

Show Commands

database

Syntax `database [ip-prefix [/mask] [longer] [peer ip-address]`

Context `show>router>rip`
`show>router>ripng`

Description This command displays the routes in the RIP database.

Output **RIP Database Output** — The following table describes the RIP route database output fields.

Label	Description
Destination	The RIP destination for the route.
Peer	The router ID of the peer router.
NextHop	The IP address of the next hop.
Metric	The hop count to rate the value of different hops.
Tag	The value to distinguish between internal routes (learned by RIP) and external routes (learned from other protocols).
TTL	Displays how many seconds the specific route will remain in the routing table. When an entry reaches 0, it is removed from the routing table.
Valid	No — The route is not valid. Yes — The route is valid.

Sample Output

```
A:ALA-A# show rip database
=====
RIP Route Database
=====
Destination      Peer           NextHop        Metric  Tag    TTL  Valid
-----
180.0.0.10/32    180.1.7.15    0.0.0.0        2       0     163  No
180.0.0.10/32    180.1.8.14    0.0.0.0        2       0     179  No
180.0.0.14/32    180.1.8.14    0.0.0.0        1       0     179  Yes
180.0.6.0/24     180.1.7.15    0.0.0.0        11      8194  163  No
180.0.6.0/24     180.1.8.14    0.0.0.0        11      8194  179  No
180.0.7.0/24     180.1.7.15    0.0.0.0        11      8194  163  No
180.1.5.0/24     180.1.7.15    0.0.0.0        2       0     151  Yes
180.1.5.0/24     180.1.8.14    0.0.0.0        1       0     167  No
180.100.17.16/30 180.1.7.15    0.0.0.0        2       0     151  No
180.100.17.16/30 180.1.8.14    0.0.0.0        2       0     167  No
```

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```
-----  
No. of Routes: 10  
-----  
A:ALA-A#
```

group

Syntax `group [group-name] [detail]`

Context `show>router>rip`
`show>router>ripng`

Description Display RIP group information.

Parameters *group-name* — Displays RIP group information for the specified group.
detail — Displays detailed RIP group information.

Output **Standard RIP Group Output** — The following table describes the standard command output fields for a RIP group.

Label	Description
Group	The RIP group name.
Adm	Down — The RIP group is administratively down. Up — The RIP group is administratively up.
Opr	Down — The RIP group is operationally down. Up — The RIP group is operationally up.
Send Mode	Bcast — Specifies that RIPv2 formatted messages are sent to the broadcast address. Mcast — Specifies that RIPv2 formatted messages are sent to the multicast address. None — Specifies that no RIP messages are sent (i.e., silent listener) RIPv1 — Specifies that RIPv1 formatted messages are sent to the broadcast address.
Recv Mode	Both — Specifies that RIP updates in either version 1 or version 2 format will be accepted. None — Specifies that RIP updates will not be accepted. RIPv1 — Specifies that RIP updates in version 1 format only will be accepted. RIPv2 — Specifies that RIP updates in version 2 format only will be accepted.

Label	Description (Continued)
Metric In	The metric value added to routes received from a RIP neighbor.

Sample Standard RIP Group Output

```
A:ALA-A# show router rip group
=====
RIP Groups
=====
Group                               Adm    Opr    Send    Recv    Metric
                                Mode   Mode   Mode    Mode    In
-----
rip-group                           Up     Down   BCast   Both    1
=====
A:ALA-A#
```

Sample Detailed Output

