

Exercise - Restore Azure virtual machine data

- 6 minutes

A few days after your first Azure virtual machine backup was completed, the server had issues and it needs to be restored from a backup. You want to restore the virtual machine's disk and attach it to the problematic live server, and then track the restore to ensure that it has completed successfully.

In this exercise, you'll see how to restore a successful backup to replace a VM that has become corrupted, and monitor its progress.

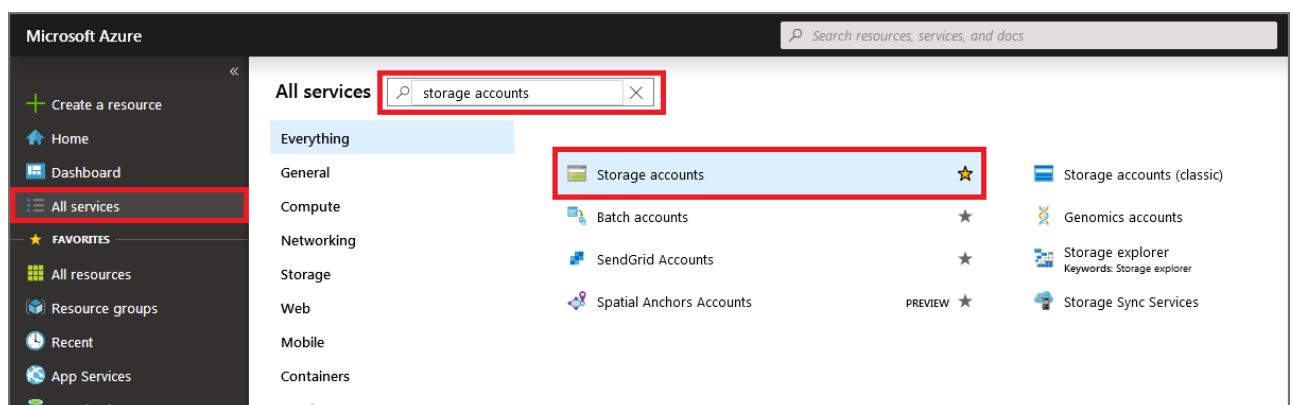
Login to the Azure Portal

1. Open the [Azure portal](#) in a browser.
2. Sign into Azure using the Microsoft account email address and password you created for this session.

Restore a virtual machine in the Azure portal

Create a storage account to use as a staging location

1. Select **All Services**, and then search for **storage accounts**. From the list, select **Storage accounts**.



2. Select **+ Add**, and then use the following information to create a storage account:

Resource Group

- Select **labvms-eastus**.

Storage account name

- Enter a unique name like **restorestagingYYYYMMDD**, where YYYYMMDD is replaced with today's date.

Location

- Select **East US** for the **Location**, from the list.

Note - You **MUST** use **East US** for this lab, as future tasks in this lab depend on it.

Replication

- Select **Locally-redundant storage (LRS)** for **Replication**, from the list.

3. Confirm the Basics settings are correct and click **Review + create**.

Home > Storage accounts > Create storage account

Create storage account

Basics Networking Advanced Tags Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. [Learn more](#)

Project details

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

* Subscription: Free Trial

* Resource group: labvms-eastus [Create new](#)

Instance details

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. [Choose classic deployment model](#)

* Storage account name: restorestaging20190925 ✓

* Location: (US) East US

Performance: ☒ Standard ☐ Premium

Account kind: StorageV2 (general purpose v2)

Replication: Locally-redundant storage (LRS)

Access tier (default): ☐ Cool ☒ Hot

Review + create < Previous Next : Networking >

4. On the **Create storage account** page, select **Create**.

5. Wait for the storage account to be deployed.

Confirm the backup job has completed before proceeding

The backup job you started in a previous lab, must be completed, before you can proceed with the restore procedure.

1. In the [Azure portal](#), select **All resources** on the left side.
2. Select the **azure-backup-eastus** Recovery Services vault.
3. Select the **Backup Jobs** under **Monitoring** to see a summary of all the backup jobs and their current status.

Home > All resources > azure-backup-eastus - Backup Jobs

azure-backup-eastus - Backup Jobs

Filtered by: Item Type - All item types, Operation - All Operations, Status - All Status, Start Time - 9/24/2019, 3:31:03 PM, End Time - 9/25/2019, 3:31:03 PM

Completed fetching data from the service.

WORKLOAD	OPERATION	STATUS	TYPE	START TIME	DURATION
test-win-vm1	Backup	Completed	Azure virtual ...	9/25/2019, 1:5...	01:51:21
test-win-vm1	Configure bac...	Completed	Azure virtual ...	9/25/2019, 1:5...	00:00:30

Note - Do not proceed with this lab unless the backup job is completed.

Stop the VM to allow for the restore

A backup can't be restored if the VM is allocated and running. If you forget to stop the VM, you'll see an error that is similar to the following example.

