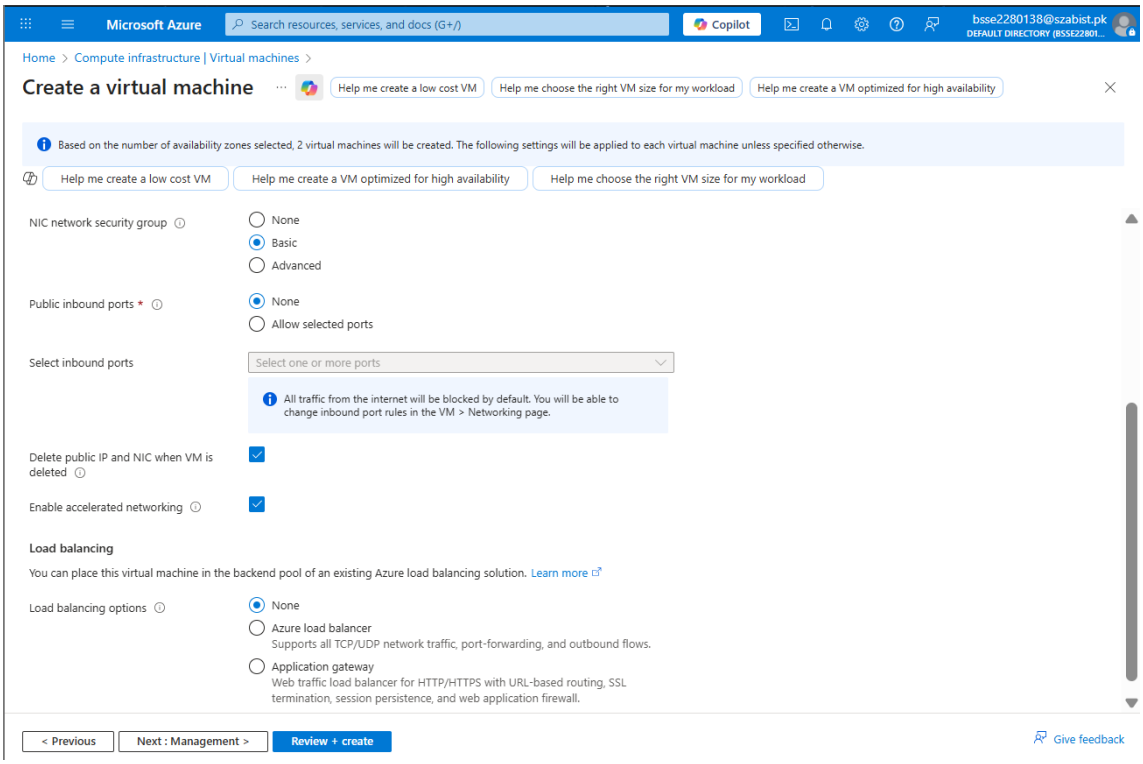


- **Default Networking Configuration without Load Balancer**



- **Disabling Boot Diagnostics**

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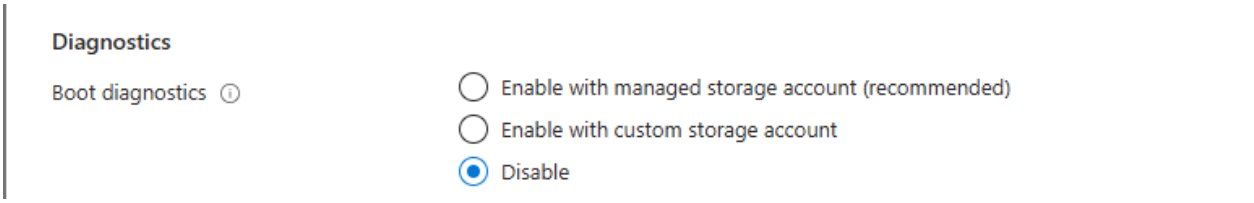
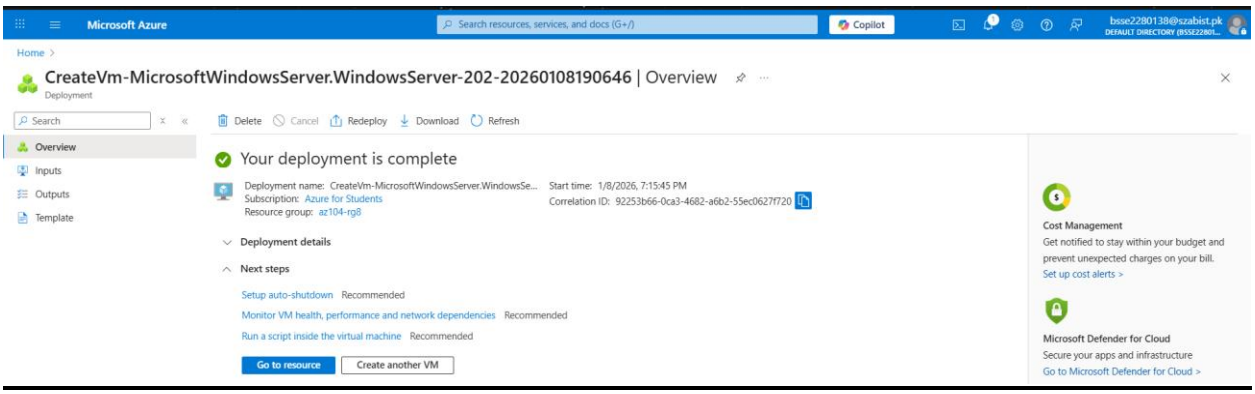
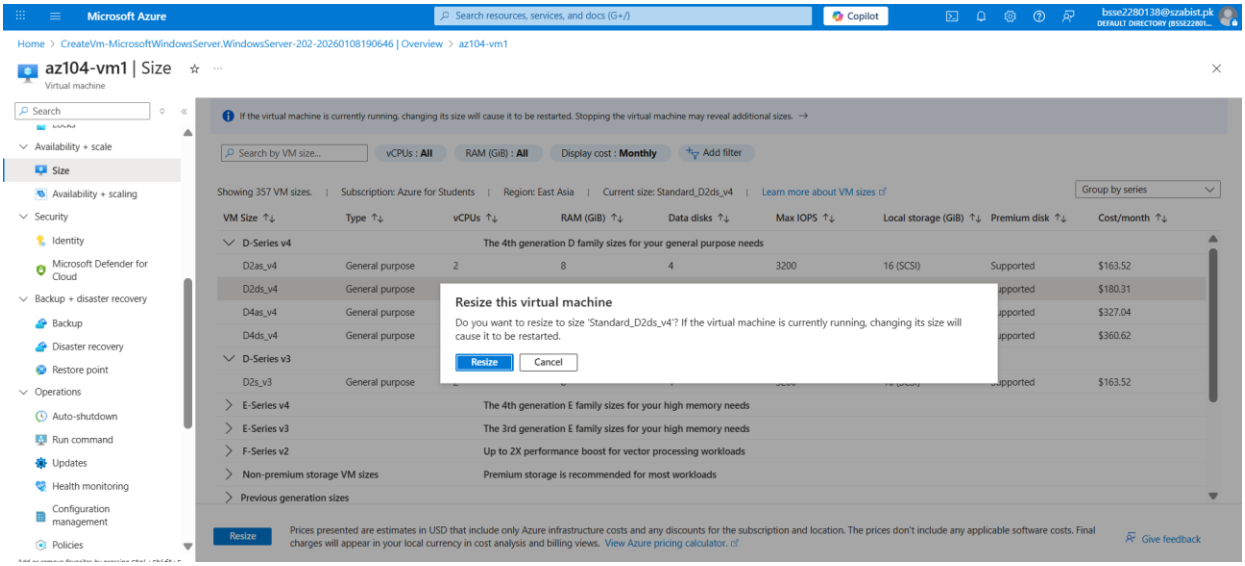


