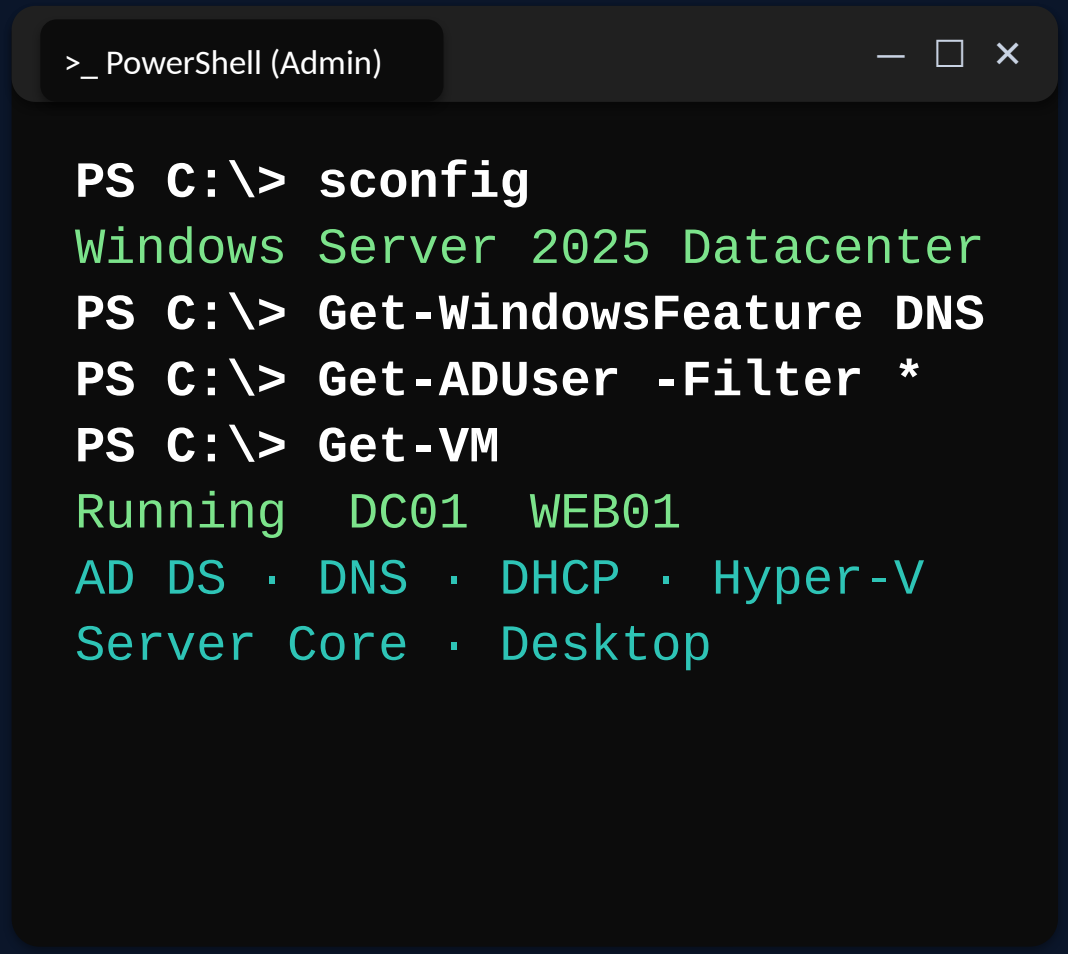


LESSON 3 OF 12

Windows Server 2025

Install · AD · Hyper-V · Admin

Server Manager, Windows Admin Center & PowerShell Remoting

Full Course · Windows Server 2025 (build 26100)

What You Will Learn in Lesson 3

- The management toolbox: local, remote, graphical and command line
- Server Manager: dashboard, server groups, roles and features
- Installing roles and features with PowerShell
- Windows Admin Center: browser-based management
- RSAT: server tools on your Windows 11 workstation
- PowerShell Remoting: Enter-PSSession, Invoke-Command, sessions
- Remoting in a workgroup lab, SSH remoting and safe practices

The Management Toolbox

Tool	Type	Best for
Server Manager	GUI, on Desktop Experience	Roles, features, managing a few servers
Windows Admin Center	Browser-based, free	Server Core and modern remote management
RSAT (on Windows 11)	MMC consoles + PowerShell modules	AD, DNS, DHCP, GPO from your workstation
PowerShell Remoting	Command line, WinRM	Automation, many servers at once
OpenSSH	Command line, SSH	Cross-platform admins, Linux habits
Remote Desktop	Full desktop session	When you truly need the GUI

A Tour of Server Manager

Area	What it does
Dashboard	Health tiles: events, services, performance, best practices
Local Server	Name, IP, updates, firewall, Remote Desktop, time zone
All Servers	Every server you added; right-click to manage
Manage > Add Servers	Add DC01 and other servers to manage remotely
Manage > Add Roles and Features	The installation wizard
Tools menu	Every console: AD, DNS, DHCP, Hyper-V, IIS, Event Viewer

