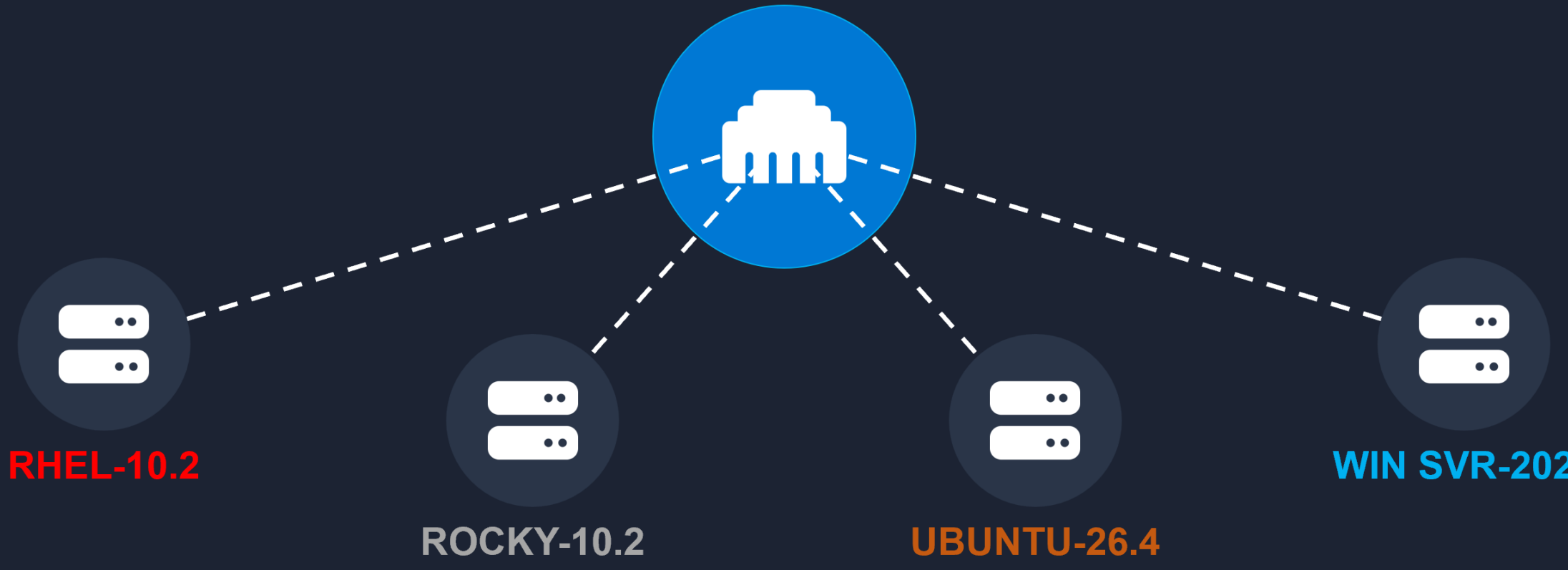
HYPER-V SETUP GUIDE

INSTALLING HYPER-V MANAGER

BUILDING YOUR FIRST VIRTUAL SWITCH
STEP-BY-STEP FOR YOUR LAB



HYPER-V MANAGER + VIRTUAL SWITCHES

HYPER-V SETUP SERIES · PART 2

Installing Hyper-V Manager
& Your First Virtual Switch

Building the network foundation for RHEL, Rocky, and Ubuntu VMs

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AGENDA

What We'll Set Up Today

Quick Prerequisites Check

Confirm your system meets Hyper-V requirements

Enabling the Hyper-V Feature

Turn it on via Windows Features or PowerShell

Touring Hyper-V Manager

Get oriented in the console before building anything

Virtual Switch Types

External, Internal, and Private — what each one does

Building an External Switch

Step-by-step, ready for our whole lab

One Switch, Multiple OSes?

Using the same switch for Linux AND Windows Server VMs

BEFORE WE START

Quick Prerequisites Check

Covered in detail in the last video — here's the short version before we dive in.

Windows 10/11 Pro, Enterprise, or Education (or Windows Server)

64-bit CPU with SLAT support

Virtualization enabled in BIOS/UEFI (Intel VT-x / AMD-V)

At least 8 GB RAM recommended — more if running several VMs at once

Reminder: Hyper-V is not available on Windows Home edition.