Restore configuration

Validation failed. Click here for more details.

Create new Replace existing

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

Restore Type
Replace Disk(s)

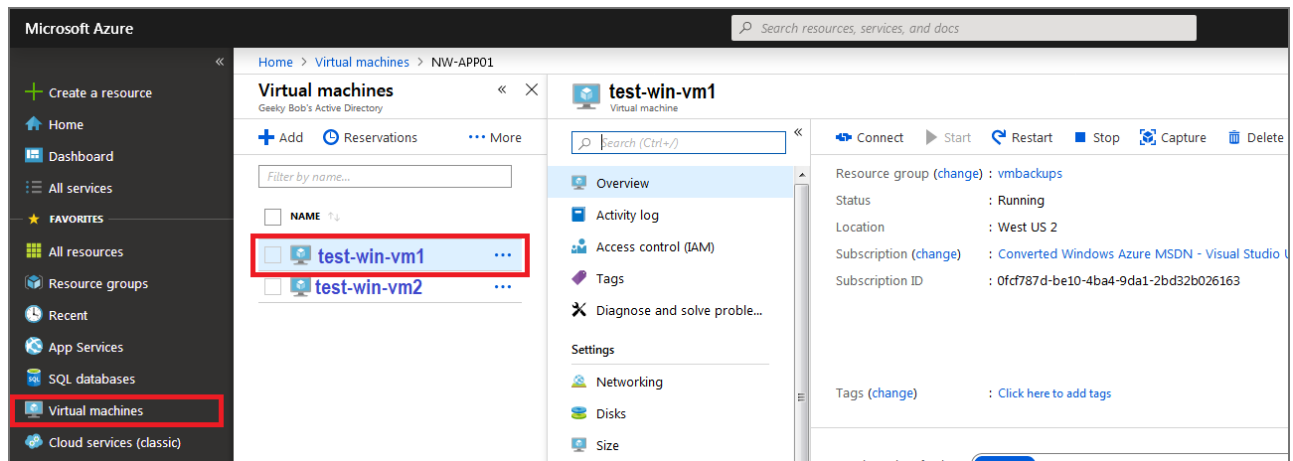
Error details

laasVM restore validation errors

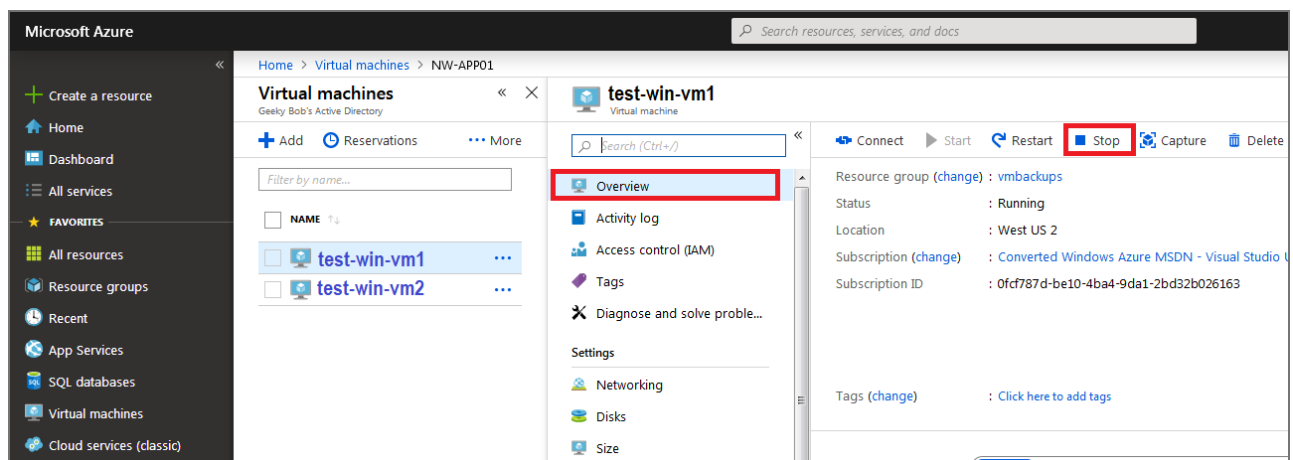
Error Code	UserErrorVmNotShutDown
Error Message	VM needs to be in deallocated state for performing replace disks operation
Recommended Action	Please shut down the VM, and retry

To prevent this error, use the following steps.

