

# Microsoft Azure Administrator: Implement Backup and Recovery

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WORKING WITH AZURE BACKUP SERVICES



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# Course Coverage of Certification Objectives



## Implement Backup and Recovery

- Create a Recovery Services Vault
- Create and configure backup policy
- Perform backup and restore operations by using Azure Backup Service
- Use soft delete to recover Azure VMs
- Configure and review backup reports
- Perform site-to-site recovery by using Azure Site Recovery



# Exercise Files

Slides

Code

Links to Resources

The screenshot shows the course page for "PowerShell: Getting Started" by Michael Bender. The page has a dark theme. At the top, there's a search bar and the author's name "Michael Bender" with his email "mbender@bentech.net". The main heading is "PowerShell: Getting Started" by Michael Bender. Below it, a description states: "This is an introductory course on PowerShell and how to use it for basic IT Operations support." There are four buttons: "Resume Course" (orange), "Bookmark", "Add to Channel", and "Download Course". A "Course Breakdown" section lists topics like "Introduction to PowerShell", "PowerShell Basics", "Gathering Information with PowerShell", "Working with PowerShell", and "Managing PowerShell". The "Exercise files" tab is highlighted with a yellow box. Below it, a text block explains: "These exercise files are intended to provide you with the assets you need to create a video-based hands-on experience. With the exercise files, you can follow along with the author and re-create the same solution on your computer. We find this to be even more effective than written lab exercises." A "Download exercise files" button is highlighted with a yellow box. The right sidebar shows the author's bio, course info (Level: Beginner, Rating: 4.5 stars from 602 reviews, Duration: 3h 5m, Updated: 22 May 2019), and social media links for Facebook, Twitter, and LinkedIn.

What do you want to learn?

Michael Bender  
mbender@bentech.net

## PowerShell: Getting Started

by Michael Bender

This is an introductory course on PowerShell and how to use it for basic IT Operations support.

[Resume Course](#) [Bookmark](#) [Add to Channel](#) [Download Course](#)

### Course Breakdown

- Introduction to PowerShell
- PowerShell Basics
- Gathering Information with PowerShell
- Working with PowerShell
- Managing PowerShell

**Exercise files** | Discussion | Learning Check | Recommended

These exercise files are intended to provide you with the assets you need to create a video-based hands-on experience. With the exercise files, you can follow along with the author and re-create the same solution on your computer. We find this to be even more effective than written lab exercises.

[Download exercise files](#)

**Course author**

**Michael Bender**

Michael is a six-time Microsoft Most Valuable Professional, author, technical trainer, and community leader. Having been in the IT industry since the 90's, his experiences covers the gamut of...

**Course info**

Level	Beginner
Rating	★★★★☆ (602)
My rating	★★★★☆
Duration	3h 5m
Updated	22 May 2019

**Share course**

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# Business Continuity and Disaster Recovery



