

## show route forwarding-table

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**Syntax** show route forwarding-table  
<detail | extensive | summary>  
<ccc ccc-interface-name>  
<destination>  
<family family-name>  
<label label>  
<matching ip\_prefix>  
<multicast>  
<vpn vpn>

**Release Information** Command introduced in JUNOS Release 9.5 for EX Series switches.

**Description** Display the Routing Engine's forwarding table, including the network-layer prefixes and their next hops. This command is used to help verify that the routing protocol process has relayed the correction information to the forwarding table. The Routing Engine constructs and maintains one or more routing tables. From the routing tables, the Routing Engine derives a table of active routes, called the forwarding table.

**Options** none—Display the routes in the forwarding table.

detail | extensive | summary—(Optional) Display the specified level of output.

ccc—(Optional) Display the specified circuit cross-connect interface name for entries to match.

destination —(Optional) Display the destination prefix.

family family-name —(Optional) Display routing table entries for the specified family: inet, inet6, iso, mpls.

label label —(Optional) Display route entries for the specified label name.

matching ip\_prefix —(Optional) Display route entries for the specified IP prefix.

multicast—(Optional) Display route entries for multicast routes.

vpn vpn —(Optional) Display route entries for the specified VPN.

**Required Privilege Level** view

- Related Topics**
- Example: Configuring MPLS on EX Series Switches
  - Configuring MPLS on Provider Edge Switches (CLI Procedure)
  - Configuring MPLS on Provider Switches (CLI Procedure)

**List of Sample Output** show route forwarding-table on page 3  
show route forwarding-table summary on page 4  
show route forwarding-table extensive on page 4  
show route forwarding-table ccc on page 5

show route forwarding-table family on page 5  
 show route forwarding-table label on page 6  
 show route forwarding-table matching on page 6  
 show route forwarding-table multicast on page 7

**Output Fields** Table 1 lists the output fields for the `show route forwarding-table` command. Output fields are listed in the approximate order in which they appear. Field names might be abbreviated (as shown in parentheses) when no level of output is specified or when the `detail` keyword is used instead of the `extensive` keyword.

**Table 1: show route forwarding-table Output Fields**

Field Name	Field Description	Level of Output
Routing table	Name of the routing table (for example, inet, inet6, mpls).	All levels
Address family	Address family (for example, IP, IPv6, ISO, MPLS).	All levels
Destination	Destination of the route.	detail, extensive
Route Type (Type)	How the route was placed into the forwarding table. When the <code>detail</code> keyword is used, the route type might be abbreviated (as shown in parentheses): <ul style="list-style-type: none"> <li>■ <code>cloned (clon)</code>—(TCP or multicast only) Cloned route.</li> <li>■ <code>destination (dest)</code>—Remote addresses directly reachable through an interface.</li> <li>■ <code>destination down (iddn)</code>—Destination route for which the interface is unreachable.</li> <li>■ <code>interface cloned (ifcl)</code>—Cloned route for which the interface is unreachable.</li> <li>■ <code>route down (ifdn)</code>—Interface route for which the interface is unreachable.</li> <li>■ <code>ignore (ignr)</code>—Ignore this route.</li> <li>■ <code>interface (intf)</code>—Installed as a result of configuring an interface.</li> <li>■ <code>permanent (perm)</code>—Routes installed by the kernel when the routing table is initialized.</li> <li>■ <code>user</code>—Routes installed by the routing protocol process or as a result of the configuration.</li> </ul>	All levels
Route reference (RtRef)	Number of routes to reference.	detail, extensive
Flags	Route type flags: <ul style="list-style-type: none"> <li>■ <code>none</code>—No flags are enabled.</li> <li>■ <code>accounting</code>—Route has accounting enabled.</li> <li>■ <code>cached</code>—Cache route.</li> <li>■ <code>incoming-iface interface-number</code> —Check against incoming interface.</li> <li>■ <code>prefix load balance</code>—Load balancing is enabled for this prefix.</li> <li>■ <code>sent to PFE</code>—Route has been sent to the Packet Forwarding Engine.</li> <li>■ <code>static</code>—Static route.</li> </ul>	extensive
Nexthop	IP address of the next hop to the destination.	detail, extensive

