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## R Commands

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This chapter describes the Cisco NX-OS Enhanced Interior Gateway Routing Protocol (EIGRP) commands that begin with R.

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## redistribute (EIGRP)

To inject routes from one routing domain into the Enhanced Interior Gateway Routing Protocol (EIGRP), use the **redistribute** command. To remove the **redistribute** command from the configuration file and restore the system to its default condition in which the software does not redistribute routes, use the **no** form of this command.

```
redistribute {bgp as-number | direct | eigrp id | ospf instance-tag | rip instance-tag | static}
[route-map map-name]
```

```
no redistribute {bgp as-number | direct | eigrp as-number | ospf instance-tag | rip instance-tag | static}
```

### Syntax Description

<b>bgp</b> <i>as-number</i>	Distributes routes from Border Gateway Protocol (BGP). The <i>as-number</i> is a 2-byte or 4-byte autonomous system number. The range for 2-byte numbers is from 1 to 65535. The range for 4-byte numbers is from 1.0 to 65535.65535.
<b>direct</b>	Distributes routes that are directly connected on an interface.
<b>eigrp</b> <i>id</i>	Specifies the name of an EIGRP instance. The <i>id</i> can be any case-sensitive, alphanumeric string up to 20 characters.
<b>ospf</b> <i>instance-tag</i>	Distributes routes from the OSPF protocol. This protocol is supported in the IPv4 address family. The <i>instance-tag</i> can be a maximum of 20 alphanumeric characters.
<b>rip</b> <i>instance-tag</i>	Distributes routes from the RIP protocol. The <i>instance-tag</i> can be a maximum of 20 alphanumeric characters.
<b>static</b>	Redistributes IP static routes.
<b>route-map</b> <i>map-name</i>	(Optional) Specifies the identifier of a configured route map. Use a route map to filter which routes are redistributed into EIGRP.

### Command Default

Disabled

### Command Modes

Address family configuration mode  
Router configuration mode  
Router VRF configuration mode

### Command History

Release	Modification
5.0(3)N1(1)	This command was introduced.

### Usage Guidelines

Use the **redistribute** command to import routes from other routing protocols into EIGRP. You should always use a route map to filter these routes to ensure that EIGRP redistributes only the routes that you intend to redistribute.

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You must configure a default metric to redistribute routes from another protocol into EIGRP. You can configure the default metric with the **default-metric** command or with the route map configured with the **redistribute** command.

This command requires the LAN Base Services license.

### Examples

This example shows how to redistribute BGP routes into an EIGRP autonomous system:

```
switch(config)# router eigrp 209
switch(config-router) address-family ipv4 unicast
switch(config-router-af)# redistribute bgp 64496
switch(config-router-af)
```

### Related Commands

Command	Description
<b>default-metric (EIGRP)</b>	Sets the default metrics for routes redistributed into EIGRP.
<b>show ip eigrp</b>	Displays EIGRP information.

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## redistribute maximum-prefix (EIGRP)

To limit the number of routes redistributed into Enhanced Interior Gateway Routing Protocol (EIGRP), use the **redistribute maximum-prefix** command. To return to the default setting, use the **no** form of this command.

**redistribute maximum-prefix** *max* [*threshold*] [**warning-only** | **withdraw** [*num-retries* *timeout*]]

**no redistribute maximum-prefix** *max* [*threshold*] [**warning-only** | **withdraw** [*num-retries* *timeout*]]

<b>Syntax Description</b>	<i>max</i>	Maximum number of prefixes that EIGRP will distribute. The range is from 0 to 65536.
	<i>threshold</i>	(Optional) Percentage of maximum prefixes that triggers a warning message. The range is from 1 to 100. The default is 75 percent.
	<b>warning-only</b>	(Optional) Logs a warning message when the maximum number of prefixes is exceeded.
	<b>withdraw</b>	(Optional) Withdraws all redistributed routes.
	<i>num-retries</i>	(Optional) Number of times EIGRP tries to retrieve the redistributed routes. The range is from 1 to 12. The default is 1.
	<i>timeout</i>	(Optional) Time between retry attempts. The range is from 60 to 600 seconds. The default is 300.

**Command Default** No limit

**Command Modes** Router configuration mode  
VRF configuration mode

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.0(3)N1(1)	This command was introduced.

