

Ex No: 7a

**Configuration of HyperV on Windows**

11/08/25

**Aim:**

To enable and configure Hyper-V on Windows for creating and managing virtual machines.

**Theory:**

- Hyper-V is Microsoft's native hypervisor that allows a single physical computer to run multiple isolated virtual machines (VMs) simultaneously.
- It provides hardware virtualization, enabling each VM to run its own operating system and applications independently of the host system.
- Hyper-V supports creating virtual switches for network connectivity, managing virtual hard disks, and allocating system resources like memory and CPU to VMs.
- It is commonly used for software testing, development, server consolidation, and learning virtualization concepts.

**Procedure:****Step 1 – Check System Compatibility**

1. Press **Windows + R**, type cmd, and press **Enter**.
2. In Command Prompt, type:

*systeminfo*

```
C:\Users\anbar>systeminfo

Host Name:                ANBU
OS Name:                  Microsoft Windows 11 Home Single Language
OS Version:               10.0.26100 N/A Build 26100
OS Manufacturer:         Microsoft Corporation
OS Configuration:        Standalone Workstation
OS Build Type:             Multiprocessor Free
Registered Owner:         anbarasananbarasan002@gmail.com
Registered Organization:   HP
Product ID:                00356-24579-11126-AAOEM
Original Install Date:     21-02-2025, 00:38:58
System Boot Time:          11-08-2025, 13:54:31
System Manufacturer:       HP
System Model:              HP Laptop 15s-fc2xxx
```

3. Scroll down to **Hyper-V Requirements**.
  - If all values are **Yes**, virtualization is supported.
  - If virtualization is disabled, enable it from BIOS (**F10** on HP laptops → Enable *Virtualization Technology*)

```
Virtualization-based security: Status: Running
                               Required Security Properties:
                               Available Security Properties:
                                   Base Virtualization Support
                                   Secure Boot
                                   DMA Protection
                                   UEFI Code Readonly
                                   SMM Security Mitigations 1.0
                                   Mode Based Execution Control
                                   APIC Virtualization
                               Services Configured:
                                   Hypervisor enforced Code Integrity
                               Services Running:
                                   Hypervisor enforced Code Integrity
                                   App Control for Business policy: Enforced
                                   App Control for Business user mode policy: Off
                               Security Features Enabled:
Hyper-V Requirements:         A hypervisor has been detected. Features required for Hyper-V will not be displayed.
```

*systeminfo* output ends with: "A hypervisor has been detected. Features required for Hyper-V will not be displayed."

This means **Virtualization is enabled** in BIOS (good), but your edition doesn't have the Hyper-V feature package.

## Step 2 – Create a Hyper-V Installer Script

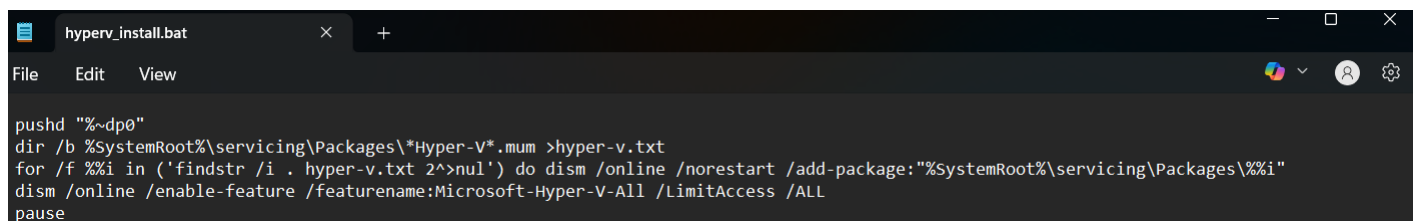
1. Open **Notepad** (Windows + S → type *Notepad* → Enter).

2. Paste the following code:

```
pushd "%~dp0"
dir /b %SystemRoot%\servicing\Packages\*Hyper-V*.mum >hyper-v.txt
for /f %i in ('findstr /i . hyper-v.txt 2^>nul') do dism /online /norestart /add-
package:"%SystemRoot%\servicing\Packages\%i"
dism /online /enable-feature /featurename:Microsoft-Hyper-V-All /LimitAccess /ALL
pause
```

3. Save the file:

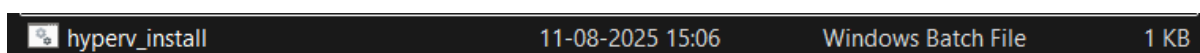
- **File → Save As...**
- File name: *hyperv\_install.bat*



- Save as type: **All Files**
- Click **Save**.

