

Cellular Commands

- lte gps (cellular), on page 1
- lte sim, on page 3
- profile id, on page 3
- lte gps constellation, on page 5
- lte modem crash-action, on page 5
- lte profile reset, on page 6
- lte modem dm-log, on page 7
- lte450 profile, on page 8
- lte450 credential, on page 10
- lte450 band, on page 11

lte gps (cellular)

To configure Global Positioning System (GPS) parameters for a cellular router, use the **lte gps** command in cellular configuration mode. To delete the GPS configuration parameters, use the no form of this command.

lte gps { **mode** { **ms-based** | **standalone** } [**enable**] [**nmea** [**ip udp** *ipv4-address*]] | **enable** [**mode** { **ms-based** | **standalone** }] [**nmea** [**ip udp** *ipv4-address*]] | **nmea** [**ip udp** *source-ip-address destination-ip-address port*] }

no lte gps

Syntax Description

lte gps	Enables GPS on the LTE PIM module in the 0/x/0 section of the controller cellular configuration.
mode	Specifies the mode. • **ms-based**: Use mobile station-based assistance, also called assisted GPS mode, when determining position. In this mode, a network data session is used to obtain the GPS satellite locations, resulting in a faster fix of location coordinates. • **standalone**: Use satellite information when determining position. **Note** The **standalone** parameter is currently not supported for geofencing.

ms-based	Enables ms-based assistance. **Note** We recommend using **ms-based** mode with a SIM card plugged in and a GPS antenna connected to the LTE pluggable module GPS port. For more information, see Cisco 4G Indoor/Outdoor Active GPS Antenna (GPS-ACT-ANTM-SMA).
standalone	Enables **standalone** mode. If there is no SIM card inserted, you can use **standalone** mode. **Note** The **standalone** parameter is currently not supported for geofencing.
enable	Enables the GPS features. Use this command to enable the GPS feature if GPS has been disabled for any reason.
nmea	Enables the use of National Marine Electronics Association (NMEA) streams to Cisco IOS applications for listening to the specified port on the destination address.
ip	(Optional) Enables the redirection of GPS NMEA streams to the destination IP address. **Note** This parameter is not used for configuring geofencing.
udp *source-ip-address destination-ip-address port*	(Optional) Enables the redirection of GPS NMEA streams to the source and destination IP address and port. **Note** This parameter is not used for configuring geofencing.

Command Modes

controller Cellular 0/x/0 (config-Cellular-0/x/0)

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.6.1a	Command qualified for use in Cisco SD-WAN Manager CLI templates.

Usage Guidelines

If multiple LTE pluggable module slots are present in the platform chassis, we recommend that you configure GPS on only one of the LTE pluggable module slots and use the slot for GPS coverage.

Examples

The following example enables GPS on the LTE PIM module:

```
Device(config)# controller Cellular 0/2/0
Device(config-Cellular-0/2/0)# lte gps enable
```

The following example sets ms-based assistance on the LTE PIM module:

```
Device(config-Cellular-0/2/0)# lte gps mode ms-based
```

The following example configures nmea on the LTE PIM module:

```
Device(config-Cellular-0/2/0)# lte gps nmea
```

lte sim

To configure Subscriber Identity Module (SIM) parameters for a cellular router, use the **lte sim** command in cellular configuration mode. To delete the SIM configuration parameters, use the no form of this command.

lte sim [**attach-profile** *attach-profile* **data-profile** *data-profile* **slot** *slot*]

no lte sim

Syntax Description

lte sim	Enables SIM on the LTE cellular module in the 0/x/0 section of the controller cellular configuration.
attach-profile	Attaches the profile on the LTE PIM module in the 0/x/0 section of the controller cellular configuration.
data-profile	Default profile on the LTE PIM module in the 0/x/0 section of the controller cellular configuration.
slot	SIM slot that contains the SIM to configure. Valid values are 0 (primary SIM card) and 1 (secondary SIM card).

Command Modes

controller Cellular 0/x/0 (config-Cellular-0/x/0)

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.6.1a	Command qualified for use in Cisco SD-WAN Manager CLI templates.

Usage Guidelines

Dual Subscriber Identity Module (SIM) provides reliability and multihoming capabilities over LTE and HSPA-based networks. With two LTE modems, the IR829 enables concurrent connectivity to two cellular networks for high reliability, enhanced data throughputs, load balancing and differentiated services.