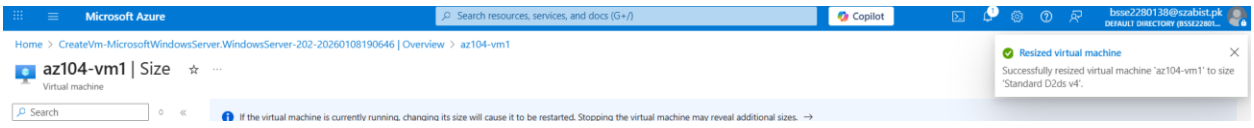
- **Successful Deployment of Zone-Resilient Virtual Machines**



Task 2: Manage compute and storage scaling for virtual machines

- **Resizing Virtual Machine SKU (Vertical Scaling)**





- **Creating and Attaching a Data Disk**

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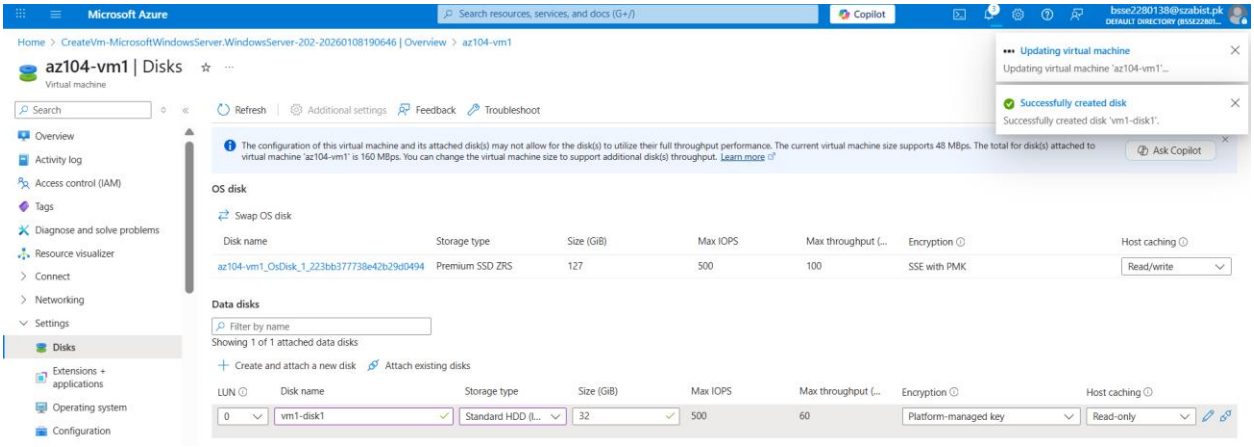
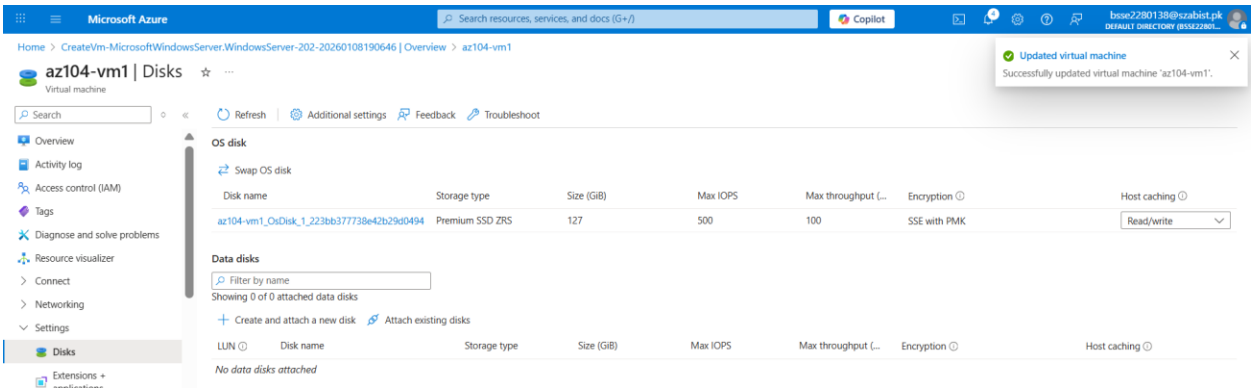
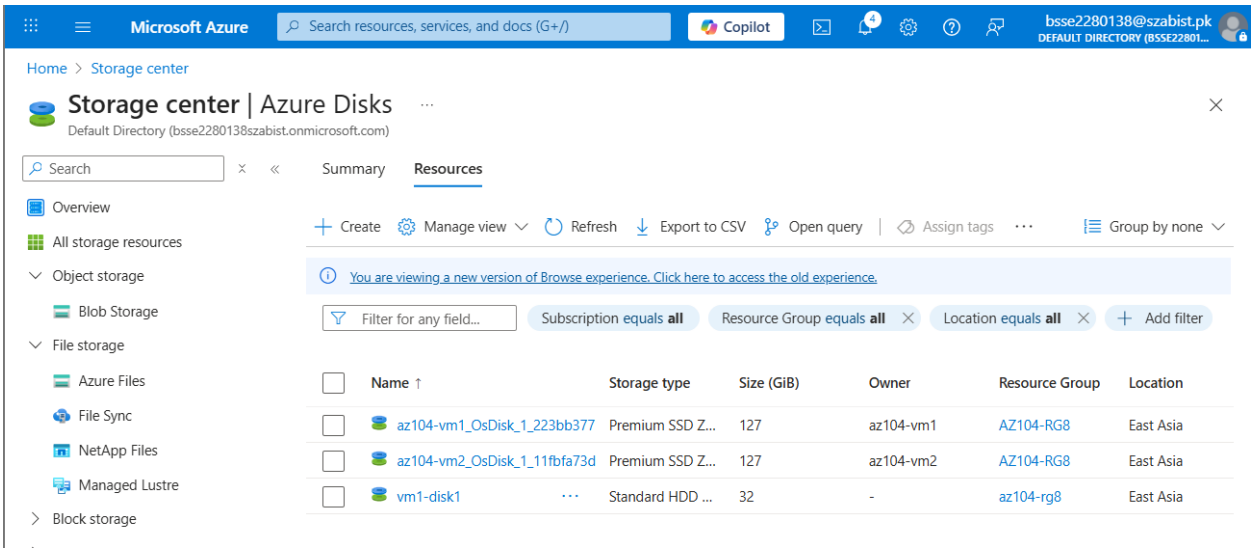


