



## Prefix List Commands on Cisco IOS-XR Software

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This chapter describes the Cisco IOS-XR software commands used to configure IP Version 4 (IPv4) and IP Version 6 (IPv6) prefix lists.

A prefix is a portion of an IP address, starting from the leftmost bit of the leftmost octet. By specifying exactly how many bits of an address belong to a prefix, you can then use prefixes to aggregate addresses and perform some function on them, such as redistribution (filter routing updates).

For example, 10.0.0.0/8 means that the first 8 bits of the address make up the prefix, and therefore any address that begins with 10 (10.x.x.x) is subject to the commands that call for the named prefix list.

# clear ipv4 prefix-list

To reset the hit count on an IP Version 4 (IPv4) prefix list, use the **clear ipv4 prefix-list** command in EXEC mode.

```
clear ipv4 prefix-list name [sequence-number]
```

## Syntax Description

<i>name</i>	Name of the prefix list from which the hit count is to be cleared.
<i>sequence-number</i>	(Optional) Sequence number of a prefix list. Range is from 1 to 2147483646.

## Command Modes

EXEC

## Command History

Release	Modification
Release 2.0	This command was introduced.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

The hit count is a value indicating the number of matches to a specific prefix list entry. Use the **clear ipv4 prefix-list** command to clear counters for a specified configured prefix list.

Use the *sequence-number* argument to clear counters for a prefix list with a specific sequence number.

## Examples

The following example shows IPv4 prefix lists, clears the counters for list3, than displays the IPv4 prefix lists again, showing that counters are cleared for list3:

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list
ipv4 prefix-list list1
 10 permit 172.18.30.154/16 (8 matches)
ipv4 prefix-list list2
 20 deny 172.24.30.164/16 (12 matches)
ipv4 prefix-list list3
 30 permit 172.19.31.154/16 (32 matches)

RP/0/RP0/CPU0:router# clear ipv4 prefix-list list3
RP/0/RP0/CPU0:router# show ipv4 prefix-list
ipv4 prefix-list list1
 10 permit 172.18.30.154/16 (8 matches)
ipv4 prefix-list list2
 20 deny 172.24.30.164/16 (12 matches)
ipv4 prefix-list list3
 30 permit 172.19.31.154/16
```

## Related Commands

Command	Description
<a href="#">deny (prefix-list)</a>	Sets deny conditions for an IPv4 or IP Version 6 (IPv6) prefix list.
<a href="#">ipv4 prefix-list</a>	Defines an IPv4 prefix list and enters prefix list configuration mode.
<a href="#">permit (prefix-list)</a>	Sets permit conditions for an IPv4 or IP Version 6 (IPv6) prefix list.
<a href="#">show ipv4 prefix-list</a>	Displays information about an IPv4 prefix list or prefix list entries.

# clear ipv6 prefix-list

To reset the hit count on an IP Version 6 (IPv6) prefix list, use the **clear ipv6 prefix-list** command in EXEC mode.

```
clear ipv6 prefix-list name [sequence-number]
```

## Syntax Description

<i>name</i>	Name of the prefix list from which the hit count is to be cleared.
<i>sequence-number</i>	(Optional) Clears counters for a prefix list with a specific sequence number. Range is from 1 to 2147483646.

## Command Modes

EXEC

## Command History

Release	Modification
Release 2.0	This command was introduced.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

The hit count is a value indicating the number of matches to a specific prefix list entry. Use the **clear ipv6 prefix-list** command to clear counters for a specified configured prefix list.

Use the *sequence-number* argument to clear counters for a prefix list with a specific sequence number.

## Examples

The following example shows IPv6 prefix lists, clears the counters for sequence number 60 on prefix list list3, than displays the IPv6 prefix lists again, showing that counters are cleared for sequence number 60:

```
RP/0/RP0/CPU0:router# show ipv6 prefix-list
ipv6 prefix-list list1
 40 permit 2000:1::1/64 (5 matches)
 60 deny 3000:1::1/64 (7 matches)
RP/0/RP0/CPU0:router# clear ipv6 prefix-list list1 60
RP/0/RP0/CPU0:router# show ipv6 prefix-list
ipv6 prefix-list list1
 40 permit 2000:1::1/64 (5 matches)
 60 deny 3000:1::1/64
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<a href="#">deny (prefix-list)</a>	Sets deny conditions for an IPv4 or IP Version 6 (IPv6) prefix list.
<a href="#">ipv6 prefix-list</a>	Defines an IPv6 prefix list and enters prefix list configuration mode.
<a href="#">permit (prefix-list)</a>	Sets permit conditions for an IPv4 or IP Version 6 (IPv6) prefix list.
<a href="#">show ipv6 prefix-list</a>	Displays information about an IPv6 prefix list or prefix list entries.