Example

The following example enables SIM on the LTE SIM module:

Examples

```
Device(config)# controller Cellular 0/2/0
Device(config-Cellular-0/2/0)# lte sim enable
Device(config-Cellular-0/2/0)# lte sim attach-profile 1 data-profile 1 slot 0
```

profile id

To create a data profile for a device, use the **profile id** command in cellular configuration mode. To set the command to the default state, use the **no** form of this command.

profile id *id* **apn** *name* [**authentication** *auth_type* **username** *username* **password** *password*] [**pdn-type** *pdn_type*] [**slot** *slot_number*]

no profile id *id*

Syntax Description

id	Identification number of the data profile. Valid values are from 1 to 16.
apn *name*	Name of the access point network of the service provider.
authentication *auth_type*	Authentication type used for APN access. Valid values are: • **chap**: Use CHAP authentication only. • **pap**: Use PAP authentication only. • **pap_chap**: Use PAP or CHAP authentication.
username *username*	Username provided by the service provider for APN access authentication. Required if the authentication type is **chap**, **pap**, or **pap_chap**, otherwise not used.
password *password*	Password provided by the service provider for APN access authentication. Required if the authentication type is **chap**, **pap**, or **pap_chap**, otherwise not used.
pdn-type *pdn_type*	Type of packet data matching used for APN access. Valid values are: • **ipv4**: IPv4 type bearer. • **ipv4v6**: IPV4V6 type bearer. • **ipv6**: IPv6 type bearer.
slot-number *slot_number*	SIM slot that contains the SIM to configure. Valid values are 0 (primary SIM card) and 1 (secondary SIM card).

Command Default

By default, when the Auto SIM feature is enabled on a modem, a data profile is selected based on the modem firmware.

Command Modes

Controller cellular configuration (controller-cellular)

Command History

Release	Modification
Cisco SD-WAN Release 20.8.1	This command was introduced.

Usage Guidelines

If a device contains two SIM cards, you can create a separate data profile for each SIM card.

Examples

The following example shows how to configure a data profile for the primary SIM card in a device:

```
controller Cellular 0/1/0
 profile id 6 apn test authentication chap username admin password my_password pdn-type
ipv4 slot 0
```

lte gps constellation

To configure the Global Navigation Satellite System (GNSS) constellations on a Cisco IOS XE Catalyst SD-WAN device, use the **lte gps constellation** command in cellular configuration mode. To disable the GNSS settings, use the **no** form of this command.

lte gps constellation { **beidou** | **galileo** | **glonass** | **gps** | **gnss** }

no lte gps constellation

beidou	Enable **beidou** as an active constellation.
galileo	Enable **galileo** as an active constellation.
glonass	Enable **glonass** as an active constellation.
gps	Enable **gps** as an active constellation.
gnss	Choose **gnss** to enable multiple GNSS constellations.

Command Default

No default behavior or values.

Command Modes

Controller cellular configuration (controller-cellular)

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.15.1a	Command qualified for use in Cisco Catalyst SD-WAN Manager CLI templates.

Examples

The following example shows how to configure GNSS constellation on a Cisco IOS XE Catalyst SD-WAN device:

```
Device(config)# controller cellular 0/1/0
Device(config-controller)# lte gps constellation gps
```

lte modem crash-action

To configure the lte-modem crash-action on a Cisco IOS XE Catalyst SD-WAN device, use either of these two commands in cellular configuration mode.

lte modem crash-action {auto-collect|boot-and-hold}

To disable the crash-action auto-collect settings, use this command.

no lte modem crash-action auto-collect

Syntax Description

Table 1:

auto-collect	The modem recovers within one minute and automatically generates crash dump log. When the modem crashes, the modem will go to Boot and Hold mode. The user can detect this mode with this option configured and collect the modem crash dump automatically. When the crash dump is collected, the user can reset the modem, which will go to **online** mode.
boot-and-hold	When the modem crashes, the modem will go to **Boot and Hold** mode. The user has the option to collect the modem crash dump manually. The modem will stay in this mode until modem crash dump is collected.

Command Default No default behavior or values.

Command Modes Cellular configuration mode

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.18.1a	The command **lte modem crash-action auto-collect** was introduced.

