

# Configure Windows Server Storage

---



**Tim Warner**

Principal Author Evangelist, Pluralsight

@TechTrainerTim   TechTrainerTim.com



# Overview



**Configure disks and volumes**

**Configure and manage Storage Spaces**

**Configure and manage Storage Replica**



# Manage Storage and File Services

**Configure Azure File Sync**

**Manage Azure File Sync**

**Configure and Manage Windows Server File Shares**

**Configure Windows Server Storage**

**Manage Windows Server Storage**



# Configure Disks and Volumes



# Disks and Volumes

## **Disks**

**Physical storage device**

**SCSI, SAS, SATA**

**Can be partitioned**

## **Volume**

**Formatted disk partition**

**File system**

**Label & drive letter**

**Dynamic disks are deprecated in Windows**



# Storage Spaces and Storage Replica



"Dynamic disks in Windows Server are deprecated. Now what?!"

**The use case**



# Storage Spaces



**Storage virtualization/volume management technology**

**JBOD paradigm (SATA, SAS, USB)**

**Tiered storage (SSD, non-SSD)**

**Fixed and thin provisioning**

**RAID-like mirroring and parity**

**Integration with VSS**

**Integration with failover clustering**

- Storage Spaces Direct (S2D)





# Storage Spaces Resiliency Types



**Mirror (2-way; 3-way)**



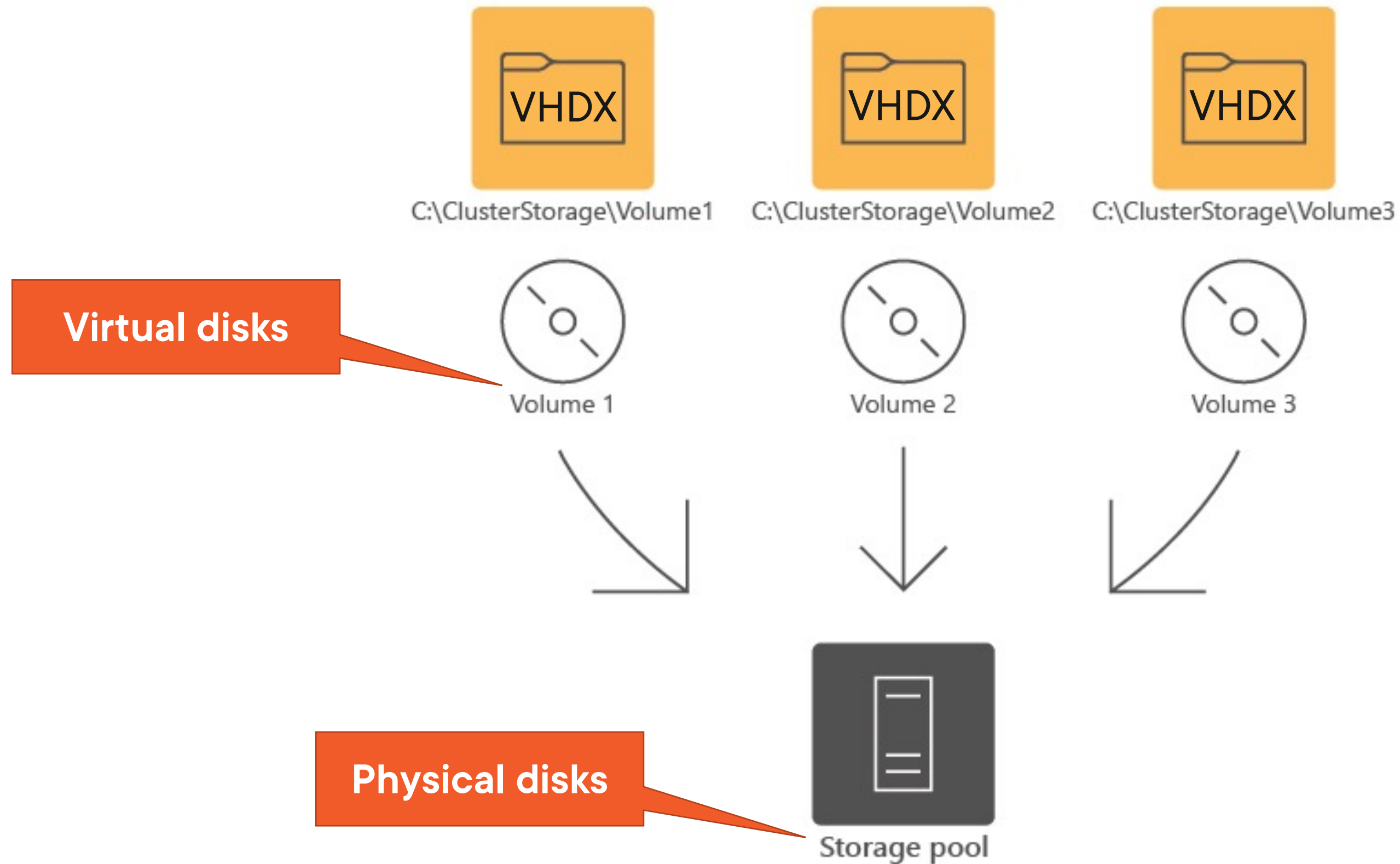
**Parity (single or dual)**



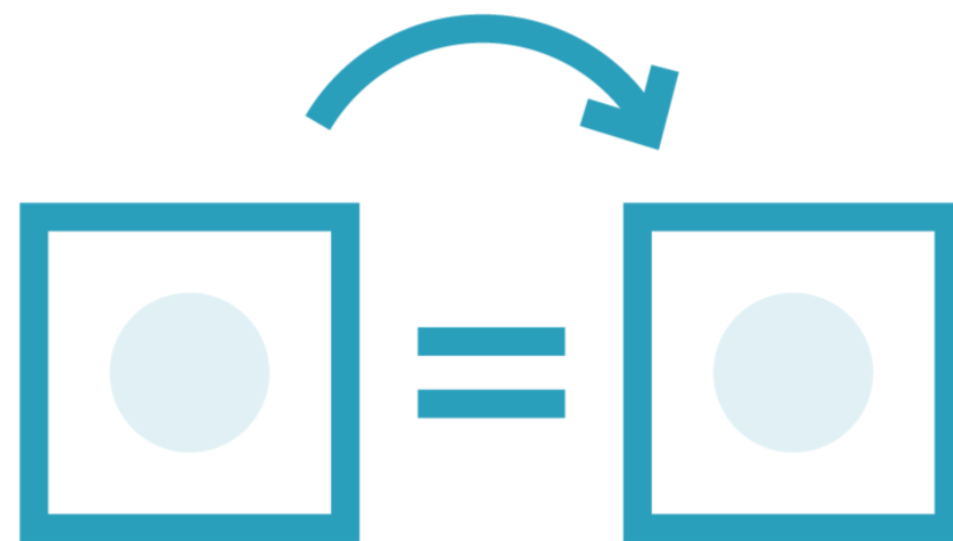
**Simple**



# Storage Spaces Direct (S2D)



# Storage Replica



**Disaster recovery solution that replicates volumes between servers or clusters**

**Synchronous: Data mirroring within a low-latency network**

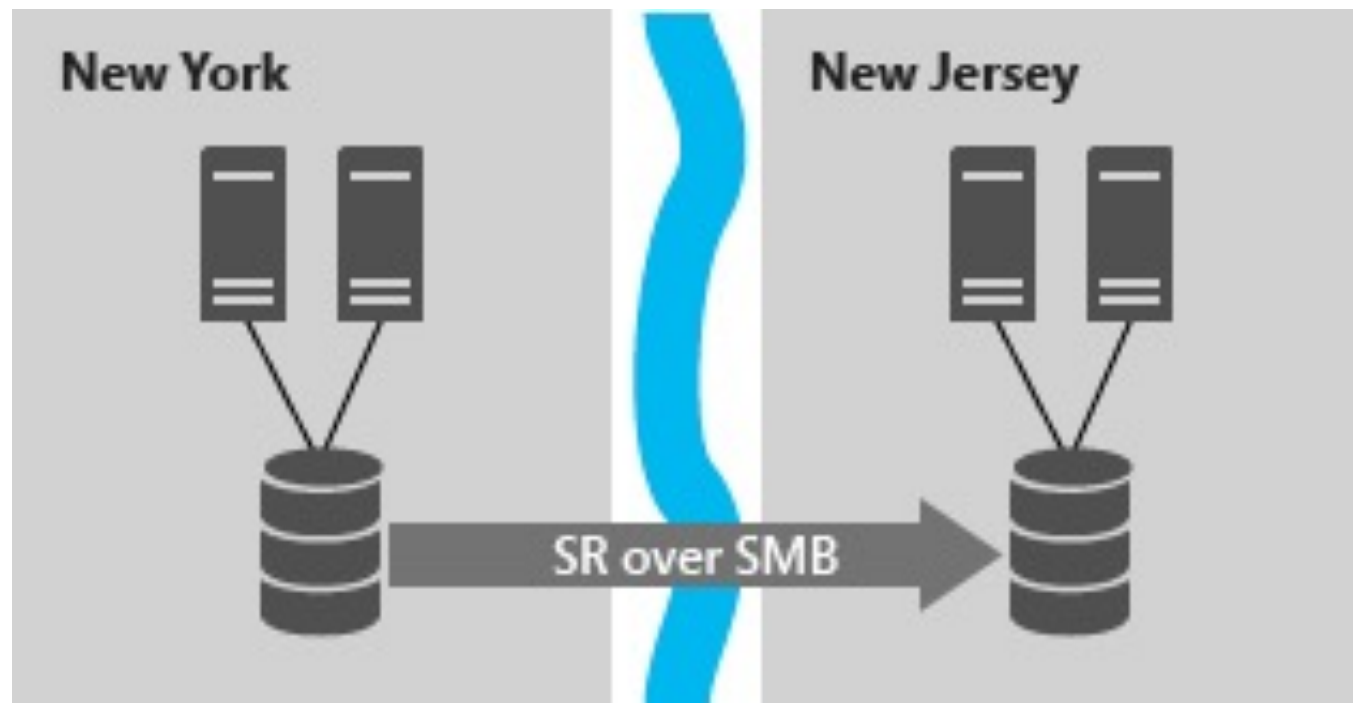
**Asynchronous: Data mirroring across a higher-latency link with potential data loss**

