FS.COM

FiberstoreOS

VPN Command Line Reference

Contents

1 VRF Commands

1.1 ip vrf

To configure a VPN routing and forwarding (VRF) routing table, use the ip vrf command in global configuration mode. To remove a VRF routing table, use the no form of this command.

Command Syntax

ip vrf *VRF-NAME*

no ip vrf *VRF-NAME*

VRF-NAME	VPN Routing/Forwarding instance name

Command Mode

Global Configuration

Default

None

Usage

None

Examples

```
Switch(config)# ip vrf ComA
Switch(config-vrf)# route-target both 100:2
Switch(config-vrf)# route-target import 200:1
```

Related Commands

ip vrf forwarding

1.2 show ip vrf

To show the set of defined VRFs and assocaited interfaces, use the show ip vrf command in Privileged EXEC mode.

Command Syntax

show ip vrf (bgp (brief | detail) | interfaces | ospf | rip | *VRF-NAME*)

bgp	Border Gateway Protocol (BGP)
interfaces	Show VPN Routing/Forwarding interface information

ospf	Open Shortest Path First (OSPF)
rip	Routing Information Protocol (RIP)
VRF-NAME	VPN Routing/Forwarding instance name
brief	Brief VPN Routing/Forwarding instance information
detail	Detailed VPN Routing/Forwarding instance information

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

```
Switch# show ip vrf
```

Related Commands

None

1.3 ip vrf forwarding

To associate a VPN routing and forwarding (VRF) instance with an Layer3 interface, use the ip vrf forwarding command in interface configuration mode. To disassociate a VRF, use the no form of this command.

Command Syntax

ip vrf forwarding *VRF-NAME*

no ip vrf forwarding *VRF-NAME*

VRF-NAME	VPN Routing/Forwarding instance name

Command Mode

Interface configuration

Default

None

Usage

Executing this command on an interface removes the IP address on this interface, The IP address should be reconfigured.

Examples

```
Switch# configure terminal
Switch(config)# ip vrf ComA
```

```
Switch(config-vrf)# exit
Switch(config)# interface eth-0-1
Switch(config-if)# no switchport
Switch(config-if)# ip vrf forwarding ComA
```

Related Commands

ip vrf

ip route vrf

1.4 ip route vrf

To establish static routes for a VPN routing and forwarding (VRF) instance, use the ip route vrf command in global configuration mode. To disable static routes, use the no form of this command.

Command Syntax

ip route vrf VRF-NAME DST_NET NH_ADDR

no ip route vrf VRF-NAME DST_NET NH_ADDR

VRF-NAME	VPN Routing/Forwarding instance name
DST_NET	Destination IP subnet, the format can be target IP address with masklen(A.B.C.D/M) or target IP addres with netmask (A.B.C.D A.B.C.D)
NH_ADDR	Next-hop IP address, the format should be A.B.C.D

Command Mode

Global Configuration

Default

None

Usage

None

Examples

```
Switch(config)# ip route vrf VPN-NAME 2.2.2.0/24 1.1.1.2
```

Related Commands

show ip route vrf

clear ip route vrf

1.5 arp vrf

To add a permanent entry in the Address Resolution Protocol (ARP) cache for VRF, use the arp vrf command in global configuration mode. To remove an entry from VRF ARP cache, enter the no form of this command.

Command Syntax

arp vrf VRF_NAME A.B.C.D MAC

no arp vrf VRF_NAME A.B.C.D

VRF-NAME	VPN Routing/Forwarding instance name
A.B.C.D	IP address of the ARP entry
MAC	Hardware address of the ARP entry in HHHH.HHHH.HHHH format

Command Mode

Global Configuration

Default

None

Usage

None

Examples

```
Switch# configure terminal
Switch(config)# arp vrf vpn3 1.1.1.1 0000.1111.2222
```

Related Commands

show ip arp vrf *VRF-NAME*

clear ip arp vrf *VRF-NAME A.B.C.D*

1.6 show ip arp vrf

Use this command to show arp entry in VRF instance.

