



Windows PowerShell Get-Help on Cmdlet 'Get-NetNeighbor'

PS:\>Get-HELP Get-NetNeighbor -Full

NAME

Get-NetNeighbor

SYNOPSIS

Gets neighbor cache entries.

SYNTAX

```
Get-NetNeighbor [[-IPAddress] <String[]>] [-AddressFamily {IPv4 | IPv6}] [-AsJob] [-AssociatedIPInterface  
<CimInstance>] [-CimSession <CimSession[]>  
[-IncludeAllCompartments] [-InterfaceAlias <String[]>] [-InterfaceIndex <UInt32[]>] [-LinkLayerAddress <String[]>  
[-PolicyStore <String>] [-State {Unreachable |  
Incomplete | Probe | Delay | Stale | Reachable | Permanent}] [-ThrottleLimit <Int32>] [<CommonParameters>]
```

DESCRIPTION

The Get-NetNeighbor cmdlet gets neighbor cache entries. The cmdlet returns information about IP addresses and link-layer addresses for the neighbor cache entries.

The neighbor cache maintains information for each on-link neighbor, including the IP address and the associated

link-layer address. In IPv4, the neighbor cache is commonly known as the Address Resolution Protocol (ARP) cache.

PARAMETERS

-AddressFamily <AddressFamily[]>

Specifies an array of IP address families. The cmdlet gets the neighbor cache entries that belong to the IP address families you specify. The acceptable values for this parameter are:

- IPv4

- IPv6

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-AsJob [<SwitchParameter>]

Runs the cmdlet as a background job. Use this parameter to run commands that take a long time to complete.

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-AssociatedIPInterface <CimInstance>

Specifies an IP interface as a CIM object. The cmdlet gets neighbor cache entries that belong to this interface. To obtain an IP interface, use the

Get-NetIPInterface cmdlet.

Required? false
Position? named
Default value None
Accept pipeline input? True (ByValue)
Accept wildcard characters? false

-CimSession <CimSession[]>

Runs the cmdlet in a remote session or on a remote computer. Enter a computer name or a session object, such as the output of a `New-CimSession`

(<https://go.microsoft.com/fwlink/p/?LinkId=227967>) or

[`Get-CimSession`](<https://go.microsoft.com/fwlink/p/?LinkId=227966>)cmdlet. The default is the current session on the local computer.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-IPAddress <String[]>

Specifies an array of IP addresses. The cmdlet gets neighbor cache entries that have the IP addresses you specify.

Required? false
Position? 0
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-IncludeAllCompartments [<SwitchParameter>]

Indicates that the cmdlet includes neighbor cache entries from all configured network compartments. If you do not specify this parameter, the cmdlet gets only

neighbor cache entries in the default network compartment.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-InterfaceAlias <String[]>

Specifies an array of aliases of network interfaces. The cmdlet gets neighbor cache entries for the network interfaces that have the aliases you specify.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	True (ByPropertyName)
Accept wildcard characters?	false

-InterfaceIndex <UInt32[]>

Specifies an array of indexes of network interfaces. The cmdlet gets neighbor cache entries for the network interfaces located at the indexes you specify.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	True (ByPropertyName)
Accept wildcard characters?	false

-LinkLayerAddress <String[]>

Specifies an array of link-layer addresses of the neighbor cache entry. The cmdlet gets neighbor cache entries that have the link-layer addresses you specify.

