OsmoUPF VTY Reference

COLLABORATORS

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Chapter 1

VTY reference

The Virtual Tele Type (VTY) has the concept of nodes and commands. This chapter lists all nodes and the commands that are available within the node. Each command can consist out of several words followed by a variable number of parameters. There are common patterns for the parameters, these include IPv4 addresses, number ranges, a word, a line of text and choice. The following will explain the commonly used patterns.

Pattern	Example	Explanation
A.B.C.D	127.0.0.1	A IPv4 address
TEXT	example01	A single string without any spaces, tabs
.TEXT	Some information	A line of text
(OptionA|OptionB|OptionC)	OptionA	A choice between a list of available options
<0-10>	5	A number from a range

Table 1.1: VTY Parameter Patterns

The application is configured through the VTY. For configuring a system one needs to enter the **enable** node and then enter the **configure terminal** command. Then the configuration can be made according to the available commands. After the system has been configured one can use the **write** command to write the new configuration to the configuration file. The new file will be used after the application has been restarted.

The following table lists the TCP port numbers of the VTY for the various Osmocom GSM related programs as used on sysmocom products:

Port Number	Software
4240	osmo-pcu
4241	osmo-bts
4242	osmo-nitb, osmo-bsc
4243	osmo-bsc_mgcp
4244	osmo-bsc_nat
4245	osmo-sgsn
4246	osmo-gbproxy

Table 1.2: VTY port numbers

1.1 Common Commands

These commands are available on all VTY nodes. They are listed here only once, to unclutter the VTY reference.

1.1.1 **end**

Command

```
end
```

Parameters

end

    End current mode and change to enable mode.

1.1.2 **exit**

Command

```
exit
```

Parameters

exit

    Exit current mode and down to previous mode

1.1.3 **help**

Command

```
help
```

Parameters

help

    Description of the interactive help system

1.1.4 **list [with-flags]**

Command

```
list [with-flags]
```

Parameters

list

    Print command list

[with-flags]

    Also print the VTY attribute flags

1.1.5 show running-config

Command

```
show running-config
```

Parameters

show
> Show running system information

running-config
> running configuration

1.1.6 show vty-attributes

Command

```
show vty-attributes
```

Parameters

show
> Show running system information

vty-attributes
> List of VTY attributes

1.1.7 show vty-attributes (application|library|global)

Command

```
show vty-attributes (application|library|global)
```

Parameters

show
> Show running system information

vty-attributes
> List of VTY attributes

application
> Application specific attributes only

library
> Library specific attributes only

global
> Global attributes only

1.1.8 write

Command

```
write
```

Parameters

write

> Write running configuration to memory, network, or terminal

1.1.9 write file [PATH]

Command

```
write file [PATH]
```

Parameters

write

> Write running configuration to memory, network, or terminal

file

> Write to configuration file

[PATH]

> Set file path to store the config, or replace if already exists

1.1.10 write memory

Command

```
write memory
```

Parameters

write

> Write running configuration to memory, network, or terminal

memory

> Write configuration to the file (same as write file)

1.1.11 write terminal

Command

```
write terminal
```

Parameters

write
    Write running configuration to memory, network, or terminal

terminal
    Write to terminal

1.2 view

The view node is the default node when connecting to the VTY interface. This node does not require any additional permission and allows to introspect the application.

1.2.1 enable [expert-mode]

Command

```
enable [expert-mode]
```

Parameters

enable
    Turn on privileged mode command

[expert-mode]
    Enable the expert mode (show hidden commands)

1.2.2 logging color (0|1)

Command

```
logging color (0|1)
```

Parameters

logging
    Configure logging

color
    Configure color-printing for log messages

0
    Don't use color for printing messages

1
    Use color for printing messages

1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging
    Configure logging

disable
    Disables logging to this vty

1.2.4 logging enable

This command is required to make logging commands available on the telnet VTY.

Command

```
logging enable
```

Parameters

logging
    Configure logging

enable
    Enables logging to this vty

1.2.5 logging filter all (0|1)

Disable/enable general log output on a given target. Typically, 'logging filter all 1' allows to see the usual log output on a given target. Setting to '0' can be useful when logging to the telnet VTY console: mute all log output to allow typing VTY commands on the telnet prompt without interference from log output; 'logging filter all 1' then re-enables logging in the same log output configuration as before. Some applications provide more specific filters, e.g. to log a given IMSI only. To employ such filters, set 'logging filter all 0' to disable general logging, and then enable a more specific filter instead.