- **Detaching Data Disk from Virtual Machine**



- **Viewing the detached data disk (vm1-disk1) from the Azure Disks service:**



- **Changing Disk Performance Tier**

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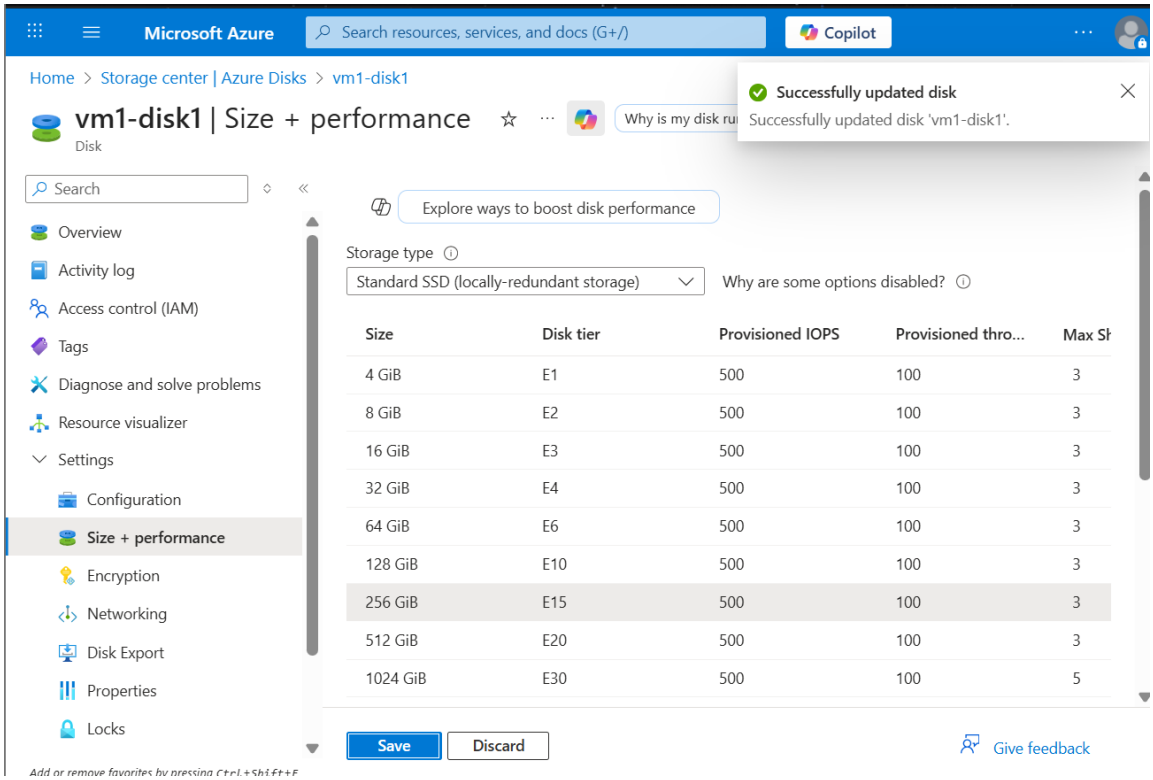
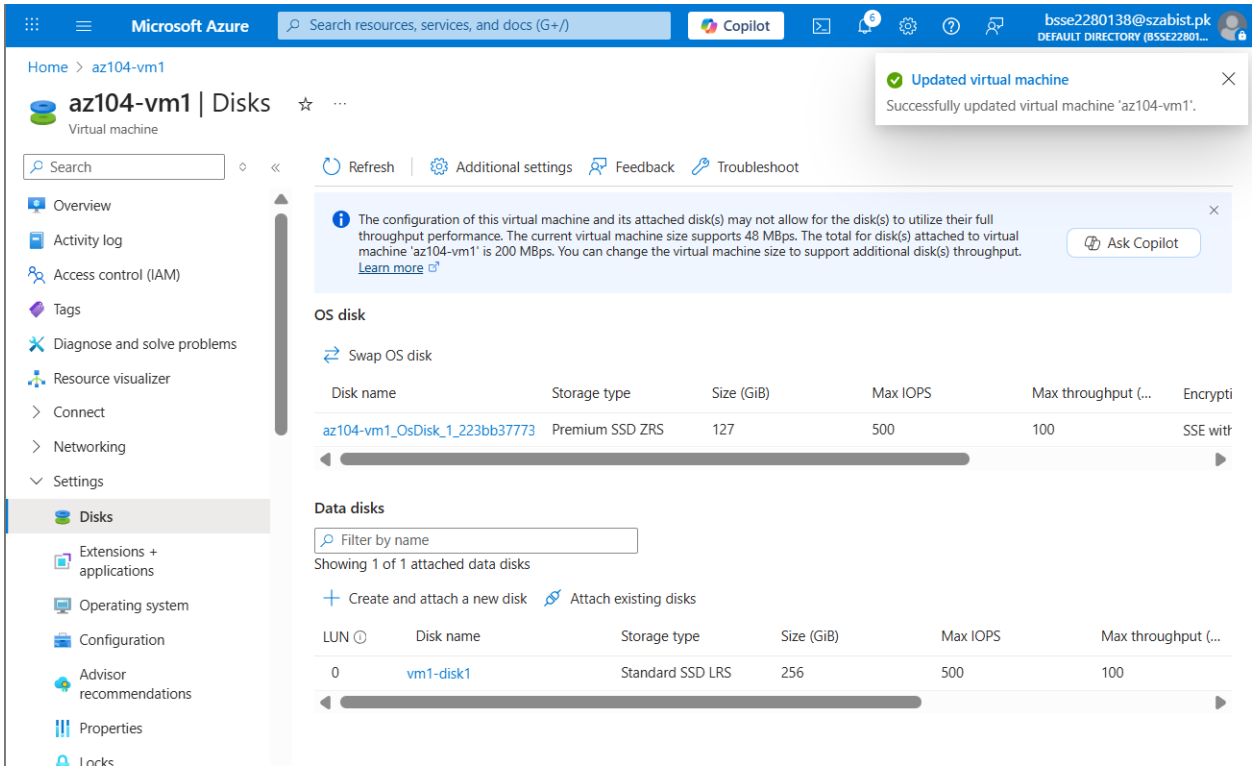