The link-layer address is also called the media access control (MAC) address. A link-layer address that uses IPv4 address syntax is a tunnel technology that

encapsulates packets over an IPv4 tunnel, such as Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) or Teredo. A link-layer address of all zeroes indicates that the neighbor is unreachable and the neighbor cache entry does not have a link-layer address entry. An empty link-layer address indicates that the link layer does not use link-layer addresses, such as on a loopback interface.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-PolicyStore <String>

Specifies a PolicyStore value. The cmdlet gets neighbor cache entries that have the PolicyStore value you specify. The acceptable values for this parameter are:

- ActiveStore. The IP address information is valid. - PersistentStore. The computer saves IP address information across restarts. When the computer restarts, it copies the saved settings to the ActiveStore.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-State <State[]>

Specifies an array of states of neighbor cache entries. The cmdlet gets neighbor cache entries that have the state you specify. The neighbor cache contains information maintained by Neighbor Unreachability Detection. Neighbor Unreachability Detection for IPv4 tracks the reachable state of IPv4 nodes in the IPv4 route cache. The acceptable values for this parameter are:

- Unreachable. The IP address is unreachable. - Incomplete. Address resolution is in progress and Neighbor Unreachability Detection has not determined the link-layer address of the neighbor. - Probe. The neighbor is no longer known to be reachable, and Neighbor Unreachability Detection is sending unicast Neighbor Solicitation probes to verify reachability. - Delay. The neighbor is no longer known to be reachable, and traffic was recently sent to the neighbor. Neighbor Unreachability Detection does not probe the neighbor immediately. Neighbor Unreachability Detection delays sending probes for a short time so that the upper layer protocols can provide reachability confirmation. - Stale. The neighbor is no longer known to be reachable. and Until traffic is sent to the neighbor, Neighbor Unreachability Detection makes no attempt to verify its reachability. - Reachable. The neighbor is known to have been reachable recently, within the last minute. - Permanent. The neighbor is statically provisioned and will not expire unless you remove it through configuration. - Maximum. A maximum value for testing purposes.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-ThrottleLimit <Int32>

Specifies the maximum number of concurrent operations that can be established to run the cmdlet. If this parameter is omitted or a value of `0` is entered, then

Windows PowerShell calculates an optimum throttle limit for the cmdlet based on the number of CIM cmdlets that are running on the computer. The throttle limit applies only to the current cmdlet, not to the session or to the computer.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False

Accept wildcard characters? false

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<https://go.microsoft.com/fwlink/?LinkID=113216>).

INPUTS

None

OUTPUTS

Microsoft.Management.Infrastructure.CimInstance#root\StandardCimv2\MSFT_NetNeighbor

The `Microsoft.Management.Infrastructure.CimInstance` object is a wrapper class that displays Windows Management Instrumentation (WMI) objects. The path after the pound sign (`#`) provides the namespace and class name for the underlying WMI object.

NOTES

----- Example 1: Get all neighbor cache entries -----

PS C:\>Get-NetNeighbor

This command gets all the neighbor cache entries. The default output for the cmdlet does not include all properties of the NetNeighbor object.

- Example 2: Output all properties for neighbor cache entries -

```
PS C:\>Get-NetNeighbor | Format-List -Property *
```

This command gets all the neighbor cache entries. The command uses the Format-List cmdlet to display all the properties in the output in the form of a table. For more

information, type ``Get-Help Format-Table``.

Example 3: Get neighbor cache entries that have an IPv6 address

```
PS C:\>Get-NetNeighbor -AddressFamily IPv6
```

This command gets information about the neighbor cache for neighbors that have an IPv6 address.

Example 4: Get network adapters that have reachable neighbors

```
PS C:\>Get-NetNeighbor -State Reachable | Get-NetAdapter
```

This command gets a NetNeighbor object that contains neighbor cache entries that are reachable. The command passes the NetNeighbor object to the Get-NetAdapter cmdlet

by using the pipeline operator. The Get-NetAdapter cmdlet gets the network adapters that have the interface index number for the network neighbors stored the

NetNeighbor object.

RELATED LINKS

Online

Version:

https://learn.microsoft.com/powershell/module/nettcpip/get-netneighbor?view=windowsserver2022-ps&wt.mc_id=ps-gethelp

Get-NetAdapter

New-NetNeighbor

Remove-NetNeighbor

Set-NetNeighbor