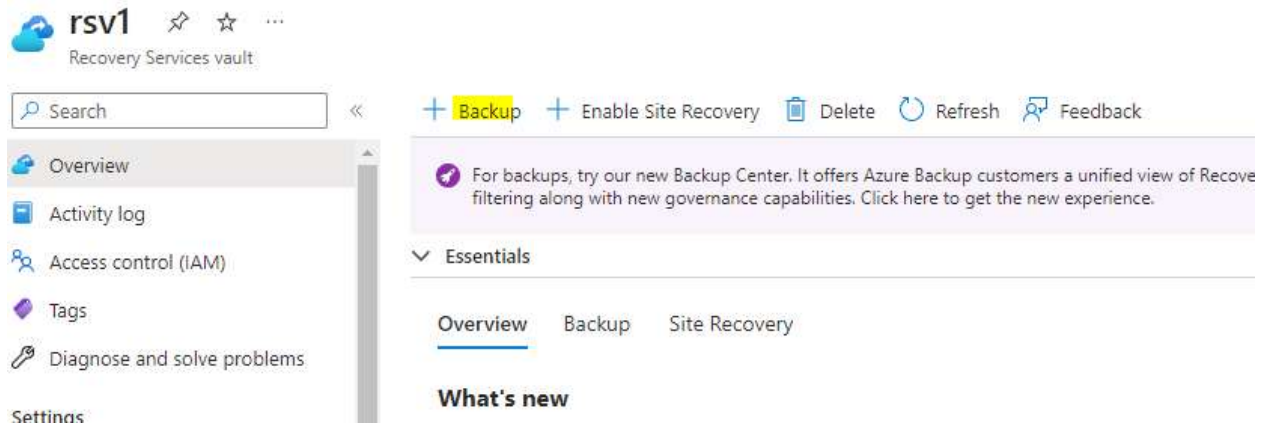


Azure Backup & Restore – Demo

In this demo, we are going to see how to backup and restore a azure VM using Recovery Service Vault (RSV) service and it's out of the box feature.

Azure VM – Backup & Restore using “RSV” service

1. Create an azure window VM.
2. Login to VM and Create some folder/files.
3. Create RSV with default options in azure portal.
4. Once its created, click “Backup” from RSV’s overview page.



5. Update the replication from LRS to ZRS or GRS as needed, from below given link. And then, select “Virtual machine” from backup dropdown.

Backup Goal

The storage replication is set to Locally Redundant. This option cannot be changed later. Before proceeding further, click here. →

Where is your workload running?

Azure

What do you want to backup?

Virtual machine

Step: Configure Backup

Backup

6. Create a custom policy to take the backup of VM every day like 10:00 PM EST as shown below.

[Dashboard](#) > [Microsoft.RecoveryServicesV2-1679618622688](#) | [Overview](#) > [rsv1](#) > [Backup Goal](#) >

Configure backup ...

rsv1

Policy sub type *



Standard

✓ Once a day backup

✓ 1-5 days operational tier

✓ Vault tier

ZRS resilient snapshot tier

Support for Trusted Azure VM



Enhanced

✓ Multiple backups per day

✓ 1-30 days operational tier

✓ Vault tier

✓ ZRS resilient snapshot tier

✓ Support for Trusted Azure VM

Backup policy * ⓘ

DefaultPolicy



Create a new policy

i The list contains the policies pertaining to the selected policy sub type. [Learn more.](#)

Policy details

Full backup

Backup frequency

Daily at 10:30 AM UTC

Instant restore

Retain instant recovery snapshot(s) for 2 day(s)

Retention of daily backup point


Retain backup taken every day at 10:30 AM for 30 Day(s)

[Enable backup](#)

[Download a template for automation](#)

Create policy

Azure Virtual Machine

 Recovery points can be automatically moved to the vault-archive tier using backup policy. [Learn more.](#) →

Policy name ⓘ

vm-backup-daily10pmEST-policy ✓

Backup schedule

Frequency *

Daily

Time *

10:00 PM

Timezone *

(UTC-05:00) Eastern Time (US & Canada)

