



# Extreme Fabric Automation Command Reference

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# Table of Contents

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<b>Preface.....</b>	<b>7</b>
Text Conventions.....	7
Documentation and Training.....	8
Getting Help.....	9
Subscribe to Product Announcements.....	9
Providing Feedback.....	9
<b>About this Document.....</b>	<b>11</b>
What's New in this Document.....	11
New commands.....	11
Modified commands.....	11
<b>Extreme Fabric Automation Commands.....</b>	<b>12</b>
efa auth apikey.....	16
efa auth client.....	17
efa auth execution.....	18
efa auth generatekey.....	19
efa auth ldapconfig.....	20
efa auth rolemapping.....	24
efa auth settings token.....	26
efa certificates device install.....	27
efa certificates server.....	28
efa fabric clone.....	29
efa fabric configure.....	30
efa fabric create.....	32
efa fabric debug clear-config.....	33
efa fabric debug config-gen-reason.....	34
efa fabric debug device drift.....	35
efa fabric delete.....	36
efa fabric device add.....	37
efa fabric device add-bulk.....	39
efa fabric device remove.....	41
efa fabric error show.....	42
efa fabric execution.....	43
efa fabric setting.....	44
efa fabric show.....	48
efa fabric show-config.....	49
efa fabric show summary.....	50
efa fabric topology show overlay.....	51
efa fabric topology show physical.....	52
efa fabric topology show underlay.....	53
efa inventory admin-state.....	54

efa inventory config-backup.....	57
efa inventory config-replay.....	59
efa inventory debug devices-lock.....	61
efa inventory device compare.....	62
efa inventory device delete.....	63
efa inventory device discovery-time list.....	64
efa inventory device discovery-time update.....	65
efa inventory device execute-cli.....	66
efa inventory device firmware-download commit.....	66
efa inventory device firmware-download execute.....	68
efa inventory device firmware-download prepare add.....	71
efa inventory device firmware-download prepare list.....	73
efa inventory device firmware-download prepare remove.....	75
efa inventory device firmware-download restore.....	75
efa inventory device firmware-download show.....	76
efa inventory device health status.....	77
efa inventory device interface list.....	78
efa inventory device interface set-admin-state.....	84
efa inventory device interface set-breakout.....	87
efa inventory device interface set-mtu.....	91
efa inventory device interface set-speed.....	94
efa inventory device interface unset-breakout.....	97
efa inventory device list.....	99
efa inventory device running-config persist.....	100
efa inventory device register.....	101
efa inventory device setting show.....	102
efa inventory device setting update.....	103
efa inventory device system set-mtu.....	104
efa inventory device update.....	106
efa inventory drift-reconcile.....	107
efa inventory execution.....	108
efa inventory firmware-host delete.....	109
efa inventory firmware-host list.....	110
efa inventory firmware-host register.....	111
efa inventory firmware-host update.....	112
efa inventory kvstore.....	113
efa inventory rma.....	114
efa login.....	115
efa logout.....	116
efa mgmt route create.....	117
efa mgmt route delete.....	118
efa mgmt route show.....	119
efa mgmt subinterface create.....	120
efa mgmt subinterface delete.....	121
efa mgmt subinterface show.....	122
efa notification subscribers add-https.....	123
efa notification subscribers add-syslog-relp.....	124
efa notification subscribers delete.....	126
efa notification subscribers get.....	127

efa notification subscribers list.....	128
efa openstack debug.....	129
efa openstack execution.....	131
efa openstack network show.....	132
efa openstack network-interface show.....	133
efa openstack router show.....	134
efa openstack router-interface show.....	135
efa openstack subnet show.....	136
efa openstack sync start.....	137
efa rbac execution.....	138
efa rbac role show.....	139
efa scvmm delete.....	141
efa scvmm links physical.....	142
efa scvmm links virtual.....	143
efa scvmm list.....	144
efa scvmm register.....	145
efa scvmm settings show.....	146
efa scvmm settings update.....	147
efa scvmm update.....	148
efa snmp subscriber.....	149
efa show-running-config.....	151
efa status.....	152
efa system backup.....	153
efa system backup-list.....	154
efa system feature show.....	155
efa system feature update.....	156
efa system restore.....	157
efa system settings show.....	158
efa system settings update.....	159
efa system supportsave.....	160
efa tenant create.....	161
efa tenant debug.....	163
efa tenant delete.....	165
efa tenant epg configure.....	166
efa tenant epg create.....	167
efa tenant epg delete.....	172
efa tenant epg detach.....	173
efa tenant epg error show.....	176
efa tenant epg show.....	177
efa tenant epg update.....	186
efa tenant execution.....	190
efa tenant po configure.....	193
efa tenant po create.....	194
efa tenant po delete.....	196
efa tenant po show.....	197
efa tenant po update.....	200
efa tenant service bgp peer configure.....	202
efa tenant service bgp peer create.....	203
efa tenant service bgp peer delete.....	205

---

efa tenant service bgp peer show.....	206
efa tenant service bgp peer update.....	210
efa tenant service bgp peer-group configure.....	213
efa tenant service bgp peer-group create.....	214
efa tenant service bgp peer-group delete.....	216
efa tenant service bgp peer-group show.....	217
efa tenant service bgp peer-group update.....	219
efa tenant show.....	221
efa tenant update.....	223
efa tenant vrf create.....	225
efa tenant vrf delete.....	228
efa tenant vrf show.....	229
efa tenant vrf update.....	232
efa vcenter debug.....	234
efa vcenter delete.....	239
efa vcenter links.....	240
efa vcenter list.....	242
efa vcenter register .....	243
efa vcenter update.....	244
efa version .....	245
efa-change-hostname.....	246
efa-change-ip.....	247
efa-change-vip.....	248
efa-health show.....	249
efa-journal clear.....	251
efa-journal list.....	251
efa-journal reset.....	253
efa-sync execute.....	254
efactl.....	256
openstack network efa-topology-link-map create.....	261
openstack network efa-topology-link-map delete.....	262
openstack network efa-topology-link-map list.....	263
openstack router create.....	264



# Preface

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This section describes the text conventions used in this document, where you can find additional information, and how you can provide feedback to us.






## Text Conventions

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Unless otherwise noted, information in this document applies to all supported environments for the products in question. Exceptions, like command keywords associated with a specific software version, are identified in the text.

When a feature, function, or operation pertains to a specific hardware product, the product name is used. When features, functions, and operations are the same across an entire product family, such as ExtremeSwitching switches or SLX routers, the product is referred to as *the switch* or *the router*.

**Table 1: Notes and warnings**

Icon	Notice type	Alerts you to...
	Tip	Helpful tips and notices for using the product
	Note	Useful information or instructions
	Important	Important features or instructions
	Caution	Risk of personal injury, system damage, or loss of data
	Warning	Risk of severe personal injury

**Table 2: Text**

Convention	Description
screen displays	This typeface indicates command syntax, or represents information as it is displayed on the screen.
The words <i>enter</i> and <i>type</i>	When you see the word <i>enter</i> in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says <i>type</i> .
<b>Key</b> names	Key names are written in boldface, for example <b>Ctrl</b> or <b>Esc</b> . If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press <b>Ctrl+Alt+Del</b>
Words in italicized type	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles.
<b>NEW!</b>	New information. In a PDF, this is searchable text.

**Table 3: Command syntax**

Convention	Description
<b>bold</b> text	Bold text indicates command names, keywords, and command options.
<i>italic</i> text	Italic text indicates variable content.
[ ]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{ <b>x</b>   <b>y</b>   <b>z</b> }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
<b>x</b>   <b>y</b>	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, such as passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, <i>member</i> [ <i>member</i> . . .].
\	In command examples, the backslash indicates a “soft” line break. When a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

## Documentation and Training

Find Extreme Networks product information at the following locations:

[Current Product Documentation](#)

[Release Notes](#)

[Hardware and software compatibility](#) for Extreme Networks products

[Extreme Optics Compatibility](#)

[Other resources](#) such as white papers, data sheets, and case studies

Extreme Networks offers product training courses, both online and in person, as well as specialized certifications. For details, visit [www.extremenetworks.com/education/](http://www.extremenetworks.com/education/).



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## Getting Help

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If you require assistance, contact Extreme Networks using one of the following methods:

### Extreme Portal

Search the GTAC (Global Technical Assistance Center) knowledge base; manage support cases and service contracts; download software; and obtain product licensing, training, and certifications.

### The Hub

A forum for Extreme Networks customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

### Call GTAC

For immediate support: (800) 998 2408 (toll-free in U.S. and Canada) or 1 (408) 579 2826. For the support phone number in your country, visit: [www.extremenetworks.com/support/contact](http://www.extremenetworks.com/support/contact)

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number, or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any actions already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

## Subscribe to Product Announcements

You can subscribe to email notifications for product and software release announcements, Field Notices, and Vulnerability Notices.

1. Go to [The Hub](#).
2. In the list of categories, expand the **Product Announcements** list.
3. Select a product for which you would like to receive notifications.
4. Select **Subscribe**.
5. To select additional products, return to the **Product Announcements** list and repeat steps 3 and 4.

You can modify your product selections or unsubscribe at any time.

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## Providing Feedback

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The Information Development team at Extreme Networks has made every effort to ensure the accuracy and completeness of this document. We are always striving to improve our documentation and help you work better, so we want to hear from you. We welcome all feedback, but we especially want to know about:

- Content errors, or confusing or conflicting information.

- Improvements that would help you find relevant information in the document.
- Broken links or usability issues.

If you would like to provide feedback, you can do so in three ways:

- In a web browser, select the feedback icon and complete the online feedback form.
- Access the feedback form at <https://www.extremenetworks.com/documentation-feedback/>.
- Email us at [documentation@extremenetworks.com](mailto:documentation@extremenetworks.com).

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.



# About this Document

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[What's New in this Document](#) on page 11

## What's New in this Document

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There are new and modified commands in this release.

### New commands

- `efa mgmt route create`
- `efa mgmt route delete`
- `efa mgmt route show`

### Modified commands

- `efa tenant epg create`
- `efa tenant epg update`
- `efa-health show`
- `efa-journal clear`
- `openstack router create`



# Extreme Fabric Automation Commands

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[efa auth apikey](#) on page 16  
[efa auth client](#) on page 17  
[efa auth execution](#) on page 18  
[efa auth generatekey](#) on page 19  
[efa auth ldapconfig](#) on page 20  
[efa auth rolemapping](#) on page 24  
[efa auth settings token](#) on page 26  
[efa certificates device install](#) on page 27  
[efa certificates server](#) on page 28  
[efa fabric clone](#) on page 29  
[efa fabric configure](#) on page 30  
[efa fabric create](#) on page 32  
[efa fabric debug clear-config](#) on page 33  
[efa fabric debug config-gen-reason](#) on page 34  
[efa fabric debug device drift](#) on page 35  
[efa fabric delete](#) on page 36  
[efa fabric device add](#) on page 37  
[efa fabric device add-bulk](#) on page 39  
[efa fabric device remove](#) on page 41  
[efa fabric error show](#) on page 42  
[efa fabric execution](#) on page 43  
[efa fabric setting](#) on page 44  
[efa fabric show](#) on page 48  
[efa fabric show-config](#) on page 49  
[efa fabric show summary](#) on page 50  
[efa fabric topology show overlay](#) on page 51  
[efa fabric topology show physical](#) on page 52  
[efa fabric topology show underlay](#) on page 53  
[efa inventory admin-state](#) on page 54  
[efa inventory config-backup](#) on page 57  
[efa inventory config-replay](#) on page 59  
[efa inventory debug devices-lock](#) on page 61  
[efa inventory device compare](#) on page 62  
[efa inventory device delete](#) on page 63

[efa inventory device discovery-time list](#) on page 64  
[efa inventory device discovery-time update](#) on page 65  
[efa inventory device execute-cli](#) on page 66  
[efa inventory device firmware-download commit](#) on page 66  
[efa inventory device firmware-download execute](#) on page 68  
[efa inventory device firmware-download prepare add](#) on page 71  
[efa inventory device firmware-download prepare list](#) on page 73  
[efa inventory device firmware-download prepare remove](#) on page 75  
[efa inventory device firmware-download restore](#) on page 75  
[efa inventory device firmware-download show](#) on page 76  
[efa inventory device health status](#) on page 77  
[efa inventory device interface list](#) on page 78  
[efa inventory device interface set-admin-state](#) on page 84  
[efa inventory device interface set-breakout](#) on page 87  
[efa inventory device interface set-mtu](#) on page 91  
[efa inventory device interface set-speed](#) on page 94  
[efa inventory device interface unset-breakout](#) on page 97  
[efa inventory device list](#) on page 99  
[efa inventory device running-config persist](#) on page 100  
[efa inventory device register](#) on page 101  
[efa inventory device setting show](#) on page 102  
[efa inventory device setting update](#) on page 103  
[efa inventory device system set-mtu](#) on page 104  
[efa inventory device update](#) on page 106  
[efa inventory drift-reconcile](#) on page 107  
[efa inventory execution](#) on page 108  
[efa inventory firmware-host delete](#) on page 109  
[efa inventory firmware-host list](#) on page 110  
[efa inventory firmware-host register](#) on page 111  
[efa inventory firmware-host update](#) on page 112  
[efa inventory kvstore](#) on page 113  
[efa inventory rma](#) on page 114  
[efa login](#) on page 115  
[efa logout](#) on page 116  
[efa mgmt route create](#) on page 117  
[efa mgmt route delete](#) on page 118  
[efa mgmt route show](#) on page 119  
[efa mgmt subinterface create](#) on page 120  
[efa mgmt subinterface delete](#) on page 121  
[efa mgmt subinterface show](#) on page 122  
[efa notification subscribers add-https](#) on page 123  
[efa notification subscribers add-syslog-relp](#) on page 124

[efa notification subscribers delete](#) on page 126  
[efa notification subscribers get](#) on page 127  
[efa notification subscribers list](#) on page 128  
[efa openstack debug](#) on page 129  
[efa openstack execution](#) on page 131  
[efa openstack network show](#) on page 132  
[efa openstack network-interface show](#) on page 133  
[efa openstack router show](#) on page 134  
[efa openstack router-interface show](#) on page 135  
[efa openstack subnet show](#) on page 136  
[efa openstack sync start](#) on page 137  
[efa rbac execution](#) on page 138  
[efa rbac role show](#) on page 139  
[efa scvmm delete](#) on page 141  
[efa scvmm links physical](#) on page 142  
[efa scvmm links virtual](#) on page 143  
[efa scvmm list](#) on page 144  
[efa scvmm register](#) on page 145  
[efa scvmm settings show](#) on page 146  
[efa scvmm settings update](#) on page 147  
[efa scvmm update](#) on page 148  
[efa snmp subscriber](#) on page 149  
[efa show-running-config](#) on page 151  
[efa status](#) on page 152  
[efa system backup](#) on page 153  
[efa system backup-list](#) on page 154  
[efa system feature show](#) on page 155  
[efa system feature update](#) on page 156  
[efa system restore](#) on page 157  
[efa system settings show](#) on page 158  
[efa system settings update](#) on page 159  
[efa system supportsave](#) on page 160  
[efa tenant create](#) on page 161  
[efa tenant debug](#) on page 163  
[efa tenant delete](#) on page 165  
[efa tenant epg configure](#) on page 166  
[efa tenant epg create](#) on page 167  
[efa tenant epg delete](#) on page 172  
[efa tenant epg detach](#) on page 173  
[efa tenant epg error show](#) on page 176  
[efa tenant epg show](#) on page 177  
[efa tenant epg update](#) on page 186

[efa tenant execution](#) on page 190  
[efa tenant po configure](#) on page 193  
[efa tenant po create](#) on page 194  
[efa tenant po delete](#) on page 196  
[efa tenant po show](#) on page 197  
[efa tenant po update](#) on page 200  
[efa tenant service bgp peer configure](#) on page 202  
[efa tenant service bgp peer create](#) on page 203  
[efa tenant service bgp peer delete](#) on page 205  
[efa tenant service bgp peer show](#) on page 206  
[efa tenant service bgp peer update](#) on page 210  
[efa tenant service bgp peer-group configure](#) on page 213  
[efa tenant service bgp peer-group create](#) on page 214  
[efa tenant service bgp peer-group delete](#) on page 216  
[efa tenant service bgp peer-group show](#) on page 217  
[efa tenant service bgp peer-group update](#) on page 219  
[efa tenant show](#) on page 221  
[efa tenant update](#) on page 223  
[efa tenant vrf create](#) on page 225  
[efa tenant vrf delete](#) on page 228  
[efa tenant vrf show](#) on page 229  
[efa tenant vrf update](#) on page 232  
[efa vcenter debug](#) on page 234  
[efa vcenter delete](#) on page 239  
[efa vcenter links](#) on page 240  
[efa vcenter list](#) on page 242  
[efa vcenter register](#) on page 243  
[efa vcenter update](#) on page 244  
[efa version](#) on page 245  
[efa-change-hostname](#) on page 246  
[efa-change-ip](#) on page 247  
[efa-change-vip](#) on page 248  
[efa-health show](#) on page 249  
[efa-journal clear](#) on page 251  
[efa-journal list](#) on page 251  
[efa-journal reset](#) on page 253  
[efa-sync execute](#) on page 254  
[efactl](#) on page 256  
[openstack network efa-topology-link-map create](#) on page 261  
[openstack network efa-topology-link-map delete](#) on page 262  
[openstack network efa-topology-link-map list](#) on page 263  
[openstack router create](#) on page 264

## efa auth apikey

---

Creates or displays the API Key for the OpenStack instance.

### Syntax

```
efa auth apikey generate --client-id --force --help
```

```
efa auth apikey show --client-id --help
```

### Parameters

**--client-id**

Generates the API Key for the indicated client ID.

**--force**

Forces key regenerate.

**--help**

Displays help for the command.

### Usage Guidelines

Use this command to generate the API Key after you used the **efa auth client register** command to register the client.

Save the generated key to use for configuring the ML2 plug in.

### Examples

This example generates an API Key for the indicated client ID.

```
# efa auth apikey generate --client-id d6d7430e-7cd0-11ea-b7a6-aaa8d3cb654e
API Key is created successfully.
eyJhbGciOiJSUzI1NiIsImtZCI6IjEuMCIsInR5cCI6IkpX...
--- Time Elapsed: 506.458623ms ---
```



## efa auth client

---

Deletes or registers OpenStack tenant clients and displays client details.

### Syntax

```
efa auth client delete [ --name tenant-name --help ]  
efa auth client register [ --name tenant-name --type client-type --help ]  
efa auth client show [ --name tenant-name --help ]
```

### Parameters

**--name** *tenant-name*  
Specifies the name of the tenant to register.

**--type** *client-type*  
Specifies the type of client you are registering (`cli` or `OpenStack`).

**--help**  
Provides help for the commands.

### Usage Guidelines

Use the generated key when you configure the ML2 plugin.

### Examples

This example registers a tenant called RegionOne.

```
# efa auth client register --name RegionOne -- type OpenStack  
Successfully registered client.  
Attribute      Value  
name           RegionOne  
type           OPENSTACK  
ID             d6d7340e-7cd0-11ea-b7a6-aaa8d3cb654e
```

## efa auth execution

---

Deletes or displays the authorization execution logs.

### Syntax

```
efa auth execution delete --days int32 --help
```

```
efa auth execution show --help --id string --limit int32 --status string
```

### Parameters

**show**

Displays a list of executions.

**--id string**

Filters the executions based on execution id. The "limit" and "status" flags are ignored when "id" flag is given.

**--limit int32**

Limits the number of executions to be listed. Value "0" lists all the executions (default 10).

**--status string**

Filters the executions based on the status (failed/succeeded/all) (default "all").

**delete --days int32**

Deletes execution entries that are older than the specified number of days (default 30).

### Examples

This example deletes entries older than 15 days.

```
efa auth execution delete 15
```

## efa auth generatekey

---

Creates an API key for the OpenStack instance.

### Syntax

```
efa auth generatekey --clientID id
```

### Parameters

```
--clientid id
```

Specifies the client ID.

### Usage Guidelines

The client ID is generated when you run the **efa auth client register** command.

### Examples

This example creates an API key for the specified client ID.

```
# efa auth generatekey --clientID d6d7340e-7cd0-11ea-b7a6-aaa8d3cb654e
API key is created successfully.
eyJhbGciOiJSUzI1NiIsImtpZCI6IjEuMCI6InR5cCI6IkpX...
-- Time Elapsed: 506.458623ms --
```

## efa auth ldapconfig

Adds, updates, or deletes, an external LDAP server, or shows the current LDAP configuration.

### Syntax

```
efa auth ldapconfig { --name ldap-name | --primary value | --host hostname
| --port port-num | [--tls | --insecure-tls ] --cacert cert-loc | --
timeout value | --bind-user-name dn | --bind-user-password pwd | --
user-search-base dn | --user-object-class obj-class | --user-login-
attribute att-value | --user-role-attribute att-value | --user-role-
attribute-key att-value | --user-member-attribute att-value | --
group-search-base dn | --group-object-class obj-class | --group-
attribute att-value | --group-member-user-attribute att-value | --
group-member-mapping-attribute att-value }
```

```
efa auth ldap config delete { --name ldap-name | --primary value | --host
hostname | --port port-num | [--tls | --insecure-tls ] --cacert cert-
loc | --timeout value | --bind-user-name dn | --bind-user-password
pwd | --user-search-base dn | --user-object-class obj-class | --
user-login-attribute att-value | --user-role-attribute att-value | --
user-role-attribute-key att-value | --user-member-attribute att-value
| --group-search-base dn | --group-object-class obj-class | --group-
attribute att-value | --group-member-user-attribute att-value | --
group-member-mapping-attribute att-value }
```

```
efa auth ldap config update { --name ldap-name | --primary value | --host
hostname | --port port-num | [--tls | --insecure-tls ] --cacert cert-
loc | --timeout value | --bind-user-name dn | --bind-user-password
pwd | --user-search-base dn | --user-object-class obj-class | --
user-login-attribute att-value | --user-role-attribute att-value | --
user-role-attribute-key att-value | --user-member-attribute att-value
| --group-search-base dn | --group-object-class obj-class | --group-
attribute att-value | --group-member-user-attribute att-value | --
group-member-mapping-attribute att-value }
```

```
efa auth ldapconfig show { --name ldap-name | --primary value | --host
hostname }
```

### Parameters

**--name** *ldap-name*

Specify the name of the LDAP connection.

**--primary** *value*

Specify 1 when multiple LDAP connections are available.

**--host** *hostname*

Specify the host name or IP address of the host server.

**--port** *port-num*

Specify the port at which the LDAP server listens for connections.

**--tls | --insecure-tls**

Specify **--tls** to use LDAP over SSL and TLS. Specify **--insecure-tls** to use LDAP without certification verification.

**--cacert** *cert-loc*

Specify the location of the Certificate Authority certificate.

**--timeout** *value*

Specify the number of seconds that must elapse before the LDAP server is considered unreachable. The default is 5 seconds.

**--bind-user-name** *dn*

Specify the Distinguished Name (DN) of the user that you want to use to bind, search, and retrieve LDAP entries.

**--bind-user-password** *password*

Specify the password of the bind user.

**--user-search-base** *dn*

Specify the DN of the node in the directory tree from which searches for user objects will start.

**--user-object-class** *obj-class*

Specify the name of the object class to use for user objects. The default is `inetOrgPerson`.

**--user-login-attribute** *att-value*

Specify the attribute that matches the user name part of credentials that users enter while logging in. The default is `uid`.

**--user-role-attribute** *att-value*

Specify the attribute from which the user role is read.

**--user-role-attribute-key** *att-value*

Specify the attribute that reads the role value from the role attribute.

**--user-member-attribute** *att-value*

Specify the attribute that reads the member of the group that the user is part of.

**--group-search-base** *dn*

Specify the DN of the node in the directory tree from which searches for group objects begins.

**--group-object-class** *obj-class*

Specify the name of the object class to use for group searches. The default is `groupOfNames`.

**--group-attribute** *att-value*

Specify the attribute that defines the search filter on a group. The default is `cn`.

**--group-member-user-attribute** *att-value*

Specify the name of the user attribute whose format matches the group members. The default is `entrydn`.

**--group-member-mapping-attribute** *att-value*

Specify the name of the group attribute that contains the members of a group. The default is `member`.

## Usage Guidelines

You configure an LDAP server for user validation and to fetch user groups.

When a user is assigned EFA roles in LDAP, ensure that you define the **--user-role-attribute** parameter.

You can use key-value pairs to define one attribute value that assigns multiple roles to a user. Use the **--user-role-attribute-key** parameter for such a scenario.

When you use LDAP groups to assign roles to users, ensure that you define the **--user-member-attribute** parameter.

When LDAP groups are not in the same search base as the users in the groups, ensure that you define the following parameters.

- **--group-search-base**
- **--group-object-class**
- **--group-attribute**
- **--group-member-user-attribute**
- **--group-member-mapping-attribute**

To configure LDAP for a deployment of EFA on a TPVM, see the "TPVM Management" section of the *Extreme SLX-OS Management Configuration Guide*.

## Examples

This example configures the bind user name, the bind password, and the DN of the node from which searches start.

```
# efa auth ldapconfig add --name ldapconfig -- host 10.x.x.x
--bind-user-name cn=admin,dc=extrnet,dc=com --bind-user-password password
--user-search-base ou=people,dc=extrnet,dc=com
```

This example configures the **--user-role-attribute** parameter for a user that is assigned EFA roles in LDAP.

```
# efa auth ldapconfig add --name ldap1 --host 10.x.x.x
--bind-user-name cn=x,dc=y,dc=com --bind-user-password xxx
--user-search-base ou=people,dc=y,dc=com --user-role-attribute role
```

This example assigns multiple roles to a user with one key-value pair. The role attribute for the user entry in LDAP has the value of `datacenterowner:SystemAdmin,datacenterowner:FabricAdmin`.

```
# efa auth ldapconfig add --name ldap1 --host 10.x.x.x
--bind-user-name cn=x,dc=y,dc=com --bind-user-password xxx
--user-search-base ou=people,dc=y,dc=com --user-role-attribute role
--user-role-attribute-key datacenterowner
```

This example configures the **--user-member-attribute** for a user entry in LDAP that has an attribute of `memberOf`.

```
# efa auth ldapconfig add --name ldap1 --host 10.x.x.x
--bind-user-name cn=x,dc=y,dc=com --bind-user-password xxx
--user-search-base ou=people,dc=y,dc=com --user-member-attribute memberOf
```

This example configures the attributes required when LDAP groups are not in the same search base as the users in the groups.

```
# ldapconfig add --name ldap1 --host 10.x.x.x --bind-user-name cn=x,dc=y,dc=com
--bind-user-password xxx --user-search-base ou=people,dc=x,dc=com
--group-search-base ou=groups,dc=x,dc=in --group-member-user-attribute dn
--group-member-mapping-attribute memberUid --group-object-class posixGroup
```

This example maps an LDAP group to an EFA role.

```
# efa auth rolemapping add --name group1 --type GROUP --role SystemAdmin
```

This example configures LDAP Active Directory.

```
# efa auth ldapconfig add --name ldap1 --host 10.x.x.x --bind-user-name cn=x,dc=y,dc=com
--bind-user-password xxx --user-search-base ou=people,dc=y,dc=com --user-object-class
user
--user-login-attribute sAMAccountName --user-member-attribute memberOf
```

## efa auth rolemapping

Assigns EFA roles to a user or an LDAP group.

### Syntax

```
efa auth rolemapping add {--name user-name --role efa-role --type user-type}  
efa auth rolemapping show  
efa auth rolemapping remove--id id
```

### Parameters

**--name** *user-name*

Specifies the user name or the LDAP group name.

**--role** *efa-role*

Specifies the role that you want to assign. One of the following: FabricAdmin, SecurityAdmin, NetworkOperator, SystemDebugger, SystemAdmin, <Tenant>Admin. The Tenant Administrator is assigned dynamically when the tenant is created. The role name has the format of <Tenant-name>Admin.

**--type** *user-type*

Specifies the type of user. Enter either *user* or *group*.

**add**

Specifies that you want to add a mapping.

**show**

Indicates that you want to show all role mappings.

**remove --id** *id*

Specifies that you want to remove the mapping for the indicated ID number.

### Examples

This example assigns the role of Fabric Admin to a user named fabricuser.

```
# efa auth rolemapping add --name fabricuser --role FabricAdmin --type user  
Successfully added the role mapping
```

This example assigns the role of NetworkOperator to a group named viewer.

```
# efa auth rolemapping add --name viewer --role NetworkOperator --type group  
Successfully added the role mapping.
```

This example displays all assigned mappings.

```
# efa auth rolemapping show  
ID  Name      Role           Type  
1   efauser   SystemAdmin   USER  
2   fabricuser FabricAdmin    USER  
3   viewer    NetworkOperator GROUP
```



This example deletes the role for the user with ID 3.

```
# efa auth rolemapping remove --id 3  
Deleted role mapping successfully
```

## efa auth settings token

Configures and displays the expiration settings for authentication tokens.

### Syntax

```
efa auth settings token update{ --type cli | access | refresh }{ --hours
  num | --minutes num }
```

```
efa auth settings token show
```

### Parameters

#### update

Specifies that you want to change one or more of the following:

**--type cli | access | refresh**

Specifies the type of token you want to update.

**--hours num | --minutes num**

Specifies the number of hours or minutes that should elapse before a token expires.

#### show

Displays the current expiration settings.

### Examples

This example sets the CLI token to expire after 2 hours.

```
$ efa auth settings token update --type CLI --hours 2

Successfully updated the token expiry time.
+-----+-----+-----+
| Type | Hours | Minutes |
+-----+-----+-----+
| CLI  | 2     | 0       |
+-----+-----+-----+
--- Time Elapsed: 193.455466ms ---
```

This example displays the current expiration settings.

```
$ efa auth settings token show

+-----+-----+-----+
| Type   | Hours | Minutes |
+-----+-----+-----+
| ACCESS | 1     | 0       |
+-----+-----+-----+
| REFRESH | 8     | 0       |
+-----+-----+-----+
| CLI    | 2     | 0       |
+-----+-----+-----+
```

## efa certificates device install

---

Installs HTTPS and OAuth2 certificates on SLX devices.

### Syntax

```
efa certificates device install { --ips ip-addr --certType [ https | token ] }
```

### Command Default

By default, certificates are not installed.

### Parameters

**--ips** *ip-addr*

Specifies a comma-separated list of the IP addresses of the SLX devices on which you want to install the certificate.

**--certType** [ **https** | **token** ]

Specifies the type of certificate you are installing.

### Usage Guidelines

During the registration of an SLX device in EFA, the following configuration changes are made on the device.

- The public certificate for verifying an EFA token is copied to the device as an OAuth2 certificate.
- EFA generates the HTTPS certificate for the SLX device. The certificate is copied to the device, HTTP mode is disabled on the device, and HTTPS is enabled on the device.
- OAuth2 is enabled as the primary mode of authentication. Fallback is set to "local login."

You can use the **efa inventory device list** command to verify the status of the certificates on the device. If the **Cert/Key Saved** column contains "N," then certificates are not installed. You can then use the **efa certificates device install** command to install the certificates.

### Examples

This example installs the HTTPS certificate on two devices.

```
efa certificates device install --ips 1.1.1.1,2.2.2.2 --certType https
```

---

## efa certificates server

---

Installs a third-party certificate that was acquired through a trusted Certificate Authority.

### Syntax

```
efa certificates server [ --certificate cert-filename --key key-filename  
  --configfile config-filename ]
```

### Parameters

**--certificate** *cert-filename*

Specifies the file name of the certificate.

**--key** *key-filename*

Specifies the file name of the certificate key.

**--configfile** *config-filename*

(Optional) Specifies a different configuration file from the `efa.conf` file used by EFA for its settings.

### Examples

This example installs a certificate titled `mycert` using the `myconfigfile.conf` file.

```
$ efa certificate server --certificate mycert --key mycertkey --configfile  
myconfigfile.conf
```

## efa fabric clone

---

Cloning can expedite the deployment of fabrics across different sites or data centers. For fabrics in two different data centers to look exactly the same for disaster recovery purposes, create a clone for the source fabric.

### Syntax

```
efa fabric clone [ --source source-fabric-name --destination destination-fabric-name ]
```

### Parameters

**--source**

Name of the fabric to be cloned.

**--destination**

New name of the cloned fabric.

### Usage Guidelines

This command clones all the fabric properties - type, stage, description, fabric settings - but not the devices on the fabric.

### Examples

The following example clones BLR\_FABRIC into PUN\_FABRIC.

```
efa fabric clone --source BLR_FABRIC --destination PUN_FABRIC
```

## efa fabric configure

Configures the underlay and overlay on all fabric devices.

### Syntax

```
efa fabric configure [ --name fabric-name | --force | --help ]
```

### Parameters

- name** *fabric-name*  
Specifies the name of the fabric.
- force**  
Forces the configuration on the devices.
- help**  
Display help for configure.

### Usage Guidelines

If the **--force** option is used, all the devices are removed and added back to the fabric. This action can result in **config remove** and **add on** all the devices.

If the addition of devices to a fabric is successful, the underlay and overlay is configured on all the devices of the fabric using the `efa fabric configure` command.

### Examples

```
(efa:extreme)extreme@tpvm:~$ efa fabric configure --name fabric-2 --force
Configure fabric force
WARNING: Fabric configure with 'force' option 'removes' all the devices from
fabric and 'adds' back all the devices to fabric. Do you want to proceed [y/n]?
y
Fetching devices from fabric fabric-2
Removing device from fabric fabric-2
Remove Device(s) [Success]
Removal of device with ip-address = 10.24.80.159 [Succeeded]
Removal of device with ip-address = 10.24.80.158 [Succeeded]
Updating the devices in inventory for fabric fabric-2
Update of device with ip-address = 10.24.80.158 [Succeeded]
Update of device with ip-address = 10.24.80.159 [Succeeded]
Clearing the devices in the fabric fabric-2
Updating the devices in inventory for fabric fabric-2
Update of device with ip-address = 10.24.80.158 [Succeeded]
Update of device with ip-address = 10.24.80.159 [Succeeded]
Add the devices to fabric fabric-2
Add Device(s) [Success]
Addition of Leaf device with ip-address = 10.24.80.158 [Succeeded]
Addition of Leaf device with ip-address = 10.24.80.159 [Succeeded]
Validate Fabric [Success]
Configure Fabric [Success]
Please verify the fabric physical/underlay topology using 'efa fabric topology show
{physical | underlay}
```

```
' before attempting tenant configuration on the fabric.  
- Time Elapsed: 1m52.840570796s -
```

## efa fabric create

---

Creates a fabric.

### Syntax

```
efa fabric create [ --name fabric-name | --type clos | non-clos | --stage  
3 | 5 | --description description | --help ]
```

### Parameters

**--name** *fabric-name*

Specifies the name of the fabric.

**--description** *description*

Describes the product.

**--type** **clos** | **non-clos**

Specifies the type of the fabric. The default is clos.

**--stage** **3** | **5**

Specifies the type of fabric to create. The default is a 3-stage fabric. Stage 0 is considered the default stage for Clos and is ignored for non-Clos.

**--help**

Displays help for the command.

### Examples

This example creates a 3-stage fabric.

```
efa fabric create --name clos-fabric --type clos --stage 3
```



## efa fabric debug clear-config

---

Clears the underlay or overlay configuration from the device and recovers the device from erroneous conditions.

### Syntax

```
efa fabric debug clear-config [ --device device ip | --reference-fabric fabric name ]
```

### Parameters

**--device**

The device IP address

**--reference-fabric**

Name of the fabric and to which device it will eventually belong.

### Examples

```
$ efa fabric debug clear-config --device 10.24.4810.24.48.131,10.24.51.135,10.24.51.131,10.25.225.58,10.24.80.139.131,10.24.51.135,10.24.51.131,10.25.225.58,10.24.80.139
```

---

## efa fabric debug config-gen-reason

---

Obtains the configuration generation reason for a particular fabric device.

### Syntax

```
efa fabric debug config-gen-reason [ --device device ip | --name fabric name ]
```

### Parameters

**--device**

The device IP address

**--name**

Name of the fabric to which the device belongs

### Examples

```
efa fabric debug config-gen-reason --device 10.24.80.139 --name BLR_FABRIC
```

## efa fabric debug device drift

---

Reconciles or displays the device configuration drift between the device and intended fabric configuration.

### Syntax

```
efa fabric debug device drift [ --name string | --ip string | --reconcile  
| --help ]
```

### Parameters

**--name string**

Specifies the name of the fabric.

**--ip string**

Specifies the device IP.

**--reconcile**

Reconciles the device configuration.

**--help**

Provides help for the selected commands.

---

## efa fabric delete

---

Deletes the fabric from inventory.

### Syntax

```
efa fabric delete [ --name fabric-name ] [ --force ]
```

### Parameters

**--name**

Name of the fabric to be deleted.

**--force**

Forces the deletion of Fabric even if the Fabric has devices.

### Usage Guidelines

Deletion of a fabric is not allowed if the fabric has one or more devices. You must delete all the devices from the fabric prior to deleting the fabric.

Forced deletion of a fabric removes the devices from fabric but not from inventory.

### Examples

The following example deletes the fabric BLR\_FABRIC.

```
efa fabric delete --name BLR_FABRIC
```

---

## efa fabric device add

---

Adds a device to an existing fabric.

### Syntax

```
efa fabric device add [ --name fabric-name | --ip device-ip --role leaf | spine | super-spine | border-leaf | --leaf-type single-homed | multi-homed | --hostname hostname | --asn local-asn | --vtep-loopback id | --loopback port-num | --pod name | --username username | --password password | --rack name | --help ]
```

### Parameters

**--name** *fabric-name*

Specifies the name of the fabric.

**--ip** *device-ip*

Specifies the pair of device IP addresses for rack, or a single IP address for non-rack.

**--role** **leaf** | **spine** | **super-spine** | **border-leaf**

Specifies the device role (leaf | spine | super-spine | border-leaf).

**--leaf-type** **single-homed** | **multi-homed**

Specifies whether the leaf is single-homed or multi-homed.

**--hostname** *hostname*

Specifies the host name.

**--asn** *local-asn*

Specifies the local ASN.

**--vtep-loopback** *id*

Specifies the VTEP loopback ID.

**--loopback** *port-num*

Specifies the loopback port number.

**--pod** *name*

Specifies the name of the pod.

**--rack** *name*

Specifies the name of the rack.

**--username** *username*

Specifies the user name for the device.

**--password** *password*

Specifies the password for the device.

## Usage Guidelines

A device must be registered with Inventory Service before being added to a fabric. The Fabric Service supports IP numbered configuration. Each interface on a link between leaf and spine is assigned an IP address. eBGP peering use these IP addresses.

Device credentials must be provided as part of this command if the devices are not already registered with the inventory.

