

Hyper-V Setup

Lab 3

Hyper-V Installation

1. Make sure you are able to run via the ExecutionPolicy

1. In PowerShell, as Admin, run:

```
PS> Get-ExecutionPolicy
```

Hopefully you see RemoteSigned, that'll be sufficient

2. Let's enable the OptionalFeature

1. PS> Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V -All -NoRestart

```
PS C:\Windows\System32> Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V -All -NoRestart
WARNING: Restart is suppressed because NoRestart is specified.
```

```
Path          :
Online        : True
RestartNeeded : True
```

Hyper-V Installation

3. Does not install management tools (hypervisor only)
 1. `PS> Install-WindowsFeature RSAT-Hyper-V-Tools -IncludeAllSubFeature`
4. Any chance we want to do a cluster? If so, we need things for that too...
 1. `PS> Install-WindowsFeature RSAT-Clustering -IncludeAllSubFeature`
5. Perhaps we want to allow multiple paths to file storage
 1. `PS> Install-WindowsFeature Multipath-IO`
6. Now let's let this all take effect...
 1. `PS> Restart-Computer`

Hyper-V installation

Let's look up what we can
do now...

- PS> Get-Command -
Module Hyper-V

```
PS C:\Windows\System32> Get-Command -module hyper-v
```

CommandType	Name	Version	Source
-----	----	-----	-----
Cmdlet	Add-VMAssignableDevice	2.0.0.0	Hyper-V
Cmdlet	Add-VMdvdDrive	2.0.0.0	Hyper-V
Cmdlet	Add-VMFibreChannelHba	2.0.0.0	Hyper-V
Cmdlet	Add-VMGpuPartitionAdapter	2.0.0.0	Hyper-V
Cmdlet	Add-VMGroupMember	2.0.0.0	Hyper-V
Cmdlet	Add-VMHardDiskDrive	2.0.0.0	Hyper-V
Cmdlet	Add-VMHostAssignableDevice	2.0.0.0	Hyper-V
Cmdlet	Add-VMKeyStorageDrive	2.0.0.0	Hyper-V
Cmdlet	Add-VMMigrationNetwork	2.0.0.0	Hyper-V
Cmdlet	Add-VMNetworkAdapter	2.0.0.0	Hyper-V
Cmdlet	Add-VMNetworkAdapterAcl	2.0.0.0	Hyper-V
Cmdlet	Add-VMNetworkAdapterExtendedAcl	2.0.0.0	Hyper-V
Cmdlet	Add-VMNetworkAdapterRoutingDomainMapping	2.0.0.0	Hyper-V
Cmdlet	Add-VMpmemController	2.0.0.0	Hyper-V
Cmdlet	Add-VMRemoteFx3dVideoAdapter	2.0.0.0	Hyper-V
Cmdlet	Add-VMScsiController	2.0.0.0	Hyper-V
Cmdlet	Add-VMStoragePath	2.0.0.0	Hyper-V
Cmdlet	Add-VMSwitch	2.0.0.0	Hyper-V
Cmdlet	Add-VMSwitchExtensionPortFeature	2.0.0.0	Hyper-V
Cmdlet	Add-VMSwitchExtensionSwitchFeature	2.0.0.0	Hyper-V
Cmdlet	Add-VMSwitchTeamMember	2.0.0.0	Hyper-V
Cmdlet	Checkpoint-VM	2.0.0.0	Hyper-V
Cmdlet	Compare-VM	2.0.0.0	Hyper-V
Cmdlet	Complete-VMFailover	2.0.0.0	Hyper-V
Cmdlet	Connect-VMNetworkAdapter	2.0.0.0	Hyper-V
Cmdlet	Connect-VMSan	2.0.0.0	Hyper-V
Cmdlet	Convert-VHD	2.0.0.0	Hyper-V
Cmdlet	Copy-VMFile	2.0.0.0	Hyper-V
Cmdlet	Debug-VM	2.0.0.0	Hyper-V
Cmdlet	Disable-VMConsoleSupport	2.0.0.0	Hyper-V
Cmdlet	Disable-VMEventing	2.0.0.0	Hyper-V
Cmdlet	Disable-VMIntegrationService	2.0.0.0	Hyper-V
Cmdlet	Disable-VMMigration	2.0.0.0	Hyper-V
Cmdlet	Disable-VMRemoteFXPhysicalVideoAdapter	2.0.0.0	Hyper-V
Cmdlet	Disable-VMResourceMetering	2.0.0.0	Hyper-V
Cmdlet	Disable-VMSwitchExtension	2.0.0.0	Hyper-V
Cmdlet	Disable-VMTPM	2.0.0.0	Hyper-V

Hyper-V installation

In Server Manager, click on the Tools menu in the top right and select Hyper-V Manager.

