



High Availability Commands on the Virtual Firewall

This module describes the commands necessary to configure redundant multiservice blade (MSB) modules to provide high-availability (HA) capability for the VFW feature.



Note

The commands described in this module are SanOS (Linux) commands used on the VFW application. Before you can access any of these commands, you must attach from the route processor to the VFW application using the **service firewall attach location** command. For more information, see the “[Attaching to the VFW Application](#)” section in *Cisco IOS XR Virtual Firewall Configuration Guide*.

associate-context

To associate a context with a fault-tolerant (FT) group, use the **associate-context** command in FT group configuration mode. To remove a context from an FT group, use the **no** form of this command.

associate-context *name*

no associate-context *name*

Syntax Description	<i>name</i>	Identifier of the context that you want to associate with the FT group. Enter an unquoted text string with no spaces and a maximum of 64 alphanumeric characters.
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Defaults	No default behavior or values
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Command Modes	FT group configuration Admin context only
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Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines	<p>This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the “Configuring Virtualization on the Virtual Firewall” module in <i>Cisco IOS XR Virtual Firewall Configuration Guide</i>.</p>
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The **associate-context** command can be used in the Admin context only.

Use the **associate-context** command to associate a context with an FT group. You need to make this association for each of the two redundant contexts in an FT group.

Before you can remove a context from an FT group, you must first take the group out of service using the **no inservice** command.

Examples	The following example shows how to associate a context with an FT group:
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```
firewall/Admin(config-ft-group)# associate-context C1
```

Related Commands	
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Command	Description
<code>context</code>	Creates a context.
<code>show ft group</code>	Displays the FT or redundancy statistics per context.

clear ft

To clear the fault-tolerant (FT) statistics or history, use the **clear ft** command in EXEC mode.

```
clear ft {history {cfg_cntlr | ha_dp_mgr | ha_mgr} | stats}
```

Syntax Description

history	Clears the fault-tolerant history.
cfg_cntlr	Clears the configuration controller debug history.
ha_dp_mgr	Clears the HA DP manager debug history.
ha_mgr	Clears the HA manager debug history.
stats	Clears the fault-tolerant statistics.

Defaults

No default behavior or values

Command Modes

EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
Release 3.6.0	No modification.
Release 3.7.0	No modification.

Usage Guidelines

This command requires the fault-tolerant feature in your user role. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

Examples

The following example shows how to clear the fault-tolerant statistics:

```
firewall/Admin# clear ft stats
```

Related Commands

Command	Description
ft auto-sync	Enables automatic synchronization of the running-configuration and startup-configuration files in a redundancy configuration.
ft group	Creates a fault-tolerant (FT) group for redundancy.
ft peer	Configures an FT peer and enters FT peer configuration mode.
show ft group	Displays the FT or redundancy statistics per context.

ft auto-sync

To enable automatic synchronization of the running-configuration and the startup-configuration files in a redundancy configuration, use the **ft auto-sync** command in configuration mode. To disable the automatic synchronization of the running-configuration file or the startup-configuration file, use the **no** form of this command.

```
ft auto-sync {running-config | startup-config}
```

```
no ft auto-sync {running-config | startup-config}
```

Syntax Description		
	running-config	Enables autosynchronization of the running-configuration file. The default is enabled.
	startup-config	Enables autosynchronization of the startup-configuration file. The default is disabled.

Defaults

The VFW application automatically updates the running configuration on the standby context of an FT group with any changes that occur to the running configuration of the active context.

Command Modes

Configuration

Command History

Release	Modification
Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
Release 3.6.0	No modification.
Release 3.7.0	No modification.

Usage Guidelines

This command requires the fault-tolerant feature in your user role. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

By default, the VFW application automatically updates the running configuration on the standby context of an FT group with any changes that occur to the running configuration of the active context. If you disable the **ft auto-sync** command, you need to update the configuration of the standby context manually. For more information about configuration synchronization and configuring redundancy, see *Cisco IOS XR Virtual Firewall Configuration Guide*.



Caution

toggling the **ft auto-sync running-config** command in the Admin context may have undesirable side effects if the same command is also disabled in an active user context. If the **ft auto-sync running-config** command is disabled in the active Admin context and in an active user context, and you subsequently enable the **ft auto-sync running-config** command in the active Admin context first, the entire configuration of the standby user context is lost. Always enable the **ft auto-sync running-config** command in the active user context first, then enable the command in the active Admin context.

Examples

The following example shows how to enable autosynchronization of the running-configuration file in the C1 context:

```
firewall/C1(config)# ft auto-sync running-config
```

Related Commands

Command	Description
ft group	Creates a fault-tolerant (FT) group for redundancy.
ft interface	Creates an FT interface and enters FT interface configuration mode.
ft peer	Configures an FT peer and enters FT peer configuration mode.

ft group

To create a fault-tolerant (FT) group for redundancy, use the **ft group** command in configuration mode. To remove an FT group from the configuration, use the **no** form of this command.

```
ft group group_id
```

```
no ft group group_id
```

Syntax Description	
<i>group-id</i>	Unique identifier of the FT group. Enter an integer from 1 to 255.

Defaults	
	No default behavior or values

Command Modes	
	Configuration Admin context only

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines	
	This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the “Configuring Virtualization on the Virtual Firewall” module in <i>Cisco IOS XR Virtual Firewall Configuration Guide</i> .

The **ft group** command can be used in the Admin context only.

You must configure the same group ID on both peer modules.

On each VFW application, you can create multiple FT groups, up to a maximum of 256 groups. Each group consists of a maximum of two members (contexts): one active context on one module and one standby context on the peer module.

Examples	
	The following example shows how to configure a fault-tolerant group:

```
firewall/Admin(config)# ft group 1
firewall/Admin(config-ft-group)#
```

Related Commands	

Command	Description
ft auto-sync	Enables automatic synchronization of the running-configuration and startup-configuration files in a redundancy configuration.
ft interface	Creates an FT interface and enters FT interface configuration mode.
ft peer	Configures an FT peer and enters FT peer configuration mode.
inservice	Places an FT group in service.
peer	Associates a peer VFW application with an FT group.

ft interface

To create a fault-tolerant (FT) interface and access FT interface configuration mode, use the **ft interface** command in configuration mode. To remove an FT interface from the redundancy configuration, use the **no** form of this command.

ft interface *interface_name*

no ft interface *interface_name*

Syntax Description	<i>interface_name</i>	Identifier of an existing interface that you want to use as the FT interface.
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Defaults	No default behavior or values
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Command Modes	Configuration Admin context only
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Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines	This command requires the System feature in your user role. For details about role-based access control (RBAC) and user roles, see the “Configuring Virtualization on the Virtual Firewall” module in <i>Cisco IOS XR Virtual Firewall Configuration Guide</i> .
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The **ft interface** command can be used in the Admin context only.

To remove an FT interface from the redundancy configuration, first dissociate it from the FT peer using the **no** form of the **ft-interface** command. Then, use the **no ft interface** command in configuration mode.

Examples	The following example shows how to configure an FT interface and access FT group configuration mode:
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```
firewall/Admin(config)# ft interface xyz
firewall/Admin(config-ft-intf)#
```

The following example shows how to delete the FT interface configuration:

```
firewall/Admin(config)# no ft interface xyz
```

Related Commands	Command	Description
	show ft group	Displays the FT or redundancy statistics per context.
	show interface	Displays the interface information.
	show running-config	Displays the running configuration information associated with the current context.

ft-interface

To associate an existing fault-tolerant (FT) interface with a peer, use the **ft-interface** command in FT peer configuration mode. To remove the FT interface from the peer configuration, use the **no** form of this command.

ft-interface *interface_name*

no ft-interface *interface_name*

Syntax Description

<i>interface_name</i>	Identifier of an existing interface.
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Defaults

No default behavior or values

Command Modes

FT peer configuration
Admin context only

Command History

Release	Modification
Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
Release 3.6.0	No modification.
Release 3.7.0	No modification.