```
A:ALA-A# show router rip group detail
=====
RIP groups (Detail)
=====
Group "rip-group"
-----
Description      : No Description Available
Admin State      : Up
Send Mode        : Broadcast
Metric In        : 1
Split Horizon    : Enabled
Message Size     : 25
Auth. Type       : None
Timeout Timer    : 180
Export Policies  :
  None
Import Policies  :
  None
Oper State       : Down
Receive Mode     : Both
Metric Out       : 1
Check Zero       : Disabled
Preference       : 100
Update Timer     : 30
Flush Timer      : 120
=====
A:ALA-A#
```

neighbors

Syntax `neighbors [ip-addr | ip-int-name] [advertised-routes | detail]`

Context `show>router>rip`
`show>router>ripng`

Description Displays RIP neighbor interface information.

Parameters `ip-addr | ip-int-name` — Displays information for the specified IP interface.

Default `all neighbor interfaces`

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advertised-routes — Displays the routes advertised to RIP neighbors. If no neighbors are specified, then all routes advertised to all neighbors are displayed. If a specific neighbor is given then only routes advertised to the given neighbor/interface are displayed.

Default **display RIP information**

Output **Standard RIP Neighbor Output** — The following table describes the standard command output fields for a RIP group.

Table 6: RIP Neighbor Standard Output Fields

Label	Description
Neighbor	The RIP neighbor interface name.
Adm	Down — The RIP neighbor interface is administratively down. Up — The RIP neighbor interface is administratively up.
Opr	Down — The RIP neighbor interface is operationally down. Up — The RIP neighbor interface is operationally up.
Primary IP	The Primary IP address of the RIP neighbor interface.
Send Mode	Bcast — Specifies that RIPv2 formatted messages are sent to the broadcast address. Mcast — Specifies that RIPv2 formatted messages are sent to the multicast address. None — Specifies that no RIP messages are sent (i.e., silent listener). RIPv1 — Specifies that RIPv1 formatted messages are sent to the broadcast address.
Recv Mode	Both — Specifies that RIP updates in either version 1 or version 2 format will be accepted. None — Specifies that RIP updates will not be accepted. RIPv1 — Specifies that RIP updates in version 1 format only are accepted. RIPv2 — Specifies that RIP updates in version 2 format only are accepted.
Metric In	The metric added to routes received from a RIP neighbor.

Sample Output

```
A:ALA-A# show router rip neighbor
=====
RIP Neighbors
=====
Interface                Adm  Opr  Primary IP          Send  Recv  Metric
                          Mode Mode                Mode  Mode  In
-----
```

```

router-2/1          Up   Up   10.0.3.12         None  Both  1
router-2/2          Up   Up   10.0.5.12         BCast Both  1
router-2/3          Up   Up   10.0.6.12         BCast Both  1
router-2/5          Up   Up   10.0.9.12         BCast Both  1
router-2/6          Up   Up   10.0.17.12        None  Both  1
router-2/7          Up   Up   10.0.16.12        None  Both  1
=====

```

```
A:ALA-A#
```

Output Detailed RIP Neighbor Output — The following table describes the standard command output fields for a RIP group.

Label	Description
Neighbor	The RIP neighbor name.
Description	The RIP neighbor description. No Description Available indicates no description is configured.
Primary IP	The RIP neighbor interface primary IP address.
Group	The RIP group name of the neighbor interface.
Admin State	Down — The RIP neighbor interface is administratively down. Up — The RIP neighbor interface is administratively up.
Oper State	Down — The RIP neighbor interface is operationally down. Up — The RIP neighbor interface is operationally up.
Send Mode	Bcast — Specifies that RIPv2 formatted messages are sent to the broadcast address. Mcast — Specifies that RIPv2 formatted messages are sent to the multicast address. None — Specifies that no RIP messages are sent (i.e., silent listener). RIPv1 — Specifies that RIPv1 formatted messages are sent to the broadcast address.
Recv Mode	Both — Specifies that RIP updates in either version 1 or version 2 format will be accepted. None — Specifies that RIP updates will not be accepted. RIPv1 — Specifies that RIP updates in version 1 format only will be accepted. RIPv2 — Specifies that RIP updates in version 2 format only will be accepted.
Metric In	The metric value added to routes received from a RIP neighbor.
Metric Out	The value added to routes exported into RIP and advertised to RIP neighbors.

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Label	Description (Continued)
Split Horizon	Disabled — Split horizon disabled for the neighbor. Enabled — Split horizon and poison reverse enabled for the neighbor.
Check Zero	Disabled — Checking of the mandatory zero fields in the RIPv1 and RIPv2 specifications are not checked allowing receipt of RIP messages even if mandatory zero fields are non-zero for the neighbor. Enabled — checking of the mandatory zero fields in the RIPv1 and RIPv2 specifications and rejecting non-compliant RIP messages is enabled for the neighbor.
Message Size	The maximum number of routes per RIP update message.
Preference	The preference of RIP routes from the neighbor.
Auth. Type	Specifies the authentication type.
Update Timer	The current setting of the RIP update timer value expressed in seconds.
Timeout Timer	The current RIP timeout timer value expressed in seconds.
Export Policies	The export route policy that is used to determine routes advertised to all peers.
Import Policies	The import route policy that is used to determine which routes are accepted from RIP neighbors.

Sample Detailed Output

