

Placement Empowerment Program

Cloud Computing and DevOps Centre

Take the snapshot of your vm, terminate the vm and restore it from the snapshot.

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Introduction :

Taking a snapshot of a virtual machine (VM) is a crucial step in preserving its current state, including the disk, memory, and configurations, which can be used for backup, testing, or recovery purposes. The process begins by creating a snapshot, which acts as a restore point, allowing you to revert to that state if needed. Once the snapshot is taken, the VM can be safely terminated, freeing up resources while ensuring that the saved state remains intact. When required, the VM can be restored from the snapshot, recreating the exact environment as it was at the time of the snapshot. This approach is widely used for system updates, software testing, and disaster recovery, as it ensures minimal downtime and maintains data integrity while providing a reliable rollback option.

Overview :

Taking a snapshot of a virtual machine (VM) captures its current state, including disk, memory, and configurations, allowing for quick recovery if needed. This is useful for backup, testing, and recovery purposes. Once a snapshot is taken, the VM can be terminated to free up resources while preserving its state. Later, the VM can be restored from the snapshot, bringing it back to the exact saved state. This process ensures minimal downtime, data integrity, and a reliable rollback option in case of failures or system changes.

Objective:

The objective of this task is to:

Backup and Recovery – *Preserve the VM's current state to enable quick restoration in case of failures.*

Minimal Downtime – *Ensure business continuity by quickly restoring a terminated VM when needed.*

Testing and Experimentation – *Allow safe testing of updates, configurations, or software changes with a rollback option.*

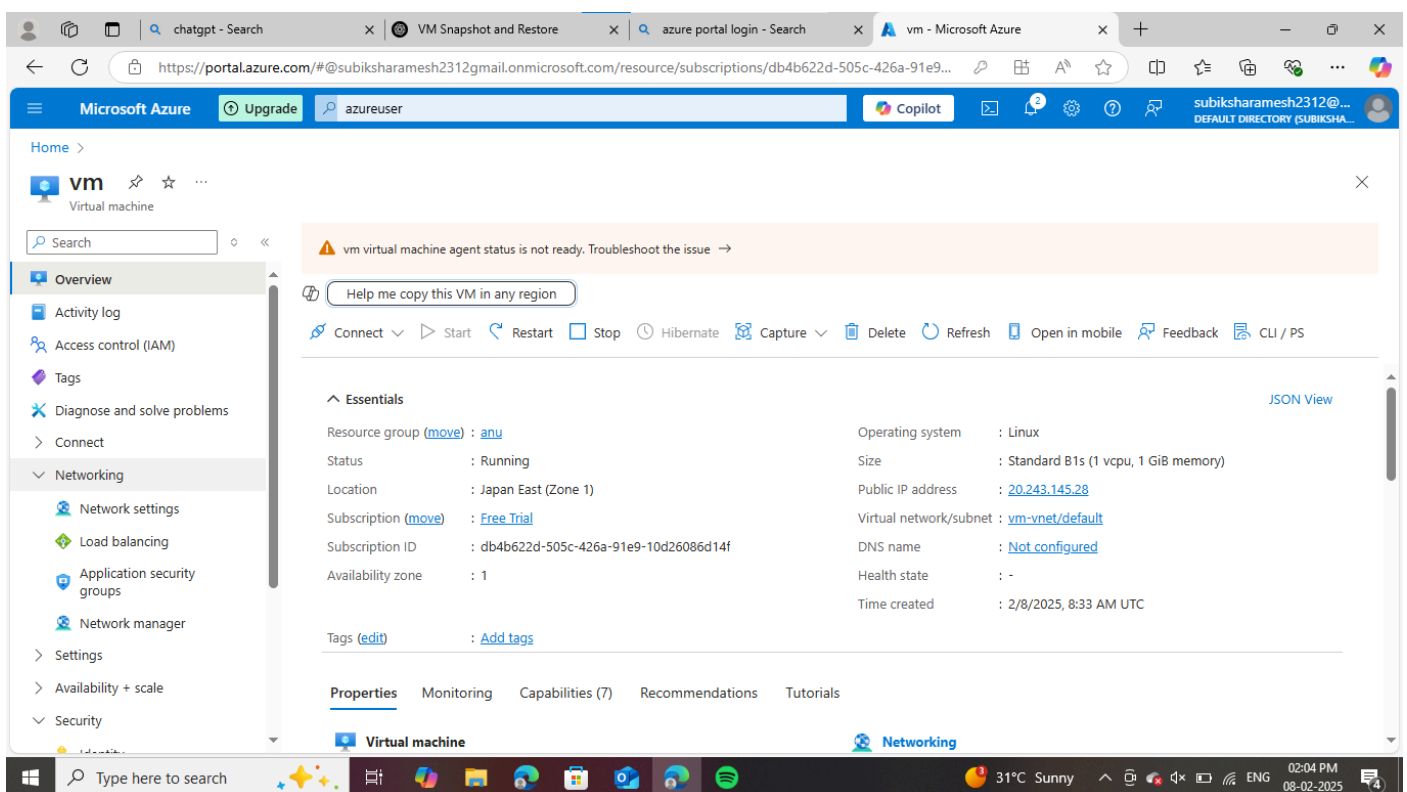
Resource Optimization – Free up cloud or on-premise resources by terminating VMs without losing their state.