# copy ipv4 prefix-list

To create a copy of an existing IP Version 4 (IPv4) prefix list, use the **copy ipv4 prefix-list** command in EXEC mode.

**copy ipv4 prefix-list** *source-name destination-name*

## Syntax Description

<i>source-name</i>	Name of the prefix list to be copied.
<i>destination-name</i>	Destination prefix list where the contents of the <i>source-name</i> will be copied.

## Command Modes

EXEC

## Command History

Release	Modification
Release 2.0	This command was introduced.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

Use the **copy ipv4 prefix-list** command to copy a configured prefix list. Use the *source-name* argument to specify the prefix list to be copied and the *destination-name* argument to specify where to copy the contents of the source prefix list. The *destination-name* argument must be a unique name; if the *destination-name* argument name exists for a prefix list or access list, the prefix list is not copied. The **copy ipv4 prefix-list** command checks that the source prefix list exists, then checks the existing list names to prevent overwriting existing prefix lists.

## Examples

The following example shows IPv4 prefix lists, then copies prefix-list1 to list4, then displays the IPv4 prefix lists again, showing prefix list4:

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list
ipv4 prefix-list list1
 10 permit 172.24.20.164/16
ipv4 prefix-list list2
 20 deny 172.18.30.154/16
ipv4 prefix-list list3
 30 permit 172.29.30.154/16

RP/0/RP0/CPU0:router# copy ipv4 prefix-list list1 list4
```

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list
ipv4 prefix-list list1
 10 permit 172.24.20.164/16
ipv4 prefix-list list2
 20 deny 172.18.30.154/16
ipv4 prefix-list list3
 30 permit 172.29.30.154/16
ipv4 prefix-list list4
 10 permit 172.24.20.164/16
```

**Related Commands**

Command	Description
<a href="#">ipv4 prefix-list</a>	Defines an IPv4 prefix list and enters IPv4 prefix list configuration mode.
<a href="#">show ipv4 prefix-list</a>	Displays the contents of all IPv4 prefix lists.

# copy ipv6 prefix-list

To create a copy of an existing IP Version 6 (IPv6) prefix list, use the **copy ipv6 prefix-list** command in EXEC mode.

**copy ipv6 prefix-list** *source-name destination-name*

## Syntax Description

<i>source-name</i>	Name of the prefix list to be copied.
<i>destination-name</i>	Destination prefix list where the contents of the <i>source-name</i> will be copied.

## Command Modes

EXEC

## Command History

Release	Modification
Release 2.0	This command was introduced.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

Use the **copy ipv6 prefix-list** command to copy a configured prefix list. Use the *source-name* argument to specify the prefix list to be copied and the *destination-name* argument to specify where to copy the contents of the source prefix list. The *destination-name* argument must be a unique name; if the *destination-name* argument name exists for a prefix list or access list, the prefix list is not copied. The **copy ipv6 prefix-list** command checks that the source prefix list exists then checks the existing list names to prevent overwriting existing prefix lists.

## Examples

The following example shows IPv6 prefix lists, then copies prefix-list1 to list4, then displays the IPv6 prefix lists again, showing prefix list4:

```
RP/0/RP0/CPU0:router# show ipv6 prefix-list
ipv6 prefix-list list1
 40 permit 2000:1::1/64
 60 deny 3000:1::1/64
ipv6 prefix-list list2
 10 permit 5555::/24

RP/0/RP0/CPU0:router# copy ipv6 prefix-list list1 list3

RP/0/RP0/CPU0:router# show ipv6 prefix-list
ipv6 prefix-list list1
 40 permit 2000:1::1/64
 60 deny 3000:1::1/64
ipv6 prefix-list list2
 10 permit 5555::/24
ipv6 prefix-list list3
 40 permit 2000:1::1/64
 60 deny 3000:1::1/64
```

Related Commands	Command	Description
	<a href="#">ipv6 prefix-list</a>	Defines an IPv6 prefix list and enters IPv6 prefix list configuration mode.
	<a href="#">show ipv6 prefix-list</a>	Displays the contents of all IPv6 prefix lists.