```
A:ALA-A# show router rip neighbor detail
=====
RIP Neighbors (Detail)
=====
Neighbor "router-2/7"
-----
Description      : No Description Available
Primary IP       : 10.0.16.12           Group           : seven
Admin State      : Up                  Oper State      : Up
Send Mode        : None                Receive Mode    : Both
Metric In        : 1                   Metric Out      : 1
Split Horizon    : Enabled              Check Zero      : Disabled
Message Size     : 25                   Preference      : 100
Auth. Type       : None                 Update Timer    : 3
Timeout Timer    : 6                    Flush Timer     : 6
Export Policies:
  Rip2Rip
  direct2Rip
  bgp2Rip
Import Policies:
  None
=====
```

A:ALA-A#

Sample OutputA:ALA-A# show router rip neighbors *interface* advertised-routes

```

=====
RIP Advertised Routes
=====
Destination          Interface          NextHop           Metric  Tag    TTL
-----
180.0.0.2/32         180.1.8.12        0.0.0.0           10     8194   n/a
180.0.0.5/32         180.1.8.12        0.0.0.0           10     8194   n/a
180.0.0.8/32         180.1.8.12        0.0.0.0           10     8194   n/a
180.0.0.9/32         180.1.8.12        0.0.0.0           10     8194   n/a
180.0.0.10/32        180.1.8.12        0.0.0.0           10     8194   n/a
180.0.0.11/32        180.1.8.12        0.0.0.0           10     8194   n/a
180.0.0.12/32        180.1.8.12        0.0.0.0            1         0     n/a
180.0.0.13/32        180.1.8.12        0.0.0.0           10     8194   n/a
180.0.0.14/32        180.1.8.12        0.0.0.0           16         0     n/a
180.0.0.15/32        180.1.8.12        0.0.0.0            2         0     n/a
180.0.0.16/32        180.1.8.12        0.0.0.0            3         0     n/a
=====
No. of Advertised Routes: 11
=====
A:ALA-A#

```

peer**Syntax** `peer [ip-int-name]`**Context** show>router>rip
show>router>ripng**Description** Displays RIP peer information.**Parameters** *ip-int-name* — Displays peer information for peers on the specified IP interface.**Default** `display peers for all interfaces`**Output** **RIP Peer Output** — The following table describes the command output fields for a RIP peer.

Label	Description
Peer IP Addr	The IP address of the peer router.
Interface Name	The peer interface name.
Version	The version of RIP running on the peer.
Last Update	The number of days since the last update.
No. of Peers	The number of RIP peers.

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Sample Output