Disaster Recovery – Provide a fail-safe mechanism to restore critical workloads in case of system crashes.

Version Control – Maintain different versions of a VM to track changes and revert when necessary.

Step-by-Step procedure :

STEP 1 :Create a virtual machine



STEP 2:under vm,navigate to disks

Home > vm

vm | Disks

Virtual machine

dis

Refresh Additional settings Feedback Troubleshoot

Settings

Disks

Backup + disaster recovery

Disaster recovery

OS disk

Swap OS disk

Disk name	Storage type	Size (GiB)	Max IOPS	Max throughput (...)	Encryption
vm_disk1_e2072a7162554324a8163e43e94	Premium SSD LRS	30	120	25	SSE with PMK

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 throughput (...)	Encryption
0	disk1	Premium SSD (LRS)	4	120	25	Platform-managed key

Apply Discard changes

STEP 3: Inside the disks, open to create snapshot :

Home > vm | Disks >

vm_disk1_e2072a7162554324a8163e43e9435e5e

Search

Create VM Create VM image version Create snapshot Delete Refresh Give feedback

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Monitoring

Automation

Help

Essentials

Resource group (move) : anu

Disk state : Attached

Last ownership update : 2/8/2025, 2:03:57 PM

Location : Japan East

Subscription (move) : Free Trial

Subscription ID : db4b622d-505c-426a-91e9-10d26086d14f

Time created : 2/8/2025, 2:03:57 PM

Tags (edit) : Add tags

Get started Properties Monitoring

Disk

Property	Value
Operating system type	Linux
Create option	FromImage
VM generation	V2

Size

Property	Value
Size	30 GiB
Storage type	Premium SSD LRS
IOPS	120

STEP 4: Now create a snapshot of that vm using vm's disk

chatgpt - Search VM Snapshot and Restore azure portal login - Search Create snapshot - Microsoft Azure

https://portal.azure.com/#create/Microsoft.Snapshot-ARM

Microsoft Azure Upgrade azureuser Copilot subiksharamesh2312@... DEFAULT DIRECTORY (SUBIKSHA...)

Home > vm | Disks > vm_disk1_e2072a7162554324a8163e43e9435e5e >

Create snapshot

Basics Encryption Networking Advanced Tags Review + create

A snapshot is a read-only copy of a virtual hard drive (VHD). You can take a snapshot of an OS or data disk VHD to use as a backup, or to troubleshoot virtual machine (VM) issues. [Learn more about snapshots in Azure](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *

Resource group *
[Create new](#)

Instance details

Name *

Region

Snapshot type * ☒ **Incremental:** Save on storage costs by making a partial copy of the disk based on the difference between the last snapshot.

[Review + create](#) < Previous Next : Encryption > [Give feedback](#)

chatgpt - Search VM Snapshot and Restore azure portal login - Search Create snapshot - Microsoft Azure

https://portal.azure.com/#create/Microsoft.Snapshot-ARM

Microsoft Azure Upgrade azureuser Copilot subiksharamesh2312@... DEFAULT DIRECTORY (SUBIKSHA...)