# deny (prefix-list)

To set deny conditions for an IP Version 4 (IPv4) or IP Version 6 (IPv6) prefix list, use the **deny** command in IPv4 prefix list configuration or IPv6 prefix list configuration modes. To remove a condition from a prefix list, use the **no** form of this command.

```
[sequence-number] deny network/length [ge value] [le value] [eq value]
```

```
no sequence-number deny
```

## Syntax Description

<i>sequence-number</i>	(Optional) Sets deny conditions for a prefix list with a specific sequence number. If you do not use a sequence number, the condition defaults to the next available sequence number in the prefix list. Range is from 1 to 2147483646. By default, the first statement is number 10, and the subsequent statements are incremented by 10. The <b>sequence-number</b> argument must be used with the <b>no</b> form of the command.
<i>network/length</i>	Network number and length (in bits) of the network mask.
<b>ge value</b>	(Optional) Specifies a prefix length greater than or equal to the value. It is the lowest value of a range of the <i>length</i> (the “from” portion of the length range).
<b>le value</b>	(Optional) Specifies a prefix length less than or equal to the value. It is the highest value of a range of the <i>length</i> (the “to” portion of the length range).
<b>eq value</b>	(Optional) Exact value of the <i>length</i> .

## Defaults

There is no specific condition under which a packet is denied passing the IPv4 or IPv6 prefix list.

## Command Modes

IPv4 prefix list configuration  
IPv6 prefix list configuration

## Command History

Release	Modification
Release 2.0	This command was introduced.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

Use the **deny** command to specify conditions under which a packet cannot pass the prefix list.

The **ge**, **le** and **eq** keywords can be used to specify the range of the prefix length to be matched, for prefixes that are more specific than the *network/length* argument. Exact match is assumed when neither **ge** nor **le** is specified. The range is assumed to be from the **ge value** to 32 if only the **ge** keyword is specified. The range is assumed to be from the *length* to the **le value** argument if only the **le** attribute is specified.

A specified **ge** value or **le** value must satisfy the following condition:

$length < ge\ value < le\ value \leq 32$  (for IPv4)

$length < ge\ value < le\ value \leq 128$  (for IPv6)

## Examples

To deny the route 10.0.0.0/0:

```
RP/0/RP0/CPU0:router(config)# ipv4 prefix-list list1
RP/0/RP0/CPU0:router(config-ipv4_pfx)# 50 deny 10.0.0.0/0
```

To deny all routes with a prefix of 10.3.32.154:

```
RP/0/RP0/CPU0:router(config)# ipv4 prefix-list list1
RP/0/RP0/CPU0:router(config-ipv4_pfx)# 80 deny 10.3.32.154 le 32
```

To deny all masks with a length greater than 25 bits routes with a prefix of 172.18.30.154/16:

```
RP/0/RP0/CPU0:router(config)# ipv4 prefix-list list1
RP/0/RP0/CPU0:router(config-ipv4_pfx)# 100 deny 172.18.30.154/16 ge 25
```

To deny mask lengths greater than 25 bits in all address space:

```
RP/0/RP0/CPU0:router(config)# ipv6 prefix-list list2
RP/0/RP0/CPU0:router(config-ipv6_pfx)# 70 deny 2000:1::1/64 ge 25
```

The following example shows how to add deny conditions to list3, then use the **no** form of the command to remove the condition with the sequence number 30:

```
RP/0/RP0/CPU0:router(config)# ipv6 prefix-list list3
RP/0/RP0/CPU0:router(config-ipv6_pfx)# deny 2000:1::1/64 ge 25
RP/0/RP0/CPU0:router(config-ipv6_pfx)# deny 3000:1::1/64 le 32
RP/0/RP0/CPU0:router(config-ipv6_pfx)# deny 4000:1::1/64 ge 25
Uncommitted changes found, commit them? [yes]: y
RP/0/RP0/CPU0:router#show ipv6 prefix-list
ipv6 prefix-list list3
 10 deny 2000:1::1/64 ge 25
 20 deny 3000:1::1/64 le 32
 30 deny 4000:1::1/64 ge 25

RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# ipv6 prefix-list list3
RP/0/RP0/CPU0:router(config-ipv6_pfx)# no 30
Uncommitted changes found, commit them? [yes]: y
RP/0/RP0/CPU0:router# show ipv6 prefix-list
ipv6 prefix-list list3
 10 deny 2000:1::1/64 ge 25
 20 deny 3000:1::1/64 le 32
```