```
A:ALA-A# show router rip peers
=====
RIP Peers
=====
Peer IP Addr      Interface Name      Version      Last Update
-----
10.0.5.13         router-2/2          RIPv2        0
10.0.6.16         router-2/3          RIPv2        2
10.0.9.14         router-2/5          RIPv2        8
10.0.10.15        router-2/4          RIPv2        0
-----
No. of Peers: 4
=====
A:ALA-A#
```

statistics

Syntax `statistics [ip-addr | ip-int-name]`

Context show>router>rip
show>router>ripng

Description Display interface level statistics for the RIP protocol
If no IP address or interface name is specified, then all configured RIP interfaces are displayed.
If an IP address or interface name is specified, then only data regarding the specified RIP interface is displayed.

Parameters `ip-addr | ip-int-name` — Displays statistics for the specified IP interface.

Output **RIP Statistics Output** — The following table describes the output fields for RIP statistics.

Label	Description
Learned Routes	The number of RIP-learned routes were exported to RIP neighbors.
Timed Out Routes	The number of routes that have been timed out.
Current Memory	The amount of memory used by this RIP router instance.
Maximum Memory	The amount of memory allocated for this RIP router instance.
Interface	Displays the name of each interface configured in RIP and associated RIP statistics.
Primary IP	The interface IP address.
Update Timer	The current setting of the RIP update timer value expressed in seconds.
Timeout Timer	The current RIP timeout timer value expressed in seconds.

Label	Description (Continued)
Flush Timer	The number of seconds after a route has been declared invalid that it is flushed from the route database.
Updates Sent	<p>Total – The total number of RIP updates that were sent.</p> <p>Last 5 Min – The number of RIP updates that were sent in the last 5 minutes.</p> <p>Last 1 Min – The number of RIP updates that were sent in the last 1 minute.</p>
Triggered Updates	<p>Total – The total number of triggered updates sent. These updates are sent before the entire RIP routing table is sent.</p> <p>Last 5 Min – The number of triggered updates that were sent in the last 5 minutes.</p> <p>Last 1 Min – The number of triggered updates that were sent in the last 1 minute.</p>
Bad Packets Received	<p>Total – The total number of RIP updates received on this interface that were discarded as invalid.</p> <p>Last 5 Min – The number of RIP updates received on this interface that were discarded as invalid in the last 5 minutes.</p> <p>Last 1 Min – The number of RIP updates received on this interface that were discarded as invalid in the last 1 minute.</p>
RIPv1 Updates Received	<p>Total – The total number of RIPv1 updates received.</p> <p>Last 5 Min – The number of RIPv1 updates received in the last 5 minutes.</p> <p>Last 1 Min – The number of RIPv1 updates received in the last 1 minute.</p>
RIPv1 Updates Ignored	<p>Total – The total number of RIPv1 updates ignored.</p> <p>Last 5 Min – The number of RIPv1 updates ignored in the last 5 minutes.</p> <p>Last 1 Min – The number of RIPv1 updates ignored in the last 1 minute.</p>
RIPv1 Bad Routes	<p>Total – The total number of bad routes received from the peer.</p> <p>Last 5 Min – The number of bad routes received from the peer in the last 5 minutes.</p>

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Label	Description (Continued)
	<p>Last 1 Min – The number of bad routes received from the peer in the last minute.</p>
RIPv1 Requests Received	<p>Total – The total number of times the router received RIPv1 route requests from other routers.</p> <p>Last 5 Min – The number of times the router received RIPv1 route requests from other routers in the last 5 minutes.</p> <p>Last 1 Min – The number of times the router received RIPv1 route requests from other routers in the last 1 minute.</p>
RIPv1 Requests Ignored	<p>Total – The total number of times the router ignored RIPv1 route requests from other routers.</p> <p>Last 5 Min – The number of times the router ignored RIPv1 route requests from other routers in the last 5 minutes.</p> <p>Last 1 Min – The number of times the router ignored RIPv1 route requests from other routers in the last 1 minute.</p>
RIPv2 Updates Received	<p>Total – The total number of RIPv2 updates received.</p> <p>Last 5 Min – The number of RIPv2 updates received in the last 5 minutes.</p> <p>Last 1 Min – The number of RIPv2 updates received in the last minute.</p>
RIPv2 Updates Ignored	<p>Total – The total number of RIPv2 updates ignored.</p> <p>Last 5 Min – The number of RIPv2 updates ignored in the last 5 minutes.</p> <p>Last 1 Min – The number of RIPv2 updates ignored in the last minute.</p>
RIPv2 Bad Routes	<p>Total – The total number of RIPv2 bad routes received from the peer.</p> <p>Last 5 Min – The number of RIPv2 bad routes received from the peer in the last 5 minutes.</p> <p>Last 1 Min – The number of RIPv2 bad routes received from the peer in the last minute.</p>
RIPv2 Requests Received	<p>Total – The total number of times the router received RIPv2 route requests from other routers.</p> <p>Last 5 Min – The number of times the router received RIPv2 route requests from other routers in the last 5 minutes.</p>

Label	Description (Continued)
	Last 1 Min – The number of times the router received RIPv2 route requests from other routers in the last minute.
RIPv2 Requests Ignored	Total – The total number of times the router ignored RIPv2 route requests from other routers.
	Last 5 Min – The number of times the router ignored RIPv2 route requests from other routers in the last 5 minutes.
	Last 1 Min – The number of times the router ignored RIPv2 route requests from other routers in the last minute.
Authentication Errors	Total – The total number of authentication errors to secure table updates.
	Last 5 Min – The number of authentication errors to secure table updates in the last 5 minutes.
	Last 1 Min – The number of authentication errors to secure table updates in the last minute.

Sample Output