Command

```
logging filter all (0|1)
```

Parameters

logging
    Configure logging

filter
    Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

1.2.6 logging level (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lc...

Command

```
logging level (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl| ←
    lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata ←
    |lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

ref

Reference Counting

peer

PFCP peer association

session

PFCP sessions

gtp

GTP tunneling

nft

GTP forwarding rules via linux netfilter

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

A-bis Input Driver for B-Channels (voice)

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

lns

GPRS NS layer

lbssgp

GPRS BSSGP layer

lnsdata

GPRS NS layer data PDU

lnssignal

GPRS NS layer signal PDU

liuup

Iu UP layer

lpfcp

   libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

   libosmo-csn1 Concrete Syntax Notation 1 codec

lio

   libosmocore IO Subsystem

debug

   Log debug messages and higher levels

info

   Log informational messages and higher levels

notice

   Log noticeable messages and higher levels

error

   Log error messages and higher levels

fatal

   Log only fatal messages

1.2.7 logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all (debug|info|notice|error|fatal)
```

Parameters

logging

   Configure logging

level

   Set the log level for a specified category

force-all

   Globally force all logging categories to a specific level. This is released by the 'no logging level force-all' command. Note: any 'logging level <category> <level>' commands will have no visible effect after this, until the forced level is released.

debug

   Log debug messages and higher levels

info

   Log informational messages and higher levels

notice

   Log noticeable messages and higher levels

error

   Log error messages and higher levels

fatal

   Log only fatal messages

1.2.8 logging level set-all (debug|info|notice|error|fatal)

Command

```
logging level set-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

Once-off set all categories to the given log level. There is no single command to take back these changes -- each category is set to the given level, period.

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.2.9 logging print category (0|1)

Command

```
logging print category (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.2.10 logging print category-hex (0|1)

Command

```
logging print category-hex (0|1)
```

Parameters

logging

> Configure logging

print

> Log output settings

category-hex

> Configure log message

0

> Don't prefix each log message

1

> Prefix each log message with category/subsystem nr in hex ('<000b>')

1.2.11 logging print extended-timestamp (0|1)

Command

```
logging print extended-timestamp (0|1)
```

Parameters

logging

> Configure logging

print

> Log output settings

extended-timestamp

> Configure log message timestamping

0

> Don't prefix each log message

1

> Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

1.2.12 logging print file (0|1|basename) [last]

Command

```
logging print file (0|1|basename) [last]
```

Parameters

logging

Configure logging

print

Log output settings

file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

basename

Prefix each log message with the source file's basename (strip leading paths) and line

[last]

Log source file info at the end of a log line. If omitted, log source file info just before the log text.

1.2.13 logging print level (0|1)

Command

```
logging print level (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

1.2.14 logging print thread-id (0|1)

Command

```
logging print thread-id (0|1)
```

Parameters

logging

>   Configure logging

print

>   Log output settings

thread-id

>   Configure log message logging Thread ID

0

>   Don't prefix each log message

1

>   Prefix each log message with current Thread ID

1.2.15 logging set-log-mask MASK

Command

```
logging set-log-mask MASK
```

Parameters

logging

>   Configure logging

set-log-mask

>   Set the logmask of this logging target

MASK

>   List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to
>   the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are
>   LOGL_DEBUG=1 LOGL_INFO=3 LOGL_NOTICE=5 LOGL_ERROR=7 LOGL_FATAL=8

1.2.16   logging timestamp (0|1)

Command

```
logging timestamp (0|1)
```

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.2.17   logp (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|...

Command

```
logp (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats| ←
    lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal| ←
    liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters

logp

Print a message on all log outputs; useful for placing markers in test logs

ref

Reference Counting

peer

PFCP peer association

session

PFCP sessions

gtp

GTP tunneling

nft

GTP forwarding rules via linux netfilter

lglobal

Library-internal global log family

llapd

    LAPD in libosmogsm

linp

    A-bis Intput Subsystem

lmux

    A-bis B-Subchannel TRAU Frame Multiplex

lmi

    A-bis Input Driver for Signalling

lmib

    A-bis Input Driver for B-Channels (voice)

lsms

    Layer3 Short Message Service (SMS)