**File and folder recovery**

**Virtual machine recovery**

**Site-wide recovery**

**Recovery point objective (RPO)**

**Recovery time objective (RTO)**

# Backup and Disaster Recovery Options in Azure

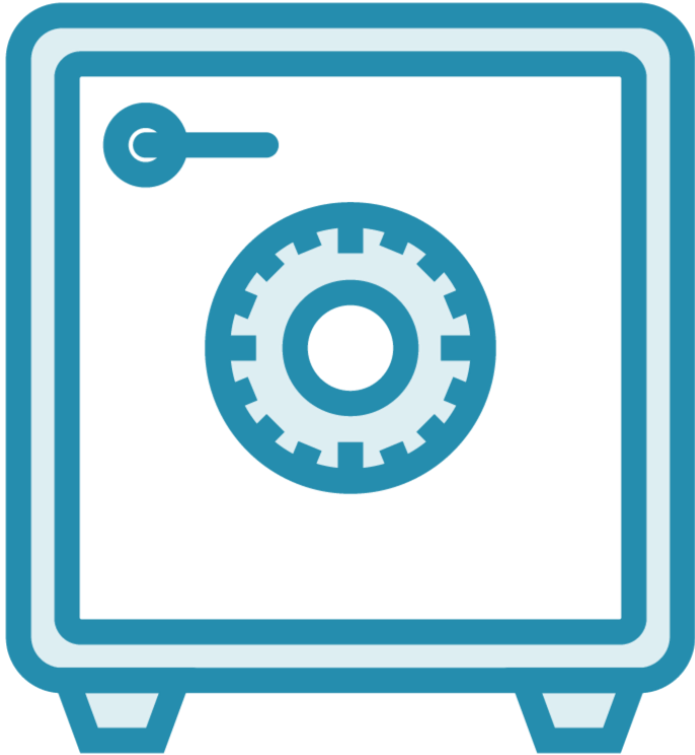


**Azure Backup**



**Azure Site Recovery**

# Recovery Service Vault



**Storage Entity for backup and recovery resources**

**Centralized management**

**Work with on-premises and cloud-based workloads.**

**Backup resources in same region**

**Site recovery resources in different region**



# Demo



## Creating a Recovery Services Vault



# Azure Backup



**Supports on-premises and Azure workloads**

**Scales with your organization**

**Centralized monitoring and management**

**App-consistent backups**

**Encrypted-at-rest by default**

**Require resources and vault in same region**





# Backup Policy



Stored in Recovery Services Vault

Defines how a backup plan is implemented

Implements RPO and RTO

**Policy for each resource type**



# Demo



## Create and Configure Backup Policy



# Backup Agents



**Manage recovery services between source and Recovery Services Vault**

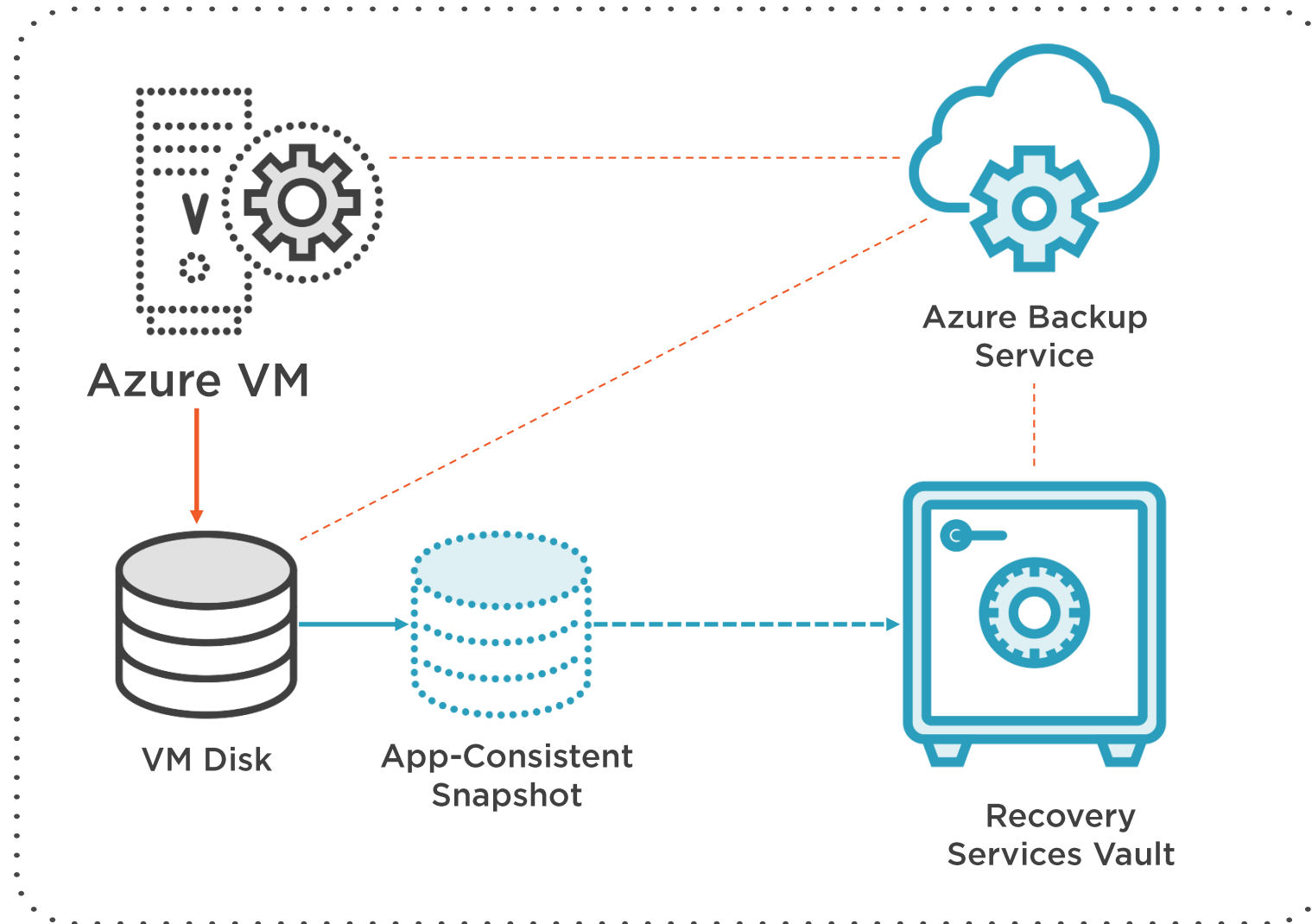
## **Azure Backup Extension**

- All Azure VMs
- Installed on first backup

## **Microsoft Azure Recovery Services agent (Mars)**

- On-Premises and AWS Windows VMs
