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# InovaMesh Hyper-V VM Gen2

# Quick Guide

The instructions in this quick guide apply to the installation, usage, and uninstallation of an InovaMesh OpenWRT Gen2 UEFI virtual machine (VM) on laptops, PCs, and workstations running Windows 10 and Windows 11 versions that support Microsoft Hyper-V. For compatibility details, please refer to the following article: <https://learn.microsoft.com/en-us/windows-server/virtualization/hyper-v/plan/should-i-create-a-generation-1-or-2-virtual-machine-in-hyper-v>.

## **Install the VM and use it**

1. Extract the contents of the **vIM\_PS\_Gen2.zip** file into a folder, for example, C:\temp\hvm, and list its contents. In PowerShell, you can perform these actions with the following commands:​

Expand-Archive -Path "C:\path\to\vIM\_PS\_Gen2.zip" -DestinationPath "C:\temp\hvm"

Get-ChildItem -Path "C:\temp\hvm"

These commands extract the ZIP file's contents to the specified folder and then list the files within that folder.

Mode LastWriteTime Length Name

---- ------------- ------ ----

----- 11/18/2023 12:56 PM 98304 hvManagement.exe

-a--- 4/30/2025 11:40 AM 306184192 InovaMesh\_disk0.vhdx

----- 11/20/2023 10:56 AM 103936 vIMSet.exe

----- 11/28/2023 6:09 AM 109568 vmManagement.exe

----- 11/18/2023 12:58 PM 119296 vsManagement.exe

All commands must be executed in PowerShell with administrator privileges (Admin Terminal) from the designated folder.

1. Install Hyper-V if it is not already installed, as shown in the example.

PS C:\Temp\hvm> **.\hvManagement.exe**

hvManagement v1.0

Feature Hyper-V Disabled

Feature PiattaformaHyper-V Disabled

Feature StrumentidigestioneHyper-V Disabled

Feature ModuloHyper-VperWindowsPowerShell Disabled

Feature HypervisorHyper-V Disabled

Feature ServiziHyper-V Disabled

Feature StrumentidigestioneHyper-Vconinterfacciagrafica Disabled

Hyper-V 7 features disabled out of 7

Hyper-V disabled, enable (yes|no) ?: **yes**

Enabling Hyper-V ..

Restart the computer now to complete the operation?

[Y] Yes [N] No:**Y**

The operation takes a few minutes and requires restarting Windows. Ensure that there are no ongoing or pending Windows updates that could interfere with the installation of Hyper-V.

1. Add the LAN Virtual Switch .

PS C:\Temp\hvm> **.\vsManagement.exe add LAN**

vsManagement v1.1

Creating Virtual Switch LAN ..

VMSwitch (Name = 'LAN') [Id = '205cb358-81d1-409a-878e-570f1d963b36']

PS C:\Temp\hvm>

1. List the available adapters and select the appropriate one for the WAN. In this example, the Broadcom 802.11ac WiFi adapter is used.

PS C:\Temp\hvm> **.\vsManagement.exe**

vsManagement v1.1

Configured virtual switches

vSwitch:"Default Switch" Shared with host:True Interface:N/A

vSwitch:"LAN" Shared with host:True Interface:N/A

Available network adapters

"Intel(R) Ethernet Connection (3) I218-LM" MAC:34-E6-D7-73-F3-CB (Ethernet)

**"Broadcom 802.11ac Network Adapter"** MAC:34-68-95-ED-7D-2D (Wi-Fi)

"Bluetooth Device (Personal Area Network)" MAC:34-68-95-ED-7D-2E (Connessione di rete Bluetooth)

1. Add the WAN Virtual Switch using the adapter identified in the previous step.

PS C:\Temp\hvm> **.\vsManagement.exe add WAN "Broadcom 802.11ac Network Adapter"**

vsManagement v1.1

Creating Virtual Switch WAN on network adapter "Broadcom 802.11ac Network Adapter" ..

VMSwitch (Name = 'WAN') [Id = '0fd415b4-77b6-495b-a887-be22c4c9235b']

1. Import the InovaMesh Gen2 VM.

PS C:\Temp\hvm> **.\vmManagement.exe import**

vmManagement Gen.2 v2.3

Importing InovaMeshGen2 VM..

InovaMesh\_disk0.vhdx copied to folder \ProgramData\Microsoft\Windows\Virtual Hard Disks\

1. Start the VM.

PS C:\Temp\hvm> **.\vIMSet.exe On**

vIMSet Gen.2 v2.2

The virtual machine InovaMeshGen2 is now On. Wait 30s for DHCP assignement.