Usage Guidelines

This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

The **ft-interface** command can be used in the Admin context only.

Examples

The following example shows how to associate an existing FT interface with a peer:

```
firewall/Admin(config)# ft peer 1
firewall/Admin(config-ft-peer)# ft-interface xyz
```

Related Commands

Command	Description
ft peer	Configures an FT peer and enters FT peer configuration mode.
show ft group	Displays the FT or redundancy statistics per context.

ft peer

To configure a fault-tolerant (FT) peer and access FT peer configuration mode, use the **ft peer** command in configuration mode. To remove an FT group from the configuration, use the **no** form of this command.

```
ft peer peer_id
```

```
no ft peer peer_id
```

Syntax Description	peer_id	Unique identifier of the FT peer. Enter 1.
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Defaults	No default behavior or values
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Command Modes	Configuration Admin context only
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Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines	This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the “Configuring Virtualization on the Virtual Firewall” module in <i>Cisco IOS XR Virtual Firewall Configuration Guide</i> .
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The **ft peer** command can be used in the Admin context only.

Examples	The following example shows how to configure an FT peer and access FT peer configuration mode:
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```
firewall/Admin(config)# ft peer 1
firewall/Admin(config-ft-peer)#
```

Related Commands	Command	Description
	ft-interface	Associates an existing FT interface with a peer.
	heartbeat	Configures the heartbeat interval and count for verification timing between active and standby FT peers.
	show ft group	Displays the FT or redundancy statistics per context.
	show running-config	Displays the running configuration information associated with the current context.

ft switchover

To purposely cause a switchover, perhaps to make a particular context active, use the **ft switchover** command in EXEC mode.

```
ft switchover [force | group_id]
```

Syntax Description	force	(Optional) Causes a switchover while ignoring the state of the standby member. Use this keyword only when the FT interface is down.
	group_id	(Optional) Identifier of the FT group. Enter the ID of an existing FT group as an integer from 1 to 255.

Defaults No default behavior or values

Command Modes EXEC

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines This command requires the fault-tolerant feature in your user role. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

By using the **ft switchover** command, you direct the standby group member to statefully become the active member of the FT (fault-tolerant) group, thereby causing the switchover.

You may need to cause a switchover when you want to make a particular context the standby (for example, for maintenance or a software upgrade on the currently active context). If the standby group member can statefully becoming the active member of the FT group, a switchover occurs. You must configure **no preempt** to use this command. (Use the **preempt** command in FT group configuration mode.)

The **ft switchover** command exhibits the following behavior, depending on whether you enter the command from the Admin context or a user context:

- Admin context—If you specify an FT group ID, then the FT group specified by the group ID switches over. If you do not specify a group ID, then the Admin context switches over.
- User context—Because you cannot specify an FT group ID in a user context, the context in which you enter the command switches over.

ft switchover**Examples**

The following example shows how to cause a switchover from the active module to the standby module of FT group1:

```
firewall/Admin# ft switchover 1
```

Related Commands

Command	Description
preempt	Configures preemption after it has been disabled.

heartbeat

To configure the heartbeat interval and count for verification timing between active and standby fault-tolerant (FT) peers, use the **heartbeat** command in FT peer configuration mode. To remove the FT interface from the peer configuration, use the **no** form of this command.

heartbeat {*count number* | *interval frequency*}

no heartbeat {*count number* | *interval frequency*}

Syntax Description

count <i>number</i>	Specifies the number of heartbeat intervals that must transpire with no heartbeat packet received by the standby member, before the standby member determines that the active member is not available. Enter an integer from 10 to 50. The default is 10 heartbeat intervals.
interval <i>frequency</i>	Specifies the time period between heartbeats in milliseconds (ms). Enter an integer from 100 to 1000 ms. The default is 300 ms.

Defaults

No default behavior or values

Command Modes

FT peer configuration
Admin context only

Command History

Release	Modification
Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
Release 3.6.0	No modification.
Release 3.7.0	No modification.

Usage Guidelines

This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

The **heartbeat** command can be used in the Admin context only.

If the standby member of the FT group does not receive a heartbeat packet from the active member, a time period equal to **count number** times **interval frequency** must elapse before a switchover can occur.

Examples

The following example shows how to set a heartbeat count of 20:

```
firewall/Admin(config)# ft peer 1
firewall/Admin(config-ft-peer)# heartbeat count 20
```

The following example shows how to set a heartbeat interval of 200 milliseconds:

```
firewall/Admin(config-ft-peer)# heartbeat interval 200
```

Related Commands	Command	Description
	ft peer	Configures an FT peer and enters FT peer configuration mode.
	show ft group	Displays the FT or redundancy statistics per context.

inservice

To place a fault-tolerant (FT) group in service, use the **inservice** command in FT group configuration mode. To take the FT group out of service, use the **no** form of this command.

inservice

no inservice

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values

Command Modes FT group configuration
Admin context only

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the “[Configuring Virtualization on the Virtual Firewall](#)” module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

The **inservice** command can be used in the Admin context only.

Before you place an FT group in service, be sure that you have associated one or two contexts with the FT group and have properly configured the two peers.

Examples The following example shows how to place an FT group in service:

```
firewall/Admin(config)# ft group 1
firewall/Admin(config-ft-group)# inservice
```

Related Commands	Command	Description
	ft group	Creates a fault-tolerant (FT) group for redundancy.

peer

To associate a peer VFW application with a fault-tolerant (FT) group, use the **peer** command in FT group configuration mode. To remove the peer association with the FT group, use the **no** form of this command.

```
peer peer_id
```

```
no peer peer_id
```

Syntax Description	peer_id	Identifier of an existing peer module. Enter 1 for the peer ID.
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Defaults	No default behavior or values
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Command Modes	FT group configuration Admin context only
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Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines	This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the “Configuring Virtualization on the Virtual Firewall” module in <i>Cisco IOS XR Virtual Firewall Configuration Guide</i> .
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The peer designation is used to denote the remote standby member of the FT group. A context in a redundant configuration can have only one peer context.

The **peer** command can be used in the Admin context only.

Examples	The following example shows how to associate a peer module with an FT group:
----------	--

```
firewall/Admin(config)# ft group 1
firewall/Admin(config-ft-group)# peer 1
```

Related Commands	Command	Description
	ft group	Creates a fault-tolerant (FT) group for redundancy.
	show ft group	Displays the FT or redundancy statistics per context.

peer ip

To configure an IP address for the remote peer to allow the local member of the fault-tolerant (FT) group to communicate with the remote peer, use the **peer ip** command in FT interface configuration mode. To remove the IP address from the peer configuration, use the **no** form of this command.

```
peer ip address ip_address netmask
```

```
no peer ip address ip_address netmask
```

Syntax Description

address ip_address	Specifies the IP address of the remote peer. Enter an IP address in dotted-decimal notation.
netmask	Subnet mask of the remote peer. Enter a subnet mask in dotted-decimal notation.

Defaults

No default behavior or values

Command Modes

FT interface configuration
Admin context only

Command History

Release	Modification
Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
Release 3.6.0	No modification.
Release 3.7.0	This command is available in the Admin context only.

Usage Guidelines

This command requires the system feature in your user role. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

The **peer ip** command can be used in the Admin context only.

Examples

The following example shows how to configure an IP address for the remote peer:

```
firewall/Admin(config-ft-intf)# peer ip address 192.168.12.15 255.255.255.0
```

Related Commands

Command	Description
ip address	Assigns an IP address on a VFW management or fault-tolerant (FT) interface.
show interface	Displays the interface information.

preempt

To configure preemption after it has been disabled, use the **preempt** command in fault-tolerant (FT) group configuration mode. To disable preemption, use the **no** form of this command.

preempt

no preempt

Syntax Description This command has no arguments or keywords.

Defaults Preemption is enabled.

Command Modes FT group configuration
Admin context only

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

The **preempt** command can be used in the Admin context only.

Preemption ensures that the group member with the higher priority always asserts itself and becomes the active member. By default, preemption is enabled.

If you disable preemption and a member with a higher priority is found after the other member has become active, the newly elected member becomes the standby member even though it has a higher priority.

Examples The following example shows how to reenabling preemption after its default setting was disabled:

```
firewall/Admin(config)# ft group 1
firewall/Admin(config-ft-group)# preempt
```

Related Commands	Command	Description
	ft group	Creates a fault-tolerant (FT) group for redundancy.

Command	Description
priority	Configures the priority of the active group members.
show ft group	Displays the FT or redundancy statistics per context.

priority

To configure the priority of the active group member, use the **priority** command in fault-tolerant (FT) group configuration mode. To restore the default priority of 100, use the **no** form of this command.

priority *number*

no priority *number*

Syntax Description	<i>number</i>	Priority number for the active group member. Enter an integer from 1 to 255.
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Defaults	The default priority is 100.
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Command Modes	FT group configuration Admin context only
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Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines	This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the “Configuring Virtualization on the Virtual Firewall” module in <i>Cisco IOS XR Virtual Firewall Configuration Guide</i> .
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The **priority** command can be used in the Admin context only.

You must configure the priority of a group on both peer modules. Configure a higher priority for the group on the module where you want the active member to initially reside.

Examples	The following example shows how to set the priority of the FT group on the active member to a value of 150:
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```
firewall/Admin(config)# ft group 1
firewall/Admin(config-ft-group)# priority 150
```

Related Commands	Command	Description
	ft group	Creates a fault-tolerant (FT) group for redundancy.
	preempt	Configures preemption after it has been disabled.
	show ft group	Displays the FT or redundancy statistics per context.

show ft group

To display the fault-tolerant (FT) or redundancy peer statistics, use the **show ft group** command in EXEC mode.

```
show ft group {[group_id] {detail | status | summary} | brief}
```

Syntax Description	
<i>group-id</i>	(Optional) Unique identifier of the FT group. Enter an integer from 1 to 255.
brief	Displays summary information for all peers.
detail	Displays detailed information for the specified FT group or peer.
status	Displays the current operating status for the specified FT group or peer.
summary	Displays summary information for the specified FT group or peer.

Defaults No default behavior or values

Command Modes EXEC

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines This command has no user role feature restrictions. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

In the Admin context, the **show ft group** command displays statistics for all FT groups in the VFW application. Also, in the Admin context, you can specify an FT group number to display statistics for an individual group. In a user context, this command displays statistics only for the FT group to which the user context belongs.

Examples The following example shows sample output from the **show ft group** command with the **status** keyword:

```
firewall/Admin# show ft group status

FT Group                : 1
Configured Status      : in-service
Maintenance mode       : MAINT_MODE_OFF
My State                : FSM_FT_STATE_ACTIVE
Peer State              : FSM_FT_STATE_STANDBY_HOT
Peer Id                 : 1
No. of Contexts        : 1
```

■ show ft group

```

FT Group                : 2
Configured Status      : in-service
Maintenance mode       : MAINT_MODE_OFF
My State                : FSM_FT_STATE_ACTIVE
Peer State              : FSM_FT_STATE_STANDBY_HOT
Peer Id                 : 1
.
.
.