Example

The following example shows how to configure lte-modem-crash-action in a device:

```
Router(config-controller)#lte modem crash-action ?
  auto-collect   Remain in crash state and auto collect crash dump
  boot-and-hold  Remain in crash stateRouter(config-controller)#lte modem crash-action
auto-collect
```

lte profile reset

To reset the configuration of a cellular modem operating on a Cisco IOS XE Catalyst SD-WAN device, use the **cellular***slot* **lte profile reset** command in cellular configuration mode.

Syntax Description

lte profile reset	Resets the configured modem slot profile to the factory default profile.

Command Default No default behavior or values.

Command Modes Cellular configuration mode

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.18.1a	The command **cellular***slot* **lte profile reset** was introduced.

Example

The following example shows how to configure **cellular <slot> lte profile reset** in a device:

```
CellularGateway# cellular 0/2/0 profile-reset
```

lte modem dm-log

To configure integrated Diagnostic Monitor (DM) logging to monitor traffic on a modem, use the **lte modem dm-log** command in controller cellular configuration mode.

lte modem dm-log { **enable** | **filesize** *size* | **filter** *location : filename* | **output path** *URL* | **rotation** | **size** *log-size* }

Syntax Description

lte modem	Enables, disables, or modifies the cellular configuration on a LTE PIM module in the 0/*x*/0 section of the controller cellular configuration.
enable	Enables DM logging.
filesize *size*	Specifies the maximum log file size, in MB. Range is from 1 to 64. Default is 20.
filter *location : filename*	Specifies the DM log filter file location and filename. These are the valid values for the *location* parameter: **flash0**, **flash1**, **flash**, **usbflash**, **usbflash0**, or **usbflash1** **Note:** If you do not specify a DM log filter file, the command uses a generic filter file which comes with the diagnostic software tool. **Note:** Supported file format: SQF
output path *URL*	Specifies the location for storing the DM logging output files. The router's flash storage is the default path.
rotation	Enables log rotation. **Note:** The **rotation** option is only supported if you store the log files on the router flash drive or a USB flash drive.
size *log-size*	Maximum log size (MB). Range: 0 to 1024 Default: 64

Command Default No default behavior or values.

Command Modes controller cellular configuration (config-Cellular-0/*x*/0)

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.6.1a	Command qualified for use in Cisco SD-WAN Manager CLI templates.

Usage Guidelines When you modify the dm-log configuration from the CLI or via Cisco SD-WAN Manager, you may see the following message:

```
Log rotation is enabled, please make sure DM logging file size is smaller than 64MB, the
default maximum log size before removing "modem dm-log size" cfg."
```

In such cases, update the `lte modem dm-log filesize` configuration to remove or modify the rest of the dm-log settings. You can achieve this in two ways.

Option 1: Remove the dm-log filesize configuration and then update the rest of the dm-log configurations.

```
Device# config-transaction
admin connected from 10.0.0.1 using console on Device
Device(config)# controller Cellular 0/2/0
Device(config-Cellular-0/2/0)# no lte modem dm-log filesize 64
Device(config-Cellular-0/2/0)# commit
Commit complete.
Device(config-Cellular-0/2/0)# end
Device#
```

Option 2: Update the dm-log filesize configuration to a value less than 64 and then update the rest of the dm-log configurations.

```
Device# config-t
admin connected from 10.0.0.1 using console on Device
Device(config)# controller Cellular 0/2/0
Device(config-Cellular-0/2/0)# lte modem dm-log filesize 25
Device(config-Cellular-0/2/0)# commit
Commit complete.
Device(config-Cellular-0/2/0)# no lte modem dm-log size 1024
Device(config-Cellular-0/2/0)# no lte modem dm-log rotation
Device(config-Cellular-0/2/0)# commit
Commit complete.
Device(config-Cellular-0/2/0)# end
Device# show running-config controller Cellular 0/2/0
Building configuration...
Current configuration : 266 bytes
!
controller Cellular 0/2/0
lte modem dm-log filesize 25
profile id 1 apn internet authentication none pdn-type ipv4
profile id 2 apn embb authentication none pdn-type ipv4 slice-type 1
profile id 3 apn urllc authentication none pdn-type ipv4 slice-type 2
end
```

lte450 profile

To create a profile for a P-LTE-450 module in a device, specifying connection parameters such as profile ID, APN, authentication, PDN type, and VLAN, use the **lte450 profile** command in global configuration mode. To set the command to the default state, use the **no** form of this command.