Home > vm | Disks > vm_disk1_e2072a7162554324a8163e43e9435e5e >

Create snapshot

Basics Encryption Networking Advanced Tags Review + create

Validation passed

Basics

Subscription	Free Trial
Resource group	anu
Region	Japan East
Name	vm1
Source subscription	Free Trial
Source type	disk
Source disk	vm_disk1_e2072a7162554324a8163e43e9435e5e
Security type	Trusted launch
Storage type	Standard_ZRS
Snapshot type	Incremental
VM architecture	x64

[Create](#) < Previous Next > [Download a template for automation](#) [Give feedback](#)

STEP 5: under the created snapshot, click on create a image version

vm1 Snapshot

Search

+ Create disk + Create VM image version Copy snapshot Delete Refresh Give feedback

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Settings
- Automation
- Help

Essentials

Resource group (...): [anu](#)

Location: Japan East

Subscription (move): [Free Trial](#)

Subscription ID: db4b622d-505c-426a-91e9-10d26086d14f

Snapshot state: Unattached

Tags (edit): [Add tags](#)

Created: 2/8/2025, 2:07:58 PM

Storage type: Zone-redundant

Source: [vm_disk1_e2072a7162554324a8163e43e9435e5e](#)

Size: 30 GiB

Encryption: [Platform-managed key](#)

Get started Properties

Snapshot

Name	vm1
Snapshot type	Incremental
VM generation	Gen 2
Completion percent	100
Provisioning state	Succeeded
VM architecture	x64

Size

Size	30 GiB
Storage type	Zone-redundant

Security type

Security type	Trusted launch
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STEP 6:create a vm image version with specified version number and image-definition

Create VM image version

basics replication encryption tags review + create

Create a new image that can be used to deploy 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. [Learn more](#)

Project details

Subscription: [Free Trial](#)

Resource group*: [anu](#) [Create new](#)

Instance details

Region: [\(Asia Pacific\) Japan East](#)