Command Syntax

show ip arp vrf *VRF-NAME*

VRF-NAME	VPN Routing/Forwarding instance name

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to display all arp entry in the arp table of the VRF.

```
Swith# show ip arp vrf ComA
 Protocol   Address        Age (min)  Hardware Addr   Interface
 Internet   1.1.1.1              -   0000.1111.2222
```

Related Commands

arp vrf

1.7 clear ip arp vrf

Use this command to refresh a specific dynamic ARP entry from ARP cache for the VRF.

Command Syntax

clear ip arp vrf VRF-NAME A.B.C.D

VRF-NAME	VPN Routing/Forwarding instance name
A.B.C.D	Dynamic learned ARP entry IP address

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This example shows how to refresh a dynamic arp entry in VRF.

```
Switch(config)# clear ip arp vrf ComA 1.1.1.1
```

Related Commands

arp vrf

1.8 ping vrf

Use this command to ping address in VRF.

Command Syntax

ping vrf VRF-NAME WORD

VRF-NAME	VPN Routing/Forwarding instance name
WORD	Ping destination address or hostname

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

```
Switch# ping vrf vpn 1.1.1.1
PING 1.1.1.1 (1.1.1.1) 56(84) bytes of data.
64 bytes from 1.1.1.1: icmp_seq=0 ttl=64 time=0.114 ms
64 bytes from 1.1.1.1: icmp_seq=1 ttl=64 time=0.087 ms
64 bytes from 1.1.1.1: icmp_seq=2 ttl=64 time=0.087 ms
64 bytes from 1.1.1.1: icmp_seq=3 ttl=64 time=0.097 ms
64 bytes from 1.1.1.1: icmp_seq=4 ttl=64 time=0.133 ms

--- 1.1.1.1 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4041ms
rtt min/avg/max/mdev = 0.087/0.103/0.133/0.020 ms, pipe 2
```

Related Commands

None

1.9 traceroute vrf

Use this command to trace route in VRF.

Command Syntax

traceroute vrf *VRF-NAME WORD*

VRF-NAME	VPN Routing/Forwarding instance name
WORD	Trace route destination address or hostname

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

```
Switch# traceroute vrf vpn 1.1.1.1
traceroute to 1.1.1.1 (1.1.1.1), 30 hops max, 38 byte packets
 1  1.1.1.1 (1.1.1.1)  0.222 ms  0.169 ms  0.169 ms
```

Related Commands

None

1.10 telnet vrf

Use this command to telnet in VRF.

Command Syntax

telnet vrf VRF-NAME WORD

VRF-NAME	VPN Routing/Forwarding instance name
WORD	The destination address or hostname for telnet

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

```
Switch# telnet vrf vpn 9.9.9.2
Trying 9.9.9.2...
Connected to 9.9.9.2.
Escape character is '^]'.
Fedora Core release 4 (Stentz)
Kernel 2.6.32.23 on an i686
login: root
Password:
```

Related Commands

None

1.11 rd

Use this command to set route distinguisher.

Command Syntax

rd RD-VALUE

RD-VALUE	Route distinguisher value. *ASN:nn* or *IP-address:nn*

Command Mode

VRF Mode

Default

None

Usage

None

Examples

```
Switch(config-vrf)# rd 1.1.1.1:1
```

Related Commands

None

1.12 route-target

Use this command to set route target.

Command Syntax

route-target (both | export | import) *RT-VALUE*

both	Import and export
export	Export
import	Import
RT-VALUE	Route-target value. *ASN:nn* or *IP-address:nn*

Command Mode

VRF Mode

Default

None

Usage

None

Examples

Switch(config-vrf)# route-target import 100:1

Related Commands

None

1.13 import map

Use this command to set import map.

Command Syntax

import map *WORD*

WORD	Pointer to route-map entries

Command Mode

VRF Mode

Default

None

Usage

None

Examples

Switch(config-vrf)# import map 100

Related Commands

export map

1.14 export map

Use this command to set export map.