If you provide the user name and password, then the device is automatically registered with the inventory service.

If you do not provide the user name and password, then you must explicitly register the device with the inventory service.

## Examples

This example adds a pair of devices to the specified fabric and the specified rack.

```
efa fabric device add --name extr-fabric --ip 10.24.80.134,10.24.80.135
--rack room1-rack1 --username admin --password password
```

## efa fabric device add-bulk

---

Adds multiple devices to a fabric.

### Syntax

```
efa fabric device add-bulk [ --name fabric-name | --ip device-ip | --leaf list | --border-leaf list | --border-leaf-rack list | --border-leaf-ip device-ip | --three-stage-pod name | --five-stage-pod name | --spine list | --super-spine list | --username username | --password password | --rack name | --help ]
```

### Parameters

**--name** *fabric-name*

Specifies the name of the fabric.

**--ip** *device-ip*

Specifies the pair of device IP addresses for rack.

**--leaf** *list*

Specifies the comma-separated list of leaf IP addresses or host names.

**--border-leaf** *list*

Specifies the comma-separated list of border leaf IP addresses or host names.

**--border-leaf-rack** *list*

Specifies the border leaf rack name.

**--border-leaf-ip** *device-ip*

Specifies the pair of border leaf device IPs for the rack.

**--three-stage-pod** *name*

Specifies the name of the leaf or spine pod.

**--five-stage-pod** *name*

Specifies the name of the super-spine pod.

**--spine** *list*

Specifies the comma-separated list of spine IP addresses or host names.

**--super-spine** *list*

Specifies the comma-separated list of super spine IP addresses or host names.

**--username** *username*

Specifies the user name for the list of devices.

**--password** **--password**

Specifies the password for the list of devices.

**--rack** *name*

Specifies the rack name.

**--help**

Displays help for the command.

## Usage Guidelines

Ensure you perform the following operations before running this command:

- Run the **efa inventory device register --ip <list-of-device-ips>** command.
- Run the **efa inventory device interface list --ip <device-ip>** command. In the output of the command, verify that the states of the port links are as you expected (in the Admin Status and Oper Status fields). If not, manually check the physical cabling and fix any issues. Then continue with the **efa fabric device add-bulk** operation.

If you provide a user name and password, devices are automatically registered with the inventory service.

If you do not provide a user name and password, you must explicitly register the devices with the inventory service.

A single “three-stage-pod” and “five-stage-pod” can be provided each time you run the command.

## Examples

This example adds two leaf IP addresses and two border leaf IP addresses to the specified fabric.

```
efa fabric device add-bulk --name BLR_FABRIC --leaf 10.24.48.131,10.24.51.135
--border-leaf 10.24.51.131,10.25.225.58 --spine 10.24.80.139 --username admin --password
password
```



## efa fabric device remove

---

Removes existing device from a fabric.

### Syntax

```
efa fabric device remove { --name fabric-name | --ip list-of-device-ips } | [--no-device-cleanup]
```

### Parameters

**--name** *fabric-name*

Specifies the name of the fabric.

**--ip** *list-of-device-ips*

Specifies a comma-separated list of device IP addresses to remove.

**--no-device-cleanup**

Specifies that you do not want to clean up the configuration on the devices.

### Usage Guidelines

If the "--no-device-cleanup" option is used, the configuration pushed by the automation engine is not cleaned up from the fabric devices. Removal of a device from fabric does not delete the device from inventory. You must explicitly delete the device from inventory.

### Examples

This example removes five devices and does not clean up the configuration.

```
efa fabric device remove --ip 10.24.48.131,10.24.51.135,10.25.225.58,  
10.24.51.131,10.24.80.139 --name BLR_FABRIC --no-device-cleanup
```

## efa fabric error show

---

Displays the name of the Fabric, error types, and reasons for the errors.

### Syntax

```
efa fabric error show [ --name | --export | --help]
```

### Parameters

**--name**

Specifies the name of the Fabric.

**--export**

Export error details to a CSV file.

**--help**

Displays help for show.

### Usage Guidelines

Topology validation occurs during the addition of a device and during Fabric configuration. Use this command to display any errors that occur during validation and, optionally, to export them to a CSV file.

Errors that occur during the add, validate, and configure phases are persisted in the DB.

### Examples

```
efa fabric device error show --name BLR_FABRIC
```

## efa fabric execution

---

Displays the RESTAPI executions, event histories, and deletes entries older than the specified days.

### Syntax

```
efa fabric execution delete [ --days int32 | --help ]
```

```
efa fabric execution show [ --help | --id execution id | --limit int32  
number of executions | --status string failed | succeeded | all ]
```

```
efa fabric execution show-event [ --device ip address | --execution-id  
execution id | --help ]
```

### Parameters

**--days** *int32*

Deletes execution entries older than the specified days (default 30).

**--device**

Filters on IP address.

**--execution-id**

Filters on Execution UUID.

**--id**

Filters the executions based on the execution id. "Limit" and "status" flags are ignored when the "id" flag is given.

**--help**

Provides help for the selected command.

**--limit**

Limits the number of executions to be listed. A value of "0" lists all the executions. The default is 10.

**--status**

Filters the executions based on the status (failed, succeeded, all). The default is "all".

### Examples

```
efa fabric execution show
```

## efa fabric setting

Displays or updates the IP fabric settings.

### Syntax

```
efa fabric setting show [ --name | --advanced | --help]
```

```
efa fabric setting update [--name fabric-name| --p2p-link-range fabric-name| --loopback-ip-range ip-pool| --rack-l3-backup-ip-range ip-pool| --loopback-port-number id| --vtep-loopback-port-number id| --spine-asn-block asn-pool| --super-spine-asn-block asn| --leaf-asn-block asn-pool| --border-leaf-asn-block asn-pool| --rack-asn-block asn-pool| --anycast-mac-address mac| --ipv6-anycast-mac-address mac| --mac-aging-timeout timeout| --mac-aging-conversation-timeout timeout| --mac-move-limit limit| --duplicate-mac-timer time | --duplicate-mac-timer-max-count max| --configure-overlay-gateway | --bfd-enable | --bfd-tx interval| --bfd-rx interval| --bfd-multiplier multiplier| --bgp-multihop tll| --max-paths paths| --allow-as-in path| --mtu size| --ip-mtu size| --leaf-peer-group group-name| --optimized-replication-enable yes | no| --spine-peer-group group-name| --super-spine-peer-group group-name| --rack-underlay-ebgp-peer-group group-name| --rack-overlay-ebgp-peer-group group-name| --mctlink-ip-range pool| --lACP-timeout long | short| --mct-port-channel id| --rack-l3-backup-port port| --rack-mct-ports port| --rack-ld-l3-backup-port port| --rack-ld-mct-ports port| --control-vlan id| --control-ve id| --vni-auto-map yes | no| --backup-routing-enable yes | no| --backup-routing-ipv4-range range| --backup-routing-ipv6-range range| --mdtgroup-range range| --default-mdtgroup ipv4-address| --help ]
```

### Parameters

**--name** *fabric-name*

Specifies the name of the fabric.

**--p2p-link-range** *ip-pool*

Specifies the IP address pool used for P2P link configuration.

**--loopback-ip-range** *ip-pool*

Specifies the IP address pool for the loopback interface to be used for unnumbered and VTEP IP.

**--rack-l3-backup-ip-range** *ip-pool*

Specifies the IP address pool for Layer 3 backup.

**--loopback-port-number** *id*

Specifies the loopback ID on the device to be used as the donor IP interface for the link between leaf and spine. Valid values range from 1 through 255.

**--vtep-loopback-port-number** *id*

Specifies the loopback ID on the device to be used as VTEP IP interface. Valid values range from 1 through 255.

- spine-asn-block** *asn-pool*  
Specifies the ASN pool for spine nodes or a single ASN.
- super-spine-asn-block** *asn*  
Specifies the single ASN.
- leaf-asn-block** *asn-pool*  
Specifies the ASN pool for leaf nodes.
- border-leaf-asn-block** *asn-pool*  
Specifies the ASN pool for border leaf nodes.
- rack-asn-block** *asn-pool*  
Specifies the ASN pool for rack nodes.
- anycast-mac-address** *mac*  
Specifies the IPv4 anycast MAC address in the following format: HHHH.HHHH.HHHH
- ipv6-anycast-mac-address** *mac*  
Specifies the IPv6 anycast MAC address in the following format: HHHH.HHHH.HHHH
- mac-aging-timeout** *timeout*  
Specifies the MAC aging timeout. Valid values are 0 (for no timeout) or 60 through 86400.
- mac-aging-conversation-timeout** *timeout*  
Specifies the MAC conversational aging timeout in seconds. Valid values are 0 (for no timeout) or 60 through 1000000.
- mac-move-limit** *limit*  
Specifies the MAC move detect limit. Valid values range from 5 through 500.
- duplicate-mac-timer** *time*  
Specifies the number of seconds for detecting a duplicate MAC address.
- duplicate-mac-timer-max-count** *max*  
Specifies the maximum number of duplicate MAC addresses that can be detected.
- configure-overlay-gateway**  
Configures Overlay Gateway.
- bfd-enable**  
Enables or disables BFD.
- bfd-tx** *interval*  
Specifies the BFD minimum transmit interval in milliseconds. Valid values range from 50 through 3000.
- bfd-rx** *interval*  
Specifies the BFD minimum receive interval in milliseconds. Valid values range from 50 through 30000.
- bfd-multiplier** *multiplier*  
Specifies the number of times that a packet is missed before BFD declares the neighbor is down. Valid values range from 3 through 50.
- bgp-multihop** *t1*

Determines the TTL value for eBGP neighbors that are not on directly connected networks. Valid values range from 1 through 255.

**--max-paths** *paths*

Specifies the maximum number of paths over which packets can be forwarded. Valid values range from 1 through 64.

**--allow-as-in** *path*

Disables the AS\_PATH check of the routes learned from the AS. Valid values range from 1 through 10.

**--mtu** *size*

(For SLX-OS 21.1 and later versions) The MTU size in bytes. Valid values range from 1500 through 9216.. (For other SLX-OS versions) The MTU size in bytes. Valid values range from 1548 through 9216.

**--ip-mtu** *size*

The IPv4 or IPv6 MTU size. Valid values range from 1300 through 9194.

**--leaf-peer-group** *group-name*

Specifies the name of the leaf peer group name. Valid name length is from 1 through 63 characters.

**--optimized-replication-enable** **yes | no**

Enables optimized replication. The default is no.

**--spine-peer-group** *group-name*

Specifies the name of the spine peer group. Valid name length is from 1 through 63 characters.

**--super-spine-peer-group** *group-name*

Specifies the name of the super spine peer group. Valid name length is from 1 through 63 characters.

**--rack-underlay-ebgp-peer-group** *group-name*

Specifies the eBGP peer group name of the rack underlay. Valid name length is from 1 through 63 characters.

**--rack-overlay-ebgp-peer-group** *group-name*

Specifies the eBGP peer group name of the rack overlay. Valid name length is from 1 through 63 characters.

**--mctlink-ip-range** *pool*

Specifies the IP address pool to be used for MCT peering.

**--lACP-timeout** **long | short**

Specifies LACP timeout for MCT member ports. Accepted values are long and short.

**--mct-port-channel** *id*

Specifies the port-channel interface ID to be used as an MCT peer-interface. Valid values range from 1 through 64.

**--rack-l3-backup-port** *port*

Specifies the rack Layer 3 backup port number. The default is 0/48.

**--rack-mct-ports** *port*

Specifies the rack MCT port numbers. The default is 0/46,0/47.

**--rack-ld-l3-backup-port** *port*

Specifies the Rack Low Density L3 Backup port (not applicable to SLX-9250) <STRING: default '0/32'>.

**--rack-ld-mct-ports** *port*

Specifies the rack low-density MCT port numbers. The default is 0/30,0/31.

**--control-vlan** *id*

Specifies the VLAN ID to be used as the MCT cluster control VLAN. Valid values range from 1 through 4090.

**--control-ve** *id*

Specifies the VE ID to be used as the MCT cluster control VE. Valid values range from 1 through 4090.

**--vni-auto-map** **yes | no**

Specifies whether to automatically map the VTEP VLAN (or bridge domain) to VNI mode.

**--backup-routing-enable** **yes | no**

Enables or disables backup routing.

**--backup-routing-ipv4-range** *range*

Specifies the IPv4 backup routing range.

**--backup-routing-ipv6-range** *range*

Specifies the IPv6 backup routing range.

**--mdtgroup-range** *range*

Specifies the IPv4 multicast address range in IP prefix format. For example: 239.0.0.0/8

**--default-mdtgroup** *ipv4-address*

Specifies the default IPv4 multicast address. The address must be from the MDT group range.

**--help**

Provides help for the selected command.

These examples update optimized replication, the MDT group, and the default MDT group.

```
# efa fabric setting --update --optimized-replication-enable yes --name fabric1
# efa fabric setting --update --mdtgroup-range 239.0.0.0/8 --name clos_fabric
# efa fabric setting --update --default-mdtgroup 239.1.1.1 --name clos_fabric
```

---

## efa fabric show

---

Displays the details of the fabric.

### Syntax

```
efa fabric show [--name fabric-name]
```

### Parameters

**--name** *fabric-name*

Specifies the name of the fabric.

### Usage Guidelines

Displays the details of all fabrics when the "--name" option is not provided.

Displays the details of the specified fabric when the "--name" option is provided.

### Examples

This example displays details for the BLR\_FABRIC.

```
efa fabric show --name BLR_FABRIC
```



## efa fabric show-config

---

Displays the config of a given fabric.

### Syntax

```
efa fabric show-config [ --name fabric name | --device-role leaf | spine  
| super-spine | border-leaf | --ip ip address ]
```

### Parameters

**--name**

Name of the fabric

**--device-role**

Role of devices for which config needs to show (leaf | spine | super-spine | border-leaf)

**--ip**

The specific ip provided in conjunction with the device-role field.

### Examples

```
efa fabric show-config --name BLR_FABRIC --device-role border-leaf --ip 10.25.225.58
```

---

## efa fabric show summary

---

Displays the summary of the specified fabric.

### Syntax

```
efa fabric show summary [--name fabric-name ]
```

### Parameters

**--name** *fabric-name*

Specifies the name of the fabric.

### Usage Guidelines

Displays the details of all fabrics when the “--name” option is not provided.

Displays the details of the specified fabric when the “--name” option is provided.

### Examples

This example displays a summary for the BLR\_FABRIC fabric.

```
efa fabric show summary --name BLR_FABRIC
```

## efa fabric topology show overlay

Displays the overlay connectivity (VxLAN tunnels) of the devices in a Fabric.

### Syntax

```
efa fabric topology show overlay [--name name ]
```

### Parameters

**--name** *name*

Specifies the name of the fabric.

### Examples

This example displays the overlay topology information for the fabric.

```
# efa fabric topology show overlay --name clos_fabric
```

OVERLAY ECAP	TYPE	TUNNEL TYPE	SOURCE LEAF IP	DESTINATION LEAF IP	SOURCE VTEP IP	DESTINATION VTEP IP	OVERLAY ADMIN STATE	OVERLAY OPER STATE
vxlan	172.31.254.9	unicast	10.24.80.158	10.24.80.159	172.31.254.7	172.31.254.9	up	up
vxlan	172.31.254.7	unicast	10.24.80.159	10.24.80.158	172.31.254.9	172.31.254.7	up	up
vxlan	239.1.1.1	multicast	10.24.80.158		172.31.254.7		up	up
vxlan	239.1.1.1	multicast	10.24.80.159		172.31.254.9		up	up

## efa fabric topology show physical

Displays the physical connectivity (LLDP neighbors) of the devices in a fabric.

### Syntax

```
efa fabric topology show physical [--name name]
```

### Parameters

**--name** *name*

Specifies the name of the Fabric.

### Examples

This example displays a portion of the physical topology information for the fabric.

```
efa fabric topology show physical --name clos_fabric
+-----+-----+-----+-----+-----+-----+
+-----+-----+
| SOURCE      | SOURCE      | DESTINATION | DESTINATION | SOURCE      | DESTINATION |
| SOURCE DEVICE| DESTINATION DEVICE|
| NODE IP     | NODE ROLE   | NODE IP     | NODE ROLE   | NODE INTERFACE | NODE |
INTERFACE  MULTI HOMED  MULTI HOMED
+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.24.80.135 | LEAF        | 10.25.225.163 | LEAF        | 0/39         | 0/39 |
| TRUE         | FALSE      |
| 10.24.80.135 | LEAF        | 10.25.225.163 | LEAF        | 0/40         | 0/40 |
| TRUE         | FALSE      |
| 10.24.80.135 | LEAF        | 10.24.80.134  | LEAF        | 0/46         | 0/46 |
| TRUE         | TRUE       |
|
| 10.24.80.134 | LEAF        | 10.24.80.135  | LEAF        | 0/46         | 0/46 |
| TRUE         | TRUE       |
```

## efa fabric topology show underlay

Displays the underlay connectivity (BGP neighbors) of the devices in a Fabric.

### Syntax

```
efa fabric topology show underlay [--name name]
```

### Parameters

**--name** *name*

Specifies the name of the Fabric.

### Examples

This example displays the underlay topology information for the fabric.

```
efa fabric topology show underlay --name clos_fabric
+-----+-----+-----+-----+-----+
| SOURCE      | DESTINATION  | SOURCE DEVICE | NEIGHBOR IP  | UNDERLAY   |
| DEVICE IP   | DEVICE IP    | ROUTER ID    |              | STATE      |
+-----+-----+-----+-----+-----+
| 10.25.225.163| 10.25.225.167| 172.31.254.24 | 10.20.20.16  | ESTAB      |
| 10.25.225.163| 10.24.80.135 | 172.31.254.24 | 172.31.254.19| ESTAB      |
| 10.25.225.163| 10.24.80.134 | 172.31.254.24 | 172.31.254.23| ESTAB      |
| 10.25.225.167| 10.25.225.163| 172.31.254.21 | 10.20.20.17  | ESTAB      |
| 10.25.225.167| 10.24.80.135 | 172.31.254.21 | 172.31.254.19| ESTAB      |
| 10.25.225.167| 10.24.80.134 | 172.31.254.21 | 172.31.254.23| ESTAB      |
| 10.24.80.134 | 10.24.80.135 | 172.31.254.23 | 10.20.20.14  | ESTAB      |
| 10.24.80.134 | 10.25.225.167| 172.31.254.23 | 172.31.254.21| ESTAB      |
| 10.24.80.134 | 10.25.225.163| 172.31.254.23 | 172.31.254.24| ESTAB      |
| 10.24.80.135 | 10.254.80.134| 172.31.254.19 | 10.20.20.15  | ESTAB      |
| 10.24.80.135 | 10.25.225.167| 172.31.254.19 | 172.31.254.21| ESTAB      |
| 10.24.80.135 | 10.25.225.163| 172.31.254.19 | 172.31.254.24| ESTAB      |
```

## efa inventory admin-state

---

Changes, displays, and deletes device state, state change history, or state change record.

### Syntax

```
efa inventory admin-state up [ --ip ipaddr|--help ]  
efa inventory admin-state down [--ip ipaddr|--help ]  
efa inventory admin-state detail [--uuid uuid|--help ]  
efa inventory admin-state delete [ --key ipaddr|--help ]  
efa inventory admin-state history [--ip ipaddr|--help ]  
efa inventory admin-state show [--ip ipaddr|--help ]
```

### Parameters

**up** **--ip** *ipaddr*

Changes the state of the specified device to "admin up" and generates a UUID for the instance.

**down** **--ip** *ipaddr*

Changes the state of the specified device to "admin down." Also puts the device in maintenance mode and generates a UUID for the instance.

**detail** **--uuid** *uuid*

Displays details of the admin state change for the specified UUID.

**delete** **--key** *ipaddr*

Deletes the instance of the admin state change for the specified IP address.

**history** **--ip** *ipaddr*

Displays the admin status history for the specified device.

**show** **--ip** *ipaddr*

Displays details of the state of the specified device. Derives the operational up or down status from the health status of the device.

**--help**

Displays help for the selected command.

### Usage Guidelines

When a device changes to "admin down" state, the device goes into maintenance mode.

When a device changes to "admin up" state, the device is taken out of maintenance mode.

For more information, see the "Administered Partial Success" topic in the [Extreme Fabric Automation Administration Guide, 2.4.0](#).

## Examples

This example changes the device state to "admin up" and generates a UUID to use in the **efa inventory admin-state detail** version of the command.

```
$ efa inventory admin-state up --ip 10.24.80.158
AdminStateUp [success]
Admin State Up execution UUID: 8d9fa0cf-dc76-42cc-ac7a-57902a47c1b2
```

This example changes the device state to "admin down" generates a UUID to use in the **efa inventory admin-state detail** version of the command.

```
$ efa inventory admin-state down --ip 10.24.80.158
AdminStateDown [success]
Admin State Down execution UUID: 28eb0845-7a7a-4851-b453-b3020c6900f2
```

This example displays the history of the admin status for the specified device.

```
# efa inventory admin-state history --ip 10.24.80.158
-----
UUID                               Device IP      Admin State   Status
-----
8d9fa0cf-dc76-42cc-ac7a-57902a47c1b2  10.24.80.158  up            success
-----
28eb0845-7a7a-4851-b453-b3020c6900f2  10.24.80.158  down          success
-----
Device State Change Records
- Time Elapsed: 172.640786ms -
```

This example shows details of admin state changes for the specified UUID.

```
$ efa inventory admin-state detail --uuid 28eb0845-7a7a-4851-b453-b3020c6900f2
-----+
NAME                VALUE
-----+
UUID                28eb0845-7a7a-4851-b453-b3020c6900f2
-----+
Device IP           10.24.80.158
-----+
Admin State Action  down
-----+
Status              success
-----+
Maintenance Mode   Enable Status    success
-----+
Start Time          2020-07-30 10:04:33.982447 +0000 UTC
-----+
Last Modified       2020-07-30 10:04:38.437425 +0000 UTC
-----+
Duration            4.454976211s
-----+
- Time Elapsed: 183.253381ms -
```

This example shows details of the state of the specified device.

```
$ efa inventory admin-state show --ip 10.24.80.158
-----+
NAME                VALUE
-----+
Device IP           10.24.80.158
-----+
Admin State         up
-----+
Health Check Status Disable
-----+
- Time Elapsed: 241.831181ms -
```

This example deletes the state change instance for the specified IP address.

```
$ efa inventory admin-state delete --key 10.24.80.159
```

```
-----  
USERKEY      STATUS      ERROR  
-----
```

```
10.24.80.159  deleted  
-----
```

```
- Time Elapsed: 216.332171ms -
```



## efa inventory config-backup

---

Configures the backup for device configuration.

### Syntax

```
efa inventory config-backup history[ --ip ip-address | --help ]
efa inventory config-backup execute[ --ip ip-address | --help ]
efa inventory config-backup delete[ --key ip-address | --help ]
efa inventory config-backup detail[ --uuid cb-uuid | --show-config | --
  file-dump filename| --help ]
```

### Parameters

#### **detail**

Displays details of the configuration backup.

#### **delete**

Deletes the configuration backup record.

#### **execute**

Runs the configuration backup for the SLX device.

**--file-dump** *filename*

Dumps configuration text to the specified file.

#### **--help**

Provides help for the command.

#### **history**

Displays the history of configuration backup.

**--ip** *ip-address*

Specifies the IP address of the device.

**--key** *ip-address*

Specifies the IP address of the device or config-backup UUID to be deleted.

#### **--show-config**

Displays configuration text.

**--uuid** *cb-uuid*

Specifies the ID of the configuration backup.

### Examples

The following examples show **#efa inventory config-backup** commands.

```
# efa inventory config-backup execute --ip 10.24.14.133
# efa inventory config-backup history --ip 10.24.14.133
# efa inventory config-backup detail --uuid 1111-1111-1111 --show-config
# efa inventory config-backup detail --uuid 1111-1111-1111 --show-config --file-dump
```

```
fileABC
# efa inventory config-backup delete --key 10.24.14.133
# efa inventory config-backup delete --key 1111-1111-111
```

## efa inventory config-replay

---

Configures device config-replay.

### Syntax

```
efa inventory config-replay history [--ip ip-addr| --help ]
```

```
efa inventory config-replay execute [--ip ip-addr| --uuid cr-uuid| --ssid  
ssid| --startup-config | --no-reboot | --help ]
```

```
efa inventory config-replay delete [--key ip-addr| --help ]
```

```
efa inventory config-replay detail [--uuid cr-uuid | --help ]
```

### Parameters

**--detail**

Displays config-backup detail.

**--delete**

Deletes the config-backup record.

**--execute**

Runs the SLX configuration backup.

**--help**

Displays help for config-replay commands.

**--history**

Displays the config-replay history.

**--ip** *ip-addr*

Specifies the IP address of the device.

**--key** *ip-addr*

Specifies the IP address of the device or config-replay UUID to be deleted.

**--ssid** *ssid*

Specifies the SSID of config-backup execution.

**--startup-config**

Copies the backup file to the startup-config file.

**--no-reboot**

Configures replay without rebooting the device.

**--uuid** *cr-uuid*

Specifies the config replay ID or UUID of config backup execution.

## Examples

The following examples show **efa inventory config-replay** commands.

```
# efa inventory config-replay execute --ip 10.24.14.133 --uuid 1111-1111-111
# efa inventory config-replay history --ip 10.24.14.133
# efa inventory config-replay detail --uuid 1111-1111-1111
# efa inventory config-replay delete --key 10.24.14.133
# efa inventory config-replay delete --key 1111-1111-111
# efa inventory config-replay execute --ip 10.24.14.133 --uuid 1111-1111-111 --startup-
config
# efa inventory config-replay execute --ip 10.24.14.133 --uuid 1111-1111-111 --no-reboot
```

## efa inventory debug devices-lock

Displays lock status of the devices.

### Syntax

```
efa inventory debug devices-lock
```

### Usage Guidelines

Diagnostic commands are developed and intended for specialized troubleshooting. Work closely with Extreme Networks technical support when running **debug** or **show system internal** commands and interpreting their results.

### Examples

```
(efa:extreme)extreme@tpvm51:~$ efa inventory debug devices-lock
+-----+-----+
| IP Address | Locked |
+-----+-----+
| 10.20.49.119 | false |
+-----+-----+
| 10.20.49.118 | false |
+-----+-----+
| 10.20.50.202 | false |
+-----+-----+
| 10.20.50.201 | false |
+-----+-----+
| 10.20.61.91  | false |
+-----+-----+
| 10.20.61.90  | false |
+-----+-----+
| 10.20.50.206 | false |
+-----+-----+
| 10.20.50.205 | false |
+-----+-----+
Devices Lock Status
--- Time Elapsed: 155.281222ms ---
```

## efa inventory device compare

---

Compares the device configuration with the configuration details saved in the application.

### Syntax

```
efa inventory device compare [ --ip | --help ]
```

### Parameters

**--ip**

Specifies IP Address of the device to be compared.

**--help**

Provides help for compare.

## efa inventory device delete

---

Deletes the device.

### Syntax

```
efa inventory device delete [ --ip | --fabric | --help]
```

### Parameters

**--ip**

Specifies comma separated range of device IP addresses. Example: 1.1.1-3,1.1.2,2.2.2.2.

**--fabric**

Fabric name for which devices needs to be deleted.

**--help**

Provides help for compare.

## efa inventory device discovery-time list

---

Displays the configured device discovery interval for devices or for a Fabric.

### Syntax

```
efa inventory device discovery-time list { --ips ip-addr | --fabric fabric-name }
```

### Command Default

The default discovery interval is one hour.

### Parameters

**--ips** *ip-addr*

Specifies a comma-separated list of the IP addresses for which you want to see the configured interval. For example, 1.1.1.1,2.2.2.2.

**--fabric** *fabric-name*

Specifies the name of the Fabric for which you want to see the configured interval for every device.

### Examples

This example displays the device discovery interval for each device in the Fabric named myFabric.

```
efa inventory device discovery-time list --fabric myFabric
```

This example displays the device discovery interval for two device IP addresses.

```
efa inventory device discovery interval --ips 1.1.1.1,2.2.2.2
```



## efa inventory device discovery-time update

---

Configures the interval for periodic discovery of devices.

### Syntax

```
efa inventory device discovery-time update { --ip ip-addr | --fabric fabric-name } { --min minutes | --hour hours}
```

### Command Default

The default discovery interval is one hour.

### Parameters

**--ip** *ip-addr*

Specifies the IP address of the device for which you are configuring the interval.

**--fabric** *fabric-name*

Specifies the name of the Fabric for which you are configuring the interval. All devices in this Fabric will have the same interval.

**--min** *minutes*

Specifies the interval in minutes.

**--hour** *hours*

Specifies the interval in hours.

### Usage Guidelines

Tenant and Fabric Services use periodic discovery to detect out-of-sync configurations on the devices.

Fabric and Tenant Services act on the published events and update the database to reflect the status of the devices as in-sync and out-of-sync.

### Examples

This example configures an interval of 20 minutes for a specific IP address.

```
efa inventory device discovery-time update --ip 1.1.1.1 --min 20
```

This example configures an interval of 2 hours for a Fabric named myFabric.

```
efa inventory device discovery-time update -- fabric myFabric --hour 2
```

## efa inventory device execute-cli

Executes CLI on the device.

### Syntax

```
efa inventory device execute-cli [ --ip | --fabric | --role | --command |
  --config | --help ]
```

### Parameters

#### --ip

Specifies comma separated range of device IP addresses. Example: 1.1.1.1-3,1.1.1.2,2.2.2.2.

#### --fabric

Specifies devices from the fabric.

#### --role

Specifies devices based on role from the fabric.

#### --command

Specifies a comma or semi-colon separated list of CLI commands to execute on the devices.

#### --config

Indicates whether commands are for config-term or exec-mode.

#### --help

Provides help for execute-cli.

```
# efa inventory device execute-cli --ip 10.18.120.187 --command "Interface ethernet 0/1,
no reload-delay enable" --config
```

## efa inventory device firmware-download commit

Where firmware download was started with the `NoAutoCommit` flag, this command commits new firmware.

```
efa inventory device firmware-download commit [ --fabric | --ip | --help ]
```

#### --fabric *fabric-name*

Specifies the name of the fabric.

#### --ip

Specifies a comma-separated list of device IP addresses

#### --help

Displays help for the command.

```
efa inventory device firmware-download commit --fabric fabric1
Firmware Download Commit for fabric fabric1 - [success]
+-----+-----+-----+-----+
| DeviceIP    | Device FWDL Status                | Error |
+-----+-----+-----+-----+
| 10.20.246.6 | Firmware Committed Successfully   |       |
```

```
+-----+-----+-----+
--- Time Elapsed: 1m25.765540754s ---
```

## efa inventory device firmware-download execute

Clears out the prepared list for successfully completed devices. Any failed devices will remain in the prepared list to allow for the execution to be retried.

### Syntax

- In EFA 2.3.0, the firmware download process auto commits the firmware following successful completion.
- Starting in EFA 2.4.0, the flag `NoAutoCommit` makes this behavior user-driven. Now you can manually execute a new commit command to commit the downloaded firmware on SLX.

```
efa inventory device firmware-download execute [ --fabric fabric-name | --noAutoCommit | --noMaintMode | --help ]
```

### Parameters

**--fabric** *fabric-name*

Specifies the name of the fabric.

**--noAutoCommit**

Configures auto commit in firmware download. By default, the firmware download process auto-commits the firmware following successful completion. Only if you add the `noAutoCommit` flag, must you manually execute a new `efa inventory device firmware-download commit` command to commit the downloaded firmware on the SLX device.

**--noMaintMode**

You can use the `noMaintMode` flag to ignore Maintenance Mode operations during firmware download. The flag defaults to `FALSE`, which means Maintenance Mode is enabled and disabled during Firmware Download. If you add the `noMaintMode` flag, no Maintenance mode operations are performed during the firmware download process.

The following table describes situations in which the `noMaintMode` flag works in conjunction with configuration of `MaintModeOnReboot` on the switch.

MaintModeOnReboot	NoMaintMode(FWDL)	DRC Behavior
True	True	DRC is triggered after reboot.
True	False	DRC is triggered.
False	True	No DRC is triggered.
False	False	DRC is triggered.

**--help**

Displays help for the command.

## Usage Guidelines

General warning for traffic loss for single-homed servers if any leaf devices or non-Clos devices are prepared for firmware-download.

One or more devices are prepared.

Run only one instance of this command per fabric.

```
efa inventory device firmware-download execute --noAutoCommit --fabric fabric
Firmware Download Execute [success]
Monitor firmware download execution progress using:
```

```
efa inventory device firmware-download show --fabric fabric
```

Please don't execute other commands on these devices until firmware download is in progress

Firmware download execution initiated with '--noAutoCommit' flag, please commit/restore after completion using:

```
efa inventory device firmware-download commit --fabric fabric
efa inventory device firmware-download restore --fabric fabric
```

```
--- Time Elapsed: 126.85805ms ---
```

```
efa inventory device firmware-download show --fabric fabric
```

```
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| IP Address | Host Name | Model | Chassis Name | ASN | Role | Current
Firmware    | Target Firmware | Update State |
Status      | Last Update Time |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 10.20.246.5 | NHF-Leaf1 | 3009 | SLX9150-48Y | 0 | Leaf |
20.2.2slxos20.2.2b_201208_0600 | | Not Prepared
| |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 10.20.246.6 | NHF-Leaf2 | 3009 | SLX9150-48Y | 0 | Leaf |
20.2.2slxos20.2.2b_201211_1800 | 20.2.2slxos20.2.2b_201211_1800 | Completed | Firmware
Not Committed | 2020-12-11 19:54:25 -0800 PST |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
```

Firmware Download Show Details

Firmware Download Show Overall Status [Completed]

If Firmware download execution initiated with '--noAutoCommit' flag, please commit/restore after completion using:

```
efa inventory device firmware-download commit --fabric fabric
```

```
efa inventory device firmware-download restore --fabric fabric
```

```
--- Time Elapsed: 176.290954ms ---
```

```
efa inventory device firmware-download execute --fabric fabric1 --noMaintMode
Firmware Download Execute [success]
```

```
Monitor firmware download execution progress using:  
efa inventory device firmware-download show --fabric fabric1
```

```
Please don't execute other commands on these devices until firmware download is in  
progress
```

```
--- Time Elapsed: 137.250437ms ---
```

---

## efa inventory device firmware-download prepare add

---

Prepares a device for a firmware download. Firmware host sanity validations will be done at this time. If the validations are successful, then the device will be prepared.

### Syntax

```
efa inventory device firmware-download prepare add [ --ip device ip address | --fabric fabric name | --firmware-host firmware download host ip address | --firmware-directory path to the target firmware build | --help ]
```

### Command Default

Traffic loss expected for non-redundant devices (single non-MCT leaf, spine, or super spine).

### Parameters

**--fabric**

Name of the fabric

**--firmware-host**

Firmware download host IP address

**--firmware-directory**

Path to the target firmware build

**--ip**

Specifies a comma-separated list of device IP addresses

**--help**

Help for add

### Usage Guidelines

Firmware host must be registered.

Device IPs belong to the same fabric (for Clos topologies).

Do not allow devices to be prepared if a firmware-download is in progress.

Allow a device to be prepared after a firmware-download has completed or in an unprepared state.

Do not allow for both MCT leaf pairs to be prepared together.

Do not allow for all spines in the same pod of the same fabric to be prepared together.

Do not allow for all super-spines in the fabric to be prepared together.

Firmware sanity check performed for the registered firmware-host and firmware-directory on the given device.

### Examples

```

efa inventory device firmware-download prepare add --ip 10.24.12.122 --firmware-host
10.31.2.101 --firmware-directory /proj/buildsjc/sre/SQA/slxos/20.1.1/20.1.1_bld60

Fabric Name: stage5

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| IP Address | Host Name | Model | Chassis Name | ASN | Role | Current Firmware |
Firmware Host |           |       |               |     |     | Last Update
Time          |           |       |               |     |     |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.24.12.122 | SLX      | 3010 | SLX9150-48XT | 65001 | Leaf | 20.1.1_bld59      |
10.31.2.101 | /proj/buildsjc/sre/SQA/slxos/20.1.1/20.1.1_bld60 | 2019-10-21
06:30:15.736483-07 |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+

Firmware Download Prepare Details

Prepare Device Firmware Download [Success]

10.24.12.122 [Succeeded]
    
```



## efa inventory device firmware-download prepare list

Prepares a list of all devices for firmware download.

### Syntax

```
efa inventory device firmware-download prepare list [ --ip device-ip-address | --fabric fabric-name | --help ]
```

### Parameters

**--fabric** *fabric-name*

Specifies the name of the fabric.

**--ip** *device-ip-address*

Specifies a comma-separated list of device IP addresses.

**--help**

Provides help for the command.

### Examples

```
efa inventory device firmware-download prepare list --fabric stage5

Fabric Name: stage5

+-----+-----+-----+-----+-----+-----+-----+
+
| IP Address | Host Name | Model | Chassis Name | ASN | Role | Current Firmware |
|
+-----+-----+-----+-----+-----+-----+-----+
+
| 10.24.12.153 | SLX      | 3012 | SLX9250      | 64512 | SuperSpine | 20.1.1_bld59 |
|
| 10.24.12.146 | SLX      | 3012 | SLX9250      | 64521 | Spine      | 20.1.1_bld59 |
|
| 10.24.12.148 | SLX      | 3012 | SLX9250      | 64523 | Spine      | 20.1.1_bld59 |
|
| 10.24.12.121 | SLX      | 3010 | SLX9150-48XT | 65001 | Leaf       | 20.1.1_bld59 |
|
| 10.24.12.123 | SLX      | 3010 | SLX9150-48XT | 65002 | Leaf       | 20.1.1_bld59 |
|
| 10.24.12.125 | SLX      | 3010 | SLX9150-48XT | 65003 | Leaf       | 20.1.1_bld59 |
|
| 10.24.12.127 | SLX      | 3010 | SLX9150-48XT | 65004 | Leaf       | 20.1.1_bld59 |
||
+-----+-----+-----+-----+-----+-----+-----+
```

```
+
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Firmware Host |           Firmware Directory           |           Last Update
Time          |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.31.2.101 | /proj/buildsjc/sre/SQA/slxos/20.1.1/20.1.1_bld60 | 2019-10-21
06:30:01.424591-07 |
| 10.31.2.101 | /proj/buildsjc/sre/SQA/slxos/20.1.1/20.1.1_bld60 | 2019-10-21
06:30:01.424591-07 |
| 10.31.2.101 | /proj/buildsjc/sre/SQA/slxos/20.1.1/20.1.1_bld60 | 2019-10-21
06:30:01.424591-07 |
| 10.31.2.101 | /proj/buildsjc/sre/SQA/slxos/20.1.1/20.1.1_bld60 | 2019-10-21
06:30:01.424591-07 |
| 10.31.2.101 | /proj/buildsjc/sre/SQA/slxos/20.1.1/20.1.1_bld60 | 2019-10-21
06:30:01.424591-07 |
| 10.31.2.101 | /proj/buildsjc/sre/SQA/slxos/20.1.1/20.1.1_bld60 | 2019-10-21
06:30:01.424591-07 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
```

## efa inventory device firmware-download prepare remove

Removes the specified device from the prepared list and unprepares the device if it is already prepared.