lctrl

    Control Interface

lgtp

    GPRS GTP library

lstats

    Statistics messages and logging

lgsup

    Generic Subscriber Update Protocol

loap

    Osmocom Authentication Protocol

lss7

    libosmo-sigtran Signalling System 7

lsccp

    libosmo-sigtran SCCP Implementation

lsua

    libosmo-sigtran SCCP User Adaptation

lm3ua

    libosmo-sigtran MTP3 User Adaptation

lmgcp

    libosmo-mgcp Media Gateway Control Protocol

ljibuf

    libosmo-netif Jitter Buffer

lrspro

    Remote SIM protocol

lns

    GPRS NS layer

lbssgp

>   GPRS BSSGP layer

lnsdata

>   GPRS NS layer data PDU

lnssignal

>   GPRS NS layer signal PDU

liuup

>   Iu UP layer

lpfcp

>   libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

>   libosmo-csn1 Concrete Syntax Notation 1 codec

lio

>   libosmocore IO Subsystem

debug

>   Log debug messages and higher levels

info

>   Log informational messages and higher levels

notice

>   Log noticeable messages and higher levels

error

>   Log error messages and higher levels

fatal

>   Log only fatal messages

.LOGMESSAGE

>   Arbitrary message to log on given category and log level

1.2.18   no logging level force-all

Command

```
no logging level force-all
```

Parameters

no

>   Negate a command or set its defaults

logging

>   Configure logging

level

>   Set the log level for a specified category

force-all

>   Release any globally forced log level set with 'logging level force-all <level>'

1.2.19   show alarms

Command

```
show alarms
```

Parameters

show

    Show running system information

alarms

    Show current logging configuration

1.2.20   show cpu-sched threads

Command

```
show cpu-sched threads
```

Parameters

show

    Show running system information

cpu-sched

    Show Sched section information

threads

    Show information about running threads)

1.2.21   show gtp

Command

```
show gtp
```

Parameters

show

    Show running system information

gtp

    Active GTP tunnels, both tunend and tunmap

1.2.22 **show history**

Command

```
show history
```

Parameters

show

> Show running system information

history

> Display the session command history

1.2.23 **show logging vty**

Command

```
show logging vty
```

Parameters

show

> Show running system information

logging

> Show current logging configuration

vty

> Show current logging configuration for this vty

1.2.24 **show netinst [NAME]**

Command

```
show netinst [NAME]
```

Parameters

show

> Show running system information

netinst

> List configured Network Instance entries

[NAME]

> Show the Network Instance with this name (show all when omitted)

1.2.25 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

1.2.26 show pdr

Command

```
show pdr
```

Parameters

show

Show running system information

pdr

List all sessions' PDR and FAR status

1.2.27 show pid

Command

```
show pid
```

Parameters

show

Show running system information

pid

Displays the process ID

1.2.28 **show session**

Command

```
show session
```

Parameters

show

Show running system information

session

PFCP Session status

1.2.29 **show talloc-context (application|global|all) (full|brief|DEPTH)**

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH)
```

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

1.2.30 show talloc-context (application|global|all) (full|brief|DEPTH) filter REGEXP

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH) filter REGEXP
```

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

filter

Filter chunks using regular expression

REGEXP

Regular expression

1.2.31 show talloc-context (application|global|all) (full|brief|DEPTH) tree ADDRESS

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH) tree ADDRESS
```

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

tree

Display only a specific memory chunk

ADDRESS

Chunk address (e.g. 0xdeadbeef)

1.2.32 show timer [(pfcp)] [TNNNN]

Command

```
show timer [(pfcp)] [TNNNN]
```

Parameters

show

Show running system information

timer

Show timers

[pfcp]

PFCP endpoint timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

1.2.33 show uptime

Command

```
show uptime
```

Parameters

show

Show running system information

uptime

Displays how long the program has been running

1.2.34 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.2.35 terminal length <0-512>

Command

```
terminal length <0-512>
```

Parameters

terminal

Set terminal line parameters

length

Set number of lines on a screen

<0-512>

Number of lines on screen (0 for no pausing)

1.2.36 terminal no length

Command

```
terminal no length
```

Parameters

terminal
>   Set terminal line parameters

no
>   Negate a command or set its defaults

length
>   Set number of lines on a screen

1.2.37 who

Command