- **Reattaching Modified Disk to Virtual Machine**



Task 3: Create and configure Azure Virtual Machine Scale Sets

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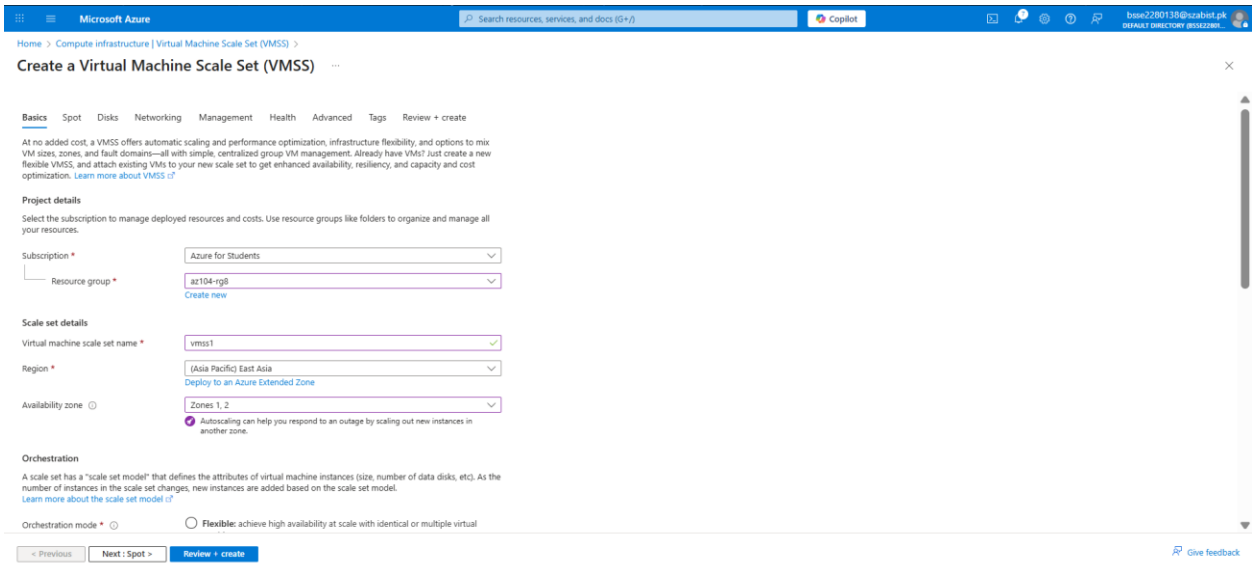
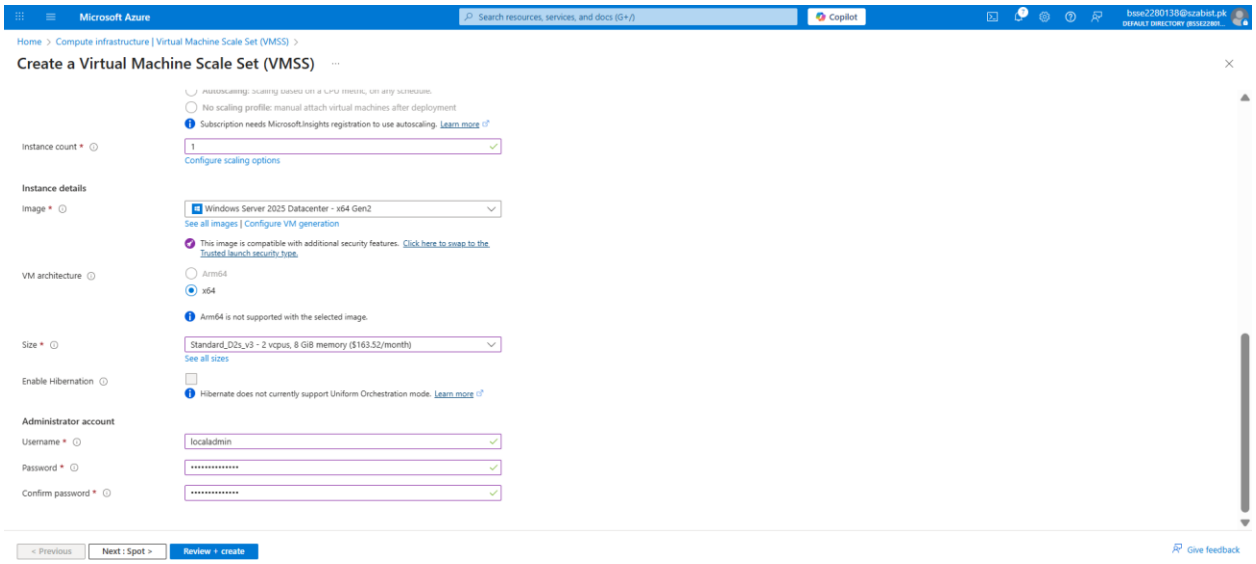
- ## Creating a Virtual Machine Scale Set