### Syntax

```
efa inventory device firmware-download prepare remove [ --fabric fabric-name | --ip device-ip-address | --help ]
```

### Parameters

**--fabric** *fabric-name*

Specifies the name of the fabric.

**--ip** *device-ip-address*

Specifies a comma-separated list of device IP addresses.

**--help**

Displays help for the command.

## efa inventory device firmware-download restore

Where firmware download was started with the `NoAutoCommit` flag, this command restores the installed firmware.

```
efa inventory device firmware-download restore [ --fabric | --ip | --help ]
```

**--fabric** *fabric-name*

Specifies the name of the fabric.

**--ip**

Specifies a comma-separated list of device IP addresses.

**--help**

Displays help for the command.

The restore operation involves a reload of the device. Careful selection of which devices to restore together should be done to minimize traffic loss.

```
efa inventory device firmware-download restore --fabric fabric1
Firmware Download Restore for fabric fabric1 - [success]
+-----+-----+-----+
| DeviceIP   | Device FWDL Status           | Error |
+-----+-----+-----+
| 10.20.246.6 | Firmware Restored Successfully |       |
+-----+-----+-----+
--- Time Elapsed: 1m25.765540754s ---
```

## efa inventory device firmware-download show

Shows the progress and status of the running firmware download.

### Syntax

```
efa inventory device firmware-download show [ --fabric fabric-name | --ip device-ip-address | --help ]
```

### Parameters

- fabric fabric-name**  
Specifies the name of the fabric.
- ip device-ip-address**  
Specifies a comma-separated list of device IP addresses.
- help**  
Displays help for the command.

### Examples

This example shows only some of possible output.

```
efa inventory device firmware-download show --fabric stage5
```

```
Fabric Name: stage5
```

Host Name	Model	Chassis Name	ASN	Role	Current Firmware
SLX	3012	SLX9250	64512	SuperSpine	20.1.1_bld60
SLX	3012	SLX9250	64513	SpineSpine	20.1.1_bld60
SLX	3012	SLX9250	64521	Spine	20.1.1_bld60
SLX	3012	SLX9250	64522	Spine	20.1.1_bld60
SLX	3012	SLX9250	64523	Spine	20.1.1_bld60

Target Firmware Time	Update State	Status	Last Update
20.1.1_bld60 06:30:01.424591-07	Completed		2019-10-21
20.1.1_bld60 06:30:09.744543-07	Completed		2019-10-21
20.1.1_bld60 06:30:16.563591-07	Completed		2019-10-21
20.1.1_bld60 06:30:15.736483-07	Completed		2019-10-21
20.1.1_bld60 06:30:17.665491-07	Completed		2019-10-21

## efa inventory device health status

---

Displays device health status.

### Syntax

```
efa inventory device health status [ --ip | --help ]
```

### Parameters

**--ip**

Specifies IP address of the device.

**--help**

Provides help for status.

## efa inventory device interface list

Displays the list of interfaces and details for the specified IP address.

### Syntax

```
efa inventory device interface list [ --ip ip-addr | --help ]
```

### Parameters

**--ip** *ip-addr*

Specifies the IP address of the device for which you want to see a list of interfaces.

**--help**

Displays help for the command.

### Examples

The following example shows typical output for the command.

```
efa inventory device interface list --ip 10.20.216.18
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| DeviceIP | Name | Interface Type | Admin Status | Oper Status |
Description | Line Speed | MAC | Switchport Mode | IP Address |
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/1 | ethernet | up | up | |
| | | | 10Gbps | 00:04:96:e1:0c:56 | unknown |
| | | | | | |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/10 | ethernet | up | down | Port-channel po8
Member interface | unknown | 00:04:96:e1:0c:5f | unknown | |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/11 | ethernet | up | down | Port-channel po9
Member interface | unknown | 00:04:96:e1:0c:60 | unknown | |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/12 | ethernet | up | down | Port-channel po10
Member interface | unknown | 00:04:96:e1:0c:61 | unknown | |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/13 | ethernet | up | down | Port-channel po51
Member interface | unknown | 00:04:96:e1:0c:62 | unknown | |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/14 | ethernet | up | down | Port-channel po51
Member interface | unknown | 00:04:96:e1:0c:62 | unknown | |
+-----+-----+-----+-----+-----+
+-----+
```

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/15 | ethernet      | up      | down      | Port-channel po52
Member interface | unknown | 00:04:96:e1:0c:63 | unknown |          |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/16 | ethernet      | up      | down      | Port-channel po52
Member interface | unknown | 00:04:96:e1:0c:63 | unknown |          |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/17 | ethernet      | up      | down      | Port-channel po5
Member interface | unknown | 00:04:96:e1:0c:65 | unknown |          |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/18 | ethernet      | up      | down      |
|                |         | unknown       | 00:04:96:e1:0c:67 | unknown
|                |         |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/19 | ethernet      | up      | down      |
|                |         | unknown       | 00:04:96:e1:0c:68 | unknown
|                |         |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/2  | ethernet      | up      | up        |
|                |         | 10Gbps       | 00:04:96:e1:0c:57 | unknown
|                |         |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/20 | ethernet      | up      | down      |
|                |         | unknown       | 00:04:96:e1:0c:69 | unknown
|                |         |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/21 | ethernet      | up      | down      |
|                |         | unknown       | 00:04:96:e1:0c:6a | unknown
|                |         |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/22 | ethernet      | up      | down      |
|                |         | unknown       | 00:04:96:e1:0c:6b | unknown
|                |         |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/23 | ethernet      | up      | down      |
|                |         | unknown       | 00:04:96:e1:0c:6c | unknown
|                |         |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/24 | ethernet      | up      | down      |
|                |         | unknown       | 00:04:96:e1:0c:6d | unknown
|                |         |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

```

+-----+
| 10.20.216.18 | 0/25 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:6e | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/26 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:6f | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/27 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:70 | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/28 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:71 | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/29 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:72 | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/3  | ethernet      | up      | down      | Port-channel pol
Member interface | unknown | 00:04:96:e1:0c:58 | unknown |               |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/30 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:73 | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/31 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:74 | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/32 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:75 | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/33 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:76 | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/34 | ethernet      | up      | down      |
|              |      |               | unknown | 00:04:96:e1:0c:77 | unknown
|              |      |               |         |               |
+-----+-----+-----+-----+

```



```

+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/35 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:78 | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/36 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:79 | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/37 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:7a | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/38 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:7b | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/39 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:7c | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/4  | ethernet      | up      | down      | |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:59 | unknown |
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/40 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:7d | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/41 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:7e | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/42 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:7f | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/43 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:80 | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/44 | ethernet      | up      | down      |
|               |      |               |         |           |
|               |      |               | unknown | 00:04:96:e1:0c:81 | unknown
|               |      |               |         |           |
+-----+-----+-----+-----+-----+

```

```

+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/45 | ethernet      | up      | down      |
|              |      |               |         |           |
|              |      |               | unknown | 00:04:96:e1:0c:82 | unknown
|              |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/46 | ethernet      | up      | down      |
|              |      |               |         |           |
|              |      |               | unknown | 00:04:96:e1:0c:83 | unknown
|              |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/47 | ethernet      | up      | down      |
|              |      |               |         |           |
|              |      |               | unknown | 00:04:96:e1:0c:84 | unknown
|              |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/48 | ethernet      | up      | down      |
|              |      |               |         |           |
|              |      |               | unknown | 00:04:96:e1:0c:85 | unknown
|              |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/49 | ethernet      | up      | down      |
clusterPeerIntfMember |         |           | unknown | 00:04:96:e1:0c:66 | unknown
|              |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/5  | ethernet      | up      | down      |
Member interface | unknown | 00:04:96:e1:0c:5a | unknown | Port-channel po3
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/50 | ethernet      | up      | down      |
clusterPeerIntfMember |         |           | unknown | 00:04:96:e1:0c:66 | unknown
|              |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/51 | ethernet      | up      | up        |
|              |      |               | 100Gbps | 00:04:96:e1:0c:88 | unknown
|              |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/52 | ethernet      | up      | up        |
|              |      |               | 100Gbps | 00:04:96:e1:0c:89 | unknown
|              |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/53 | ethernet      | up      | down      |
|              |      |               |         |           |
|              |      |               | unknown | 00:04:96:e1:0c:8a | unknown
|              |      |               |         |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/54 | ethernet      | up      | down      |
|              |      |               |         |           |
|              |      |               | unknown | 00:04:96:e1:0c:8b | unknown
|              |      |               |         |           |

```

```

|          |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/55 | ethernet      | up      | down      |
|              |      |               |         |           |
|              |      |               | unknown | 00:04:96:e1:0c:8c | unknown
|          |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/56 | ethernet      | up      | down      |
|              |      |               |         |           |
|              |      |               | unknown | 00:04:96:e1:0c:8d | unknown
|          |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/6  | ethernet      | up      | down      |
Member interface | unknown | 00:04:96:e1:0c:5b | unknown |
|              |      |               |         |           |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/7  | ethernet      | up      | up        |
|              |      |               | 1Gbps  |           |
|              |      |               |         |           |
|              |      |               |         |           |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/8  | ethernet      | up      | down      |
Member interface | unknown | 00:04:96:e1:0c:5d | unknown |
|              |      |               |         |           |
+-----+-----+-----+-----+
+-----+
| 10.20.216.18 | 0/9  | ethernet      | up      | down      |
Member interface | unknown | 00:04:96:e1:0c:5e | unknown |
|              |      |               |         |           |
+-----+-----+-----+-----+
+-----+
Interface Details
--- Time Elapsed: 155.717081ms ---

```

## efa inventory device interface set-admin-state

Brings an interface administratively up or down.

### Syntax

```
efa inventory device interface set-admin-state {--ip device-ip |--fabric
  fab-name }--if-type eth --if-name if-list --state [ up | down }
```

### Command Default

By default, all ports on the SLX device are down.

### Parameters

**--ip** *device-ip*

Specifies a comma-separated list of device IP addresses.

**--fabric** *fab-name*

Specifies a Fabric name.

**--if-type** eth

Specifies that the interface type is Ethernet, which is the default setting.

**--if-name** *if-list*

Specifies a comma-separated list of interface names.

**--state** { up | down }

Specifies a state of up or down.

### Usage Guidelines

In SLX-OS, you can use the **show interface ethernet** command to see the status of the Ethernet interfaces on your device.

### Examples

This example changes the Admin Status on one IP address.

```
efa inventory device interface set-admin-state --ip 10.25.225.167
--if-name 0/20-22 --state down
+-----+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Admin Status | Result | Reason |
+-----+-----+-----+-----+-----+-----+-----+
| 10.25.225.167 | 9 | 0/21 | ethernet | down | Success | |
+-----+-----+-----+-----+-----+-----+-----+
| | 89 | 0/20 | ethernet | down | Success | |
+-----+-----+-----+-----+-----+-----+-----+
| | 1 | 0/22 | ethernet | down | Success | |
+-----+-----+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 19.5606145s ---
```

This example attempts to change the Admin Status on two IP addresses, however one IP address is invalid.

```
efa inventory device interface set-admin-state --ip 10.25.225.167,10.10.10.10
--if-name 0/20-22 --state down
```

DeviceIP	ID	Name	Interface Type	Admin Status	Result	Reason
10.10.10.10					Failed	Device does not exist with IP: 10.10.10.10
10.25.225.167	9	0/21	ethernet	down	Success	
	89	0/20	ethernet	down	Success	
	1	0/22	ethernet	down	Success	

Interface Details  
--- Time Elapsed: 20.740265s ---

This example changes the Admin State on multiple valid IP addresses.

```
efa inventory device interface set-admin-state
--ip 10.25.225.167,10.24.48.131,10.24.51.135 --if-name 0/20-22 --state up
```

DeviceIP	ID	Name	Interface Type	Admin Status	Result	Reason
10.24.48.131	110	0/21	ethernet	up	Success	
	142	0/20	ethernet	up	Success	
	148	0/22	ethernet	up	Success	
10.24.51.135	16	0/21	ethernet	up	Success	
	48	0/22	ethernet	up	Success	
	86	0/20	ethernet	up	Success	
10.25.225.167	9	0/21	ethernet	up	Success	
	89	0/20	ethernet	up	Success	
	1	0/22	ethernet	up	Success	

Interface Details  
--- Time Elapsed: 56.4964544s ---

This example changes the Admin Status for the specified Fabric name.

```
efa inventory device interface set-admin-state --fabric nc_no_vni
--if-name 0/20-22 --state up
```

DeviceIP	ID	Name	Interface Type	Admin Status	Result	Reason
10.24.51.135	48	0/22	ethernet	up	Success	
	16	0/21	ethernet	up	Success	
	86	0/20	ethernet	up	Success	
10.24.48.131	148	0/22	ethernet	up	Success	

```
|          | 142 | 0/20 | ethernet      | up          | Success |          |
+-----+-----+-----+-----+-----+-----+-----+
|          | 110 | 0/21 | ethernet      | up          | Success |          |
+-----+-----+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 37.9236481s ---
```

## efa inventory device interface set-breakout

Breaks a port into multiple interfaces, such as breaking one 40G port into four 10G ports.

### Syntax

```
efa inventory device interface set-breakout {--ip device-ip | --fabric
  fab-name } {--if-type eth --if-name if-list } {--mode { 1x10g | 1x25g
  | 1x40g | 1x100g | 2x40g | 2x50g | 4x10g | 4x25g} }
```

### Parameters

**--ip** *device-ip*

Specifies a comma-separated list of device IP addresses.

**--fabric** *fab-name*

Specifies a Fabric name.

**--if-type** eth

Specifies that the interface type is Ethernet, which is the default setting.

**--if-name** *if-list*

Specifies a comma-separated list of interface names.

**--mode** { 1x10g | 1x25g | 1x40g | 1x100g | 2x40g | 2x50g | 4x10g | 4x25g }

Specifies the number of ports you want.

### Usage Guidelines

In SLX-OS, you can use the **show running-config hardware** command to see whether breakout mode is configured for a device.

The new breakout interfaces you create are identified by the name of the original interface followed by a suffix.

### Examples

This example breaks three interfaces into four ports each.

```
efa inventory device interface set-breakout --ip 10.24.80.158
+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Result |
+-----+-----+-----+-----+
| 10.24.80.158 | 73 | 0/2:2 | ethernet | Success |
+-----+-----+-----+-----+
| | 72 | 0/1:4 | ethernet | Success |
+-----+-----+-----+-----+
| | 74 | 0/3:2 | ethernet | Success |
+-----+-----+-----+-----+
| | 78 | 0/3:3 | ethernet | Success |
+-----+-----+-----+-----+
| | 75 | 0/3:4 | ethernet | Success |
+-----+-----+-----+-----+
```

```

|           | 70 | 0/1:1 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 71 | 0/1:3 | ethernet      | Success |
+-----+-----+-----+-----+
|           | 80 | 0/2:1 | ethernet      | Success |
+-----+-----+-----+-----+
|           | 79 | 0/1:2 | ethernet      | Success |
+-----+-----+-----+-----+
|           | 76 | 0/2:3 | ethernet      | Success |
+-----+-----+-----+-----+
|           | 69 | 0/3:1 | ethernet      | Success |
+-----+-----+-----+-----+
|           | 77 | 0/2:4 | ethernet      | Success |
+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 48.3801684s ---

```

This example attempts to break out ports on two devices, but one IP address is invalid.

```

efa inventory device interface set-breakout
--ip 10.24.80.158,10.10.10
+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Result | Reason
+-----+-----+-----+-----+-----+-----+
| 10.10.10.10 |   |   |   | Failed | Device does not
|           |   |   |   |   | exist with IP:
|           |   |   |   |   | 10.10.10.10
+-----+-----+-----+-----+-----+-----+
| 10.24.80.158 | 94 | 0/8:3 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 91 | 0/9:3 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 83 | 0/9:4 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 86 | 0/6:3 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 82 | 0/7:1 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 88 | 0/7:3 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 89 | 0/7:4 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 90 | 0/9:2 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 81 | 0/9:1 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 95 | 0/6:1 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 93 | 0/8:2 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 92 | 0/8:4 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 96 | 0/6:2 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 84 | 0/7:2 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 87 | 0/6:4 | ethernet      | Success |
+-----+-----+-----+-----+-----+
|           | 85 | 0/8:1 | ethernet      | Success |
+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 59.3971958s ---

```



This example breaks out ports on multiple devices.

```

efa inventory device interface set-breakout
--ip 10.24.80.158,10.24.80
+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.158 | 0 | 0/9 | ethernet | Failed | Interface [0/9] from the
| | | | | | range [0/9-12] does not
| | | | | | exist or port is already
| | | | | | breakout for device
| | | | | | IP 10.24.80.158. Specify
| | | | | | a valid interface.
+-----+-----+-----+-----+-----+-----+
| | 105 | 0/10:2 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 108 | 0/12:2 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 102 | 0/12:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 101 | 0/10:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 99 | 0/11:1 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 107 | 0/12:1 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 103 | 0/10:1 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 104 | 0/11:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 97 | 0/12:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 106 | 0/10:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 98 | 0/11:2 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 100 | 0/11:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.159 | 120 | 0/10:1 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 114 | 0/9:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 118 | 0/10:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 116 | 0/10:2 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 111 | 0/9:2 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 121 | 0/11:2 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 122 | 0/11:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 124 | 0/11:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 117 | 0/12:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 112 | 0/9:1 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 123 | 0/12:1 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 119 | 0/9:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
| | 109 | 0/11:1 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+

```

```

|           | 110 | 0/12:3 | ethernet      | Success |           |
+-----+-----+-----+-----+-----+-----+
|           | 113 | 0/10:4 | ethernet      | Success |           |
+-----+-----+-----+-----+-----+
|           | 115 | 0/12:2 | ethernet      | Success |           |
+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 1m16.6280022s ---

```

This example configures break out for the specified Fabric name.

```

efa inventory device interface set-breakout --if-name 0/19-20
--mode 4x25g --fabric fabric1
+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID  | Name | Interface Type | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.158 | 188 | 0/20:2 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 184 | 0/20:3 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 190 | 0/20:4 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 191 | 0/19:1 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 187 | 0/19:2 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 189 | 0/19:3 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 185 | 0/19:4 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 186 | 0/20:1 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
| 10.24.80.159 | 196 | 0/19:2 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 194 | 0/19:3 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 197 | 0/19:4 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 199 | 0/20:1 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 193 | 0/20:2 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 195 | 0/20:3 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 192 | 0/20:4 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
|           | 198 | 0/19:1 | ethernet      | Success |         |
+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 1m6.2210288s ---

```

## efa inventory device interface set-mtu

Configures the MTU (maximum transmission unit) at the physical port level for Layer 2, IPv4, and IPv6.

### Syntax

```
efa inventory device interface set-mtu [--ip --if-type eth --if-name --
    mtu int --ip-mtu int --ipv6-mtu int32 --fabric --help]
```

### Parameters

#### **--ip**

Specifies a comma-separated range of device IP addresses.

#### **--if-type eth**

Specifies that the interface type is Ethernet, which is the default setting.

#### **--if-name**

Specifies a comma-separated list of interface names.

#### **--mtu int**

Specifies the global Layer 2 MTU on a device. For SLX-OS 20.1.1 and later, valid values range from 1500 through 9216. For other SLX-OS versions, valid values range from 1548 through 9216.

#### **--ip-mtu int**

Specifies the global IP MTU value on device. For SLX IPV4 or IPV6, valid values range from 1300 through 9194.

#### **--ipv6-mtu int**

Specifies the global IPv6 MTU on a device. For SLX IPV4 or IPV6, valid values range from 1300 through 9194.

#### **--fabric**

Specifies a fabric name.

#### **--help**

Displays help for set-mtu.

### Usage Guidelines

In SLX-OS, you can use the **show interface ethernet** command to see the MTU configuration for an interface.

### Examples

This example configures the MTU on one device.

```
efa inventory device interface set-mtu --ip 10.25.225.167 --if-name 0/20-22
--mtu 2000 --ip-mtu 2000 --ipv6-mtu 3000
+-----+-----+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | MTU | IP MTU | IPv6 MTU | Result |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.25.225.167 | 1 | 0/22 | ethernet | 2000 | 2000 | 3000 | Success |
```

```

+-----+-----+-----+-----+-----+-----+-----+-----+
|          | 9 | 0/21 | ethernet | 2000 | 2000 | 3000 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
|          | 89 | 0/20 | ethernet | 2000 | 2000 | 3000 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
Interface MTU Details
--- Time Elapsed: 18.6886395s ---

```

This example attempts to configure the MTU for two IP addresses, however one IP address is invalid.

```

efa inventory device interface set-mtu --ip 10.25.225.167,10.10.10.10
--if-name 0/20-22 --mtu 2500 --ip-mtu 2500 --ipv6-mtu 2500
+-----+-----+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | MTU | IP MTU | IPv6 MTU | Result
+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.10.10.10 | | | | | Failed | Device does not
| | | | | | | exist with IP:
| | | | | | | 10.10.10.10
+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.25.225.167 | 89 | 0/20 | ethernet | 2500 | 2500 | 2500 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| | 1 | 0/22 | ethernet | 2500 | 2500 | 2500 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| | 9 | 0/21 | ethernet | 2500 | 2500 | 2500 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
Interface MTU Details
--- Time Elapsed: 18.6252821s ---

```

This example configures the MTU on multiple IP addresses.

```

efa inventory device interface set-mtu --ip 10.25.225.167,10.24.48.131,10.24.51.135
--if-name 0/20-22 --mtu 3600 --ip-mtu 3600 --ipv6-mtu 3600
+-----+-----+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | MTU | IP MTU | IPv6 MTU | Result
+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.25.225.167 | 9 | 0/21 | ethernet | 3600 | 3600 | 3600 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| | 89 | 0/20 | ethernet | 3600 | 3600 | 3600 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| | 1 | 0/22 | ethernet | 3600 | 3600 | 3600 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.24.48.131 | 142 | 0/20 | ethernet | 3600 | 3600 | 3600 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| | 148 | 0/22 | ethernet | 3600 | 3600 | 3600 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| | 110 | 0/21 | ethernet | 3600 | 3600 | 3600 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.24.51.135 | 16 | 0/21 | ethernet | 3600 | 3600 | 3600 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| | 48 | 0/22 | ethernet | 3600 | 3600 | 3600 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
| | 86 | 0/20 | ethernet | 3600 | 3600 | 3600 | Success
+-----+-----+-----+-----+-----+-----+-----+-----+
Interface MTU Details
--- Time Elapsed: 59.5462548s ---

```

This example configures the MTU for the specified Fabric name.

```

efa inventory device interface set-mtu --fabric nc_no_vni --if-name 0/20-22,0/55-58
--mtu 3200 --ip-mtu 3200 --ipv6-mtu 3200
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| DeviceIP | ID | Name | Interface Type | MTU | IP MTU | IPv6 MTU | Result
| Reason

```

```

+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.24.51.135 | 16 | 0/21 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| | 48 | 0/22 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| | 86 | 0/20 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| | 0 | 0/55-58 | ethernet | 0 | 0 | 0 | Failed |
Interfaces [0/55-58]
| | | | | | | | | do
not exist for
device IP 10.24.51.135

Specify a valid interface
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.24.48.131 | 0 | 0/55-58 | ethernet | 0 | 0 | 0 | Failed |
Interfaces [0/55-58]
| | | | | | | | |
does not exist for
device IP 10.24.51.131

Specify a valid interface
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| | 110 | 0/21 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| | 148 | 0/22 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| | 142 | 0/20 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
Interface MTU Details
--- Time Elapsed: 37.3021602s ---

```

## efa inventory device interface set-speed

Configures the speed for receiving and transmitting data on a physical port.

### Syntax

```
efa inventory device interface set-speed [--ip device-ip | --fabric fab-
name | --if-type eth | --if-name if-list | --speed [100mbps | 1gbps |
10gbps | 25gbps | 40gbps | 100gbps | auto] ]
```

### Parameters

**--ip** *device-ip*

Specifies a comma-separated list of device IP addresses.

**--fabric** *fab-name*

Specifies a Fabric name.

**--if-type** **eth**

Specifies that the interface type is Ethernet, which is the default setting.

**--if-name** *if-list*

Specifies a comma-separated list of interface names.

**--speed** { 100mbps | 1gbps | 10gbps | 25gbps | 40gbps | 100gbps |  
**auto** --help }

Specifies the speed for the port.

### Usage Guidelines

In SLX-OS, you can use the **show interface ethernet** command to see the speed of the Ethernet interfaces on your device.

### Examples

This example sets the port speed on one device.

```
efa inventory device interface set-speed --ip 10.25.225.167 --if-name 0/20-22 --speed
10gbps
+-----+-----+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Port Speed | Result | Reason |
+-----+-----+-----+-----+-----+-----+-----+
| 10.25.225.167 | 89 | 0/20 | ethernet | 10gbps | Success | |
+-----+-----+-----+-----+-----+-----+-----+
| | 1 | 0/22 | ethernet | 10gbps | Success | |
+-----+-----+-----+-----+-----+-----+-----+
| | 9 | 0/21 | ethernet | 10gbps | Success | |
+-----+-----+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 17.9586487s ---
```

This example attempts to set the port speed on two IP addresses, however one IP address is invalid.

```
efa inventory device interface set-speed --ip 10.25.225.167,10.10.10.10 --if-name
0/20-22 --speed 25gbps
```

DeviceIP	ID	Name	Interface Type	Port Speed	Result	Reason
10.10.10.10					Failed	Device does not exist with IP: 10.10.10.10
10.25.225.167	89	0/20	ethernet	25gbps	Success	
	1	0/22	ethernet	25gbps	Success	
	9	0/21	ethernet	25gbps	Success	

Interface Details  
--- Time Elapsed: 18.3503896s ---

This example sets the port speed on multiple valid IP addresses.

```
efa inventory device interface set-speed --ip 10.25.225.167,10.24.48.131,10.24.51.135 --
if-name 0/20-22 --speed 25gbps
```

DeviceIP	ID	Name	Interface Type	Port Speed	Result	Reason
10.25.225.167	9	0/21	ethernet	25gbps	Success	
	89	0/20	ethernet	25gbps	Success	
	1	0/22	ethernet	25gbps	Success	
10.24.51.135	16	0/21	ethernet	25gbps	Success	
	86	0/20	ethernet	25gbps	Success	
	48	0/22	ethernet	25gbps	Success	
10.24.48.131	142	0/20	ethernet	25gbps	Success	
	110	0/21	ethernet	25gbps	Success	
	148	0/22	ethernet	25gbps	Success	

Interface Details  
--- Time Elapsed: 53.8631425s ---

This example sets the port speed for the specified Fabric name.

```
efa inventory device interface set-speed --fabric nc_no_vni --if-name 0/20-22 --speed
25gbps
```

DeviceIP	ID	Name	Interface Type	Port Speed	Result	Reason
10.24.51.135	86	0/20	ethernet	25gbps	Success	
	48	0/22	ethernet	25gbps	Success	
	16	0/21	ethernet	25gbps	Success	
10.24.48.131	142	0/20	ethernet	25gbps	Success	
	110	0/21	ethernet	25gbps	Success	

```
+-----+-----+-----+-----+-----+
|          | 148 | 0/22 | ethernet      | 25gbps      | Success |
+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 36.9974805s ---
```



## efa inventory device interface unset-breakout

Reverts the breakout of multiple ports back to the original configuration.

### Syntax

```
efa inventory device interface unset-breakout {--ip device-ip | --fabric
  fab-name } --if-type eth --if-name if-list
```

### Parameters

**--ip** *device-ip*

Specifies a comma-separated list of device IP addresses.

**--fabric** *fab-name*

Specifies a Fabric name.

**--if-type** **eth**

Specifies that the interface type is Ethernet, which is the default setting.

**--if-name** *if-list*

Specifies a comma-separated list of interface names.

### Usage Guidelines

In SLX-OS, you can use the **show running-config hardware** command to see whether breakout mode is configured for a device.

When you run this command, the breakout interfaces are deconfigured and deleted. The original Ethernet interface in the default configuration is created automatically.

### Examples

This example removes breakout mode on one device.

```
efa inventory device interface unset-breakout --ip 10.24.80.158
--if-name 0/1-3
+-----+-----+-----+-----+-----+
| DeviceIP | Interface ID | Interface Name | Interface Type | Result |
+-----+-----+-----+-----+-----+
| 10.24.80.158 | 171 | 0/2 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 175 | 0/3 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 182 | 0/1 | ethernet | Success |
+-----+-----+-----+-----+-----+
Interface Details
```

This example attempts to remove breakout mode on two devices, however one IP address is invalid.

```
efa inventory device interface unset-breakout --ip 10.24.80.158,10.10.10.10
--if-name 0/6-9
+-----+-----+-----+-----+-----+
| DeviceIP | Interface ID | Interface Name | Interface Type | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.158 | 171 | 0/6 | ethernet | Success | |
| 10.10.10.10 | 172 | 0/7 | ethernet | Error | Invalid IP |
+-----+-----+-----+-----+-----+-----+
```

```

| 10.10.10.10 | | | | Failed | Device does
| | | | | | not exist
| | | | | | with IP:
| | | | | | 10.10.10.10
+-----+-----+-----+-----+-----+
| 10.24.80.158 | 229 | 0/6 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 227 | 0/7 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 228 | 0/8 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 230 | 0/9 | ethernet | Success |
+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 1m6.5402944s ---

```

This example removes breakout mode on multiple devices.

```

efa inventory device interface unset-breakout
--ip 10.24.80.158,10.24.80.159 --if-name 0/9-12
+-----+-----+-----+-----+-----+
| DeviceIP | Interface ID | Interface Name | Interface Type | Result |
+-----+-----+-----+-----+-----+
| 10.24.80.158 | 248 | 0/10 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 250 | 0/11 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 249 | 0/12 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 247 | 0/9 | ethernet | Success |
+-----+-----+-----+-----+-----+
| 10.24.80.159 | 252 | 0/10 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 254 | 0/11 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 253 | 0/12 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 251 | 0/9 | ethernet | Success |
+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 1m52.8562333s ---

```

This example removes breakout mode for the specified Fabric name.

```

efa inventory device interface unset-breakout --if-name 0/19-20
--fabric fabric1
+-----+-----+-----+-----+-----+
| DeviceIP | Interface ID | Interface Name | Interface Type | Result |
+-----+-----+-----+-----+-----+
| 10.24.80.159 | 279 | 0/19 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 280 | 0/20 | ethernet | Success |
+-----+-----+-----+-----+-----+
| 10.24.80.158 | 281 | 0/19 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 282 | 0/20 | ethernet | Success |
+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 1m19.226463s ---

```

---

## efa inventory device list

---

Lists all devices for a fabric. If fabric name is not provided, list of all devices not associated to a fabric is displayed.

### Syntax

```
efa inventory device list [ --orphan | --fabric | --role | --ips | --  
    help ]
```

### Parameters

**--orphan**

Fetch devices not associated to a fabric.

**--fabric**

Specifies fabric name.

**--role**

Specifies device role (leaf | spine | super-spine).

**--ips**

Specifies comma separated device IPs.

**--help**

Provides help for list.

## efa inventory device running-config persist

Saves the running-config to the startup-config on SLX devices.

### Syntax

```
efa inventory device running-config persist { --ip ip-addr | --fabric fabric-name }
```

### Parameters

**--ip** *ip-addr*

Specifies a comma-separated list of IP address and IP address ranges of the devices for which you want the configuration to persist.

**--fabric** *fabric-name*

Specifies the Fabric that contains the devices for which you want the configuration to persist.

### Usage Guidelines

Device configurations configured by the Fabric Service and Tenant Service do not automatically persist on SLX devices.

Use this command to specify the IP addresses or Fabric for which configurations should persist.

### Examples

This example configures persistence for two IP addresses.

```
# efa inventory device running-config persist --ip 10.20.50.212,10.20.50.213

Persist Devices Running-Config (success)
IP Address      Device Name      Fabric           Status
10.20.50.212   Leaf-1-3         stage5          Success
10.20.50.213   Leaf-1-3         stage5          Success

Persist Running-Config Details
--- Time Elapsed: 12.2902836s ---
```

This example configures persistence for the same devices, but by Fabric instead of IP address.

```
# efa inventory device running-config persist --fabric stage5

Persist Devices Running-Config (success)
IP Address      Device Name      Fabric           Status
10.20.50.212   Leaf-1-3         stage5          Success
10.20.50.213   Leaf-1-3         stage5          Success

Persist Running-Config Details
--- Time Elapsed: 11.4899986s ---
```

## efa inventory device register

---

Registers a device.

### Syntax

```
efa inventory device register [ --ip ip-list | --username username | --password password | --maintmode-enable-on-reboot | --help ]
```

### Parameters

**--ip** *ip-ist*

Specifies a comma separated range of device IP addresses. Example: 1.1.1-3,1.1.2,2.2.2.2.

**--username** *username*

Specifies the user name to connect to the device.

**--password** *password*

Specifies password to connect to the device.

**--maintmode-enable-on-reboot**

Configures a device to reboot in maintenance mode.

**--help**

Provides help for the command.

## efa inventory device setting show

---

Displays device setting show.

### Syntax

```
efa inventory device setting show [ --ip | --help ]
```

### Parameters

**--ip**

Specifies IP address of the device.

**--help**

Provides help for show.

## efa inventory device setting update

---

Configures device settings.

### Syntax

```
efa inventory device setting update [ --ip | --maint-mode-enable-on-reboot string | --maint-mode-enable | --health-check-enable | --health-check-interval | --health-check-heartbeat-miss-threshold | --config-backup-periodic-enable | --config-backup-interval | --number-of-config-backups | --help]
```

### Parameters

**--ip**

Specifies IP address of the device.

**--maint-mode-enable-on-reboot string**

Enter Yes to configure maintenance mode enable on reboot and No to de-configure.

**--maint-mode-enable**

Enter Yes to configure maintenance mode enable and No to de-configure.

**--health-check-enable**

Enter Yes to enable health check and No to disable health check.

**--health-check-interval**

Specifies health check interval in minutes, valid values 6 m-24 h.

**--health-check-heartbeat-miss-threshold**

Specifies health check heart miss threshold, valid values 2-5.

**--config-backup-periodic-enable**

Enter Yes to enable periodic config backup and No to disable periodic config backup.

**--config-backup-interval**

Specifies config backup interval in minutes, valid values 3m-30h, default 24h.

**--number-of-config-backups**

Specifies config backup count, valid values 2-20, default 4.

**--help**

Provides help for update.

## efa inventory device system set-mtu

Configures the global MTU (maximum transmission unit) for Layer 2, IPv4, and IPv6.

### Syntax

```
efa inventory device system set-mtu {--ip device-ip | --fabric fab-name }
  {--mtu l2-mtu --ip-mtu ipv4-mtu --ipv6-mtu ipv6-mtu }
```

### Parameters

**--ip** *device-ip*

Specifies a comma-separated list of device IP addresses.

**--fabric** *fab-name*

Specifies a Fabric name.

**--mtu** *l2-mtu*

Specifies the global MTU for Layer 2.

**--ip-mtu** *ipv4-mtu*

Specifies the global MTU for IPv4.

**--ipv6-mtu** *ipv6-mtu*

Specifies the global MTU for IPv6.

### Usage Guidelines

In SLX-OS, you can use the **show running-config** command to see the global MTU configuration.

### Examples

This example configures the MTU on one device.

```
efa inventory device system set-mtu --ip 10.25.225.167 --mtu 3000
--ip-mtu 3000 --ipv6-mtu 3000
WARNING: Setting MTU at device level will set MTU for all the interfaces where
its not explicitly set. This could cause some issues where traffic is running.
Do you want to proceed [y/n]?
y
Global MTU Updated Successfully
+-----+-----+-----+-----+-----+-----+
| ID | IP Address | MTU | IP MTU | IPv6 MTU | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 1 | 10.25.225.167 | 3000 | 3000 | 3000 | Success | |
+-----+-----+-----+-----+-----+-----+
Global MTU Details
--- Time Elapsed: 23.5212882s ---
```

This example attempts to configure the MTU for two IP addresses, however one IP address is invalid.

```
efa inventory device system set-mtu --ip 10.25.225.167,10.10.10.10
--mtu 2500 --ip-mtu 2500 --ipv6-mtu 2500
WARNING: Setting MTU at device level will set MTU for all the interfaces where
```



```

its not explicitly set. This could cause some issues where traffic is running.
Do you want to proceed [y/n]?
y
Global MTU Updated Successfully
+-----+-----+-----+-----+-----+-----+-----+
| ID | IP Address | MTU | IP MTU | IPv6 MTU | Result | Reason |
+-----+-----+-----+-----+-----+-----+-----+
| 0 | 10.10.10.10 | | | | Failed | Device does not
| | | | | | | exist with IP:
| | | | | | | 10.10.10.10
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 10.25.225.167 | 2500 | 2500 | 2500 | Success |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 10.25.225.167 | 2500 | 2500 | 2500 | Success |
+-----+-----+-----+-----+-----+-----+-----+
Global MTU Details
--- Time Elapsed: 31.6608056s ---

```

This example configures the MTU on multiple IP addresses.

```

efa inventory device system set-mtu
--ip 10.25.225.167,10.24.48.131,10.24.51.135 --mtu 3600 --ip-mtu 3600
--ipv6-mtu 3600
WARNING: Setting MTU at device level will set MTU for all the interfaces
where its not explicitly set. This could cause some issues where traffic
is running. Do you want to proceed [y/n]?
y
Global MTU Updated Successfully
+-----+-----+-----+-----+-----+-----+-----+
| ID | IP Address | MTU | IP MTU | IPv6 MTU | Result | Reason |
+-----+-----+-----+-----+-----+-----+-----+
| 2 | 10.24.51.135 | 3600 | 3600 | 3600 | Success |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 10.25.225.167 | 3600 | 3600 | 3600 | Success |
+-----+-----+-----+-----+-----+-----+-----+
| 3 | 10.24.48.131 | 3600 | 3600 | 3600 | Success |
+-----+-----+-----+-----+-----+-----+-----+
Global MTU Details
--- Time Elapsed: 50.7948311s ---

```

This example configures the MTU for the specified Fabric name.

```

efa inventory device system set-mtu --fabric nc_no_vni --mtu 3100
--ip-mtu 3100 --ipv6-mtu 3100
WARNING: Setting MTU at device level will set MTU for all the interfaces
where its not explicitly set. This could cause some issues where traffic
is running. Do you want to proceed [y/n]?
y
Global MTU Updated Successfully
+-----+-----+-----+-----+-----+-----+-----+
| ID | IP Address | MTU | IP MTU | IPv6 MTU | Result | Reason |
+-----+-----+-----+-----+-----+-----+-----+
| 2 | 10.24.51.135 | 3100 | 3100 | 3100 | Success |
+-----+-----+-----+-----+-----+-----+-----+
| 3 | 10.24.48.131 | 3100 | 3100 | 3100 | Success |
+-----+-----+-----+-----+-----+-----+-----+
Global MTU Details
--- Time Elapsed: 38.1473365s ---

```

## efa inventory device update

Synchronizes the IP address on a device with the Asset service.