```
who
```

Parameters

who
>   Display who is on vty

1.3 enable

The enable node is a privileged node, allowing to make changes to the configuration and to access further commands like 'configure'. All commands seen on the view node are also available here.

1.3.1 configure [terminal]

Command

```
configure [terminal]
```

Parameters

configure
>   Configuration from vty interface

[terminal]
>   Configuration terminal

1.3.2 copy running-config startup-config

Command

```
copy running-config startup-config
```

Parameters

copy

    Copy configuration

running-config

    Copy running config to...

startup-config

    Copy running config to startup config (same as write file)

1.3.3 disable

Command

```
disable
```

Parameters

disable

    Turn off privileged mode command

1.3.4 logging color (0|1)

Command

```
logging color (0|1)
```

Parameters

logging

    Configure logging

color

    Configure color-printing for log messages

0

    Don't use color for printing messages

1

    Use color for printing messages

1.3.5 logging disable

Command

```
logging disable
```

Parameters

logging

    Configure logging

disable

    Disables logging to this vty

1.3.6 logging enable

This command is required to make logging commands available on the telnet VTY.

Command

```
logging enable
```

Parameters

logging

    Configure logging

enable

    Enables logging to this vty

1.3.7 logging filter all (0|1)

Disable/enable general log output on a given target. Typically, 'logging filter all 1' allows to see the usual log output on a given target. Setting to '0' can be useful when logging to the telnet VTY console: mute all log output to allow typing VTY commands on the telnet prompt without interference from log output; 'logging filter all 1' then re-enables logging in the same log output configuration as before. Some applications provide more specific filters, e.g. to log a given IMSI only. To employ such filters, set 'logging filter all 0' to disable general logging, and then enable a more specific filter instead.

Command

```
logging filter all (0|1)
```

Parameters

logging

    Configure logging

filter

    Filter log messages

all

> Do you want to log all messages?

0

> Only print messages matched by other filters

1

> Bypass filter and print all messages

1.3.8   logging level (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lc...

Command

```
logging level (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl| ←
    lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata ←
    |lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

> Configure logging

level

> Set the log level for a specified category

ref

> Reference Counting

peer

> PFCP peer association

session

> PFCP sessions

gtp

> GTP tunneling

nft

> GTP forwarding rules via linux netfilter

lglobal

> Library-internal global log family

llapd

> LAPD in libosmogsm

linp

> A-bis Intput Subsystem

lmux

> A-bis B-Subchannel TRAU Frame Multiplex

lmi

> A-bis Input Driver for Signalling

lmib

> A-bis Input Driver for B-Channels (voice)

lsms

> Layer3 Short Message Service (SMS)

lctrl

> Control Interface

lgtp

> GPRS GTP library

lstats

> Statistics messages and logging

lgsup

> Generic Subscriber Update Protocol

loap

> Osmocom Authentication Protocol

lss7

> libosmo-sigtran Signalling System 7

lsccp

> libosmo-sigtran SCCP Implementation

lsua

> libosmo-sigtran SCCP User Adaptation

lm3ua

> libosmo-sigtran MTP3 User Adaptation

lmgcp

> libosmo-mgcp Media Gateway Control Protocol

ljibuf

> libosmo-netif Jitter Buffer

lrspro

> Remote SIM protocol

lns

> GPRS NS layer

lbssgp

> GPRS BSSGP layer

lnsdata

> GPRS NS layer data PDU

lnssignal

> GPRS NS layer signal PDU

liuup

> Iu UP layer

lpfcp

   libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

   libosmo-csn1 Concrete Syntax Notation 1 codec

lio

   libosmocore IO Subsystem

debug

   Log debug messages and higher levels

info

   Log informational messages and higher levels

notice

   Log noticeable messages and higher levels

error

   Log error messages and higher levels

fatal

   Log only fatal messages

1.3.9 logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all (debug|info|notice|error|fatal)
```

Parameters

logging

   Configure logging

level

   Set the log level for a specified category

force-all

   Globally force all logging categories to a specific level. This is released by the 'no logging level force-all' command. Note:
   any 'logging level <category> <level>' commands will have no visible effect after this, until the forced level is released.

debug

   Log debug messages and higher levels

info

   Log informational messages and higher levels

notice

   Log noticeable messages and higher levels

error

   Log error messages and higher levels

fatal

   Log only fatal messages

1.3.10 logging level set-all (debug|info|notice|error|fatal)

Command

```
logging level set-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

Once-off set all categories to the given log level. There is no single command to take back these changes -- each category is set to the given level, period.

