

# Lab 08 - Manage Virtual Machines

- Task 1: Deploy zone-resilient Azure virtual machines by using the Azure portal.
- Task 2: Manage compute and storage scaling for virtual machines.
- Task 3: Create and configure Azure Virtual Machine Scale Sets.
- Task 4: Scale Azure Virtual Machine Scale Sets.
- Task 5: Create a virtual machine using Azure PowerShell (optional 1).
- Task 6: Create a virtual machine using the CLI (optional 2).

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

The screenshot displays the Azure portal interface for a deployment named 'CreateVm-MicrosoftWindowsServer.WindowsServer-201-20241023154213'. The deployment is complete, as indicated by a green checkmark and the message 'Your deployment is complete'. The deployment details table lists the following resources:

Resource	Type	Status	Operation details
az104-vm1	Microsoft.Compute/virtualM...	OK	<a href="#">Operation details</a>
az104-vm2	Microsoft.Compute/virtualM...	OK	<a href="#">Operation details</a>
az104-vm11_z1	Microsoft.Network/networkl...	Created	<a href="#">Operation details</a>
az104-vm1776_z2	Microsoft.Network/networkl...	Created	<a href="#">Operation details</a>
az104-vm1-vnet	Microsoft.Network/virtualNe...	OK	<a href="#">Operation details</a>
az104-vm1-nsg	Microsoft.Network/networkS...	OK	<a href="#">Operation details</a>
az104-vm1-ip	Microsoft.Network/publicipA...	OK	<a href="#">Operation details</a>

Below the table, the 'Next steps' section recommends the following actions:

- [Setup auto-shutdown](#) Recommended
- [Monitor VM health, performance and network dependencies](#) Recommended
- [Run a script inside the virtual machine](#) Recommended

At the bottom, there are two buttons: 'Go to resource' and 'Create another VM'.

Deployed a zone-resilient VMs according to the requirements from the lab.

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

**az104-vm1 | Disks** Virtual machine

Search Refresh Additional settings Feedback Troubleshoot

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Connect Networking Settings **Disks** Extensions + applications Operating system Configuration Advisor recommendations Properties Locks

**OS disk**

Swap OS disk

Disk name	Storage type	Size (GiB)	Max IOPS	Max throughput (...)
az104-vm1_disk1_f2a4f85b9e24	Premium SSD LRS	127	500	100

**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	Max throughp
0	vm1-disk1	Standard SSD LRS	32	500	100

Firstly, I resized the VM to Standard HDD 32 GiB. Then I changed Storage type to Standard SSD. So, here I scaled the SKU and the data disk size.

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

**CreateVmss-MicrosoftWindowsServer.WindowsServer-2-20241023160058 | Overview** Deployment

Search Delete Cancel Redeploy Download Refresh

**Overview** Inputs Outputs Template

**Your deployment is complete**

Deployment name : CreateVmss-MicrosoftWindowsServer.Wi... Start time : 10/23/2024, 4:08:53 PM  
Subscription : P8-Real Hands-On Labs Correlation ID : ce8802a6-7eb7-465f-a0e5-6d6852f82096  
Resource group : 1-ba0183bd-playground-sandbox

**Deployment details**

Resource	Type	Status	Operation details
vmss1	Virtual machine scale set	OK	Operation details
vmss-lb	Load balancer	Created	Operation details
vmss-vnet	Virtual network	OK	Operation details
vmss-lb-publicip	Public IP address	OK	Operation details
vmss1-nsg	Network security group	OK	Operation details

Next steps

Created and configured VM Scale Sets.

- created and configured Virtual Network
- allowed inbound traffic
- created a load balancer

## Task 4: Scale Azure Virtual Machine Scale Sets

Operator \*

Greater than

Metric threshold to trigger scale action \*

70

%

Duration (minutes) \*

10

Time grain (minutes)

1

Time grain statistic \*

Average

Time aggregation \*

Average

Action

Operation \*

Increase percent by

Cool down (minutes) \*

5

Percentage \*

20

✓

Percentage CPU (Average)

11.27 %

☐ Enable metric divide by instance count

Operator \*

Less than

Metric threshold to trigger scale action \*

30

%

Duration (minutes) \*

10

Time grain (minutes)

1

Time grain statistic \*

Average

Time aggregation \*

Average

Action

Operation \*

Decrease percent by

Cool down (minutes) \*

5

Percentage \*

20

✓

Instance limits

Minimum \*

2

✓

Maximum \*

10

✓

Default \*

2

✓

Schedule

This scale condition is executed when none of the other scale condition(s) match

vmss1 | Instances

Virtual machine scale set

Search

Start Restart Stop Hibernate Reimage Delete Upgrade Refresh Protection

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Instances

Search virtual machine instances

Instance	Computer name	Status	Protection policy	Provisioning state	Health state	Latest model
<input type="checkbox"/> vmss1_0	vmss1bj4000000	Running		Succeeded		Yes
<input type="checkbox"/> vmss1_1	vmss1bj4000001	Running		Succeeded		Yes

In this task I added a rules of how and when to increase and decrease the number of instances. I also set the instance limits (min=2, max=10).