**Table 1: show route forwarding-table Output Fields** (continued)

Field Name	Field Description	Level of Output
Next hop type (Type)	<p>Next-hop type. When the <b>detail</b> keyword is used, the next-hop type might be abbreviated (as indicated in parentheses):</p> <ul style="list-style-type: none"> <li>■ <b>broadcast (bcst)</b>—Broadcast.</li> <li>■ <b>deny</b>—Deny.</li> <li>■ <b>hold</b>—Next hop is waiting to be resolved into a unicast or multicast type.</li> <li>■ <b>indexed (idxd)</b>—Indexed next hop.</li> <li>■ <b>indirect (indr)</b>—Indirect next hop.</li> <li>■ <b>local (locl)</b>—Local address on an interface.</li> <li>■ <b>routed multicast (mcrst)</b>—Regular multicast next hop</li> <li>■ <b>multicast (mcst)</b>—Wire multicast next hop (limited to the LAN).</li> <li>■ <b>multicast discard (mdsc)</b>—Multicast discard.</li> <li>■ <b>multicast group (mgrp)</b> —Multicast group member.</li> <li>■ <b>receive (recv)</b>—Receive.</li> <li>■ <b>reject (rjct)</b> Discard. An ICMP unreachable message was sent.</li> <li>■ <b>resolve (rslv)</b>—Resolving the next hop.</li> <li>■ <b>unicast (ucst)</b>—Unicast.</li> <li>■ <b>unilist (ulst)</b>—List of unicast next hops. A packet sent to this next hop goes to any next hop in the list.</li> </ul>	detail, extensive
Index	Software index of the next hop that is used to route the traffic for a given prefix.	detail, extensive none
Route interface-index	Logical interface index from which the route is learned. For example, for interface routes, this is the logical interface index of the route itself. For static routes, this field is zero. For routes learned through routing protocols, this is the logical interface index from which the route is learned.	extensive
Reference (NhRef)	Number of routes that refer to this next hop.	none detail, extensive
Next-hop interface (Netif)	Interface used to reach the next hop.	none detail, extensive
Alternate forward nh index	Index number of the alternate next hop interface. Seen with <b>multicast</b> option only.	extensive
Next-hop L3 Interface	The next hop layer 3 interface. This option can be expressed as a VLAN name and is only seen with the <b>multicast</b> option.	extensive
Next-hop L2 Interfaces	The next hop layer 2 interfaces. Seen with <b>multicast</b> option only.	extensive

```

show route forwarding-table      user@switch> show route forwarding-table

Routing table: default.inet
Internet:
Destination      Type RtRef Next hop          Type Index NhRef Netif
default          user   2 0:12:f2:21:cf:0   ucst   333   5 me0.0
default          perm   0                      rjct   36    2
0.0.0.0/32       perm   0                      dscd   34    1

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2.2.2.0/24	intf	0	rslv	1309	1 ae0.0
2.2.2.0/32	dest	0 2.2.2.0	recv	1307	1 ae0.0
2.2.2.1/32	dest	0 0:21:59:cc:89:c0	ucst	1320	1 ae0.0
2.2.2.2/32	intf	0 2.2.2.2	loc1	1308	2
2.2.2.2/32	dest	0 2.2.2.2	loc1	1308	2
2.2.2.255/32	dest	0 2.2.2.255	bcst	1306	1 ae0.0
3.3.3.0/24	intf	0	rslv	1313	1 ae1.0
3.3.3.0/32	dest	0 3.3.3.0	recv	1311	1 ae1.0
3.3.3.1/32	intf	0 3.3.3.1	loc1	1312	2
3.3.3.1/32	dest	0 3.3.3.1	loc1	1312	2
3.3.3.2/32	dest	0 0:21:59:cc:89:c1	ucst	1321	24 ae1.0
3.3.3.255/32	dest	0 3.3.3.255	bcst	1310	1 ae1.0
4.4.4.0/24	user	0 3.3.3.2	ucst	1321	24 ae1.0
8.8.8.8/32	user	0 3.3.3.2	ucst	1321	24 ae1.0
9.9.9.9/32	intf	0 9.9.9.9	loc1	1280	1
10.10.10.10/32	user	0 3.3.3.2	ucst	1321	24 ae1.0
10.93.8.0/21	intf	0	rslv	323	1 me0.0
10.93.8.0/32	dest	0 10.93.8.0	recv	321	1 me0.0
10.93.13.238/32	intf	0 10.93.13.238	loc1	322	2