The screenshot shows the Windows Server Manager interface. On the left is a navigation pane with links to Dashboard, Local Server, All Servers, AD DS, DNS, File and Storage Services, Hyper-V, and IIS. The main area is titled 'Server Manager > Hyper-V' and contains three sections: SERVERS, EVENTS, and SERVICES. The SERVERS section shows a table with one server entry: BOWERS-CS13670-10.128.0.3, which is online but has performance counters not started. The EVENTS section shows a table of 7 events, mostly errors from the Hyper-V VMMS service. The SERVICES section shows a table with one service entry: Hyper-V Virtual Machine Management (vmms), which is running. On the right side, the 'Tools' menu is open, displaying a list of administrative tools. 'Hyper-V Manager' is highlighted in blue, indicating it is the selected option.

Server Manager > Hyper-V

SERVERS
All servers | 1 total

Server Name	IPv4 Address	Manageability	Last Update	Windows Activation
BOWERS-CS13670-	10.128.0.3	Online - Performance counters not started	2/3/2021 5:50:00 PM	00430-00000-00000-AA670 (Activated)

EVENTS
All events | 7 total

Server Name	ID	Severity	Source	Log	Date and Time
BOWERS-CS13670-	15340	Error	Microsoft-Windows-Hyper-V-VMMS	Microsoft-Windows-Hyper-V-VMMS-Admin	2/3/2021 5:29:03 PM
BOWERS-CS13670-	15350	Error	Microsoft-Windows-Hyper-V-VMMS	Microsoft-Windows-Hyper-V-VMMS-Admin	2/3/2021 5:28:53 PM
BOWERS-CS13670-	41	Error	Microsoft-Windows-Hyper-V-Hypervisor	System	2/3/2021 5:27:57 PM
BOWERS-CS13670-	15340	Error	Microsoft-Windows-Hyper-V-VMMS	Microsoft-Windows-Hyper-V-VMMS-Admin	2/3/2021 5:27:43 PM
BOWERS-CS13670-	14100	Warning	Microsoft-Windows-Hyper-V-VMMS	Microsoft-Windows-Hyper-V-VMMS-Admin	2/3/2021 5:27:43 PM
BOWERS-CS13670-	12520	Warning	Microsoft-Windows-Hyper-V-VMMS	Microsoft-Windows-Hyper-V-VMMS-Admin	2/3/2021 5:27:37 PM
BOWERS-CS13670-	15350	Error	Microsoft-Windows-Hyper-V-VMMS	Microsoft-Windows-Hyper-V-VMMS-Admin	2/3/2021 5:27:37 PM

SERVICES
All services | 1 total

Server Name	Display Name	Service Name	Status	Start Type
BOWERS-CS13670-	Hyper-V Virtual Machine Management	vmms	Running	Automatic