Command Syntax

export map *WORD*

WORD	Pointer to route-map entries

Command Mode

VRF Mode

Default

None

Usage

None

Examples

Switch(config-vrf)# export map 100

Related Commands

import map

1.15 router-id

Use this command to set router-id.

Command Syntax

router-id *A.B.C.D*

A.B.C.D	Router identifier in IP address format

Command Mode

VRF Mode

Default

None

Usage

None

Examples

```
Switch(config-vrf)# router-id 1.1.1.1
```

Related Commands

show ip vrf

1.16 description

Use this command to specific VRF description.

Command Syntax

description *LINE*

LINE	Characters describing this VRF, the name length should be no more than 20

Command Mode

VRF Mode

Default

None

Usage

None

Examples

Switch(config-vrf)# description VrfName1

Related Commands

show ip vrf

1.17 clear ip route vrf static

Use this command to clear static routes VPN Routing/Forwarding instance.

Command Syntax

clear ip route vrf *VRF-NAME* static

VRF-NAME	VPN Routing/Forwarding instance name

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

```
Switch# clear ip route vrf 100 static
```

Related Commands

ip route vrf

1.18 ip route vrf

To add a vrf route, use the ip route vrf command in global configuration mode. To remove a vrf route, use the no form of this command.

Command Syntax

ip route vrf VRFNAME A.B.C.D/M **peer-group** PEERNAME

no ip route vrf *VRFNAME A.B.C.D/M* [**peer-group** *PEERNAME*]

VRFNAME	The name of the VRF to be added.
A.B.C.D/M	The route to be added in the vrf.
PEERNAME	The name of the peer-group as the nexthop for the route.

Command Mode

Global Configuration Mode

Default

None

Usage

None

Examples

```
DUT1(config)# ip route vrf vrf1 2.2.2.2/24 peer-group p1
DUT1(config)#
```

1.19 ip mroute vrf peer-group

To add a vrf mroute to peer-group, use the **ip mroute vrf c**ommand in global configuration mode. To remove a vrf mroute, use the no form of this command.

Command Syntax

ip mroute vrf *VRFNAME* **group** *A.B.C.D* s**ource** *A.B.C.D* **peer-group** *PEERNAME*

no ip mroute vrf *VRFNAME* **group** *A.B.C.D* **source** *A.B.C.D* **peer-group** *PEERNAME*

VRFNAME	The name of the VRF to be added.
A.B.C.D	The source and group to be added in the vrf.
PEERNAME	The name of the peer-group to be send to.

Command Mode

Global Configuration Mode

Default

None

Usage

None

Examples

```
DUT1(config)# ip mroute vrf vrf1 group 224.1.1.1 source 1.1.1.1 peer-group p1
DUT1(config)#
```

1.20 ip mroute vrf interface

To add a vrf mroute to interface, use the ip mroute vrf command in global configuration mode. To remove a vrf mroute, use the no form of this command.

Command Syntax

(no) ip mroute vrf VRFNAME **group** A.B.C.D **source** A.B.C.D **interface** (IFPHYSICAL|IFAGG)

(no) ip mroute vrf VRFNAME **group** A.B.C.D **source** A.B.C.D **interface** IFVLAN **port** (IFPHYSICAL|IFAGG)

VRFNAME	The name of the VRF to be added.
A.B.C.D	The source and group to be added in the vrf.
IFPHYSICAL	The name of the physical interface to be sent to.
IFAGG	The name of the agg interface to be sent to.
IFVLAN	The name of the vlan interface to be sent to.

Command Mode

Global Configuration Mode

Default

None

Usage

None

Examples

```
DUT1(config)# ip mroute vrf vrf1 group 224.1.1.1 source 1.1.1.1 interface eth-0-1
DUT1(config)# ip mroute vrf vrf1 group 224.1.1.1 source 1.1.1.1 interface agg2
DUT1(config)# ip mroute vrf vrf1 group 224.1.1.1 source 1.1.1.1 interface vlan10 port
eth-0-3
DUT1(config)# ip mroute vrf vrf1 group 224.1.1.1 source 1.1.1.1 interface vlan10 port
agg3
DUT1(config)#
```