### Syntax

```
efa inventory device update --ip
```

### Parameters

**--ip**

Specifies the IP address of the device that you want to synchronize.

### Usage Guidelines

This command ensures that the Asset service has the latest information.

### Examples

This example synchronizes IP address 10.24.80.158.

```
(efa:extreme)extreme@tpvm:~$ efa inventory device update --ip 10.24.80.158
-----
ID      IP Address      Host Name      Model      Chassis Name      Firmware      ASN
Role    Fabric          Status        Reason
-----
2       10.24.80.158   SLX           3012      SLX9250-32C
20.1.2slxos20.1.2x_patch_200531_2152  4200000000   Leaf      fabric-2
Success
-----
Device Details
- Time Elapsed: 12.210281486s -
```

## efa inventory drift-reconcile

---

Identifies drift in device configuration and performs reconciliation.

### Syntax

```
efa inventory drift-reconcile history [ --ip ip-address | --help ]
efa inventory drift-reconcile execute [ --ip ip-address | --reconcile |
--help ]
efa inventory drift-reconcile delete [ --key [ip-address | dr-uuid ] | --
help ]
efa inventory drift-reconcile detail [ --uuid dr-uuid | --help ]
```

### Parameters

**--detail**

Displays drift-reconcile detail.

**--delete**

Deletes the drift-reconcile record.

**--execute**

Executes drift-reconcile.

**--help**

Provides help for drift-reconcile commands.

**--history**

Displays drift-reconcile history.

**--ip ip-address**

Specifies the IP address of the device.

**--key ip-address|dr-uuid**

Specifies IP address of the device or the drift and reconcile UUID to be deleted.

**--reconcile**

Identifies drift and reconcile with device

**--uuid dr-uuid**

Specifies the UUID for the drift reconcile.

### Examples

The following example shows **efa inventory drift-reconcile** commands.

```
# efa inventory drift-reconcile execute --ip 10.24.14.133 --reconcile
# efa inventory drift-reconcile history --device-ip 10.24.14.133
# efa inventory drift-reconcile detail --uuid 1111-1111-1111
# efa inventory drift-reconcile delete --key 10.24.14.133
# efa inventory drift-reconcile delete --key 1111-1111-1111
```

## efa inventory execution

---

Displays the list of inventory executions.

### Syntax

```
efa inventory execution [ --show | --help ]
```

```
efa inventory execution show [ --id | --limit int32 | --status | --help]
```

### Parameters

**--id**

Filters the executions based on execution id. If --id is available, --limit and --status are ignored.

**--help**

Provides help for execution commands

**--limit int32**

Limits the number of executions to be listed. Value 0 lists all the executions. Default is 10.

**--status**

Filters the executions based on the status (failed, succeeded, all). Default is all.

## efa inventory firmware-host delete

---

Removes a firmware host.

### Syntax

```
efa inventory firmware-host delete --ip host-ip
```

### Parameters

```
--ip host-ip
```

Specifies the IP address of the firmware host.

## efa inventory firmware-host list

---

Displays all registered firmware hosts.

### Syntax

```
efa inventory firmware-host list [ --ip host-ips --help ]
```

### Parameters

**--ip***host-ips*

Specifies a comma-separated list of firmware host IP addresses.

**--help**

Provides help for the command.

---

## efa inventory firmware-host register

---

Registers a firmware host, which will be used to download firmware builds to the devices.

### Syntax

```
efa inventory firmware-host register [--ip host-ip | --protocol scp | ftp  
| sftp | http | --username username | --password password ]
```

### Parameters

**--ip** *host-ip*

Specifies the IP address of the firmware host.

**--protocol** **scp** | **ftp** | **sftp** | **http**

Specifies the protocol to use for downloading the firmware.

**--username** *user name*

Specifies the user name to use to log in to the firmware download host.

**--password** *password*

Specifies the password for the user name.

### Usage Guidelines

Simple connectivity test to the firmware-host by given IP. The complete firmware-host sanity check is performed later when a device is prepared and again when firmware-download is executed.

---

## efa inventory firmware-host update

---

Updates the login credentials or file transfer protocol to be used by a device when downloading firmware from the firmware host.

### Syntax

```
efa inventory firmware-host update [--ip host-ip | --protocol scp | ftp | sftp | http | --username username | --password password ]
```

### Parameters

**--ip** *host-ip*

Specifies the IP address of the firmware host.

**--protocol** **scp** | **ftp** | **sftp** | **http**

Specifies the protocol to use for downloading the firmware.

**--username** *user name*

Specifies the user name to use to log in to the firmware download host.

**--password** *password*

Specifies the password for the user name.



## efa inventory kvstore

---

Configures KV pair.

### Syntax

```
efa inventory kvstore create [ --key | --value | --encrypt | --help ]
```

```
efa inventory kvstore delete [ --key | --help]
```

```
efa inventory kvstore list [ --decrypt | --key | --prefix | --help ]
```

### Parameters

#### **create**

Creates KV Pair.

#### **--decrypt**

Decrypts secret fields.

#### **delete**

Deletes KV Pair.

#### **--encrypt**

Encrypts

#### **--help**

Provides help for kvstore.

#### **--key**

Specifies KV pair name.

#### **list**

Lists all KV Store entries or filtered by key.

#### **--prefix**

Retrieve list of KV pairs matching the prefix.

#### **--value**

Specifies Value for the key.

## efa inventory rma

---

Initiates Return Material Authorization (RMA).

### Syntax

```
efa inventory rma history [ --ip ip-address | --help ]  
efa inventory rma detail [ --uuid uuid | --help ]  
efa inventory rma delete [ --key ip-address | --help ]  
efa inventory rma execute [ --ip ip-address | --config-backup-id uuid | --help ]
```

### Parameters

**--config-backup-id** *uuid*

Specifies the UUID of the configuration to be replayed.

**detail**

Displays device replacement detail.

**delete**

Deletes the RMA record for the specified IP address.

**execute**

Performs RMA for device with the given IP address.

**--help**

Provides help for the commands.

**history**

Displays RMA history for the specified IP address.

**--ip** *ip-address*

Specifies IP address of the device

**--key** *ip-address*

Specifies IP address of the device or RMA execution UUID to be deleted

**--uuid** *uuid*

Specifies the UUID of the drift reconcile.

### Examples

The following example shows **efa inventory rma** commands.

```
# efa inventory rma execute --ip 10.24.14.133 --config-backup-id 1111-1111-111  
# efa inventory rma history -ip 10.24.14.133  
# efa inventory rma detail -uuid 123e4567-e89b-12d3-a456-426614174000
```

## efa login

---

Logs into the EFA application.

### Syntax

```
efa login [ --username | --password | --help ]
```

### Parameters

**--username**

Specifies name of the user to login.

**--password**

Specifies password of the user.

**--help**

Provides help for login.

## efa logout

---

Logs out of the EFA application.

### Syntax

```
efa logout --help
```

### Parameters

**--help**

Provides help for logout.

## efa mgmt route create

---

Creates a virtual management route in a multi-node deployment for the Multiple Management IP Networks feature.

### Syntax

```
efa mgmt route create { --src mmip-vip --to dest-cidr --via next-hop-ip }
```

### Parameters

**--src** *mmip-vip*

Identifies the source IP address for the route.

**--to** *dest-cidr*

Identifies the destination network for outbound traffic, in CIDR format: x.x.x/xx.

**--via** *next-hop-ip*

Identifies the next-hop or gateway IP address through which access to the destination network is provided.

### Examples

The following example creates a virtual route.

```
$ efa mgmt route create --src 10.21.30.40 --to 192.168.100.0/24 --via 10.21.30.41
```

```
Virtual Route created successfully
```

## efa mgmt route delete

---

Deletes a virtual management route in a multi-node deployment for the Multiple Management IP Networks feature.

### Syntax

```
efa mgmt route delete { --src mmip-vip --to dest-cidr --via next-hop-ip }
```

### Parameters

**--src** *mmip-vip*

Identifies the source IP address for the route.

**--to** *dest-cidr*

Identifies the destination network for outbound traffic, in CIDR format: x.x.x.x/xx.

**--via** *next-hop-ip*

Identifies the next-hop or gateway IP address through which access to the destination network is provided.

### Examples

The following example deletes a virtual route.

```
$ efa mgmt route delete --src 10.21.30.40 --to 192.168.100.0/24 --via 10.21.30.41
```

```
Virtual Route deleted successfully
```

## efa mgmt route show

---

Displays a list of all virtual management routes in a multi-node deployment for the Multiple Management IP Networks feature.

### Syntax

```
efa mgmt route show
```

### Examples

The following example shows typical output for the command.

```
$ efa mgmt route show

+-----+-----+-----+
| Route-Src | Route-To | Route-Via |
+-----+-----+-----+
| 10.21.30.40 | 192.168.100.0/24 | 10.21.30.41 |
+-----+-----+-----+
```

## efa mgmt subinterface create

---

Creates a subinterface in a multiple management IP network deployment.

### Syntax

```
efa mgmt subinterface create --name name | --vlan-id vlan-id | --ip-addr  
ip-addr
```

### Parameters

**--name** *name*

Defines the name of the new subinterface.

**--vlan-id** *vlan-id*

Specifies the ID of the VLAN for the subinterface.

**--ip-addr** *ip-addr*

Specifies the IP address of the subinterface, including the subnet mask. For example:  
10.24.80.150/24.

### Examples

The following example creates a subnet with a name of sub2, a VLAN ID of 20, and an IP address of 20.20.20.2/24.

```
$ efa mgmt subinterface create --name sub2 --vlan-id 20 --ip-address 20.20.20.2/24  
SubInterface sub2 created successfully
```



## efa mgmt subinterface delete

---

Deletes a specified subinterface in a multiple management IP network deployment.

### Syntax

```
efa mgmt subinterface delete --name name
```

### Parameters

**--name** *name*

Specifies the name of the subinterface that you want to delete.

### Examples

The following example deletes the server1 subinterface.

```
$ efa mgmt subinterface delete --name server1  
Subinterface server1 deleted successfully
```

## efa mgmt subinterface show

Displays the details of all subinterfaces in a multiple management IP network deployment or the details for a specified subinterface.

### Syntax

```
efa mgmt subinterface show [ --name name ]
```

### Parameters

**--name** *name*

Specifies the name of the subinterface for which you want to see details.

### Examples

The following example shows the details for all configured subinterfaces.

```
$ efa mgmt subinterface show
+-----+-----+-----+-----+
| Name | Parent Interface | Vlan | IP Subnet |
+-----+-----+-----+-----+
| sub2 | eth0           | 20  | 20.20.20.2/24 |
+-----+-----+-----+-----+
| sub1 | eth0           | 50  | 50.50.50.2/24 |
+-----+-----+-----+-----+
```

The following example shows the details for the specified subinterface.

```
$ efa mgmt subinterface show --name sub2
+-----+-----+-----+-----+
| Name | Parent Interface | Vlan | IP Subnet |
+-----+-----+-----+-----+
| sub2 | eth0           | 20  | 20.20.20.2/24 |
+-----+-----+-----+-----+
```

## efa notification subscribers add-https

Registers a new subscriber to the notification service with an HTTPS webhook.

### Syntax

```
efa notification subscribers add-https --url address --username name --password password --insecure
```

### Parameters

**--url** *address*

Specifies the URL of the subscriber.

**--username** *name*

Specifies the user name for access to the URL.

**--password** *password*

Specifies the password for the user name.

**--insecure**

(Optional) Indicates that insecure SSL connection and transfers are used for sending notifications. By default, the SSL connection and transfers are secure.

The following example registers a new HTTPS webhook subscriber to the Notification Service.

```
efa notification subscribers add-https --url https://path/to/my/service:port
--username myusername --password mypassword --insecure
Successfully registered subscriber.
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
| attribute | value |
+-----+-----+-----+-----+-----+-----+-----+-----+
| id        | 1     |
+-----+-----+-----+-----+-----+-----+-----+-----+
| handler   | http  |
+-----+-----+-----+-----+-----+-----+-----+-----+
| endpoint  | https://path/to/my/service:port |
+-----+-----+-----+-----+-----+-----+-----+-----+
| config    | {"cacert":"","insecure":true,"password":"mypassword",
      "username":"myusername"} |
+-----+-----+-----+-----+-----+-----+-----+-----+
Notification Subscriber ID=1
--- Time Elapsed: 2.203878641s ---
```

## efa notification subscribers add-syslog-relp

Registers a syslog subscriber to receive notifications over RELP from the EFA Notification Service.

### Syntax

```
efa notification subscribers add-syslog-relp { --address host:port } [ --
  insecure][ --cacert local-path] [ --conn-timeout seconds]
```

### Command Default

By default, subscribers do not receive syslog notifications over RELP.

### Parameters

**--address** *host:port*

Specifies the address of the syslog server in `host:port` format. The default port is 514.

**--insecure**

(Optional) Indicates that insecure SSL connection and transfers are used for sending notifications. By default, the SSL connection and transfers are secure.

**--cacert** *local-path*

Specifies the local path to the cacert.pem file for SSL verification. Required *only* when the **--insecure** parameter is not specified.

**--conn-timeout** *seconds*

(Optional) Specifies the maximum amount of time allowed to open a connection to the syslog server before the request times out. The default is 10 seconds.

### Usage Guidelines

Any external server that is configured with RELP can be registered as a subscriber to EFA notifications. For more information, see "Notification Service" in the [Extreme Fabric Automation Administration Guide, 2.4.0](#).

### Examples

The following example registers 10.x.x.x:20514 as a subscriber for insecure notifications.

```
$ efa notification subscribers add-syslog-relp --address
10.x.x.x:20514 --insecure
Successfully registered subscriber.

+-----+-----+
| attribute | value |
+-----+-----+
| id        | 1     |
+-----+-----+
| handler   | relp  |
+-----+-----+
| endpoint  | 10.x.x.x:20514 |
+-----+-----+
```

```
| config      | {"cacert":"","conn-timeout":10,"insecure":true}|
+-----+-----+
Notification Subscriber ID=1
--- Time Elapsed: 2.399195253s ---
```

---

## efa notification subscribers delete

---

Deletes the specified subscriber from the Notification service.

### Syntax

```
efa notification subscribers delete id
```

### Parameters

*id*

Specifies the ID of the subscriber that you want to delete.

### Examples

The following example deletes the specified subscriber from the Notification service.

```
efa notification subscribers delete 1
Successfully unregistered subscriber.
--- Time Elapsed: 186.568274ms ---
```

## efa notification subscribers get

Retrieves subscription details about the Notification service for the specified subscriber.

### Syntax

```
efa notification subscribers get id --help
```

### Parameters

*id*

Specifies the ID of the subscriber that you want to review.

**--help**

Provides help for command.

### Examples

The following is sample output for the subscriber with the ID of '1'.

```
efa notification subscribers get 1

+-----+-----+
| attribute | value |
+-----+-----+
| id        | 1     |
+-----+-----+
| handler   | http  |
+-----+-----+
| endpoint  | https://path/to/my/service:port |
+-----+-----+
| config    | {"cacert":"","insecure":true,"password":"mypassword",
      "username":"myusername"} |
+-----+-----+
Notification Subscriber ID=1
--- Time Elapsed: 2.203878641s ---
```

## efa notification subscribers list

---

Provides a list of subscribers to the Notification service.

### Syntax

```
efa notification subscribers list
```

### Examples

The following example lists the subscribers to the Notification service.

```
efa notification subscribers list
+-----+-----+-----+
| id | handler | endpoint |
+-----+-----+-----+
| 1 | http | https://path/to/my/service:port |
+-----+-----+-----+
Notification Subscribers Count=1
--- Time Elapsed: 121.443493ms ---
```



## efa openstack debug

---

Displays OpenStack debug information.

### Syntax

```
efa openstack debug [ network | network-interface | tenant | router | router-interface ]
```

```
efa openstack debug network delete --neutron-id
```

Deletes the network and its summary information.

```
efa openstack debug network-interface delete --neutron-id
```

Deletes the network interface and its summary information.

```
efa openstack debug router delete --router-id
```

Deletes the router and its summary information.

```
efa openstack debug router-interface delete --router-id <router-id> --subnet-id <subnet-id>
```

Deletes the router interface and its summary information.

```
efa openstack debug tenant cleanup --name tenant name
```

Deletes a network.

### Parameters

**cleanup** --*name*

Cleans up all OpenStack assets associated to a tenant

**delete** --*neutron-id* | --*router-id* | *subnet-id*

Deletes the selected network element

**network**

Specifies network commands

**network-interface**

Specifies network interface commands

**tenant**

Specifies tenant commands

**router**

Specifies router commands

**router-interface**

Specifies router interface commands

**neutron-id** *string*

Neutron ID of the network

**router-id** *string*

Router ID

**subnet-id** *string*

Subnet ID

**name** *string*

Tenant name

**help** *string*

Displays help on the command

## efa openstack execution

---

Provides OpenStack execution commands.

### Syntax

```
efa openstack execution delete [ --days int32 | --help ]
```

```
efa openstack execution show [ --help | --id | --limit int32 | --status ]
```

### Parameters

#### **delete**

Deletes execution entries older than the specified days

#### **--days int32**

Deletes execution entries older than the specified days. Default is 30.

#### **--id**

Filters the executions based on execution id. "limit" and "status" flags are ignored when "id" flag is given.

#### **--help**

Provides help for execution

#### **--limit int32**

Limits the number of executions to be listed. Value "0" will list all the executions. Default is 10.

#### **show**

Displays the list of executions.

#### **--status**

Filters the executions based on the status (failed, succeeded, all). Default is all.

## efa openstack network show

Displays OpenStack network information.

### Syntax

```
efa openstack network show
```

### Examples

This example shows typical results.

```
efa openstack network show
+-----+-----+-----+-----+
|           Neutron ID           | Tenant | MTU | CTAG |
+-----+-----+-----+-----+
| 9237b75d-6fa9-404b-8fab-979b7d384c40 | RegionOne | 2100 | 3 |
+-----+-----+-----+-----+
| 23313c80-0b91-455a-8dce-91e6cb7424a7 | RegionOne | 2100 | 2 |
+-----+-----+-----+-----+
```

## efa openstack network-interface show

Displays OpenStack network-interface information.

### Syntax

**efa openstack network-interface show**

### Examples

This example shows typical results.

```
# efa openstack network-interface show

+-----+-----+
+-----+-----+
|           Neutron Port ID           |           Neutron Network ID           | Switch
IP   | Switch Interface |           |           |
+-----+-----+-----+-----+
| 123e4567-e89b-12d3-a456-426655440001 | 123e4567-e89b-12d3-a456-426655440001 |
10.24.80.134 | 0/9           |
+-----+-----+-----+-----+
| 123e4567-e89b-12d3-a456-426655440003 | 123e4567-e89b-12d3-a456-426655440001 |
10.24.80.133 | 0/9           |
+-----+-----+-----+-----+
| 123e4567-e89b-12d3-a456-426655440005 | 123e4567-e89b-12d3-a456-426655440002 |
10.24.80.134 | 0/9           |
+-----+-----+-----+-----+
| 123e4567-e89b-12d3-a456-426655440007 | 123e4567-e89b-12d3-a456-426655440002 |
10.24.80.133 | 0/9           |
+-----+-----+-----+-----+
+-----+-----+
```

## efa openstack router show

Displays OpenStack router information.

### Syntax

```
efa openstack router show
```

### Examples

This example shows typical results.

```
efa openstack router show
+-----+-----+-----+
+-----+
|           Router ID           |           VRF Name           | Tenant |
Routing type |
+-----+-----+-----+
+-----+
| bc482e46-8896-442c-a29d-2dd76abca2ae | bc482e468896442ca29d2dd76abca2ae | RegionOne |
centralized |
+-----+-----+-----+
+-----+
| 99ec4fd8-fbc4-4117-a529-5e9a40049906 | 99ec4fd8fbc44117a5295e9a40049906 | RegionOne |
distributed |
+-----+-----+-----+
+-----+
```

## efa openstack router-interface show

---

Displays OpenStack router-interface information.

### Syntax

```
efa openstack router-interface show
```

### Examples

This example shows typical results.

```
# efa openstack router-interface show

+-----+-----+
|          Subnet ID          |          Router ID          |
+-----+-----+
| 323e4567-e89b-12d3-a456-426655440001 | 523e4567-e89b-12d3-a456-426655440001 |
+-----+-----+
| 323e4567-e89b-12d3-a456-426655440002 | 523e4567-e89b-12d3-a456-426655440001 |
+-----+-----+
```

## efa openstack subnet show

Displays OpenStack subnet information.

### Syntax

```
efa openstack subnet show
```

### Examples

This example shows typical results.

```
efa openstack subnet show
+-----+-----+-----+-----+
+-----+-----+-----+-----+
|          Subnet ID          |          Network ID          |
| CIDR      | Gateway IP | IPv6RAMode | IPv6AddressMode |
+-----+-----+-----+-----+
| 869dbbcd-2c80-440a-a42f-1e85cab60b98 | 9237b75d-6fa9-404b-8fab-979b7d384c40 |
| 110:2000::/64 | 110:2000::1 | dhcpv6-stateful | |
+-----+-----+-----+-----+
| 063eec5a-dbb3-480b-b1d0-1d7fc4715b67 | 23313c80-0b91-455a-8dce-91e6cb7424a7 |
| 10:2000::/64 | 10:2000::1 | | |
+-----+-----+-----+-----+
| ea233dda-b692-4a46-adc8-ea58ac07f4d2 | 23313c80-0b91-455a-8dce-91e6cb7424a7 |
| 8.8.8.0/24 | 8.8.8.1 | | |
+-----+-----+-----+-----+
| db91323d-fcdd-4450-87b2-57bb7e033c0c | 9237b75d-6fa9-404b-8fab-979b7d384c40 |
| 18.8.8.0/24 | 18.8.8.1 | | |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
```



## efa openstack sync start

---

Syncs entries such as networks, network interfaces, routers, and router interfaces from OpenStack to a tenant if they are out of sync.

### Syntax

```
efa openstack sync start [ --tenant tenant name | --help ]
```



#### Note

There is no output for this command.

### Parameters

#### **--tenant**

The name of the tenant

#### **--help**

Provides help for execution

## efa rbac execution

---

Displays or deletes the execution logs of the Auth and RBAC services.

### Syntax

```
efa rbac execution show [ --id | --limitexec-limit | --statusfailed | succeeded | all | --help ]
```

```
efa rbac execution delete [ --daydays | --help ]
```

### Parameters

**--day** *days*

Deletes log entries older than the specified number of days. The default is 30 days.

**delete**

Deletes log entries older than the specified number of days.

**--help**

Provides help for command.

**--id**

Filters the log entries based on execution ID. The "limit" and "status" flags are ignored when the "id" flag is used.

**--limit** *exec-limit*

Limits the number of log entries to be listed. Enter "0" to show all of the executions. The default is 10.

**show**

Displays the log entries.

**--status** **failed** | **succeeded** | **all**

Filters the log entries based on the status. The default is "all."

## efa rbac role show

Displays the roles available in EFA.

### Syntax

```
efa rbac role show [ --name role-name | --help ]
```

### Parameters

**--name** *role-name*

Specifies name of the role.

**--help**

Provides help for the command.

### Usage Guidelines

Output of the command is similar to the following.

Role	Description
FabricAdmin	<ul style="list-style-type: none"> <li>Registers devices to the Fabric</li> <li>Configures Fabric parameters</li> <li>Validates all devices in the Fabric</li> <li>Configures switches for IP Fabric with overlay and without overlay</li> <li>Creates tenants</li> <li>Creates networks inside tenants, such as VRF, EPG, and PO</li> <li>Performs Fabric debug activities</li> <li>Has privileges for OpenStack, Hyper-V, and vCenter operations</li> </ul>
SecurityAdmin	Performs user management, PKI, and key management operations
NetworkOperator	<ul style="list-style-type: none"> <li>Has view-only privileges for Fabric configurations, information for tenants and inventory, and all ecosystem information</li> <li>Cannot make changes in the system</li> </ul>
SystemDebugger	<ul style="list-style-type: none"> <li>Has privileges to perform supportsave and system backup, and to view the running system configurations</li> <li>Has privileges to perform Fabric debug operations</li> <li>Sets debug levels for services</li> <li>Has privileges to collect execution logs from services</li> </ul>

Role	Description
SystemAdmin	Has complete privileges to all operations in the system
<Tenant>Admin * Created dynamically per tenant	Performs tenant administration within the assigned tenant, such as the following: <ul style="list-style-type: none"><li>• Adding networks to the tenant</li><li>• Configuring network parameters</li><li>• Configuring switches with tenant-specific information</li></ul> Cannot perform actions for any other tenant

## efa scvmm delete

---

Deletes SCVMM server

### Syntax

```
efa scvmm delete [--host | --cleanup-epgs | --help ]
```

### Parameters

**--host**

Specifies IP or host name of the SCVMM server to be deleted

**--cleanup-epgs**

Cleans up EPGs from tenant service when SCVMM server is deleted

**--help**

Provides help for delete

## efa scvmm links physical

---

Configures SCVMM physical links.

### Syntax

```
efa scvmm links physical [ --host ip-host | --hyperv hostname | --help ]
```

### Parameters

**--host** *ip-host*

Specifies the IP address or host name of the SCVMM server.

**--hyperv** *hostname*

Specifies the host name of the Hyper-V host.

**--help**

Provides help for the command.

## efa scvmm links virtual

---

Configures SCVMM virtual links.

### Syntax

```
efa scvmm links virtual [ --hyperv hostname | --help ]
```

### Parameters

**--hyperv** *hostname*

Specifies the host name of the Hyper-V host.

**--help**

Provides help for the command.

## efa scvmm list

---

Lists all SCVMM Servers and their summary information.

### Syntax

```
efa scvmm list [ --host | --help ]
```

### Parameters

**--host**

Specifies hostname or IP of the SCVMM server.

**--help**

Provides help for SCVMM list.



## efa scvmm register

---

Registers SCVMM

### Syntax

```
efa scvmm register [ --host | --username | --password | --tenant | --  
help ]
```

### Parameters

**--host**

Specifies IP or host name of the SCVMM server to connect to

**--username**

Specifies user name to connect to the SCVMM server

**--password**

Specifies password to connect to the SCVMM server

**--tenant**

Specifies tenant name for the SCVMM server

**--help**

Provides help for register

## efa scvmm settings show

---

Lists SCVMM Service Settings.

### Syntax

```
efa scvmm settings show --help
```

### Parameters

**--help**

Provides help for show.

## efa scvmm settings update

---

Updates SCVMM service settings.

### Syntax

```
efa scvmm settings update [ --poll-frequency frequency | --help ]
```

### Parameters

**--poll-frequency** *frequency*

Specifies the polling frequency in hours. Valid values range from 1 to 24.

**--help**

Provides help for the command.

---

## efa scvmm update

---

Updates the SCVMM server.

### Syntax

```
efa scvmm update [ --host ip-host | --username user name | --password password | --help ]
```

### Parameters

**--host** *ip-host*

Specifies the IP address or host name of the SCVMM server you want to update.

**--username** *user name*

Specifies the user name to connect to the SCVMM server.

**--password** *password*

Specifies the password to connect to the SCVMM server.

**--help**

Provides help for the command.

## efa snmp subscriber

Adds, unregisters, or lists SNMP trap subscribers.

### Syntax

```
efa snmp subscriber [command] [ list | add|unregister | --help ]
```

### Parameters

#### list

Lists all trap subscribers.

#### add

Registers an SNMP trap subscriber.

#### unregister

Unregisters a trap receiver.

#### --help

Provides help for execution.

### Examples

This example shows how to add a version 2c trap receiver.

```
efa snmp subscriber add --host 10.20.241.86 --type v2c --community
    testcommunity
Register SNMP Trap forwarding
Successfully registered trap subscriber.
+-----+-----+
| attribute | value      |
+-----+-----+
| id        | 1          |
+-----+-----+
| host      | 10.20.241.86 |
+-----+-----+
| type      | v2c        |
+-----+-----+
| community | testcommunity |
+-----+-----+
| v3 user   | efaUser    |
+-----+-----+
| v3 Auth Type |          |
+-----+-----+
| v3 Priv Type |          |
+-----+-----+
Trap Subscriber Host=10.20.241.86
```

This example shows how to add an SMTP version 3 trap receiver.

```
efa snmp subscriber add --host 2.1.1.1 --type v3 --v3user efaUser --auth SHA1
    --authpassword testing --priv AES --privpassword testingPrivacy
Register SNMP Trap forwarding
Successfully registered trap subscriber.
+-----+-----+
| attribute | value      |
+-----+-----+
```

```

| id          | 2          |
+-----+-----+
| host        | 2.1.1.1    |
+-----+-----+
| type        | v3         |
+-----+-----+
| community   |            |
+-----+-----+
| v3 user     | efaUser    |
+-----+-----+
| v3 Auth Type | SHA1       |
+-----+-----+
| v3 Priv Type | AES        |
+-----+-----+
Trap Subscriber
Host=2.1.1.1

```

This example lists currently registered trap subscribers.

```

efa snmp subscriber list
+-----+-----+-----+-----+-----+-----+
| id | type | host   | community | user   | Auth Protocol | Privacy Protocol |
+-----+-----+-----+-----+-----+-----+-----+
| 64 | v3   | 2.1.1.1 |           | efaUser | SHA1          | AES              |
+-----+-----+-----+-----+-----+-----+-----+
SNMP Trap Subscribers Count=2
--- Time Elapsed: 263.997115ms ---

```

This example deletes the trap subscriber.

```

efa snmp subscriber unregister --host 2.1.1.1
Delete SNMP Trap forwarding subscriber
Successfully unregistered trap subscriber

```

## efa show-running-config

---

Displays the running-config of all current EFA configurations.

### Syntax

```
efa show-running-config
```

### Usage Guidelines

Run this command to display the running-config of current configurations for core services.

The output is displayed in the following order: Asset, Fabric, Tenant commands.

The command output contains the default values for each configuration line item.

You can use the command output for CLI playback on an empty EFA deployment, which is a useful tool for recovery.

This example shows a partial list of typical output.

```
$ efa show-running-config

efa inventory device register --ip "10.24.80.191" --username admin --password password

efa inventory device setting update --ip "10.24.80.191" --maint-mode-enable-on-reboot No
--maint-mode-enable No --health-check-enable No --health-check-interval 6m
--health-check-heartbeat-miss-threshold 2 --config-backup-periodic-enable Yes
--config-backup-interval 24h --number-of-config-backups 4

efa inventory device register --ip "10.24.80.192" --username admin --password password

efa inventory device setting update --ip "10.24.80.192" --maint-mode-enable-on-reboot No
--maint-mode-enable No --health-check-enable No --health-check-interval 6m
--health-check-heartbeat-miss-threshold 2 --config-backup-periodic-enable Yes
--config-backup-interval 24h --number-of-config-backups 4

efa fabric create --name "default" --type clos --stage 3 --description "Default Fabric"
```

## efa status

Displays the role and the status of the nodes in a single-node or multi-node deployment.

### Syntax

```
efa status
```

### Usage Guidelines

Roles are either Active or Standby.

### Examples

The following example shows output for a single node installation.

```
xmcdev@xmcdev-virtual-machine:~$ efa status
+-----+-----+-----+
| Node Name          | Role  | Status |
+-----+-----+-----+
| xmcdev-virtual-machine | active | up      |
+-----+-----+-----+
--- Time Elapsed: 2.224282775s ---
```

The following example shows output for a multi-node installation.

```
(efa:extreme)extreme@tpvm:~$ efa status
+-----+-----+-----+
| Node Name | Role    | Status |
+-----+-----+-----+
| tpvm      | active  | up      |
+-----+-----+-----+
| tpvm2     | standby | up      |
+-----+-----+-----+
--- Time Elapsed: 2.318350499s ---
```



## efa system backup

---

Backs up the EFA system, including the database and certificates.

### Syntax

```
efa system backup
```

### Usage Guidelines

You can restore a backed-up database for various reasons, such as if the database becomes corrupted or you want to revert to a previous configuration. The backup process creates a backup tar file, which you specify for the restore process. The backup tar file is saved to one of the following locations.

- Server: `/var/log/efa/backup`
- TPVM: `/apps/efa_logs/backup`

Run this command as a sudo user for the base operating system.

### Examples

This example backs up the database and creates a tar file.

```
efa system backup
Backup file :: /apps/efa_logs/backup//EFA-2020.06.08-15.52.09.tar
--- Time Elapsed: 9.603815206s ---
```

## efa system backup-list

---

Displays a list of all available EFA backup files.

### Syntax

```
efa system backup-list
```

### Examples

This example shows 2 backup .tar files that are available to use in a restore operation.

```
$ efa system backup-list
+-----+-----+-----+-----+
| ID    | File                               | Version | Generated By |
+-----+-----+-----+-----+
| 1     | EFA-2020.08.20-20.26.46.tar        | 2.3.0-1 | User         |
+-----+-----+-----+-----+
| 2     | EFA-2020.08.20-20.27.29.tar        | 2.3.0-GA| System       |
+-----+-----+-----+-----+
--- Time Elapsed: 183.69386ms ---
```

## efa system feature show

---

Displays the status of the automatic in-progress transaction recovery feature.

### Syntax

```
efa system feature show
```

### Usage Guidelines

Use the **efa system feature update** command to enable the feature.

For more information about the feature, see the "Transaction Handling after Failover or Restart" topic in the [Extreme Fabric Automation Administration Guide, 2.4.0](#).

### Examples

The following example shows that the feature is disabled.

```
# efa system feature show
+-----+-----+
|          FEATURE NAME          | STATUS |
+-----+-----+
| Inflight Transaction Auto Recovery | Disabled |
+-----+-----+
```

## efa system feature update

---

Enables the automatic recovery of in-flight (in-progress) transactions after a service restart or high-availability failover.

### Syntax

```
efa system feature update --inflight-transaction-auto-recovery{enable | disable}
```

### Parameters

```
--inflight-transaction-auto-recovery{enable | disable}
```

Enables or disables the automatic recovery of in-flight transactions after a service restart or high-availability failover.

### Usage Guidelines

After a service restart or high-availability failover, EFA can recover in-progress transactions by rolling them back or rolling them forward. In-progress transactions are those that are outstanding in the execution log after a restart or a failover.

- When transactions are rolled back, the requested action is undone. This category includes transactions launched by create commands and by update commands with add operations.
- When transactions are rolled forward, the requested action is completed. This category includes transactions launched by delete commands and by update commands with delete operations.

When this feature is enabled, all Day-1 to Day-N tenant operations support automatic in-progress transaction recovery. This feature is enabled by default.

When this feature is disabled, Day-1 to Day-N tenant operations do not support automatic in-progress transaction recovery.

### Examples

This example enables automatic in-flight transaction recovery.

```
efa system feature update --inflight-transaction-auto-recovery enable
Feature Setting Updated Successful
--- Time Elapsed: 634.557118ms ---
```

This example disables automatic in-flight transaction recovery.

```
efa system feature update --inflight-transaction-auto-recovery disable
Feature Setting Updated Successful
--- Time Elapsed: 634.557125ms ---
```

## efa system restore

---

Restores the EFA system from a backup.

### Syntax

```
efa system restore [ --backup-tar filename]
```

### Parameters

**--backup-tar** *filename*

Specifies the file name for the backup tar file.

### Usage Guidelines

You can restore a backed-up database for various reasons, such as if the database becomes corrupted or you want to revert to a previous configuration. The backup process creates a backup tar file, which you specify for the restore process.

If you do not specify the **--backup-tar** parameter, the restore process displays the list of available backup files for you to choose from.

After the database is restored, a list of all pods is displayed, showing their status, number of restarts, and age.

Run this command as a sudo user for the base operating system.

### Examples

This syntax restores the database.

```
efa system restore --backup-tar EFA-2020.06.08-15.52.09.tar
Backup file name: EFA-2020.06.08-15.52.09.tar
Restore result :: Restore operation successful
--- Time Elapsed: 3m11.269648985s ---
```

## efa system settings show

Displays the settings for the maximum number of backup and supportsave files to save, and the schedule for backing up the database.

### Syntax

```
efa system settings show
```

### Examples

This example shows typical output for the command.

```
$ efa system settings show
+-----+
|          SETTING          | VALUE |
+-----+
| Max backup file limit     | 5     |
+-----+
| Max supportsave file limit | 5     |
+-----+
| Backup schedule           | 0 0 *** |
+-----+
```

## efa system settings update

Configures the schedule for automatic database backups and determines the maximum number of backup and supportsave files to save before they are deleted.

### Syntax

```
efa system settings update [ --backup-schedule time] [ --max-backup-files
num ] [ --max-supportsave-files num ]
```

### Parameters

**--backup-schedule** *time*

Specifies the schedule for periodic, automatic backups, in the format HOUR:DOM:MON:DOW (hour, day of month, month, day of week). The default schedule is Sunday 12 AM.

**--max-backup-files** *num*

Specifies the maximum number of backup files to keep. As new backup files are created, older backup files in excess of this value are deleted. The default is 5 backup files.

**--max-supportsave-files** *num*

Specifies the maximum number of supportsave files to keep. As new supportsave files are created, older files in excess of this value are deleted. The default is 5 supportsave files.

### Examples

This example configures a backup schedule of 0200 on the 3rd day of the month and then shows how to use the **efa system settings show** command to view all settings, including the new backup schedule.

```
$ efa system settings update --backup-schedule 2:3:*:*
Setting Update Successful
--- Time Elapsed: 319.383113ms ---

$ efa system settings show
+-----+-----+
|          SETTING          |  VALUE  |
+-----+-----+
| Max Backup File Limit    |    5    |
+-----+-----+
| Max Supportsave File Limit |    5    |
+-----+-----+
| Backup Schedule          | 0 2 3 * * |
+-----+-----+
--- Time Elapsed: 181.854843ms ---
```

## efa system supportsave

---

Collects the system support-save of the Inventory, Tenant, and Fabric service logs, and their associated database dumps

### Syntax

```
efa system supportsave
```

### Usage Guidelines

The supportsave file is saved to `/var/log/efa/efa_<log_id>.logs.zip`.