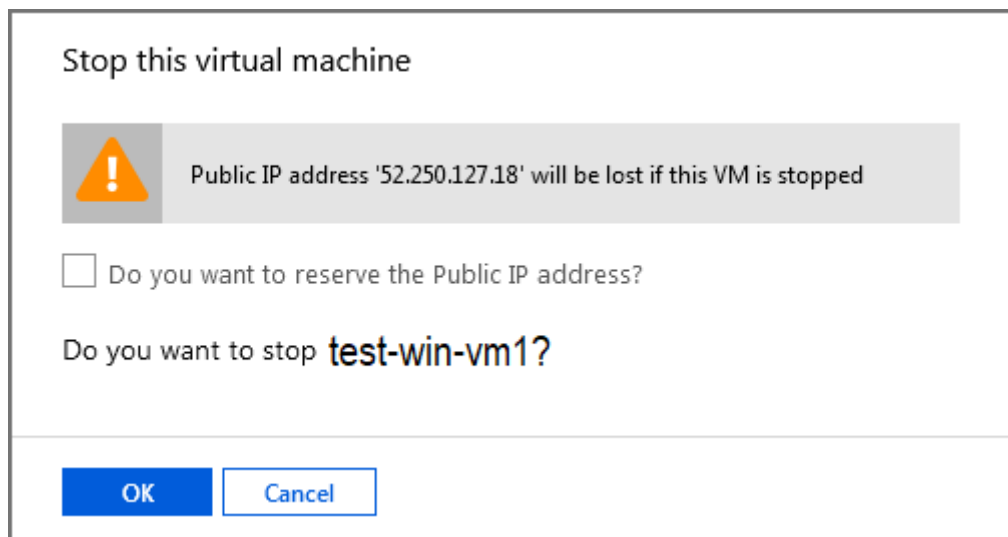
1. In the far left menu, select **Virtual machines**, and then select **test-win-vm1**.



2. Select **Stop** to shut down the VM.



3. In the **Stop this virtual machine** popup, select **OK**.



Restore the VM

The Recovery Services vaults are accessible at the subscription level. However, as you are already viewing the VM, Azure provides a quick link to the specific vault under **Operations**.

1. In the left menu, under **Operations**, select **Backup**.

test-win-vm1- Backup

Virtual machine

Search (Ctrl+ /)

Locks

Export template

Operations

- Auto-shutdown
- Backup**
- Disaster recovery
- Update management
- Inventory
- Change tracking
- Configuration management ...
- Policies
- Run command

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

Alerts and Jobs

View all Alerts (last 24 hours)

View all Jobs (last 24 hours)

Backup status

Backup Pre-Check ✓ Passed

Last backup status ✓ Success -

Summary

Recovery services vault

Backup policy

Oldest restore point

Restore points (1)

This list is filtered for last 30 days of restore points. To recover from restore point older than 30 days, [click here](#).

CRASH CONSISTENT 0 APPLICATION CONSISTENT 1 FILE-SYSTEM CONSISTENT 0

TIME	CONSISTENCY	RECOVERY TYPE
8/8/2019, 11:21:48 PM	Application Consistent	Snapshot

2. To restore the virtual machine, at the top select **Restore VM**.

test-win-vm1- Backup

Virtual machine

Search (Ctrl+ /)

Locks

Export template

Operations

- Auto-shutdown
- Backup**
- Disaster recovery
- Update management
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Backup now **Restore VM** File Recovery Stop backup Resume backup Delete backup data

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3. Select the restore point to use for the recovery, then select **OK**.

Restore

1 Restore point Select

2 Restore configuration Configure

Select restore point

Filter

Filtered for last 30 days

CRASH CONSISTENT APPLICATION CONSISTENT FILE-SYSTEM CONSISTENT

Filter items...

All restore points

TIME	CONSISTENCY	RECOVERY TYPE
8/8/2019, 11:21:48 PM	Application Consistent	Snapshot

Restore

OK

4. In the **Restore Configuration** window, select **Replace Existing** and use the following information to configure the restore:

Restore Type

- Select **Replace Disk(s)**, this is the restore point that will be used to replace the existing VM's disks.

Staging Location

- Select the storage account you created previously.

5. Select **OK**.
6. On the confirmation screen, select **Restore**.

Track a restore

1. At the top of the page, select **View all Jobs**.

Backup jobs

Choose columns Filter Export jobs Refresh

Filtered by: Item Type - All item types, Operation - All Operations, Status - All Status, Start Time - 8/8/2019, 12:20:44 AM, End Time - 8/9/2019, 12:20:44 AM



Completed fetching data from the service.

Filter items...

WORKLOAD NAME	OPERATION	STATUS	TYPE
NW-RHEL01	Backup	In progress	Azure virtual machine
test-win-vm1	Restore	In progress	Azure virtual machine
nw-app01	Backup	In progress	Azure virtual machine
nw-app01	Configure backup	Completed	Azure virtual machine
NW-RHEL01	Backup	Completed	Azure virtual machine
NW-RHEL01	Configure backup	Completed	Azure virtual machine

2. Select the restore job, you can now monitor the progress of the VM restore:

- **Job Progress:** Real-time percentage of the job as a whole
- **Sub Tasks:** Shows the status of the current task within the job

Congratulations! With a few steps, you restored a VM in Azure.