## Related Commands

Command	Description
<a href="#">permit (prefix-list)</a>	Sets conditions for a named prefix list.
<a href="#">remark (prefix-list)</a>	Inserts a helpful remark about a prefix list entry.
<a href="#">ipv4 prefix-list</a>	Creates an IPv4 prefix list.
<a href="#">ipv6 prefix-list</a>	Creates an IPv6 prefix list.
<a href="#">show ipv4 prefix-list</a>	Displays the contents of current IPv4 prefix lists.
<a href="#">show ipv6 prefix-list</a>	Displays the contents of current IPv6 prefix lists.

# ipv4 prefix-list

To define an IP Version (IPv4) prefix list by name, use the **ipv4 prefix-list** command in router configuration mode. To remove the prefix list, use the **no** form of this command.

**ipv4 prefix-list** *name*

**no ipv4 prefix-list** *name*

## Syntax Description

<i>name</i>	Name of the prefix list. Names cannot contain a space or quotation marks.
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## Defaults

No IPv4 prefix list is defined.

## Command Modes

Router configuration

## Command History

Release	Modification
Release 2.0	This command was introduced.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

Use the **ipv4 prefix-list** command to configure an IPv4 prefix list. This command places the router in prefix-list configuration mode, where the denied or permitted access conditions must be defined with the **deny** or **permit** command. You must add a condition in order to create the prefix list.

Use the **resequence ipv4 prefix-list** command to renumber existing statements and increment subsequent statements to allow a new IPv4 prefix list statement (**permit**, **deny**, or **remark**) to be added. Specify the first entry number (the *base*) and the increment by which to separate the entry numbers of the statements. The software will renumber the existing statements, thereby making room to add new statements with the unused entry numbers.

## Examples

The following example shows the prefix lists, then configures list2, then shows the conditions in both prefix lists:

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list
ipv4 prefix-list list1
 10 permit 172.20.10.171/16 le 24
 20 permit 172.18.0.12/16
 30 deny 172.24.20.164/16 ge 25
RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# ipv4 prefix-list list2
RP/0/RP0/CPU0:router(config-ipv4_pfx)#deny 172.18.30.154/16 ge 25
RP/0/RP0/CPU0:router(config-ipv4_pfx)#
Uncommitted changes found, commit them? [yes]: y
```

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list
ipv4 prefix-list list1
 10 permit 172.20.10.171/16 le 24
 20 permit 172.18.0.12/16
 30 deny 172.24.20.164/16 ge 25
ipv4 prefix-list list2
 10 deny 172.18.30.154/16 ge 25
```

**Related Commands**

Command	Description
<a href="#">deny (prefix-list)</a>	Sets deny conditions for a named prefix list
<a href="#">permit (prefix-list)</a>	Sets permit conditions for a named prefix list.
<a href="#">remark (prefix-list)</a>	Inserts a helpful remark about a prefix list entry.
<a href="#">resequence prefix-list</a>	Renumbers existing statements and increment subsequent statements.
<a href="#">show ipv4 prefix-list</a>	Displays the contents of all IPv4 prefix lists.

# ipv6 prefix-list

To define an IP Version (IPv6) prefix list by name, use the **ipv6 prefix-list** command in router configuration mode. To remove the prefix list, use the **no** form of this command.

**ipv6 prefix-list** *name*

**no ipv6 prefix-list** *name*

Syntax Description	<i>name</i>	Name of the prefix list. Names cannot contain a space or quotation marks.
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Defaults	No IPv6 prefix list is defined.
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Command Modes	Router configuration
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Command History	Release	Modification
	Release 2.0	This command was introduced.

**Usage Guidelines**

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

Use the **ipv6 prefix-list** command to configure an IPv6 prefix list. This command places the router in prefix-list configuration mode, where the denied or permitted access conditions must be defined with the **deny** or **permit** command. You must add a condition in order to create the prefix list. Use the **remark** command to insert a helpful remark about a prefix list entry.

