Extreme Fabric Automation Command Reference

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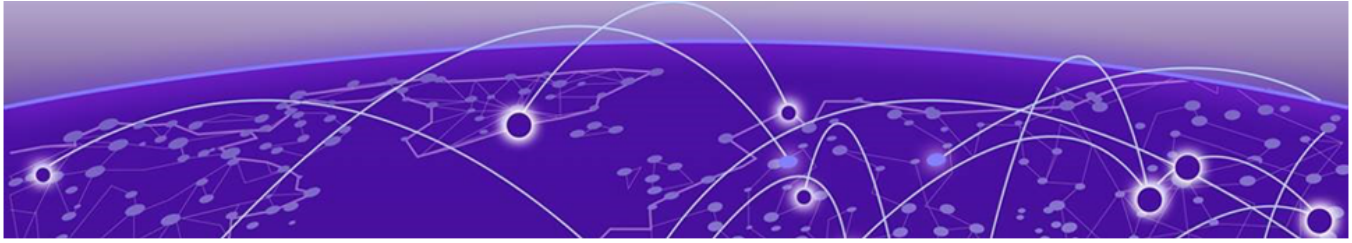

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Preface

Read the following topics to learn about:

- The meanings of text formats used in this document.
- Where you can find additional information and help.
- How to reach us with questions and comments.

Text Conventions

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 *enter* and *type*	When you see the word *enter* 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 *type*.
Key names	Key names are written in boldface, for example **Ctrl** or **Esc**. If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press **Ctrl**+**Alt**+**Del**
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.
NEW!	New information. In a PDF, this is searchable text.

Table 3: Command syntax

Convention	Description
bold text	Bold text indicates command names, keywords, and command options.
italic text	Italic text indicates variable content.
`[ ]`	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
`{ x | y | z }`	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
`x | y`	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, such as passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, *member*`[`*member*`...]`.
\	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.

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Find Extreme Networks product information at the following locations:

- Current Product Documentation
- Release Notes
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- Extreme Optics Compatibility
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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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- Content errors, or confusing or conflicting information.

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

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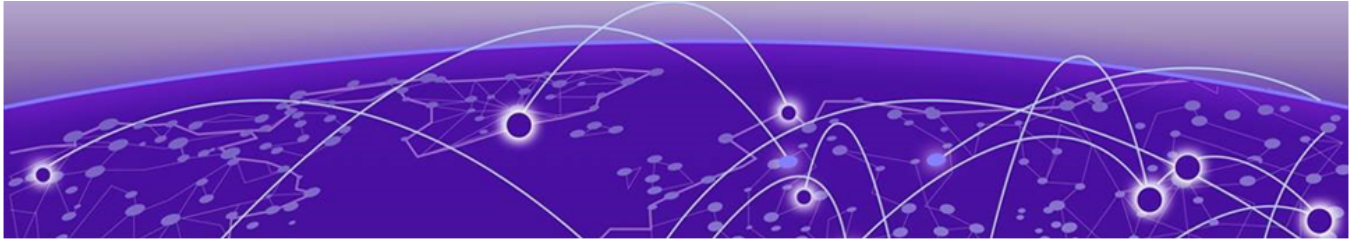
- Email us at documentation@extremenetworks.com.

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.



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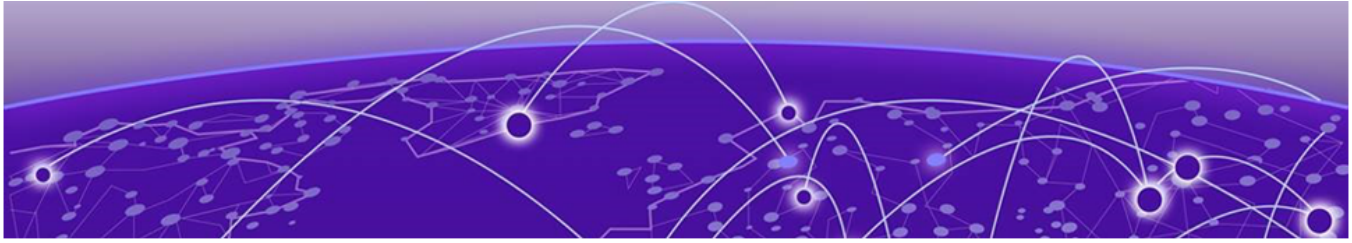
What's New in this Document

Modified commands

- **efa inventory device interface redundant-management**



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This document describes commands available in the Extreme Fabric Automation CLI.

efa auth apikey

Creates or displays the API Key for the OpenStack instance.

Syntax

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

efa auth apikey show --client-id

Parameters

--client-id

Generates the API Key for the indicated client ID.

--force

Forces key regenerate.

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.
eyJhbGciOiJSUzI1NiIsImtZCI6IjEuMCIssInR5cCI6IkpX...
--- 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*]

efa auth client register [**--name** *tenant-name* **--type** *client-type*]

efa auth client show [**--name** *tenant-name*]

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`).

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

efa auth execution show --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 ldapconfig

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

Syntax

efa auth ldapconfig add { **--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** *pword* |**--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 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** *pword* |**--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 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** *pword* |**--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

add

Adds an external LDAP server.

delete

Deletes an external LDAP server.

update

Updates an external LDAP server.

show

Shows LDAP server configuration.

--name *ldap-name*

Specifies the name of the LDAP connection.

--primary *value*

Specifies 1 when multiple LDAP connections are available.

--host *hostname*

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

--port *port-num*

Specifies 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*

Specifies the location of the Certificate Authority certificate.

--timeout *value*

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

--bind-user-name *dn*

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

--bind-user-password *pword*

Specifies the password of the bind user.

--user-search-base *dn*

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

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

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

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

Specifies 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*

Specifies the attribute from which the user role is read.

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

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

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

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

--group-search-base *dn*

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

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

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

--group-attribute *att-value*

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

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

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

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

Specifies 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 supported parameters.

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

Specifies the type of token you want to update.

--hours *num*

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

--minutes *num*

Specifies the number of 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 { **--ip** *ip-addr* **--certType** [**https**| **token**] }

Command Default

By default, certificates are not installed.

Parameters

--ip *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. If you do not specify a type, this command creates both types.

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 turned off 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 --ip 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

Clones 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

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.

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**]

Parameters

--name *fabric-name*

Specifies the name of the fabric.

--force

Forces the configuration on the devices.

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*]

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.

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

Device IP address.

--reference-fabric

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

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* | **--ip** *string* | **--reconcile**]

Parameters

--name *string*

Specifies the name of the fabric.

--ip *string*

Specifies the device IP.

--reconcile

Reconciles the device configuration.

efa fabric delete

Deletes the fabric from inventory.

Syntax

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

Parameters

--name *fabric-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 the fabric but not from the 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*]

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 uses 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* | **--three-stage-pod** *name* | **--five-stage-pod** *name* | **--spine** *list* | **--super-spine** *list* | **--username** *username* |**--password** *password* | **--rack** *name* | **--border-leaf-rack** *list* | **--border-leaf-ip** *device-ip*]

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.

--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.

--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.

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 an 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**]

Parameters

--name

Specifies the name of the fabric.

--export

Export error details to a CSV file.

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 execution history for the service.

Syntax

efa fabric execution delete [**--days int32**]

efa fabric execution show [| **--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*]

Parameters

--days int32

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

--device *ip address*

Filters on IP address.

--execution-id *execution id*

Filters on Execution UUID.

--id *execution id*

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

--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** *fabric-name* | **--advanced** *options*]

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* | **--rack-border-leaf-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 yes | no** | **--bfd-enable yes | no** | **--bfd-tx** *interval* | **--bfd-rx** *interval* | **--bfd-multiplier** *multiplier*| **--bgp-multihop** *ttl* | **--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* | **--single-rack-deployment yes | no** | **--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* | **--optimized-replication-enable yes | no** | **--mdtgroup-range** *range* | **--default-mdtgroup** *ipv4-address* | **--md5-password** *password* | **--md5-password-enable yes | no** | **--bgp-dynamic-peer-listen-limit** *peers*]

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. Valid values are numbers from 4200000000-4200065534.

--rack-border-leaf-asn *asn pool*

Specifies the ASN pool for rack border leaf nodes. Valid values are numbers from 4200065535-4200065635.

--anycast-mac-address *asn pool*

Specifies the IPv 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 100000.

--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 yes | no

Configures overlay gateway.

--bfd-enable yes | no

Turns on or turns off 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 *ttl*

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*

Turns off 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.

--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.

--single-rack-deployment yes | no

Specifies if single-rack deployment is used. The default is no.

--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

Turns on or turns off backup routing.

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

Specifies the IPv4 backup routing range.

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

Specifies the IPv6 backup routing range.

--optimized-replication-enable yes | no

Enables optimized replication. The default is no.

--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.

---md5-password *password*

BGP MD5 password to be used on fabric links. If a word: 1-80 for plain text and 1-164 for encrypted string. Default is "<prompt>".

---md5-password-enable yes | no

Turns on or turns off BGP MD5 password on fabric links.

---bgp-dynamic-peer-listen-limit *peers*

Specifies the maximum number of dynamic BGP peers that can be operational across the VRFs in the SLX. Valid values range from 1-255. Default is 100.

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
```

In this example, MD5 authentication is created or updated:

```
efa fabric setting update --name fabric1 --md5-password-enable yes
Please supply a password for BGP MD5 authentication on fabric links:
efa fabric configure --name fabric1
```

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 configuration 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 leaf | spine | super-spine | border-leaf

Role of devices for which configuration is displayed.

--ip

The specific ip provided in conjuction 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 a 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             | unicast     | 10.24.80.158   | 10.24.80.159        | 172.31.254.7
| 172.31.254.9        | up                  | up                 |
| vxlan             | unicast     | 10.24.80.159   | 10.24.80.158        | 172.31.254.9
| 172.31.254.7        | up                  | up                 |
| vxlan             | multicast   | 10.24.80.158   |                     | 172.31.254.7
| 239.1.1.1           | up                  | up                 |
| vxlan             | multicast   | 10.24.80.159   |                     | 172.31.254.9
| 239.1.1.1           | 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 peers) of the devices in a fabric. Gets information about “default-vrf” only.

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 nc
+------------------+----------------------+-------------------------+-------------
+-------------------+-----------------------+--------------------+---------------
+----------------+
| SOURCE DEVICE IP | DESTINATION DEVICE IP | SOURCE DEVICE ROUTER ID | NEIGHBOR IP |
SOURCE DEVICE ASN | DESTINATION DEVICE ASN | NEIGHBOR AFI STATE | NEIGHBOR SAFI |
UNDERLAY STATE |
+------------------+----------------------+-------------------------+-------------
+-------------------+-----------------------+--------------------+---------------
+----------------+
| 10.20.61.90      | 10.20.61.91          | 172.31.254.1            | 10.20.20.3  |
4200000000        | 4200000000           | ipv4               | unicast
|                |
| 10.20.61.91      | 10.20.61.90          | 172.31.254.3            | 10.20.20.2  |
4200000000        | 4200000000           | ipv4               | unicast
|                |
+------------------+----------------------+-------------------------+-------------
+-------------------+-----------------------+--------------------+---------------
+----------------+
--- Time Elapsed: 14.729342579s ---
```

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*]

efa inventory admin-state down [**--ip** *ipaddr*]

efa inventory admin-state detail [**--uuid** *uuid*]

efa inventory admin-state delete [**--key** *ipaddr*]

efa inventory admin-state history [**--ip** *ipaddr*]

efa inventory admin-state show [**--ip** *ipaddr*]

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.

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 "Administered Partial Success" in the *Extreme Fabric Automation Administration Guide*.

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*]

efa inventory config-backup execute[**--ip** *ip-address*]

efa inventory config-backup delete[**--key** *ip-address*]

efa inventory config-backup detail[**--uuid** *cb-uuid* | **--show-config** | **--file-dump** *filename*]

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.

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*]

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

efa inventory config-replay delete [**--key** *ip-addr*]

efa inventory config-replay detail [**--uuid** *cr-uuid*]

Parameters

--detail

Displays config-backup detail.

--delete

Deletes the config-backup record.

--execute

Runs the SLX configuration backup.

--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:ubuntu)ubuntu@efa:~/efa$ efa inventory debug devices-lock
+-----------------------------------+--------+
|             IP Address            | Locked |
+-----------------------------------+--------+
| 10.139.44.156                     | false  |
+-----------------------------------+--------+
| 10.139.44.155                     | false  |
+-----------------------------------+--------+
| Global DeviceWalkListLock         | false  |
+-----------------------------------+--------+
| Global DeviceLockCollectionMapLock | false  |
+-----------------------------------+--------+
| Global FabricEventLock            | false  |
+-----------------------------------+--------+
| Global MapLock of Events          | false  |
+-----------------------------------+--------+
| GoSwitch Repository               | false  |
+-----------------------------------+--------+
| Service Lock                      | false  |
+-----------------------------------+--------+
```

efa inventory debug devices-unlock

Unlocks devices forcefully if they were locked during the configuration backup process.

Syntax

efa inventory debug devices-unlock [**--ip** *ip-list* | **--fabric** *fabric-name* | **--servicelock**]

Parameters

--ip *ip-list*

List of IPs to unlock.

--fabric *fabric-name*

Fabric with which devices are associated.

--servicelock

Specify to unlock all service locks.

Examples

```
efa-client inventory debug devices-unlock --ip 10.20.246.5,10.20.246.6
+-------------+---------+
| IP Address | Status |
+-------------+---------+
| 10.20.246.6 | Success |
+-------------+---------+
| 10.20.246.5 | Success |
+-------------+---------+
Force Unlock Devices
--- Time Elapsed: 100.5453ms ---
```

```
efa-client inventory debug devices-unlock --servicelock
+--------------+---------+
| IP Address | Status |
+--------------+---------+
| Service Lock | Success |
+--------------+---------+
Force Unlock Devices
--- Time Elapsed: 39.3574572s ---
```

```
efa-client inventory debug devices-unlock --fabric fabric1
+-------------+---------+
| IP Address | Status |
+-------------+---------+
| 10.20.246.6 | Success |
+-------------+---------+
| 10.20.246.5 | Success |
+-------------+---------+
Force Unlock Devices
```

efa inventory debug unblock-from-fwdl

Unlocks devices forcefully if they were locked during a firmware download.

Syntax

efa inventory debug unblock-from-fwdl [**--ip** *ip-list* | **--fabric** *fabric-name*]

Parameters

--ip *ip-list*

List of IPs to unlock.

--fabric *fabric-name*

Fabric with which devices are associated.

Usage Guidelines

During firmware download, a lock is activated to prevent other services from doing any operations. This debug command allows you to unlock the lock in case, for some reason, the system does not unlock on its own.

Examples

```
efa-client inventory debug unblock-from-fwdl --ip 10.20.246.1,10.20.246.2
+-------------+---------+
| IP Address | Status |
+-------------+---------+
| 10.20.246.2 | Success |
+-------------+---------+
| 10.20.246.1 | Failed |
+-------------+---------+
Force Removal of FWDL
Status
--- Time Elapsed: 42.0891034s ---
```

```
efa-client inventory debug unblock-from-fwdl --fabric non-clos
+-------------+---------+
| IP Address | Status |
+-------------+---------+
| 10.20.246.2 | Success |
+-------------+---------+
| 10.20.246.1 | Success |
+-------------+---------+
Force Removal of FWDL
```

efa inventory device compare

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

Syntax

efa inventory device compare [**--ip**]

Parameters

--ip

Specifies the IP address of the device to be compared.

efa inventory device delete

Deletes the device.

Syntax

efa inventory device delete [**--ip** *ip-addr* | **--fabric** *fabric-name*]

Parameters

--ip *ip-addr*

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

--fabric *fabric-name*

Fabric name for which devices needs to deleted.

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. You can modify this interval by using the **efa inventory device discovery-time update** command.

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.

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.

These 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 two hours for a fabric named `myFabric`.

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

efa inventory device execute-cli

Runs CLI on the device.

Syntax

efa inventory device execute-cli [**--ip** *ip-addr* | **--fabric** *fabric-devices* | **--role** *role-devices* | **--command** *command* | **--config config-term | exec-mode**]

Parameters

--ip *ip-addr*

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

--fabric *fabric-devices*

Specifies all devices in the specified fabric.

--role *role-devices*

Specifies devices in the fabric, based on their role.

--command *command*

Specifies a comma-separated or semicolon-separated list of CLI commands to run on the devices.

--config config-term | exec-mode

Indicates whether commands are for config-term or exec-mode. The default value is `exec-mode`.