**Use cases: Stretched/replicated cluster; server storage redundancy**

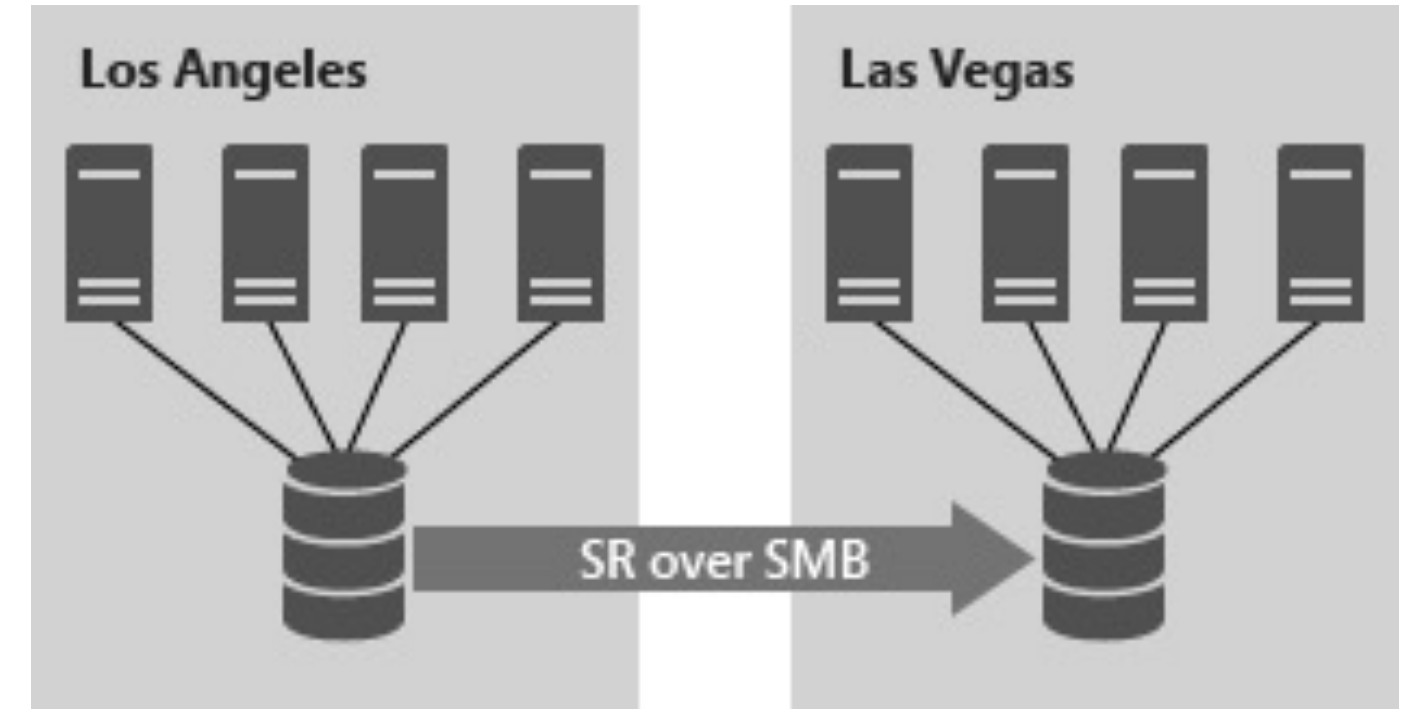
**Roughly analogous to availability sets/zones in Azure**