1. List the VM's operational parameters and its serial number (S/N).

PS C:\Temp\hvm> **.\vmManagement.exe**

vmManagement Gen.2 v2.3

InovaMeshGen2 state:Running

Processors:4 Memory:512MB

vSwitch:LAN MAC:00155D011601

vSwitch:WAN MAC:00155D011602

Device S/N: 4251001163

1. Only the first time, it may be necessary for the VM to be activated by the central management system. If so, provide the serial number (S/N) of your VM (4251001163 in this example). Once activated, wait a few minutes, then run the ipconfig /renew command. In the future, for all subsequent executions of vIMSet.exe Off/vIMSet.exe On (shutdown/startup), this step will no longer be necessary. At the end, the LAN Virtual Switch configuration will be similar to the following.

PS C:\Temp\hvm> **ipconfig**

..

Scheda Ethernet vEthernet (LAN):

Suffisso DNS specifico per connessione: lan

Indirizzo IPv6 locale rispetto al collegamento . : fe80::bf1e:b299:57bf:f792%58

Indirizzo IPv4. . . . . . . . . . . . : 192.18.92.247

Subnet mask . . . . . . . . . . . . . : 255.255.255.0

Gateway predefinito . . . . . . . . . : 192.18.92.1

1. Test the mesh functionality by using the ping command to reach a known and active InovaMesh test node.

PS C:\Temp\hvm> **ping 192.18.255.27**

Esecuzione di Ping 192.18.255.27 con 32 byte di dati:

Risposta da 192.18.255.27: byte=32 durata=2455ms TTL=63

Risposta da 192.18.255.27: byte=32 durata=78ms TTL=63

Risposta da 192.18.255.27: byte=32 durata=81ms TTL=63

Risposta da 192.18.255.27: byte=32 durata=77ms TTL=63

Do not use the indicated address but the one provided by the mesh administrator.

## **Shutting Down and Starting the VM**

1. To shut down the InovaMesh VM and restore the laptop's normal connectivity.

PS C:\Temp\hvm> **.\vIMSet.exe Off**

vIMSet Gen.2 v2.2

The virtual machine InovaMeshGen2 is now Off. Wait 30s for DHCP assignement.



1. To restart the VM and restore access to the mesh and the InovaMesh security of the laptop.

PS C:\Temp\hvm> **.\vIMSet.exe On**

vIMSet Gen.2 v2.2

The virtual machine InovaMeshGen2 is now On. Wait 30s for DHCP assignement.



The commands **vIMSet.exe Off/vIMSet.exe On** can be executed an unlimited number of times, ensuring a 30-second wait after each execution to allow the DHCP function to negotiate the address change.

## **Uninstalling the VM**

1. Shut down the VM

PS C:\Temp\hvm> **.\vIMSet.exe Off**

vIMSet Gen.2 v2.2

The virtual machine InovaMeshGen2 is now Off. Wait 30s for DHCP assignement.

..or, if already turned off, the response is

WARNING: The virtual machine InovaMeshGen2 is already in the specified state.

1. Delete the VM

PS C:\Temp\hvm> **.\vmManagement.exe delete**

vmManagement Gen.2 v2.3

Deleting InovaMeshGen2 VM..

1. Delete the LAN Virtual Switch

PS C:\Temp\hvm> **.\vsManagement.exe delete LAN**

vsManagement v1.1

Deleting Virtual Switch LAN ..

1. Delete the WAN Virtual Switch

PS C:\Temp\hvm> **.\vsManagement.exe delete WAN**

vsManagement v1.1

Deleting Virtual Switch WAN ..

1. Uninstall MS Hyper-V, if not used for other VMs.

PS C:\Temp\hvm> **.\hvManagement.exe**

hvManagement v1.0

Feature Hyper-V Enabled

Feature PiattaformaHyper-V Enabled

Feature StrumentidigestioneHyper-V Enabled

Feature ModuloHyper-VperWindowsPowerShell Enabled

Feature HypervisorHyper-V Enabled

Feature ServiziHyper-V Enabled

Feature StrumentidigestioneHyper-Vconinterfacciagrafica Enabled

Hyper-V 7 features enabled out of 7

Hyper-V fully enabled, disable (yes|no) ?: **yes**

Disabling Hyper-V ..

Riavviare ora il computer per completare l'operazione?

[Y] Yes [N] No: **Y**

The operation takes a few minutes and requires restarting Windows.