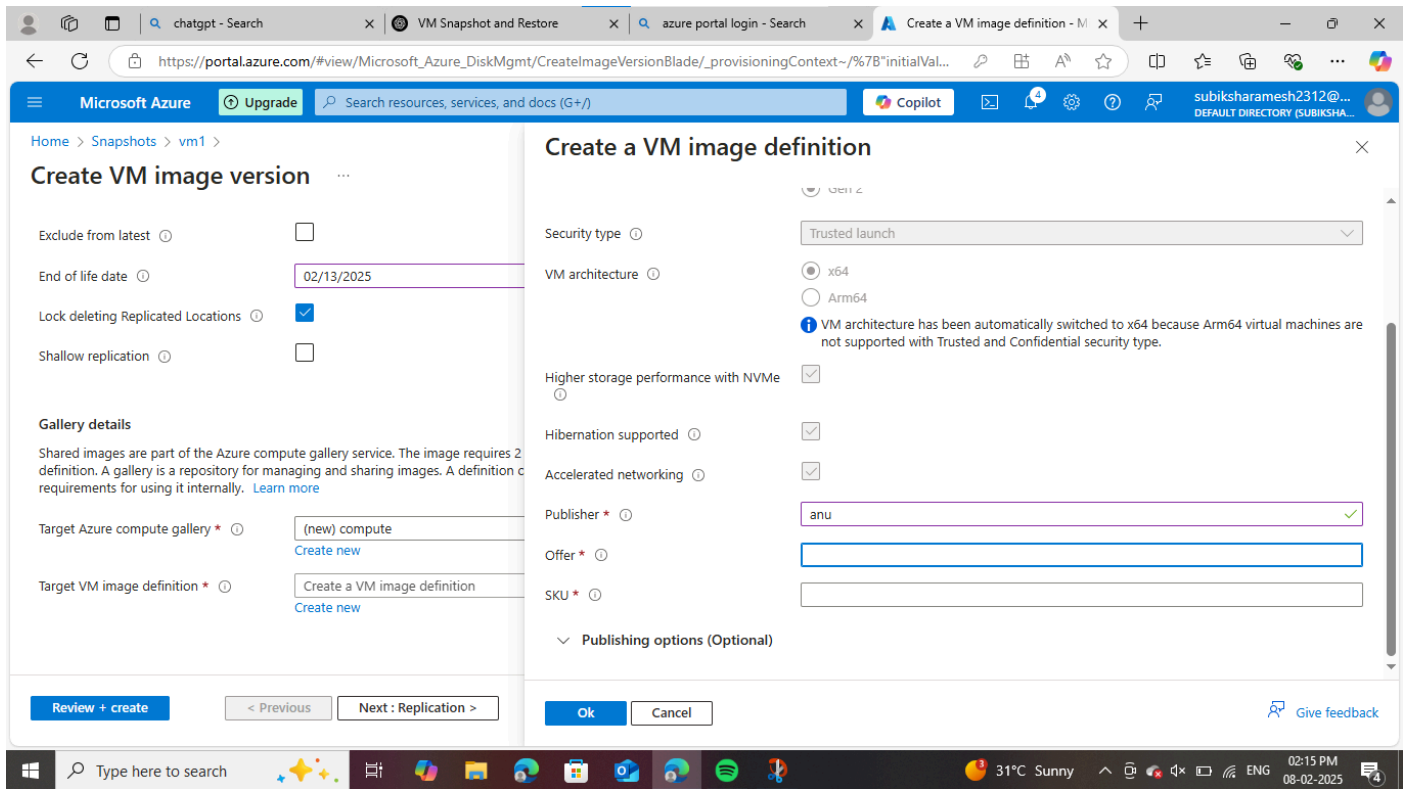
Version details

Version number*: [Example: 0.0.1, 15.35.0](#)

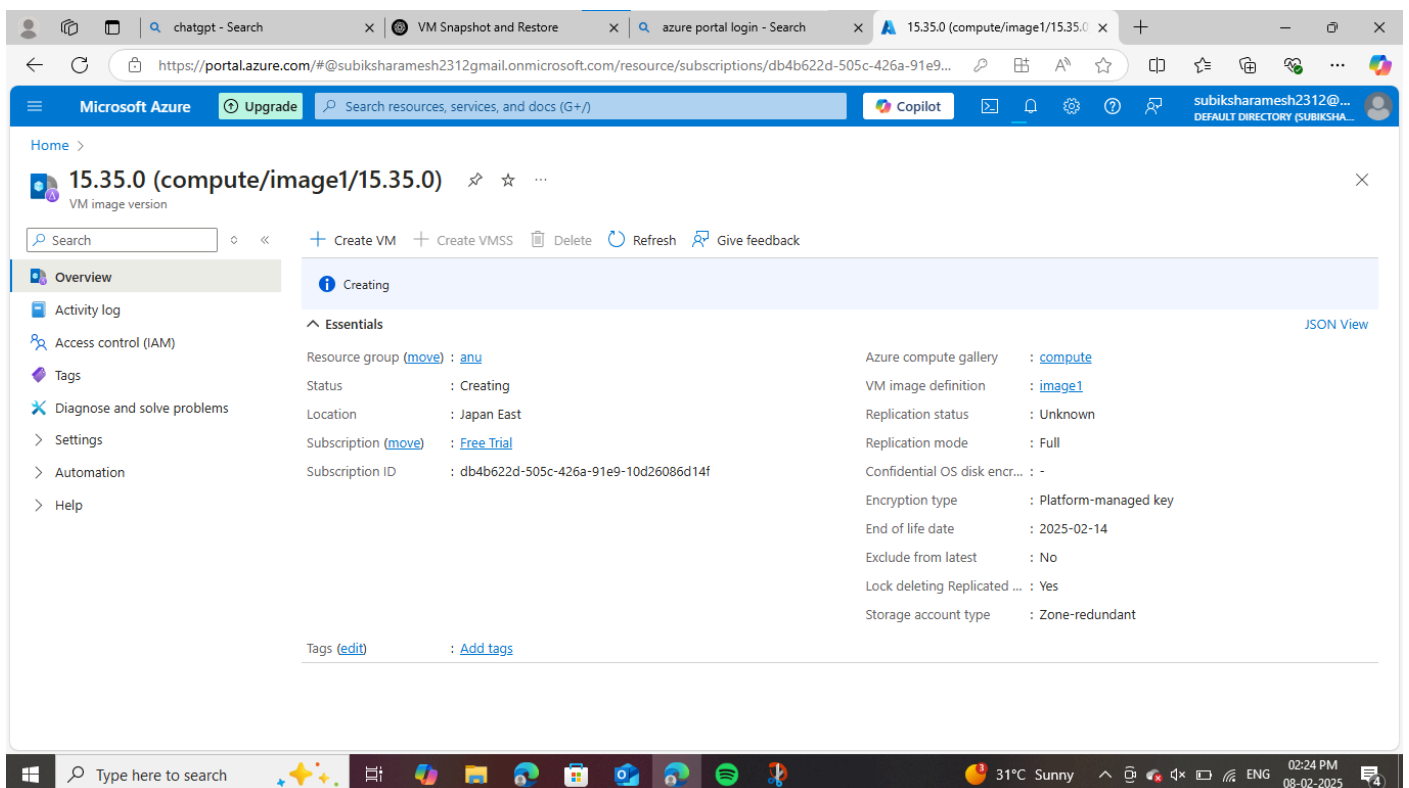
Source: [Disks and/or snapshots](#)