- ## Custom Virtual Network Configuration for VM Scale Set

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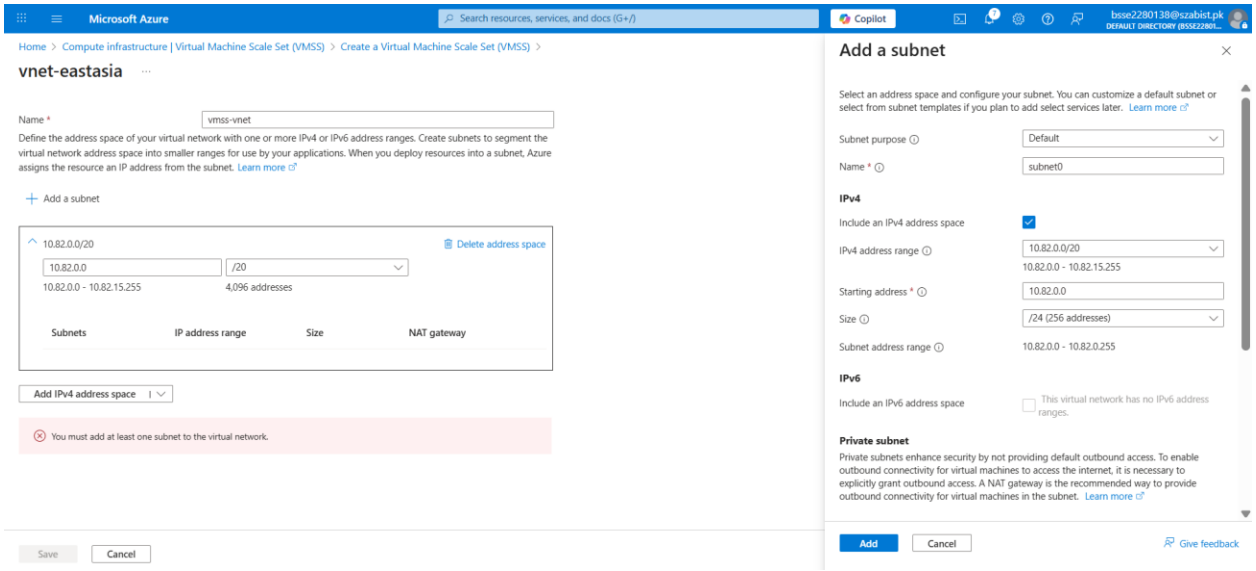
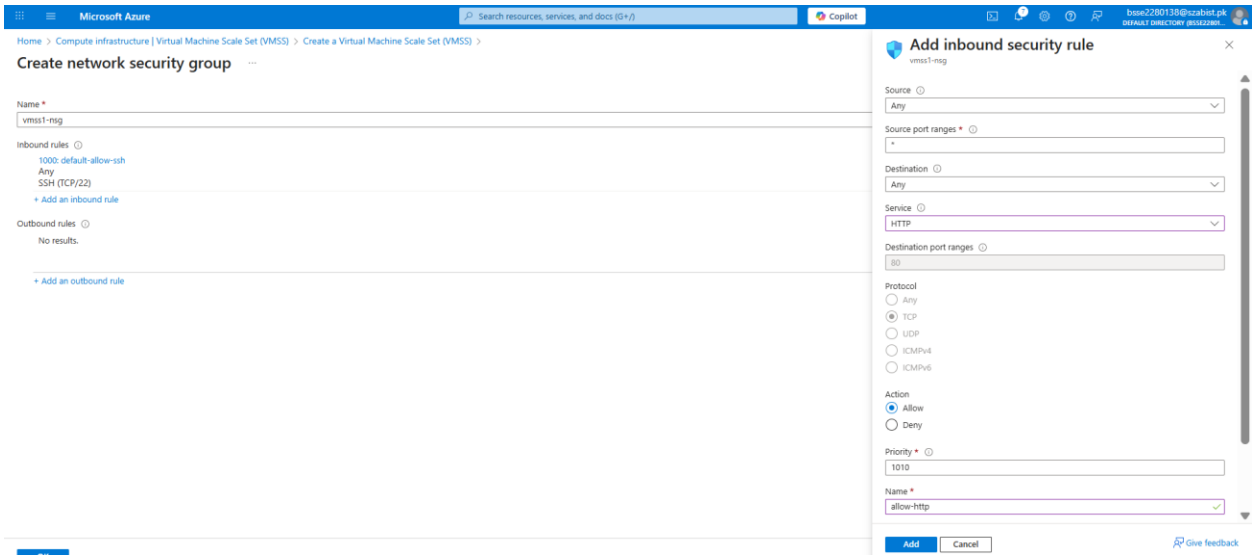


