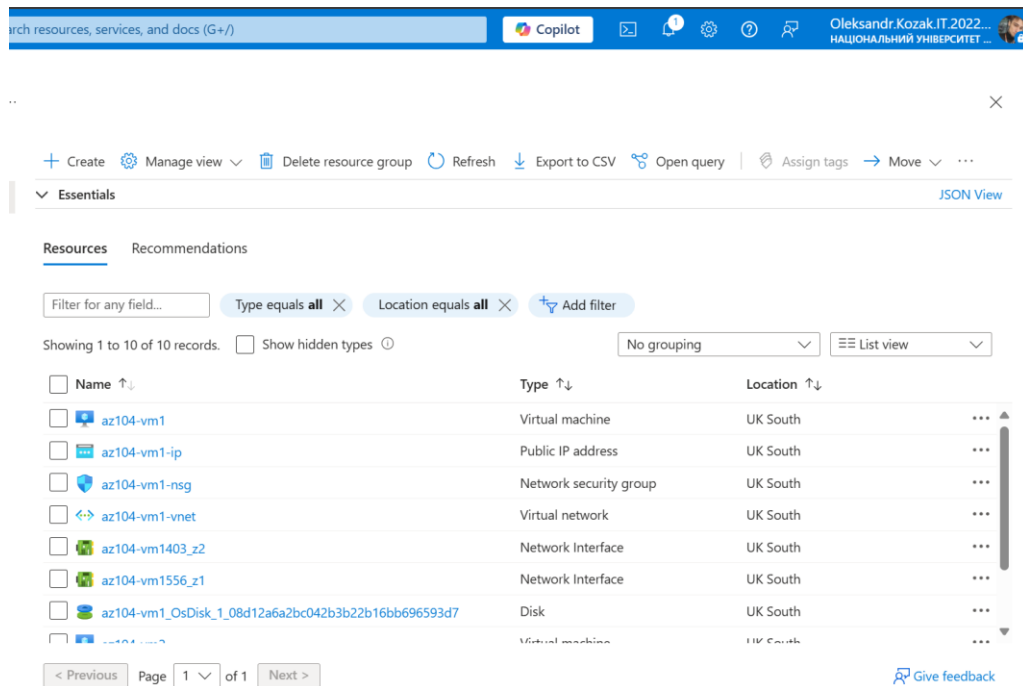


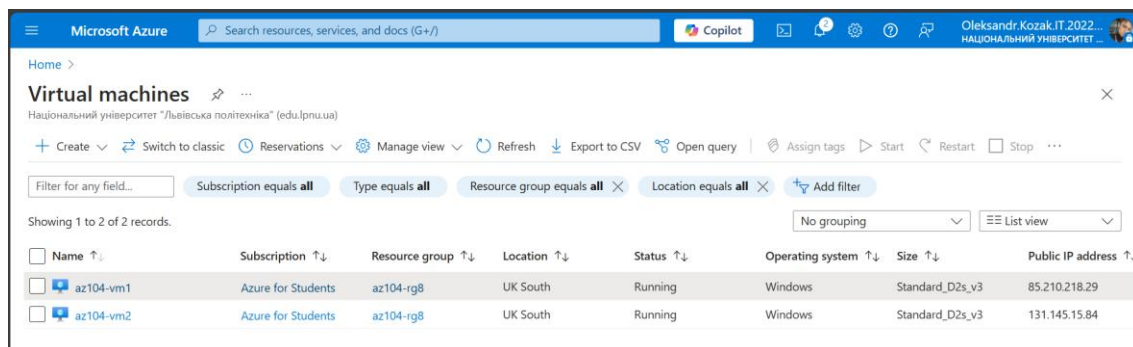
Lab 08: Manage Virtual Machines

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



The screenshot shows the Azure portal interface. At the top, there's a search bar and a Copilot button. Below the search bar, there's a navigation bar with options like 'Create', 'Manage view', 'Delete resource group', 'Refresh', 'Export to CSV', 'Open query', 'Assign tags', and 'Move'. The main content area is titled 'Essentials' and shows a list of resources. The resources are filtered by 'Type equals all' and 'Location equals all'. The list shows 10 records, including virtual machines, public IP addresses, network security groups, virtual networks, network interfaces, and disks. The table has columns for Name, Type, and Location. The resources are listed in a table with columns: Name, Type, Location, and a 'More' button (three dots). The resources are: az104-vm1 (Virtual machine, UK South), az104-vm1-ip (Public IP address, UK South), az104-vm1-nsg (Network security group, UK South), az104-vm1-vnet (Virtual network, UK South), az104-vm1403_z2 (Network Interface, UK South), az104-vm1556_z1 (Network Interface, UK South), and az104-vm1_OsDisk_1_08d12a6a2bc042b3b22b16bb696593d7 (Disk, UK South).

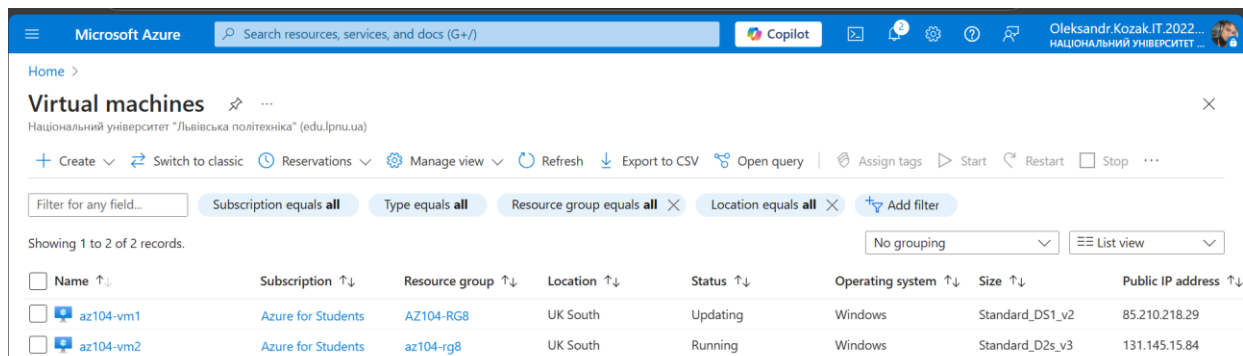
Name	Type	Location
az104-vm1	Virtual machine	UK South
az104-vm1-ip	Public IP address	UK South
az104-vm1-nsg	Network security group	UK South
az104-vm1-vnet	Virtual network	UK South
az104-vm1403_z2	Network Interface	UK South