```
# 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

Commits new firmware where the firmware download was started with the `NoAutoCommit` flag.

efa inventory device firmware-download commit [**--fabric** *fabric-name* | **--ip** *ip-addr*]

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *ip-addr*

Specifies a comma-separated list of device IP addresses.

```
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 run to be retried.

Syntax

```
efa inventory device firmware-download execute --fabric fabric-name |
   [ --noAutoCommit ] | [ --noMaintMode ] | --group-execution continue-
   on-error | stop-on-error ]
```

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 run 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 Maintainance Mode operations during firmware download. The flag defaults to FALSE, which means Maintainance Mode is turned off 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.

--group-execution continue-on-error | stop-on-error

Use the `--group-execution` parameter to specify the group run policy when a firmware download process failure occurs on one or more devices defined in a group. When all devices defined in the group have completed the firmware download process and there is one or more device that has failed, the group run policy rules if the firmware download workflow continues to process the remaining groups or not.

There are two options:

- Under the `continue-on-error` group run policy (the default), in case of a device upgrade failure, the workflow continues to the next group, until all groups have been processed.
- Under the `stop-on-error` group run policy, in case of a device upgrade failure, the workflow does not continue to the next group.

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 are done at this time. If the validations are successful, the device is prepared.

Syntax

efa inventory device firmware-download prepare add --fabric *fabric name* [**--ip** *device ip address* | **--group** *group number* | **--force** |**--firmware-host** *firmware download host* | **--firmware-directory** *path to target firmware build*]

Command Default

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

Parameters

--fabric *fabric name*

Name of the fabric. Using the `--fabric` parameter automatically generates a group-based prepared list. The `--group` parameter is not permitted with the `--fabric` parameter.

--ip *device ip address*

Specifies a comma-separated list of device IP addresses.

- Using the `--ip` and optionally `--group` parameters adds the specified devices in the prepared list group. Group 1 is implicitly used if not specified with the `--ip` parameter.
- Using the `--ip` and optionally `--force` parameters bypasses all validations and forcefully prepare the device in the default group 1 or in any group number if the `--group` parameter is specified. This can be used if the user does not care about traffic loss and wants to perform the firmware download simultaneously on all devices. The firmware restart-ability should allow for both EFA hosted node's SLX firmware to be upgraded simultaneously.

--group *group number*

Group number. Using the `--ip` and optionally `--group` parameters adds the specified devices in the prepared list group. Group 1 is implicitly used if not specified with the `--ip` parameter.

--force

Bypasses all validations and forcefully prepares the device. The `--force` parameter can be used to download the same existing firmware version on the device. Normally, this is not allowed. However, using the `--force` parameter implicitly performs a full installation to carry out the same firmware version download.

--firmware-host *firmware download host*

Firmware download host IP address.

--firmware-directory *path to target firmware build*

Path to the target firmware build.

Usage Guidelines

Note

- The 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 both MCT leaf pairs to be prepared together.
- Do not allow all spines in the same pod of the same fabric to be prepared together.
- Do not allow all super-spines in the fabric to be prepared together.
- EFA performs a sanity check using the firmware-host and firmware-directory that are specified in the command to ensure that the switch takes the firmware from that host and directory.

Examples

This example prepares half of the devices in Group 1. Group 1 is default when a `--group` parameter is not provided.

```
$ efa inventory device firmware-download prepare add --ip
10.20.245.1,10.20.245.3,10.20.245.5,10.20.245.9 --firmware-host 10.20.241.101 --firmware-
directory /build/slx/slxos20.2.3a
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Firmware Host |   Firmware Directory    | Target Firmware |       Last Update
Time        |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 1     | 10.20.245.1  | L1          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 1     | 10.20.245.3  | L3          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 1     | 10.20.245.5  | L5          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 1     | 10.20.245.9  | S1          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
```

```
Firmware Download Prepare Add Details
Validate Firmware Download Prepare Add [success]
```

This example prepares the remaining half of devices in Group 3.

```
$ efa inventory device firmware-download prepare add --ip
10.20.245.2,10.20.245.4,10.20.245.6,10.20.245.10 --group 3 --firmware-host 10.20.241.101
--firmware-directory /build/slx/slxos20.2.3a
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Firmware Host |   Firmware Directory    | Target Firmware |       Last Update
Time        |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.2  | L2          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.4  | L4          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.6  | L6          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.10 | S2          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
Firmware Download Prepare Add Details
Validate Firmware Download Prepare Add [success]
```

This example lists all groups of devices that are prepared in the fabric.

```
$ efa inventory device firmware-download prepare list --fabric fab_3stg
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Firmware Host |   Firmware Directory    | Target Firmware |       Last Update
Time        |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.1  | L1          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.3  | L3          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
```

```
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.5  | L5          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.9  | S1          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.2  | L2          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.4  | L4          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.6  | L6          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.10 | S2          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
Firmware Download Prepare List Details
Validate Firmware Download Prepare List [success]
```

This example prepares the fabric and lets EFA automatically generate the group-based prepared list for the fabric.

```
$ efa inventory device firmware-download prepare add --fabric fab_3stg --firmware-host
10.20.241.101 --firmware-directory /build/slx/slxos20.2.3a
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Firmware Host |   Firmware Directory    | Target Firmware |       Last Update
Time        |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.1  | L1          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:21 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.3  | L3          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:21 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
```

```
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.5  | L5          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:21 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 2     | 10.20.245.2  | L2          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:22 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 2     | 10.20.245.4  | L4          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:22 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 2     | 10.20.245.6  | L6          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:22 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.9  | S1          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:23 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 4     | 10.20.245.10 | S2          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:24 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
Firmware Download Prepare Add Details
Validate Firmware Download Prepare Add [success]
```

efa inventory device firmware-download prepare list

Displays the current listing of prepared devices for a firmware download operation in the fabric.

Syntax

efa inventory device firmware-download prepare list [**--fabric** *fabric-name*]

Parameters

--fabric *fabric-name*

Specifies the name of the fabric.

Usage Guidelines

The command displays all prepared devices per group. The group column is the first column displayed in the output. The output is sorted in ascending order by group, then by IP address.

Examples

This example prepares the fabric and lets EFA automatically generate the group-based prepared list for the fabric.

```
$ efa inventory device firmware-download prepare list --fabric fab_3stg
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Firmware Host |   Firmware Directory    | Target Firmware |       Last Update
Time        |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.1  | L1          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.3  | L3          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.5  | L5          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 1     | 10.20.245.9  | S1          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:30 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
```

```
+--------------------------------+
| 3     | 10.20.245.2  | L2          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.4  | L4          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.6  | L6          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 3     | 10.20.245.10 | S2          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:14:38 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
Firmware Download Prepare List Details
Validate Firmware Download Prepare List [success]
```

efa inventory device firmware-download prepare remove

Removed the specified device(s) from the prepared list.

Syntax

efa inventory device firmware-download prepare remove [**--fabric** *fabric-name* | **--ip** *device-ip-address*| **--group** *group-number*]

Parameters

--fabric *fabric-name*

Specifies the name of the fabric. Using this parameter completely deletes the prepared list for the fabric, including all groups.

--ip *device-ip-address*

Specifies a comma-separated list of device IP addresses. Using this parameter deletes the prepared devices, even if they are prepared in separate groups.

--group *group-number*

Specifies a group number. Using this parameter removes all devices prepared in the given group.

Usage Guidelines

The `--fabric`, `--group`, and `--ip` parameters cannot be used together.

Examples

Firmware Download Prepare Add (Fabric-based)

Prepare the fabric and let EFA automatically generate the group-based prepared list for the fabric. See the following examples.

```
$ efa inventory device firmware-download prepare add --fabric fab_3stg --firmware-host
10.20.241.101 --firmware-directory /build/slx/slxos20.2.3a
+-------+-------------+-------------+-------+-------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Firmware Host |   Firmware Directory    | Target Firmware |       Last Update
Time        |
+-------+-------------+-------------+-------+-------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 1     | 10.20.245.1  | L1          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:21 +0000 UTC |
+-------+-------------+-------------+-------+-------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 1     | 10.20.245.3  | L3          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:21 +0000 UTC |
+-------+-------------+-------------+-------+-------------+-----+-------
+------------------+---------------+-------------------------+-----------------
```

```
+-------------------------------+
| 1     | 10.20.245.5  | L5          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:21 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 2     | 10.20.245.2  | L2          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:22 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 2     | 10.20.245.4  | L4          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:22 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 2     | 10.20.245.6  | L6          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:22 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 3     | 10.20.245.9  | S1          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:23 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 4     | 10.20.245.10 | S2          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:24 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
Firmware Download Prepare Add Details
Validate Firmware Download Prepare Add [success]
```

Firmware Download Prepare Delete (IP-based)

Given the prepared list from the previous example, delete an MCT leaf pair prepared across groups.

```
$ efa inventory device firmware-download prepare remove --ip 10.20.245.5,10.20.245.6
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Firmware Host |   Firmware Directory    | Target Firmware |       Last Update
Time        |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 1     | 10.20.245.5  | L5          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:21 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+-------------------------------+
| 2     | 10.20.245.6  | L6          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:22 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
```

```
+-----------------+--------------+------------------------+-----------------
+------------------------------+
Firmware Download Prepare Remove Details
Validate Firmware Download Prepare Remove [success]
```

Firmware Download Prepare Delete (Group-based)

Continuing from the previous example, delete devices prepared in Group 2.

```
$ efa inventory device firmware-download prepare remove --group 2
+-------+-------------+-------------+-------+-------------+-----+-------
+-----------------+--------------+------------------------+-----------------
+------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Firmware Host |   Firmware Directory    | Target Firmware |       Last Update
Time        |
+-------+-------------+-------------+-------+-------------+-----+-------
+-----------------+--------------+------------------------+-----------------
+------------------------------+
| 2     | 10.20.245.2  | L2          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:22 +0000 UTC |
+-------+-------------+-------------+-------+-------------+-----+-------
+-----------------+--------------+------------------------+-----------------
+------------------------------+
| 2     | 10.20.245.4  | L4          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:22 +0000 UTC |
+-------+-------------+-------------+-------+-------------+-----+-------
+-----------------+--------------+------------------------+-----------------
+------------------------------+
Firmware Download Prepare Remove Details
Validate Firmware Download Prepare Remove [success]
```

Firmware Download Prepare Delete (Fabric-based)

Continuing from the previous example, delete the remaining devices in the fabric.

```
$ efa inventory device firmware-download prepare remove --fabric fab_3stg
+-------+-------------+-------------+-------+-------------+-----+-------
+-----------------+--------------+------------------------+-----------------
+------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Firmware Host |   Firmware Directory    | Target Firmware |       Last Update
Time        |
+-------+-------------+-------------+-------+-------------+-----+-------
+-----------------+--------------+------------------------+-----------------
+------------------------------+
| 1     | 10.20.245.1  | L1          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:21 +0000 UTC |
+-------+-------------+-------------+-------+-------------+-----+-------
+-----------------+--------------+------------------------+-----------------
+------------------------------+
| 1     | 10.20.245.3  | L3          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:21 +0000 UTC |
+-------+-------------+-------------+-------+-------------+-----+-------
+-----------------+--------------+------------------------+-----------------
+------------------------------+
| 3     | 10.20.245.9  | S1          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a         | 2021-03-19
20:36:23 +0000 UTC |
+-------+-------------+-------------+-------+-------------+-----+-------
```

```
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
| 4     | 10.20.245.10 | S2          | 3012   | SLX9250-32C   | 0    | Spine |
20.2.3           | 10.20.241.101 | /build/slx/slxos20.2.3a | 20.2.3a          | 2021-03-19
20:36:24 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+---------------+-------------------------+-----------------
+--------------------------------+
Firmware Download Prepare Remove Details
Validate Firmware Download Prepare Remove [success]
```

efa inventory device firmware-download restore

Restores the installed firmware, when the firmware download was started with the `NoAutoCommit` flag.

efa inventory device firmware-download restore [**--fabric** *fabric-name* | **--ip** *ip-addr*]

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *ip-addr*

Specifies a comma-separated list of device IP addresses.

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*]

Parameters

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *device-ip-address*

Specifies a comma-separated list of device IP addresses.

Examples

This example shows a running firmware download where Group 1 has completed and Group 2 is in progress.

```
$ efa inventory device firmware-download show --fabric fab_3stg
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
| Group |  IP Address  |  Host Name  | Model | Chassis Name | ASN | Role  | Current
Firmware | Target Firmware | Update State |          Status           |       Last Update
Time        |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
| 1     | 10.20.245.1  | L1          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3a          | 20.2.3a         | Completed    | Firmware Committed        |
2021-03-19 21:18:51 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
| 1     | 10.20.245.3  | L3          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3a          | 20.2.3a         | Completed    | Firmware Committed        |
2021-03-19 21:21:42 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
| 1     | 10.20.245.5  | L5          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3a          | 20.2.3a         | Completed    | Firmware Committed        |
2021-03-19 21:19:21 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
| 2     | 10.20.245.2  | L2          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 20.2.3a         | In Progress  | Firmware Download Started |
2021-03-19 21:22:56 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
| 2     | 10.20.245.4  | L4          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 20.2.3a         | In Progress  | Firmware Download Started |
```

```
2021-03-19 21:23:27 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
| 2     | 10.20.245.6  | L6          | 3012  | SLX9250-32C  | 0   | Leaf  |
20.2.3           | 20.2.3a         | In Progress  | Firmware Download Started |
2021-03-19 21:23:03 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
| 3     | 10.20.245.9  | S1          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 20.2.3a         | Prepared     |                           |
2021-03-19 21:06:23 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
| 4     | 10.20.245.10 | S2          | 3012  | SLX9250-32C  | 0   | Spine |
20.2.3           | 20.2.3a         | Prepared     |                           |
2021-03-19 21:06:24 +0000 UTC |
+-------+--------------+-------------+-------+--------------+-----+-------
+------------------+-----------------+--------------+---------------------------
+-------------------------------+
Firmware Download Show Details
Firmware Download Show Overall Status [In Progress]
```

efa inventory device health status

Displays device health status.

Syntax

efa inventory device health status [**--ip**]

Parameters

--ip

Specifies IP address of the device.

efa inventory device interface list

Displays the list of interfaces and details for the specified IP address, including the application state that indicates if the configuration on the device is in sync or has drifted (refreshed or deleted) with respect to EFA.

Syntax

efa inventory device interface list [**--ip** *ip-addr* | **--type** *interface-type* | **physical** | **loopback** | **ve** | **po** | **all** | **--admin-state** *state* | **up** | **down**| **all** | **--oper-state** *oper-state* | **up** | **down**| **all** | **--rme** *list*]

Parameters

--ip *ip-addr*

Specifies the IP address of the device for which you want to see a list of interfaces. Example: 1.1.1.1-3,1.1.1.2,2.2.2.2.

--type *interface-type* **physical** | **loopback** | **ve** | **po** | **all**

Type of interfaces of the devices. Default is `physical`.

--admin-state *state* **up** | **down** | **all**

Admin state of interfaces of the device. Default is `all`.

--oper-state *oper-state* **up** | **down**| **all**

Operational state (line protocol) of interfaces of the device. Default is `all`.

--rme *list* **up** | **down**| **all**

Lists redundant management enabled interface. Default is `all`.

Examples

The following example shows typical output for the command.