- Supports various scenarios
- Download from Recovery Services Vault

# Azure VM Backup Architecture



# Demo



## Backup an Azure VM

- Create a Backup
- Run Backup Manually

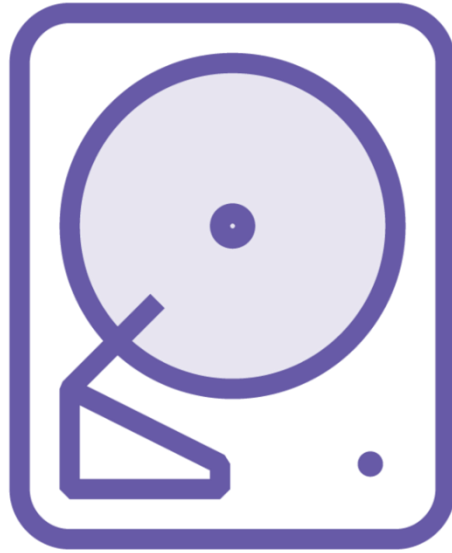


# Azure VM Restore Options



VM

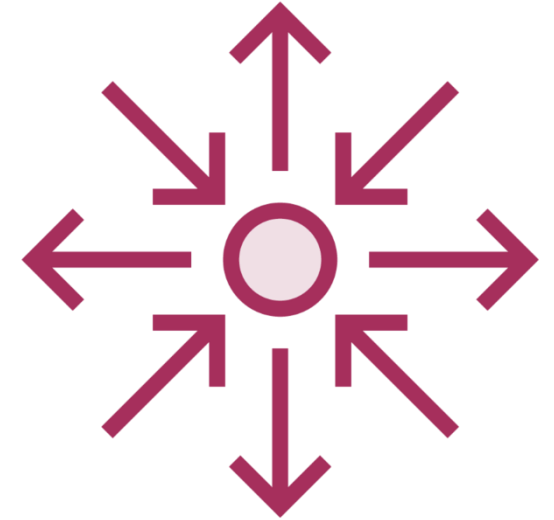
Create new or  
replace



Disk



Files



Cross-Region  
Restore

# Virtual Machine Soft Delete

**Protects against unintended VM deletions**

**Stored for up to 14 days**

**Requires a backup to have been completed**

**Multiple tools for completing**

**Disabling not recommended**



# Demo



## Performing restores with Azure Backup

- Restore a full VM
- Restore files
- Recover with soft delete





# Azure Files Backup



Cloud-based backup for Azure Files

Integrates with Azure File Sync

Customized Retention

Instant Restore

Protection against accidentally deletion with soft Delete

Snapshot-based



# Demo



## Azure File Share Backup and Restore



# Configure Azure Backup Reports

**Supports multiple source options**

**Requires a Log Analytics workspace**

**Configure through diagnostic settings**



# Demo



## Configuring Azure Backup Reports



# Implementing Azure Site Recovery

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# Implementing Azure Site Recovery