lte450 profile id *id* **apn** *apn_name* [**authentication** *auth_type* **username** *username* **password** *password*] [**pdn-type** *pdn_type*] [**vlan** *vlan_id*]

no profile id *id*

Syntax Description

id	Identification number of the data profile. Valid values are from 1 to 3.
apn *apn_name*	Name of the access point network of the service provider.
authentication *auth_type*	Authentication type used for APN access. Valid values are: • **chap**: Use CHAP authentication only. • **pap**: Use PAP authentication only. • **none**: Use none authentication.
pdn-type *pdn_type*	Type of packet data matching used for APN access. Valid values are: • **ipv4**: IPv4 type bearer. • **ipv4v6**: IPV4V6 type bearer. • **ipv6**: IPv6 type bearer.
vlan *vlan_id*	Configures VLAN settings for the APN. VLAN ID is the VLAN number. The range is 1 to 4094.

Command Default

No default behavior or values.

Command Modes

Interface configuration (config-if)

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.18.1a	This command was introduced.

Usage Guidelines

- Configure the username and password of the P-LTE-450 module, see **lte450 credential** command.
- Provide an appropriate *apn_name* such as **`internet`**. It should be communicated by your service provider.
- Provide an appropriate *vlan_id* such as **`2`**.

Examples

The following example shows how to configure a profile for P-LTE-450 module in a device:

```
Device(config)#interface GigabitEthernet0/4/0
Device(config-if)#no shutdown
```

```
Device(config-if)#ip address dhcp
Device(config-if)#negotiation auto
Device(config-if)#lte450 credential username admin password VzbhPxZJ42WUhPHB
Device(config-if)#lte450 band 31
Device(config-if)#lte450 profile id 2 apn internet authentication none pdn-type ipv4 vlan
2
Device(config-if)#Exit
Device(config)#interface GigabitEthernet0/4/0.2
Device(config-if)#description LTE450 Interface
Device(config-if)#no shutdown
Device(config-if)#encapsulation dot1Q 2
Device(config-if)#ip address dhcp
```

lte450 credential

To configure authentication credentials for an P-LTE-450 module in a device, use the **lte450 credential** command in global configuration mode. To remove the credentials configuration, use the **no** form of this command.

lte450 credential username *username* **password** *password*

no credential

Syntax Description

username *username*	Username provided by the service provider for APN access authentication. Required if the authentication type is **chap**, **pap**, or **none**. If the authentication type is none, username and password fields will not be required.
password *password*	Password is the password on the sticker label that comes with the P-LTE-450 module.

Command Default

No default behavior or values.

Command Modes

Interface configuration (config-if)

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.18.1a	This command was introduced.

Usage Guidelines

password is the password on the sticker label that comes with the P-LTE-450 module.

Examples

The following example shows how to configure the usename and password for a P-LTE-450 module in a device.

```
Device(config)#interface GigabitEthernet0/4/0
Device(config-if)#no shutdown
Device(config-if)#ip address dhcp
```

```
Device(config-if)#negotiation auto
Device(config-if)#lte450 credential username admin password VzbhPxJ42WUhHB
Device(config-if)#lte450 band 31
Device(config-if)#lte450 profile id 2 apn internet authentication none pdn-type ipv4 vlan
2
Device(config-if)#Exit
```

lte450 band

To configure a band for an LTE 450 MHz module in a device, use the **lte450 band** command in global configuration mode. To delete the credential configuration, use the **no** form of this command.

lte450 band { **31** | **72** }

no band

Syntax Description

lte450 band	Specifies the the modem band.
31	Specifies LTE band 31 (450 MHz).
72	Specifies LTE band 72 (450 MHz).

Command Default

No default behavior or values.

Command Modes

Interface configuration (config-if)

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.18.1a	This command was introduced.

Usage Guidelines

Use **band 31** or **72**.

Examples

The following example shows how to configure the band for P-LTE-450 module in a device:

```
Device(config)#interface GigabitEthernet0/4/0
Device(config-if)#no shutdown
Device(config-if)#ip address dhcp
Device(config-if)#negotiation auto
Device(config-if)#lte450 credential username admin password VzbhPxZJ42WUhPHB
Device(config-if)#lte450 band 31
Device(config-if)#lte450 profile id 2 apn internet authentication none pdn-type ipv4 vlan
2
Device(config-if)#Exit
```