```
$ efa inventory device interface list --ip 10.20.62.145
+--------------+------+----------------+--------------+--------------+-------------+-------------
+------------+-------------------+-----------------+----------------+----------------+---------------+
|   DeviceIP   | Name | Interface Type | Admin Status | Oper Status | Description | Line
Speed |        MAC        | Switchport Mode |   IP Address   |   App State   |
+--------------+------+----------------+--------------+--------------+-------------+-------------
+------------+-------------------+-----------------+----------------+----------------+---------------+
| 10.20.62.145 | 0/1  | ethernet       | up           | up           |             |
40Gbps     | 00:04:96:d6:f2:8b | unknown         |                | cfg-in-sync   |
+              +------+----------------+--------------+--------------+-------------+-------------
+------------+-------------------+-----------------+----------------+----------------+---------------+
|              | 0/2  | ethernet       | up           | down         |             |
unknown    | 00:04:96:d6:f2:8c | unknown         |                | cfg-in-sync   |
+              +------+----------------+--------------+--------------+-------------+-------------
+------------+-------------------+-----------------+----------------+----------------+---------------+
|              | 0/3  | ethernet       | up           | down         |             |
unknown    | 00:04:96:d6:f2:8d | unknown         |                | cfg-in-sync   |
+              +------+----------------+--------------+--------------+-------------+-------------
+------------+-------------------+-----------------+----------------+----------------+---------------+
~~
~~
```

```
+              +------+----------------+--------------+-------------+-------------
+------------+-------------------+----------------+----------------+---------------+
|              | 0/29 | ethernet       | up           | up          |             |
40Gbps     | 00:04:96:d6:f2:a7 | unknown         | 10.10.10.1/31  | cfg-in-sync   |
+              +------+----------------+--------------+-------------+-------------
+------------+-------------------+----------------+----------------+---------------+
|              | 0/30 | ethernet       | up           | up          |             |
100Gbps    | 00:04:96:d6:f2:a8 | unknown         | 10.10.10.15/31 | cfg-in-sync   |
+              +------+----------------+--------------+-------------+-------------
+------------+-------------------+----------------+----------------+---------------+
|              | 0/31 | ethernet       | up           | down        |             |
unknown    | 00:04:96:d6:f2:a9 | unknown         |                | cfg-refreshed |
+              +------+----------------+--------------+-------------+-------------
+------------+-------------------+----------------+----------------+---------------+
|              | 0/32 | ethernet       | up           | down        |             |
unknown    | 00:04:96:d6:f2:aa | unknown         |                | cfg-in-sync   |
+--------------+------+----------------+--------------+-------------+-------------
+------------+-------------------+----------------+----------------+---------------+
Interface Details
--- Time Elapsed: 79.1761ms ---
```

efa inventory device interface list-breakout

Lists breakout ports, including the application state that indicates if the configuration on the device is in sync or has drifted (refreshed or deleted) with respect to EFA.

efa inventory device interface list-breakout [**--ip** *device-ip*]

Parameters

--ip *device-ip*

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

The following example shows the list breakout for devices on a specific IP.

```
$ efa inventory device interface list-breakout --ip 10.20.246.18
+--------------+--------+-----------------+
|  IP Address  |  Name  |    AppState     |
+--------------+--------+-----------------+
| 10.20.246.18 | 0/52:1 | cfg-refreshed   |
+              +--------+-----------------+
|              | 0/52:2 | cfg-refreshed   |
+              +--------+-----------------+
|              | 0/52:3 | cfg-refreshed   |
+              +--------+-----------------+
|              | 0/52:4 | cfg-refreshed   |
+              +--------+-----------------+
|              | 0/53:1 | cfg-in-sync     |
+              +--------+-----------------+
|              | 0/53:2 | cfg-in-sync     |
+              +--------+-----------------+
|              | 0/53:3 | cfg-in-sync     |
+              +--------+-----------------+
|              | 0/53:4 | cfg-in-sync     |
+--------------+--------+-----------------+
```

efa inventory device interface redundant-management

Configures redundant management Ethernet (RME) on the SLX interface.

efa inventory device interface redundant-management [**--ip** *device-ip* | **--if-name** | **--enable true** | **false**]

Parameters

--ip *device-ip*

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

--if-name

Specifies only one interface name. It does not support list.

--enable true | **false**

Enables redundant management.

Usage Guidelines

The configuration you set is persisted in the EFA database.

DRC and idempotency are supported.

The command is supported only on the 9150, 9250, and 9740 SLX platforms where this feature is supported.

Internally, EFA sets PPS (packets per second) to some value when RME is enabled. For SLX 9150 and 9250, PPS will be set to 8000.

On SLX 9740, Bps (bits per second) will be set to 20000 Kbps (kilobits per second) when RME is enabled.

```
efa inventory device interface redundant-management --ip 10.20.246.10
--if-name 0/17 --enable true
```

This example turns off RME:

```
efa inventory device interface redundant-management --ip 10.20.246.10
--if-name 0/17 --enable false
```

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* | **--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. Example: 1.1.1.1-3,1.1.1.2,2.2.2.2.

--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. Example: 0/50-52,0/45,0/5:4,0/5:1-2.

--state up | **down**

State. Can be up or down.

Usage Guidelines

The configuration you set is persisted.

DRC and idempotency are supported.

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* | **--if-type eth** | **--if-name** *if-list* | **--mode 1x10g** | **1x25g** | **1x40g** | **1x100g** | **2x40g** | **2x50g** | **4x10g** | **4x25g** | **--help**]

Parameters

--ip *device-ip*

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

--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. Example: 0/50-52,0/45.

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

Configures breakout mode for the ports.

--help

Displays help.

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.

The configuration you set is persisted.

DRC and idempotency are supported.

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-fec

Configures Forwarding Error Correction (FEC) on the SLX interface.

efa inventory device interface set-fec [**--ip** *device-ip* | **--if-type eth --if-name** *if-list* **--mode fs-fec** | **rs-fec** | **auto** | **disabled**]

Parameters

--ip *device-ip*

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

--if-type eth

Specifies that the interface type is `eth` (Ethernet), which is the default setting.

--if-name *if-list*

Specifies a comma-separated list of interface names. Example: 0/50-52,0/45,0/5:4,0/5:1-2.

--mode fs-fec | **rs-fec** | **auto** | **disabled**

Specifies the FEC mode for the ports.

Usage Guidelines

The configuration you set is persisted in the EFA database.

The default value of FEC configured by SLX is auto, that is auto-negotiation.

DRC and idempotency are supported.

```
efa inventory device interface set-fec --ip 10.20.246.10
--if-type ethernet --if-name
0/20 -mode rs-fec
```

efa inventory device interface set-link-error-disable

Configures port dampening (link-error-disable) on the SLX interface. Minimizes excessive interface flapping.

efa inventory device interface set-link-error-disable [**--ip** *device-ip* | **--if-type eth --if-name** *if-list* | **--toggle-threshold** *value* | **--sampling-time** *value* | **--wait-time** *value*]

Parameters

--ip *device-ip*

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

--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. Example: 0/50-52,0/45,0/5:4,0/5:1-2.

--toggle-threshold *value*

Valid values are 1-50.

--sampling-time *value*

Valid values in seconds, are 1-65565. The default is 1.

--wait-time *value*

Valid values, in seconds, are 0-65565.

Usage Guidelines

The configuration you set is persisted in the EFA database.

DRC and idempotency are supported.

```
efa inventory device interface set-link-error-disable --ip 10.20.246.10
--if-type eth --if-name 0/20 --toggle-threshold 10 --sampling-time 20 --wait-time 10
```

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** *device-ip* | **--if-type eth** | **--if-name** *if-list* | **--mtu int** *mtu-value* | **--ip-mtu int** *ip-mtu-value* | **--ipv6-mtu int32** *ipv6-mtu-value*]

Parameters

--ip *device-ip*

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

--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. Example: 0/50-52,0/45.

--mtu *mtu-value*

Specifies the global Layer 2 MTU on a device. For SLX-OS 21.1 and later, valid values range from 1500 through 9216. For other SLX-OS versions, valid values range from 1548 through 9216.

--ip-mtu *ip-mtu-value*

Specifies the global IP MTU value on a device. For SLX IPv4 or IPv6, valid values range from 1300 through 9194.

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

Specifies the global IPv6 MTU on a device. For SLX IPv4 or IPv6, valid values range from 1300 through 9194.

Usage Guidelines

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

The configuration you set is persisted.

DRC and idempotency are supported.

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* |**--if-type eth** |**--if-name** *if-list* |**--speed 100mbps** | **1gbps** | **10gbps** | **25gbps** | **40gbps** | **100gbps** | **1GbpsAN** | **AUTO**]

Parameters

--ip *device-ip*

Specifies a comma-separated list of device IP addresses.

--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. Example: 0/50-52,0/45.

--speed 100mbps | **1gbps** | **10gbps** | **25gbps** | **40gbps** | **100gbps** | **1GbpsAN** | **AUTO**

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.

The configuration you set is persisted.

DRC and idempotency are supported.

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  |
+--------------+-----+------+----------------+------------+---------+
| 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* | **--if-type eth** | **--if-name** *if-list*]

Parameters

--ip *device-ip*

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

--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. Example: 0/50-52,0/45.

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.

The configuration you set is persisted.

DRC and idempotency are supported.

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
```

```
+--------------+--------------+----------------+----------------+---------+-----------
| 10.10.10.10  |              |                |                | 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 interface unset-fec

Unsets port Forwarding Error Correction (FEC) on the SLX interface.

efa inventory device interface unset-fec [**--ip** *device-ip* | **--if-type eth** | **--if-name** *if-list*]

Parameters

--ip *device-ip*

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

--if-type eth

Specifies that the interface type is `eth` (Ethernet), which is the default setting.

--if-name *if-list*

Specifies a comma-separated list of interface names. Example: 0/50-52,0/45,0/5:4,0/5:1-2.

Usage Guidelines

The configuration you set is persisted in the EFA database.

The default value of FEC configured by SLX is auto, that is auto-negotiation.

DRC and idempotency are supported.

```
efa inventory device interface unset-fec --ip 1.1.1.1 --if-name 0/10
+---------------+----+------+----------------+---------+--------+
|   DeviceIP    | ID | Name | Interface Type | Result  | Reason |
+---------------+----+------+----------------+---------+--------+
| 10.1.1.1      | 3  | 0/10 | ethernet       | Success |        |
+---------------+----+------+----------------+---------+--------+
Interface Details
--- Time Elapsed: 5.263239407s ---
```

efa inventory device interface unset-link-error-disable

Unsets port dampening (link-error-disable) on the SLX interface.

efa inventory device interface unset-link-error-disable [**--ip** *device-ip* |**--if-name** *if-list*]

Parameters

--ip *device-ip*

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

--if-name *if-list*

Specifies a comma-separated list of interface names. Example: 0/50-52,0/45,0/5:4,0/5:1-2.

Usage Guidelines

The configuration you set is persisted in the EFA database.

DRC and idempotency are supported.

```
efa inventory device interface unset-link-error-disable --ip 10.20.246.10 --if-type eth --
if-name 0/20
```

efa inventory device list

Lists all devices known to the inventory.

Syntax

efa inventory device list [**--orphan** | **--fabric** *name* | **--role leaf** | **spine** | **super-spine** | **--ips** *device-ips*]

Parameters

--orphan

Fetches all devices that are not associated to a fabric.

--fabric *name*

Specifies fabric name. If this modifier is used, the command shows only those devices in the specified fabric.

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

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

--ips *device-ips*

Specifies comma separated device IPs.

Examples

```
(efa:ubuntu)ubuntu@efa:~/efa$ efa inventory device list
+---------------+-----------+-------+-------------+-------------------------------
+------------+------+---------+-------------------------+----------------+-------------
+------------------+------------------+-----------------+
|  IP Address   | Host Name | Model | Chassis Name |           Firmware            |
ASN     | Role | Fabric  |    LastDiscoveryTime    | Cert/Key Saved | Admin State |
Maintenance Mode | Syslog Registered | SNMP Registered |
+---------------+-----------+-------+-------------+-------------------------------
+------------+------+---------+-------------------------+----------------+-------------
+------------------+------------------+-----------------+
| 10.139.44.156 | SLX       | 4000  | BR-SLX9540   | 20.2.2slxos20.2.2_200914_1800 |
4200000000 | Leaf | fabric1 | 2021-07-12 12:08:21 EDT | Y              | up          |
Disable          | Y                | Y               |
+---------------+-----------+-------+-------------+-------------------------------
+------------+------+---------+-------------------------+----------------+-------------
+------------------+------------------+-----------------+
| 10.139.44.155 | SLX       | 4000  | BR-SLX9540   | 20.2.2slxos20.2.2_200914_1800 |
4200000000 | Leaf | fabric1 | 2021-07-12 12:08:35 EDT | Y              | up          |
Disable          | Y                | Y               |
+---------------+-----------+-------+-------------+-------------------------------
+------------+------+---------+-------------------------+----------------+-------------
+------------------+------------------+-----------------+
Device Details
--- Time Elapsed: 50.054451ms ---
```

```
(efa:ubuntu)ubuntu@efa:~/efa$ efa inventory device register --ip 10.139.44.154
--username=admin --password=password

+----+---------------+-----------+-------+-------------+-------------------------------
+---------+--------+
| ID |  IP Address   | Host Name | Model | Chassis Name |           Firmware            |
```

```
Status  | Reason |
+----+---------------+-----------+-------+--------------+-------------------------------
+---------+--------+
| 5  | 10.139.44.154 | SLX       | 4000  | BR-SLX9540   | 20.2.2slxos20.2.2_200914_1800 |
Success |        |
+----+---------------+-----------+-------+--------------+-------------------------------
+---------+--------+
Device Details
--- Time Elapsed: 1m3.894741089s ---
```

```
(efa:ubuntu)ubuntu@efa:~/efa$ efa inventory device list
+---------------+-----------+-------+--------------+-------------------------------
+------------+------+---------+-------------------------+----------------+-------------
+------------------+------------------+-----------------+
|  IP Address   | Host Name | Model | Chassis Name |           Firmware            |
ASN     | Role | Fabric  |    LastDiscoveryTime    | Cert/Key Saved | Admin State |
Maintenance Mode | Syslog Registered | SNMP Registered |
+---------------+-----------+-------+--------------+-------------------------------
+------------+------+---------+-------------------------+----------------+-------------
+------------------+------------------+-----------------+
| 10.139.44.156 | SLX       | 4000  | BR-SLX9540   | 20.2.2slxos20.2.2_200914_1800 |
4200000000 | Leaf | fabric1 | 2021-07-12 12:08:21 EDT | Y              | up          |
Disable          | Y                | Y               |
+---------------+-----------+-------+--------------+-------------------------------
+------------+------+---------+-------------------------+----------------+-------------
+------------------+------------------+-----------------+
| 10.139.44.155 | SLX       | 4000  | BR-SLX9540   | 20.2.2slxos20.2.2_200914_1800 |
4200000000 | Leaf | fabric1 | 2021-07-12 12:08:35 EDT | Y              | up          |
Disable          | Y                | Y               |
+---------------+-----------+-------+--------------+-------------------------------
+------------+------+---------+-------------------------+----------------+-------------
+------------------+------------------+-----------------+
| 10.139.44.154 | SLX       | 4000  | BR-SLX9540   | 20.2.2slxos20.2.2_200914_1800
|            |      |         | 2021-07-12 13:16:20 EDT | Y              | up          |
Disable          | Y                | Y               |
+---------------+-----------+-------+--------------+-------------------------------
+------------+------+---------+-------------------------+----------------+-------------
+------------------+------------------+-----------------+
Device Details
--- Time Elapsed: 55.690394ms ---
```

efa inventory device lldp list

Lists the LLDP neighbors for a device.

efa inventory device lldp list [**--ip** *device-ip* | **--type all | edge | fabric**]

Parameters

--ip *device-ip*

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

--type all | edge | fabric

Type of neighbors. The default is `all`.

This example demonstrates how to fetch LLDP neighbors of type fabric:

```
efa inventory device lldp list --ip 10.20.246.1 --type fabric
+------------+----------------+---------------+----------+-----------------
+---------------------+-------------------+-----------------------------+
```

```
|  DeviceIP   | Local Interface | Local Int MAC  | PO Number | Remote Interface | Remote
Interface MAC | Remote System Name | Remote Interface Description |
+-------------+-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
| 10.20.246.1 | Ethernet 0/13   | f46e.95a2.b813 |           | Ethernet 0/13    |
f46e.95a0.c813       | NH-2               | Eth 0/13                     |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/14   | f46e.95a2.b814 |           | Ethernet 0/14    |
f46e.95a0.c815       | NH-2               | clusterPeerIntfMember        |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/15   | f46e.95a2.b815 |           | Ethernet 0/15    |
f46e.95a0.c815       | NH-2               | clusterPeerIntfMember        |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/31   | f46e.95a2.b825 |           | Ethernet 0/3     |
489b.d57f.f009       | Bl1                | Link to 10.20.246.1 Spine    |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/32   | f46e.95a2.b826 |           | Ethernet 0/3     |
489b.d57f.6809       | Bl2                | Link to 10.20.246.1 Spine    |
+-------------+-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+

LLDP Neighbor Details

--- Time Elapsed: 30.864116ms ---
```

To fetch all LLDP neighbors of type edge:

```
efa inventory device lldp list --ip 10.20.246.1 --type edge
+-------------+-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|  DeviceIP   | Local Interface | Local Int MAC  | PO Number | Remote Interface | Remote
Interface MAC | Remote System Name | Remote Interface Description |
+-------------+-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
| 10.20.246.1 | Ethernet 0/1    | f46e.95a2.b807 |           | Ethernet 0/1     |
609c.9f87.0a05       | SLX                | Eth 0/1                      |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/2    | f46e.95a2.b808 |           | Ethernet 0/2     |
609c.9f87.0a06       | SLX                | Eth 0/2                      |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/4    | f46e.95a2.b80a |           | Ethernet 0/4     |
609c.9f87.0c08       | SLX                | Eth 0/4                      |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/5    | f46e.95a2.b80b |           | Ethernet 0/5     |
609c.9fcd.f309       | Cedar_06           | Eth 0/5                      |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/6    | f46e.95a2.b80c |           | Ethernet 0/6     |
609c.9fcd.f30a       | Cedar_06           | Eth 0/6                      |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/7    | f46e.95a2.b80d |           | Ethernet 0/7     |
609c.9fcd.d50b       | SLX                | Eth 0/7                      |
+             +-----------------+----------------+-----------+------------------
+----------------------+--------------------+------------------------------+
|             | Ethernet 0/8    | f46e.95a2.b80e |           | Ethernet 0/8     |
609c.9fcd.d50c       | SLX                | Eth 0/8                      |
+             +-----------------+----------------+-----------+------------------
```

```
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/21   | f46e.95a2.b81b |           | Ethernet 0/25    |
78a6.e145.5c2f       | L41               | Link to 10.20.246.1 Spine    |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/22   | f46e.95a2.b81c |           | Ethernet 0/25    |
d884.66ea.012f       | L42               | Link to 10.20.246.1 Spine    |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/24   | f46e.95a2.b81e |           | Ethernet 0/53    |
f46e.959f.1744       | SLX               | Eth 0/53                     |
+-------------+-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+

LLDP Neighbor Details

--- Time Elapsed: 28.056793ms ---
```

To get all LLDP neighbors, either specify `–type` as `all` or skip that parameter:

```
efa inventory device lldp list --ip 10.20.246.1 --type all
+-------------+-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|  DeviceIP   | Local Interface | Local Int MAC  | PO Number | Remote Interface | Remote
Interface MAC | Remote System Name | Remote Interface Description |
+-------------+-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
| 10.20.246.1 | Ethernet 0/1    | f46e.95a2.b807 |           | Ethernet 0/1     |
609c.9f87.0a05       | SLX               | Eth 0/1                      |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/2    | f46e.95a2.b808 |           | Ethernet 0/2     |
609c.9f87.0a06       | SLX               | Eth 0/2                      |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/4    | f46e.95a2.b80a |           | Ethernet 0/4     |
609c.9f87.0c08       | SLX               | Eth 0/4                      |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/5    | f46e.95a2.b80b |           | Ethernet 0/5     |
609c.9fcd.f309       | Cedar_06          | Eth 0/5                      |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/6    | f46e.95a2.b80c |           | Ethernet 0/6     |
609c.9fcd.f30a       | Cedar_06          | Eth 0/6                      |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/7    | f46e.95a2.b80d |           | Ethernet 0/7     |
609c.9fcd.d50b       | SLX               | Eth 0/7                      |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/8    | f46e.95a2.b80e |           | Ethernet 0/8     |
609c.9fcd.d50c       | SLX               | Eth 0/8                      |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/13   | f46e.95a2.b813 |           | Ethernet 0/13    |
f46e.95a0.c813       | NH-2              | Eth 0/13                     |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/14   | f46e.95a2.b814 |           | Ethernet 0/14    |
f46e.95a0.c815       | NH-2              | clusterPeerIntfMember        |
+             +-----------------+---------------+-----------+-----------------
+---------------------+--------------------+-----------------------------+
|             | Ethernet 0/15   | f46e.95a2.b815 |           | Ethernet 0/15    |
f46e.95a0.c815       | NH-2              | clusterPeerIntfMember        |
```

```
+             +-----------------+---------------+-----------+-----------------
+----------------------+--------------------+-----------------------------+
|             | Ethernet 0/21   | f46e.95a2.b81b |           | Ethernet 0/25    |
78a6.e145.5c2f       | L41               | Link to 10.20.246.1 Spine    |
+             +-----------------+---------------+-----------+-----------------
+----------------------+--------------------+-----------------------------+
|             | Ethernet 0/22   | f46e.95a2.b81c |           | Ethernet 0/25    |
d884.66ea.012f       | L42               | Link to 10.20.246.1 Spine    |
+             +-----------------+---------------+-----------+-----------------
+----------------------+--------------------+-----------------------------+
|             | Ethernet 0/24   | f46e.95a2.b81e |           | Ethernet 0/53    |
f46e.959f.1744       | SLX               | Eth 0/53                     |
+             +-----------------+---------------+-----------+-----------------
+----------------------+--------------------+-----------------------------+
|             | Ethernet 0/31   | f46e.95a2.b825 |           | Ethernet 0/3     |
489b.d57f.f009       | B11               | Link to 10.20.246.1 Spine    |
+             +-----------------+---------------+-----------+-----------------
+----------------------+--------------------+-----------------------------+
|             | Ethernet 0/32   | f46e.95a2.b826 |           | Ethernet 0/3     |
489b.d57f.6809       | B12               | Link to 10.20.246.1 Spine    |
+-------------+-----------------+---------------+-----------+-----------------
+----------------------+--------------------+-----------------------------+

LLDP Neighbor Details

--- Time Elapsed: 139.100194ms ---
```

efa inventory device ntp disable-server

Lists NTP servers configured using EFA.

efa inventory device ntp disable-server [**--ip** *device-ip* | **--enable yes** | **no** | **--list** | **--fabric** *name*]

Parameters

--ip *device-ip*

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

--enable yes | no

Turns off the NTP server.

--list

Lists disable-server on devices.

--fabric *name*

Fabric name.

To turn off an NTP server on a given device:

```
efa inventory device ntp disable-server --enable yes --ip 10.20.246.10
```

To turn on an NTP server on a given device:

```
efa inventory device ntp disable-server --enable no --ip 10.20.246.10
```

To turn off an NTP server at the fabric level:

```
efa inventory device ntp disable-server --enable yes --fabric clos_fabric
```

To turn on an NTP server at the fabric level:

```
efa inventory device ntp disable-server --enable no --fabric clos_fabric
```

efa inventory device ntp server create

Creates an NTP server.

efa inventory device ntp server create [**--ip** *device-ip* | **--ntp-ip** *ntp-ip* | **--auth-key** *key* | **--auth-key-name** *key-name* | **--encryption-type md5** | **sha1** | **--trusted-key** | **--fabric** *name*]

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example: 1.1.1.1-3,1.1.1.2,2.2.2.2. Required if you do not specify `fabric`.

--ntp-ip *ntp-ip*

NTP server IP address.

--auth-key *key*

Authentication key ID. Values can be from 1 to 65535.

--auth-key-name *key-name*

Key name.

--encryption-type md5 | **sha1**

Encryption type. Valid values are md5 and sha1.

--trusted-key *key*

Trusted key.

--fabric *name*

Fabric name. Required if you do not specify `ip`.

Usage Guidelines

The command creates an NTP server. By default, EFA sets the key name to be encrypted 7. SLX supports encryption levels of 0 (clear text) and 7 (encrypted).

Here, one `auth-key` id can be used by different NTP servers in SLX. To simplify, EFA enforces a unique key id per NTP server. Here, device IP addresses and fabric options are mutually exclusive.

```
efa inventory device ntp server create -ntp-ip 3.3.3.3
--auth-key 1 --auth-key-name ntpsecret --encryption-type md5 -trusted-key
--ip 10.20.246.10
```

```
efa inventory device ntp server create -ntp-ip 3.3.3.3 --auth-key 1
--auth-key-name ntpsecret --encryption-type md5 -trusted-key --fabic clos_fabric
```

efa inventory device ntp server delete

Deletes an NTP server.

efa inventory device ntp server delete [**--ip** *device-ip* | **--ntp-ip** *ntp-ip* | **--fabric** *name*]

Parameters

--ip *device-ip*

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

--ntp-ip *ntp-ip*

NTP server IP address.

--fabric *name*

Fabric name.

```
efa inventory device ntp server delete --ntp-ip 3.3.3.3
--ip 10.20.246.10
```

```
efa inventory device ntp server delete
--ntp-ip 3.3.3.3 --fabric clos_fabric
```

efa inventory device ntp server list

Lists NTP servers configured using EFA.

efa inventory device ntp server list [**--ip** *device-ip* | **--fabric** *name*]

Parameters

--ip *device-ip*

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

--fabric *name*

Fabric name

```
efa inventory device ntp server list --ip 10.20.246.10
```

```
efa inventory device ntp server list --fabric clos_fabric
```

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**]

Parameters

--ip *ip-ist*

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

--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.

efa inventory device setting show

Displays device setting show.

Syntax

efa inventory device setting show [**--ip** *device-ip*]

Parameters

--ip *device-ip*

Specifies IP address of the device.

efa inventory device setting update

Configures device settings.

Syntax

efa inventory device setting update [**--ip** *device-ip* | **--maint-mode-enable-on-reboot Yes** | **No** | **--maint-mode-enable Yes** | **No** | **--health-check-enable Yes** | **No** | **--health-check-interval** *minutes*| **--health-check-heartbeat-miss-threshold 2** | **3** |**4** | **5** | **--config-backup-periodic-enable Yes** | **No** | **--config-backup-interval** *interval* | **--number-of-config-backups** *count*]

Parameters

--ip *device-ip*

Specifies IP address of the device.

--maint-mode-enable-on-reboot Yes | **No**

Specify Yes to activate maintenance mode on reboot and No to deactivate it.

--maint-mode-enable Yes | **No**

Specify Yes to activate maintenance mode and No to deactivate it.

--health-check-enable Yes | **No**

Specify Yes to turn on health check and No to turn off health check.

--health-check-interval *minutes*

Specifies health check interval in minutes. Valid values are 6 m-24 h.

--health-check-heartbeat-miss-threshold 2 | **3** |**4** | **5**

Specifies health check miss threshold. Valid values are 2-5.

--config-backup-periodic-enable Yes | **No**

Specify Yes to turn on periodic configuration backup and No to turn it off.

--config-backup-interval *interval*

Specifies configuration backup interval, in minutes. Valid values are 3m-30h. The default is 24h.

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

Specifies configuration backup count. Valid values are 2-20. The default is 4.

efa inventory device snmp community create

Creates an SNMP community and SNMP group.

efa inventory device snmp community create [**--ip** *device-ip* | **--name** *community* | **--group** *group* | **--enable-read-access** | **--enable-write-access** | **--enable-notify-access**]

Parameters

--ip *device-ip*

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

--name *community*

Specifies an SNMP community name.

--group *group*

Specifies an SNMP group name.

--enable-read-access

Sets read access for the view.

--enable-write-access

Sets write access for the view.

--enable-notify-access

Sets notify access for the view.

Usage Guidelines

The command creates the SNMP community along with the SNMP group. This command is valid for SNMP v2c version only.

EFA internally creates the v2 group and manages the community to group mapping. The group is created on the first community that is associated with the group.

Examples

```
efa inventory device snmp community create --name tempv2community
--group tempv2group --enable-read-access --enable-write-access
--enable-notify-access --ip 10.20.246.10
```

efa inventory device snmp community delete

Deletes an SNMP community.

efa inventory device snmp community delete [**--ip** *device-ip* **--name** *community*]

Parameters

--ip *device-ip*

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

--name *community*

Specifies an SNMP community name.

Usage Guidelines

The command deletes the SNMP community. This command is valid for SNMP v2c version only.

EFA internally manages the community to group mapping and deletes the group if this is the last community associated with the group.

The SNMP group is automatically deleted when the last SNMP community associated with the group is removed. If you want to edit SNMP group attributes, all the corresponding communities must be deleted and created with modified group settings.

```
efa inventory device snmp community delete --name tempv2community
 --ip 10.20.246.10
```

efa inventory device snmp community list

Lists SNMP communities.

efa inventory device snmp community list [**--ip** *device-ip*]

Parameters

--ip *device-ip*

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

The command lists SNMP communities. This command is valid for SNMP v2c version only.