```
A:ALA-A# show router rip statistics
=====
RIP Statistics
=====
Learned Routes      : 0                Timed Out Routes   : 0
Current Memory     : 120624           Maximum Memory    : 262144
-----
Interface "to-web"
-----
Primary IP         : 10.1.1.3           Update Timer       : 30
Timeout Timer      : 180                Flush Timer        : 120
-----
Counter              Total          Last 5 Min       Last 1 Min
-----
Updates Sent         0              0                0
Triggered Updates   0              0                0
Bad Packets Received 0              0                0
RIPv1 Updates Received 0            0                0
RIPv1 Updates Ignored 0            0                0
RIPv1 Bad Routes    0              0                0
RIPv1 Requests Received 0           0                0
RIPv1 Requests Ignored 0           0                0
RIPv2 Updates Received 0           0                0
RIPv2 Updates Ignored 0           0                0
RIPv2 Bad Routes    0              0                0
RIPv2 Requests Received 0           0                0
RIPv2 Requests Ignored 0           0                0
Authentication Errors 0              0                0
=====
```

Show Commands

A:ALA-A#

Clear Commands

database

Syntax `database`

Context `clear>router>rip`
`show>router>ripng`

Description Flush all routes in the RIP database.

statistics

Syntax `statistics [neighbor ip-int-name | ip-address]`

Context `clear>router>rip`
`show>router>ripng`

Description Clears statistics for RIP neighbors.

Parameters `neighbor ip-int-name | ip-address` — Clears the statistics for the specified RIP interface.

Default `clears statistics for all RIP interfaces`

Debug RIP Commands

auth

Syntax [no] auth [neighbor *ip-int-name* | *ip-addr*]

Context debug>router>rip
debug>router>ripng

Description This command enables debugging for RIP authentication.

Parameters **neighbor** *ip-addr* | *ip-int-name* — Debugs the RIP authentication for the neighbor IP address or interface.

error

Syntax [no] error [neighbor *ip-int-name* | *ip-addr*]

Context debug>router>rip
debug>router>ripng

Description This command enables debugging for RIP errors.

Parameters **neighbor** *ip-addr* | *ip-int-name* — Debugs the RIP errors sent on the neighbor IP address or interface.

events

Syntax [no] events [neighbor *ip-int-name* | *ip-addr*]

Context debug>router>rip
debug>router>ripng

Description This command enables debugging for RIP events.

Parameters **neighbor** *ip-addr* | *ip-int-name* — Debugs the RIP events sent on the neighbor IP address or interface.

holddown

Syntax [no] holddown [neighbor *ip-int-name* | *ip-addr*]

Context debug>router>rip
debug>router>ripng

Description This command enables debugging for RIP holddowns.

Parameters **neighbor** *ip-addr* | *ip-int-name* — Debugs the RIP holddowns sent on the neighbor IP address or interface.

packets

Syntax [no] packets [neighbor *ip-int-name* | *ip-addr*]

Context debug>router>rip
debug>router>ripng

Description This command enables debugging for RIP packets.

Parameters **neighbor** *ip-addr* | *ip-int-name* — Debugs the RIP packets sent on the neighbor IP address or interface.

request

Syntax [no] request [neighbor *ip-int-name* | *ip-addr*]

Context debug>router>rip
debug>router>ripng

Description This command enables debugging for RIP requests.

Parameters **neighbor** *ip-addr* | *ip-int-name* — Debugs the RIP requests sent on the neighbor IP address or interface.

trigger

Syntax [no] trigger [neighbor *ip-int-name* | *ip-addr*]

Context debug>router>rip
debug>router>ripng

Description This command enables debugging for RIP trigger updates.

Parameters **neighbor** *ip-addr* | *ip-int-name* — Debugs the RIP updates sent on the neighbor IP address or interface.

updates

Syntax [no] updates [neighbor *ip-int-name* | *ip-addr*]

Context debug>router>rip
debug>router>ripng

Description This command enables debugging for RIP updates.

Parameters **neighbor** *ip-addr* | *ip-int-name* — Debugs the RIP updates sent on the neighbor IP address or interface.