### Examples

This example collects the system supportsave logs.

```
(efa:root)root@admin1-00:~# efa system supportsave
Capturing Database Snapshot..
Capturing Database Snapshot took 1.697961249s
Capturing Pod logs for all services...
Capturing Pod logs for all services took 17.148416322s
Capturing logs for database error, k3s and EFA running config...
Capturing logs for database errors, k3s and EFA running config took 2.674920598s
Archiving...
Archiving took 2.048826234s
Cleaning up files...
Cleaning up files took 165.106125ms

Support Save File: /var/log/efa/efa_2020-10-08T07:11:01.logs.zip
--- Time Elapsed: 28.695437855s ---
(efa:root)root@admin1-00:~#
```



## efa tenant create

Creates tenant reserved resources such as the total number of Layer 3 VNIs, VLANs, VRFs, and bridge domains for fabrics with non-auto VNI settings, which can later be applied to an end point group.

### Syntax

```
efa tenant create [ --name name | --description description | --type private | shared | --l2-vni-range range | --l3-vni-range range | --vlan-range range | --vrf-count vrfs | --enable-bd true | false | --port ports | --help ]
```

### Parameters

**--name** *name*

Specifies the name of the tenant.

**--description** *description*

Describes the tenant.

**--l2-vni-range** *range*

Specifies the contiguous range of Layer 2 VNIs in ascending order to be reserved for the tenant within the scope of a fabric. Valid VNI values are 1 through 16777215. Example: 14201-14300.

**--l3-vni-range** *range*

Specifies the contiguous range of Layer 3 VNIs in ascending order starting from l3-vni-range to be reserved for the tenant within the scope of a fabric. Valid VNI values are 1 through 16777215. Example: 14201-14300.

**--vlan-range** *range*

Specifies the contiguous range of VLANs to be reserved for the tenant. Valid values are 2 through 4090. Example: 2-100.

**--vrf-count** *vrf*s

Specifies the number of VRFs reserved for the tenant.

**--enable-bd** **true** | **false**

Enables bridge domain capability for networks created under this tenant. Use the following format: `--enable-bd=true` or `--enable-bd=false`.

**--port** *ports*

Lists physical ports of devices that are reserved for the tenant. Example:

```
SW1_IP[0/1,0/2,0/12-15,0/5:4],SW2_IP[0/1,0/4,0/5:1-2,0/5:3,0/9-20].
```

**--type** **private** | **shared**

Specifies whether the endpoints and VRFs of a shared tenant are available to other tenants. The default is private.

**--help**

Displays help for the command.

## Examples

This example creates a VLAN-based tenant with manual VNI mapping.

```
(efa:extreme)extreme@node-1:~$ efa tenant create --name tenant11 --l2-vni-range
10002-14190
--l3-vni-range 14191-14200 --vlan-range 2-4090 --vrf-count 10 --port
10.20.216.15[0/11-20],10.20.216.16[0/11-20]
--description Subscriber1

Tenant created successfully.

--- Time Elapsed: 455.141597ms ---
```

This example creates a BD-based tenant.

```
(efa:extreme)extreme@node-1:~$ efa tenant create --name tenant21 --l2-vni-range
30002-34190
--l3-vni-range 34191-34200 --vlan-range 2-4090 --vrf-count 10 --enable-bd
--port 10.20.216.15[0/21-28],10.20.216.16[0/21-28]

Tenant created successfully.

--- Time Elapsed: 501.176996ms ---
```

This example creates a tenant with auto-VNI with breakout ports.

```
(efa:extreme)extreme@node-1:~$ efa tenant create --name tenant12
--vlan-range 2-100 --vrf-count 10 --port
10.20.216.103[0/1-10],10.20.216.104[0/1-5,0/6:1-4]

Tenant created successfully.

--- Time Elapsed: 427.73527ms ---
```

This example creates a shared tenant.

```
(efa:extreme)extreme@node-1:~$ efa tenant create --name ST
--type shared --port 10.20.216.15[0/1-10],10.20.216.16[0/1-10]

Tenant created successfully.

--- Time Elapsed: 381.182892ms ---
```

## efa tenant debug

Identifies drift in device configuration.

### Syntax

```
efa tenant debug device drift [ --device-ip | --filter po | evpn | ovg |
    lif | bd | vlan | intf | ve | vrf | mct | routerbgp | pwprofile | all
    | --help| --reconcile ]

efa tenant debug set [ --level debug | info | debugdb | nodebugdb | --
    help]

efa tenant debug device config sync [ --device-ip ip-addr | --help ]
```

### Parameters

**--device-ip** *ip-addr*

Specifies a comma-separated list of device IP addresses.

**--filter** *po | evpn | ovg | lif | bd | vlan | intf | ve | vrf | mct | routerbgp | pwprofile | all*

Filters the displayed draft data by the type of data you select. The default is all.

**--level** *debug | info | debugdb | nodebugdb*

Specifies the debug level.

**--reconcile**

Reconciles configuration on the device.

**--help**

Provides help for the command.

### Usage Guidelines

You can also use the API to set up debug level and debug for the module.

### Examples

This example identifies drift.

```
$ efa tenant debug device drift --device-ip 10.20.216.15
=====
Device           : 10.20.216.15

Operation succeeded.

--- Time Elapsed: 626.727571ms ---
```

This example reconciles the drifted configuration.

```
$ efa tenant debug device drift --device-ip 10.20.216.15 --reconcile
=====
Device           : 10.20.216.15
```

```

===== VLAN Drift =====
VLAN          : 10
App-state     : cfg-refreshed

Drifted Interface
+-----+-----+-----+
| Interface-Type | Interface-Name | App-State |
+-----+-----+-----+
| ethernet      | 0/11           | cfg-refreshed |
+-----+-----+-----+

===== Interface Drift =====

Drifted Interface
+-----+-----+-----+
| Interface-Type | Interface-Name | App-State |
+-----+-----+-----+
| ethernet      | 0/11           | cfg-in-sync |
+-----+-----+-----+

===== Reconciliation Status =====
+-----+-----+-----+
| CONFIG TYPE | STATUS | ERROR |
+-----+-----+-----+
| Port-Property | Success |      |
| Portchannel   | Success |      |
| Vlan          | Success |      |
+-----+-----+-----+

Operation succeeded.

--- Time Elapsed: 32.202412126s ---

```

This example synchronizes the tenant database with the inventory database.

```

$ efa tenant debug device config sync --device-ip 10.20.216.15

+-----+-----+-----+-----+
| IP Address | Role | State | Result |
+-----+-----+-----+-----+
| 10.20.216.15 | Leaf | READY | Device 10.20.216.15 is already present in Tenant |
|              |      |      | DB with READY state |
+-----+-----+-----+-----+

Device Details

--- Time Elapsed: 451.271557ms ---

```

This example sets the debug level.

```

$ efa tenant debug set --level debugdb

Level debugdb set successfully.

--- Time Elapsed: 116.43581ms ---

```

## efa tenant delete

---

Deletes a tenant.

### Syntax

```
efa tenant delete [ -- name tenant-name --force ]
```

### Command Default

### Parameters

**--name** *tenant-name*

Specifies a tenant and a tenant name.

**--force**

Forces the deletion on the tenant if the option is provided.

### Examples

The following example deletes a tenant.

```
(efa:extreme)extreme@node-1:~$ efa tenant delete --name tenant12  
Tenant deleted successfully.  
--- Time Elapsed: 1.972258324s ---
```

The following example deletes the tenant and all the related entities forcibly.

```
(efa:extreme)extreme@node-1:~$ efa tenant delete --name tenant12 --force  
Tenant delete with force will delete associated Vrfs, EndpointGroups and PortChannels.  
Do you want to proceed (Y/N): y  
Tenant deleted successfully.  
--- Time Elapsed: 3.258645739s ---
```

## efa tenant epg configure

---

Pushes or removes a pending endpoint group configuration.

### Syntax

```
efa tenant epg configure [ --name name | --tenant name | --help ]
```

### Parameters

**--name** *name*

Specifies name of the endpoint group.

**--tenant** *name*

Specifies name of the tenant.

**--help**

Provides help for the command.

Pushes or removes a pending endpoint group configuration.

```
(efa:extreme)extreme@node-1:~$ efa tenant epg configure --name epg1 --tenant tenant11  
EndpointGroup configured successfully.  
--- Time Elapsed: 444.898897ms ---
```

## efa tenant epg create

Creates a Layer 3 endpoint group.

### Syntax

```
efa tenant epg create [--name epg-name|--tenant tenant-name|--description
desc| --port ip-ethport|--po po-name|--switchport-mode access | trunk
| trunk-no-default-native |--type l3-hand-off | extension |--
switchport-native-vlan-tagging |--switchport-native-vlan value| --
ctag-range range| --ctag description desc|--vrf vrf-name| --l3-vni
vni| --l2-vni vni| --anycast-ip ipv4| --anycast-ipv6 ipv6|--local-ip
ipv4| --local-ipv6 ipv6| --bridge-domain bd-name| --ipv6-nd-mtu mtu-
value| --ipv6-nd-managed-config flag | --ipv6-nd-other-config other-
flag| --ipv6-nd-prefix ipv6-prefix| --ipv6-nd-prefix-valid-lifetime
lifetime| --ipv6-nd-prefix-preferred-lifetime pref-lifetime| --ipv6-
nd-prefix-no-advertise | --ipv6-nd-prefix-config-type no-autoconfig |
no-onlink | off-link | --single-homed-bfd-session-type auto |
software | hardware | --ip-mtu mtu-value ]
```

### Parameters

**--name** *epg-name*

Specifies the name of the endpoint group.

**--tenant** *tenant-name*

Specifies the name of the associated tenant.

**--description** *desc*

Describes the endpoint group.

**--port** *ip-ethport*

Specifies the device IP address and Ethernet port details. Example: SW1\_IP[0/1], SW2\_IP[0/5,0/6], SW3\_IP[0/7-10]

**--po** *po-name*

Lists port channels. Example: po1, po2

**--switchport-mode** **access** | **trunk** | **trunk-no-default-native**

Configures switch port mode on the interfaces. Valid values are access, trunk, and trunk-no-default-native. The default is trunk.

**--type** **l3-hand-off** | **extension**

Configures the BGP service type. Valid values are l3-hand-off or extension. The default is extension.

**--switchport-native-vlan-tagging**

Enables the native VLAN characteristics on the ports of this endpoint group. Valid only if the **--switchport-mode** parameter is set to trunk.

**--switchport-native-vlan** *value*

Configures native VLAN on the interfaces. Valid values are 2 through 4090 corresponding to the value of the **--ctag-range** parameter.

**--ctag-range** *range*

Specifies the customer VLAN range in comma and hyphen separated format. Example: 2-20,30,40,50-55.

**--ctag-description** *desc*

Specifies a unique description of the ctag in the following format: ctag:12-vni.

**--vrf** *vrf-name*

Specifies the VRF to which these networks are attached.

**--l3-vni** *vni*

Specifies the Layer 3 VNI to be used for this VRF.

**--l2-vni** *vni*

Specifies the Layer 2 VNI to be used for this network in the following format: ctag:12-vni.

**--anycast-ip** *ipv4*

Specifies the IPv4 anycast address in the following format: ctag:anycast-ip.

**--anycast-ipv6** *ipv6*

Specifies the IPv6 anycast address in the following format: ctag:anycast-ipv6.

**--local-ip** *ipv4*

Specifies the IPv4 local address in the following format: ctag,device-ip:local-ip.

**--local-ipv6** *ipv6*

Specifies the IPv6 local address in the following format: ctag,device-ip:local-ipv6.

**--bridge-domain** *bd-name*

Specifies the bridge domain name in the following format; ctag:bridge-domain.

**--ipv6-nd-mtu** *mtu-value*

Sets the maximum transmission unit (MTU) for IPv6 neighbor discovery. Valid values range from 1280 through 65535. The format is ctag:mtu.

**--ipv6-nd-managed-config** *flag*

Sets the managed configuration flag for IPv6 router advertisement. The format is ctag:managedflag.

**--ipv6-nd-other-config** *other-flag*

Sets the other configuration flag for IPv6 router advertisement. The format is ctag:otherflag.

**--ipv6-nd-prefix** *ipv6-prefix*

Configures the IPv6 prefix address in the following format: ctag:prefix1,prefix2,.

**--ipv6-nd-prefix-valid-lifetime** *lifetime*

Sets IPv6 prefix valid lifetime. A valid range is from 0 through 4294967295 to infinite. The format is ctag,prefix:validTime.

**--ipv6-nd-prefix-preferred-lifetime** *pref-lifetime*



Sets the IPv6 prefix preferred lifetime. A valid range is from 0 through 4294967295 to infinite. The format is `ctag, prefix:preferredTime`.

**--ipv6-nd-prefix-no-advertise**

Enables the prevention of prefix advertisement. The format is `ctag, prefix: noadvertiseflag`.

**--ipv6-nd-prefix-config-type no-autoconfig | no-onlink | off-link**

Sets the configuration type for the IPv6 prefix. Valid values are `no-autoconfig`, `no-onlink`, or `off-link`. The format is `ctag, prefix: configType`.

**--single-homed-bfd-session-type auto | software | hardware**

Specifies the BFD session type for the endpoint group. Valid values are `auto`, `software`, or `hardware`. The default is `auto`, which means that the BFD session type is automatically determined based on the value of the `--type` parameter: `extension` or `L3 hand-off`.

**--ip-mtu mtu-value**

Sets the IP maximum transmission unit (MTU) for the tenant network. Valid values range from 1280 through 9194. The format is `ctag: ip-mtu`.

## Usage Guidelines

An empty endpoint group has no `network-policy`, `network-property`, or `port-property`.

An endpoint group can be created with a `port-property` but without a `port-group`. But an endpoint group cannot be created with a `port-group` but without a `port-property`.

ARP suppression is enabled for all the possible broadcast domains, VLAN or BD, on the device.

CEP is handled by replicating all the tenant configuration on the MCT neighbor except for the endpoint configuration, because the endpoint does not exist on the MCT neighbor.

Event handling sets the corresponding tenant networks to the `cfg-refreshed` state. However, there is no way to re-push the refreshed configuration onto the devices.

The value of `--single-homed-bfd-session-type` is configured for one endpoint group and then propagated to all Ethernet and single-homed port channel interfaces defined for that endpoint group.

EFA does not distinguish between SRIOV (single-root input/output virtualization) and non-SRIOV connections. Therefore, it treats both connections the same way. If you want to use hardware-based BFD sessions for CEP non-SRIOV connections, then create an endpoint group that contains all the CEP non-SRIOV connections and set the `--single-homed-bfd-session-type` to `hardware`.

You use the `--ip-mtu` parameter to configure the Maximum Transmission Unit (MTU) for the tenant network. This value is then configured on the interface VE on the SLX device. The output of the `efa tenant epg show --detail` command includes the configured `--ip-mtu <mtu-value>`.

## Examples

This example creates a VLAN-based Layer 3 endpoint group.

```
$ efa tenant epg create --name epg1 --tenant tenant11 --switchport-mode trunk
--switchport-native-vlan 10 --switchport-native-vlan-tagging --port
```

```

10.20.216.15[0/11],10.20.216.16[0/11]
--po po1 --vrf blue11 --ctag-range 10 --l2-vni 10:10010 --l3-vni 14191 --anycast-ip
10:10.10.10.1/24
--anycast-ipv6 10:10::1/125 --local-ip 10,10.20.216.15:1.1.10.3/28 --local-ip
10,10.20.216.16:1.1.10.4/28
--local-ipv6 10,10.20.216.15:10a:10::3/125 --local-ipv6 10,10.20.216.16:10a:10::4/125 --
ipv6-nd-mtu 10:9000
--ipv6-nd-prefix 10:1002::/125,1003::/125,1004::/125 --ipv6-nd-prefix-valid-lifetime
10,1002::/125:infinite
--ipv6-nd-prefix-preferred-lifetime 10,1002::/125:1020304 --ipv6-nd-prefix-valid-lifetime
10,1003::/125:1020304
--ipv6-nd-prefix-preferred-lifetime 10,1003::/125:1020304 --ipv6-nd-prefix-valid-lifetime
10,1004::/125:1020304
--ipv6-nd-prefix-preferred-lifetime 10,1004::/125:infinite --ipv6-nd-prefix-config-type
10,1004::/125:no-onlink
--ipv6-nd-prefix-config-type 10,1003::/125:off-link --ipv6-nd-prefix-config-type
10,1002::/125:no-autoconfig
--ipv6-nd-managed-config 10:true --ipv6-nd-other-config 10:true --ctag-description
10:Network-10

EndpointGroup created successfully.

--- Time Elapsed: 16.922083265s ---

```

This example creates a VLAN-based L3-hand-off endpoint group.

```

$ efa tenant epg create --tenant tenant11 --name epg2
--type l3-hand-off --switchport-mode trunk --port 10.20.216.15[0/18],10.20.216.16[0/18] --
po po2
--vrf blue11 --ctag-range 12 --l2-vni 12:10012 --l3-vni 14191 --local-ipv6
12,10.20.216.16:10:12a::1/127
--local-ipv6 12,10.20.216.15:10:12a::2/127 --local-ip 12,10.20.216.16:1.1.12.1/29
--local-ip 12,10.20.216.15:1.1.12.2/29

EndpointGroup created successfully.

--- Time Elapsed: 8.605943783s ---

```

This example creates a bridge-domain-based Layer 3 endpoint group.

```

$ efa tenant epg create --tenant tenant21 --name epg3 --type extension
--switchport-mode trunk --po po11 --ctag-range 1002 --bridge-domain 1002:Net-30002 --l2-
vni 1002:30002
--vrf red11 --anycast-ip 1002:10.20.30.1/24

EndpointGroup created successfully.

--- Time Elapsed: 13.469697138s ---

```

This example creates a VLAN-based Layer 2 endpoint group.

```

$ efa tenant epg create --name epg4 --tenant tenant11
--ctag-range 101-103 --switchport-mode trunk-no-default-native --port 10.20.216.15[0/17]

EndpointGroup created successfully.

--- Time Elapsed: 19.83265s ---

```

This example creates an endpoint group for which the BFD session type is automatically determined.

```

$ efa tenant epg create --name epg5 --tenant tenant11 --port 10.20.216.15[0/11]
,10.20.216.16[0/11] --po po1 --switchport-mode trunk --single-homed-bfd-session-type auto

```

This example creates an endpoint group with MTU values for Ctag 11 and Ctag 12.

```

$ efa tenant epg create --name tenlepg1 --tenant ten1 --port 10.20.246.17[0/1],
10.20.246.18[0/1] --switchport-mode trunk --ctag-range 11-12 --anycast-ip11:10.0.11.1/24

```

```
--anycast-ip12:10.0.12.1/24 --anycast-ipv6 11:11::1/127 --anycast-ipv6 12:12::1/127  
--vrf tenlvrf1 --ip-mtu 11:7900 --ip-mtu 12:8900
```

## efa tenant epg delete

---

Deletes an endpoint group.

### Syntax

```
efa tenant epg delete [ --force | --name epg-name | --tenant tenant-name |  
--help]
```

### Parameters

**--force**

Forces the deletion of any endpoint group that is tied to the tenant.

**--help**

Displays help for delete.

**--name** *epg-name*

Specifies the name of the endpoint group or a comma separated list of names to be deleted.  
Example: EPG-1 or EPG-1,EPG2,EPG3.

**--tenant** *tenant-name*

Specifies the tenant name.

### Usage Guidelines

Before deleting a tenant, delete any endpoint group that is tied to the tenant to remove any port level configurations on the device that are defined by the endpoint group. Failure to do this causes EFA to return an error. Using the `-force` option overrides this error and deletes the underlying endpoint group configuration on the device.

### Examples

The following example deletes a specific EPG.

```
(efa:extreme)extreme@node-1:~$ efa tenant epg delete --name epg2 --tenant tenant11  
EndpointGroup: epg2 deleted successfully.  
--- Time Elapsed: 5.853148185s ---
```

The following example deletes a specific EPG forcefully and ignores any error.

```
(efa:extreme)extreme@node-1:~$ efa tenant delete --name tenant12 --force  
Tenant delete with force will delete associated Vrfs, EndpointGroups and PortChannels.  
Do you want to proceed (Y/N): y  
Tenant deleted successfully.  
--- Time Elapsed: 3.258645739s ---
```

## efa tenant epg detach

Splits an endpoint group into multiple endpoint groups.

### Syntax

```
efa tenant epg detach [ --tenant name | --source-epg epg-name | --
  destination-epg epg-name | --destination-epg-description | --
  destination-epg-ctag-range ctag-range | --help ]
```

### Parameters

- tenant** *name*  
Specifies the tenant name.
- source-epg** *epg-name*  
Specifies the name of the source endpoint group.
- destination-epg** *epg-name*  
Specifies the name of the destination endpoint group.
- destination-epg-description**  
Displays destination endpoint group description.
- destination-epg-ctag-range** *ctag-range*  
Specifies the destination endpoint group CTAG range.
- help**  
Displays help for the command.

The following example shows an existing endpoint group, splits it into multiple endpoint groups, and then shows the individual endpoint groups.

```
$ efa tenant epg show --name epg4 --tenant tenant11
+-----+-----+-----+-----+-----+-----+
+-----+
| Name | Tenant | Type | Ports | PO | SwitchPort |
Native Vlan |
| | | | | | Mode |
Tagging |
+-----+-----+-----+-----+-----+-----+
+-----+
| epg4 | tenant11 | extension | 10.20.216.15[0/17] | | trunk-no-default-native |
false |
| | | | | |
| | | | | |
+-----+-----+-----+-----+-----+-----+
+-----+
+-----+-----+-----+-----+
| Ctag Range | Vrf | L3Vni | State |
+-----+-----+-----+-----+
| 101-103 | | | |
| | | | |
+-----+-----+-----+-----+
EndpointGroup Details
```

```

PO/Vrf [Flags : * - Unstable]

For 'unstable' entities, run 'efa tenant po/vrf show' for details

--- Time Elapsed: 156.85406ms ---

$ efa tenant epg detach --tenant tenant11 --source-epg epg4
--destination-epg epg5 --destination-epg-ctag-range 103

EndpointGroup: epg4 split successfully.

--- Time Elapsed: 263.570996ms ---

$ efa tenant epg show --name epg4 --tenant tenant11
+-----+-----+-----+-----+-----+-----+
+-----+
| Name | Tenant | Type | Ports | PO | SwitchPort | Native Vlan | Tagging |
+-----+-----+-----+-----+-----+-----+-----+-----+
| epg4 | tenant11 | extension | 10.20.216.15[0/17] | | trunk-no-default-native | false |
+-----+-----+-----+-----+-----+-----+-----+
+-----+
+-----+-----+-----+-----+
| Ctag Range | Vrf | L3Vni | State |
+-----+-----+-----+-----+
| 101-102 | | | |
+-----+-----+-----+-----+
EndpointGroup Details

PO/Vrf [Flags : * - Unstable]

For 'unstable' entities, run 'efa tenant po/vrf show' for details

--- Time Elapsed: 155.775375ms ---
$ efa tenant epg show --name epg5 --tenant tenant11
+-----+-----+-----+-----+-----+-----+
+-----+
| Name | Tenant | Type | Ports | PO | SwitchPort | Native Vlan | Tagging |
+-----+-----+-----+-----+-----+-----+-----+-----+
| epg5 | tenant11 | | 10.20.216.15[0/17] | | trunk-no-default-native | false |
+-----+-----+-----+-----+-----+-----+-----+
+-----+
+-----+-----+-----+-----+
| Ctag Range | Vrf | L3Vni | State |
+-----+-----+-----+-----+
| 103 | | | |
+-----+-----+-----+-----+

```

```
|          |      |          |
+-----+-----+-----+
EndpointGroup Details

PO/Vrf [Flags : * - Unstable]

For 'unstable' entities, run 'efa tenant po/vrf show' for details

--- Time Elapsed: 154.028719ms ---
```

## efa tenant epg error show

Reports errors related to the creation or update of endpoint groups.

### Syntax

```
efa tenant epg error show [ --name epg-name | --tenant tenant-name | --
  summary | --help ]
```

### Parameters

**--name** *epg-name*

Specifies the name of the endpoint group.

**--tenant** *tenant-name*

Specifies the tenant name.

**--summary**

Displays a summary of endpoint groups in the error state.

**--help**

Displays help for the command.

### Examples

```
efa tenant epg error show --name epg_nonclos --tenant tenant1
=====
Name : epg_nonclos
Tenant : tenant1
Errors
-----
MgmtIp Ctag NetworkPolicyErrorList
-----
10.25.225.173 2001 Adding/Removing VLANs under MCT Cluster failed due to
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
-----
10.25.225.173 2002 Adding/Removing VLANs under MCT Cluster failed due to
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
-----
10.25.225.173 2003 Adding/Removing VLANs under MCT Cluster failed due to
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
-----
10.25.225.174 2001 Adding/Removing VLANs under MCT Cluster failed due to
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
-----
10.25.225.174 2002 Adding/Removing VLANs under MCT Cluster failed due to
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
-----
10.25.225.174 2003 Adding/Removing VLANs under MCT Cluster failed due to
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
-----
```



## efa tenant epg show

Shows brief or detailed endpoint group informaton for all endpoint groups or a specific endpoint group.

### Syntax

```
efa tenant epg show [ --name epg-name | --detail | --tenant tenant-name |
  --vrf vrf-name | --help ]
```

### Parameters

**--name** *epg-name*

Specifies the name of the endpoint group.

**--detail**

Displays all attributes of the specified endpoint group or all endpoint groups. When this parameter is not used, only brief tabular output is returned.

**--tenant** *tenant-name*

Specifies the name of the tenant.

**--vrf** *vrf-name*

Specifies the name of the VRF.

**--help**

Provides help for the command.

This example shows brief details for all configured endpoint groups.

```
$ efa tenant epg show
+-----+-----+-----+-----+-----+-----+
| Name | Tenant | Type | Ports | PO | SwitchPort |
Native Vlan |
| | | | | | Mode |
Tagging |
+-----+-----+-----+-----+-----+-----+
| epg1 | tenant11 | extension | 10.20.216.15[0/11] | po1 | trunk
| true | | | 10.20.216.16[0/11] | |
| | | | | |
+-----+-----+-----+-----+-----+-----+
| epg2 | tenant11 | 13-hand-off | 10.20.216.16[0/18] | po3 | trunk
| false | | | 10.20.216.15[0/18] | |
| | | | | |
+-----+-----+-----+-----+-----+-----+
| epg4 | tenant11 | extension | 10.20.216.15[0/17] | | trunk-no-default-native
| false | | | | |
| | | | | |
+-----+-----+-----+-----+-----+-----+
| epg5 | tenant11 | | 10.20.216.15[0/17] | | trunk-no-default-native
| false | | | | |
| | | | | |
```

```

|
+-----+-----+-----+-----+-----+-----+
+-----+
| epg3 | tenant21 | extension | | po11 | | trunk
| false | | | | | |
| | | | | | |
+-----+-----+-----+-----+-----+-----+
+-----+
| Ctag Range | Vrf | L3Vni | State |
| | | | |
+-----+-----+-----+-----+-----+
| 10 | blue11 | 14191 | |
| | | | |
+-----+-----+-----+-----+-----+
| 12 | blue11 | 14191 | |
| | | | |
+-----+-----+-----+-----+-----+
| 101-102 | | | |
| | | | |
+-----+-----+-----+-----+-----+
| 103 | | | |
| | | | |
+-----+-----+-----+-----+-----+
| 1002 | red11 | 34191 | |
| | | | |
+-----+-----+-----+-----+-----+

```

EndpointGroup Details

PO/Vrf [Flags : \* - Unstable]

For 'unstable' entities, run 'efa tenant po/vrf show' for details

--- Time Elapsed: 621.668778ms ---

This example shows details for all configured endpoint groups.

```

$ efa tenant epg show --detail
Name : epg1
Tenant : tenant11
Type : extension
State :
Description :

Ports : 10.20.216.15[0/11]
       : 10.20.216.16[0/11]
POs : po1
Port Property : SwitchPort Mode : trunk
               : Native Vlan Tagging : true
NW Policy : Ctag Range : 10
           : VRF : blue11
           : L3Vni : 14191

+-----+-----+-----+-----+-----+-----+
+-----+
| Ctag | Ctag | L2Vni | BD Name | Anycast IPv4 | Anycast IPv6 | Local
IP | | | | | |
| | Description | | | | | [Device-IP-
>Local-IP] |
+-----+-----+-----+-----+-----+-----+
+-----+
| 10* | Network-10 | 10010 | | 10.10.10.1/24 | 10::1/125 | 10.20.216.15-
>10a:10::3/125 |

```

```

|          |          |          |          |          |
1.1.10.3/28 |          |          |          |          |
|          |          |          |          |          |
>1.1.10.4/28 |          |          |          |          |
|          |          |          |          |          |
10a:10::4/125 |          |          |          |          |
+-----+-----+-----+-----+-----+
+-----+
+-----+-----+-----+-----+-----+
| IPv6 ND | IPv6 ND | IPv6 ND | Dev State | App State |
| Mtu    | Managed Config | Other Config |          |          |
+-----+-----+-----+-----+-----+
| 9000   | true    | true    | provisioned | cfg-in-sync |
|          |          |          |          |          |
|          |          |          |          |          |
|          |          |          |          |          |
+-----+-----+-----+-----+-----+

Network Property [Flags : * - Native Vlan]

+-----+-----+-----+-----+-----+
+-----+
| Ctag | IPv6 ND Prefix | No Advertise | Valid Lifetime | Preferred Lifetime | Config
Type |
+-----+-----+-----+-----+-----+
+-----+
| 10* | 1002::/125 | false | infinite | 1020304 | no-
autoconfig |
+-----+-----+-----+-----+-----+
+-----+
| 10* | 1003::/125 | false | 1020304 | 1020304 | off-
link |
+-----+-----+-----+-----+-----+
+-----+
| 10* | 1004::/125 | false | 1020304 | infinite | no-
onlink |
+-----+-----+-----+-----+-----+
+-----+
IPv6 ND Prefix Flags

For 'unstable' entities, run 'efa tenant po/vrf show' for details

=====
====
=====

Name          : epg2
Tenant        : tenant11
Type          : l3-hand-off
State         :
Description   :

Ports         : 10.20.216.15[0/18]
               : 10.20.216.16[0/18]
POs           : po3
Port Property : SwitchPort Mode      : trunk
               : Native Vlan Tagging   : false
NW Policy     : Ctag Range           : 12
               : VRF                          : blue11
               : L3Vni                          : 14191

+-----+-----+-----+-----+-----+
+-----+

```

```

| Ctag |          Ctag          | L2Vni | BD Name | Anycast IPv4 | Anycast IPv6
|          Local IP      |        |         |               |               |
|          Description    |        |         |               |               |
[Device-IP->Local-IP] |
+-----+-----+-----+-----+-----+-----+
+-----+
| 12 | Tenant L3 Hand-off VLAN | 10012 |         |               |               |
10.20.216.15->10:12a::2/127 |
|          |          |          |          |          |          |
|          1.1.12.2/29    |          |          |          |          |
|          |          |          |          |          |          |
10.20.216.16->1.1.12.1/29 |
|          |          |          |          |          |          |
10:12a::1/127          |
+-----+-----+-----+-----+-----+-----+
+-----+
| IPv6 ND | IPv6 ND | IPv6 ND | Dev State | App State |
| Mtu | Managed Config | Other Config |           |           |
+-----+-----+-----+-----+-----+
|          | false | false | provisioned | cfg-in-sync |
|          |          |          |           |           |
|          |          |          |           |           |
+-----+-----+-----+-----+-----+
Network Property [Flags : * - Native Vlan]

+-----+-----+-----+-----+-----+-----+
+-----+
| Ctag | IPv6 ND Prefix | No Advertise | Valid Lifetime | Preferred Lifetime | Config
Type |
+-----+-----+-----+-----+-----+-----+
+-----+
IPv6 ND Prefix Flags

For 'unstable' entities, run 'efa tenant po/vrf show' for details

=====
=
=====
=
Name          : epg4
Tenant        : tenant11
Type          : extension
State         :
Description   :

Ports         : 10.20.216.15[0/17]
POs           :
Port Property : SwitchPort Mode       : trunk-no-default-native
NW Policy     : Ctag Range           : 101-102

+-----+-----+-----+-----+-----+-----+
+-----+
| Ctag |          Ctag          | L2Vni | BD Name | Anycast IPv4 | Anycast IPv6 |
Local IP      |          |        |         |               |               |
|          |          |          |         |               |               |
|          |          |          |         |               |               |
[Device-IP->Local-IP] |
+-----+-----+-----+-----+-----+-----+
+-----+
| 101 | Tenant L2 Extended VLAN | 10002 |         |               |               |

```

```

|
+-----+-----+-----+-----+-----+-----+
+-----+
| 102 | Tenant L2 Extended VLAN | 10003 | | |
|
+-----+-----+-----+-----+-----+
+-----+

+-----+-----+-----+-----+-----+
| IPv6 ND | IPv6 ND | IPv6 ND | Dev State | App State |
| Mtu | Managed Config | Other Config | | |
+-----+-----+-----+-----+-----+
| | false | false | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+
| | false | false | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+

Network Property [Flags : * - Native Vlan]

+-----+-----+-----+-----+-----+
+-----+
| Ctag | IPv6 ND Prefix | No Advertise | Valid Lifetime | Preferred Lifetime | Config
Type |
+-----+-----+-----+-----+-----+
+-----+
IPv6 ND Prefix Flags

For 'unstable' entities, run 'efa tenant po/vrf show' for details

=====
Name : epg5
Tenant : tenant11
Type :
State :
Description :

Ports : 10.20.216.15[0/17]
POs :
Port Property : SwitchPort Mode : trunk-no-default-native
NW Policy : Ctag Range : 103

+-----+-----+-----+-----+-----+
+-----+
| Ctag | Ctag | L2Vni | BD Name | Anycast IPv4 | Anycast IPv6 |
Local IP |
| | Description | | | | |
[Device-IP->Local-IP] |
+-----+-----+-----+-----+-----+
+-----+
| 103 | Tenant L2 Extended VLAN | 10004 | | |
|
+-----+-----+-----+-----+-----+
+-----+

+-----+-----+-----+-----+-----+
| IPv6 ND | IPv6 ND | IPv6 ND | Dev State | App State |
| Mtu | Managed Config | Other Config | | |
+-----+-----+-----+-----+-----+
| | false | false | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+

Network Property [Flags : * - Native Vlan]

```

```

+-----+-----+-----+-----+-----+
+-----+
| Ctag | IPv6 ND Prefix | No Advertise | Valid Lifetime | Preferred Lifetime | Config
Type |
+-----+-----+-----+-----+-----+
+-----+
IPv6 ND Prefix Flags

```

For 'unstable' entities, run 'efa tenant po/vrf show' for details

```

=====
=====

```

```

Name          : epg3
Tenant        : tenant21
Type          : extension
State         :
Description   :

Ports        :
POs          : poll
Port Property : SwitchPort Mode      : trunk
              : Native Vlan Tagging : false
NW Policy    : Ctag Range          : 1002
              : VRF                          : red11
              : L3Vni                        : 34191

```

```

+-----+-----+-----+-----+-----+-----+
+-----+
| Ctag |          Ctag          | L2Vni | BD Name | Anycast IPv4 | Anycast IPv6 |
Local IP |          |
|      | Description            |      |      |      |      |
[Device-IP->Local-IP] |
+-----+-----+-----+-----+-----+-----+
+-----+
| 1002 | Tenant L3 Extended BD | 30002 | Net-30002 | 10.20.30.1/24 |
|      |          |      |      |      |
+-----+-----+-----+-----+-----+-----+
+-----+

```

```

+-----+-----+-----+-----+-----+
| IPv6 ND | IPv6 ND | IPv6 ND | Dev State | App State |
| Mtu    | Managed Config | Other Config |      |      |
+-----+-----+-----+-----+-----+
|      | false | false | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+
Network Property [Flags : * - Native Vlan]

```

```

+-----+-----+-----+-----+-----+
+-----+
| Ctag | IPv6 ND Prefix | No Advertise | Valid Lifetime | Preferred Lifetime | Config
Type |
+-----+-----+-----+-----+-----+
+-----+
IPv6 ND Prefix Flags

```

For 'unstable' entities, run 'efa tenant po/vrf show' for details

```

=====
=====

```

--- Time Elapsed: 650.424994ms ---

This example shows details for the specified endpoint group.

```

$ efa tenant epg show --name epg3 --tenant tenant21 --detail
=====
Name          : epg3
Tenant        : tenant21
Type          : extension
State         :
Description   :

Ports         :
POs           : poll
Port Property : SwitchPort Mode      : trunk
              : Native Vlan Tagging : false
NW Policy     : Ctag Range           : 1002
              : VRF                       : red11
              : L3Vni                          : 34191

+-----+-----+-----+-----+-----+-----+
+-----+
| Ctag |          Ctag          | L2Vni | BD Name | Anycast IPv4 | Anycast IPv6 |
Local IP |          |          |          |          |          |
|          | Description |          |          |          |          |
[Device-IP->Local-IP] |
+-----+-----+-----+-----+-----+-----+
+-----+
| 1002 | Tenant L3 Extended BD | 30002 | Net-30002 | 10.20.30.1/24 |
|          |          |          |          |          |
+-----+-----+-----+-----+-----+-----+
+-----+
+-----+
|          Local IP          | IPv6 ND | IPv6 ND | IPv6 ND | Dev State | App
State |
| [Device-IP->Local-IP] | Mtu | Managed Config | Other Config |
|          |
+-----+-----+-----+-----+-----+-----+
+-----+
|          |          |          false          |          false          | provisioned | cfg-in-
sync |
+-----+-----+-----+-----+-----+-----+
+-----+

Network Property [Flags : * - Native Vlan]

+-----+-----+-----+-----+-----+-----+
+-----+
| Ctag | IPv6 ND Prefix | No Advertise | Valid Lifetime | Preferred Lifetime | Config
Type |
+-----+-----+-----+-----+-----+-----+
+-----+
IPv6 ND Prefix Flags

For 'unstable' entities, run 'efa tenant po/vrf show' for details

=====

--- Time Elapsed: 144.329232ms ---

```

This example shows brief output for all endpoint groups associated with a VRF.

```

$ efa tenant epg show --vrf red11 --tenant tenant21
+-----+-----+-----+-----+-----+-----+
+-----+
| Name | Tenant | Type | Ports | PO | SwitchPort | Native Vlan | Ctag Range |

```

```
Vrf | L3Vni | State |
| | | | | | Mode | Tagging |
| | | | | | | |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| epg3 | tenant21 | extension | | pol1 | trunk | false | 1002 |
red11 | 34191 | | | | | | |
| | | | | | | |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
EndpointGroup Details

PO/Vrf [Flags : * - Unstable]

For 'unstable' entities, run 'efa tenant po/vrf show' for details

--- Time Elapsed: 165.216476ms ---
```

This example shows detailed output of all endpoint groups associated with a tenant.

```
$ efa tenant epg show --tenant tenant21 --detail
=====
Name          : epg3
Tenant        : tenant21
Type          : extension
State         :
Description   :

Ports         :
POs           : pol1
Port Property : SwitchPort Mode      : trunk
               : Native Vlan Tagging : false
NW Policy     : Ctag Range           : 1002
               : VRF                           : red11
               : L3Vni                           : 34191

+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| Ctag |          Ctag          | L2Vni | BD Name | Anycast IPv4 | Anycast IPv6 |
Local IP |          |
|          | Description          |      |         |              |              |
[Device-IP->Local-IP] |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 1002 | Tenant L3 Extended BD | 30002 | Net-30002 | 10.20.30.1/24 |
|          |          |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| IPv6 ND | IPv6 ND | IPv6 ND | Dev State | App State |
| Mtu | Managed Config | Other Config |         |         |
+-----+-----+-----+-----+-----+-----+-----+-----+
|          | false | false | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+-----+
Network Property [Flags : * - Native Vlan]

+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| Ctag | IPv6 ND Prefix | No Advertise | Valid Lifetime | Preferred Lifetime | Config
Type |
+-----+-----+-----+-----+-----+-----+-----+-----+
```



```
+-----+  
IPv6 ND Prefix Flags
```

For 'unstable' entities, run 'efa tenant po/vrf show' for details

```
=====
```

```
--- Time Elapsed: 150.765431ms ---
```

## efa tenant epg update

Updates an endpoint group.