```
efa inventory device snmp community list --ip 10.20.246.1-2

+-------------+------------------------------+---------+-----------+------------
+-------------+-----------------+
| IP Address  |       Community Name         |  Group  | Read view | Write view | Notify
view |    AppState     |
+-------------+------------------------------+---------+-----------+------------
+-------------+-----------------+
| 10.20.246.2 | $9$jcpLTpu9FlqFFcWN7uhHig== |         |           |
|             | cfg-not-managed |
+-------------+------------------------------+---------+-----------+------------
+-------------+-----------------+
| 10.20.246.2 | $9$smklvisSghOZEQvXJKBDeA== | cgrp1   | efav3View | efav3View
|             | cfg-in-sync     |
+-------------+------------------------------+---------+-----------+------------
+-------------+-----------------+
| 10.20.246.1 | $9$Y4Cy6IcflH9B0KM932JUNw== | v2group | efav3View | efav3View
|             | cfg-not-managed |
+-------------+------------------------------+---------+-----------+------------
+-------------+-----------------+
| 10.20.246.1 | $9$yS/jSs6dBJyG5o0yy+coKw== |         |           |
|             | cfg-not-managed |
+-------------+------------------------------+---------+-----------+------------
+-------------+-----------------+
| 10.20.246.1 | $9$kR+plantb3TRIgkiBkV83Q== | v2group | efav3View | efav3View
|             | cfg-not-managed |
+-------------+------------------------------+---------+-----------+------------
+-------------+-----------------+
| 10.20.246.1 | $9$mdDWwNPg2OmO4Fqnodl+Bw== | gtest1  | efav3View | efav3View
|             | cfg-not-managed |
+-------------+------------------------------+---------+-----------+------------
+-------------+-----------------+
| 10.20.246.1 | $9$smklvisSghOZEQvXJKBDeA== | cgrp1   | efav3View | efav3View
|             | cfg-in-sync     |
+-------------+------------------------------+---------+-----------+------------
+-------------+-----------------+
```

```
Snmp community details
```

efa inventory device snmp host create

Creates an SNMP v2c or v3 host.

efa inventory device snmp host create [**--ip** *device-ip* | **--host-ip IPv4** | **IPv6** | **FQDN** |**--community** *community* | **--user** *user* | **--version v2c** | **v3** | **--notify-type traps** | **informs** | **--engine-id** *remote_id*]

Parameters

--ip *device-ip*

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

--host-ip IPv4 | **IPv6** | **FQDN**

Specifies a host IP address.

--community *community*

Specifies a community name. Applicable for v2c only.

--user *user*

Specifies an SNMP v3 user.

--version v2c | **v3**

Specifies the SNMP version.

--notify-type traps | **informs**

Specifies the notification type. Informs are valid for v3 only.

--engine-id *remote_id*

Specifies the remote engine ID of manager.

Hex string format with a colon as a separator. The string size must be between 10-65. Example: 02:03:04:05:06.

Usage Guidelines

The command creates an SNMP v2c or v3 host.

Engine-id and informs are applicable only for SNMP v3 hosts.

```
efa inventory device snmp host create --host-ip 20.20.20.2
--community tempv2community --version v2c --notify-type traps
--ip 10.20.246.10
```

```
efa inventory device snmp host create -host-ip 30.30.30.2
--user v3user --version v3 --notify-type informs -engine-id 02:03:04:05:06
--ip 10.20.246.10
```

efa inventory device snmp host delete

Deletes an SNMP v2c or v3 host.

efa inventory device snmp host delete [**--ip** *device-ip* | **--host-ip IPv4** | **IPv6** | **FQDN** | **--community** *community* | **--user** *username*]

Parameters

--ip *device-ip*

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

--host-ip IPv4 | **IPv6** | **FQDN**

Specifies an SNMP host address.

--community *community*

Specifies an SNMP community. Applicable for v2c only.

--user *username*

Specifies an SNMP v3 user.

```
efa inventory device snmp host delete
--host-ip 20.20.20.2 --community tempv2community --ip 10.20.246.10
```

```
efa inventory device snmp host delete
--host-ip 30.30.30.2 --user v3user --ip 10.20.246.10
```

efa inventory device snmp host list

Lists SNMP v2c or v3 hosts.

efa inventory device snmp host list [**--ip** *device-ip*]

Parameters

--ip *device-ip*

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

```
efa inventory device snmp host list --ip 10.20.246.2

+-------------+---------------+-----------+-----------------------------+-------------
+----------------------------+-----------------------+-------------+----------+----------
+-----------------+
| IP Address  |    Host IP    |   User    |          Community          | Notify Type
|          EngineID          |   Source Interface    |     Vrf     | UDP port | Severity
|    AppState     |
+-------------+---------------+-----------+-----------------------------+-------------
+----------------------------+-----------------------+-------------+----------+----------
+-----------------+
| 10.20.246.2 | 10.20.255.241 | efav3User |                             | traps       |
00:00:00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf    | 162      | None     |
cfg-not-managed |
+-------------+---------------+-----------+-----------------------------+-------------
+----------------------------+-----------------------+-------------+----------+----------
+-----------------+
| 10.20.246.2 | 10.20.241.10  | efav3User |                             | traps       |
00:00:00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf    | 162      | None     |
```

```
cfg-not-managed |
+-------------+---------------+-----------+-----------------------------+-------------
+-----------------------------+-----------------------+-------------+----------+----------
+-----------------+
| 10.20.246.2 | 10.20.241.24  | efav3User |                             | traps       |
00:00:00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf    | 162      | None     |
cfg-not-managed |
+-------------+---------------+-----------+-----------------------------+-------------
+-----------------------------+-----------------------+-------------+----------+----------
+-----------------+
| 10.20.246.2 | 10.20.241.7   | efav3User |                             | traps       |
00:00:00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf    | 162      | None     |
cfg-not-managed |
+-------------+---------------+-----------+-----------------------------+-------------
+-----------------------------+-----------------------+-------------+----------+----------
+-----------------+
| 10.20.246.2 | 10.20.241.85  | efav3User |                             | traps       |
00:00:00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf    | 162      | None     |
cfg-not-managed |
+-------------+---------------+-----------+-----------------------------+-------------
+-----------------------------+-----------------------+-------------+----------+----------
+-----------------+
| 10.20.246.2 | 10.20.255.115 | efav3User |                             | traps       |
00:00:00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf    | 162      | None     |
cfg-not-managed |
+-------------+---------------+-----------+-----------------------------+-------------
+-----------------------------+-----------------------+-------------+----------+----------
+-----------------+
| 10.20.246.2 | 3.3.3.3       | user7     |                             | informs     |
02:03:04:05:06              | management chassis-ip | mgmt-vrf    | 162      | None     |
cfg-in-sync     |
+-------------+---------------+-----------+-----------------------------+-------------
+-----------------------------+-----------------------+-------------+----------+----------
+-----------------+
```

efa inventory device snmp user create

Creates an SNMP user and SNMP group.

efa inventory device snmp user create [**--ip** *device-ip* | **--name** *community* | **--group** *group* | **--enable-read-access** | **--enable-write-access** | **--enable-notify-access** | **--auth-protocol md5** | **sha** | **--auth-passphrase** *authphrase* | **--priv-protocol AES128** | **DES** | **--priv-passphrase** *privphrase*]

Parameters

--ip *device-ip*

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

--name *community*

Specifies an SNMP community name.

--group *group*

Specifies an SNMP group name.

--enable-read-access

Sets read access for the view.

--enable-write-access

Sets write access for the view.

--enable-notify-access

Sets notify access for the view.

--auth-protocol md5 | **sha**

Sets notify access for the view. This parameter is set to off, by default.

--auth-passphrase *passphrase*

Authentication password.

--priv-protocol AES128 | **DES**

Privacy protocol.

--priv-passphrase *privphrase*

Privacy password.

Usage Guidelines

The command creates an SNMP user along with an SNMP group. This command is valid for SNMP v3 version only.

SLX stores the `auth-passphrase` and `priv-passphrase` in encrypted format. By default, EFA encrypts all passwords.

EFA internally creates the v3 group and manages the user to group mapping. The group is created with the first user associated with the group.

The SNMP group is automatically deleted when the last SNMP community associated with the group is removed. If you want to edit SNMP group attributes, all the corresponding users must be deleted and created with modified group settings.

```
efa inventory device snmp user create --ip 10.20.246.10 --name tempv3user --group
tempv3group
--enable-read-access --enable-write-access --enable-notify-access --auth-protocol md5
--auth-passphrase tempv3passwd --priv-protocol AES128 --priv-passphrase tempv3priv
```

efa inventory device snmp user delete

Deletes an SNMP user.

efa inventory device snmp user delete [**--ip** *device-ip* **--name** *user*]

Parameters

--ip *device-ip*

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

--name *user*

Specifies an SNMP user name.

Usage Guidelines

The command deletes the SNMP user. This command is valid for SNMP v3 version only.

```
efa inventory device snmp user delete --name tempv3user --ip 10.20.246.10
```

efa inventory device snmp user list

Lists SNMP users.

efa inventory device snmp user list [**--ip** *device-ip*]

Parameters

--ip *device-ip*

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

Usage Guidelines

The command lists SNMP users. This command is valid for SNMP v3 version only.

```
+-------------+-----------+------------+-----------+------------+-------------
+------------+--------------------------------+------------+------------------------------
+-----------------+
| IP Address  |   User    |   Group    | Read view | Write view | Notify view | Auth
proto |       Auth passphrase        | Priv proto |       Priv passphrase        |
AppState     |
+-------------+-----------+------------+-----------+------------+-------------
+------------+--------------------------------+------------+------------------------------
+-----------------+
| 10.20.246.2 | efav3User | efav3Group |           |            | efav3View
|            | LlgMJxy1dZfAfPydPDdFTNNtkpw= | AES128     | 53IJSJKiK/A6UFLVd9+ZkkclIJs= |
cfg-not-managed |
+-------------+-----------+------------+-----------+------------+-------------
+------------+--------------------------------+------------+------------------------------
+-----------------+
| 10.20.246.2 | user7     | grp7       | efav3View | efav3View  | efav3View   |
md5        | b5aBENIRB8lC387SzMk2gw==     | DES        | b5aBENIRB8lC387SzMk2gw==     |
cfg-in-sync     |
+-------------+-----------+------------+-----------+------------+-------------
+------------+--------------------------------+------------+------------------------------
+-----------------+
| 10.20.246.1 | efav3User | efav3Group |           |            | efav3View
|            | LlgMJxy1dZfAfPydPDdFTNNtkpw= | AES128     | 53IJSJKiK/A6UFLVd9+ZkkclIJs= |
cfg-not-managed |
+-------------+-----------+------------+-----------+------------+-------------
+------------+--------------------------------+------------+------------------------------
+-----------------+
| 10.20.246.1 | user7     | grp7       | efav3View | efav3View  | efav3View   |
md5        | b5aBENIRB8lC387SzMk2gw==     | DES        | b5aBENIRB8lC387SzMk2gw==     |
cfg-in-sync     |
+-------------+-----------+------------+-----------+------------+-------------
+------------+--------------------------------+------------+------------------------------
+-----------------+

Snmp user details
```

efa inventory device timezone

Configures a timezone on an SLX device.

efa inventory device timezone [**--ip** *device-ip* | **--set** *string* | **--unset** | **--list** | **--debug-show**]

Parameters

--ip *device-ip*

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

--set *string*

Timezone value. Some of the valid values are America/Los_Angeles, Asia/Kolkata, Europe/Paris, Africa/Algiers.

--unset

Unsets the timezone. Default timezone of switch GMT will be set.

--list

Lists the timezones for devices.

--debug-show

Displays the list of valid timezones supported.

```
efa inventory device timezone --set America/Los_Angeles --ip 10.20.246.10
```

```
efa inventory device timezone --set Europe/Paris  --ip 10.20.246.12
```

```
efa inventory device timezone --unset --ip 10.20.246.13
```

efa inventory device tpvm-upgrade execute

Asynchronously launches the TPVM upgrade process.

efa inventory device tpvm-upgrade execute [**--ip** *device-ip* | **--firmware-host** *firmware-host-ip-address* | **--tpvm-image***tpvm-image-path-on-firmware-host* | **--trusted-peer-sudo-user** *sudo-user-id* | **--trusted-peer-password** *sudo-user-password*]

Parameters

--ip *device-ip*

Specifies the IP address of the device.

--firmware-host *firmware-host-ip-address*

Specifies the IP address of the firmware host. The host must be registered beforehand.

--tpvm-image *tpvm-image-path-on-firmware-host*

Specifies the path and file name of the TPVM deb file located on the `firmware-host`.

--trusted-peer-sudo-user *sudo-user-id*

Specifies the user ID of the trusted peer sudo user to be reconfigured after TPVM is upgraded. If you do not specify a user, the default sudo user is used: `extreme`.

--trusted-peer-password *sudo-user-password*

Specifies the password of the trusted peer sudo user to be reconfigured after TPVM is upgraded.

This example successfully upgrades TPVM.

```
$ efa inventory device tpvm-upgrade execute --ip 10.20.245.9
--firmware-host 10.20.241.101 --tpvm-image /build/slx/tpvm/tpvm-4.2.2-1.amd64.deb
--trusted-peer-sudo-user <sudo-user-id> --trusted-peer-password <sudo-user-password>

TPVM Upgrade Execute [success]

Monitor TPVM upgrade execution progress using:

 efa inventory device tpvm-upgrade show --ip 10.20.245.9

 efa inventory device tpvm-upgrade show --uuid b32eee26-8b59-4bc5-8ab3-1f9884e89929
```

efa inventory device tpvm-upgrade show

Polls and monitors the progress of the TPVM upgrade workflow.

efa inventory device tpvm-upgrade show [**--ip** *device-ip* |**--uuid** *uuid*]

Parameters

--ip *device-ip*

Specifies the IP address of the device.

--uuid *uuid*

The UUID provided from the `tpvm-upgrade execute` command. This parameter can be used instead of the `--ip` parameter.

```
+------------+-----------+-------+--------------+-----+------+----------------------
+----------------------+--------------+
| IP Address | Host Name | Model | Chassis Name | ASN | Role | Current TPVM Version |
Target TPVM Version | Update State |
+------------+-----------+-------+--------------+-----+------+----------------------
+----------------------+--------------+
| 10.24.0.54 | SLX       | 4004  | SLX9740-40C  | 0   | Leaf | 4.2.4                |
4.2.4               | In Progress  |
+------------+-----------+-------+--------------+-----+------+----------------------
+----------------------+--------------+

+----------------------+---------------------------------+------------------------------
+--------------------------------+
|        Status        |        Detailed Status          |          Start Time
|       Last Update Time        |
+----------------------+---------------------------------+------------------------------
+--------------------------------+
| TPVM Upgrade Started | Starting the new TPVM instance | 2021-06-23 08:58:48 -0700 PDT |
2021-06-23 09:04:00 -0700 PDT |
+----------------------+---------------------------------+------------------------------
+--------------------------------+

--- Time Elapsed: 159.138103ms -
TPVM Upgrade Show Details
```

```
TPVM Upgrade Show Status [In Progress]
--- Time Elapsed: 159.138103ms ---
```

efa inventory device update

Updates the Asset service with the latest information from the switch.

Syntax

efa inventory device update --ip *device-ip* | **--fabric** *fabric-name* | **--username** *username* | **--password** *password*

Parameters

--ip *device-ip*

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

--fabric *fabric-name*

Specifies the fabric of the devices that you want to synchronize.

--username *username*

Specifies the user name to connect to the device. If the user name must be updated, use this option.

--password *password*

Specifies the password to connect to the device. If the password must be updated, use this option.

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*]

efa inventory drift-reconcile execute [**--ip** *ip-address* | **--reconcile**]

efa inventory drift-reconcile delete [**--key ip-address | dr-uuid**]

efa inventory drift-reconcile detail [**--uuid** *dr-uuid*]

Parameters

detail

Displays drift-reconcile detail.

delete

Deletes the drift-reconcile record.

execute

Runs drift-reconcile.

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**]

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

Parameters

--id

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

--limit int32

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

--status

Filters the executions based on the status (failed, succeeded, all). The 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*]

Parameters

--ip *host-ips*

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

efa inventory firmware-host register

Registers the firmware host that 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 run.

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 a key-value pair.

Syntax

efa inventory kvstore create [**--key** | **--value** | **--encrypt**]

efa inventory kvstore delete [**--key**]

efa inventory kvstore list [**--decrypt** | **--key** | **--prefix**]

Parameters

create

Creates a key-value pair.

delete

Deletes a key-value pair.

list

Lists all a key-value store entries or filtered by key.

--decrypt

Decrypts secret fields.

--encrypt

Encrypts.

--key

Specifies a key-value pair name.

--prefix

Retrieve list of a key-value pairs matching the prefix.

--value

Specifies a value for the key.

efa inventory rma

Initiates Return Material Authorization (RMA).

Syntax

efa inventory rma history [**--ip** *ip-address*]

efa inventory rma detail [**--uuid** *uuid*]

efa inventory rma delete [**--key** *ip-address*]

efa inventory rma execute [**--ip** *ip-address* |**--config-backup-id** *uuid*]

Parameters

history

Displays RMA history for the specified IP address.

detail

Displays device replacement detail.

delete

Deletes the RMA record for the specified IP address.

execute

Performs RMA for the device with the given IP address.

--config-backup-id *uuid*

Specifies the UUID of the configuration to be replayed.

--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**]

Parameters

--username

Specifies name of the user to login.

--password

Specifies password of the user.

efa logout

Logs out of the EFA application.

Syntax

```
efa 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.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 Reliable Event Logging Protocol (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*.