az104-vm1556_z1	Network Interface	UK South
az104-vm1_OsDisk_1_08d12a6a2bc042b3b22b16bb696593d7	Disk	UK South



The screenshot shows the Azure portal interface for a specific subscription. The page is titled 'Virtual machines' and shows a list of 2 records. The resources are filtered by 'Subscription equals all', 'Type equals all', 'Resource group equals all', and 'Location equals all'. The table has columns for Name, Subscription, Resource group, Location, Status, Operating system, Size, and Public IP address. The resources are: az104-vm1 (Running, Windows, Standard_DS2s_v3, 85.210.218.29) and az104-vm2 (Running, Windows, Standard_DS2s_v3, 131.145.15.84).

Name	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address
az104-vm1	Azure for Students	az104-rg8	UK South	Running	Windows	Standard_DS2s_v3	85.210.218.29
az104-vm2	Azure for Students	az104-rg8	UK South	Running	Windows	Standard_DS2s_v3	131.145.15.84

Task 2: Manage compute and storage scaling for virtual machines.



The screenshot shows the Azure portal interface for a specific subscription. The page is titled 'Virtual machines' and shows a list of 2 records. The resources are filtered by 'Subscription equals all', 'Type equals all', 'Resource group equals all', and 'Location equals all'. The table has columns for Name, Subscription, Resource group, Location, Status, Operating system, Size, and Public IP address. The resources are: az104-vm1 (Updating, Windows, Standard_DS1_v2, 85.210.218.29) and az104-vm2 (Running, Windows, Standard_DS2s_v3, 131.145.15.84).