```

The following example shows sample output from the **show ft group** command for a specific group:

```

firewall/Admin# show ft group 2 status

FT Group                : 2
Configured Status      : in-service
Maintenance mode       : MAINT_MODE_OFF
My State                : FSM_FT_STATE_ACTIVE
Peer State              : FSM_FT_STATE_STANDBY_HOT
Peer Id                 : 1
No. of Contexts        : 1

```

The following example shows sample output from the **show ft group** command with the **summary** keyword:

```

firewall/Admin# show ft group summary

FT Group                : 1
Configured Status      : in-service
Maintenance mode       : MAINT_MODE_OFF
My State                : FSM_FT_STATE_ACTIVE
My Config Priority      : 100
My Net Priority         : 100
My Preempt              : Disabled
Peer State              : FSM_FT_STATE_STANDBY_HOT
Peer Config Priority    : 100
Peer Net Priority       : 100
Peer Preempt            : Disabled
Peer Id                 : 1
No. of Contexts        : 1

FT Group                : 2
Configured Status      : in-service
Maintenance mode       : MAINT_MODE_OFF
My State                : FSM_FT_STATE_ACTIVE
My Config Priority      : 100
My Net Priority         : 100
My Preempt              : Disabled
Peer State              : FSM_FT_STATE_STANDBY_HOT
Peer Config Priority    : 100
Peer Net Priority       : 100
Peer Preempt            : Disabled
Peer Id                 : 1
No. of Contexts        : 1
.
.
.

```

The following example shows sample output from the **show ft group** command with the **brief** keyword:

```

firewall/Admin# show ft group brief

FT Group ID: 1  My State:FSM_FT_STATE_ACTIVE  Peer State:FSM_FT_STATE_STANDBY_HOT
                Context Name: ctx1           Context Id: 1
FT Group ID: 2  My State:FSM_FT_STATE_ACTIVE  Peer State:FSM_FT_STATE_STANDBY_HOT

```

```

Context Name: ctx2      Context Id: 451
FT Group ID: 3  My State:FSM_FT_STATE_INIT  Peer State:FSM_FT_STATE_INIT
Context Name: ctx3      Context Id: 223
FT Group ID: 4  My State:FSM_FT_STATE_INIT  Peer State:FSM_FT_STATE_INIT
Context Name: ctx4      Context Id: 334
FT Group ID: 5  My State:FSM_FT_STATE_INIT  Peer State:FSM_FT_STATE_INIT
Context Name: ctx5      Context Id: 396
FT Group ID: 6  My State:FSM_FT_STATE_INIT  Peer State:FSM_FT_STATE_INIT
Context Name: ctx6      Context Id: 407
FT Group ID: 7  My State:FSM_FT_STATE_INIT  Peer State:FSM_FT_STATE_INIT
Context Name: ctx7      Context Id: 418

```

Related Commands

Command	Description
clear ft	Clears the fault-tolerant (FT) statistics or history.
ft auto-sync	Enables automatic synchronization of the running-configuration and startup-configuration files in a redundancy configuration.
ft group	Creates a fault-tolerant (FT) group for redundancy.
ft peer	Configures an FT peer and enters FT peer configuration mode.

show ft history

To display a history of internal redundancy software statistics, use the **show ft history** command in EXEC mode.

```
show ft history {cfg_cntlr | ha_dp_mgr | ha_mgr}
```

Syntax Description	Parameter	Description
	cfg_cntlr	Displays the configuration controller debug log.
	ha_dp_mgr	Displays the high-availability (HA) dataplane manager debug log.
	ha_mgr	Displays the HA manager debug log.