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*

Parameters

id

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

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.

efa openstack debug router-route delete

Debug command for deleting routes in the specified router.

efa openstack debug router-route delete [**--router-id** *router-id* | **--destination** *destination* | **--nexthop** *ip*]

Parameters

--router-id *router-id*

Specifies a comma-separated range of router IDs.

--destination *destination*

Destination CIDR.

--nexthop *ip*

Nexthop IP.

For IPv4:

```
efa openstack debug router-route delete --router-id f8a44de0-fc8e-45df-93c7-f79bf3b01c95
--destination 10.56.6.0/22 --nexthop 10.56.6.1
```

For IPv6:

```
efa openstack debug router-route delete
--router-id f8a44de0-fc8e-45df-93c7-f79bf3b01c95 --destination 101::/64 --nexthop 11::1
```

efa openstack execution

Provides OpenStack execution commands.

Syntax

efa openstack execution delete [**--days int32**]

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

Parameters

delete

Deletes execution entries older than the specified days

--days int32

Deletes execution entries older than the specified days. The default is 30.

--id

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

--limit int32

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

show

Displays the list of executions.

--status

Filters the executions based on the status (failed, succeeded, all). The 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 router-route show

Displays routes on the specified router.

efa openstack router-route show [**--id** *router-id*]

Parameters

--id *router-id*

Router ID

```
efa openstack router-route show --id f8a44de0-fc8e-45df-93c7-f79bf3b01c95
+--------------------------------------+-------------+------------
+---------------------------+
|              Router ID               | Destination  | Nexthop IP |        Device
IPs         |
+--------------------------------------+-------------+------------
+---------------------------+
| f8a44de0-fc8e-45df-93c7-f79bf3b01c95 | 10.56.6.0/22 | 10.56.6.1  |
10.25.25.100,10.25.25.100 |
+--------------------------------------+-------------+------------
+---------------------------+
| f8a44de0-fc8e-45df-93c7-f79bf3b01c95 | 10.56.6.0/22 | 10.56.6.1  |
10.25.25.100,10.25.25.101 |
+--------------------------------------+-------------+------------
+---------------------------+
| f8a44de0-fc8e-45df-93c7-f79bf3b01c95 | 101::/64     | 11::1      |
10.25.25.100,10.25.25.101 |
+--------------------------------------+-------------+------------
+---------------------------+
| f8a44de0-fc8e-45df-93c7-f79bf3b01c95 | 101::/64     | 11::1      |
10.25.25.100,10.25.25.101 |
+--------------------------------------+-------------+------------
+---------------------------+
```

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*]

Note
There is no output for this command.

Parameters

--tenant

The name of the tenant

efa rbac execution

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

Syntax

efa rbac execution show [**--id** | **--limit***exec-limit* | **--status failed | succeeded | all**]

efa rbac execution delete [**--day** *days*]

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.

--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 static and dynamic roles available in EFA.

Syntax

efa rbac role show [**--name** *role-name*]

Parameters

--name *role-name*

Specifies name of the role.

Usage Guidelines

Output of the command is as follows.

Role	Description
FabricAdmin	• Registers devices to the fabric • Configures fabric parameters • Validates all devices in the fabric • Configures switches for IP fabric with overlay and without overlay • Creates tenants • Creates networks inside tenants, such as VRF, EPG, and PO • Performs fabric debug activities • Has privileges for OpenStack, Hyper-V, and vCenter operations
SecurityAdmin	Performs user management, PKI, and key management operations
NetworkOperator	• Has view-only privileges for fabric configurations, information for tenants and inventory, and all ecosystem information • Cannot make changes in the system
SystemDebugger	• Has privileges to perform supportsave and system backup, and to view the running system configurations • Has privileges to perform fabric debug operations • Sets debug levels for services • Has privileges to collect execution logs from services

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: • Adding networks to the tenant • Configuring network parameters • Configuring switches with tenant-specific information Cannot perform actions for any other tenant

efa scvmm delete

Deletes SCVMM server.

Syntax

efa scvmm delete [**--host** | **--cleanup-epgs**]

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

efa scvmm links physical

Configures SCVMM physical links.

Syntax

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

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.

efa scvmm links virtual

Configures SCVMM virtual links.

Syntax

efa scvmm links virtual [**--hyperv** *hostname*]

Parameters

--hyperv *hostname*

Specifies the host name of the Hyper-V host.

efa scvmm list

Lists all SCVMM servers and their summary information.

Syntax

efa scvmm list [**--host**]

Parameters

--host

Specifies hostname or IP of the SCVMM server.

efa scvmm register

Registers an SCVMM server.

Syntax

efa scvmm register [**--host** | **--username** | **--password** | **--tenant**]

Parameters

--host

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

--username

Specifies user name with which to connect to the SCVMM server.

--password

Specifies password with which to connect to the SCVMM server.

--tenant

Specifies tenant name for the SCVMM server.

efa scvmm settings show

Lists SCVMM Service settings.

Syntax

```
efa scvmm settings show
```

Parameters

efa scvmm settings update

Updates SCVMM service settings.

Syntax

efa scvmm settings update [**--poll-frequency** *frequency*]

Parameters

--poll-frequency *frequency*

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

efa scvmm update

Updates the SCVMM server.

Syntax

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

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 with which to connect to the SCVMM server.

--password *password*

Specifies the password with which to connect to the SCVMM server.

efa snmp subscriber

Adds, unregisters, or lists SNMP trap subscribers.

Syntax

efa snmp subscriber [command] [**list** | **add** |**unregister**]

Parameters

list

Lists all trap subscribers.

add

Registers an SNMP trap subscriber.

unregister

Unregisters a trap receiver.

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. The output 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 | IP            |
+------------------------+--------+--------+---------------+
| xmcdev-virtual-machine | active | up     | 10.20.255.114 |
+------------------------+--------+--------+---------------+
--- Time Elapsed: 2.224282775s ---
```

The following example shows output for a multi-node installation.

```
(efa:extreme)extreme@tpvm:~$ efa status
+-----------+---------+--------+---------------+
| Node Name | Role    | Status | IP            |
+-----------+---------+--------+---------------+
| tpvm      | active  | up     | 10.20.255.114 |
+-----------+---------+--------+---------------+
| tpvm2     | standby | up     | 10.20.255.115 |
+-----------+---------+--------+---------------+
--- Time Elapsed: 2.318350499s ---
```

efa system backup

Backs up the EFA system, including the database and certificates.

Syntax

efa system backup [**--fabric-name** *string* | **--fabric-all** | **--device-ip** *stringArray* | **--remote**]

Parameters

--fabric-name *string*

Indicates to back up all devices that are part of this fabric running the configuration backup.

--fabric-all

Indicates to back up all devices that are part of all fabrics running the configuration backup.

--device-ip *stringArray*

Specifies a comma-separated range of device IPs for which the configuration backup will be taken. Example: 1.1.1.1-3,1.1.1.2,2.2.2.2

--remote *boolean*

Specifies if backup should be stored remotely. Default is false (only on local). When set to true, backup is stored both locally and remotely.

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 performs system backup without device configuration backup.

```
efa system backup -remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.735.tar
--- Time Elapsed: 5.741750131s ---
```

This example performs system backup by taking configuration backup of all devices that are part of the fabric specified.

```
efa system backup --fabric default -remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.736.tar
--- Time Elapsed: 5.741750131s ---
```

This example performs system backup by taking configuration backup of all fabrics and its devices.

```
efa system backup --fabric-all -remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.734.tar
--- Time Elapsed: 5.741750131s ---
```

This example performs system backup by taking configuration backup of all devices that are specified.

```
efa system backup --device-ip 10.20.1.2,10.20.1.3,10.20.1.4 -remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.737.tar
--- Time Elapsed: 5.741750131s ---
```

This example shows the error message: Fabric does not exist.

```
efa system backup --fabric default -remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.733.tar
Backup is partially success:
    Fabric does not exist
--- Time Elapsed: 5.741750131s ---
```

This example shows the error message: Device not found.

```
efa system backup --device-ip 10.20.1.5,10.20.1.6 -remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.738.tar
Backup is partially success:
    Device 10.20.1.5 not found
--- Time Elapsed: 5.741750131s ---
```

This example shows the error message: Operation not allowed.

```
efa system backup --device-ip 10.20.1.2,10.20.1.3 -remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.739.tar
Backup is partially success:
    Devices [10.20.1.2] failed to get config backup as its locked for configuration
change by process [Firmware download].
--- Time Elapsed: 5.741750131s ---
```

efa system backup-list

Displays a list of all available EFA backup files.

Syntax

efa system backup-list

Examples

This example shows two backup .tar files that are available to use in a restore operation.

```
efa system backup-list
+----+----------------------------------+------------+--------------
+-----------------------+
| ID |              File                | Version    | Generated By |
Location              |
+----+----------------------------------+------------+--------------
+-----------------------+
| 1  | EFA-2021-04-07T00-00-00.000.tar | 2.4.1-8799 | System
|                       |
+----+----------------------------------+------------+--------------
+-----------------------+
| 2  | EFA-2021-04-07T03-04-48.736.tar | 2.5.0-1    | User         |
10.10.10.10:/tmp/efa  |
+----+----------------------------------+------------+--------------
+-----------------------+
--- Time Elapsed: 16.263551ms ---
```

efa system cleanup

Cleans up archives.

Syntax

efa system cleanup [**--archive-type backup | support** | **--name** *string*]

Parameters

--archive-type backup | support

Type of archive to delete. The default is backup.

--name *string*

Name of archive to delete.

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*.

Examples

The following example shows that the feature is turned off.

```
# 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**}

Turns on or turns off 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 turned off, 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 turns off 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 reset

Resets system settings to default values.

Syntax

efa system settings reset [**-max-backup-files** | **--max-supportsave-files** |**--backup-schedule** |**--remote-server-settings** |**--periodic-device-config-backup**]

Parameters

--max-backup-files

The default is five backup files.

--max-supportsave-files

The default is five supportsave files.

--backup-schedule

The default time is scheduled for Sunday 12 AM.

--remote-server-settings

By specifying this flag, you set the following remote server settings to **null**: **remote-server-ip**, **remote-server-username**, **remote-server-password**, **remote-server-directory** and the **remote-server-protocol** setting to **scp**.

--periodic-device-config-backup

By specifying this flag, you turn off the backup.

Usage Guidelines

You must issue the **efa system settings reset** command with at least one flag. For the flags that you specify, the command resets values to their defaults.

Examples

The following command sets all the flags that you specify to their default values: --max-backup-files to 5, --max-supportsave-files to 5, --backup-schedule to 0 * * *, --remote-server-settings to null --periodic-device-config-backup to off.

```
efa system settings reset --max-backup-files --max-supportsave-files
--backup-schedule --remote-server-settings --periodic-device-config-backup
```

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 * * *   |
+----------------------------+-------------+
| Remote Server IP           | 10.10.10.10 |
+----------------------------+-------------+
| Remote Server Username     | root        |
+----------------------------+-------------+
| Remote Server Password     | *****       |
+----------------------------+-------------+
| Remote Server Directory    | /tmp/efa    |
+----------------------------+-------------+
--- Time Elapsed: 831.836375ms ---
```

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* |**--remote-server-ip** *ip* |**--remote-transfer-protocol ftp | scp** | **--remote-server-username** *name* |**--remote-server-password** *password* |**--remote-server-directory** *directory* |**--periodic-device-config-backup Yes** | **No**]

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 time is scheduled for 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.

--remote-server-ip *ip*

Specifies the remote server IP where backup is copied.

--remote-transfer-protocol ftp | scp

Specifies a valid transfer protocol.

--remote-server-username *name*

Specifies the remote server user name.

--remote-server-password *password*

Specifies the remote server password.

--remote-server-directory *directory*

Specifies the remote server directory where backup is copied.

--periodic-device-config-backup Yes | **No**

Specifies whether to include device configuration backup in periodic backup. Default is No.

Usage Guidelines

The settings described here enable you to configure details of the remote server where the backup is copied.

Note

The details of the remote server are verified before configuring the remote parameters. If you specify a value for any **one** of the following, you must specify values for **all the others**:

- `remote-server-ip`
- `remote-server-username`
- `remote-server-password`
- `remote-server-directory`

If the four values have already been set, they are retained in the database. If you then modify any one of them, the other values are used.

The transfer of backup on remote servers is performed through the Secure Copy Protocol (SCP).

Examples

```
efa system settings update --remote-server-ip 10.20.255.177 --remote-server-username
extreme
--remote-server-password password --remote-server-directory efa/backup
            Setting Update Successful
```

```
efa system settings update --remote-server-ip 10.20.255.177
        Error: Remote server settings missing or incomplete
```

```
efa system settings update --remote-server-username extreme
        Error: Remote server settings missing or incomplete
```

```
efa system settings update --remote-server-ip 10.20.241.7
--remote-server-username root --remote-server-password pass
--remote-server-directory /root/vinod/ --remote-transfer-protocol scp

Setting Update Successful

--- Time Elapsed: 148.800033ms ---
```

efa system supportsave

Collects the system supportsave of the Inventory, Tenant, and Fabric service logs, and their associated database dumps.

Syntax

efa system supportsave [**--fabric-name** *string* | **--fabric-all** | **--device-ip** *stringArray*]

Parameters

--fabric-name *string*

Indicates to collect supportsave from all devices that are part of the specified fabric.

--fabric-all

Indicates to collect supportsave from all devices.

--device-ip *stringArray*

Specifies a comma-separated range of device IPs to collect supportsave from. Example: 1.1.1.1-3,1.1.1.2,2.2.2.2

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 endpoint 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*]

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 *vrfs*

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.

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** | **--reconcile**]

efa tenant debug set [**--level debug | info | debugdb | nodebugdb**]

efa tenant debug device config sync [**--device-ip** *ip-addr*]

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.

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**]

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*]

Parameters

--name *name*

Specifies the name of the endpoint group.

--tenant *name*

Specifies the name of the tenant.

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. 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:l2-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:l2-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. The format is `ctag,prefix:configType`.

`--single-homed-bfd-session-type auto | software | hardware`

Specifies the BFD session type for the endpoint group. 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`.

`--suppress-arp` *`value`*

Sets suppress-arp flag to this network. The format is `ctag:suppress-arp`. Example: 1002:true.

`--suppress-nd` *`value`*

Sets suppress-nd flag to this network. The format is `ctag:suppress-nd`. Example: 1002:true.

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 ten1epg1 --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 ten1vrf1 --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*]

Parameters

--force

Forces the deletion of any endpoint group that is tied to the tenant.

--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*]

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.

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 |
|      |          |           |                    |    |          Mode           |
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 |
|      |          |      |                    |    |          Mode           |
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**]

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.

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 information for all endpoint groups or a specific endpoint group.

Syntax

efa tenant epg show [**--name** *epg-name* | **--detail** | **--tenant** *tenant-name* | **--vrf** *vrf-name*]

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.

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 | l3-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         |
```

```
|      |             |       |         |               |              |  10.20.216.16-
>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        |
|      |       Description       |       |         |              |              |
[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           : po11
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           : po11
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 |       | po11 |   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            : po11
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 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.

--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

Specifies the operation to be performed.

--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. 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:l2-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:l2-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. The format is `ctag,prefix:configType`.

`--single-homed-bfd-session-type auto | software | hardware`

Specifies the BFD session type for the endpoint group. 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 ten1epg1 --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 ten1epg1 --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 runs and event histories and deletes entries older than the specified days.

Syntax

efa tenant execution delete [**--days int32**]

efa tenant execution show [**--limit int32** | **--status failed | succeeded | all**]

efa tenant execution show-event [**--device** | **--execution-id**]

efa tenant execution delete [**--days** *value*]

Parameters

--days int32

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

--device

Filters run entries on IP address.

--limit int32

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

--status failed | succeeded | all

Filters the runs based on the status. Default is `all`.

--execution-id

Filters run entries on run UUID.

The following example shows the commands performed, 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 ---
```