- **Configuring Network Security Group with HTTP Rule**



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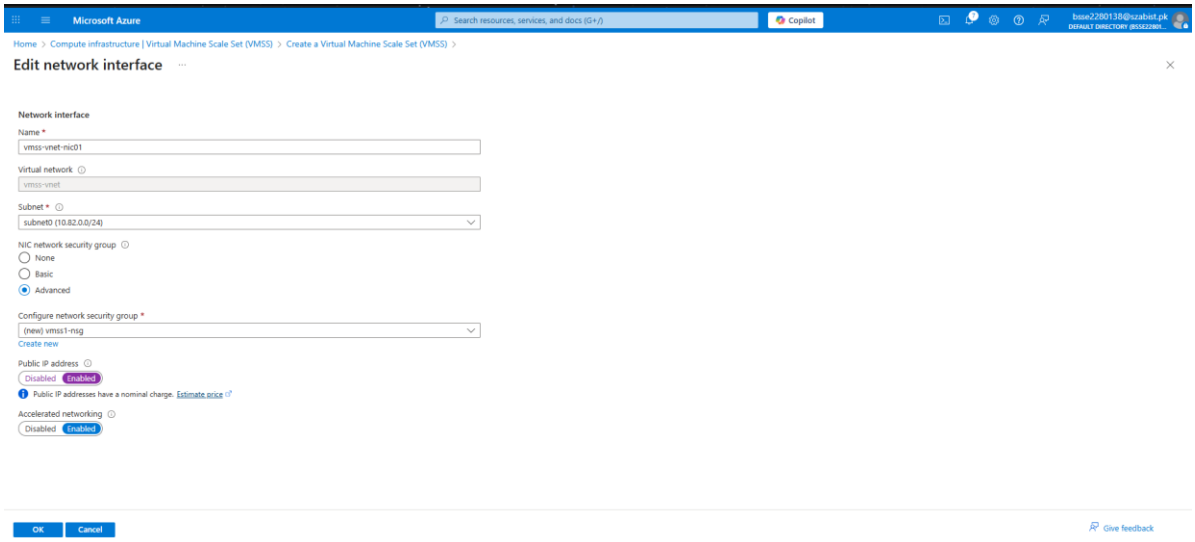
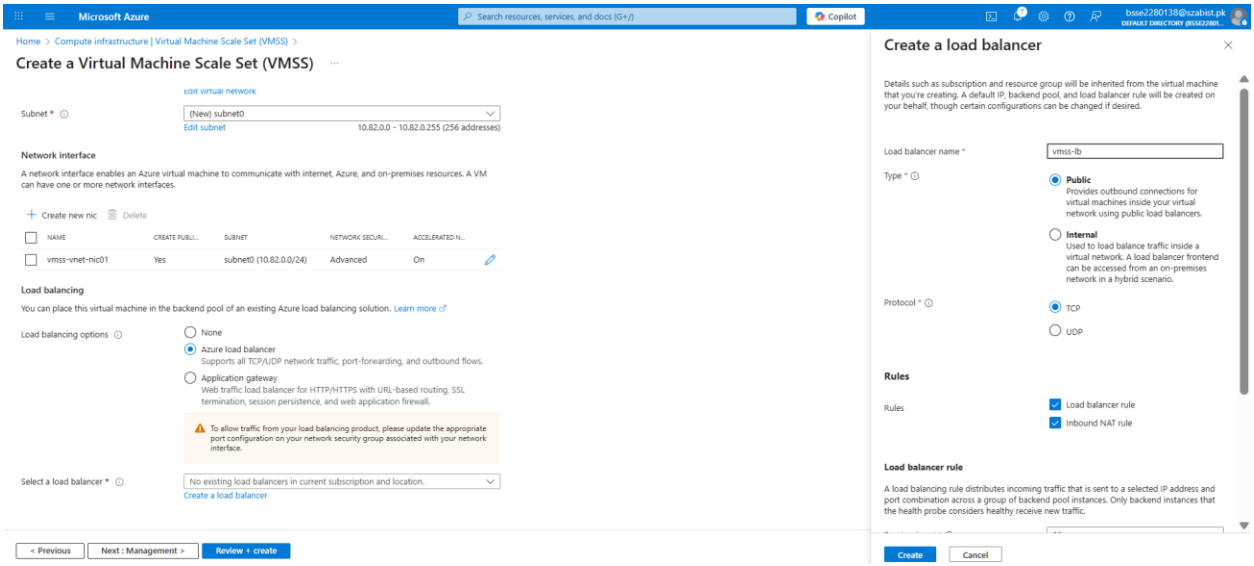
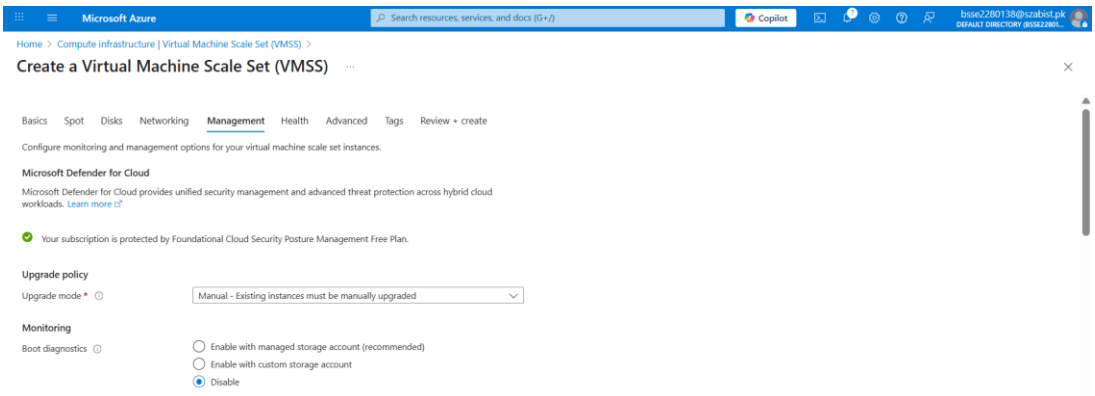
Lab Task 04 (Manage Virtual Machines)



