Install, Upgrade, and Migrate Servers and Workloads

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What This Module Covers

Determine appropriate Windows Server 2016 editions per workloads

Determine Windows Server 2016 installation requirements

Install Windows Server 2016

Install Windows Server 2016 features and roles

Install and configure Windows Server Core

What This Module Covers[2]

Implement Windows PowerShell DSC to install and maintain integrity of installed environments

Manage Windows Server Core installations using Windows PowerShell, command line, and remote management capabilities

Perform upgrades and migrations of servers and core workloads from Windows Server 2008 and Windows Server 2012 to Windows Server 2016

Determine the appropriate activation model for server installation, such as AVMA, KMS, and Active Directory-based Activation

Determine Windows Server 2016 Editions

Determine Windows Server 2016 Editions

Datacenter Edition

Standard Edition

Determine Windows Server 2016 Editions

Datacenter Edition

Core functionality

Standard Edition

Core functionality

Determine Windows Server 2016 Editions

Datacenter Edition

Core functionality

Unlimited Hyper-V VMs
Unlimited Hyper-V Containers

Standard Edition

Core functionality

Two Hyper-V VMs
Two Hyper-V Containers

Determine Windows Server 2016 Editions

Datacenter Edition

Core functionality
Unlimited Hyper-V VMs
Unlimited Hyper-V Containers
**Unlimited Containers
Host Guardian Service
Nano Server option**

Standard Edition

Core functionality
Two Hyper-V VMs
Two Hyper-V Containers
**Unlimited Containers
Host Guardian Service
Nano Server option**

Determine Windows Server 2016 Editions

Datacenter Edition	Standard Edition
Core functionality	Core functionality
Unlimited Hyper-V VMs	Two Hyper-V VMs
Unlimited Hyper-V Containers	Two Hyper-V Containers
Unlimited Containers	Unlimited Containers
Host Guardian Service	Host Guardian Service
Nano Server option	Nano Server option
Storage Spaces Direct	--
Storage Replica	--
Shielded VMs	--
Advanced Networking	--

Determine Installation Requirements

1.4 GHz x64 processor with support for NX, DEP, CMPXCHG16b, LAHF/SAHF, and PrefetchW

SLAT support (EPT or NPT)

512 MB* or 2 GB ECC-type (or similar) RAM

32 GB* hard disk space

Gigabit Ethernet NIC that is PCI Express compliant and supports PXE

Determine Installation Options

Determine Installation Options

Server Core

Small-footprint, headless OS that removes the desktop UI and runs only minimal code

Includes only limited graphical tools like Task Manager, Notepad, sconfig.cmd

Manage with Semi-Annual Channel or Long-Term Servicing Channel servicing model

Determine Installation Options

Nano Server

Extremely small footprint, headless OS used exclusively for Windows containers

Designed for remote management via PowerShell, Server Management, or remote MMC or System Center consoles

Requires Semi-Annual Channel servicing model

Determine Installation Options

Server with Desktop Experience

Traditional graphical user interface equivalent to "Server with a GUI" plus Desktop Experience feature

Intended for legacy applications and Remote Desktop Services

Use with Long-term Servicing Channel servicing model

Install Features and Roles

Install Features and Roles

Role

"Something a Windows Server aspires to be."

Install Features and Roles

Role
"Something a Windows Server aspires to be."

Role Service
"The functions that fulfill those aspirations."

Install Features and Roles

Role
"Something a Windows Server aspires to be."

Role Service
"The functions that fulfill those aspirations."

Feature
"Everything else."

Install and Configure Server Core

Set display resolution, date, and time

Configure IP addressing

Change computer name

Configure licensing and activation

Configure Windows firewall

Join Active Directory domain

Add roles and features

Implement Windows PowerShell DSC

Do Something

Be Something

Perform Upgrades and Migrations

Clean Install

Upgrade

Cluster OS Rolling Upgrade

License Conversion

Role Migration

Perform Upgrades and Migrations

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License Conversions

Conversion not supported on Server Core or with Domain Controllers

Slmgr.vbs /dlv
Check for "EVAL" in the output

DISM /online /Get-CurrentEdition
Identify the installed Edition

DISM /online /Set-Edition:<edition ID>
/ProductKey:<product key> /AcceptEula

This command also used to convert Standard Edition to Datacenter Edition

Perform Upgrades and Migrations

Clean Install

Upgrade

Cluster OS Rolling Upgrade

License Conversion

Role Migration

Determine an Appropriate Activation Model

Retail and
Multiple Activation Keys

Key Management Service

Active Directory-based
Activation

Automatic VM Activation

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