### Syntax

```
efa tenant epg update [--name epg-name | --tenant tenant-name | --operation
  [ port-group-add | port-group-delete | ctag-range-add | ctag-range-
  delete | vrf-add | vrf-delete | local-ip-add | local-ip-delete |
  anycast-ip-add | anycast-ip-delete ] | --port ip-ethport | --po po-
  name | --switchport-mode access | trunk | trunk-no-default-native | --
  type 13-hand-off | extension | --switchport-native-vlan-tagging | --
  switchport-native-vlan value | --ctag-range range | --ctag description
  desc | --vrf vrf-name | --l3-vni vni | --l2-vni vni | --anycast-ip ipv4 |
  --anycast-ipv6 ipv6 | --local-ip ipv4 | --local-ipv6 ipv6 | --bridge-
  domain bd-name | --ipv6-nd-mtu mtu-value | --ipv6-nd-managed-config
  flag | --ipv6-nd-other-config other-flag | --ipv6-nd-prefix ipv6-
  prefix | --ipv6-nd-prefix-valid-lifetime lifetime | --ipv6-nd-prefix-
  preferred-lifetime pref-lifetime | --ipv6-nd-prefix-no-advertise | --
  ipv6-nd-prefix-config-type no-autoconfig | no-onlink | off-link | --
  single-homed-bfd-session-type auto | software | hardware | --ip-mtu
  mtu-value ]
```

### Parameters

**--name** *epg-name*

Specifies the name of the endpoint group.

**--tenant** *tenant-name*

Specifies the name of the associated tenant.

**--operation** port-group-add | port-group-delete | ctag-range-add | ctag-range-delete | vrf-add, vrf-delete | local-ip-add | local-ip-delete | anycast-ip-add | anycast-ip-delete

Defines the operation to be performed. Valid values are port-group-add, port-group-delete, ctag-range-add, ctag-range-delete, vrf-add, vrf-delete, local-ip-add, local-ip-delete, anycast-ip-add, or anycast-ip-delete.

**--port** *ip-ethport*

Specifies the device IP address and Ethernet port details. Example: SW1\_IP[0/1], SW2\_IP[0/5,0/6], SW3\_IP[0/7-10]

**--po** *po-name*

Lists port channels. Example: po1, po2

**--switchport-mode** access | trunk | trunk-no-default-native

Configures switch port mode on the interfaces. Valid values are access, trunk, and trunk-no-default-native. The default is trunk.

**--type** 13-hand-off | extension

Configures the BGP service type. Valid values are I3-hand-off or extension. The default is extension.

**--switchport-native-vlan-tagging**

Enables the native VLAN characteristics on the ports of this endpoint group. Valid only if the **--switchport-mode** parameter is set to trunk.

**--switchport-native-vlan** *value*

Configures native VLAN on the interfaces. Valid values are 2 through 4090 corresponding to the value of the **--ctag-range** parameter.

**--ctag-range** *range*

Specifies the customer VLAN range in comma and hyphen separated format. Example: 2-20,30,40,50-55.

**--ctag-description** *desc*

Specifies a unique description of the ctag in the following format: ctag:12-vni.

**--vrf** *vrf-name*

Specifies the VRF to which these networks are attached.

**--l3-vni** *vni*

Specifies the Layer 3 VNI to be used for this VRF.

**--l2-vni** *vni*

Specifies the Layer 2 VNI to be used for this network in the following format: ctag:12-vni.

**--anycast-ip** *ipv4*

Specifies the IPv4 anycast address in the following format: ctag:anycast-ip.

**--anycast-ipv6** *ipv6*

Specifies the IPv6 anycast address in the following format: ctag:anycast-ipv6.

**--local-ip** *ipv4*

Specifies the IPv4 local address in the following format: ctag,device-ip:local-ip.

**--local-ipv6** *ipv6*

Specifies the IPv6 local address in the following format: ctag,device-ip:local-ipv6.

**--bridge-domain** *bd-name*

Specifies the bridge domain name in the following format; ctag:bridge-domain.

**--ipv6-nd-mtu** *mtu-value*

Sets the maximum transmission unit (MTU) for IPv6 neighbor discovery. Valid values range from 1280 through 65535. The format is ctag:mtu.

**--ipv6-nd-managed-config** *flag*

Sets the managed configuration flag for IPv6 router advertisement. The format is ctag:managedflag.

**--ipv6-nd-other-config** *other-flag*

Sets the other configuration flag for IPv6 router advertisement. The format is ctag:otherflag.

**--ipv6-nd-prefix** *ipv6-prefix*

Configures the IPv6 prefix address in the following format: `ctag:prefix1,prefix2,..`

**--ipv6-nd-prefix-valid-lifetime** *lifetime*

Sets IPv6 prefix valid lifetime. A valid range is from 0 through 4294967295 to infinite. The format is `ctag,prefix:validTime`.

**--ipv6-nd-prefix-preferred-lifetime** *pref-lifetime*

Sets the IPv6 prefix preferred lifetime. A valid range is from 0 through 4294967295 to infinite. The format is `ctag,prefix:preferredTime`.

**--ipv6-nd-prefix-no-advertise**

Prevents prefix advertisement. The format is `ctag,prefix:noadvertiseflag`.

**--ipv6-nd-prefix-config-type no-autoconfig | no-onlink | off-link**

Sets the configuration type for the IPv6 prefix. Valid values are `no-autoconfig`, `no-onlink`, or `off-link`. The format is `ctag,prefix:configType`.

**--single-homed-bfd-session-type auto | software | hardware**

Specifies the BFD session type for the endpoint group. Valid values are `auto`, `software`, or `hardware`. The default is `auto`, which means that the BFD session type is automatically determined based on the value of the **--type** parameter: `extension` or `L3 hand-off`.

**--ip-mtu** *mtu-value*

Sets the IP maximum transmission unit (MTU) for the tenant network. Valid values range from 1280 through 9194. The format is `ctag:ip-mtu`.

## Usage Guidelines

An empty endpoint group has no `network-policy`, `network-property`, or `port-property`.

An endpoint group can be created with a `port-property` and without a `port-group`. But an endpoint group cannot be created with a `port-group` and without a `port-property`.

ARP suppression is enabled for all the possible broadcast domains VLAN or BD on the device.

CEP is handled by replicating all the tenant configuration on the MCT neighbor except for the endpoint configuration, since the endpoint does not exist on the MCT neighbor.

The update operation for a bridge domain-based endpoint group is similar to that of a VLAN-based endpoint group. During a `port-group add` or `delete` operation, the logical interface configurations will be created or deleted for the existing `ctags`, and the corresponding bridge-domains.

During a `ctag-range-add` or `delete` operation, the logical interface and bridge-domain configurations are updated on the endpoint group.

During `vrf-add` or `delete` operation, the corresponding Layer 3 configurations are added to or deleted from the endpoint group.

Event handling sets the corresponding tenant networks to the `cfg-refreshed` state. However, there is no way to re-push the refreshed configuration onto the devices.

The value of `--single-homed-bfd-session-type` is configured for one endpoint group and then propagated to all Ethernet and single-homed port channel interfaces defined for that endpoint group.

EFA does not distinguish between SRIOV (single-root input/output virtualization) and non-SRIOV connections. Therefore, it treats both connections the same way. If you want to use hardware-based BFD sessions for CEP non-SRIOV connections, then create an endpoint group that contains all the CEP non-SRIOV connections and set the `--single-homed-bfd-session-type` to `hardware`.

During `vrf-add` and `ctag-range-add` operations, you can use the `--ip-mtu` parameter to configure the MTU for the tenant network. This value is then configured on the interface VE on the SLX device. The output of the `efa tenant epg show --detail` command includes the configured `--ip-mtu <mtu-value>`.

## Examples

The following example adds a port to the endpoint group.

```
$ efa tenant epg update --name epg1
--tenant tenant11 --operation port-group-add --port 10.20.216.15[0/20]

EndpointGroup updated successfully.

--- Time Elapsed: 32.208253521s ---
```

The following example adds a Ctag with network properties to endpoint group.

```
$ efa tenant epg update --name epg1 --tenant tenant11
--operation ctag-range-add --ctag-range 100 --anycast-ip 100:1.1.100.1/24
--local-ip 100,10.20.216.15:100.100.1.1/28

EndpointGroup updated successfully.

--- Time Elapsed: 37.428381252s ---
```

The following example adds a automatic BFD session type to an endpoint group.

```
$ efa tenant epg update --name epg5 --tenant tenant11 --operation port-group-add
--port 10.20.216.15[0/11],10.20.216.16[0/11] --po po1 --switchport-mode trunk
--single-homed-bfd-session-type auto
```

The following example configures the MTU during a `vrf-add` operation.

```
$ efa tenant epg update --name tenlepg1 --tenant ten1 --operation vrf-add
--anycast-ip11:10.0.11.1/24 --anycast-ipv6 11:11::1/127 --vrf ten1vrf1 --ip-mtu 11:5990
```

The following example configures the MTU during a `ctag-range-add` operation.

```
$ efa tenant epg update --name tenlepg1 --tenant ten1 --operation ctag-range-add
--ctag-range 12 --anycast-ip12:10.0.12.1/24 --anycast-ipv6 12:12::1/127 --ip-mtu 12:6990
```

## efa tenant execution

Displays the list of executions, event histories, and deletes entries older than the specified days.

### Syntax

```
efa tenant execution delete [--days int32 | --help]
efa tenant execution show [--help | --limit int32 | --status failed |
    succeeded | all ]
efa tenant execution show-event [--device | --execution-id | --help]
```

### Parameters

#### --days int32

Deletes execution entries older than the specified days (default 30).

#### --device

Filters execution entries on IP address.

#### --help

Provides help for the selected command.

#### --limit int32

Limits the number of executions to be listed. Value "0" will list all the executions. Default is 10.

#### --status

Filters the executions based on the status (failed, succeeded, all). Default is all.

#### --execution-id

Filters execution entries on execution UUID.

The following example shows the executed commands with the user.

```
(efa:extreme)extreme@node-1:~$ efa tenant execution show
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          ID          | ENTITY   | COMMAND   | STATUS   | START TIME |
|          END TIME   | USER NAME |           |          |            |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| c8e2a628-9633-4903 | EndpointGroup | Show      | succeeded | 2021-01-27T13:27:29Z |
2021-01-27T13:27:29Z | extreme      |           |          |                    |
| a99df80f-b462-4cd0 | EndpointGroup | Show      | succeeded | 2021-01-27T13:27:22Z |
2021-01-27T13:27:22Z | extreme      |           |          |                    |
| 9f612208-92dc-42c1 | EndpointGroup | DetachNetwork | succeeded | 2021-01-27T13:27:15Z |
2021-01-27T13:27:15Z | extreme      |           |          |                    |
| ee25aa95-b99d-4231 | EndpointGroup | Show      | succeeded | 2021-01-27T13:25:55Z |
2021-01-27T13:25:56Z | extreme      |           |          |                    |
| a0249657-b1fe-4d2b | EndpointGroup | ShowAll   | succeeded | 2021-01-27T13:25:27Z |
2021-01-27T13:25:27Z | extreme      |           |          |                    |
| 55ec0bef-89a1-42ff | Tenant       | ShowAll   | succeeded | 2021-01-27T13:25:26Z |
2021-01-27T13:25:26Z | extreme      |           |          |                    |
| c18ad360-826e-42c1 | EndpointGroup | ShowAll   | succeeded | 2021-01-27T13:25:26Z |
2021-01-27T13:25:26Z | extreme      |           |          |                    |
| b0b94b89-bdaa-435f | EndpointGroup | ShowAll   | succeeded | 2021-01-27T13:25:26Z |
2021-01-27T13:25:26Z | extreme      |           |          |                    |
```

```
| d9c88574-9dea-44a2 | EndpointGroup | Show          | failed   | 2021-01-27T13:20:32Z |
2021-01-27T13:20:32Z | extreme      |
| 0b9944d6-a8e4-42f8 | EndpointGroup | Show          | succeeded| 2021-01-27T13:20:21Z |
2021-01-27T13:20:21Z | extreme      |
+-----+-----+-----+-----+-----+
+-----+-----+
For more details of execution, run 'efa tenant execution show --id <ID>'
=====
-----
--- Time Elapsed: 156.392772ms ---
```

**efa tenant execution show-event**

The following example shows the list of event histories.

```
(efa:extreme)extreme@node-1:~$ efa tenant execution show-event
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| EXECUTION UUID | DATE           | SERVICE | EVENT |
DEVICE          | MESSAGE-TYPE | MESSAGE-OBJECT | MESSAGE
|                | ERROR        |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 76b8e798-adb0-459f | 2021-01-27T13:08:03Z | tenant | po-create |
10.20.216.15,10.20.216.16 | po | poll | Portchannel creation
succeeded |
| | | |
| | | | for ports on device
poll |
| 76b8e798-adb0-459f | 2021-01-27T13:08:04Z | tenant | po-create |
10.20.216.15,10.20.216.16 | po | poll | Configuration on
devices |
| | | |
| | | | succeeded for Port
Channel |
| | | |
| | | |
poll |
| 76b8e798-adb0-459f | 2021-01-27T13:08:04Z | tenant | po-create |
10.20.216.15,10.20.216.16 | po | poll | Updating Dev state on
database |
| | | |
| | | | succeeded for Port
Channel |
| | | |
| | | |
poll |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
--- Time Elapsed: 189.538402ms ---
```

**efa tenant execution delete[ --days value ]**

**--days**

Delete execution entries older than the specified days.

The following example deletes execution entries older than the specified number of days.

```
(efa:extreme)extreme@node-1:~$ efa tenant execution delete --days 1
```

```
Execution entries deleted successfully.  
--- Time Elapsed: 210.106127ms ---
```



## efa tenant po configure

---

Pushes or removes pending PO configuration.

### Syntax

```
efa tenant po configure [ --name | --tenant | --help ]
```

### Parameters

**--name**

Specifies the name of the port channel.

**--tenant**

Specifies the name of the tenant.

**--help**

Provides help for the selected command.

This example pushes or removes pending PO configuration.

```
(efa:extreme)extreme@node-1:~$ efa tenant po configure --name po1 --tenant tenant11
PortChannel: po1 configured successfully.
--- Time Elapsed: 318.075604ms ---
```

## efa tenant po create

---

Creates a port channel for a tenant.

### Syntax

```
efa tenant po create [ --name po-name | --tenant tenant-name | --speed speed | --negotiation active | passive | static | --port port-info | --number | --lACP-timeout long | short | --min-link-count num-links | --description description | --help ]
```

### Parameters

**--name** *po-name*

Specifies the port channel name.

**--tenant** *tenant-name*

Specifies the tenant name.

**--speed** *speed*

Configures the speed for the port channel and its member ports. Valid values are 100Mbps, 1Gbps, 10Gbps, 25Gbps, 40Gbps, and 100Gbps.

**--negotiation** **active** | **passive** | **static**

Configures LACP Negotiation mode for a port channel. Valid values are active, passive, and static.

**--port**

Specifies the device IP address and Ethernet port details. Example: SW1\_IP[0/1],SW2\_IP[0/5]

**--number** *port-info*

Specifies the port channel interface number generated by the service.

**--lACP-timeout** **long** | **short**

Specifies the length of the timeout. Valid values are short and long.

**--min-link-count** *num-links*

Specifies the least number of links that need to be operationally up to declare the port channel as operationally up. The default value is 1. Valid values are 1 through 64.

**--description** *description*

Describes the port channel.

**--help**

Displays help for the command.

### Examples

This example creates a dual-homed PO.

```
(efa:extreme)extreme@node-1:~$ efa tenant po create --tenant tenant11 --name po1
--speed 100Gbps --negotiation active --lACP-timeout short --port 10.20.216.15[0/12-13],
10.20.216.16[0/12-13]
--min-link-count 2
```

```
PortChannel created successfully.
```

This example creates a single-homed PO.

```
((efa:extreme)extreme@node-1:~$ efa tenant po create --tenant "tenant11" --name "po2"  
--speed 10Gbps --negotiation static --port 10.20.216.15[0/15] --min-link-count 1  
--description po2
```

```
PortChannel created successfully.
```

```
--- Time Elapsed: 3.894884521s ---
```

## efa tenant po delete

---

Deletes a portchannel.

### Syntax

```
efa tenant po delete [ --name | --force | --tenant | --help ]
```

### Parameters

**--name**

Specifies portchannel name or comma-separated portchannel names. Ex: po1 or po1,po2,po3.

**--force**

Forces the portchannel deletion if the option is provided.

**--tenant**

Specifies the tenant name.

**--help**

Displays help for delete.

### Examples

This example deletes the specified POs.

```
(efa:extreme)extreme@node-1:~$ efa tenant po delete --name po1,po2 --tenant tenant11  
  
PortChannel: po1 deleted successfully.  
  
PortChannel: po2 deleted successfully.  
  
--- Time Elapsed: 1.133774283s ---
```

This example deletes a PO even when it is associated with an EPG.

```
(efa:extreme)extreme@node-1:~$ efa tenant po delete --name po1 --tenant tenant11 --force  
  
PortChannel Delete with force will update associated EndpointGroups and Networks and  
deletes them if there are no other ports associated to them (N/Y): y  
  
PortChannel: po1 deleted successfully.  
  
--- Time Elapsed: 1.890092303s ---
```

## efa tenant po show

Shows brief or detailed output of the port channel of all tenants, a given tenant, or a given port channel.

### Syntax

```
efa tenant po show [--name po-name | --tenant tenant-name | --detail | --help]
```

### Parameters

**--name** *po-name*

Specifies the port channel name.

**--tenant** *tenant-name*

Specifies the tenant name.

**--detail**

Displays detailed output of the port channel. When this parameter is not used, only brief tabular output is returned.

**--help**

Displays help for the command.

### Examples

This example shows brief output of all port channels.

```
$ efa tenant po show
+-----+-----+-----+-----+-----+-----+-----+
| Name | Tenant | ID | Description | Speed | Negotiation | MinLinkCount |
+-----+-----+-----+-----+-----+-----+-----+
| po1 | tenant11 | 1 | EFA Port-channel po1 | 100Gbps | active | 2 |
| | | | | | | |
+-----+-----+-----+-----+-----+-----+-----+
| po2 | tenant11 | 2 | po2 | 10Gbps | static | 1 |
| | | | | | | |
+-----+-----+-----+-----+-----+-----+-----+
| po11 | tenant21 | 3 | EFA Port-channel po11 | 25Gbps | active | 1 |
| | | | | | | |
+-----+-----+-----+-----+-----+-----+-----+
| Ports | LacpTimeout | State | Dev-State | App-State |
+-----+-----+-----+-----+-----+-----+
| 10.20.216.15[0/12-13] | short | po-created | provisioned | cfg-in-sync |
| 10.20.216.16[0/12-13] | | | | |
+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.15[0/15] | | po-created | provisioned | cfg-in-sync |
| 10.20.216.16[0/15] | | | | |
+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.15[0/22] | short | po-created | provisioned | cfg-in-sync |
| 10.20.216.16[0/22] | | | | |
+-----+-----+-----+-----+-----+-----+-----+

PortChannel Details

--- Time Elapsed: 832.496716ms ---
```

This example shows detailed output of all port channels.

```

$ efa tenant po show --detail
=====
Name          : po1
Tenant        : tenant11
ID            : 1
Description    : EFA Port-channel po1
Speed         : 100Gbps
Negotiation   : active
Min Link Count : 2
Lacp Timeout  : short
Ports         : 10.20.216.15[0/12-13]
               : 10.20.216.16[0/12-13]
State         : po-created
Dev State     : provisioned
App State     : cfg-in-sync
=====

Name          : po2
Tenant        : tenant11
ID            : 2
Description    : EFA Port-channel po3
Speed         : 10Gbps
Negotiation   : static
Min Link Count : 1
Lacp Timeout  :
Ports         : 10.20.216.15[0/15]
               : 10.20.216.16[0/15]
State         : po-created
Dev State     : provisioned
App State     : cfg-in-sync
=====

Name          : po11
Tenant        : tenant21
ID            : 3
Description    : EFA Port-channel po11
Speed         : 25Gbps
Negotiation   : active
Min Link Count : 1
Lacp Timeout  : short
Ports         : 10.20.216.15[0/22]
               : 10.20.216.16[0/22]
State         : po-created
Dev State     : provisioned
App State     : cfg-in-sync
=====

--- Time Elapsed: 506.117046ms ---

```

This example shows brief output of a specific port channel.

```

$ efa tenant po show --tenant tenant11 --name po1
+-----+-----+-----+-----+-----+-----+
| Name | Tenant | ID | Speed | Negotiation | Min Link | Lacp |
|      |        |   |       |              | Count    | Timeout |
+-----+-----+-----+-----+-----+-----+
| po1  | tenant11 | 1 | 100Gbps | active      | 1        | short |
|      |         |   |         |             |          |      |
+-----+-----+-----+-----+-----+-----+
| Lacp |        | Ports | State | Dev State | App State |
+-----+-----+-----+-----+-----+-----+

```

```

| Timeout |           |           |           |           |
+-----+-----+-----+-----+-----+
| short   | 10.20.216.15[0/12] | po-created | provisioned | cfg-in-sync |
|         | 10.20.216.16[0/12] |           |           |           |
+-----+-----+-----+-----+-----+

```

PortChannel Details

--- Time Elapsed: 150.30883ms ---

This example shows detailed output of all port channels belonging to a tenant.

```
$ efa tenant po show --tenant tenant21 --detail
```

```

=====
Name           : po11
Tenant         : tenant21
ID             : 3
Description    : EFA Port-channel po11
Speed          : 25Gbps
Negotiation    : active
Min Link Count : 1
Lacp Timeout   : short
Ports          : 10.20.216.15[0/22]
                : 10.20.216.16[0/22]
State          : po-created
Dev State      : provisioned
App State      : cfg-in-sync
=====

```

--- Time Elapsed: 223.892847ms ---

## efa tenant po update

Updates port channel parameters such as name, operation, management IP, and port.

### Syntax

```
efa tenant po update [ --name po-name | --tenant tenant-name | --operation port-add | port-delete | lACP-timeout | description | min-link-count | --port port-list | --lACP-timeout long | short | --min-link-count num-links | --description description | --help ]
```

### Parameters

**--name** *po-name*

Specifies the name of the port channel.

**--tenant** *tenant-name*

Specifies tenant name.

**--operation** **port-add** | **port-delete** | **lACP-timeout** | **description** | **min-link-count**

Adds or deletes operation on the ports. Valid options are port-add | port-delete | lACP-timeout | description | min-link-count.

**--port** *port-list*

Specifies device IP along with ethernet port details. Example: SW1\_IP [0/1], SW2\_IP[0/5]

**--lACP-timeout** **long** | **short**

Specifies LACP timeout configuration. Valid values are short | long.

**--min-link-count** *num-links*

Specifies the least number of links that need to be operationally up to declare the port channel as operationally up. The default value is 1. Valid values are 1 through 64.

**--description**

Describes the port channel.

**--help**

Help for the command.

### Examples

This example updates the min-link-count of an existing PO.

```
(efa:extreme)extreme@node-1:~$ efa tenant po update --name poll --tenant tenant21 --operation min-link-count --min-link-count 1
```

```
PortChannel: poll updated successfully.
```

```
--- Time Elapsed: 378.143836ms ---
```

This example updates the lACP-timeout of an existing PO.

```
(efa:extreme)extreme@node-1:~$ efa tenant po update --name poll --tenant tenant21 --operation lACP-timeout --lACP-timeout long
```



```
PortChannel: po11 updated successfully.  
--- Time Elapsed: 5.883514246s ---
```

## efa tenant service bgp peer configure

---

Pushes or removes a pending configuration for a BGP peer instance.

### Syntax

```
efa tenant service bgp peer configure [ --help | --name peer-name | --tenant tenant-name ]
```

### Parameters

**--help**

Provides help for the command.

**--name** *peer-name*

Specifies the name of the BGP peer instance.

**--tenant** *tenant-name*

Specifies the name of the tenant.

This example pushes or removes a pending configuration for a BGP peer instance.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer configure --name B2 --tenant
tenant11

BgpService configured successfully.

--- Time Elapsed: 860.504374ms ---
```

## efa tenant service bgp peer create

Creates a BGP peer for a specified VRF.

### Syntax

```
efa tenant service bgp peer create [ --description description | --help |
--ipv4-uc-dyn-nbr string | --ipv4-uc-nbr string | --ipv4-uc-nbr-bfd
string | --ipv4-uc-nbr-next-hop-self string | --ipv4-uc-nbr-update-
source-ip string | --ipv6-uc-dyn-nbr string | --ipv6-uc-nbr string |
--ipv6-uc-nbr-bfd string | --ipv6-uc-nbr-next-hop-self string | --
ipv6-uc-nbr-update-source-ip string | --name peer-name | --operation
peer-add | peer-delete | desc-update | --tenant tenant-name ]
```

### Parameters

**--description** *description*

Describes the BGP service.

**--help**

Displays help for the command.

**--ipv4-uc-dyn-nbr** *string*

Identifies the IPv4 unicast dynamic neighbor with a string in the following format: *device-ip,vrf-name:ipv4-listen-range,peer-group-name,listen-limit*. For example: *10.x.x.x,red:11::22/127*. The *listen-limit* value is optional.

**--ipv4-uc-nbr** *string*

Identifies the IPv4 unicast neighbor with a string in the following format: *device-ip,vrf-name:ipv4-neighbor,remote-as*. For example: *10.x.x.x,red:10.20.30.40,5000*.

**--ipv4-uc-nbr-bfd** *string*

Identifies the IPv4 BFD unicast neighbor with a string in the following format: *device-ip,vrf-name:ipv4-neighbor,bfd-enable(true/false),bfd-interval,bfd-min-rx,bfd-multiplier*. For example: *10.x.x.x,red:10.20.30.40,true,100,200,5*.

**--ipv4-uc-nbr-next-hop-self** *string*

Identifies the next-hop-self for the IPv4 unicast neighbor with a string in the following format: *device-ip,vrf-name:ipv4-neighbor,next-hop-self(true/false/always)*. For example: *10.x.x.x,red:10.y.y.y,true*.

**--ipv4-uc-nbr-update-source-ip** *string*

Updates the source IP for the IPv4 unicast neighbor with a string in the following format: *device-ip,vrf-name:ipv4-neighbor,update-source-ip*. For example: *10.x.x.x,red:10.y.y.y,11.x.x.x*.

**--ipv6-uc-dyn-nbr** *string*

Identifies the IPv6 unicast dynamic neighbor with a string in the following format: `device-ip,vrf-name:ipv6-listen-range,peer-group-name,listen-limit`. The `listen-limit` value is optional.

**--ipv6-uc-nbr** *string*

Identifies the IPv6 unicast neighbor with a string in the following format: `device-ip,vrf-name:ipv6-neighbor,remote-as`. For example: `10.x.x.x,red:10::40,5000`.

**--ipv6-uc-nbr-bfd** *string*

Identifies the IPv6 BFD unicast neighbor with a string in the following format: `device-ip,vrf-name:ipv6-neighbor,bfd-enable(true/false),bfd-interval,bfd-min-rx,bfd-multiplier`. For example: `10.x.x.x,red:10::40,true,100,200,5`.

**--ipv6-uc-nbr-next-hop-self** *string*

Identifies the next-hop-self for the IPv6 unicast neighbor with a string in the following format: `device-ip,vrf-name:ipv6-neighbor,next-hop-self(true/false/always)`. For example: `10.x.x.x,red:10::40,true`.

**--ipv6-uc-nbr-update-source-ip** *string*

Updates the source IP for the IPv6 unicast neighbor with a string in the following format: `device-ip,vrf-name:ipv6-neighbor,update-source-ip`. For example: `10.x.x.x,red:10::40,11::22`.

**--name** *peer-name*

Identifies the name of the BGP peer instance.

**--tenant** *tenant-name*

Identifies the name of the tenant.

The following examples create a static BGP peer (IPv4/IPv6).

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer create --name B1 --tenant
tenant11 --ipv4-uc-nbr 10.20.216.16,blue11:1.1.1.11,95001 --ipv4-uc-nbr-bfd
10.20.216.16,blue11:1.1.1.11,true,50,5000,50 --ipv4-uc-nbr-next-hop-self
10.20.216.16,blue11:1.1.1.11,always --ipv4-uc-nbr-update-source-ip
10.20.216.16,blue11:1.1.1.11,10.11.12.13 --ipv6-uc-nbr
10.20.216.16,blue11:20a1:a::10,95001 --ipv6-uc-nbr-bfd
10.20.216.16,blue11:20a1:a::10,true,50,5000,50 --ipv6-uc-nbr-next-hop-self
10.20.216.16,blue11:20a1:a::10,always --ipv6-uc-nbr-update-source-ip
10.20.216.16,blue11:20a1:a::10,20::10
```

BgpService created successfully.

--- Time Elapsed: 4.144354035s ---

The following examples create a dynamic BGP peer (IPv4/IPv6).

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer create --name B2 --tenant
tenant11 --ipv6-uc-dyn-nbr 10.20.216.16,blue11:15::/127,pg1,10 --ipv4-uc-dyn-nbr
10.20.216.16,blue11:15.15.15.0/28,pg1,10
```

BgpService created successfully.

--- Time Elapsed: 1.852356132s ---

## efa tenant service bgp peer delete

Deletes the BGP neighbors for a given VRF on the fabric device.

### Syntax

```
efa tenant service bgp peer delete [ --force | --help | --name service-name | --tenant tenant-name ]
```

### Parameters

**--force**

Forces BGP service deletion when set to true.

**--help**

Displays help for delete.

**--name**

Specifies the name of the BGP service instance.

**--tenant**

Specifies the name of the tenant.

### Examples

The following example deletes the BGP peer instance.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer delete --name B1 --tenant
tenant11

BgpService deleted successfully.

--- Time Elapsed: 4.301665698s ---
```

The following example deletes the BGP peer instance forcefully avoiding any error.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer delete --name B1 --tenant
tenant11 --force

Bgp Service delete with "force" option will delete the device configuration corresponding
to the bgp and also deletes the Bgp record from the application. Do you want to proceed
(Y/N): y

BgpService deleted successfully.

--- Time Elapsed: 4.301665698s ---
```

## efa tenant service bgp peer show

Shows brief or detailed output of the BGP neighbors for a given tenant.

### Syntax

```
efa tenant service bgp peer show [ --name peer-name | --tenant tenant-name
  | --detail | --help]
```

### Parameters

**--name** *peer-name*

Specifies the name of the BGP peer instance.

**--tenant** *tenant-name*

Specifies the name of the tenant.

**--detail**

Displays detailed output of the BGP peer instance. When this parameter is not used, only brief tabular output is returned.

**--help**

Displays help for the command.

### Examples

The following example shows brief output of all BGP peer instances.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer show
=====
Name       : B2
Tenant    : tenant11
State     : bs-state-created

+-----+-----+-----+-----+-----+-----+-----+-----+
| Device IP | VRF | AFI | SAFI | Remote IP | Remote ASN | Next Hop | Update |
|           |     |     |     |           |           | Self     | Source IP |
+-----+-----+-----+-----+-----+-----+-----+-----+
| BFD       |     |     |     |           |           | Dev State | App State |
| Enabled  | [Interval,Rx,Multiplier] |           |           |
+-----+-----+-----+-----+-----+-----+-----+
Static Peer Details

+-----+-----+-----+-----+-----+-----+-----+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen | Peer Group |
|           |     |     |     |           | Limit |           |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.16 | blue11 | ipv4 | unicast | 15.15.15.0/28 | 10 | pg1 |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.16 | blue11 | ipv6 | unicast | 15::/127 | 10 | pg1 |
+-----+-----+-----+-----+-----+-----+-----+-----+
| Dev State | App State |
|           |           |
+-----+-----+-----+
| provisioned | cfg-in-sync |
```

```

+-----+
| provisioned | cfg-in-sync |
+-----+

Dynamic Peer Details

=====
Name          : B1
Tenant       : tenant11
State        : bs-state-created

+-----+-----+-----+-----+-----+-----+-----+
| Device IP | VRF | AFI | SAFI | Remote IP | Remote ASN | Next Hop |
|           |     |     |     |           |           | Self     |
+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.16 | blue11 | ipv4 | unicast | 1.1.1.11 | 95001 | always |
+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.16 | blue11 | ipv6 | unicast | 20a1:a::10 | 95001 | always |
+-----+-----+-----+-----+-----+-----+-----+

| Update | BFD | BFD | Dev State | App State |
| Source IP | Enabled | [Interval,Rx,Multiplier] |           |           |
+-----+-----+-----+-----+-----+-----+-----+
| 10.11.12.13 | true | 50, 5000, 50 | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
| 20::10 | true | 50, 5000, 50 | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+

Static Peer Details

+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen | Peer Group | Dev State | App
State |
|           |     |     |     |               | Limit |           |           |
+-----+-----+-----+-----+-----+-----+-----+
+-----+
Dynamic Peer Details

=====

--- Time Elapsed: 482.525744ms ---

```

The following example shows detailed output of a specific BGP peer instance.

```

efa tenant service bgp peer show --name B2 --tenant tenant11 --detail
=====
Name          : B2
Tenant       : tenant11
State        : bs-state-created
Description   :

Static Peer
-----
          0 Records

Dynamic Peer
-----
Device IP      : 10.20.216.16
VRF           : blue11
AFI           : ipv4
SAFI          : unicast
Listen Range  : 15.15.15.0/28

```

```

Listen Limit      : 10
Peer Group       : pgl
Dev State        : provisioned
App State        : cfg-in-sync

Device IP        : 10.20.216.16
VRF              : blue11
AFI              : ipv6
SAFI            : unicast
Listen Range     : 15::/127
Listen Limit     : 10
Peer Group       : pgl
Dev State        : provisioned
App State        : cfg-in-sync
=====
--- Time Elapsed: 129.553981ms ---

```

The following example shows brief output of all BGP peer instances belonging to a tenant.

```

$ efa tenant service bgp peer show --tenant tenant11
=====
Name      : B1
Tenant    : tenant11
State     : bs-state-created

+-----+-----+-----+-----+-----+-----+-----+
| Device IP | VRF | AFI | SAFI | Remote IP | Remote ASN | Next Hop |
|           |     |     |     |           |           | Self     |
+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.16 | blue11 | ipv4 | unicast | 1.1.1.11 | 95001 | always |
+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.16 | blue11 | ipv6 | unicast | 20a1:a::10 | 95001 | always |
+-----+-----+-----+-----+-----+-----+-----+
| Update | BFD | BFD | Dev State | App State |
| Source IP | Enabled | [Interval,Rx,Multiplier] | | |
+-----+-----+-----+-----+-----+-----+-----+
| 10.11.12.13 | true | 50, 5000, 50 | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
| 20::10 | true | 50, 5000, 50 | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
Static Peer Details

+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen | Peer Group | Dev State | App
State |
|           |     |     |     |           | Limit |           |           |
|           |     |     |     |           |       |           |           |
+-----+-----+-----+-----+-----+-----+-----+
+-----+
Dynamic Peer Details

=====
Name      : B2
Tenant    : tenant11
State     : bs-state-created

+-----+-----+-----+-----+-----+-----+-----+
| Device IP | VRF | AFI | SAFI | Remote IP | Remote ASN | Next Hop |
|           |     |     |     |           |           | Self     |

```



```

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| Update | BFD | BFD | Dev State | App State |
| Source IP | Enabled | [Interval,Rx,Multiplier] | | |
+-----+-----+-----+-----+-----+-----+-----+
Static Peer Details

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen |
| | | | | | Limit |
+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.16 | blue11 | ipv6 | unicast | 15::/127 | 10 |
+-----+-----+-----+-----+-----+-----+-----+
| 10.20.216.16 | blue11 | ipv4 | unicast | 15.15.15.0/28 | 10 |
+-----+-----+-----+-----+-----+-----+-----+

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| Peer Group | Dev State | App State |
| | | |
+-----+-----+-----+-----+-----+-----+-----+
| pg1 | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
| pg1 | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
Dynamic Peer Details

=====

--- Time Elapsed: 138.308272ms ---
    
```

## efa tenant service bgp peer update

Adds, deletes, or updates a BGP peer instance.

### Syntax

```
efa tenant service bgp peer update [ --description description | --help |
--ipv4-uc-dyn-nbr string | --ipv4-uc-nbr string | --ipv4-uc-nbr-bfd
string | --ipv4-uc-nbr-next-hop-self string | --ipv4-uc-nbr-update-
source-ip string | --ipv6-uc-dyn-nbr string | --ipv6-uc-nbr string |
--ipv6-uc-nbr-bfd string | --ipv6-uc-nbr-next-hop-self string | --
ipv6-uc-nbr-update-source-ip string | --name peer-name | --operation
peer-add | peer-delete | desc-update | --tenant tenant-name ]
```

### Parameters

**--description** *description*

Describes the BGP service.

**--help**

Displays help for the command.

**--ipv4-uc-dyn-nbr** *string*

Identifies the IPv4 unicast dynamic neighbor with a string in the following format: *device-ip,vrf-name:ipv4-listen-range,peer-group-name,listen-limit*. For example: *10.x.x.x,red:11::22/127*. The *listen-limit* value is optional.

**--ipv4-uc-nbr** *string*

Identifies the IPv4 unicast neighbor. For *peer-add* operations, enter a string in the following format: *device-ip,vrf-name:ipv4-neighbor,remote-as*. For example: *10.x.x.x,red:10.20.30.40,5000*. The *remote-as* value is not required for *peer-delete* operations.