Name	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address
az104-vm1	Azure for Students	AZ104-RG8	UK South	Updating	Windows	Standard_DS1_v2	85.210.218.29
az104-vm2	Azure for Students	az104-rg8	UK South	Running	Windows	Standard_DS2s_v3	131.145.15.84

Microsoft A

Search resources, services, and docs (G+/)

Copilot

Home > Virtual machines > az104-vm1

az104-vm1

Virtual machine

» Refresh Additional settings Feedback Troubleshoot

The current virtual machine size supports 40 MBps. The total for disk(s) attached to virtual machine 'az104-vm1' is 160 MBps. You can change the virtual machine size to support additional disk(s) throughput. [Learn more](#)

Ask Copilot

OS disk

↻ Swap OS disk

Disk name	Storage type	Size (GiB)	Max IOPS
az104-vm1_OsDisk_1_08	Premium SSD LRS	127	500

Data disks

🔍 Filter by name

Showing 1 of 1 attached data disks

+ Create and attach a new disk Attach existing disks

Storage type	Size (GiB)	Max IOPS	Max through
Standard HDD LRS	32	500	60

Microsoft A

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Copilot

Home >

Disks

Національний університет "Львівська політехніка" (edu.lpnu.ua)

+ Create Manage view Refresh Export to CSV Open query

Filter for any field...

+ Add filter

More (3)

Showing 1 to 3 of 3 records. No grouping List view

<input type="checkbox"/>	Name ↑↓	Storage type ↑↓	Size (G... ↑↓	Owner ↑↓	Resou
<input type="checkbox"/>	az104-vm1_OsDis...	Premium SSD LRS	127	az104-vm1	AZ10
<input type="checkbox"/>	az104-vm2_OsDis...	Premium SSD LRS	127	az104-vm2	AZ10
<input type="checkbox"/>	vm1-disk1	Standard HDD LRS	32	-	AZ10

Microsoft Azure | Search resources, services, and docs (G+/I) | Copilot

Home > Virtual machines > az104-vm1

az104-vm1 | Disks ☆ ...

Virtual machine

» Refresh | Additional settings | Feedback | Troubleshoot

Updated virtual machine
Successfully updated virtual machine 'az104-vm1'.

Ask Copilot

The current virtual machine size supports 40 IOPS. The total for disk(s) attached to virtual machine 'az104-vm1' is 200 MBps. You can change the virtual machine size to support additional disk(s) throughput. [Learn more](#)

OS disk

Swap OS disk

Disk name	Storage type	Size (GiB)	Max IOPS
az104-vm1_OsDisk_1_08	Premium SSD LRS	127	500

Data disks

Filter by name

Showing 1 of 1 attached data disks

+ Create and attach a new disk | Attach existing disks

LUN	Disk name	Storage type	Size (GiB)	Max IOPS
0	vm1-disk1	Standard SSD LRS	32	500

Task 3: Create and configure Azure Virtual Machine Scale Sets.

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Home > Virtual machine scale sets >

Create a Virtual Machine Scale Set (VMSS) ...

Validation passed

Basics | Spot | Disks | Networking | Management | Health | Advanced | Tags | **Review + create**

Basics

Subscription	Azure for Students
Resource group	az104-rg8
Virtual machine scale set name	vmss1
Region	UK South
Orchestration mode	Uniform
Availability zone	1,2,3
Image	Windows Server 2019 Datacenter - Gen2
Size	Standard D2s v3 (2 vcpus, 8 GiB memory)
Scaling mode	Manually update the capacity
Instance count	2
Security type	Standard
Enable Hibernation	No
Username	localadmin