STEP 1 — OPTION A

Enable Hyper-V via Windows Features

1. Open the Start menu and search for "Turn Windows features on or off"
2. Scroll down and check the box next to "Hyper-V" (this selects all sub-items)
3. Click OK, then restart your computer when prompted

This is the beginner-friendly path — great if this is your first time enabling a Windows feature.

STEP 1 — OPTION B

Enable Hyper-V via PowerShell

Faster, scriptable, and great for repeating this setup across multiple machines.

```
# Run PowerShell as Administrator, then:
Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V -All

# Restart when prompted
Restart-Computer

# After reboot, verify it installed correctly
Get-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V
```

Look for "State : Enabled" in the output to confirm success.

STEP 2

Touring Hyper-V Manager

Open it from the Start menu — search "Hyper-V Manager." Here's what you're looking at:

Left pane — Connections

Lists the Hyper-V hosts you manage (usually just your own PC)

Center pane — Virtual Machines

Shows every VM on the selected host, with state and checkpoints

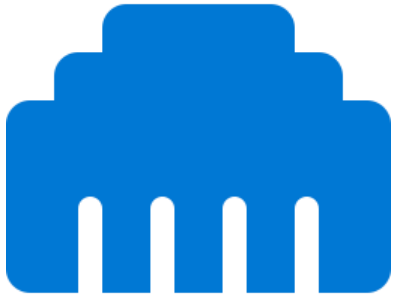
Right pane — Actions

Quick access to New VM, Virtual Switch Manager, and Settings

THE NETWORKING PIECE

What a Virtual Switch Actually Does

A virtual switch is a software-defined network bridge — it connects your VMs' virtual network adapters to each other, to the host, and optionally to your physical network, exactly like a physical switch would.



Created and managed centrally through Virtual Switch Manager — one switch can serve every VM you connect to it.

KNOW YOUR OPTIONS

Three Types of Virtual Switches

External

Binds to a physical NIC. VMs can reach the internet, your LAN, and each other. This is what we'll build today.

Internal

VMs can talk to each other AND the host — but not the outside network. Good for isolated host-to-VM testing.

Private

VMs can only talk to each other. Not even the host is included. Best for fully isolated lab segments.

STEP 3

Creating Your External Virtual Switch

1. In Hyper-V Manager, click "Virtual Switch Manager..." in the Actions pane
2. Select "External," then click "Create Virtual Switch"
3. Give it a clear name, e.g. "External-Lab-Switch"
4. Under "Connection type," choose your physical network adapter
5. Check "Allow management operating system to share this network adapter"
6. Click OK — Windows will briefly reset your network connection

STEP 3 — POWERSHELL ALTERNATIVE

Creating the Switch with One Command

```
# List your physical network adapters first
Get-NetAdapter

# Create the external switch (replace the adapter name below)
New-VMSwitch -Name "External-Lab-Switch" `
  -NetAdapterName "Ethernet" `
  -AllowManagementOS $true

# Confirm it was created
Get-VMSwitch
```

The backtick (`) lets a PowerShell command continue on the next line.

STEP 4

Verifying Your New Switch

Check Network Connections

A new adapter named "vEthernet (External-Lab-Switch)" appears in Windows network settings.