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           | po11           | Portchannel creation
succeeded |                                |
|                    |                      |         |
|                          |              |                | for ports on device
po11       |                                |
| 76b8e798-adb0-459f | 2021-01-27T13:08:04Z | tenant  | po-create |
10.20.216.15,10.20.216.16 | po           | po11           | Configuration on
devices       |                                 |
|                    |                      |         |
|                          |              |                | succeeded for Port
Channel     |                                |
|                    |                      |         |
|                          |              |                |
po11                          |                                |
| 76b8e798-adb0-459f | 2021-01-27T13:08:04Z | tenant  | po-create |
10.20.216.15,10.20.216.16 | po           | po11           | Updating Dev state on
database |                                |
|                    |                      |         |
|                          |              |                | succeeded for Port
Channel     |                                |
|                    |                      |         |
|                          |              |                |
po11                          |                                |
+--------------------+----------------------+---------+-----------
+---------------------------+--------------+----------------
+--------------------------------+--------------------------------+

--- Time Elapsed: 189.538402ms ---
```

The following example deletes run 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**]

Parameters

--name

Specifies the name of the port channel.

--tenant

Specifies the name of the tenant.

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* | **--description** *description* | **--speed** *speed* | **--negotiation active | passive | static** | **--port** *port-info* | **--min-link-count** *num-links* | **--number** *interface_number* | **--lacp-timeout long | short** | **--mtu int32**]

Parameters

--name *po-name*

Specifies the port channel name.

--tenant *tenant-name*

Specifies the tenant name.

--description *description*

Describes the port channel.

--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.

--port *port-info*

Specifies the device IP address and Ethernet port details. Example: SW1_IP[0/1],SW2_IP[0/5]

--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. Valid values are 1 through 64. The default value is 1.

--number *interface_number*

Specifies the port channel interface number generated by the service.

--lacp-timeout long | short

Specifies the length of the timeout.

--mtu int32

MTU configuration for the PortChannel. Valid values are 1500 through 9216.

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** *name* | **--force** | **--tenant** *name*]

Parameters

--name *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 *name*

Specifies the tenant name.

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**]

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.

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 | mtu-add | mtu-delete** | **--port** *port-list* |**--lacp-timeout long | short** | **--min-link-count** *num-links* |**--description** *description* |**--mtu int32**]

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 | mtu-add | mtu-delete

Adds or deletes operation on the ports.

--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.

--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.

--mtu int32

MTU configuration for the PortChannel. Valid values are 1500 through 9216.

Examples

This example updates the min-link-count of an existing PO.

```
(efa:extreme)extreme@node-1:~$ efa tenant po update --name po11 --tenant tenant21
--operation min-link-count --min-link-count 1

PortChannel: po11 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 po11 --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 [**--name** *peer-name* | **--tenant** *tenant-name*]

Parameters

--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* | **--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* | **--ipv4-uc-nbr-md5-password** *string* | **--ipv6-uc-nbr-md5-password** *string* | **--ipv6-uc-nbr-next-hop-self** *string* | **--ipv6-uc-nbr-update-source-ip** *string* | **--name** *peer-name* **peer-add | peer-delete | desc-update** |**--tenant** *tenant-name* |**--md5-password-prompt-enable true | false**]

Parameters

--description *description*

Describes the BGP service.

--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`.

--ipv4-uc-nbr-md5-password *string*

IPv4 Unicast Neighbor md5-password, in the format `device-ip,vrf-name:ipv4-neighbor,ipv4-md5-password`.

Example for encrypted/password containing special characters: `--ipv4-uc-nbr-md5-password device-ip,vrf-name:ipv4-neighbor,'$9$MCgKGaNt6OASX68/7TC6Lw=='`

--ipv6-uc-nbr-md5-password *string*

IPv6 Unicast Neighbor md5-password, in the format `device-ip,vrf-name:ipv6-neighbor,ipv6-md5-password`.

Example for encrypted/password containing special characters: `--ipv6-uc-nbr-md5-password device-ip,vrf-name:ipv6-neighbor,'$9$MCgKGaNt6OASX68/7TC6Lw=='`

--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.

--md5-password-prompt-enable true | false

Turns on secure input for the MD5 password. The default is `false`.

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 ---
```

The following example creates a BGP peer md5-password in a secure manner.

For the complete procedure, see the topic "Configure BGP MD5 Authentication for Tenant BGP Peer and Peer-group Securely" topic in the ExtremeFabric Security Guide.

```
efa tenant service bgp peer create --name bgp173-2501 --tenant tenant11
                        --ipv4-uc-nbr 10.20.246.6,v1:25.1.1.3,5901
                        --ipv4-uc-nbr-bfd 10.20.246.6,v1:25.1.1.3,true
                        --ipv6-uc-nbr 10.20.246.5,v1:25:1::3,5901
                        --ipv6-uc-nbr-bfd 10.20.246.5,v1:25:1::3,true
                        --md5-password-prompt-enable=true
```

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** | **--name** *service-name* |**--tenant** *tenant-name*]

Parameters

--force

Forces BGP service deletion when set to true.

--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 operational show

Gets the operational state of the BGP peers belonging to both default-vrf and tenant-vrf.

Syntax

efa tenant service bgp peer operational show [**--tenant** *name* | **--vrf** *name*]

Parameters

--tenant *name*

Specifies the name of the tenant.

--vrf *name*

Specifies the name of the VRF.

Examples

```
efa tenant service bgp peer operational show --tenant tenant2 --vrf vrf101
+---------+--------+-------------+-------------+----------------+----------------------
+------------+-----------------+----------+----------+---------------+
| Tenant  |  VRF   |    Source    | Destination | Source Device  |       BGP Peer
|  BGP Peer  |    BGP Peer     | BGP Peer | BGP Peer |   BGP Peer    |
|         |        |  Device IP   |  Device IP  |   Router ID    |          IP          |
Source ASN | Destination ASN |   AFI    |   SAFI   | Session State |
+---------+--------+-------------+-------------+----------------+----------------------
+------------+-----------------+----------+----------+---------------+
| tenant2 | vrf101 | 10.20.246.24 |             | 172.31.254.178 | 10.40.40.251         |
65000      | 65000           | ipv4     | unicast  | CONN          |
+---------+--------+-------------+-------------+----------------+----------------------
+------------+-----------------+----------+----------+---------------+
| tenant2 | vrf101 | 10.20.246.24 |             | 172.31.254.178 | 121.10.1.1           |
65000      | 4200000000      | ipv4     | unicast  | CONN          |
+---------+--------+-------------+-------------+----------------+----------------------
+------------+-----------------+----------+----------+---------------+
| tenant2 | vrf101 | 10.20.246.24 |             | 172.31.254.178 | 121:a::1             |
65000      | 4200000000      | ipv6     | unicast  | CONN          |
+---------+--------+-------------+-------------+----------------+----------------------
+------------+-----------------+----------+----------+---------------+
| tenant2 | vrf101 | 10.20.246.24 |             | 172.31.254.178 | fd40:4040:4040:1::fd |
65000      | 65000           | ipv6     | unicast  | CONN          |
+---------+--------+-------------+-------------+----------------+----------------------
+------------+-----------------+----------+----------+---------------+
| tenant2 | vrf101 | 10.20.246.23 |             | 172.31.254.114 | 10.40.40.250         |
65000      | 65000           | ipv4     | unicast  | CONN          |
+---------+--------+-------------+-------------+----------------+----------------------
+------------+-----------------+----------+----------+---------------+
| tenant2 | vrf101 | 10.20.246.23 |             | 172.31.254.114 | 121.10.1.2           |
65000      | 4200000000      | ipv4     | unicast  | CONN          |
+---------+--------+-------------+-------------+----------------+----------------------
+------------+-----------------+----------+----------+---------------+
| tenant2 | vrf101 | 10.20.246.23 |             | 172.31.254.114 | fd40:4040:4040:1::fc |
65000      | 65000           | ipv6     | unicast  | CONN          |
+---------+--------+-------------+-------------+----------------+----------------------
```

```
+------------+-----------------+----------+----------+---------------+
BGP Summary
```

```
efa tenant service bgp peer operational show
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| Tenant  |     VRF     |    Source    | Destination | Source Device  |       BGP
Peer       |  BGP Peer  |    BGP Peer     | BGP Peer | BGP Peer |   BGP Peer    |
|         |             |  Device IP   |  Device IP  |   Router ID    |
IP          | Source ASN | Destination ASN |   AFI    |   SAFI   | Session State |
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf102      | 10.20.246.24 |             | 172.31.254.178 |
10.40.40.251         | 65000      | 34566           | ipv4     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf102      | 10.20.246.24 |             | 172.31.254.178 |
121.10.1.1           | 65000      | 4200000000      | ipv4     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf102      | 10.20.246.24 |             | 172.31.254.178 |
121:a::1             | 65000      | 4200000000      | ipv6     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf102      | 10.20.246.24 |             | 172.31.254.178 |
fd40:4040:4040:1::fd | 65000      | 34566           | ipv6     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf102      | 10.20.246.23 |             | 172.31.254.114 |
10.40.40.250         | 65000      | 34566           | ipv4     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf102      | 10.20.246.23 |             | 172.31.254.114 |
121.10.1.2           | 65000      | 4200000000      | ipv4     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf102      | 10.20.246.23 |             | 172.31.254.114 |
fd40:4040:4040:1::fc | 65000      | 34566           | ipv6     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf101      | 10.20.246.23 |             | 172.31.254.114 |
10.40.40.250         | 65000      | 65000           | ipv4     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf101      | 10.20.246.23 |             | 172.31.254.114 |
121.10.1.2           | 65000      | 4200000000      | ipv4     | unicast  | CONN
```

```
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf101      | 10.20.246.23 |             | 172.31.254.114 |
fd40:4040:4040:1::fc | 65000      | 65000           | ipv6     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf101      | 10.20.246.24 |             | 172.31.254.178 |
10.40.40.251         | 65000      | 65000           | ipv4     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf101      | 10.20.246.24 |             | 172.31.254.178 |
121.10.1.1           | 65000      | 4200000000      | ipv4     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf101      | 10.20.246.24 |             | 172.31.254.178 |
121:a::1             | 65000      | 4200000000      | ipv6     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
| tenant2 | vrf101      | 10.20.246.24 |             | 172.31.254.178 |
fd40:4040:4040:1::fd | 65000      | 65000           | ipv6     | unicast  | CONN
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.21 |             | 172.31.254.237 |
10.10.10.13          | 66000      | 64512           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.21 |             | 172.31.254.237 |
10.10.10.15          | 66000      | 64512           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.21 |             | 172.31.254.237 |
10.10.10.13          | 66000      | 64512           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.21 |             | 172.31.254.237 |
10.10.10.15          | 66000      | 64512           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.21 |             | 172.31.254.237 |
10.20.20.9           | 66000      | 66000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
```

```
|         | default-vrf | 10.20.246.22 |             | 172.31.254.218 |
10.10.10.5           | 66000      | 64512           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.22 |             | 172.31.254.218 |
10.10.10.7           | 66000      | 64512           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.22 |             | 172.31.254.218 |
10.10.10.5           | 66000      | 64512           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.22 |             | 172.31.254.218 |
10.10.10.7           | 66000      | 64512           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.22 |             | 172.31.254.218 |
10.20.20.8           | 66000      | 66000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.0           | 64512      | 65000           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.2           | 64512      | 65000           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.4           | 64512      | 66000           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.6           | 64512      | 66000           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.8           | 64512      | 65000           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.10          | 64512      | 65000           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
```

```
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.12          | 64512      | 66000           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.14          | 64512      | 66000           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.0           | 64512      | 65000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.2           | 64512      | 65000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.4           | 64512      | 66000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.6           | 64512      | 66000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.8           | 64512      | 65000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.10          | 64512      | 65000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.12          | 64512      | 66000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.14 |             | 172.31.254.239 |
10.10.10.14          | 64512      | 66000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+---------------------+-----------+----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.23 |             | 172.31.254.114 |
10.10.10.9           | 65000      | 64512           | ipv4     | unicast  | ESTAB
```

```
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.23 |             | 172.31.254.114 |
10.10.10.11          | 65000      | 64512           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.23 |             | 172.31.254.114 |
10.10.10.9           | 65000      | 64512           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.23 |             | 172.31.254.114 |
10.10.10.11          | 65000      | 64512           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.23 |             | 172.31.254.114 |
10.20.20.6           | 65000      | 65000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.24 |             | 172.31.254.178 |
10.10.10.1           | 65000      | 64512           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.24 |             | 172.31.254.178 |
10.10.10.3           | 65000      | 64512           | ipv4     | unicast  | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.24 |             | 172.31.254.178 |
10.10.10.1           | 65000      | 64512           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.24 |             | 172.31.254.178 |
10.10.10.3           | 65000      | 64512           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
|         | default-vrf | 10.20.246.24 |             | 172.31.254.178 |
10.20.20.7           | 65000      | 65000           | l2vpn    | evpn     | ESTAB
|
+---------+-------------+--------------+-------------+----------------
+----------------------+------------+-----------------+----------+----------
+---------------+
BGP Summary

--- Time Elapsed: 21.822450796s ---
```

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**]

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.

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   |           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       : pg1
        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       : pg1
        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* | **--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* | **--ipv4-uc-nbr-md5-password** *password* | **--ipv6-uc-nbr-md5-password** *password* | **--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* **--md5-password-prompt-enable true | false**]

Parameters

--description *description*

Describes the BGP service.

--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.

--ipv4-uc-nbr-md5-password *password*

IPv4 Unicast Neighbor md5-password in the format `device-ip,vrf-name:ipv4-neighbor,ipv4-md5-password`.

Example for encrypted/password containing special characters: `--ipv4-uc-nbr-md5-password device-ip,vrf-name:ipv4-neighbor,'$9$MCgKGaNt6OASX68/7TC6Lw=='`

--ipv6-uc-nbr-md5-password *password*

IPv6 Unicast Neighbor md5-password in the format `device-ip,vrf-name:ipv6-neighbor,ipv6-md5-password`.

Example for encrypted/password containing special characters: `--ipv6-uc-nbr-md5-password device-ip,vrf-name:ipv6-neighbor,'$9$MCgKGaNt6OASX68/7TC6Lw=='`

--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.

--md5-password-prompt-enable true | false

Turns on secure input for the MD5 password. The default is `false`.

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 [**--name** *peer-group-name* | **--tenant** *tenant-name*]

Parameters

--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 [**--name** *peer-group-name* |**--tenant** *tenant-name* | **--pg-asn** *string* |**--pg-bfd** *string* |**--pg-name** *string* | **--pg-next-hop-self** *string* | **--pg-update-source-ip** *string* | **--pg-md5-password** *string* | **--md5-password-prompt-enable true | false**]

Parameters

--name *peer-group-name*

Specifies the name of the BGP peer group instance.

--tenant *tenant-name*

Specifies the name of the tenant.

--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`.

--pg-md5-password *string*

Indicates the MD5 password.

Important
BGP MD5 authentication for tenant dynamic peers is not yet supported.

--md5-password-prompt-enable true | false

Turns on secure input for the MD5 password. The default is false.

Important
BGP MD5 authentication for tenant dynamic peers is not yet supported.

Examples

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 --pg-md5-password 10.20.246.24,v1-
PeerGrp:'$9$MCgKGaNt6OASX68/7TC6Lw=='

BgpService created successfully.

--- Time Elapsed: 1.965046891s ---
```

The following example creates a BGP peer-group md5-password in a secure manner.

