

# Create a Virtual Internal VS with NAT Network in Hyper-V

## Step-by-Step Instructions

This guide walks you through creating a **Hyper-V Internal Virtual Switch** with NAT support for use in labs or test environments — useful for setting up isolated virtual networks.

### ? 1. Open PowerShell as Administrator

All commands below require elevated privileges.

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### ? 2. Create a New Virtual Switch (Internal)

```
New-VMSwitch -SwitchName "LabSwitch" -SwitchType Internal
```

- This creates an **Internal** Hyper-V virtual switch named `LabSwitch`.
  - The internal switch allows communication between host and virtual machines but **not** to the internet directly.
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### ? 3. Get the Interface Index of the New Adapter

```
Get-NetAdapter
```

- Find the newly created **LabSwitch** interface.
  - **Note the** `InterfaceIndex` assigned to it (e.g., `49`).
  - This value will be used in the next step.
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### ? 4. Assign a Static IP Address to LabSwitch

```
New-NetIPAddress -IPAddress 10.0.0.1 -PrefixLength 24 -InterfaceIndex 49
```

- Replace `49` with the actual **InterfaceIndex** from step 3.
  - You can use any **private IP subnet** (e.g., `192.168.100.1/24`, `172.16.0.1/24`, etc.).
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### ? 5. Create a NAT Network

```
New-NetNat -Name "NatSwitch" -InternalIPInterfaceAddressPrefix 10.0.0.0/24
```

- This enables NAT for the subnet attached to the virtual switch.
- You can name the NAT (`NatSwitch`) anything you like.

- Make sure the `AddressPrefix` matches the range you used in the previous step.
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## ? Optional: Remove Network Components

### ? Remove the Virtual Switch

```
Remove-VMSwitch "LabSwitch"
```

### ? Remove NAT Object(s)

```
Get-NetNat          # List all existing NATs  
Remove-NetNat -Name "NatSwitch"
```

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#### “ ” Tips

- Attach virtual machines to the **LabSwitch** virtual adapter to place them on the internal NAT network.
- VMs will use `10.0.0.1` as their **gateway** for internet access via NAT.
- Use DHCP manually or statically assign IPs in the same subnet (`10.0.0.x/24`).

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Revision #2

Created 14 July 2025 16:25:10 by Admin

Updated 15 July 2025 22:35:59 by Admin