**--ipv4-uc-nbr-bfd** *string*

Identifies the IPv4 BFD unicast neighbor with a string in the following format: *device-ip,vrf-name:ipv4-neighbor,bfd-enable(true/false),bfd-interval,bfd-min-rx,bfd-multiplier*. For example: *10.x.x.x,red:10.20.30.40,true,100,200,5*. BFD parameters are optional for *peer-add* operations and not required for *peer-delete* operations.

**--ipv4-uc-nbr-next-hop-self** *string*

Identifies the next-hop-self for the IPv4 unicast neighbor with a string in the following format: *device-ip,vrf-name:ipv4-neighbor,next-hop-self(true/false/always)*. For example: *10.x.x.x,red:10.y.y.y,true*.

**--ipv4-uc-nbr-update-source-ip** *string*

Updates the source IP for the IPv4 unicast neighbor with a string in the following format: *device-ip,vrf-name:ipv4-neighbor,update-source-ip*. For example: *10.x.x.x,red:10.y.y.y,11.x.x.x*.

**--ipv6-uc-dyn-nbr** *string*

Identifies the IPv6 unicast dynamic neighbor with a string in the following format: `device-ip,vrf-name:ipv6-listen-range,peer-group-name,listen-limit`. The `listen-limit` value is optional.

**--ipv6-uc-nbr** *string*

Identifies the IPv6 unicast neighbor. For `peer-add` operations, enter a string in the following format: `device-ip,vrf-name:ipv6-neighbor,remote-as`. For example: `10.x.x.x,red:10::40,5000`. The `remote-as` value is not required for `peer-delete` operations.

**--ipv6-uc-nbr-bfd** *string*

Identifies the IPv6 BFD unicast neighbor with a string in the following format: `device-ip,vrf-name:ipv6-neighbor,bfd-enable(true/false),bfd-interval,bfd-min-rx,bfd-multiplier`. For example: `10.x.x.x,red:10::40,true,100,200,5`. BFD parameters are optional for `peer-add` operations and are not required for `peer-delete` operations.

**--ipv6-uc-nbr-next-hop-self** *string*

Identifies the next-hop-self for the IPv6 unicast neighbor with a string in the following format: `device-ip,vrf-name:ipv6-neighbor,next-hop-self(true/false/always)`. For example: `10.x.x.x,red:10::40,true`.

**--ipv6-uc-nbr-update-source-ip** *string*

Updates the source IP for the IPv6 unicast neighbor with a string in the following format: `device-ip,vrf-name:ipv6-neighbor,update-source-ip`. For example: `10.x.x.x,red:10::40,11::22`.

**--name** *peer-name*

Identifies the name of the BGP peer instance.

**--operation** `peer-add` | `peer-delete` | `desc-update`

Identifies the type of operation you are performing: add a peer, delete a peer, or update a description.

**--tenant** *tenant-name*

Identifies the name of the tenant.

## Examples

The following example adds a new peer to an existing instance B2.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer update --name B2 --tenant
tenant11 --operation peer-add --ipv6-uc-nbr 10.20.216.15,blue11:18::1,98100 --ipv4-uc-
nbr 10.20.216.16,blue11:1.1.1.12,95001

BGP service updated successfully.

--- Time Elapsed: 32.856185284s ---
```

The following example deletes a BGP peer for the specified VRF (red) in the bgpservice1 instance for tenant1. You can use the show command to verify the changes.

```

efa tenant service bgp peer update --name bgpservice1 --tenant tenant1
--operation peer-delete --ipv4-uc-nbr 10.24.80.134,red:10.20.30.40
efa tenant service bgp show

=====
=====
Name      : bgpservice1
Tenant    : tenant1
State     : bs-state-created
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Device IP | VRF | AFI | SAFI | REMOTE IP | REMOTE ASN | BFD Enabled | BFD
Interval |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.24.80.134 | red | ipv6 | unicast | 10::40      | 5000      | true      |
100      |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+

+-----+-----+-----+-----+
| BFD Rx | BFD Multiplier | Dev-state | App-state |
+-----+-----+-----+-----+
| 200    | 7              | provisioned | cfg-in-sync |
+-----+-----+-----+-----+
=====
=====

```

## efa tenant service bgp peer-group configure

---

Pushes or removes a partial configuration for a peer-group.

### Syntax

```
efa tenant service bgp peer-group configure [ --help | --name peer-group-name | --tenant tenant-name ]
```

### Parameters

**--help**

Displays help for the command.

**--name** *peer-group-name*

Specifies the name of the BGP peer group instance.

**--tenant** *tenant-name*

Specifies the name of the tenant.

Pushes or removes a partial configuration for a peer-group.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer-group configure --name PG1 --
tenant tenant11
BgpService configured successfully.

--- Time Elapsed: 790.953838ms ---
```

## efa tenant service bgp peer-group create

Creates a BGP peer group for the specified tenant.

### Syntax

```
efa tenant service bgp peer-group create [ --description description | --help | --name peer-group-name | --pg-asn string | --pg-bfd string | --pg-name string | --pg-next-hop-self string | --pg-update-source-ip string | --tenant tenant-name ]
```

### Parameters

**--description** *description*

Describes the BGP peer group.

**--help**

Displays help for the command.

**--name** *peer-group-name*

Specifies the name of the BGP peer group instance.

**--pg-asn** *string*

Specifies the ASN of the BGP peer group with a string in the following format: device-ip:peer-group-name,remote-asn.

**--pg-bfd** *string*

Specifies the BFD properties of the BGP peer group with a string in the following format: device-ip: peer-group-name,bfd-enable (true/false) ,interval,bfd-min-rx,bfd-multiplier.

**--pg-name** *string*

Specifies the BGP peer group name with a string in the following format: device-ip:peer-group-name.

**--pg-next-hop-self** *string*

Specifies the next-hop-self for the BGP peer group with a string in the following format: device-ip:peer-group-name,next-hop-self (true/false/always).

**--pg-update-source-ip** *string*

Updates the source IP of the BGP peer group with a string in the following format: device-ip:peer-group-name,update-source-ip.

**--tenant** *tenant-name*

Specifies the name of the tenant.

This example creates a peer group instance.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer-group create --name PG1 --
tenant tenant11 --pg-name 10.20.216.16:pg1 --pg-asn 10.20.216.16,pg1:95002 --pg-bfd-
enable 10.20.216.16,pg1:true --pg-bfd 10.20.216.16,pg1:660,506,20 --pg-next-hop-self
10.20.216.16,pg1:true --pg-update-source-ip 10.20.216.16,pg1:10.10.10.3
```

```
BgpService created successfully.
```

```
--- Time Elapsed: 1.965046891s ---
```

## efa tenant service bgp peer-group delete

Deletes the specified BGP peer group.

### Syntax

```
efa tenant service bgp peer-group delete [ --force | --help | --name peer-group-name | --tenant tenant-name ]
```

### Parameters

**--force**

Forces the deletion of the BGP service when set to true.

**--help**

Displays help for the command.

**--name** *peer-group-name*

Specifies the name of the BGP peer instance.

**--tenant** *tenant-name*

Specifies the name of the tenant.

### Examples

This example removes a peer-group instance.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer-group delete --name PG1 --tenant tenant11

BgpService deleted successfully.

--- Time Elapsed: 1.359719067s ---
```

This example removes an instance forcefully and ignores any error.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer-group delete --name PG1 --tenant tenant11 --force

Bgp service peer-group delete with "force" option will delete the device configuration corresponding to the bgp and also deletes the bgp record from the application. Do you want to proceed (Y/N): y

BgpService deleted successfully.

--- Time Elapsed: 1.359719067s ---
```



## efa tenant service bgp peer-group show

Displays brief or detailed output of BGP peer groups for the specified tenant.

### Syntax

```
efa tenant service bgp peer-group show [ --name peer-group-name | --tenant
  tenant-name | --detail | --help ]
```

### Parameters

**--name** *peer-group-name*

Specifies the name of the BGP peer group instance.

**--tenant** *tenant-name*

Specifies the name of the tenant.

**--detail**

Displays detailed output of the BGP peer group instance. When this parameter is not used, only brief tabular output is returned.

**--help**

Displays help for the command.

### Examples

The following example shows brief output of all instances.

```
$ efa tenant service bgp peer-group show
=====
Name       : PG1
Tenant     : tenant11
State      : bgp-pg-state-created

+-----+-----+-----+-----+-----+-----+
| Device IP | Peer Group | Remote | Next Hop | Update | BFD |
|           |           | ASN   | Self    | Source IP | Enabled |
+-----+-----+-----+-----+-----+-----+
| 10.20.216.16 | pg1 | 95002 | true | 10.10.10.3 | true |
+-----+-----+-----+-----+-----+-----+
|           | BFD | Dev State | App State |
| [Interval,Rx,Multiplier] | | |
+-----+-----+-----+-----+
|           | 660, 506, 20 | provisioned | cfg-in-sync |
+-----+-----+-----+-----+
BGP PeerGroup Details
=====

--- Time Elapsed: 541.906975ms ---
```

The following example shows detailed output of a specific instance.

```
$ efa tenant service bgp peer-group show --name PG1 --tenant tenant11
--detail
=====
```

```

Name           : PG1
Tenant         : tenant11
State          : bgp-pg-state-created
Description    :

Peer Group
-----
Device IP      : 10.20.216.16
Peer Group    : pg1
Remote ASN     : 95002
Next Hop Self  : true
Update Source IP : 10.10.10.3
BFD Enabled    : true
BFD Interval   : 660
BFD Rx        : 506
BFD Multiplier : 20
Dev State      : provisioned
App State      : cfg-in-sync

=====

--- Time Elapsed: 111.316727ms ---
    
```

The following example shows brief output of all instances created for a tenant.

```

$ efa tenant service bgp peer-group show --tenant tenant11
=====
Name           : PG1
Tenant         : tenant11
State          : bgp-pg-state-created

+-----+-----+-----+-----+-----+
| Device IP | Peer Group | Remote | Next Hop | Update |
|           |            | ASN    | Self     | Source IP |
+-----+-----+-----+-----+-----+
| 10.20.216.16 | pg1      | 95002 | true     | 10.10.10.3 |
+-----+-----+-----+-----+-----+

+-----+-----+-----+-----+
| BFD      | BFD          | Dev State | App State |
| Enabled | [Interval,Rx,Multiplier] |           |           |
+-----+-----+-----+-----+
| true    | 660, 506, 20 | provisioned | cfg-in-sync |
+-----+-----+-----+-----+

BGP PeerGroup Details

=====

--- Time Elapsed: 99.370646ms ---
    
```

## efa tenant service bgp peer-group update

Adds, deletes, or updates a BGP peer group for the specified tenant.

### Syntax

```
efa tenant service bgp peer-group update [ --description description | --help | --operation peer-group-add | peer-group-delete | desc-update | --pg-asn string | --pg-bfd string | --pg-name string | -pg-next-hop-self string | --pg-update-source-ip string | --name peer-group-name | --tenant tenant-name ]
```

### Parameters

**--description** *description*

Describes the BGP peer group.

**--help**

Displays help for the command.

**--operation** **peer-group-add** | **peer-group-delete** | **desc-update**

Specifies the type of operation you are performing: add a peer group, delete a peer group, or update a description.

**--pg-asn** *string*

Specifies the ASN of the BGP peer group with a string in the following format: *device-ip;peer-group-name,remote-asn*.

**--pg-bfd** *string*

Specifies the BFD properties of the BGP peer group with a string in the following format: *device-ip:peer-group-name,bfd-enable (true/false) , interval, min-rx, multiplier*.

**--pg-name** *string*

Specifies the name of the BGP peer group with a string in the following format: *device-ip:peer-group-name*.

**--pg-next-hop-self** *string*

Specifies the next-hop-self for the BGP peer group with a string in the following format: *device-ip:peer-group-name,next-hop-self (true/false/always)*.

**--pg-update-source-ip** *string*

Updates the source IP for the BGP peer group with a string in the following format: *device-ip:peer-group-name,update-source-ip*.

**--name** *peer-group-name*

Specifies the name of the BGP peer group instance.

**--tenant** *tenant-name*

Specifies the name of the tenant.

## Examples

This example updates an existing peer-group instance and adds a new peer-group to an existing instance.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer-group update
--name PG1 --tenant tenant11 --operation peer-group-add --pg-name 10.20.216.15:pg1
--pg-asn 10.20.216.15,pg1:65000 --pg-bfd-enable 10.20.216.15,pg1:false
--pg-bfd 10.20.216.15,pg1:6000,5600,50 --pg-next-hop-self 10.20.216.15,pg1:always
--pg-update-source-ip 10.20.216.15,pg1:10.10.10.4

--- Time Elapsed: 2.218s ---
```

This example updates an existing peer-group instance and deletes a peer-group from an existing instance.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer-group update
--name PG1 --tenant tenant11 --operation peer-group-delete
--pg-name 10.20.216.15:pg1

--- Time Elapsed: 3.146454s ---
```

## efa tenant show

Displays brief or detailed tenant details.

### Syntax

```
efa tenant show [ --name tenant-name | --detail | --help]
```

### Parameters

**--name** *tenant-name*

Specifies the name of the tenant.

**--detail**

Displays detailed output of the tenant. When this parameter is not used, only brief tabular output is returned.

**--help**

Displays help for the command.

### Examples

This example shows brief output of all configured tenants.

```
$ efa tenant show
+-----+-----+-----+-----+
| Name | L2VNI-Range | L3VNI-Range | VLAN-Range | VRF-Count |
+-----+-----+-----+-----+
| ST | | | | 0 |
+-----+-----+-----+-----+
| tenant11 | 10002-14190 | 14191-14200 | 2-4090 | 10 |
+-----+-----+-----+-----+
| tenant12 | | | 2-100 | 10 |
+-----+-----+-----+-----+
| tenant21 | 30002-34190 | 34191-34200 | 2-4090 | 10 |
+-----+-----+-----+-----+

+-----+-----+-----+
| Enable-BD | Type | Ports |
+-----+-----+-----+
| False | shared | 10.20.216.15[0/1-10] |
| | | 10.20.216.16[0/1-10] |
+-----+-----+-----+
| False | private | 10.20.216.16[0/11-20] |
| | | 10.20.216.15[0/11-20] |
+-----+-----+-----+
| False | private | 10.20.216.103[0/1-10] |
| | | 10.20.216.104[0/1-5,0/6:1-4] |
+-----+-----+-----+
| True | private | 10.20.216.15[0/21-28] |
| | | 10.20.216.16[0/21-28] |
+-----+-----+-----+
Tenant Details
```

```
--- Time Elapsed: 373.898409ms ---
```

This example shows brief output of a specific tenant.

```
$ efa tenant show --name tenant21
+-----+-----+-----+-----+-----+-----+
| Name | Type | VLAN Range | L2VNI Range | L3VNI Range | VRF Count |
+-----+-----+-----+-----+-----+-----+
| tenant21 | private | 2-4090 | 30002-34190 | 34191-34200 | 10 |
| | | | | | |
+-----+-----+-----+-----+-----+-----+
| Enable BD | Ports |
+-----+-----+-----+-----+-----+
| true | 10.20.216.15[0/21-28] |
| | 10.20.216.16[0/21-28] |
+-----+-----+-----+-----+-----+
Tenant Details
--- Time Elapsed: 134.679221ms ---
```

This example shows detailed output of a specific tenant.

```
$ efa tenant show --name tenant21 --detail
=====
Name          : tenant21
Description   :
L2VNI-Range  : 30002-34190
L3VNI-Range  : 34191-34200
VLAN-Range   : 2-4090
VRF-Count    : 10
Enable-BD    : True
Type         : private
Ports        : 10.20.216.16[0/21-28]
              : 10.20.216.15[0/21-28]
=====
--- Time Elapsed: 228.653259ms ---
```

## efa tenant update

---

Allows changes to be made to a tenant after it has been created.

### Syntax

```
efa tenant update [ --name tenant-name | --description tenant-description | --l2-vni-range | --l3-vni-range | --vlan-range | --vrf-count | --enable-bd | --operation desc-update | vni-update | port-add | port-delete | vlan-add | vlan-delete | vlan-update | num-vrf-update | enable-bd-update | --port | --force | --help]
```

### Parameters

**--name** *tenant-name*

Specifies name of tenant.

**--description** *tenant-description*

Describes the tenant.

**--l2-vni-range**

Specifies the contiguous range of Layer 2 VNIs in ascending order that are reserved for the tenant within the scope of a fabric.

**--l3-vni-range**

Specifies the contiguous Range of L3 VNIs in ascending order will be reserved for the tenant within the scope of a fabric.

**--vlan-range**

Specifies the range of Vlans to be reserved for the tenant.

**--vrf-count** *int*

Specifies the number of VRFs to be reserved for the tenant.

**--enable-bd**

Enables BD capability for networks created under this tenant.

**--operation**

Specifies operation code. Valid values are desc-update, vni-update, port-add, port-delete, vlan-add, vlan-delete, vlan-update, num-vrf-update, and enable-bd-update.

**--port**

Lists physical ports of devices which will be reserved for the asset. Example:

```
SW1_IP[0/1],SW2_IP[0/5]
```

**--force**

Forces the deletion on the Tenant if the option is provided.

**--help**

Displays help for update.

## Examples

This example removes a VLAN range from the tenant.

```
(efa:extreme)extreme@node-1:~$ efa tenant update --name tenant21 --operation vlan-delete --vlan-range 201-300
```

```
Tenant updated successfully.
```

```
--- Time Elapsed: 387.469634ms ---
```

This example adds a port to an existing tenant.

```
(efa:extreme)extreme@node-1:~$ efa tenant update --name tenant21 --operation port-add --port 10.20.216.15[0/29]
```

```
Tenant updated successfully.
```

```
--- Time Elapsed: 472.431968ms ---
```



## efa tenant vrf create

Creates a tenant VRF.

### Syntax

```
efa tenant vrf create [ --name vrf-name | --tenant tenant-name | --rt-  
type { both | import | export } | --rt value | --local-asn local-asn |  
--ipv4-static-route-bfd route | --ipv6-static-route-bfd route | --  
ipv4-static-route-next-hop route | --ipv6-static-route-next-hop route  
| --max-path unit | --redistribute { static | connected } | --rh-max-  
path { 8 | 16 | 64 } | --rh-ecmp-enable= { true | false } | --graceful-  
restart-enable= { true | false } | --routing-type { distributed |  
centralized } | --help ]
```

### Parameters

**--name** *vrf-name*

Specifies the name of the VRF.

**--tenant** *tenant-name*

Specifies the name of the tenant.

**--rt-type** { both | import | export }

Specifies the route's target VPN community. Valid values are both, import, or export.

**--rt** *value*

Specifies the unique number for forming the Route Target and the Route Distinguisher.

**--local-asn** *local-asn*

Specifies the local ASN for the VRF.

**--ipv4-static-route-bfd** *route*

Specifies the IPv4 static route BFD in the following format: device IP, destination IPv4 address, source IPv4 address[interval,min-rx,multiplier]. For example:

```
10.25.25.100,1.1.1.1,2.2.2.2,123,456,3.
```

**--ipv6-static-route-bfd** *route*

Specifies the IPv6 static route BFD in the following format: device IP, destination IPv6 address, source IPv6 address[interval,min-rx,multiplier]. For example:

```
10.25.25.100,1::1,2::2,300,300,3.
```

**--ipv4-static-route-next-hop** *route*

Specifies the IPv4 static route next hop in the following format: device IP, IPv4 static route network, next hop IP, and route distance separated by commas. For example:

```
10.25.25.100,20.0.0.0/24,16.0.0.2,3. Valid values for the route distance are 1 through 254.
```

**--ipv6-static-route-next-hop** *route*

Specifies the IPv4 static route next hop in the following format: device IP, IPv6 static route network, next hop IP, and route distance separated by commas. For example:

10.25.25.100,2001:1::/64,3001::2,3. Valid values for the route distance are 1 through 254.

**--max-path** *unit*

Specifies the number of load-sharing paths for the VRF. Valid values are 1 through 64.

**--redistribute** { **static** | **connected** }

Specifies the redistribute type for routes. Valid values are static or connected.

**--rh-max-path** { **8** | **16** | **64** }

Specifies the maximum number of resilient hashing paths allowed per tenant VRF. Valid values are 8, 16, or 64.

**--rh-ecmp-enable=** { **true** | **false** }

Enables or disables resilient hashing for a tenant VRF. Valid values are true or false.

**--graceful-restart-enable=** { **true** | **false** }

Enables or disables graceful restart for a tenant VRF. Valid values are true or false.

**--routing-type** { **distributed** | **centralized.** }

VRF routing type. Default value is distributed.

**--centralized-router**

Comma-separated list of border-leaf IP addresses.

**--help**

Provides help for the command.

## Usage Guidelines

The **--max-path** and **--rh-max-path** parameters can co-exist.

You cannot choose the specific devices on which to configure resilient hashing. Configuration applies to all SLX devices in the tenant VRF.

## Examples

This example creates a distributed VRF.

```
(efa:extreme)extreme@node-1:~$ efa tenant vrf create --tenant tenant11
--name blue11 --local-asn 65001 --rt-type import --rt 100:100 --rt-type export
--rt 100:100 --rt-type import --rt 200:200 --rt-type export --rt 200:200 --rt-type import
--rt 300:300 --rt-type export --rt 400:400 --max-path 50 --redistribute connected
--redistribute static --ipv4-static-route-next-hop
10.20.216.16,192.168.0.0/24,10.10.10.1,5
--ipv4-static-route-next-hop 10.20.216.15,192.168.10.0/24,10.10.10.5,5
--ipv6-static-route-next-hop 10.20.216.16,2020:20::1/128,3001::2,6
--ipv6-static-route-next-hop 10.20.216.15,2020:30::1/128,3001::3,5
--ipv6-static-route-bfd 10.20.216.16,3001::3,3001::1,100,200,5
--ipv6-static-route-bfd 10.20.216.16,3001::2,3001::1
--ipv6-static-route-bfd 10.20.216.16,3001::4,3001::1,100,300,6
--ipv4-static-route-bfd 10.20.216.15,10.10.10.1,10.10.10.254,200,300,6
--ipv4-static-route-bfd 10.20.216.16,10.10.10.5,10.10.10.252 --rh-ecmp-enable
--rh-max-path 16 --graceful-restart-enable --routing-type distributed

Vrf created successfully.
```

```
--- Time Elapsed: 762.819499ms ---
```

This example creates a centralized VRF.

```
(efa:extreme)extreme@node-1:~$ efa tenant vrf create --name red13
--tenant tenant21 --max-path 50 --redistribute connected --redistribute static
--local-asn 65002 --ipv4-static-route-next-hop 10.20.216.104,192.168.0.0/24,10.10.10.1,5
--ipv4-static-route-next-hop 10.20.216.104,192.168.10.0/24,10.10.10.5,5
--ipv6-static-route-next-hop 10.20.216.104,2020:20::1/128,3001::2,6
--ipv6-static-route-next-hop 10.20.216.104,2020:30::1/128,3001::3,5
--ipv6-static-route-bfd 10.20.216.104,3001::3,3001::1,100,200,5
--ipv6-static-route-bfd 10.20.216.104,3001::2,3001::1
--ipv6-static-route-bfd 10.20.216.104,3001::4,3001::1,100,300,6
--ipv4-static-route-bfd 10.20.216.104,10.10.10.1,10.10.10.254,200,300,6
--ipv4-static-route-bfd 10.20.216.104,10.10.10.5,10.10.10.252 --rh-max-path 64
--routing-type centralized --centralized-router 10.20.216.103,10.20.216.104
```

Vrf created successfully.

```
--- Time Elapsed: 726.425268ms ---
```

## efa tenant vrf delete

---

Deletes a VRF.

### Syntax

```
efa tenant vrf delete [--name vrf name | --tenant tenant name ]
```

### Parameters

**--name** *vrf name*

Specifies the name of the VRF.

**--tenant** *tenant name*

Specifies the name of the tenant.

### Examples

This example deletes the specified VRFs.

```
(efa:extreme)extreme@node-1:~$ efa tenant vrf delete --name red12,red13 --tenant tenant21
Vrf: red12 deleted successfully.
Vrf: red13 deleted successfully.
--- Time Elapsed: 1.530242792s ---
```

## efa tenant vrf show

Displays brief or detailed output of the VRF for all tenants, a selected tenant, or a selected VRF.

### Syntax

```
efa tenant vrf show [ --name vrf-name | --tenant tenant-name | --detail |
  --help]
```

### Parameters

**--name** *vrf-name*

Specifies the name of the VRF.

**--tenant** *tenant-name*

Specifies the name of the tenant.

**--detail**

Displays detailed output of the VRF. When this parameter is not used, only brief tabular output is returned.

**--help**

Displays help for the command.

### Examples

This example shows brief output of all VRFs.

```
$ efa tenant vrf show
+-----+-----+-----+-----+-----+-----+
| Name | Tenant | Routing Type | Centralized Routers | Redistribute | Max Path |
+-----+-----+-----+-----+-----+-----+
| blue11 | tenant11 | distributed | | connected,static | 50 |
+-----+-----+-----+-----+-----+-----+
| red13 | tenant21 | centralized | 10.20.216.103 | connected,static | 50 |
| | | | 10.20.216.104 | | |
+-----+-----+-----+-----+-----+-----+
| red11 | tenant21 | distributed | | connected | 8 |
+-----+-----+-----+-----+-----+-----+

+-----+-----+-----+-----+-----+-----+
| Local Asn | Enable GR | State | Dev State | App State |
+-----+-----+-----+-----+-----+-----+
| 65001 | true | vrf-device-created | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
| 65002 | false | vrf-create | not-provisioned | cfg-ready |
| | | | | |
+-----+-----+-----+-----+-----+-----+
| | false | vrf-device-created | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
Vrf Details
--- Time Elapsed: 551.819339ms ---
```

This example shows detailed output of a specific VRF.

```
$ efa tenant vrf show --tenant tenant11 --name blue11 --detail
=====
```

```

Name                : blue11
Tenant              : tenant11
Routing Type       : distributed
Centralized Routers :
Redistribute        : connected,static
Max Path           : 50
Local Asn          : 65001
L3VNI              : 14191
EVPN IRB BD        : 4096
EVPN IRB VE        : 8192
BR VNI             : 14192
BR BD              : 4095
BR VE              : 8191
RH Max Path        : 16
Enable RH ECMP     : true
Enable Graceful Restart : true
Route Target        : import 100:100
                   : export 100:100
                   : import 200:200
                   : export 200:200
                   : import 300:300
                   : export 400:400
Static Route        : Switch-IP->Network,Nexthop-IP[Route-Distance], ...
                   : 10.20.216.15->192.168.10.0/24,10.10.10.5[5]
2020:30::1/128,3001::3[5]
                   : 10.20.216.16->192.168.0.0/24,10.10.10.1[5]
2020:20::1/128,3001::2[6]
Static Route BFD    : Switch-IP->[DestIP,SourceIP][Interval,Min-Rx,Multiplier], ...
                   : 10.20.216.15->10.10.10.1,10.10.10.254[200,300,6]
                   : 10.20.216.16->10.10.10.5,10.10.10.252
3001::3,3001::1[100,200,5]
                   : 3001::2,3001::1 3001::4,3001::1[100,300,6]
State               : vrf-device-created
Dev State           : provisioned
App State           : cfg-in-sync

=====

--- Time Elapsed: 160.103127ms ---

```

This example shows detailed output of all VRFs belonging to a specific tenant.

```

$ efa tenant vrf show --tenant tenant21 --detail
=====
Name                : red13
Tenant              : tenant21
Routing Type       : centralized
Centralized Routers : 10.20.216.103
                   : 10.20.216.104
Redistribute        : connected,static
Max Path           : 50
Local Asn          : 65002
L3VNI              :
EVPN IRB BD        :
EVPN IRB VE        :
BR VNI             :
BR BD              :
BR VE              :
RH Max Path        : 64
Enable RH ECMP     : false
Enable Graceful Restart : false
Route Target        :
Static Route        : Switch-IP->Network,Nexthop-IP[Route-Distance], ...
                   : 10.20.216.104->192.168.0.0/24,10.10.10.1[5] 192.168.10.0/24,
                   : 10.10.10.5[5] 2020:20::1/128,3001::2[6]

```

```

2020:30::1/128,3001::3[5]
Static Route BFD      : Switch-IP->[DestIP,SourceIP][Interval,Min-Rx,Multiplier], ...
                    : 10.20.216.104->10.10.10.1,10.10.10.254[200,300,6]
10.10.10.5,10.10.10.252
                    3001::3,3001::1[100,200,5] 3001::2,3001::1
3001::4,3001::1[100,300,6]
State                : vrf-create
Dev State            : not-provisioned
App State            : cfg-ready

=====
Name                 : red11
Tenant               : tenant21
Routing Type         : distributed
Centralized Routers :
Redistribute         : connected
Max Path             : 8
Local Asn            :
L3VNI                : 34191
EVPN IRB BD         : 4094
EVPN IRB VE         : 8190
BR VNI              : 34192
BR BD               : 4093
BR VE               : 8189
RH Max Path         :
Enable RH ECMP      : false
Enable Graceful Restart : false
Route Target         : import 101:101
                    : export 101:101
Static Route         :
Static Route BFD    :
State                : vrf-device-created
Dev State            : provisioned
App State            : cfg-in-sync

=====

--- Time Elapsed: 167.110904ms ---

```

## efa tenant vrf update

Updates the tenant VRF for various operations and parameters, such as ASN and IPv6 static route.

### Syntax

```
efa tenant vrf update [--name vrf-name | --tenant tenant-name | --
  operation code | --local-asn local-asn | --ipv4-static-route-bfd route
  | --ipv6-static-route-bfd route | --ipv4-static-route-next-hop route
  | --ipv6-static-route-next-hop route | --max-path unit | --
  redistribute {static | connected} | --rh-max-path {8 | 16 | 64} | --
  rh-ecmp-enable= {true | false} | --graceful-restart-enable= {true |
  false } | --routing-type {distributed | centralized }|--help]
```

### Parameters

**--name** *vrf-name*

Specifies the VRF name.

**--tenant** *tenant-name*

Specifies the tenant name

**--operation** *code*

Identifies the operation you want to perform. Valid values are local-asn-add, local-asn-delete, static-route-bfd-add, static-route-bfd-delete, static-route-add, static-route-delete, max-path-add, max-path-delete, redistribute-add, redistribute-delete, rh-max-path-add, rh-max-path-delete, rh-ecmp-update, centralized-router-add, centralized-router-delete, and graceful-restart-update.

**--local-asn** *local-asn*

Specifies the local ASN for the VRF.

**--ipv4-static-route-bfd** *route*

Specifies the IPv4 static route BFD in the following format: device IP, destination IPv4 address, source IPv4 address[interval,min-rx,multiplier]. For example:

```
10.25.25.100,1.1.1.1,2.2.2.2,123,456,3.
```

**--ipv6-static-route-bfd** *route*

Specifies the IPv6 static route BFD in the following format: device IP, destination IPv6 address, source IP address[interval,min-rx,multiplier]. For example:

```
10.25.25.100,1::1,2::2,300,300,3.
```

**--ipv4-static-route-next-hop** *route*

Specifies the IPv4 static route next hop in the following format: device IP, IPv4 static route network, next hop IP, and route distance separated by commas. For example:

```
10.25.25.100,20.0.0.0/24,16.0.0.2. Valid values for the route distance are 1 through 254.
```

**--ipv6-static-route-next-hop** *route*

Specifies the IPv4 static route next hop in the following format: device IP, IPv6 static route network, next hop IP, and route distance separated by commas. For example:



10.25.25.100,2001:1::/64,3001::2,3. Valid values for the route distance are 1 through 254.

**--max-path** *unit*

Specifies the number of load-sharing paths for the VRF. Valid values are 1 through 64.

**--redistribute** { **static** | **connected** }

Specifies the redistribute type for routes. Valid values are static or connected.

**--rh-max-path** { **8** | **16** | **64** }

Specifies the maximum number of resilient hashing paths allowed per tenant VRF. Valid values are 8, 16, or 64.

**--rh-ecmp-enable=** { **true** | **false** }

Enables or disables resilient hashing for a tenant VRF. Valid values are true or false.

**--graceful-restart-enable=** { **true** | **false** }

Enables or disables graceful restart for a tenant VRF. Valid values are true or false.

**--routing-type** { **distributed** | **centralized.** }

VRF routing type. Default value is distributed.

**--centralized-router**

Comma-separated list of border-leaf IP addresses.

**--help**

Provides help for the command.

## Usage Guidelines

The **--max-path** and **--rh-max-path** parameters can co-exist.

You cannot chose the specific devices on which to configure resilient hashing. Configuration applies to all SLX devices in the tenant VRF.

This example adds redistribution connected to a VRF.

```
(efa:extreme)extreme@node-1:~$ efa tenant vrf update --name blue11 --tenant tenant11 --
operation redistribute-add --redistribute connected
```

```
Vrf updated successfully.
```

```
--- Time Elapsed: 879.908437ms ---
```

This example removes the max-path from the VRF.

```
(efa:extreme)extreme@node-1:~$ efa tenant vrf update --name blue12 --tenant tenant1 --
operation rh-max-path-delete
```

```
Vrf updated successfully.
```

```
--- Time Elapsed: 879.908437ms ---
```

---

## efa vcenter debug

---

A set of debug commands for troubleshooting EFA vCenter issues. This command also sets configuration parameters for vCenter tenants.

### Syntax

```
efa vcenter debug tenant show --host string
```

```
efa vcenter debug event show --host string { --page int32 | --page-size int32 }
```

```
efa vcenter debug setting show
```

```
efa vcenter debug setting update { --poll-requency string | --dead-link-clearing-time string }
```

```
efa vcenter debug set --level { info | debug }
```

### Command Default

This command has no defaults.

### Parameters

#### **tenant show**

Shows a list of tenants for a particular VMware vCenter Server host.

#### **event show**

Shows a list of events recorded for a particular VMware vCenter Server host.

#### **setting show**

Shows the different settings configured on the VMware vCenter Server host. These settings are global in nature and are applicable to all VMware vCenter Server hosts registered with this EFA vCenter Service instance.

#### **setting update**

Updates the different settings for the added VMware vCenter Server hosts registered with this EFA vCenter Service instance. These settings are applicable to all the VMware vCenter Server hosts.

#### **set**

Sets the debug level for this instance of EFA vCenter service. Debug levels can be set to receiving information level messages or complete debugging messages.

**--host** *string*

IP address or hostname of the VMware vCenter Server to connect to.

**--page** *int32*

Events are fetched for the page number specified in this parameter. When this parameter is not passed, page number 1 is always fetched by default.

**--page-size** *int32*

The number of events to display per page. When this parameter is not passed, twenty (20) records are shown per page.

**--poll-requency** *string*

The poll duration in hours. The EFA vCenter Service polls all the VMware vCenter Servers registered with it after this time duration has expired.

**--dead-link-clearing-time** *string*

The time duration in days. This is the time duration for which dead links are removed from the EFA vCenter service database.

**--level** { *info* | *debug* }

Sets the debug level for this EFA vCenter Service instance. Can be one of *info* or *debug*. Use *info* to view only messages of the level *info*. Use *debug* to view all debug messages.

## Examples

The following example shows the debug information for tenant creation failure for a VMware vCenter Server with IP 10.24.85.111. It also displays other errors if they have been reported.

```
$ efa vcenter debug tenant --host 10.24.85.111
Tenant Configuration Details for vCenter 10.24.85.111
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| Tenant Name          | Ports | VLANs | Status          |
Reason                |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| vcenter-10.24.85.111 |      | 2-4089 | Creation Failed | Tenant vcenter-10.24.85.111
is missing the
|
| 10.25.225.46="ethernet-0/5"
|
| 10.24.81.10="ethernet-0/10"
|
| 10.25.225.11="ethernet-0/5"
|
+-----+-----+-----+-----+
+-----+-----+-----+-----+
Tenant Details

EPG Configuration Details for vCenter 10.24.85.111
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| EPG Name                | Ports | POs |
Switchport Mode | VLANs | Status          |
Reason                |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| vCenter_10.24.85.111_10.24.82.20_vSwitch1_VMNetwork2 | 10.24.82.20[0/11] |
trunk            | 101   | Creation Failed | EPG cannot be created for a tenant having no
ports |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
Endpoint Group Details
```

```
--- Time Elapsed: 381.0047ms ---
```

This example shows the output for the `efa vcenter debug setting show` command.

```
$ efa vcenter debug setting show

vCenter service settings
+-----+-----+-----+-----+
| Poll Frequency Hours | Dead Link Clearing Time Days |
+-----+-----+-----+-----+
| 4                    | 3                             |
+-----+-----+-----+-----+
Setting Details
--- Time Elapsed: 11.409207ms ---
```

This example shows the output for the `efa vcenter debug tenant` command.

```
$ efa vcenter debug tenant --host 10.24.85.111

+-----+-----+-----+-----+-----+
| Tenant Name          | Ports | VLANs | Status           | Reason |
+-----+-----+-----+-----+-----+
| vcenter-10.24.85.111 |      | 2-4089 | Created Successfully |       |
+-----+-----+-----+-----+-----+
Tenant Details

EPG Configuration Details for vCenter 10.24.85.111
+-----+-----+-----+-----+-----+-----+
| EPG Name | Ports | POs | Switchport Mode | VLANs | Status | Reason |
+-----+-----+-----+-----+-----+-----+
Endpoint Group Details
--- Time Elapsed: 429.0076ms ---
```

This example shows the output for the `efa vcenter debug event` command.

```
$ efa vcenter debug event --host 10.24.85.111

+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| Task: Update network configuration | 10.24.81.10 |
ESXi Host | 2020.03.03 23:44:25 | 188872 |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| dvPort group VM network 200-220 in SRA-Dev-DC | VM network 200-220 |
Distributed Virtual Portgroup | 2020.03.03 16:23:26 | 188569 |
| was reconfigured. Modified: |
| config.defaultPortConfig.vlan: (inherited = false, vlanId |
| = 200) -> (inherited = false, vlanId = ((start = 0, end = |
| 200))); Added: Deleted: |
| | |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| Task: Update network configuration | 10.24.82.20 |
ESXi Host | 2020.03.03 16:21:10 | 188565 |
+-----+-----+-----+-----+-----+
```

```

+-----+-----+-----+
| dvPort group VM network 200-220 in SRA-Dev-DC | VM network 200-220 |
Distributed Virtual Portgroup | 2020.03.03 16:19:04 | 188564 |
| was reconfigured.      Modified:
|
| config.defaultPortConfig.vlan: (inherited = false, vlanId =
|
| ((start = 200, end = 220))) -> (inherited = false, vlanId =
|
| 200);      Added:      Deleted:
|
+-----+-----+-----+
Events Details
--- Time Elapsed: 507.006ms ---
    
```

The following is an example of the `efa vcenter debug tenant` command.