**Examples**

The following example creates a prefix list named list1:

```
RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# ipv6 prefix-list list-1
RP/0/RP0/CPU0:router(config-ipv6-pfx)# 40 permit 2000:1::1/64
RP/0/RP0/CPU0:router(config-ipv6-pfx)# 60 deny 3000:1::1/64
RP/0/RP0/CPU0:router(config-ipv6-pfx)#
Uncommitted changes found, commit them? [yes]: y
RP/0/0/CPU0:Apr  4 02:12:01.142 : config[65699]: %LIBTARCFG-6-COMMIT : Configura
tion committed by user 'UNKNOWN'.  Use 'show commit changes 1000000022' to view
the changes.
RP/0/0/CPU0:Apr  4 02:12:01.283 : config[65699]: %SYS-5-CONFIG_I : Configured fr
om console by console
RP/0/RP0/CPU0:router# show ipv6 prefix-list
ipv6 prefix-list list1
 40 permit 2000:1::1/64
 60 deny 3000:1::1/64
RP/0/RP0/CPU0:router#
```

Related Commands	Command	Description
	<a href="#">deny (prefix-list)</a>	Sets deny conditions for a named prefix list
	<a href="#">permit (prefix-list)</a>	Sets permit conditions for a named prefix list.
	<a href="#">remark (prefix-list)</a>	Inserts a helpful remark about a prefix list entry.
	<a href="#">show ipv6 prefix-list</a>	Displays the contents of all current IPv6 prefix lists.

## permit (prefix-list)

To set permit conditions for an IP Version 4 (IPv4) or IP Version 6 (IPv6) prefix list, use the **permit** command in IPv4 prefix list configuration or IPv6 prefix list configuration modes. To remove a condition from a prefix list, use the **no** form of this command.

```
[sequence-number] permit network/length [ge value] [le value] [eq value]
```

```
no sequence-number permit
```

### Syntax Description

<i>sequence-number</i>	(Optional) Number of the <b>permit</b> statement in the prefix list. This number determines the order of the statements in the prefix list. The number can be from 1 to 2147483646. (By default, the first statement is number 10, and the subsequent statements are incremented by 10).
<i>network/length</i>	Network number and length (in bits) of the network mask.
<b>ge value</b>	(Optional) Specifies a prefix length greater than or equal to the value. It is the lowest value of a range of the <i>length</i> (the “from” portion of the length range).
<b>le value</b>	(Optional) Specifies a prefix length less than or equal to the value. It is the highest value of a range of the <i>length</i> (the “to” portion of the length range).
<b>eq value</b>	(Optional) Exact value of the <i>length</i> .

### Defaults

No defaults.

### Command Modes

IPv4 prefix list configuration  
IPv6 prefix list configuration

### Command History

Release	Modification
Release 2.0	This command was introduced.

### Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

Use the **permit** command to specify conditions under which a packet can pass the prefix list.

The **ge**, **le** and **eq** keywords can be used to specify the range of the prefix length to be matched, for prefixes that are more specific than the *network/length* argument. Exact match is assumed when neither **ge** nor **le** is specified. The range is assumed to be from the **ge value** to 32 if only the **ge** keyword is specified. The range is assumed to be from the *length* to the **le value** argument if only the **le** attribute is specified.

A specified **ge** value or **le** value must satisfy the following condition:

$length < ge\ value < le\ value \leq 32$  (for IPv4)

$length < ge\ value < le\ value \leq 128$  (for IPv6)

## Examples

To permit the prefix 172.18.0.12/16:

```
RP/0/RP0/CPU0:router(config)# ipv4 prefix-list list1
RP/0/RP0/CPU0:router(config-ipv4_pfx)# permit 172.18.0.12/16
```

To accept a mask length of up to 24 bits in routes with the prefix 172.20.10.171/16:

```
RP/0/RP0/CPU0:router(config)# ipv4 prefix-list list1
RP/0/RP0/CPU0:router(config-ipv4_pfx)# permit 172.20.10.171/16 le 24
```

To permit mask lengths from 8 to 24 bits in all address space:

```
RP/0/RP0/CPU0:router(config)# ipv6 prefix-list list1
RP/0/RP0/CPU0:router(config-ipv6_pfx)# permit 2000:1::1/64 ge 8 le 24
```