OS disk: [vm1](#)

[Review + create](#) [< Previous](#) [Next: Replication >](#) [Give feedback](#)



STEP 7: Hence the vm image version will pass the validation process



STEP 8: now create a vm under the same disk of the old vm:

Microsoft Azure portal showing the details of a VM image version 15.35.0 (compute/image1/15.35.0). The page displays the image's status as "Creating" and lists various properties including Resource group, Status, Location, Subscription, and Replication status.

Essentials

Resource group (move)	: anu	Azure compute gallery	: compute
Status	: Creating	VM image definition	: image1
Location	: Japan East	Replication status	: Unknown
Subscription (move)	: Free Trial	Replication mode	: Full
Subscription ID	: db4b622d-505c-426a-91e9-10d26086d14f	Confidential OS disk encr...	: -
		Encryption type	: Platform-managed key
		End of life date	: 2025-02-14
		Exclude from latest	: No
		Lock deleting Replicated ...	: Yes
		Storage account type	: Zone-redundant

Tags (edit) : [Add tags](#)

STEP 9: The new vm will be created using the disk

Microsoft Azure portal showing the details of a virtual machine named vm03. The page displays the VM's status as "Creating" and lists various properties including Resource group, Status, Location, Subscription, and Public IP address.

Essentials

Resource group (move)	: anu	Operating system	: Linux
Status	: Creating	Size	: Standard B1s (1 vcpu, 1 GiB memory)
Location	: Japan East (Zone 1)	Public IP address	: 20.243.149.194
Subscription (move)	: Free Trial	Virtual network/subnet	: vm-vnet/default
Subscription ID	: db4b622d-505c-426a-91e9-10d26086d14f	DNS name	: Not configured
Availability zone	: 1	Health state	: -
		Time created	: 2/8/2025, 8:56 AM UTC

Tags (edit) : [Add tags](#)

Properties

Virtual machine	
Computer name	vm03
Operating system	Linux

Networking

Public IP address	20.243.149.194 (Network interface vm03690_z1)
Public IP address (IPv6)	-

Outcome :

The outcome of taking a snapshot, terminating, and restoring a virtual machine (VM) is a streamlined and efficient approach to ensuring data protection, disaster recovery, and optimized resource management. By capturing the VM's current state, including its disk, memory, and configurations, snapshots provide a reliable restore point, allowing users to revert to a stable environment whenever needed. This process minimizes downtime, enhances system resilience, and ensures business continuity by enabling quick recovery in case of failures, accidental deletions, or system crashes. Additionally, it supports software testing, updates, and development workflows by allowing experimentation without permanent risk. Terminating VMs after taking snapshots helps in freeing up cloud or on-premise resources while retaining the ability to restore them when required. Ultimately, this approach improves operational efficiency, reduces costs, and provides a structured rollback mechanism for maintaining system stability and security.