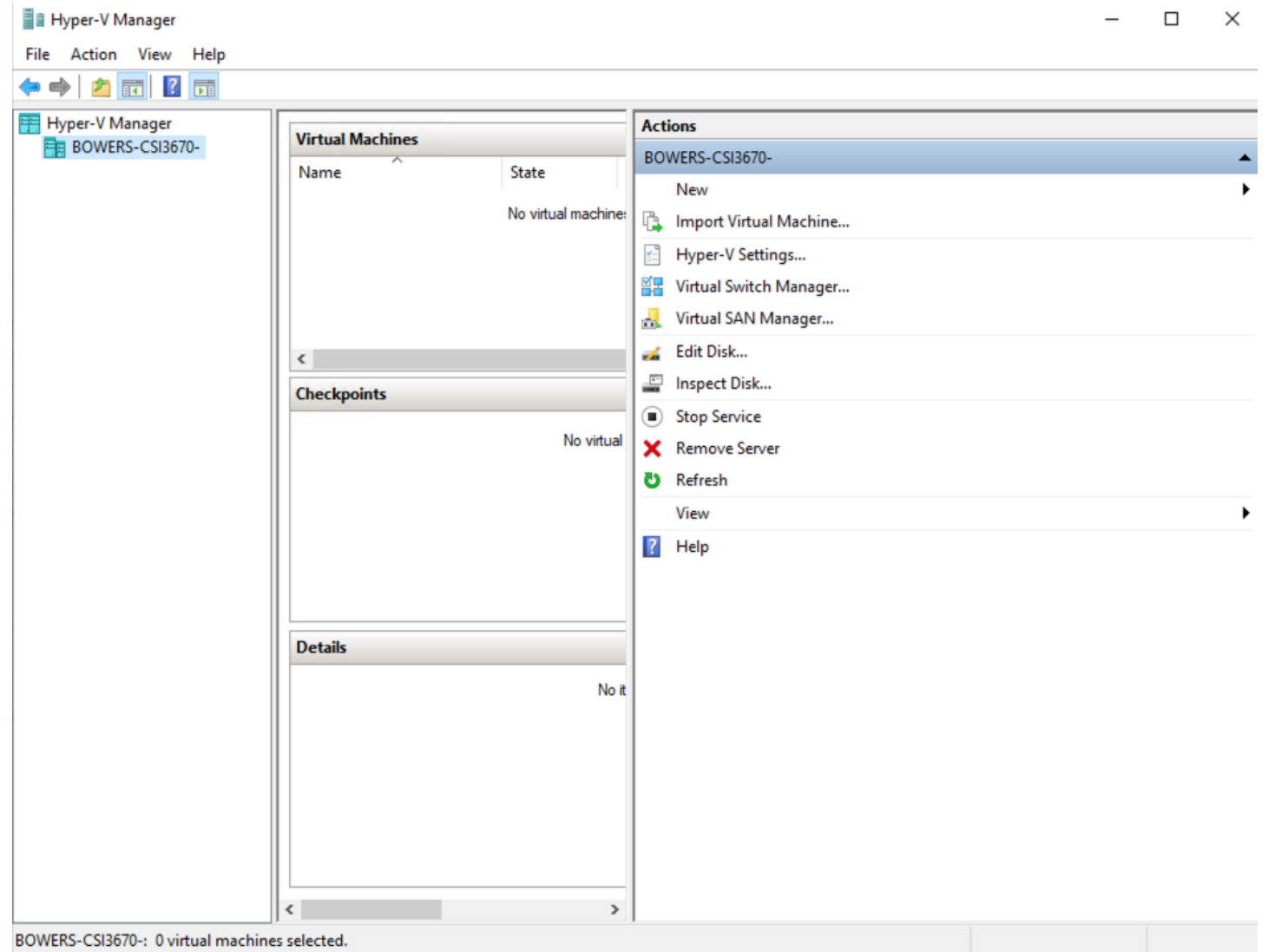
Tools menu options:

- Active Directory Administrative Center
- Active Directory Domains and Trusts
- Active Directory Module for Windows PowerShell
- Active Directory Sites and Services
- Active Directory Users and Computers
- ADSI Edit
- Cluster-Aware Updating
- Component Services
- Computer Management
- Defragment and Optimize Drives
- Disk Cleanup
- DNS
- Event Viewer
- Failover Cluster Manager
- File Server Resource Manager
- Group Policy Management
- Hyper-V Manager**
- Internet Information Services (IIS) Manager
- iSCSI Initiator
- Local Security Policy
- Microsoft Azure Services
- MPIO
- ODBC Data Sources (32-bit)
- ODBC Data Sources (64-bit)
- Performance Monitor
- Print Management
- Recovery Drive
- Registry Editor
- Resource Monitor
- Services
- System Configuration
- System Information
- Task Scheduler
- Windows Defender Firewall with Advanced Security
- Windows Memory Diagnostic
- Windows PowerShell
- Windows PowerShell (x86)
- Windows PowerShell ISE
- Windows PowerShell ISE (x86)
- Windows Server Backup

Hyper-V installation

In Hyper-V Manager, click on server in left pane

Click New → Virtual Machine



Hyper-V removal

Simply unroll commands (run the opposite in reverse order)

- `PS> Remove-WindowsFeature Multipath-IO`
- `PS> Remove-WindowsFeature RSAT-Clustering`
- `PS> Remove-WindowsFeature RSAT-Hyper-V-Tools`
- `PS> Disable-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V`
- `PS> Restart-Computer`
 - The `Disable-WindowsOptionalFeature` step may ask you to restart the computer first, if so, type `y` and hit `Enter` and skip the `Restart-Computer` step