The following example shows how to add permit conditions to list3, then remove the condition with the sequence number 30:

```
RP/0/RP0/CPU0:router(config)# ipv6 prefix-list list3
RP/0/RP0/CPU0:router(config-ipv6_pfx)# permit 2000:1::1/64 ge 25
RP/0/RP0/CPU0:router(config-ipv6_pfx)# permit 3000:1::1/64 le 32
RP/0/RP0/CPU0:router(config-ipv6_pfx)# permit 3000:1::1/64 ge 25
Uncommitted changes found, commit them? [yes]: y
RP/0/RP0/CPU0:router#show ipv6 prefix-list
ipv6 prefix-list list3
 10 permit 2000:1::1/64 ge 25
 20 permit 3000:1::1/64 le 32
 30 permit 4000:1::1/64 ge 25

RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# ipv6 prefix-list list3
RP/0/RP0/CPU0:router(config-ipv6_pfx)# no 30
Uncommitted changes found, commit them? [yes]: y
RP/0/RP0/CPU0:router# show ipv6 prefix-list
ipv6 prefix-list list3
 10 permit 2000:1::1/64 ge 25
 20 permit 3000:1::1/64 le 32

10 deny 2000:1::1/64 ge 25
20 deny 3000:1::1/64 le 32
30 deny 4000:1::1/64 ge 25
```

## Related Commands

Command	Description
<a href="#">deny (prefix-list)</a>	Sets deny conditions for a named prefix list.
<a href="#">remark (prefix-list)</a>	Inserts a helpful remark about a prefix list entry.
<a href="#">ipv4 prefix-list</a>	Creates an IPv4 prefix list.
<a href="#">ipv6 prefix-list</a>	Creates an IPv6 prefix list.
<a href="#">show ipv4 prefix-list</a>	Displays the contents of current IPv4 prefix lists.
<a href="#">show ipv6 prefix-list</a>	Displays the contents of current IPv6 prefix lists.

## remark (prefix-list)

To write a helpful comment (remark) for an entry in either an IP Version 4 (IPv4) or IP Version 6 (IPv6) prefix list, use the **remark** command in IPv4 prefix-list configuration or IPv6 prefix-list configuration modes. To remove the remark, use the **no** form of this command.

```
[sequence-number] remark remark
```

```
no sequence-number
```

### Syntax Description

<i>sequence-number</i>	(Optional) Number of the <b>remark</b> statement in the prefix list. This number determines the order of the statements in the prefix list. The number can be from 1 to 2147483646. (By default, the first statement is number 10, and the subsequent statements are incremented by 10).
<i>remark</i>	Comment that describes the entry in the prefix list, up to 255 characters long.

### Defaults

The prefix list entries have no remarks.

### Command Modes

IPv4 prefix-list configuration  
IPv6 prefix-list configuration

### Command History

Release	Modification
Release 2.0	This command was introduced.

### Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

Use the **remark** command to write a helpful comment for an entry in a prefix list. The remark can be up to 255 characters in length; anything longer is truncated.

If you know the sequence number of the remark you want to delete, you can remove it by entering the **no sequence-number** command.

Use the **resequence ipv4 prefix-list** command if you want to add statements to an existing IPv4 prefix list.

### Examples

In the following example, a remark is made to explain a prefix list entry:

```
RP/0/RP0/CPU0:router(config)# ipv4 prefix-list deny-ten
RP/0/RP0/CPU0:router(config-ipv4_pfx)# 10 remark Deny all routes with a prefix of 10/8
RP/0/RP0/CPU0:router(config-ipv4_pfx)# 20 deny 10.0.0.0/8 le 32
RP/0/RP0/CPU0:router(config-ipv4_pfx)# end
```

In the following example, a remark is made to explain usage:

```
RP/0/RP0/CPU0:router# show ipv6 prefix-list
ipv6 prefix-list list1
 40 permit 2000:1::1/64
 60 deny 3000:1::1/64
RP/0/RP0/CPU0:router #configure
RP/0/RP0/CPU0:router(config)#ipv6 prefix-list list1
RP/0/RP0/CPU0:router(config-ipv6-pfx)#10 remark use from july23 forward
RP/0/RP0/CPU0:router(config-ipv6-pfx)#
Uncommitted changes found, commit them? [yes]: y
RP/0/0/CPU0:Apr  4 02:20:34.851 : config[65700]: %LIBTARCFG-6-COMMIT : Configura
tion committed by user 'UNKNOWN'. Use 'show commit changes 1000000023' to view
the changes.
RP/0/0/CPU0:Apr  4 02:20:34.984 : config[65700]: %SYS-5-CONFIG_I : Configured fr
om console by console
RP/0/RP0/CPU0:router# show ipv6 prefix-list
ipv6 prefix-list list1
 10 remark use from july23 forward
 40 permit 2000:1::1/64
 60 deny 3000:1::1/64
```

#### Related Commands

Command	Description
<a href="#">ipv4 prefix-list</a>	Creates an entry in a prefix list.
<a href="#">resequence prefix-list</a>	Changes the starting entry number of the first statement in an existing prefix list, and the number by which subsequent statements are incremented.
<a href="#">show ipv4 prefix-list</a>	Displays information about a prefix list or prefix list entries.

