
## *Windows PowerShell Get-Help on Cmdlet 'Set-NetRoute'*

***PS:\>Get-HELP Set-NetRoute -Full***

NAME

Set-NetRoute

SYNOPSIS

Modifies an entry or entries in the IP routing table.

SYNTAX

Set-NetRoute [[-DestinationPrefix] <String[]>] [-AddressFamily {IPv4 | IPv6}] [-AsJob] [-CimSession <CimSession[]>] [-Confirm] [-IncludeAllCompartments]

[-InterfaceAlias <String[]>] [-InterfaceIndex <UInt32[]>] [-NextHop <String[]>] [-PassThru] [-PolicyStore <String>] [-PreferredLifetime <TimeSpan>] [-Protocol {Other

| Local | NetMgmt | Icmp | Egp | Ggp | Hello | Rip | IsIs | EsIs | Igrp | Bbn | Ospf | Bgp | Idpr | Eigrp | Dvmrp | Rpl | Dhcp}] [-Publish {No | Age | Yes}]

[-RouteMetric <UInt16>] [-ThrottleLimit <Int32>] [-ValidLifetime <TimeSpan>] [-WhatIf] [<CommonParameters>]

Set-NetRoute [-AsJob] [-CimSession <CimSession[]>] [-Confirm] -InputObject <CimInstance[]> [-PassThru] [-PreferredLifetime <TimeSpan>] [-Publish {No | Age | Yes}]

[-RouteMetric <UInt16>] [-ThrottleLimit <Int32>] [-ValidLifetime <TimeSpan>] [-WhatIf] [<CommonParameters>]

DESCRIPTION

The Set-NetRoute cmdlet modifies entries in the IP routing table. Specify routes to modify by using the DestinationPrefix parameter or the NextHop parameter. You can

also specify routes by using the Get-NetRoute cmdlet. If you do not specify which routes to modify, the cmdlets modifies all of the routes on the computer.

IP routing is the process of forwarding a packet based on the destination IP address. Routing occurs at TCP/IP hosts and at IP routers. The sending host or router

determines where to forward the packet. To determine where to forward a packet, the host or router consults a routing table that is stored in memory. When TCP/IP

starts, it creates entries in the routing table. You can add entries either manually or automatically.

For more information about routing, see Chapter 5 - IP Routing (https://technet.microsoft.com/library/bb727001.aspx)in the TechNet library.

After you create an entry in the routing table, you cannot modify the destination prefix or the next hop value. If necessary, use the Remove-NetRoute cmdlet to remove

the entry, and then recreate it with the desired values by using the New-NetRoute cmdlet.

PARAMETERS

-AddressFamily <AddressFamily[]>

Specifies an array of IP address families of IP routes. The cmdlet modifies the family that you specify for the IP route. 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

-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

-Confirm [<SwitchParameter>]

Prompts you for confirmation before running the cmdlet.

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-DestinationPrefix <String[]>

Specifies an array of destination prefixes of IP routes. The cmdlet modifies settings for this IP route. A destination prefix contains an IP address prefix and a

prefix length, separated by a slash (/). A value of `0.0.0.0/0` for IPv4 or `::/0` for IPv6 indicates that the value of the NextHop parameter is a default gateway.

Required? false

Position? 0

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-IncludeAllCompartments [<SwitchParameter>]

Indicates that the cmdlet includes routes from all configured network compartments. If you do not specify this parameter, the cmdlet modifies only routes in the

default network compartment.

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-InputObject <CimInstance[]>

Specifies the input object that is used in a pipeline command.

Required? true

Position? named

Default value None

Accept pipeline input? True (ByValue)

Accept wildcard characters? false

-InterfaceAlias <String[]>

Specifies an array of aliases of network interfaces. The cmdlet modifies IP routes for the interfaces that have the aliases that 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 modifies IP routes for the interfaces located at the indexes that you specify.

Required? false

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-NextHop <String[]>

Specifies an array of next hop values. The cmdlet modifies the routes that have these values. A value of 0.0.0.0 for IPv4 or :: for IPv6 indicates that the route

is on the local subnet.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-PassThru [<SwitchParameter>]

Returns an object representing the item with which you are working. By default, this cmdlet does not generate any output.

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-PolicyStore <String>

Specifies a PolicyStore value. The cmdlet changes the PolicyStore value to the value that 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.

Specify ActiveStore only.

If you do not specify this parameter, the default entries are created in both the ActiveStore and the PersistentStore.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-PreferredLifetime <TimeSpan>

Specifies a preferred lifetime, as a TimeSpan object, of an IP route. The cmdlet changes the lifetime to the value that you specify. To obtain a TimeSpan object,

use the New-TimeSpan cmdlet. For more information, type `Get-Help New-TimeSpan`.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-Protocol <Protocol[]>

Specifies an array of types of routing protocols. The cmdlet changes the protocol to the value you specify. The acceptable values for this parameter are:

- Bbn

- Bgp

- Dhcp

- Dvmrp

- Egp

- Eigrp

- EsIs

- Ggp

- Hello

- Icmp

- Idpr

- Igrp

- IsIs

- Local

- NetMgmt

- Ospf

- Rip

- Rpl

- Other

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

-Publish <Publish>

Specifies the publish setting of an IP route. The cmdlet changes the publish value to the value that you specify. The acceptable values for this parameter are:

- No. Do not publish or advertise IP route information in router advertisements. - Yes. Publish and advertise IP route information with an infinite valid

lifetime in router advertisements. - Age. Publish and advertise IP route information with a finite valid lifetime, in router advertisements. Specify a valid

lifetime by using the ValidLifetime parameter.

Required? false
Position? named
Default value None

Accept pipeline input? False

Accept wildcard characters? false

-RouteMetric <UInt16>

Specifies an integer route metric for an IP route. The cmdlet changes the metric to the value that you specify. To choose among multiple routes, the computer adds

this value to the interface metric value. The computer selects the route with the lowest combined value. To modify the interface metric, use the

Set-NetIPInterface cmdlet.

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 PowerShellr 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

-ValidLifetime <TimeSpan>

Specifies a valid lifetime, as a TimeSpan object, for an IP route. The cmdlet changes the lifetime to the value that you specify. To obtain a TimeSpan object, use

the New-TimeSpan cmdlet.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-WhatIf [<SwitchParameter>]

Shows what would happen if the cmdlet runs. The cmdlet is not run.

Required? false

Position? named

Default value False

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

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

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.

OUTPUTS

None

NOTES

---------- Example 1: Change the route metric ----------

PS C:\>Set-NetRoute -RouteMetric 257

This command changes the route metric to 257. This route is less preferred than routes that have the default value of 256.

---------- Example 2: Modify the preferred lifetime ----------

PS C:\> $TimeSpan = New-TimeSpan -Days 1

PS C:\> Set-NetRoute -DestinationPrefix "192.168.0.0/24" -PreferredLifetime $TimeSpan

The first command uses the New-TimeSpan cmdlet to create a time span of one day, and then stores it in the $TimeSpan variable. For more information, type `Get-Help

New-TimeSpan`.

The second command changes the lifetime of the IP route that has the destination prefix 192.168.0.0/24. The command specifies the object stored in the $TimeSpan

variable as the new preferred lifetime.

RELATED LINKS

Online Version: https://learn.microsoft.com/powershell/module/nettcpip/set-netroute?view=windowsserver2022-ps&wt.mc_id=ps-gethelp

New-TimeSpan https://technet.microsoft.com/en-us/library/hh849950.aspx

Find-NetRoute

Get-NetRoute

New-NetRoute

Remove-NetRoute