Spot

< Previous | Next > | **Create**

Download a template for automation | Give feedback

Microsoft Azure

Home >

vmss1 Virtual machine scale set

Move Start Restart Stop Hibernate Reimage

Essentials JSON View

Resource group (move)	: az104-rg8
Status	: 2 out of 2 succeeded
Location	: UK South (Zone 1, 2, 3)
Subscription (move)	: Azure for Students
Subscription ID	: 16fcb738-3661-4bf0-8442-5f3f16e61a...
Operating system	: Windows
Size	: Standard_D2s_v3 (2 instances)
Public IP address	: 4.158.122.125
Public IP address (IPv6)	: -
Virtual network/subnet	: vmss-vnet/subnet0
Orchestration mode	: Uniform
Time created	: 3/26/2025, 10:57 AM UTC
Tags (edit)	: Add tags

Task 4: Scale Azure Virtual Machine Scale Sets.

Microsoft Azure

Search resources, services, and docs (G+/I)

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Home > vmss1

vmss1 | Scaling Virtual machine scale set

Save Discard Refresh Logs Feedback

Predictive autoscale Mode Disabled Pre-launch setup of instances (minutes)

Enable Forecast only or Predictive autoscale. [Learn more about Predictive autoscale.](#)

Default Auto created default scale condition

Delete warning The very last or default recurrence rule cannot be deleted. Instead, you can disable autoscale to turn off autoscale.

Scale mode ☒ Scale based on a metric ☐ Scale to a specific instance count

Rules

Scale out

When	vmss1	(Average) Percentage CPU > 70	Increase percent by 20
------	-------	-------------------------------	------------------------

Scale in

When	vmss1	(Average) Percentage CPU < 30	Decrease percent by 20
------	-------	-------------------------------	------------------------

+ Add a rule

Instance limits

Minimum	Maximum	Default
1	3	2

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

```
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Switch to Bash Restart Manage files New session Editor Web preview Settings Help

OSProfile : {ComputerName, AdminUsername,
WindowsConfiguration, Secrets, AllowExtensionOperations,
RequireGuestProvisionSignal}
ProvisioningState : Succeeded
StorageProfile : {ImageReference, OsDisk, DataDisks}
Zones : {1}
FullyQualifiedDomainName : mypsvm-df5e20.East US.cloudapp.azure.com
TimeCreated : 3/26/2025 11:11:08 AM
Etag : "2"

PS /home/azureuser> Get-AzVM `
>> -ResourceGroupName 'az104-rg8' `
>> -Status

ResourceGroupName Name Location VmSize OsType NIC Provisioning
-----
az104-rg8 myPSVM eastus Standard_D2s_v3 Windows myPSVM ...ded

PS /home/azureuser>
```

```
Microsoft Azure Search resources, services, and docs (G+/) Copilot Oleksandr.Kozak.IT.2022... НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ ...

Switch to Bash Restart Manage files New session Editor ...

e group 'az104-rg8' was not found. For more details please go to https://aka.ms/ARM
ResourceNotFoundFix
ErrorTarget:
StatusCode: 404
ReasonPhrase: Not Found
OperationID : 85fe7e48-e69d-4798-a886-a7679adc435a
PS /home/azureuser> Stop-AzVM `
>> -ResourceGroupName 'az104-rg8' `
>> -Name 'myPSVM'

Virtual machine stopping operation
This cmdlet will stop the specified virtual machine. Do you want to
continue?
[Y] Yes [N] No [S] Suspend [?] Help (default is "Y"): Y

OperationId : c870a2bd-f014-4552-b8c3-54b37d7e524f
Status : Succeeded
StartTime : 3/26/2025 11:13:28 AM
EndTime : 3/26/2025 11:14:11 AM
Error :

PS /home/azureuser> Get-AzVM `
>> -ResourceGroupName 'az104-rg8' `
>> -Status

ResourceGroupName Name Location VmSize OsType NIC Provisioning
-----
az104-rg8 myPSVM eastus Standard_D2s_v3 Windows myPSVM ...ded

PS /home/azureuser>
```