10.93.13.238/32	dest	0 10.93.13.238	loc1	322	2
10.93.15.254/32	dest	0 0:12:f2:21:cf:0	ucst	333	5 me0.0
10.93.15.255/32	dest	0 10.93.15.255	bcst	320	1 me0.0
14.14.14.0/24	ifdn	0	rslv	1319	1 ge-0/0/25.0
14.14.14.0/32	iddn	0 14.14.14.0	recv	1317	1 ge-0/0/25.0
14.14.14.2/32	user	0	rjct	36	2
14.14.14.2/32	intf	0 14.14.14.2	loc1	1318	2
14.14.14.2/32	iddn	0 14.14.14.2	loc1	1318	2
14.14.14.255/32	iddn	0 14.14.14.255	bcst	1316	1 ge-0/0/25.0
224.0.0.0/4	perm	1	mdsc	35	1
224.0.0.1/32	perm	0 224.0.0.1	mcst	31	3
224.0.0.5/32	user	1 224.0.0.5	mcst	31	3
255.255.255.255/32	perm	0	bcst	32	1

**show route forwarding-table summary** user@switch> **show route forwarding-table summary**

Routing table: default.inet  
Internet:  
user: 6 routes  
perm: 5 routes  
intf: 8 routes  
dest: 12 routes  
ifdn: 1 routes  
iddn: 3 routes

**show route forwarding-table extensive** user@switch> **show route forwarding-table summary**

Routing table: default.inet [Index 0]  
Internet:  
  
Destination: default  
Route type: user  
Route reference: 2  
Flags: sent to PFE, rt nh decoupled  
Nexthop: 0:12:f2:21:cf:0  
Next-hop type: unicast  
Next-hop interface: me0.0  
Route interface-index: 0  
Index: 333 Reference: 5  
  
Destination: default  
Route type: permanent  
Route reference: 0  
Flags: none  
Route interface-index: 0

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Next-hop type: reject                                Index: 36      Reference: 2

Destination: 0.0.0.0/32
Route type: permanent
Route reference: 0                                Route interface-index: 0
Flags: sent to PFE
Next-hop type: discard                            Index: 34      Reference: 1

Destination: 2.2.2.0/24
Route type: interface
Route reference: 0                                Route interface-index: 66
Flags: sent to PFE
Next-hop type: resolve                            Index: 1309    Reference: 1
Next-hop interface: ae0.0

Destination: 2.2.2.0/32
Route type: destination
Route reference: 0                                Route interface-index: 66
Flags: sent to PFE
Nexthop: 2.2.2.0
Next-hop type: receive                            Index: 1307    Reference: 1
Next-hop interface: ae0.0

Destination: 2.2.2.1/32
Route type: destination
Route reference: 0                                Route interface-index: 66
Flags: sent to PFE
Nexthop: 0:21:59:cc:89:c0
Next-hop type: unicast                            Index: 1320    Reference: 1
Next-hop interface: ae0.0

Destination: 2.2.2.2/32
Route type: interface
Route reference: 0                                Route interface-index: 0
Flags: sent to PFE
Nexthop: 2.2.2.2
Next-hop type: local                              Index: 1308    Reference: 2

Destination: 2.2.2.2/32
Route type: destination
Route reference: 0                                Route interface-index: 66
Flags: none
Nexthop: 2.2.2.2
Next-hop type: local                              Index: 1308    Reference: 2

Destination: 2.2.2.255/32
Route type: destination
Route reference: 0                                Route interface-index: 66
Flags: sent to PFE
Nexthop: 2.2.2.255
Next-hop type: broadcast                          Index: 1306    Reference: 1
Next-hop interface: ae0.0

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**show route  
forwarding-table ccc**

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user@switch> show route forwarding-table ccc ge-0/0/0.10
Routing table: default.mpls
MPLS:
Destination      Type RtRef Next hop      Type Index NhRef Netif
ge-0/0/0.10  (CCC) user    0 3.3.3.2      Push 300112 1343    2 ae1.0