# resequence prefix-list

To renumber existing statements and increment subsequent statements to allow a new prefix list statement (**permit**, **deny**, or **remark**) to be added, use the **resequence ipv4 prefix-list** command in EXEC mode.

```
resequence ipv4 prefix-list name [base [increment]]
```

Syntax Description		
	<b>ipv4</b>	Specifies IP Version 4 (IPv4) address family.
	<i>name</i>	Name of a prefix list.
	<i>base</i>	(Optional) Number of the first statement in the specified prefix list, which determines its order in the prefix list. The maximum value is 2147483646. The default is 10.
	<i>increment</i>	(Optional) Number by which the base sequence number is incremented for subsequent statements. The maximum value is 2147483646. The default is 10.

## Defaults

*base*: 10  
*increment*: 10

## Command Modes

EXEC

## Command History

Release	Modification
Release 2.0	This command was introduced.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

The sequence number of a prefix list entry determines the order of the entries in the list. The router compares network addresses to the prefix list entries. The router begins the comparison at the top of the prefix list, with the entry having the lowest sequence number.

If multiple entries of a prefix list match a prefix, the entry with the lowest sequence number is considered the real match. Once a match or deny occurs, the router does not go through the rest of the prefix list.

By default, the first statement in a prefix list is sequence number 10, and the subsequent statements are incremented by 10.

Use the **resequence prefix-list** command to add a **permit**, **deny**, or **remark** statement between consecutive entries in an existing IPv4 prefix list. Specify the first entry number (the *base*) and the increment by which to separate the entry numbers of the statements. The software will renumber the existing statements, thereby making room to add new statements with the unused entry numbers.

**Examples**

The following example shows the sequence number intervals for prefix list list1, then resequences list1 from 10 to 30 and shows the resulting sequence numbers:

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list
ipv4 prefix-list list1
 10 permit 172.20.10.171/16 le 24
 20 permit 172.18.0.12/16
 30 deny 172.24.20.164/16 ge 25
ipv4 prefix-list list2
 10 deny 172.18.30.154/16 ge 25
RP/0/RP0/CPU0:router# resequence ipv4 prefix-list list1 10 30
RP/0/0/CPU0:Apr  4 02:29:39.513 : ipv4_acl_action_edm[183]: %LIBTARCFG-6-COMMIT
: Configuration committed by user 'UNKNOWN'. Use 'show commit changes 10000000
24' to view the changes.
RP/0/RP0/CPU0:router# show ipv4 prefix-list
ipv4 prefix-list list1
 10 permit 172.20.10.171/16 le 24
 40 permit 172.18.0.12/16
 70 deny 172.24.20.164/16 ge 25
ipv4 prefix-list list2
 10 deny 172.18.30.154/16 ge 25
```

**Related Commands**

Command	Description
<a href="#">deny (prefix-list)</a>	Sets deny conditions for an IPv4 or IP Version 6 (IPv6) prefix list.
<a href="#">permit (prefix-list)</a>	Sets permit conditions for an IPv4 or IP Version 6 (IPv6) prefix list.
<a href="#">remark (prefix-list)</a>	Inserts a helpful remark about a prefix list entry.
<a href="#">show ipv4 prefix-list</a>	Displays information about an IPv4 prefix list or prefix list entry.

# show ipv4 prefix-list

To display the contents of current IP Version 4 (IPv4) prefix list, use the **show ipv4 prefix-list** command in EXEC mode.

