PLACEMENT EMPOWERMENT PROGRAM

CLOUD COMPUTING AND DEVOPS CENTRE

TASK 16 - Set up a load balancer and configure a load balancer to distribute traffic across multiple VMs

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DEPT - ADS

Task: Backup and Restore an Azure Virtual Machine Using Snapshots

Description:

In this task, we will perform a full backup and restoration of an Azure Virtual Machine (VM) using Azure **Snapshots**. The process involves:

1. **Taking a snapshot** of the VM's OS disk to create a backup.
2. **Terminating (deleting) the VM** while retaining the snapshot as a recovery point.
3. **Restoring the VM from the snapshot** by creating a new managed disk and deploying a new VM using that disk.

Step 1: Take a Snapshot of the VM

1. Go to **Azure Portal** → **Virtual Machines**.
2. Select the VM you want to back up.
3. In the left menu, click **Disks** → Select the **OS disk**.
4. Click **Create Snapshot**.
5. Configure the snapshot:
   - **Name**: Give it a unique name (e.g., vm-snapshot-2025).
   - **Storage Type**: Standard or Premium (Standard is usually enough).
   - **Snapshot Type**: **Full** (recommended for a full backup).
6. Click **Review + Create** → **Create**.

Step 2: Terminate the VM

1. Go to **Azure Portal** → **Virtual Machines**.
2. Select the VM.
3. Click **Delete** → Confirm deletion.
4. (Optional) Delete associated resources (network, disks, public IPs) if no longer needed.

Step 3: Restore VM from Snapshot

1. Go to **Azure Portal** → **Snapshots**.
2. Select the snapshot you created.
3. Click **Create Disk**→ Provide:
   - **Name**: e.g., vm-restored-disk
   - **Disk Type**: Same as original VM.
4. Click **Review + Create** → **Create**.

Step 4: Create a VM from the Restored Disk

1. Go to **Azure Portal → Disks**.
2. Select the newly created disk.
3. Click **Create VM**.
4. Configure:
   ○ **Resource Group**
   ○ **VM Size** (same or different from original)
   ○ **Networking** (Attach to the same VNet if required)
5. Click **Review + Create → Create**.

Step 5: Verify the Restored VM

1. Once the VM is deployed, go to **Virtual Machines**.
2. Select the new VM.
3. Click **Connect** (SSH for Linux / RDP for Windows).
4. Check if the data and settings are intact.

Your backup and restore from snapshot is now complete

Create an image ...

✕

✓ Validation passed

Basics   Tags   **Review + create**

Basics

Subscription	Azure subscription 1
Resource group	day9
Region	East US
Share image to Azure compute gallery	Yes
Automatically delete this virtual machine after creating the image	No
Azure compute gallery	(new) vm
Operating system state	Generalized
Target VM image definition	(new) vm
Version number	0.0.1
Source virtual machine	vm
Exclude from latest	No
End of life date	None
Lock deleting Replicated Locations	Yes
Shallow replication	No

Create   < Previous   Next >   Download a template for automation   ℟ Give feedback

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🔷 0.0.1 (vm/vm/0.0.1) 📌 ☆ ...
VM image version

✕

🔍 Search   ↕ «   + Create VM   + Create VMSS   🗑 Delete   ↻ Refresh   ℟ Give feedback

■ Overview

■ Activity log

PR Access control (IAM)

◆ Tags

✕ Diagnose and solve problems

> Settings

> Automation

> Help

⌃ Essentials   JSON View

Resource group (move) : day9		Azure compute gallery	: vm
Status	: Succeeded	VM image definition	: vm
Location	: East US	Replication status	: Completed
Subscription (move)	: Azure subscription 1	Replication mode	: Full
Subscription ID	: 5b213333-277d-408c-9511-e60e8ba11a8b	Confidential OS disk encr...	: -
		Encryption type	: Platform-managed key
		End of life date	: -
		Exclude from latest	: No
		Lock deleting Replicated ...	: Yes
		Storage account type	: Standard HDD LRS

Tags (edit)   : Add tags

🖥 vm 📌 ☆ ...
Virtual machine

✕

🔍 Search   ↕ «   ⊕ (Help me copy this VM in any region)

■ Overview

■ Activity log

PR Access control (IAM)

◆ Tags

✕ Diagnose and solve problems

> Connect

> Networking

> Settings

> Availability + scale

> Security

> Backup + disaster recovery

> Operations

> Monitoring

> Automation

> Help

⌀ Connect ∨   ▷ Start   ↺ Restart   ☐ Stop   ⏱ Hibernate   📸 Capture ∨   🗑 Delete   ↻ Refresh   ▯ Open in mobile   ℟ Feedback   ⧉ CLI / PS

⌃ Essentials   JSON View

Resource group (move) : day9		Operating system	: Windows (Windows Server 2019 Datacenter)
Status	: Running	Size	: Standard DC2s v2 (2 vcpus, 8 GiB memory)
Location	: East US (Zone 1)	Public IP address	: 52.146.14.46
Subscription (move)	: Azure subscription 1	Virtual network/subnet	: vm-vnet/default
Subscription ID	: 5b213333-277d-408c-9511-e60e8ba11a8b	DNS name	: Not configured
Availability zone	: 1	Health state	: -
		Time created	: 07/12/2024, 10:51 UTC

Tags (edit)   : Add tags

Properties   Monitoring   Capabilities (8)   Recommendations   Tutorials

🖥 **Virtual machine**		🌐 **Networking**	
Computer name	vm	Public IP address	52.146.14.46 (Network interface vm648_z1)
Operating system	Windows (Windows Server 2019 Datacenter)	Public IP address (IPv6)	-
VM generation	V2	Private IP address	10.0.0.4
VM architecture	x64	Private IP address (IPv6)	-
Agent status	Ready	Virtual network/subnet	vm-vnet/default

Home > CreateVm-MicrosoftWindowsServer.WindowsServer-201-20241207163447 | Overview > vm >

Create an image ···

×

Basics　Tags　Review + create

Create an image from this virtual machine that can be used to deploy additional virtual machines and virtual machine scale sets. With a shared image, you can easily replicate the image to Azure regions around the world and manage versions of the image. Certain information from the virtual machine will be carried forward to the image including OS type, VM generation, plan, and publishing details. Learn more ⬈

Project details

Subscription
> Azure subscription 1   ⌄

Resource group *
> day9   ⌄

Instance details

Region
> (US) East US   ⌄

Share image to Azure compute gallery ⓘ
- ● Yes, share it to a gallery as a VM image version.
- ○ No, capture only a managed image.

> ⓘ Managed image is not available because it is not currently supported with Trusted launch virtual machines.

Automatically delete this virtual machine
after creating the image ⓘ　　　☐

| Review + create | | < Previous | Next : Tags > |

🗟 Give feedback

Home >

🟦 0.0.1 (vm/vm/0.0.1) 📌 ☆ ···
VM image version

×

🔍 Search　　◇ «

\+ Create VM　\+ Create VMSS　🗑 Delete　🔄 Refresh　🗟 Give feedback

| 🟦 **Overview** |
| 📋 Activity log |
| 🔑 Access control (IAM) |
| 🏷 Tags |
| ✗ Diagnose and solve problems |
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⌃ **Essentials**　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　JSON View

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Tags (edit)　　　　　: Add tags