Instant restore ⓘ

Retain instant recovery snapshot(s) for

2 ✓

Day(s) ⓘ

Retention range

☒ Retention of daily backup point

At

10:00 PM

For

7 ✓

Day(s)

☐ Retention of weekly backup point

OK

7. Add your VM in the “backup” list

Home > rsv1 > Backup Goal >

Configure backup

rsv1

Policy details

Full backup

Backup frequency

Daily at 9:30 PM Eastern Standard Time

Instant restore

Retain instant recovery snapshot(s) for 2 d

Retention of daily backup point

Retain backup taken every day at 9:30 PM

Virtual machines

Name

Re

No virtual machines selected.

Add



OS Disk only backup option allows you to backup Azure Virtual Machine with only OS disk. You can use Selective disk backup feature through enhanced policy. [Learn more](#)

Select virtual machines



Discovering virtual machines that can be backed up, are in the same region as

Filter items by name

Virtual machine name

Res



vm1

rg-

< Previous

Page

1



of 1

Next >

8. Enable the “backup” clicking “Enable backup” button.

Configure backup

rsv1

Policy details

Full backup

Backup frequency

Daily at 9:30 PM Eastern Standard Time

Instant restore

Retain instant recovery snapshot(s) for 2 day(s)

Retention of daily backup point

Retain backup taken every day at 9:30 PM for 7 Day(s)

Virtual machines

Name

Resource group

OS disk only

vm1

rg-azure-backup-restore



Add



OS Disk only backup option allows you to backup Azure Virtual Machine with only OS disk and exclude all the data disks. You can use Selective disk backup feature through enhanced policy. [Learn more](#)

Enable backup

Download a template for automation

9. Once its done and VM backup is taken (lets say backup has been completed at 10 PM EST – please expect some time to complete VM backup job),

✓ All data fetched from the service.

Workload name ↑↓	Operation	Status	Type	Start time ↑↓	Total Duration ↑↓	Details
vm1	Backup	✓ Completed	Azure Virtual Machine	3/23/2023, 9:14:42 PM	00:33:39	View details
vm1	Configure backup	✓ Completed	Azure Virtual Machine	3/23/2023, 9:12:38 PM	00:00:41	View details

< Previous Page 1 of 1 Next >

10. You can check all backup items in RSV as shown below.

rsv1 | Backup items ☆ ...
Recovery Services vault

Search Refresh

Getting started

- Backup
- Site Recovery

Protected items

- Backup items**
- Replicated items

Manage

- Backup policies
- Backup Infrastructure
- Site Recovery infrastructure
- Recovery Plans (Site Recovery)
- Backup Reports

Primary Region Secondary Region

BACKUP MANAGEMENT TYPE	BACKUP ITEM COUNT
Azure Virtual Machine	1
Azure Backup Agent	0
Azure Backup Server	0
DPM	0
Azure Storage (Azure Files)	0
SQL in Azure VM	0
SAP HANA in Azure VM	0

For backups, try our new Backup Center. It offers Azure Backup customers a unified view of Rec along with new governance capabilities. Click here to get the new experience.

11. Login to VM again and make some changes on the files you created in step#2 at around 10:15 PM EST.
12. Assuming there is a disaster and you are unable login to VM or even access files from that VM at around 10:30 PM EST. Now you go back and restore from the VM backup taken at 10 PM EST and ensure that you have file content until 10:00 PM EST as that was when last backup taken successfully.
13. From step#10 screenshot, click on “Azure Virtual machine”; you will be taken to below screen.

Backup Items (Azure Virtual Machine) ...

rsv1

Refresh + Add Filter

With Backup center, you can view all your IaaSVM items across vaults, subscriptions and regions in a single pane of glass. Click here to use the new experience. →

All data fetched from the service.

Filter items ...