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# Azure Site Recovery

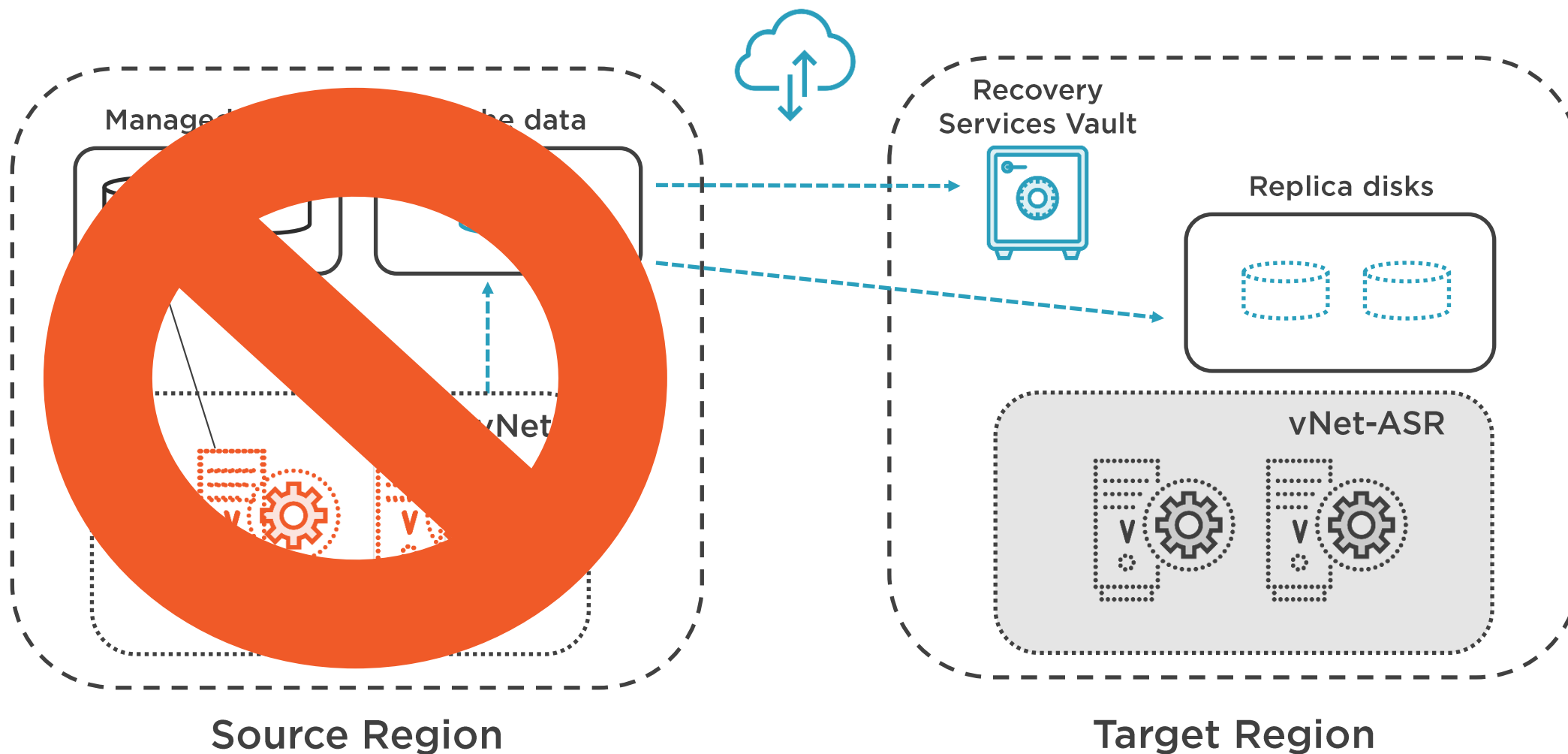
**Designed for primary site outage**

**Replicates workloads**

- On-Premises servers and virtualization hosts
- Azure Workloads
- AWS Windows VMs



# Azure Site Recovery Topology





# Demo



## Setup up Azure Site Recovery for Azure VMs



# Demo



**Initiate Azure Site Recovery failover**



# Summary



- Recovery storage vaults only backup VMs in the same region
- Place Recovery Storage Vaults in a different region for ASR
- Use a different policy for each type of backup
- Use the MARS agent for On-Prem and AWS VM backups
- Review the CLI options
- Get some hands-on experience



# For Further Learning

Azure Storage Accounts documentation at [docs.microsoft.com](https://docs.microsoft.com/en-us/azure/storage/common/storage-account-overview)  
<https://docs.microsoft.com/en-us/azure/storage/common/storage-account-overview>

Creating and Configuring Microsoft Azure Storage Accounts by Neil Morrissey  
<https://www.pluralsight.com/courses/microsoft-azure-creating-configuring-storage-accounts>

Remember the module exercise files

Questions? Join on the conversation at [pluralsight.com](https://www.pluralsight.com) or @Michaelbender on Twitter