Roles and Features with PowerShell

```
PS C:\> Get-WindowsFeature | Where-Object Installed | Select-Object Name, DisplayName
PS C:\> Get-WindowsFeature *web*                          # search by name

PS C:\> Install-WindowsFeature Web-Server -IncludeManagementTools -WhatIf
PS C:\> Install-WindowsFeature Web-Server -IncludeManagementTools
Success Restart Needed Exit Code Feature Result
True    No             Success   {Web Server (IIS), ...}

PS C:\> Install-WindowsFeature DHCP -ComputerName DC01 -IncludeManagementTools  # remote!
PS C:\> Uninstall-WindowsFeature Web-Server -Remove        # also delete the payload
```

Windows Admin Center

Topic	What to know
What	Free, browser-based management for Windows Server and Windows 11
Install	On a Windows Server (gateway) or your Windows 11 workstation
Connect	https://<gateway> — add servers by name; uses your credentials
Tools	Overview, Files, Events, Services, Updates, Firewall, Certificates, PowerShell
Roles	Hyper-V, Storage, Active Directory, DNS, DHCP and more with extensions
Azure	Connect to Azure Arc, Azure Backup, Azure Monitor

RSAT on Windows 11

```
# Windows 11: Settings > System > Optional features > View features > search 'RSAT'
PS C:\> Get-WindowsCapability -Online -Name RSAT* |
          Select-Object Name, State
PS C:\> Add-WindowsCapability -Online -Name Rsat.ActiveDirectory.DS-LDS.Tools~~~~0.0.1.0
PS C:\> Add-WindowsCapability -Online -Name Rsat.Dns.Tools~~~~0.0.1.0
PS C:\> Add-WindowsCapability -Online -Name Rsat.GroupPolicy.Management.Tools~~~~0.0.1.0

# Then: dsa.msc (AD Users and Computers), dnsmgmt.msc, gpmc.msc, dhcpmgmt.msc
PS C:\> Get-Module -ListAvailable ActiveDirectory, DnsServer, GroupPolicy
```

How PowerShell Remoting Works

Topic	Details
Protocol	WinRM (WS-Management): HTTP 5985, HTTPS 5986
On servers	Enabled by default; Enable-PSRemoting on clients
In a domain	Kerberos authentication — just works by name
In a workgroup	Add servers to TrustedHosts, use -Credential
Security	Traffic is encrypted; only administrators can connect by default
Alternative	PowerShell 7 over SSH: Enter-PSSession -HostName

PowerShell Remoting in Practice

```
PS C:\> Test-WSMan DC01                                  # is WinRM answering?
PS C:\> Enter-PSSession -ComputerName DC01               # interactive remote prompt
[DC01]: PS C:\> Get-Service WinRM ; exit

PS C:\> Invoke-Command -ComputerName DC01, SRV01 -ScriptBlock {
           Get-CimInstance Win32_OperatingSystem | Select-Object CSName, Caption, LastBootUpTime }

PS C:\> $s = New-PSSession -ComputerName DC01          # a reusable session
PS C:\> Copy-Item C:\Scripts\setup.ps1 -Destination C:\Temp\ -ToSession $s
PS C:\> Invoke-Command -Session $s -FilePath C:\Scripts\audit.ps1
PS C:\> Remove-PSSession $s
```

Lab: Remoting Before the Domain Exists

```
# On SRV01 (workgroup lab), PowerShell as Administrator
PS C:\> Set-Item WSMan:\localhost\Client\TrustedHosts -Value 'DC01,10.0.0.10' -Force
PS C:\> Add-Content C:\Windows\System32\drivers\etc\hosts '10.0.0.10  DC01'
PS C:\> $cred = Get-Credential DC01\Administrator
PS C:\> Invoke-Command -ComputerName DC01 -Credential $cred -ScriptBlock { hostname; Get-TimeZone }

# In Server Manager: Manage > Add Servers > DNS tab > 10.0.0.10
# then right-click DC01 > Manage As... > DC01\Administrator

PS C:\> ssh Administrator@10.0.0.10                # if you started sshd in Lesson 2
```

Remote Management Safely

Practice	Why
Separate admin accounts	Your daily account is not a domain admin
Manage from a secure workstation	Not from the same PC you browse and email on
Least privilege / JEA	Just Enough Administration limits what a remote user can run
Logging	Turn on PowerShell script block logging and transcripts
Firewall scope	Allow WinRM, RDP and SSH only from admin networks
No RDP from the internet	Use a VPN, Azure Bastion or a gateway

Summary & Homework

- Server Manager for a few servers; Windows Admin Center for Core and the browser
- Install-WindowsFeature -IncludeManagementTools [-ComputerName]
- RSAT brings AD, DNS, DHCP and GPO tools to Windows 11
- Enter-PSSession for one server; Invoke-Command for many
- Homework: add DC01 to Server Manager on SRV01
- Homework: run one Invoke-Command against both servers

Thank You! 🙏

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Slides for this lesson: MyWebUniversity.com/presentations

YouTube: @MyWebUniversity · @MyWebUniversity-Dari

Wahidullah Lutfy — Founder and Director of IT of MyWebUniversity, and CS teacher

Book: The Direct Path to Linux Ubuntu (Amazon · Barnes & Noble)

Learn it, then pass it on.