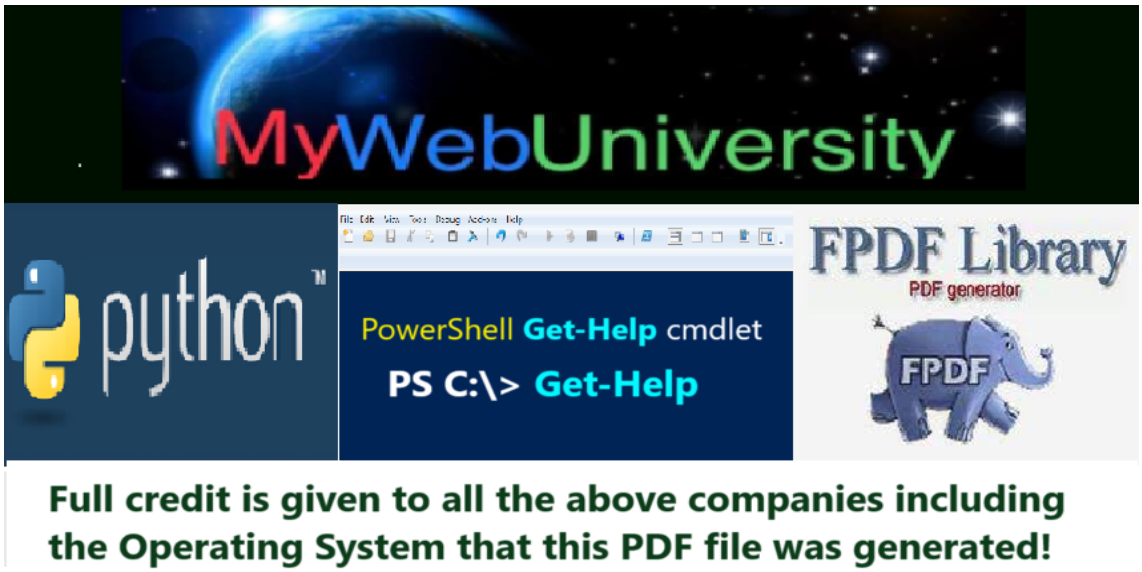

Windows PowerShell Get-Help on Cmdlet 'New-NetRoute'

PS:\>Get-HELP New-NetRoute -Full

NAME

New-NetRoute

SYNOPSIS

Creates a route in the IP routing table.

SYNTAX

New-NetRoute [-DestinationPrefix] <String> [-AddressFamily {IPv4 | IPv6}] [-AsJob] [-CimSession <CimSession[]>] [-Confirm] -InterfaceAlias <String> [-NextHop

<String>] [-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>]

New-NetRoute [-DestinationPrefix] <String> [-AddressFamily {IPv4 | IPv6}] [-AsJob] [-CimSession <CimSession[]>] [-Confirm] -InterfaceIndex <UInt32> [-NextHop

<String>] [-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>]

DESCRIPTION

The New-NetRoute cmdlet creates an IP route in the IP routing table. Specify the destination prefix, and specify an interface by using the interface alias or the

interface index.

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.

PARAMETERS

-AddressFamily <AddressFamily>

Specifies the IP address family. The cmdlet uses the family that you specify for the IP route. The acceptable values for this parameter are:

- IPv4

- IPv6

If you do not specify this parameter, the cmdlet selects a value based on the other input that you provide.

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 (/powershell/module/cimcmdlets/New-CimSession) or [Get-CimSession](/powershell/module/cimcmdlets/Get-CimSession)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 a destination prefix of an IP route. A destination prefix consists of 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. The prefix length of the local host must match the

prefix specified in this parameter, with all remaining address fields set to zero.

Required? true

Position? 0

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-InterfaceAlias <String>

Specifies the alias of a network interface. The cmdlet adds a route for the interface that has the alias that you specify.

Required? true

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-InterfaceIndex <UInt32>

Specifies the index of a network interface. The cmdlet adds a route for the interface located at the index that you specify.

Required? true

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-NextHop <String>

Specifies the next hop for the IP route. The cmdlet assigns the next hop that you specify to the IP route. 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

-PolicyStore <String>

Specifies the PolicyStore value. The cmdlet assigns the PolicyStore value that you specify to the IP route. The acceptable values for this parameter are:

- ActiveStore. Current routing information, used by the OS. When a computer reboots, information in this store is lost. - PersistentStore. Cannot be used. Routing

information in this store preserved across reboots. When a computer starts, it copies the saved settings from this store to the ActiveStore.

By default, a route is saved in both stores. Use this parameter only when you need to create a route in just the ActiveStore.

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 assigns the lifetime that you specify to the IP route. To obtain a TimeSpan

object, use the New-TimeSpan cmdlet. For more information, type `Get-Help New-TimeSpan`. The default value for a lifetime is infinite.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-Protocol <Protocol>

Specifies the type of routing protocol. The cmdlet assigns the protocol that you specify to the IP route. 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

The default value is NetMgmt.

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 assigns the publish setting that you specify to the IP route. 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.

The default value is No.

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 assigns the metric that you specify to the IP route. The default value is 256. To choose among

multiple routes, the computer adds this 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 assigns the lifetime setting that you specify to the IP route. To obtain a TimeSpan

object, use the New-TimeSpan cmdlet. The default value is infinite.

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

None

OUTPUTS

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

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: Add an IP route to the routing table -------

```
PS C:\>New-NetRoute -DestinationPrefix "10.0.0.0/24" -InterfaceIndex 12 -NextHop 192.168.0.1
PS C:\>Get-NetRoute | Format-List -Property *
```

This example adds a routing table entry, and then displays the properties of all the entries in the routing table.

The first command creates a route for the destination prefix 10.0.0.0/24 for the interface that has the index of 12. The command specifies 192.168.0.1 as the next hop.

The second command uses the Get-NetRoute cmdlet to get all the routes for the computer, and then passes them to the Format-List cmdlet by using the pipeline operator.

The Format-List cmdlet can display all the properties of an object. For more information, type `Get-Help Format-List`.

RELATED LINKS

Online Version:

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

Find-NetRoute

Get-NetRoute

Remove-NetRoute

Set-NetRoute

Set-NetIPInterface