- **Configuring Azure Load Balancer for VM Scale Set**



- **Disable Boot diagnostics**



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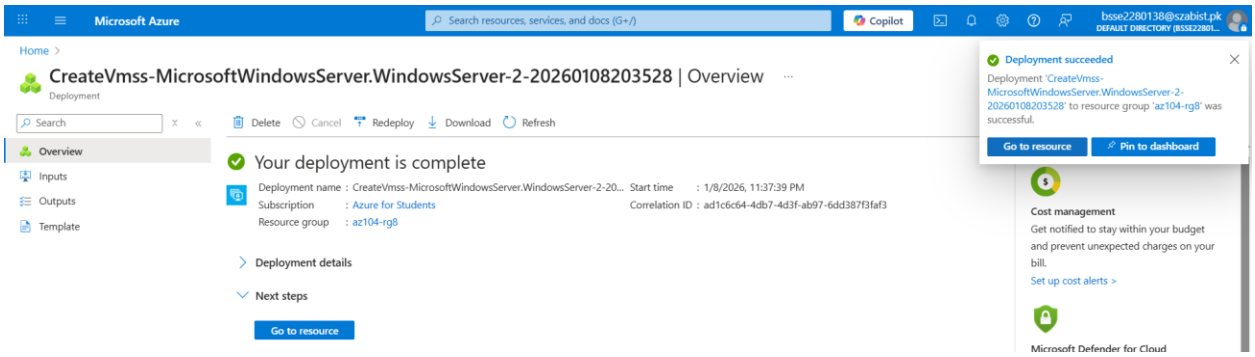
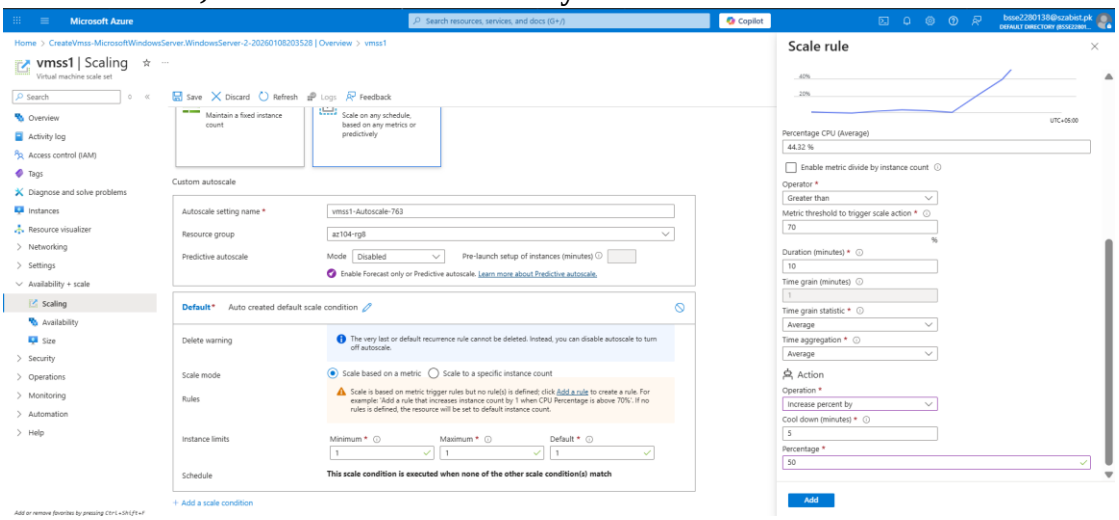
Lab Task 04 (Manage Virtual Machines)

- **Successful Deployment of Virtual Machine Scale Set**

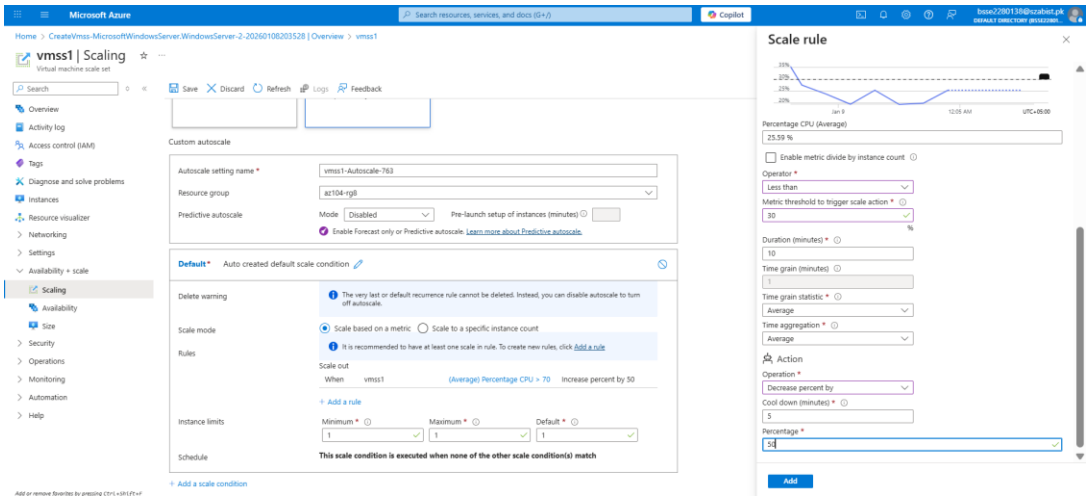


Task 4: Scale Azure Virtual Machine Scale Sets

- **Creating Scale Out Rule. Add scale-out rule screen. Rule triggers when CPU > 70% for 10 minutes, increases VM instances by 50%.**



- **Creating Scale-In Rule. Rule triggers when CPU < 30% for 10 minutes, decreases VM instances by 50%**