```

**show route  
forwarding-table family**

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user@switch> show route forwarding-table family mpls

```

Routing table: default.mpls

MPLS:

Destination	Type	RtRef	Next hop	Type	Index	NhRef	Netif
default	perm	0		dscd	50	1	
0	user	0		recv	49	3	
1	user	0		recv	49	3	
2	user	0		recv	49	3	
299776	user	0		Pop	1334	2	ge-0/0/0.10
299792	user	0		Pop	1339	2	ge-0/0/0.14
299808	user	0		Pop	1341	2	ge-0/0/0.2
299824	user	0		Pop	1344	2	ge-0/0/0.11
299840	user	0		Pop	1345	2	ge-0/0/0.13
299856	user	0		Pop	1346	2	ge-0/0/0.18
299872	user	0		Pop	1347	2	ge-0/0/0.16
299888	user	0		Pop	1348	2	ge-0/0/0.7
299904	user	0		Pop	1349	2	ge-0/0/0.20
299920	user	0		Pop	1350	2	ge-0/0/0.19
299936	user	0		Pop	1351	2	ge-0/0/0.17
299952	user	0		Pop	1352	2	ge-0/0/0.9
299968	user	0		Pop	1353	2	ge-0/0/0.1
299984	user	0		Pop	1354	2	ge-0/0/0.12
300000	user	0		Pop	1355	2	ge-0/0/0.8
300016	user	0		Pop	1356	2	ge-0/0/0.4
300032	user	0		Pop	1357	2	ge-0/0/0.5
300048	user	0		Pop	1358	2	ge-0/0/0.3
300064	user	0		Pop	1359	2	ge-0/0/0.15
ge-0/0/0.1 (CCC)	user	0	3.3.3.2	Push	300064	1340	2 ae1.0
ge-0/0/0.2 (CCC)	user	0	3.3.3.2	Push	299872	1328	2 ae1.0
ge-0/0/0.3 (CCC)	user	0	3.3.3.2	Push	299792	1323	2 ae1.0
ge-0/0/0.4 (CCC)	user	0	3.3.3.2	Push	300016	1337	2 ae1.0
ge-0/0/0.5 (CCC)	user	0	3.3.3.2	Push	299824	1325	2 ae1.0
ge-0/0/0.7 (CCC)	user	0	3.3.3.2	Push	299920	1331	2 ae1.0
ge-0/0/0.8 (CCC)	user	0	3.3.3.2	Push	299840	1326	2 ae1.0
ge-0/0/0.9 (CCC)	user	0	3.3.3.2	Push	299888	1329	2 ae1.0
ge-0/0/0.10 (CCC)	user	0	3.3.3.2	Push	300112	1343	2 ae1.0
ge-0/0/0.11 (CCC)	user	0	3.3.3.2	Push	299776	1322	2 ae1.0
ge-0/0/0.12 (CCC)	user	0	3.3.3.2	Push	299952	1333	2 ae1.0
ge-0/0/0.13 (CCC)	user	0	3.3.3.2	Push	300096	1342	2 ae1.0
ge-0/0/0.14 (CCC)	user	0	3.3.3.2	Push	299984	1335	2 ae1.0
ge-0/0/0.15 (CCC)	user	0	3.3.3.2	Push	299936	1332	2 ae1.0
ge-0/0/0.16 (CCC)	user	0	3.3.3.2	Push	299808	1324	2 ae1.0
ge-0/0/0.17 (CCC)	user	0	3.3.3.2	Push	300000	1336	2 ae1.0
ge-0/0/0.18 (CCC)	user	0	3.3.3.2	Push	300032	1338	2 ae1.0
ge-0/0/0.19 (CCC)	user	0	3.3.3.2	Push	299904	1330	2 ae1.0
ge-0/0/0.20 (CCC)	user	0	3.3.3.2	Push	299856	1327	2 ae1.0

**show route forwarding-table label** user@switch> **show route forwarding-table label 29976**

Routing table: default.mpls

MPLS:

Destination	Type	RtRef	Next hop	Type	Index	NhRef	Netif
299776	user	0		Pop	1334	2	ge-0/0/0.10

**show route forwarding-table matching** user@switch> **show route forwarding-table matching 3**

Routing table: default.inet

Internet:

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show route forwarding-table multicast
user@switch> show route forwarding-table multicast

Routing table: default.inet
Internet:
Destination      Type RtRef Next hop      Type Index NhRef Netif
224.0.0.0/4      perm  1         224.0.0.1      mdsc  35    1
224.0.0.1/32     perm  0 224.0.0.1      mcst  31    3
224.0.0.5/32     user  1 224.0.0.5      mcst  31    3

Routing table: __master.anon__.inet
Internet:
Destination      Type RtRef Next hop      Type Index NhRef Netif
224.0.0.0/4      perm  0         224.0.0.1      mdsc 1289   1
224.0.0.1/32     perm  0 224.0.0.1      mcst 1285   1

Routing table: default.inet6
Internet6:
Destination      Type RtRef Next hop      Type Index NhRef Netif
ff00::/8         perm  0         ff02::1        mdsc  43    1
ff02::1/128      perm  0 ff02::1        mcst  39    1

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