Name ↑↓	Resource Group ↑↓	Backup Pre-Check	Last Backup Status	Latest restore point ↑↓	Details
vm1	rg-azure-backup-restore	Passed	Success	3/23/2023, 9:16:25 PM	View

< Previous Page 1 of 1 Next >

Backup now
Restore VM
 File Recovery
 Stop backup
 Delete backup data
 Resume backup
 Undelete

14. Click on “Restore VM” from above screenshot and then you will be asked to select the “restore point” which is nothing but which time taken backup you want to restore.

Home > ConfigureProtection-1679620353846 | Overview > rsv1 | Backup item

Restore Virtual Machine ...

vm1

Restore allows you to restore VM/disks from a selected Restore Point.

Restore point * No Restore Point Selected **Select**

Select restore point

vm1

Start Date: 03/09/2023 End Date: 03/23/2023 Recovery point consistency: All restore points

CRASH CONSISTENT APPLICATION CONSISTENT FILE-SYSTEM CONSISTENT

Time	Consistency	Recovery Type
3/23/2023, 9:16:25 PM	Application Consistent	Snapshot and Vault-Standard

15. Select the “restore point” time and click Ok.
16. You will get 2 options for restore configuration.
- Create New → This will create a new VM
 - Replace Existing → This will replace the existing VM from which you took backup.
17. Lets go with “replace” option so that you can verify the result as stated in step#12. Go ahead and select “Replace Existing” and click “Restore”

Restore Virtual Machine ...

vm1

Restore configuration

- ☐ Create new
☒ Replace existing

i The disk(s) from the selected restore point will replace the disk(s) in your existing VM. [Learn more about In-Place Restore.](#)

Staging location is the temporary location used during the in-place restore. The list populates as the staging location is the storage account in the same subscription as the vault.

Staging Location * **i**

sa9azuredemo (StandardRAGRS)

[Can't find your storage account?](#)

i The identities listed here are based on the MSI configurations in the corresponding Recovery services vault. [Learn more.](#)

Identities **i**

☒ Disabled

Restore

18. Ensure to stop your VM before above step; you will get below error otherwise.

[Home](#) > [ConfigureProtection-1679620353846](#) | [Overview](#) > [rsv1](#) | [Backup items](#) > [Backup Items \(Azure Virtual Machine\)](#) >

Restore Virtual Machine ...

vm1

✖ Validation failed. Click here for more details. →

Restore configuration

Error details

laasVM restore validation errors

Error code	UserErrorVmNotShutDown
Message	VM needs to be in deallocated state for performing replace disks operation
Recommendations	Please shut down the VM, and retry

19. You can now see “Restore” operation in progress. This is also you’ve to monitor from “Backup Jobs” blade only. There is no as such “Restore jobs” option to monitor restore option.

Home > ConfigureProtection-1679620353846 | Overview > rsv1 | Backup Jobs

Filtered by: Item Type - All, Operation - All, Status - All, Start Time - 3/22/2023, 10:08:25 PM, End Time - 3/23/2023, 10:08:25 PM

For backups, try our new Backup Center. It offers Azure Backup customers a unified view of Recovery Services Vaults used for backup in Azure. It also provides improved sorting and filtering along with new governance capabilities. Click here to get the new experience.

All data fetched from the service.

Workload name	Operation	Status	Type	Start time	Total Duration	Details
vm1	Backup	In progress	Azure Virtual Machine	3/23/2023, 10:07:06 PM	00:01:19	View details
vm1	Restore	In progress	Azure Virtual Machine	3/23/2023, 10:07:05 PM	00:01:19	View details
vm1	Backup	In progress	Azure Virtual Machine	3/23/2023, 9:50:38 PM	00:17:47	View details
vm1	Backup	Completed	Azure Virtual Machine	3/23/2023, 9:14:42 PM	00:33:39	View details
vm1	Configure backup	Completed	Azure Virtual Machine	3/23/2023, 9:12:38 PM	00:00:41	View details

20. If you click on “View details” you will get to know more details about any jobs.

Home > ConfigureProtection-1679620353846 | Overview > rsv1 | Backup Jobs >

Restore

vm1

[Refresh](#) [Cancel](#) [Deploy Template](#) [Feedback](#)