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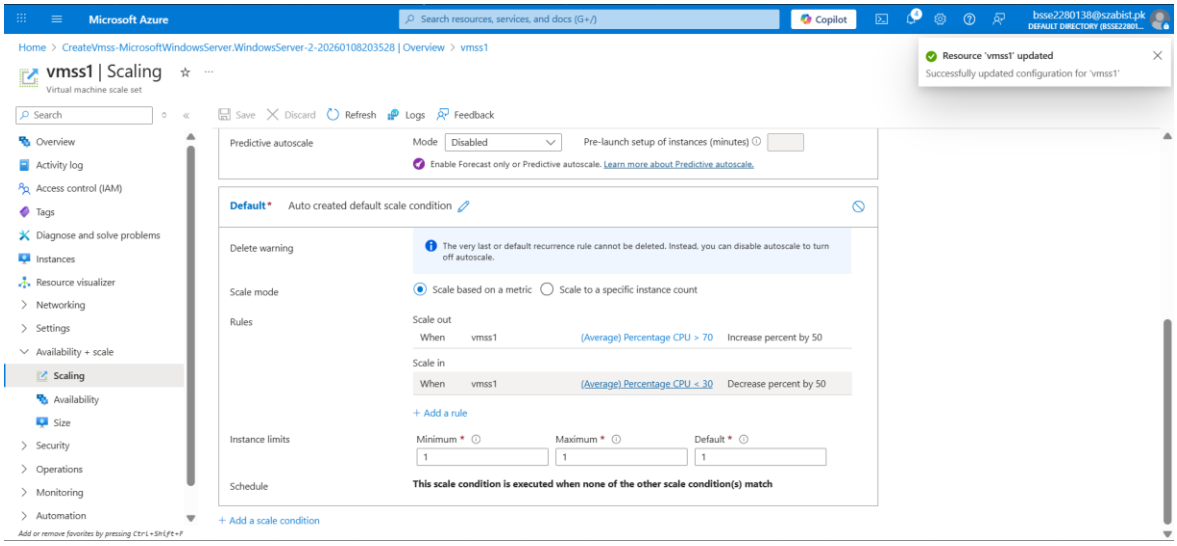
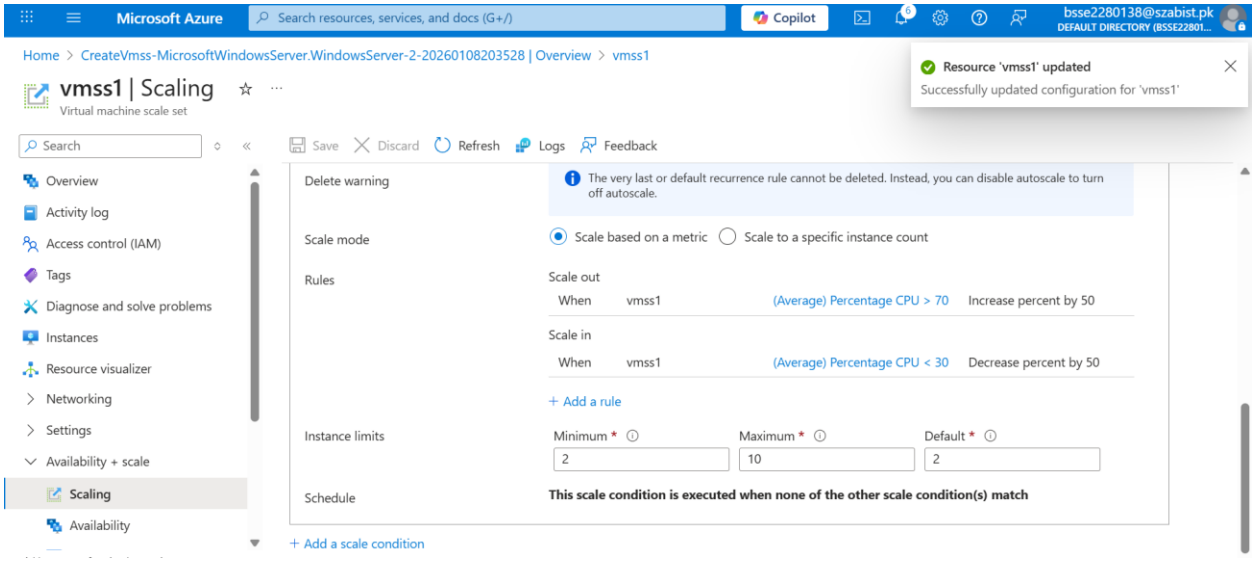
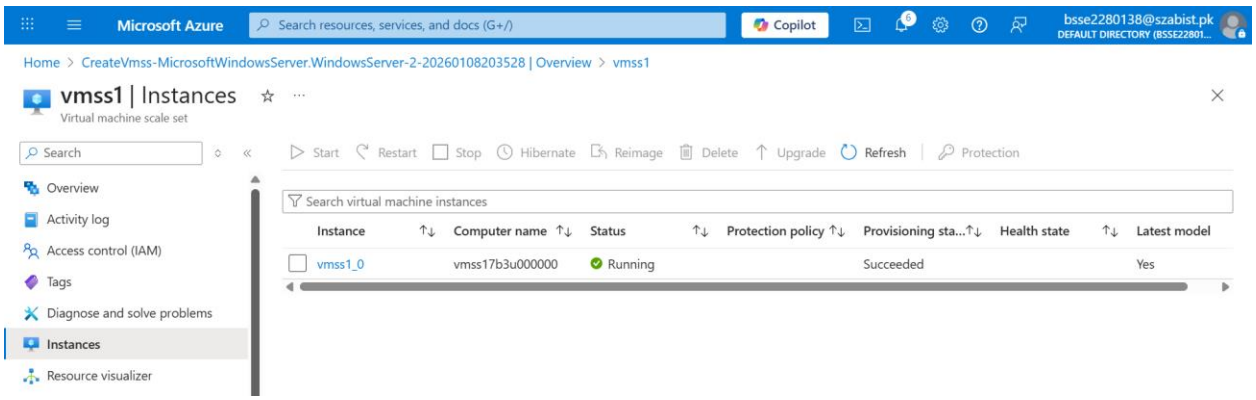


- **Setting VMSS Instance Limits by showing Minimum = 2, Maximum = 10, Default = 2 under the Scaling page.**



- **Monitoring VM Scale Set Instances**



Task 5: Create a virtual machine using Azure PowerShell (optional 1)

```
PS /home/ariha> # Use stored credentials
PS /home/ariha> $cred = Get-Credential   # Enter username: localadmin and your password

PowerShell credential request
Enter your credentials.
User: localadmin
Password for user localadmin: *********

PS /home/ariha>
PS /home/ariha> # Create VM
PS /home/ariha> New-AzVm `
>> -ResourceGroupName 'az104-rg8' `
>> -Name 'myPSVM' `
>> -Location 'eastasia' `
>> -Image 'MicrosoftWindowsServer:WindowsServer:2025-datacenter-g2:latest' `
>> -Size 'Standard_D2ds_v4' `
>> -Zone '1' `
>> -Credential $cred
```