```

$ efa vcenter debug tenant --host 10.24.85.111

Tenant Configuration Details for vCenter 10.24.85.111
+-----+-----+-----+-----+-----+
| Tenant Name | Ports | VLANs | Status | Reason |
+-----+-----+-----+-----+-----+
| vcenter-10.24.85.111 | | 2-4089 | Created Successfully | |
+-----+-----+-----+-----+-----+

Tenant Details

EPG Configuration Details for vCenter 10.24.85.111
+-----+-----+-----+-----+-----+
| EPG Name | Ports | POs | Switchport Mode | VLANs | Status | Reason |
+-----+-----+-----+-----+-----+

Endpoint Group Details
--- Time Elapsed: 429.0076ms ---
    
```

```

$ efa vcenter debug event --host 10.24.85.111

vCenter Events Total Count (4) for host 10.24.85.111
+-----+-----+-----+-----+-----+
| Target Type | Description | Time | ID | Target |
+-----+-----+-----+-----+-----+
| Task: Update network configuration | 10.24.81.10 |
ESXi Host | 2020.03.03 23:44:25 | 188872 |
+-----+-----+-----+-----+-----+
| dvPort group VM network 200-220 in SRA-Dev-DC | VM network 200-220 |
Distributed Virtual Portgroup | 2020.03.03 16:23:26 | 188569 |
| was reconfigured.      Modified:
|
| config.defaultPortConfig.vlan: (inherited = false, vlanId
|
| = 200) -> (inherited = false, vlanId = ((start = 0, end =
|
| 200)));      Added:      Deleted:
|
+-----+-----+-----+-----+-----+
    
```

```

+-----+-----+-----+
| Task: Update network configuration | 10.24.82.20 |
ESXi Host | 2020.03.03 16:21:10 | 188565 |
+-----+-----+-----+
+-----+-----+-----+
| dvPort group VM network 200-220 in SRA-Dev-DC | VM network 200-220 |
Distributed Virtual Portgroup | 2020.03.03 16:19:04 | 188564 |
| was reconfigured. Modified: |
| | |
| config.defaultPortConfig.vlan: (inherited = false, vlanId = |
| | |
| ((start = 200, end = 220))) -> (inherited = false, vlanId = |
| | |
| 200); Added: Deleted: |
| | |
+-----+-----+-----+
+-----+-----+-----+
Events Details
--- Time Elapsed: 507.006ms ---

```

This command sets the polling frequency to 5 minutes.

```

$ efa vcenter debug setting update --poll-frequency=5

vCenter service settings updated successfully
--- Time Elapsed: 366.992ms ---

```

This example command sets the dead-link-cleaning-time value to 4 days.

```

$ efa vcenter debug setting update --dead-link-clearing-time=4

vCenter service settings updated successfully
--- Time Elapsed: 381.2133ms ---

```

This example sets the log level to debug for this EFA instance.

```

$ efa vcenter debug set --level=debug

Level debug set successfully.
--- Time Elapsed: 12.0073ms ---

```

## efa vcenter delete

---

Deletes the VMware vCenter Server registered as a tenant with this EFA instance. When the `--cleanup-tenants` parameter is supplied, removes the registered ESXi hosts and EPGs for this VMware vCenter Server tenant.

### Syntax

```
efa vcenter delete --host string [ --cleanup-tenants ]
```

### Parameters

**--host** *string*

IP address or hostname of the VMware vCenter Server tenant to delete.

**--cleanup-tenants**

When included, the tenants and EPGs associated to the VMware vCenter Server are deleted. When not included, the tenants and EPGs associated with the VMware vCenter Server are retained when the server is removed.

### Examples

This example deletes the VMware vCenter Server with host IP 10.24.85.111 while retaining the associated tenants and EPGs.

```
$ efa vcenter delete --host 10.24.85.111
```

This example deletes the VMware vCenter Server with host IP 10.24.85.111 and removes the associated tenants and EPGs.

```
$ efa vcenter delete --host 10.24.85.111 --cleanup-tenants
```

## efa vcenter links

Displays the links for VMware vCenter server tenants and their ESXi hosts. For VMware vCenter server tenants, physical and unconnected links are displayed. For ESXi hosts, physical, unconnected, and virtual links are displayed.

### Syntax

```
efa vcenter links { physical | unconnected } { --host string | --esxi string }
```

```
efa vcenter links virtual --esxi string
```

### Parameters

#### **physical**

Displays the physical links for the selected device. Device can be a VMware vCenter Server or an ESXi server.

#### **unconnected**

Displays the unconnected (unused) links for the selected device. Device can be a VMware vCenter Server or an ESXi server.

#### **virtual**

Displays the virtual links created on a ESXi server.

#### **--host**

The IP address or host name of the VMware vCenter Server for which to view the physical and unconnected (unused) links.

#### **--esxi**

The IP address or host name of the ESXi tenant for which to view the physical, virtual, and unconnected (unused) links.

### Examples

This example is list of ESXi device managed by the VMware vCenter Server with the IP 10.24.85.111.

```
$ efa vcenter links physical --host 10.24.85.111
Physical Links for vCenter 10.24.85.111
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| ESXi Host   | PNIC   | Driver | PNIC MAC           | Interface   | PO Number | PO
Name | Device           | Missing | Missing Time |              |           |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 10.24.81.10 | vmnic3 | ntg3   | 40:f2:e9:bb:4c:83 | Ethernet 0/10 |
|             | 10.9.9.20 |       |                   |               |           |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 10.24.82.20 | vmnic2 | ntg3   | 40:f2:e9:bb:58:b2 | Ethernet 0/10 |
|             | 10.9.9.30 |       |                   |               |           |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
```



```

| 10.24.83.30 | vmnic3 | ntg3 | 40:f2:e9:bb:58:b3 | Ethernet 0/10 |
|           | 10.9.9.40 |           |           |           |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
Physical Link Details
--- Time Elapsed: 359.1528ms ---

```

This example is a list of virtual machines and their virtual links on the ESXi host with the IP 10.24.81.10.

```

$ efa vcenter links virtual --esxi 10.24.81.10
Virtual Links for ESXi server 10.24.81.10
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| Virtual Machine | vNIC          | MAC          | VLAN | Port Group |
vSwitch          | Distributed |              |      |            |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 20200221 v1     | Network adapter 1 | 00:50:56:9c:75:29 | 3048 | VM Network |
vSwitch0         | false          |                  |      |            |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| test_vm2       | Network adapter 2 | 00:50:56:9c:7e:83 | 3048 | VM Network |
vSwitch0         | false          |                  |      |            |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 20200221 v1     | Network adapter 2 | 00:50:56:9c:f6:13 | 3048 | VM Network |
vSwitch0         | false          |                  |      |            |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| vMotionVm      | Network adapter 1 | 00:50:56:9c:8f:fd | 10   | DPortGroup | Real-DV-
Switch | true          |                  |      |            |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| test_vm2       | Network adapter 1 | 00:50:56:9c:1d:09 | 10   | DPortGroup | Real-DV-
Switch | true          |                  |      |            |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
vNIC Link Details
--- Time Elapsed: 500.4792ms ---

```

## efa vcenter list

Lists the VMware vCenter servers registered as tenants. When the `--host` parameter is supplied, lists the ESXi hosts for that VMware vCenter Server.

### Syntax

```
efa vcenter list [ --host string ]
```

### Parameters

**--host** *string*

IP address or hostname of the VMware vCenter Server to connect to.

### Examples

This example lists a VMware vCenter Server that has just been added as a tenant with this EFA instance.

```
$ efa vcenter list
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| Host Name | Name | Version | Discovery Status |
Datacenters Count | Host Count | VM Count |
+-----+-----+-----+-----+
| 10.24.85.111 | VMware vCenter Server | 6.7.0 | Pending Complete Discovery |
1 | 1 | 0 |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
```

This example lists a VMware vCenter Server with its status updated to this EFA instance.

```
$ efa vcenter list
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| Host Name | Name | Version | Discovery Status | Datacenters Count |
Host Count | VM Count |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 10.24.85.111 | VMware vCenter Server | 6.7.0 | Update Completed | 5 |
4 | 13 |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
```

This example lists the ESXi devices managed by the VMware vCenter Server with IP address 10.24.85.111.

```
$ efa vcenter list --host 10.24.85.111
```

## efa vcenter register

---

The command to register VMware vCenter server as a tenant with the EFA instance. Tenant details must be registered before running this command.

### Syntax

```
efa vcenter register --host string --username string --password string  
--tenant string
```

### Command Default

This command has no defaults.

### Parameters

**--host** *string*

IP address or hostname of the VMware vCenter Server to connect to.

**--username** *string*

Username to connect to the VMware vCenter Server.

**--password** *string*

Password to connect to the VMware vCenter Server.

**--tenant** *string*

Tenant associated with the VMware vCenter Server host.

### Examples

This example registers a VMware vCenter Server as a tenant with EFA vCenter service.

```
$ efa vcenter register --host 10.24.85.111 --username administrator@vmvcenter.local  
--password 'aBc123#' --tenant tenant-10.24.85.111
```

## efa vcenter update

---

Updates the local database with configuration changes made to the VMware vCenter Server and the ESXi servers managed by it.

### Syntax

```
efa vcenter update --host string --username string --password string
```

### Command Default

This command has no defaults.

### Parameters

**--host** *string*

IP address or Hostname of the VMware vCenter Server from which the local EFA vCenter service database needs to be updated.

**--username** *string*

Username to connect to the VMware vCenter Server.

**--password** *string*

Password to connect to the VMware vCenter Server.

### Examples

This example updates the local EFA vCenter service database with the latest state of the VMware vCenter Server with the IP address 10.24.85.111.

```
$ efa vcenter update --host 10.24.85.111 --username administrator@vmvcenter.local --password 'aBc123#'
```

## efa version

---

Displays the version of EFA installed.

### Syntax

```
efa version
```

### Examples

The following example shows typical output for the command

```
# efa version
Version : 2.2.0
Build: 41
Time Stamp: 20-06-03:03:15:47
Mode: Insecure
Deployment Type: single-node
Deployment Platform: SERVER
--- Time Elapsed: 8.986817ms ---
```

## efa-change-hostname

---

Changes the host name in the EFA system after EFA is deployed.

### Syntax

```
efa-change-hostname old-host-name
```

### Parameters

*old-host-name*

Specifies the host name that you are changing.

### Usage Guidelines

Host name changes are supported in single-node and multi-node deployments.

Running this command by itself does not change the host name. For the complete procedure, see the "Change the Host Name or IP Address" topic in the "System Management" section of the [Extreme Fabric Automation Administration Guide, 2.4.0](#).

Run this command as a root user or as a user with sudo privileges.

In a TPVM deployment, run this command from `/apps/bin/`.

In a single-node deployment, EFA is not operational while this command is running. In a multi-node deployment, EFA remains operational if the command is running on the standby node. EFA is not operational if the command is running on the active node.

### Examples

This example shows standard output for the command.

```
$ sudo efa-change-hostname <old-host-name>

Reading host name of the system
Restarting mariadb service
Restarting k3s service
Checking k3s for the new host name
Host is in ready state in k3s
Setting current host as active node
Deleting old host name references
Waiting for EFA containers to start
Successfully updated host name in EFA
```

## efa-change-ip

---

Changes the IP address after EFA is deployed.

### Syntax

```
efa-change-ip
```

### Usage Guidelines

IP address changes are supported in single-node deployments.

Run this command as a root user or as a user with sudo privileges.

In a TPVM deployment, run the command from `/apps/bin/`.

EFA is not operational while this command is running.

After the IP address is changed, either run `source /etc/profile` or open a new EFA session to log in.

### Examples

This example shows standard output for the command.

```
$ sudo efa-change-ip

Updating IP in EFA
Restarting k3s service
Updating all files with new IP
Deleting EFA services: gonotification-service gofabric-service gotenant-service
goauth-service gorbac-service goinventory-service goopenstack-service
govcenter-service gohyperv-service goraslog-service efa-api-docs gosystem-service
Waiting for EFA containers to start
Successfully updated IP in EFA
```

## efa-change-vip

---

Changes the virtual IP address (VIP) after EFA is deployed.

### Syntax

```
efa-change-vip new-vip
```

### Parameters

*new-vip*

Specifies the new VIP for the multi-node deployment.

### Usage Guidelines

VIP changes are supported in multi-node deployments.

Run this command as a root user or as a user with sudo privileges.

In a TPVM deployment, run this command from `/apps/bin/`.

EFA is not operational while this command is running.

After the VIP is changed, run `source /etc/profile` or open a new EFA session to log in.

### Examples

This example shows standard output for the command.

```
$ sudo efa-change-vip <new vip>
Updating all files with new VIP.
Restarting services on nodes
Waiting for EFA containers to start
Updating services with new VIP
Waiting for EFA containers to start
Successfully updated VIP for the installation.
```



## efa-health show

Verifies the following: connectivity with EFA, database write operations, OpenStack journal thread status, and the status of the EFA Kubernetes cluster.

### Syntax

```
efa-health show [--advanced ]
```

### Parameters

#### **--advanced**

Provides detailed status about EFA pods and the cluster. Omit this parameter to return basic status information.

### Usage Guidelines

In the output, the EFA Health entry represents EFA reachability and EFA database health.

In the output, the EFA High Availability Status entry shows DOWN even if only one node is DOWN. However, even with one node down, EFA Health remains UP because EFA is still operational.

### Examples

This example shows basic output for the command.

```
$ efa-health show

EFA Host                : efa.extremenetworks.com
EFA Health              : UP
EFA Health Failure Reason :
EFA High Availability Status : UP
EFA Primary            : UP
EFA Secondary          : UP

EFA Neutron Journal Size within Threshold : NO
EFA Neutron Journal Size Threshold Setting : 5
EFA Neutron Current Journal Size         : 7
EFA Neutron Journal Maintenance Status   : UP
```

This example shows advanced output for the command.

```
$ efa-health show --advanced

EFA Host                : efa.extremenetworks.com
EFA Health              : UP
EFA Health Failure Reason :
EFA High Availability Status : UP
EFA Primary            : UP
EFA Secondary          : UP

EFA Neutron Journal Size within Threshold : NO
EFA Neutron Journal Size Threshold Setting : 5
EFA Neutron Current Journal Size         : 7
EFA Neutron Journal Maintenance Status   : UP

EFA Cluster Status      : 18/28 Pods Running
```

```
rabbitmq-0 : Running
efa-api-docs-67b8c76ddb-2hg7s : Running
gosnmp-service-546d76b6f9-7wb6t : Running
goopenstack-service-5b687f9f8c-srlxx : Running
gosystem-service-76bbbc6d-jzkng : Running
goauth-service-75c88f4986-vqppm : Running
goraslog-service-7467fb7759-jm28m : Running
gotenant-service-5f8bc9f458-zbz2l : Running
gohyperv-service-b546d647f-ws7t8 : Running
gorbac-service-b546dbdd5-v9dml : Running
gofabric-service-65b6f7d4cf-rfq6f : Running
gonotification-service-5fb74fc959-2x9lt : Running
goinventory-service-79d6545c69-s66tx : Running
govcenter-service-7c6cb944dd-2d8lt : Running
goinventory-service-79d6545c69-gxtn6 : Init:0/2
efa-api-docs-67b8c76ddb-n8zfp : Running
gosnmp-service-546d76b6f9-fv8tz : Init:0/1
goraslog-service-7467fb7759-rvppq : Running
gorbac-service-b546dbdd5-s9qxx : Init:1/2
gosystem-service-76bbbc6d-x8x8g : Running
govcenter-service-7c6cb944dd-rx7gd : Init:0/2
gohyperv-service-b546d647f-zjq97 : Init:0/2
goauth-service-75c88f4986-9fbn7 : Init:0/2
gofabric-service-65b6f7d4cf-q7qns : Init:0/2
gonotification-service-5fb74fc959-rr724 : Init:0/2
gotenant-service-5f8bc9f458-n7gm8 : Init:0/3
goopenstack-service-5b687f9f8c-bfssf : Init:0/2
rabbitmq-1 : Running
```

## efa-journal clear

Removes all or specified entries from the journal.

### Syntax

```
efa-journal clear [ pending | failed | completed | processing | all]
```

### Parameters

#### **pending**

Clears all entries in Pending state.

#### **failed**

Clears all entries in Failed state.

#### **completed**

Clears all entries in Completed state.

#### **processing**

Clears all entries in Processing state.

#### **all**

Clears all entries.

### Usage Guidelines



#### **Important**

Stop the Neutron service before clearing entries using the **all**, **pending**, or **processing** parameters. Otherwise, the processing thread can repopulate the entries in the journal.

### Examples

The following example clears all entries in Failed state.

```
$ efa-journal clear failed
```

The following example clears all entries. Note the warning to stop the Neutron service.

```
$ efa-journal clear all
Warning!!! Clearing states pending/processing/all should be executed after shutting
down neutron service. Otherwise the entries can be re-populated by the processing thread.
```

## efa-journal list

Lists all journal entries and their status.

#### **efa-journal list**

This example lists all journal entries and their statuses.

```
+-----+-----+-----+-----+
| Id |           Journal UUID           | Object Type |           Object           |
```

```

UUID |
+-----+-----+-----+-----+
+-----+
| 301 | 3ebf2416-366b-4c11-9a2e-8c058c219555 | network | 108755af-c7fd-4590-
ac00-5359f76b7ba4 |
| 302 | 78884b55-9dfb-4dbb-98ef-1916a5f932f8 | network | 78b7b7e8-ea64-420e-
afd8-5349485afe22 |
| 303 | ef3b4637-a899-49e0-9f7d-28dda671685f | network | 477714ac-83d1-4ce5-
a56d-88d8bc4b9536 |
| 304 | 7d662b57-07b3-4f71-b084-ab89604dc097 | network | fc2549af-6eec-47a5-
bc78-1831f362b6b3 |
| 305 | 9c1a8131-4232-4f9b-ac5e-b694c5a1168c | network | 9e64c55e-8895-491d-91ed-
cfc81cd5586a |
+-----+-----+-----+-----+
+-----+

| Operation | state | Retry Count |
+-----+-----+-----+-----+
| create | processing | 0 |
| create | processing | 0 |
| create | processing | 0 |
| create | pending | 0 |
| create | pending | 0 |
+-----+-----+-----+-----+

```

## efa-journal reset

---

Resets the retry count for all or specified failed entries and retries the operation.

### Syntax

```
efa-journal reset [UUID ]
```

### Parameters

*UUID*

Specifies the UUID of a failed journal entry that you want to reset.

### Examples

The following example resets a specific failed entry.

```
$ efa-journal reset 848ca333-9e78-46e4-8f54-096453347d55  
5dc0bf8b-674c-4c9f-944e-dc048bd184f0
```

The following example resets all failed entries.

```
$ efa-journal reset
```

## efa-sync execute

Syncs EFA with Neutron. Displays summary or detailed information about entities that are out of sync between Neutron and EFA configurations.

The command also logs console output into efa-sync-console.log.

The efa-sync tool uses Neutron APIs and keystone authentication. The authentication parameters are selected from the neutron.conf file. Before running efa-sync, make sure that all the parameters under the [keystone-authtoken] section are set to the correct values.



### Note

In case of default OpenStack settings in neutron.conf, the following parameters need to be edited to 'default' -- lowercase 'd' under [keystone\_authtoken]:

```
project_domain_name = default
user_domain_name = default
```

## Syntax

**efa-sync execute**

**efa-sync check-summary**

**efa-sync check-detail**

This example syncs EFA with Neutron.

```
$ efa-sync execute
Starting Sync
Syncing Networks..
  Add Network to EFA Id: 9e63bc57-568f-488e-9214-21db3fd3cd12
  (Succeeded)
Syncing Ports..
  Add Port to EFA Id:
  9e63bc57-568f-488e-9214-21db3fd3cd12-10.25.225.11-port-channel-lag_1
  (Succeeded)
  Add Port to EFA Id:
  9e63bc57-568f-488e-9214-21db3fd3cd12-10.25.225.46-port-channel-lag_1
  (Succeeded)
Completed Sync
```

This example displays summary information about entities that are out of sync between Neutron and EFA configurations.

```
$ efa-sync check-summary
05-November-2020 11:04:15 : Starting Check
Summary:
  Neutron Networks to be added to EFA : 1
  Neutron Networks to be deleted from EFA : 0
  Neutron Ports to be added to EFA : 2
  Neutron Ports to be deleted from EFA : 0
  Total # of resources to be resynced : 3
05-November-2020 11:04:16 : Completed Check
```

This example displays detailed information about entities that are out of sync between Neutron and EFA configurations.

```
$ efa-sync check-detail
05-November-2020 11:04:22 : Starting Check
  Neutron Networks to be added to EFA :
    Id: 9e63bc57-568f-488e-9214-21db3fd3cd12
  Neutron Ports to be added from EFA :
    Id: 9e63bc57-568f-488e-9214-21db3fd3cd12-10.25.225.11-port-channel-
lag_1
    Id: 9e63bc57-568f-488e-9214-21db3fd3cd12-10.25.225.46-port-channel-lag_1
05-November-2020 11:04:22 : Completed Check
```

## efactl

---

Starts, stops, restarts, and displays the status services for EFA.

### Syntax

```
efactl start  
efactl stop  
efactl restart  
efactl start-service service-name  
efactl restart-service service-name  
efactl clean  
efactl status
```

### Examples

The following example starts all services.

```
# efactl start  
Are you sure you want to start all services? [Y/n]  
Y  
gosystem-service has been started  
goauth-service has been started  
gorbac-service has been started  
godb-service has been started  
gonotification-service has been started  
goinventory-service has been started  
gofabric-service has been started  
gotenant-service has been started  
goopenstack-service has been started  
gohyperv-service has been started  
govcenter-service has been started  
goswitch-service has been started  
goraslog-service has been started  
efa-api-docs has been started  
rabbitmq has been started  
Services have been started
```

The following example stops all services.

```
# efactl stop  
Are you sure you want to stop all services? [Y/n]  
Y  
gosystem-service has been stopped  
goauth-service has been stopped  
gorbac-service has been stopped  
godb-service has been stopped  
gonotification-service has been stopped  
goinventory-service has been stopped  
gofabric-service has been stopped  
gotenant-service has been stopped  
goopenstack-service has been stopped  
gohyperv-service has been stopped  
govcenter-service has been stopped  
goswitch-service has been stopped
```



```
goraslog-service has been stopped
efa-api-docs has been stopped
rabbitmq has been stopped
Services have been stopped
root@administrator-08:~#
```

The following example restarts all services.

```
efactl restart
Are you sure you want to restart all services? [Y/n]
Y
gosystem-service has been stopped
goauth-service has been stopped
gorbac-service has been stopped
godb-service has been stopped
gonotification-service has been stopped
goinventory-service has been stopped
gofabric-service has been stopped
gotenant-service has been stopped
goopenstack-service has been stopped
gohyperv-service has been stopped
govcenter-service has been stopped
goswitch-service has been stopped
goraslog-service has been stopped
efa-api-docs has been stopped
rabbitmq has been stopped
Services have been stopped
gosystem-service has been started
goauth-service has been started
gorbac-service has been started
godb-service has been started
gonotification-service has been started
goinventory-service has been started
gofabric-service has been started
gotenant-service has been started
goopenstack-service has been started
gohyperv-service has been started
govcenter-service has been started
goswitch-service has been started
goraslog-service has been started
efa-api-docs has been started
rabbitmq has been started
Services have been started
All services have been restarted
```

The following example starts one service.

```
# efactl start-service gofabric-service
Are you sure you want to start gofabric-service? [Y/n]
Y
gofabric-service has been started
```

The following example stops one service.

```
# efactl stop-service gorbac-service
Are you sure you want to stop gorbac-service? [Y/n]
Y
gorbac-service has been stopped
```

The following example restarts one service.

```
# efactl restart-service rabbitmq
Are you sure you want to restart rabbitmq? [Y/n]
Y
```

```
rabbitmq has been stopped
rabbitmq has been started
rabbitmq has been restarted
```

The following example deletes all logs.

```
# efactl clean
This will delete all logs. Are you sure [Y/n]?
Y
Cleaning efa Logs...
Cleaned logs
```

The following example shows EFA status.

```
(efa:extreme)extreme@tpvm:~$ efactl status
NAME      STATUS  ROLES  AGE  VERSION  LABELS
tpvm      Ready   primary 50m  v1.18.6+k3s1  beta.kubernetes.io/arch=amd64,beta.kubernetes.io/os=linux,keepalived=active,kubernetes.io/arch=amd64,kubernetes.io/hostname=tpvm,kubernetes.io/os=linux,node-role.kubernetes.io/primary=true
tpvm2     Ready   primary 50m  v1.18.6+k3s1  beta.kubernetes.io/arch=amd64,beta.kubernetes.io/os=linux,keepalived=standby,kubernetes.io/arch=amd64,kubernetes.io/hostname=tpvm2,kubernetes.io/os=linux,node-role.kubernetes.io/primary=true
NAME      READY  STATUS   RESTARTS  AGE
IP        NODE   NOMINATED NODE   READINESS GATES
pod/gofabric-service-cb547d7db-1k6r9  0/1    Init:0/2   0          45m
10.42.2.8   tpvm2  <none>      <none>
pod/gonotification-service-ffccd5bf6-w196v  0/1    Init:0/2   0          45m
10.20.255.114  tpvm2  <none>      <none>
pod/goauth-service-5fdd67574-g6jw5  0/1    Init:0/2   0          45m
10.42.2.9    tpvm2  <none>      <none>
pod/gotenant-service-7db6648b97-rvft9  0/1    Init:0/3   0          45m
10.42.2.10   tpvm2  <none>      <none>
pod/efa-api-docs-5886cb6fb4-vnq8x  1/1    Running    0          45m
10.42.2.12   tpvm2  <none>      <none>
pod/efa-api-docs-5886cb6fb4-h71rb  1/1    Running    0          45m
10.42.0.11   tpvm   <none>      <none>
pod/gosnmp-service-56dc6c46c8-hd8nk  0/1    Init:0/1   0          45m
10.20.255.114  tpvm2  <none>      <none>
pod/goopenstack-service-798b445769-sgdc6  0/1    Init:0/2   0          45m
10.42.2.13   tpvm2  <none>      <none>
pod/goinventory-service-5c7f7b57c4-txr9m  0/1    Init:0/2   0          45m
10.42.2.14   tpvm2  <none>      <none>
pod/gosnmp-service-56dc6c46c8-vbtbv  1/1    Running    0          45m
10.20.255.230  tpvm   <none>      <none>
pod/govcenter-service-6ff99bf8b8-dx2dk  0/1    Init:0/2   0          45m
10.42.2.15   tpvm2  <none>      <none>
pod/goopenstack-service-798b445769-v7dzz  1/1    Running    0          45m
10.42.0.13   tpvm   <none>      <none>
pod/gohyperv-service-7f8d87d55-xspkg  0/1    Init:0/2   0          45m
10.42.2.16   tpvm2  <none>      <none>
pod/gosystem-service-67767c4796-n7rc4  1/1    Running    0          45m
10.20.255.114  tpvm2  <none>      <none>
pod/gosystem-service-67767c4796-14w4m  1/1    Running    0          45m
10.20.255.230  tpvm   <none>      <none>
pod/rabbitmq-0  1/1    Running    0          46m
10.42.0.6    tpvm   <none>      <none>
pod/gorbac-service-69c665497b-bdlkh  0/1    Init:1/2   0          45m
10.42.2.11   tpvm2  <none>      <none>
pod/goauth-service-5fdd67574-5h4rx  1/1    Running    0          45m
10.42.0.9    tpvm   <none>      <none>
pod/gorbac-service-69c665497b-slkr2  1/1    Running    0          45m
10.42.0.10   tpvm   <none>      <none>
```

pod/goinventory-service-5c7f7b57c4-68b7w	1/1	Running	0	45m
10.42.0.12	tpvm <none>	<none>		
pod/gonotification-service-ffccd5bf6-7551d	1/1	Running	0	45m
10.20.255.230	tpvm <none>	<none>		
pod/goraslog-service-6d89f667bd-6d46n	1/1	Running	0	45m
10.20.255.114	tpvm2 <none>	<none>		
pod/gofabric-service-cb547d7db-nntlb	1/1	Running	0	45m
10.42.0.7	tpvm <none>	<none>		
pod/gotenant-service-7db6648b97-6wdht	1/1	Running	0	45m
10.42.0.8	tpvm <none>	<none>		
pod/goraslog-service-6d89f667bd-jgkww	1/1	Running	0	45m
10.20.255.230	tpvm <none>	<none>		
pod/rabbitmq-1	1/1	Running	0	43m
10.42.2.17	tpvm2 <none>	<none>		
pod/govcenter-service-6ff99bf8b8-lvm46	1/1	Running	2	45m
10.42.0.14	tpvm <none>	<none>		
pod/gohyperv-service-7f8d87d55-bqzllz	1/1	Running	2	45m
10.42.0.15	tpvm <none>	<none>		

NAME	AGE	TYPE	CLUSTER-IP	EXTERNAL-IP
service/rabbitmq		NodePort	10.43.215.4	<none>
15672:31672/TCP	46m	app=rabbitmq		
service/gofabric-service		ClusterIP	10.43.76.230	<none>
8081/TCP	46m	app=gofabric-service		
service/goinventory-service		ClusterIP	10.43.63.133	<none>
8082/TCP	46m	app=goinventory-service		
service/goinventory-cluster-service		ClusterIP	10.43.55.0	<none>
8082/TCP	46m	app=goinventory-service		
service/gotenant-service		ClusterIP	10.43.51.68	<none>
8083/TCP	46m	app=gotenant-service		
service/efa-api-docs		ClusterIP	10.43.243.140	<none>
80/TCP	46m	app=efa-api-docs		
service/goraslog-service		ClusterIP	10.43.207.123	<none>
8091/TCP	46m	app=goraslog-service		
service/gosnmp-service		ClusterIP	10.43.122.218	<none>
8092/TCP	46m	app=gosnmp-service		
service/gonotification-service		ClusterIP	10.43.95.30	<none>
8088/TCP	46m	app=gonotification-service		
service/goauth-service		ClusterIP	10.43.106.23	<none>
8080/TCP	46m	app=goauth-service		
service/gorbac-service		ClusterIP	10.43.10.15	<none>
8089/TCP	46m	app=gorbac-service		
service/goopenstack-service		ClusterIP	10.43.91.98	<none>
8085/TCP	45m	app=goopenstack-service		
service/govcenter-service		ClusterIP	10.43.25.206	<none>
8086/TCP	45m	app=govcenter-service		
service/gohyperv-service		ClusterIP	10.43.44.224	<none>
8087/TCP	45m	app=gohyperv-service		
service/gosystem-service		ClusterIP	10.43.210.54	<none>
8090/TCP	45m	app=gosystem-service		

NAME	IMAGES	READY	UP-TO-DATE	AVAILABLE	AGE	
CONTAINERS			SELECTOR			
deployment.apps/efa-api-docs		2/2	2	2	46m	efa-api-
docs	efa-api-docs:2.4.0		app=efa-api-docs			
deployment.apps/gosystem-service		2/2	2	2	45m	
gosystem	gosystem:2.4.0		app=gosystem-service			
deployment.apps/goraslog-service		2/2	2	2	45m	goraslog-
service	goraslog:2.4.0		app=goraslog-service			
deployment.apps/gosnmp-service		1/2	2	1	45m	gosnmp-
service	gosnmp:2.4.0		app=gosnmp-service			
deployment.apps/goopenstack-service		1/2	2	1	45m	
openstack	goopenstack:2.4.0		app=goopenstack-service			

```

deployment.apps/goauth-service      1/2      2          1          46m      go-
auth                                goauth:2.4.0      app=goauth-service
deployment.apps/gorbac-service      1/2      2          1          46m      go-
rbac                                gorbac:2.4.0      app=gorbac-service
deployment.apps/goinventory-service  1/2      2          1          46m
goinventory-service                goinventory:2.4.0  app=goinventory-service
deployment.apps/gonotification-service 1/2      2          1          46m
gonotification-service              gonotification:2.4.0 app=gonotification-service
deployment.apps/gofabric-service     1/2      2          1          46m      gofabric-
service                             gofabric:2.4.0    app=gofabric-service
deployment.apps/gotenant-service     1/2      2          1          46m      gotenant-
service                             gotenant:2.4.0    app=gotenant-service
deployment.apps/govcenter-service    1/2      2          1          45m
vcenter                             govcenter:2.4.0   app=govcenter-service
deployment.apps/gohyperv-service     1/2      2          1          45m
hyperv                              gohyperv:2.4.0   app=gohyperv-service

NAME                                DESIRED    CURRENT    READY    AGE
CONTAINERS                          IMAGES     SELECTOR
replicaset.apps/efa-api-docs-5886cb6fb4 2          2          2        45m      efa-
api-docs                            efa-api-docs:2.4.0 app=efa-api-docs,pod-template-hash=5886cb6fb4
replicaset.apps/gosnmp-service-56dc6c46c8 2          2          1        45m
gosnmp-service                       gosnmp:2.4.0      app=gosnmp-service,pod-template-
hash=56dc6c46c8
replicaset.apps/goopenstack-service-798b445769 2          2          1        45m
openstack                             goopenstack:2.4.0 app=goopenstack-service,pod-template-
hash=798b445769
replicaset.apps/gosystem-service-67767c4796 2          2          2        45m
gosystem                              gosystem:2.4.0    app=gosystem-service,pod-template-
hash=67767c4796
replicaset.apps/goauth-service-5fdd67574 2          2          1        46m      go-
auth                                goauth:2.4.0      app=goauth-service,pod-template-
hash=5fdd67574
replicaset.apps/gorbac-service-69c665497b 2          2          1        45m      go-
rbac                                gorbac:2.4.0      app=gorbac-service,pod-template-
hash=69c665497b
replicaset.apps/goinventory-service-5c7f7b57c4 2          2          1        46m
goinventory-service                  goinventory:2.4.0 app=goinventory-service,pod-template-
hash=5c7f7b57c4
replicaset.apps/gonotification-service-ffccd5bf6 2          2          1        46m
gonotification-service              gonotification:2.4.0 app=gonotification-service,pod-template-
hash=ffccd5bf6
replicaset.apps/gofabric-service-cb547d7db 2          2          1        46m
gofabric-service                    gofabric:2.4.0    app=gofabric-service,pod-template-
hash=cb547d7db
replicaset.apps/gotenant-service-7db6648b97 2          2          1        46m
gotenant-service                    gotenant:2.4.0    app=gotenant-service,pod-template-
hash=7db6648b97
replicaset.apps/goraslog-service-6d89f667bd 2          2          2        45m
goraslog-service                    goraslog:2.4.0    app=goraslog-service,pod-template-
hash=6d89f667bd
replicaset.apps/govcenter-service-6ff99bf8b8 2          2          1        45m
vcenter                             govcenter:2.4.0   app=govcenter-service,pod-template-
hash=6ff99bf8b8
replicaset.apps/gohyperv-service-7f8d87d55 2          2          1        45m
hyperv                              gohyperv:2.4.0   app=gohyperv-service,pod-template-
hash=7f8d87d55

NAME                                READY    AGE    CONTAINERS    IMAGES
statefulset.apps/rabbitmq 2/2      46m    rabbitmq-node rabbitmq:2.4.0
(efa:extreme) extreme@tpvm:~$

```

## openstack network efa-topology-link-map create

---

Creates a topology link

### Syntax

```
openstack network efa-topology-link-map create [--host HOST | --nic NIC |  
--provider-network PROVIDER_NETWORK | --port PORT | --po-name PO_NAME  
| --help ]
```

### Parameters

**host**

Host name of the compute node which connects to the switch

**nic**

Physical NIC on the compute host which connects to the switch

**provider-network**

Provider network name on compute host. For example, physnet1 (default).

**port**

Switch port to which the physical NIC on the compute host is connected

**po-name**

Switch PO name where physical ports are aggregated to NIC where compute host is connected.

**help**

Displays help for the command

### Examples

```
# openstack network efa-topology-link-map create --host  
Openstack115 --nic eth1 --pn default --switch 10.24.14.133 --port 0/1 --po-name  
lag_1
```

---

## openstack network efa-topology-link-map delete

---

Deletes a topology link

### Syntax

```
openstack network efa-topology-link-map delete [--help ]
```

```
openstack network efa-topology-link-map delete [-h] <link> [<link> ...]
```

Specify the UUID of the link to delete.

### Examples

```
openstack network efa-topology-link-map delete  
08bb90b6-ac37-4b7f-aa80-d1d08de7e54b  
012b90b6-ac12-427f-a220-d1d08de7e123
```

## openstack network efa-topology-link-map list

Lists topology links

### Syntax

```
openstack network efa-topology-link-map list [--help ]
```

### Examples

The following example configures....

```
# openstack network efa-topology-link-map list
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| ID                                     | Host           | Nic | Provider Network |
Switch      | Port | Po Name |                                     |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 08fa6b52-8c25-4193-8e4b-00ce3d81f392 | DCGW1          |     | external_nw      |
10.20.246.8 | 0/14 | lag_4   |                                     |
| 0977490d-f07a-4b2c-b683-8359bde19fcc | niyer-devstack | eth3 | physnet3         |
10.20.246.8 | 0/15 |         |                                     |
| 14486fd7-1bd7-4ba0-a159-b2e76f775fdd | niyer-devstack | eth4 | default          |
10.20.246.8 | 0/16 |         |                                     |
| 4ce69af9-03ce-49d7-a0dc-0b5c64e25ded | niyer-devstack | eth1 | physnet11       |
10.20.246.8 | 0/13 | lag_1   |                                     |
| c3879465-ecdd-492b-918e-981c104005ba | DCGW1          |     | external_nw      |
10.20.246.7 | 0/14 | lag_4   |                                     |
| c9663e8d-f91c-44ff-b4a1-fb97e603bda2 | niyer-devstack | eth0 | physnet11       |
10.20.246.7 | 0/13 | lag_1   |                                     |
| daf3c58a-9b24-4069-afe8-94d2a20004c9 | niyer-devstack | eth2 | physnet2         |
10.20.246.7 | 0/15 |         |                                     |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
```

## openstack router create

---

Creates a router in centralized mode.

### Syntax

```
openstack router create [ router-name --centralized ]
```

### Parameters

*router-name* **--centralized**

Creates a router in centralized mode.

### Usage Guidelines

In centralized mode, routing is configured only on the border leaf pairs.

When you create a router, the default mode is centralized. You can create a router with or without the **--centralized** option and achieve the same result.



#### Note

EFA does not support routers configured in distributed mode, although the feature was supported in a previous release. The functionality to configure distributed mode is disabled.

Each of these examples creates 1 centralized router called R2.

```
$ openstack router create R2  
  
$ openstack router create R2 --centralized
```