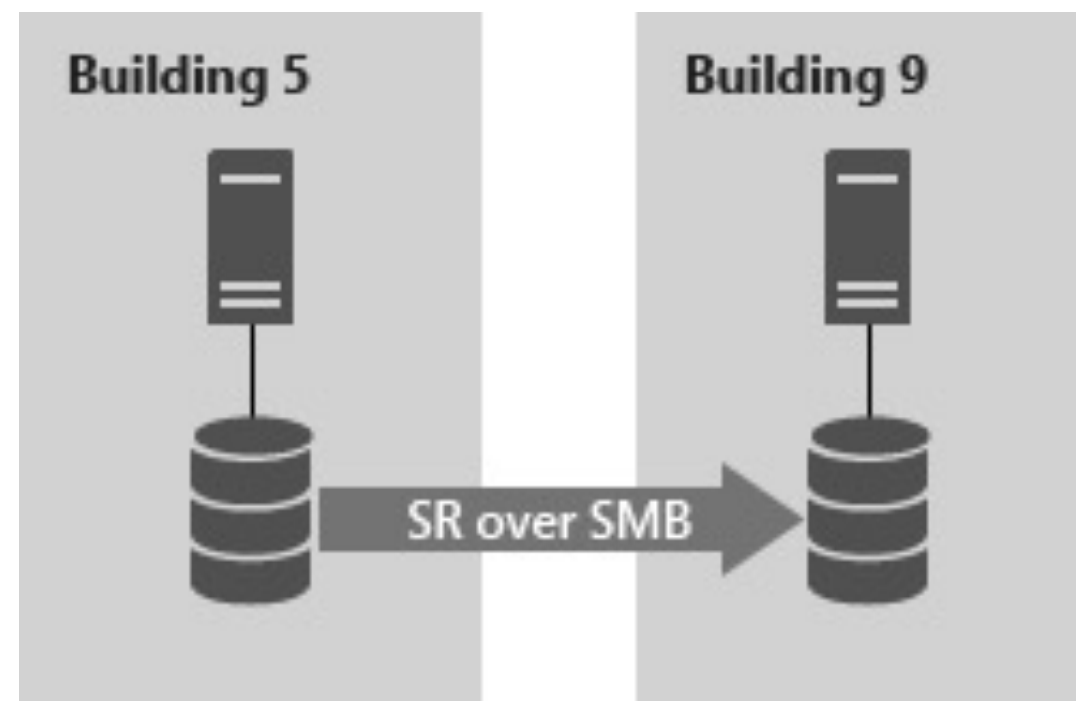
# Storage Replica



Stretched single cluster



Cluster-to-Cluster



Server-to-server

# Server-to-Server Volume Replication

```
$Servers = 'srv1','srv2' # Windows Admin Center
```

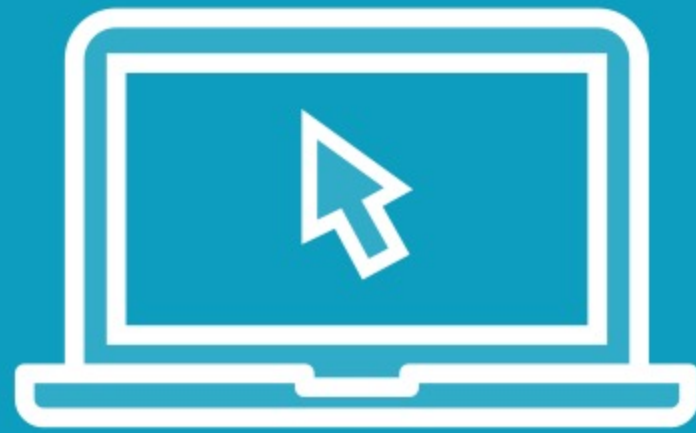
```
$Servers | ForEach { Install-WindowsFeature -ComputerName $_ -Name  
Storage-Replica,FS-FileServer -IncludeManagementTools -Restart }
```

```
Test-SRTopology -SourceComputerName srv1 -SourceVolumeName v:  
-SourceLogVolumeName 1: -DestinationComputerName srv2  
-DestinationVolumeName v: -DestinationLogVolumeName 1:  
-DurationInMinutes 30 -ResultPath c:\temp
```

```
New-SRPartnership -SourceComputerName srv1 -SourceRGName rg01  
-SourceVolumeName v: -SourceLogVolumeName 1:  
-DestinationComputerName srv2 -DestinationRGName rg02  
-DestinationVolumeName v: -DestinationLogVolumeName 1:
```



# Demo



# 1

**Configure Storage Spaces in Server Manager**

**Then show Windows Admin Center view**

**Storage Replica**

**Show S2D / CSV creation**



# Summary



**Microsoft has historically taken care of small- to medium-sized businesses**

**Trade-off between cost-savings and performance**

**We can implement Storage Spaces and S2D in our Azure VMs**



Up Next:

Manage Windows Server Storage

---