Job details

Job Type

Replace disks

Target VM Name

Target Storage Account Name

sa9azuredemo

Recovery point time

3/24/2023 1:16:25 AM

Target resource group

rg-azure-backup-restore

Activity ID

3b9a9ba7-d986-43e6-8880-463eb3b6902e

Job status

Job progress

99% completed (00:02:00 remaining)

21. Status of the job will become “completed” once restoration is complete.

rsrv1 | Backup Jobs
Recovery Services vault

Search

Choose columns Filter Export jobs Refresh Feedback

Filtered by: Item Type - All, Operation - All, Status - All, Start Time - 3/22/2023, 10:35:25 PM, End Time - 3/23/2023, 10:35:25 PM

For backups, try our new Backup Center. It offers Azure Backup customers a unified view of Recovery Services Vaults used for backup in Azure. It also provides improved sorting and filtering along with new governance capabilities. Click here to get the new experience.

All data fetched from the service.

Filter items ...

Workload name	Operation	Status	Type	Start time	Total Duration	Details
vm1	Backup	Completed	Azure Virtual Machine	3/23/2023, 10:07:06 PM	00:17:36	View details
vm1	Restore	Completed	Azure Virtual Machine	3/23/2023, 10:07:05 PM	00:20:38	View details
vm1	Backup	In progress	Azure Virtual Machine	3/23/2023, 9:50:38 PM	00:44:47	View details
vm1	Backup	Completed	Azure Virtual Machine	3/23/2023, 9:14:42 PM	00:33:39	View details
vm1	Configure backup	Completed	Azure Virtual Machine	3/23/2023, 9:12:38 PM	00:00:41	View details

22. Start and login to VM and verify if you got right backup as expected in step 12.

Backup VM

Difference b/n taking backup of VM from it's out of the box option and RSV is, RSV is like central place to schedule multiple VMs, Azure File shares, etc.,

- Go to your VM and select "backup" from left side blade and click on "Backup now".

vm1 | Backup
Virtual machine

Search

Backup now Restore VM File Recovery Stop backup Resume backup Delete backup data Restore to Secondary Region

For backups, try our new Backup Center. It offers Azure Backup customers a unified view of Recovery Services Vaults used for backup in Azure. It also provides improved sorting and filtering along with new governance capabilities. Click here to get the new experience.

Essentials

Recovery services vault : [rsrv1](#)

Subscription (move) : [CloudzDevOps-Training](#)

Subscription ID : 6e636a88-0376-4c2e-8e2b-802913740787

Alerts (in last 24 hours) : [View alerts](#)

Jobs (in last 24 hours) : [View jobs](#)

Backup Pre-Check : ✔ Passed

Last backup status : ⚠ Warning (Initial backup pending)

Backup policy : [DailyPolicy-daily9-30pmEST](#)

Oldest restore point : -

Recovery points

This list is filtered for last 30 days of recovery points. To recover from recovery point older than 30 days, as well as vault-archive, [click here](#).

Long term recovery points can be moved to vault-archive. To move all 'recommended recovery points' to vault-archive tier, [click here](#).

CRASH CONSISTENT 0 APPLICATION CONSISTENT 0 FILE-SYSTEM CONSISTENT 0

Creation time Consistency Recovery type

- You can monitor backup progress by clicking "View job"

vm1 | Backup ☆ ...
Virtual machine

Search

Locks

Operations

- Bastion
- Auto-shutdown
- Backup**
- Disaster recovery
- Updates
- Inventory
- Change tracking
- Automanage
- Configuration management (Preview)
- Policies
- Run command

Monitoring

Backup now Restore VM File Recovery Stop backup Resume backup Delete backup data Restore to Secondary Region

For backups, try our new Backup Center. It offers Azure Backup customers a unified view of Recovery Services Vaults used for backup in Azure. It also provides improved sorting and filtering along with new governance capabilities. Click here to get the new experience.