For the complete procedure, see the topic "Configure BGP MD5 Authentication for Tenant BGP Peer and Peer-group Securely" topic in the ExtremeFabric Security Guide.

```
efa tenant service bgp peer-group create --tenant "tenant11" --name "v1-PeerGrp"
                        --pg-name 10.20.246.5:v1-PeerGrp --pg-asn 10.20.246.5,v1-
PeerGrp:5200
                        --pg-bfd-enable 10.20.246.5,v1-PeerGrp:true
                        --pg-name 10.20.246.5:v3-PeerGrp --pg-asn 10.20.246.5,v3-
PeerGrp:5201
                        --pg-bfd-enable 10.20.246.5,v3-PeerGrp:true
                        --pg-name 10.20.246.6:v1-PeerGrp --pg-asn 10.20.246.6,v1-
PeerGrp:5200
                        --pg-bfd-enable 10.20.246.6,v1-PeerGrp:true
                        --pg-md5-password-prompt-enable=true
```

efa tenant service bgp peer-group delete

Deletes the specified BGP peer group.

Syntax

efa tenant service bgp peer-group delete [**--force** | **--name** *peer-group-name* |**--tenant** *tenant-name*]

Parameters

--force

Forces the deletion of the BGP service when set to true.

--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**]

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.

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 [**--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* **--pg-md5-password***string* | **--md5-password-prompt-enable true | false**]

Parameters

--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.

--pg-md5-password *string*

Indicates the MD5 password.

Important
BGP MD5 authentication for tenant dynamic peers is not yet supported.

--md5-password-prompt-enable true | false

Turns on secure input for the MD5 password. The default is `false`.

Important
BGP MD5 authentication for tenant dynamic peers is not yet supported.

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**]

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.

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**]

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 desc-update | vni-update | port-add | port-delete | vlan-add | vlan-delete | vlan-update | num-vrf-update | enable-bd-update

Specifies operation code.

--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.

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**]

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. The default is an empty string array.

--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. The default is an empty string array.

--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. The default is 0 and unless you specify it, it is not set.

--rh-ecmp-enable true | false

Turns on or turns off resilient hashing for a tenant VRF. Valid values are true or false. The default value is false.

--graceful-restart-enable true | false

Turns on or turns off graceful restart for a tenant VRF. Valid values are true or false. The default value is false.

--routing-type distributed | centralized

VRF routing type. The default value is distributed.

--centralized-router

Comma-separated list of border-leaf IP addresses.

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 error show

Displays VRF errors.

Syntax

efa tenant vrf error show [**--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 shows output of VRF errors for a specific VRF and tenant.

```
efa tenant vrf error show --tenant tnt1 --name vrf1
============================================================
Name : vrf1
Tenant : tnt1
Errors
+--------------+-------------------------------------------------------------+
|    MgmtIp    |                          ErrorList                          |
+--------------+-------------------------------------------------------------+
| 10.20.246.29 | Configure RemoteAsn under Router BGP failed for Vrf :       |
|              | vrf1 due to Netconf <x> error                               |
+--------------+-------------------------------------------------------------+
| 10.20.246.30 | Configure RemoteAsn under Router BGP failed for Vrf :       |
|              | vrf1 due to Netconf <x> error                               |
+--------------+-------------------------------------------------------------+
--- Time Elapsed: 195.971ms ---
```

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**]

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.

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 local-asn-add | local-asn-delete | redistribute-add | redistribute-delete | centralized-router-add | centralized-router-delete** |**--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**]

Parameters

--name *vrf-name*

Specifies the VRF name.

--tenant *tenant-name*

Specifies the tenant name.

--operation local-asn-add | local-asn-delete | redistribute-add | redistribute-delete | centralized-router-add | centralized-router-delete

Identifies the operation you want to perform. Valid values are:

- local-asn-add
- local-asn-delete
- redistribute-add
- redistribute-delete

- centralized-router-add
- centralized-router-delete

Note

Idempotency is supported for the following additional valid operations:

- max-path-add
- max-path-delete
- rh-max-path-add
- rh-max-path-delete
- rh-ecmp-update
- graceful-restart-update
- static-route-add
- static-route-delete
- static-route-bfd-add
- static-route-bfd-delete

--local-asn *locl-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

Turns on or turns off resilient hashing for a tenant VRF. Valid values are true or false.

--graceful-restart-enable true | false

Turns on or turns off 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.

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.

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                   |
|                      |       |        |                 | following interfaces:
10.25.225.46="ethernet-0/5"            |
|                      |       |        |                 | 10.24.82.20="ethernet-0/11"
10.24.81.10="ethernet-0/10"      |
|                      |       |        |                 | 10.24.85.76="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
+--------------------------------------------------------------+--------------------
+------------------------------+--------------------+--------+
|                          Description                         |       Target
|          Target Type         |        Time        |   ID   |
+--------------------------------------------------------------+--------------------
+------------------------------+--------------------+--------+
| 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 frequencty 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.

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.

When the `cleanup-tenants` parameter is supplied, the command removes the registered ESXi hosts and EPGs for this VMware vCenter Server tenant.

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.

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.

For VMware vCenter server tenants, physical and unconnected links are displayed. For ESXi hosts, physical, unconnected, and virtual links are displayed.

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.

Syntax

efa vcenter list [**--host** *string*]

Parameters

--host *string*

IP address or hostname of the VMware vCenter Server to connect to.

When the `host` parameter is supplied, the command lists the ESXi hosts for that VMware vCenter Server.

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

Registers a VMware vCenter server as a tenant with the EFA instance.

Syntax

efa vcenter register --host *string* **--username** *string* **--password** *string* **--tenant** *string*

Command Default

This command has no defaults. Tenant details must be registered before running the command.

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 host name 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 that is 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-blpair-mapping

Adds, removes, or lists border-leaf pairs.

efa-blpair-mapping add [**--name** *name* | **--switch-ips** *switches*]

efa-blpair-mapping remove [**--name** *name*]

efa-blpair-mapping list

Parameters

add

Adds the specified border leaf pair.

remove

Removes the specified border leaf pair.

list

Lists border leaf pairs.

--name *name*

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

--switch-ips

Comma-separated IP addresses of border-leaf on fabric. For example, 10.2.2.2,10.2.2.3.

The following example adds the specified border leaf pair.

```
$ efa-blpair-mapping add --name blp2 --switch-ips 10.2.2.4,10.2.2.3
```

The following example removes the specified border leaf pair.

```
$ efa-blpair-mapping remove --name blp2
```

The following example lists the configured border leaf pairs.

```
$ efa-blpair-mapping list
+--------------------------------------+------+-------------------+
|                  ID                  | Name |      Switches     |
+--------------------------------------+------+-------------------+
| 8f3d786b-70e3-4c8e-888c-4f95adc162f4 | blp2 | 10.2.2.4,10.2.2.3 |
+--------------------------------------+------+-------------------+
```

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*.

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 print 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.

```
$ sudo efa-health show
EFA Host                         : efa.extremenetworks.com
EFA Health                       : UP
EFA Health Failure Reason        :
EFA High Availability Status     : UP
EFA Master                       : UP
EFA Slave                        : 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
```

Run `efa-health show` with the `advanced` option to print EFA POD or cluster status, in detail. The command can be used to infer the pods running status on EFA.

```
$ sudo efa-health show --advanced
EFA Host                         : efa.extremenetworks.com
EFA Health                       : UP
EFA Health Failure Reason        :
EFA High Availability Status     : UP
EFA Master                       : UP
EFA Slave                        : 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-s9qxh                    : 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 entries or entries specified according to state 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**, **failed**, or **processing** parameters. Otherwise, the processing thread can repopulate the entries in the journal.

Examples

The following example clears all entries in the 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.
```

The following example clears all entries in Processing state.

```
$ efa-journal clear processing
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.
```

The following example clears all entries in Pending state.

```
$ efa-journal clear pending
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 that are present in the extreme journaling database, along with their statuses.

efa-journal list

This example lists all journal entries and their statuses.

```
$ efa-journal list
+----+-------------+--------------------------------------+-----------+------------
+-------------+------------------------------+
| Id | Object Type |             Object UUID              | Operation | state      |
Retry Count |            Reason            |
+----+-------------+--------------------------------------+-----------+------------
+-------------+------------------------------+
| 77 |   network   | 208421ad-483e-4e45-8c6f-d135146a1ee7 |   create  | failed     |
5      |   EFA connection timed out   |
| 78 |    subnet   | 0443d876-eafb-4b8c-9c83-7d32c2cccad6 |   create  | failed     |
0      | Parent Journal ID: 77 failed |
| 79 |     port    | 9cb6d418-d916-4be8-aad5-1cb07d388d5f |   update  | failed     |
0      | Parent Journal ID: 77 failed |
| 80 |   network   | b22415ef-afdc-46fa-834f-8506c132da08 |   create  | failed     |
5      |   EFA connection timed out   |
| 81 |    subnet   | 2a1e3aea-c996-45f1-94f9-84b604597dc3 |   create  | failed     |
0      | Parent Journal ID: 80 failed |
| 82 |     port    | 4f3fe359-8de9-45f6-be4b-b9d7c565399f |   update  | failed     |
0      | Parent Journal ID: 80 failed |
| 83 |   network   | 2237342e-95ec-44c2-92e6-706092b1eda3 |   create  | processing |
0      |                              |
+----+-------------+--------------------------------------+-----------+------------
+-------------+------------------------------+
```

efa-journal list deps

Debug command: dumps the journal dependency table in user-readable format.

efa-journal list deps

This example dumps the journal dependency table.

```
$ efa-journal list deps
+--------+------------+--------------------------------------+-----------+--------------
+-------+-----------+--------------------------------------+----------+-------------+
| Parent | Parent-obj |             Parent-uuid              | Parent-op | Parent-state |
Child | Child-obj |             Child-uuid               | Child-op | Child-state |
+--------+------------+--------------------------------------+-----------+--------------
+-------+-----------+--------------------------------------+----------+-------------+
|   77   |  network   | 208421ad-483e-4e45-8c6f-d135146a1ee7 |   create  |    failed
|   78   |   subnet   | 0443d876-eafb-4b8c-9c83-7d32c2cccad6 |  create  |    failed   |
|   77   |  network   | 208421ad-483e-4e45-8c6f-d135146a1ee7 |   create  |    failed
|   79   |    port    | 9cb6d418-d916-4be8-aad5-1cb07d388d5f |  update  |    failed   |
|   78   |   subnet   | 0443d876-eafb-4b8c-9c83-7d32c2cccad6 |   create  |    failed
|   79   |    port    | 9cb6d418-d916-4be8-aad5-1cb07d388d5f |  update  |    failed   |
|   80   |  network   | b22415ef-afdc-46fa-834f-8506c132da08 |   create  |    failed
|   81   |   subnet   | 2a1e3aea-c996-45f1-94f9-84b604597dc3 |  create  |    failed   |
```

```
|   80   |  network   | b22415ef-afdc-46fa-834f-8506c132da08 |   create  |    failed
|   82   |    port    | 4f3fe359-8de9-45f6-be4b-b9d7c565399f |  update   |    failed   |
|   81   |   subnet   | 2a1e3aea-c996-45f1-94f9-84b604597dc3 |   create  |    failed
|   82   |    port    | 4f3fe359-8de9-45f6-be4b-b9d7c565399f |  update   |    failed   |
|   83   |  network   | 2237342e-95ec-44c2-92e6-706092b1eda3 |   create  |    failed
|   84   |   subnet   | 51c32ef1-c15e-4a1a-ad89-6e2adfdf8da5 |  create   |    failed   |
|   83   |  network   | 2237342e-95ec-44c2-92e6-706092b1eda3 |   create  |    failed
|   85   |    port    | aab84828-5e08-4a95-aef6-2498f6ef5991 |  update   |    failed   |
|   84   |   subnet   | 51c32ef1-c15e-4a1a-ad89-6e2adfdf8da5 |   create  |    failed
|   85   |    port    | aab84828-5e08-4a95-aef6-2498f6ef5991 |  update   |    failed   |
+--------+------------+--------------------------------------+-----------+--------------
+-------+-----------+--------------------------------------+----------+-------------+
```

efa-journal reset

Resets the retry count for all or specified failed journal entries and retries the operation.

Syntax

efa-journal reset [*Journal_ID*]

Parameters

Journal_ID

Specifies the journal ID that you want to reset.

Usage Guidelines

You can return journal IDs by running the `efa-journal list` command.

Examples

The following example resets specific failed entries - 77 and 78.

```
$ efa-journal reset 77 78
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.

Syntax

efa-sync execute

efa-sync check-summary

efa-sync check-detail

Usage Guidelines

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
```

Journal entries that are completed or failed are cleared from the journal list if the execution of `efa-sync` is successful. In case of failure, the journal entries are not cleared.

Examples

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-lk6r9          0/1     Init:0/2   0          45m
10.42.2.8       tpvm2   <none>           <none>
pod/gonotification-service-ffccd5bf6-wl96v    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-h7lrb             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-v7dzr      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-l4w4m         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-ffccd5bf6-755ld   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-jgkwk        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-bqzlz         1/1     Running    2          45m
10.42.0.15      tpvm    <none>           <none>

NAME                                TYPE        CLUSTER-IP      EXTERNAL-IP
PORT(S)                         AGE   SELECTOR
service/rabbitmq                    NodePort    10.43.215.4     <none>
15672:31672/TCP,5672:30672/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                                  READY   UP-TO-DATE   AVAILABLE   AGE
CONTAINERS               IMAGES                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-bl-pair-map create

Maps a border-leaf pair and specifies the border-leaf pair on which the route will be installed.

Syntax

openstack network efa-bl-pair-map create [**--name** *name* | **--switch-ips** *switches*]

Parameters

--name *name*

Specifies the name of the border-leaf pair.

--switch-ips *switches*

Comma-separated IP addresses of border-leaf on fabric. For example, 10.2.2.2,10.2.2.3.

Examples

```
openstack network efa-bl-pair-map create --name blp1 --switch-ips 10.2.2.2,10.2.2.3
+------------+--------------------------------------+
| Field      | Value                                |
+------------+--------------------------------------+
| id         | 0d19abc5-d31b-4682-b86d-cc1617ea0c97 |
| name       | blp1                                 |
| switch_ips | 10.2.2.2,10.2.2.3                    |
+------------+--------------------------------------+
```

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**]

Parameters

host

Host name of the compute node that 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 to which the compute host NICs are connected.

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 <uuid-link1> [**<uuid-link2>** ...]

Specify the UUIDs of the links 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

Examples

The following example displays the created topology links on the controller.

```
# 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.

This example creates one centralized router called R2.

```
$ openstack router create R2

$ openstack router create R2 --centralized
```