Confirm host connectivity

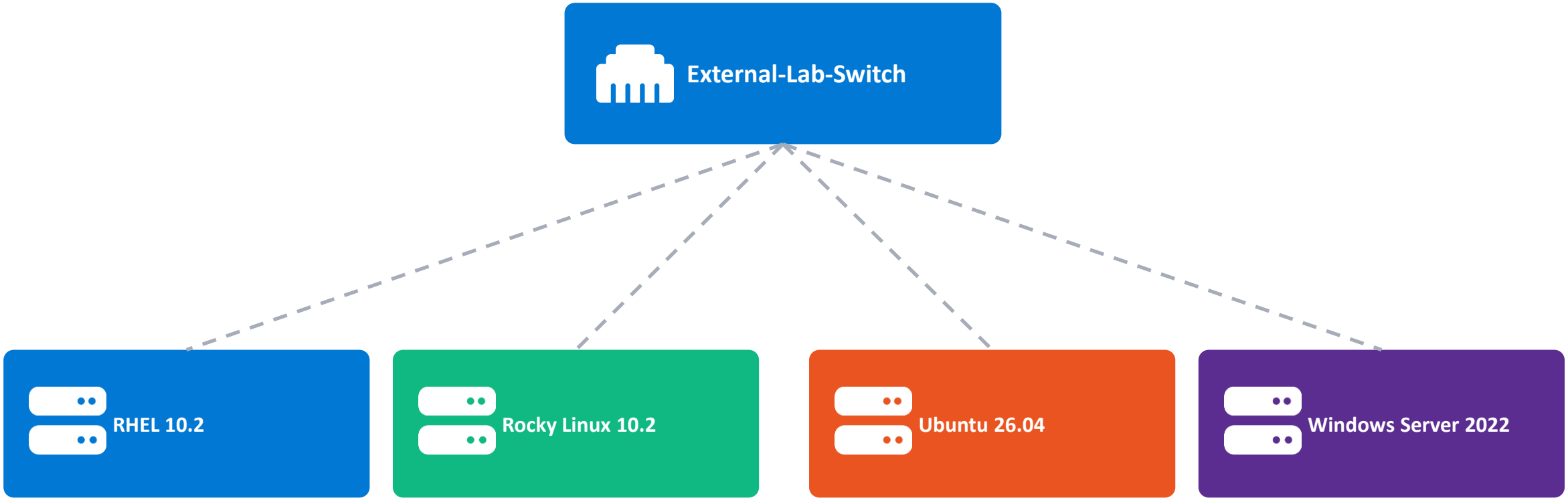
Run "ipconfig" — you should still see a valid IP address and internet access on the host.

Attach it to a test VM

When creating or editing a VM, select your new switch under its network adapter settings.

PLANNING AHEAD

Our Lab Network Topology



All four VMs connect to the same External switch and get real IP addresses on our network.

"Can I use the same switch for a Windows Server 2022 VM too?"

Yes — one External switch works for every guest OS.

A virtual switch operates at the Hyper-V/network layer — it has no idea what OS a connected VM is running.

RHEL, Rocky, Ubuntu, and Windows Server VMs can all plug into the same External switch and reach each other and the network.

You'd only want a SEPARATE switch for intentional isolation — e.g. keeping a Windows Server domain lab off your internet-facing Linux VMs — or to segment traffic with VLANs.

BEFORE YOU MOVE ON

Virtual Switch Best Practices

Use clear, descriptive names

Future-you will thank you when you have 5 switches to choose from.

One External switch is usually enough

Most home labs only need a single External switch shared by every VM.

Reach for Internal/Private deliberately

Use them when you specifically want isolation — not by default.

Document your IP plan

Keep a simple list of which VM has which static/reserved IP address.

WHEN THINGS GO WRONG

Quick Troubleshooting Tips

VM has no network connectivity

Confirm the VM's network adapter is attached to the correct switch, and that "Enable virtual LAN" isn't mismatched.

Host loses internet after creating the switch

This is often temporary during switch creation — wait a few seconds; otherwise recheck the "Allow management OS to share" box.

Switch shows as "disconnected"

The bound physical NIC may be disabled or unplugged — check Device Manager and cabling.

RECAP

What You Just Built

- Hyper-V enabled and verified on your Windows host
- A guided tour of Hyper-V Manager's three panes
- The difference between External, Internal, and Private switches
- A working External virtual switch, ready for VMs
- Confirmation that one switch can serve Linux AND Windows Server guests

WHAT'S NEXT

Coming Up in This Series

1

THE DIRECT PATH TO RHEL 10.2

Deploying and exploring RHEL 10.2 on our new switch.

2

THE DIRECT PATH TO ROCKY LINUX 10.2

Deploying Rocky Linux 10.2 alongside it.

3

Ubuntu 26.04 on Hyper-V

Rounding out our multi-OS lab.

4

Ansible on RHEL 10.2

Automating all three from one control node — already live!

Don't Miss the Next Video

Subscribe and hit the bell — RHEL 10.2 and Rocky Linux 10.2 on Hyper-V are coming next.

Like

Comment your switch setup

Share with a classmate

Thank You!

Questions about your own network setup? Drop them in the comments.

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