Essentials

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Alerts (in last 24 hours) : [View alerts](#)

Jobs (in last 24 hours) : [View jobs](#)

Backup Pre-Check : ✔ Passed

Last backup status : ⚠ Warning (Initial backup pending)

Backup policy : [DailyPolicy-daily9-30pmEST](#)

Oldest restore point : -

Recovery points

This list is filtered for last 30 days of recovery points. To recover from recovery point older than 30 days, as well as vault-archive, [click here](#).

Long term recovery points can be moved to vault-archive. To move all 'recommended recovery points' to vault-archive tier, [click here](#).

CRASH CONSISTENT 0 APPLICATION CONSISTENT 0 FILE-SYSTEM CONSISTENT 0

Creation time ↑↓	Consistency	Recovery type
------------------	-------------	---------------

Backup Jobs ...

Choose columns Filter Export jobs Refresh Feedback

Filtered by: Item Type - All, Operation - All, Status - All, Start Time - 3/22/2023, 9:18:23 PM, End Time - 3/23/2023, 9:18:23 PM

For backups, try our new Backup Center. It offers Azure Backup customers a unified view of Recovery Services Vaults used for backup in Azure. It also provides improved sorting and filtering along with new governance capabilities. Click here to get the new experience.

✔ All data fetched from the service.

Filter items ...

Workload name ↑↓	Operation	Status	Type	Start time ↑↓	Total Duration ↑↓	Details
vm1	Backup	⏸ In progress	Azure Virtual Machine	3/23/2023, 9:14:42 PM	00:03:40	View details
vm1	Configure backup	✔ Completed	Azure Virtual Machine	3/23/2023, 9:12:38 PM	00:00:41	View details

< Previous Page 1 of 1 Next >

- Once backup is complete, you can restore it using “Restore VM” option.

Backup now Restore VM File Recovery Stop backup Resume backup ...

For backups, try our new Backup Center. It offers Azure Backup customers a unified view of Recovery Services Vaults used for backup in Azure. It also provides improved sorting and filtering along with new governance capabilities. Click here to get the new experience. →

Jobs (in last 24 hours)
[View jobs](#)

Recovery points

This list is filtered for last 30 days of recovery points. To recover from recovery point older than 30 days, as well as vault-archive, [click here](#).

Long term recovery points can be moved to vault-archive. To move all 'recommended recovery points' to vault-archive tier, [click here](#).

CRASH CONSISTENT 1 APPLICATION CONSISTENT 2 FILE-SYSTEM CONSISTENT 0

Creation time ↑↓	Consistency	Recovery type	Expiry time	
3/23/2023, 10:07:08 PM	Crash Consistent	Snapshot	3/26/2023, 2:07:08 AM	***
3/23/2023, 9:50:41 PM	Application Consistent	Snapshot and Vault-Stand...		***
3/23/2023, 9:16:25 PM	Application Consistent	Snapshot and Vault-Stand...	3/26/2023, 1:16:25 AM	***

4. Select the backup you want to restore from “Restore point”

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

cloudzdevops@outlook... CLOUDZDEVOPS

Dashboard > Virtual machines > vm1 | Backup >

Restore Virtual Machine

vm1

Restore allows you to restore VM/disks from a selected Restore Point.

Restore point * No Restore Point Selected [Select](#)

Select restore point

vm1

Start Date 03/10/2023 End Date 03/24/2023 Recovery point consistency All restore points

CRASH CONSISTENT APPLICATION CONSISTENT FILE-SYSTEM CONSISTENT

Time	Consistency	Recovery Type	Expiry time
3/24/2023, 9:42:36 PM	Crash Consistent	Snapshot	
3/23/2023, 10:07:08 PM	Crash Consistent	Snapshot	3/26/2023, 2:07:08 AM
3/23/2023, 9:50:41 PM	Application Consistent	Snapshot and Vault-Standard	
3/23/2023, 9:16:25 PM	Application Consistent	Snapshot and Vault-Standard	3/26/2023, 1:16:25 AM

5. You may now follow same steps starting from steps # 16 on above section (RSV)