Defaults No default behavior or values

Command Modes EXEC

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

Examples The following example shows how to display the configuration controller debug log:

```
firewall/Admin# show ft group history cfg_cntlr
```

Related Commands	Command	Description
	clear ft	Clears the fault-tolerant (FT) statistics or history.
	ft auto-sync	Enables automatic synchronization of the running-configuration and startup-configuration files in a redundancy configuration.
	ft group	Creates a fault-tolerant (FT) group for redundancy.
	ft peer	Configures an FT peer and enters FT peer configuration mode.

show ft memory

To display the high-availability (HA) manager memory statistics, use the **show ft memory** command in EXEC mode.

show ft memory [detail]

Syntax Description	detail	(Optional) Displays detailed HA manager memory statistics (Admin context only).
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Defaults No default behavior or values

Command Modes EXEC
Admin context only

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines This command requires the Admin user role. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

Examples The following example shows how to display the detailed HA manager memory statistics:

```
firewall/Admin# show ft group memory detail
```

Related Commands	Command	Description
	clear ft	Clears the fault-tolerant (FT) statistics or history.
	ft auto-sync	Enables automatic synchronization of the running-configuration and startup-configuration files in a redundancy configuration.
	ft group	Creates a fault-tolerant (FT) group for redundancy.
	ft peer	Configures an FT peer and enters FT peer configuration mode.

show ft peer

To display the fault-tolerant (FT) peer information, use the **show ft** command in EXEC mode.

```
show ft peer [peer_id] {detail | status | summary}
```

Syntax Description	peer_id	(Optional) Identifier of the remote standby member of the FT group.
	detail	Displays detailed information for the specified FT group or peer.
	status	Displays the current operating status for the specified FT group or peer.
	summary	Displays summary information for the specified FT group or peer.

Defaults No default behavior or values

Command Modes EXEC

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines This command has no user role feature restrictions. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

Examples The following example shows how to display the detailed statistics for all peers:

```
firewall/Admin# show ft peer detail
```

Related Commands	Command	Description
	clear ft	Clears the fault-tolerant (FT) statistics or history.
	ft auto-sync	Enables automatic synchronization of the running-configuration and startup-configuration files in a redundancy configuration.
	ft group	Creates a fault-tolerant (FT) group for redundancy.
	ft peer	Configures an FT peer and enters FT peer configuration mode.

show ft stats

To display the fault-tolerant (FT) or redundancy statistics per context, use the **show ft** command in EXEC mode.

```
show ft stats [group_id]
```

Syntax Description	<i>group-id</i>	Unique identifier of the FT group. Enter an integer from 1 to 255.
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Defaults No default behavior or values

Command Modes EXEC

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines This command has no user role feature restrictions. For details about role-based access control (RBAC) and user roles, see the [“Configuring Virtualization on the Virtual Firewall”](#) module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

Examples The following example shows how to display statistics for FT group 1:

```
firewall/Admin# show ft stats 1
```

Related Commands	Command	Description
	clear ft	Clears the fault-tolerant (FT) statistics or history.
	ft auto-sync	Enables automatic synchronization of the running-configuration and startup-configuration files in a redundancy configuration.
	ft group	Creates a fault-tolerant (FT) group for redundancy.
	ft peer	Configures an FT peer and enters FT peer configuration mode.

show ft idmap

To display the IDMAP table, use the **show ft idmap** command in EXEC mode.

show ft idmap

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values

Command Modes EXEC

Command History	Release	Modification
	Release 3.5.0	This command was introduced on the multiservice blade (MSB) for the Cisco XR 12000 Series Router.
	Release 3.6.0	No modification.
	Release 3.7.0	No modification.

Usage Guidelines This command has no user role feature restrictions. For details about role-based access control (RBAC) and user roles, see the “[Configuring Virtualization on the Virtual Firewall](#)” module in *Cisco IOS XR Virtual Firewall Configuration Guide*.

Examples The following example shows how to display the IDMAP table:

```
firewall/Admin# show ft idmap
```

Related Commands	Command	Description
	clear ft	Clears the fault-tolerant (FT) statistics or history.
	ft auto-sync	Enables automatic synchronization of the running-configuration and startup-configuration files in a redundancy configuration.
	ft group	Creates a fault-tolerant (FT) group for redundancy.
	ft peer	Configures an FT peer and enters FT peer configuration mode.