```
show ipv4 prefix-list [name] [sequence-number]
```

Syntax Description		
<i>list-name</i>	(Optional) Name of a prefix list.	
<i>sequence-number</i>	(Optional) Sequence number of the prefix list entry. Range is from 1 to 2147483646.	

**Defaults** Displays all IPv4 prefix lists.

**Command Modes** EXEC

Command History	Release	Modification
	Release 2.0	This command was introduced.

**Usage Guidelines** To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

Use the **show ipv4 prefix-list** command to display the contents of all IPv4 prefix lists. To display the contents of a specific IPv4 prefix list, use the *name* argument. Use the *sequence-number* argument to specify a given prefix list entry.

**Examples** The following example displays all configured prefix lists:

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list

ipv4 prefix-list list1
 10 permit 172.20.10.171/16 le 24
 20 permit 172.18.0.12/16
 30 deny 172.24.20.164/16 ge 25
ipv4 prefix-list list2
 10 deny 172.18.30.154/16 ge 25
```

The following example uses the *name* argument to display the prefix list named list1:

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list list1

ipv4 prefix-list list1
 10 permit 172.20.10.171/16 le 24
 20 permit 172.18.0.12/16
 30 deny 172.24.20.164/16 ge 25
```

The following example uses the *name* and *sequence-number* argument to display a prefix list named list1 with a sequence number of 10:

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list list1 30
ipv4 prefix-list list1
 30 deny 172.24.20.164/16 ge 25
```

**Related Commands**

Command	Description
<a href="#">clear ipv4 prefix-list</a>	Resest the hit count on an IPv4 prefix list.
<a href="#">ipv4 prefix-list</a>	Creates an IPv4 prefix list.
<a href="#">show ipv6 prefix-list</a>	Displays information about an IP Version 6 prefix list.

# show ipv6 prefix-list

To display the contents of current IP Version 6 (IPv6) prefix list, use the **show ipv6 prefix-list** command in EXEC mode.

```
show ipv6 prefix-list [name] [sequence-number] [summary]
```

Syntax Description		
	<i>list-name</i>	(Optional) Name of a prefix list.
	<i>sequence-number</i>	(Optional) Sequence number of the prefix list entry. Range is from 1 to 2147483646.
	<b>summary</b>	(Optional) Displays summary output of prefix list contents.

**Defaults** Displays all IPv6 prefix lists.

**Command Modes** EXEC

Command History	Release	Modification
	Release 2.0	This command was introduced.

**Usage Guidelines** To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

Use the **show ipv6 prefix-list** command to display the contents of all IPv4 prefix lists.

To display the contents of a specific IPv6 prefix list, use the *name* argument. Use the *sequence-number* argument to specify a given prefix list entry. Use the **summary** keyword to display a summary of prefix list contents.

**Defaults** Displays information about all IPv6 prefix lists.

**Command Modes** EXEC

Command History	Release	Modification
	Initial	This command was introduced.

**Usage Guidelines** To use the **clear ipv6 prefix-list** command, you must be a member of a user group associated with the acl task ID.

For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS-XR Software* module of the *Cisco IOS-XR System Security Configuration Guide*.

The **show ipv6 prefix-list** command provides output similar to the **show ipv4 prefix-list** command, except that it is IPv6-specific.

## Examples

The following example displays all configured prefix lists:

```
RP/0/RP0/CPU0:router# show ipv6 prefix-list
```

```
ipv6 prefix-list list1
 10 permit 5555::/24
 20 deny 3000::/24
 30 permit 2000::/24
ipv6 prefix-list list2
 10 permit 2000::/24
```

The following example uses the *name* argument to display the prefix list named list1:

```
RP/0/RP0/CPU0:router# show ipv6 prefix-list list1
```

```
ipv6 prefix-list list1
 10 permit 5555::/24
 20 deny 3000::/24
 30 permit 2000::/24
```

The following example uses the *name* and *sequence-number* argument to display a prefix list named list1 with a sequence number of 10:

```
RP/0/RP0/CPU0:router# show ipv6 prefix-list list1 10
```

```
ipv6 prefix-list abc
 10 permit 5555::/24
```

The following example displays a summary of prefix list contents:

```
RP/0/RP0/CPU0:router# show ipv4 prefix-list summary
```

```
Prefix List Summary:
  Total Prefix Lists configured:      2
  Total Prefix List entries configured: 2
```

## Related Commands

Command	Description
<a href="#">clear ipv6 prefix-list</a>	Resets the hit count on an IPv4 prefix list.
<a href="#">ipv6 prefix-list</a>	Creates an IPv6 prefix list.
<a href="#">copy ipv6 prefix-list</a>	Creates a copy of an existing IPv6 prefix list.

■ show ipv6 prefix-list