**Usage Guidelines** Use the **redistribute maximum-prefix** command to limit the number of routes redistributed into EIGRP. Use the **clear ip eigrp redistribute** command if all routes are withdrawn.

**Examples** This example shows how to limit the number of redistributed routes into EIGRP:

```
switch# configure terminal
switch(config)# router eigrp 201
switch(config-router)# address-family ipv4 unicast
switch(config-router-af)# redistribute bgp route-map FilterExternalBGP
switch(config-router-af)# redistribute maximum-prefix 1000 75
switch(config-router-af)#
```

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Related Commands	Command	Description
	<b>copy running-config startup-config</b>	Saves the configuration changes to the startup configuration file.
	<b>feature eigrp</b>	Enables the EIGRP feature.
	<b>redistribute (EIGRP)</b>	Configures route redistribution for EIGRP.
	<b>show running-config eigrp</b>	Displays the EIGRP running configuration.

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## restart eigrp (EIGRP)

To restart an Enhanced Interior Gateway Routing Protocol (EIGRP) instance and remove all associated neighbors, use the **restart** command.

**restart eigrp** *instance-tag*

### Syntax Description

<i>instance-tag</i>	Name for an EIGRP routing instance. The name can be a maximum of 20 alphanumeric characters.
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### Command Default

None

### Command Modes

Global configuration mode

### Command History

Release	Modification
5.0(3)N1(1)	This command was introduced.

### Usage Guidelines

This command requires the LAN Base Services license.

### Examples

This example shows how to restart the OSPFv2 instance and remove all neighbors:

```
switch# configure terminal
switch(config)# restart eigrp Test1
switch(config)#
```

### Related Commands

Command	Description
<b>copy running-config startup-config</b>	Saves the configuration in the startup configuration file.
<b>show ip eigrp interfaces</b>	Displays information about EIGRP interfaces.

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## router eigrp

To configure a routing process and enter router configuration mode for Enhanced Interior Gateway Routing Protocol (EIGRP), use the **router eigrp** command. To turn off the EIGRP routing process, use the **no** form of this command.

**router eigrp** *instance-tag*

**no router eigrp** *instance-tag*

### Syntax Description

<i>instance-tag</i>	Name of an EIGRP instance. The <i>instance-tag</i> can be any case-sensitive, alphanumeric string up to 20 characters.
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### Command Default

None

### Command Modes

Global configuration mode

### Command History

Release	Modification
5.0(3)N1(1)	This command was introduced.

### Usage Guidelines

This command requires the LAN Base Services license.

### Examples

This example shows how to configure a routing process for EIGRP:

```
switch(config)# router eigrp 1  
switch(config-router)#
```

### Related Commands

Command	Description
<b>default-information</b>	Controls the distribution of a default route.
<b>default-metric</b>	Configures the default metric for routes redistributed into EIGRP.
<b>distance</b>	Configures the administrative distance.
<b>maximum-paths</b>	Configures the maximum number of equal-cost paths.
<b>redistribute</b>	Configures route redistribution for EIGRP.
<b>router-id</b>	Configures the router ID.
<b>timers</b>	Configures the EIGRP timers.

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## router-id (EIGRP)

To configure a router ID for an Enhanced Interior Gateway Routing Protocol (EIGRP) process, use the **router-id** command. To cause the software to use the default method of determining the router ID, use the **no** form of this command.

**router-id** *router-id*

**no router-id**

### Syntax Description

<i>router-id</i>	32-bit router ID value specified in four-part, dotted-decimal notation.
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### Command Default

If this command is not configured, EIGRP chooses an IPv4 address as the router ID from one of its interfaces.

### Command Modes

Address family configuration mode  
Router configuration mode  
Router VRF configuration mode

### Command History

Release	Modification
5.0(3)N1(1)	This command was introduced.

### Usage Guidelines

Use the **router-id** command to manually specify a unique 32-bit numeric value for the router ID. This action ensures that EIGRP can function regardless of the interface address configuration.

This command requires the LAN Base Services license.

### Examples

This example shows how to assign the IP address of 192.0.2.1 to the EIGRP process 1:

```
switch(config)# router eigrp 1
switch(config-router) address-family ipv4
switch(config-router-af)# router-id 192.0.2.1
```

### Related Commands

Command	Description
<b>show ip eigrp</b>	Displays a summary of the EIGRP processes.