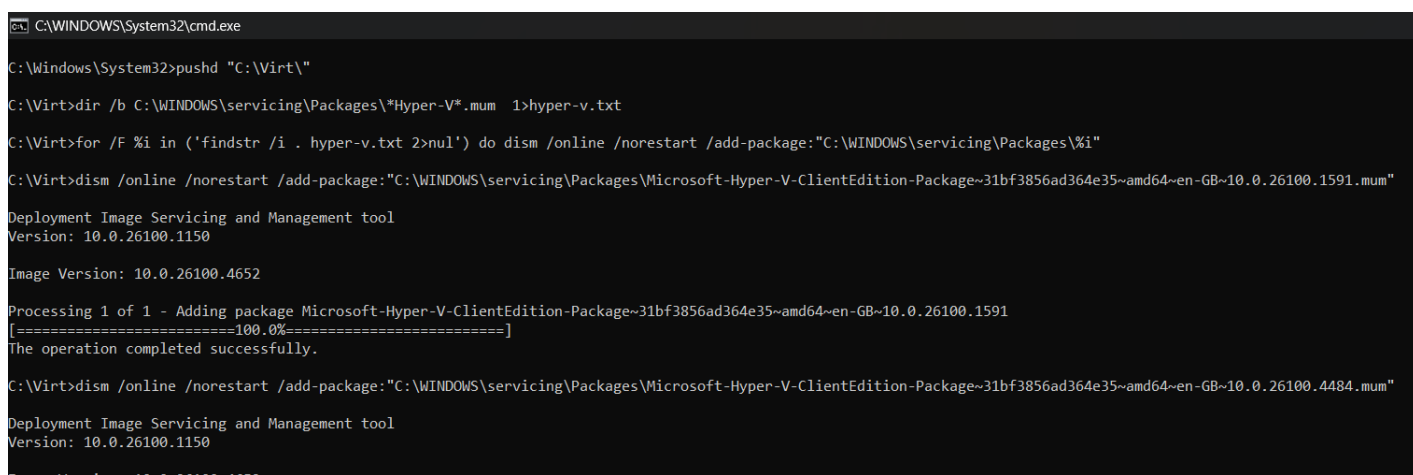
## Step 3 – Run the Installer Script

1. Locate *hyperv\_install.bat*.



2. Right-click → **Run as administrator**.

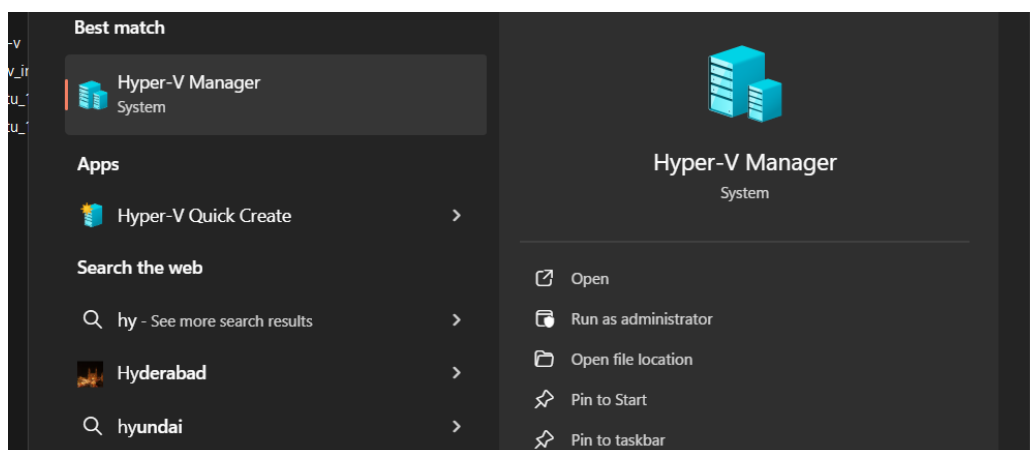
3. Wait until the script shows **The operation completed successfully**.



4. Restart the system.

## Step 4 – Verify Hyper-V Installation

1. Press **Windows + S**, type **Hyper-V Manager**, and open it.



2. Or run in PowerShell:

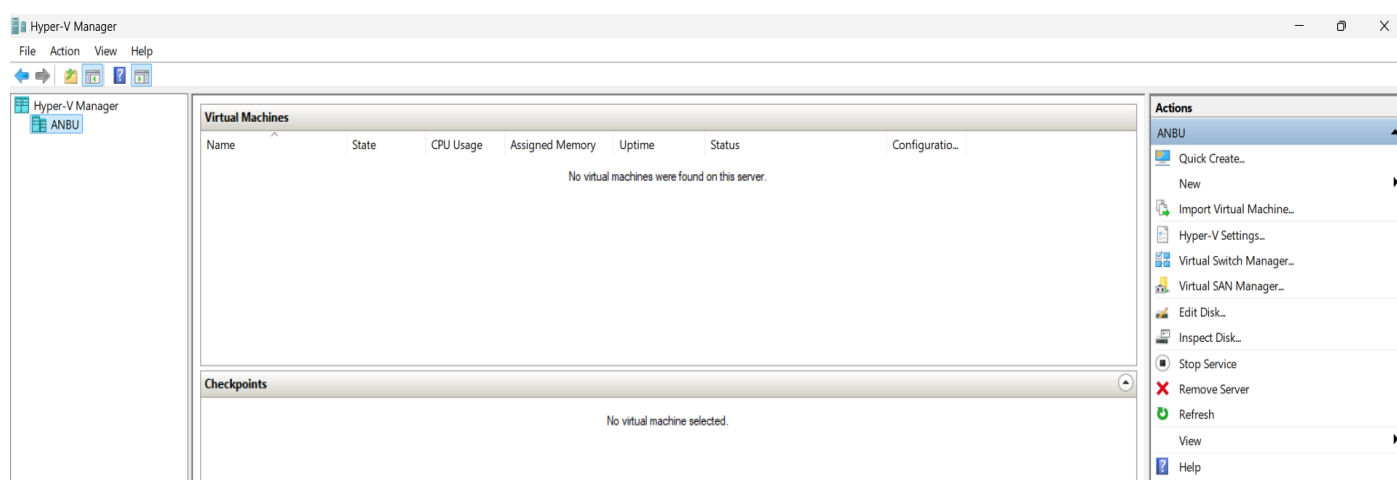
*Get-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V-All*

- If the state is **Enabled**, Hyper-V is successfully installed.

```
PS C:\WINDOWS\system32> Get-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V-All

FeatureName      : Microsoft-Hyper-V-All
DisplayName       : Hyper-V
Description       : Provides services and management tools for creating and running virtual machines and their
                   : resources.
RestartRequired  : Possible
State             : Enabled
CustomProperties  :
```

## Hyper-V Manager



## Result:

Thus, the Hyper-V was successfully installed and the hypervisor is running, allowing virtual machines to be created and managed.