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.3.11 logging print category (0|1)

Command

```
logging print category (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.3.12 logging print category-hex (0|1)

Command

```
logging print category-hex (0|1)
```

Parameters

logging

 Configure logging

print

 Log output settings

category-hex

 Configure log message

0

 Don't prefix each log message

1

 Prefix each log message with category/subsystem nr in hex ('<000b>')

1.3.13 logging print extended-timestamp (0|1)

Command

```
logging print extended-timestamp (0|1)
```

Parameters

logging

 Configure logging

print

 Log output settings

extended-timestamp

 Configure log message timestamping

0

 Don't prefix each log message

1

 Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

1.3.14 logging print file (0|1|basename) [last]

Command

```
logging print file (0|1|basename) [last]
```

Parameters

logging

> Configure logging

print

> Log output settings

file

> Configure log message

0

> Don't prefix each log message

1

> Prefix each log message with the source file and line

basename

> Prefix each log message with the source file's basename (strip leading paths) and line

[last]

> Log source file info at the end of a log line. If omitted, log source file info just before the log text.

1.3.15 logging print level (0|1)

Command

```
logging print level (0|1)
```

Parameters

logging

> Configure logging

print

> Log output settings

level

> Configure log message

0

> Don't prefix each log message

1

> Prefix each log message with the log level name

1.3.16   logging print thread-id (0|1)

Command

```
logging print thread-id (0|1)
```

Parameters

logging

   Configure logging

print

   Log output settings

thread-id

   Configure log message logging Thread ID

0

   Don't prefix each log message

1

   Prefix each log message with current Thread ID

1.3.17   logging set-log-mask MASK

Command

```
logging set-log-mask MASK
```

Parameters

logging

   Configure logging

set-log-mask

   Set the logmask of this logging target

MASK

   List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to
   the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are
   LOGL_DEBUG=1 LOGL_INFO=3 LOGL_NOTICE=5 LOGL_ERROR=7 LOGL_FATAL=8

1.3.18 logging timestamp (0|1)

Command

```
logging timestamp (0|1)
```

Parameters

logging

    Configure logging

timestamp

    Configure log message timestamping

0

    Don't prefix each log message

1

    Prefix each log message with current timestamp

1.3.19 logp (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|...

Command

```
logp (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats| ←
    lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal| ←
    liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters

logp

    Print a message on all log outputs; useful for placing markers in test logs

ref

    Reference Counting

peer

    PFCP peer association

session

    PFCP sessions

gtp

    GTP tunneling

nft

    GTP forwarding rules via linux netfilter

lglobal

    Library-internal global log family

llapd

    LAPD in libosmogsm

linp

    A-bis Intput Subsystem

lmux

    A-bis B-Subchannel TRAU Frame Multiplex

lmi

    A-bis Input Driver for Signalling

lmib

    A-bis Input Driver for B-Channels (voice)

lsms

    Layer3 Short Message Service (SMS)

lctrl

    Control Interface

lgtp

    GPRS GTP library

lstats

    Statistics messages and logging

lgsup

    Generic Subscriber Update Protocol

loap

    Osmocom Authentication Protocol

lss7

    libosmo-sigtran Signalling System 7

lsccp

    libosmo-sigtran SCCP Implementation

lsua

    libosmo-sigtran SCCP User Adaptation

lm3ua

    libosmo-sigtran MTP3 User Adaptation

lmgcp

    libosmo-mgcp Media Gateway Control Protocol

ljibuf

    libosmo-netif Jitter Buffer

lrspro

    Remote SIM protocol

lns

    GPRS NS layer

lbssgp

GPRS BSSGP layer

lnsdata

GPRS NS layer data PDU

lnssignal

GPRS NS layer signal PDU

liuup

Iu UP layer

lpfcp

libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

libosmo-csn1 Concrete Syntax Notation 1 codec

lio

libosmocore IO Subsystem

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

.LOGMESSAGE

Arbitrary message to log on given category and log level

1.3.20   no logging level force-all

Command

```
no logging level force-all
```

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

Release any globally forced log level set with 'logging level force-all <level>'

1.3.21 show alarms

Command

```
show alarms
```

Parameters

show

    Show running system information

alarms

    Show current logging configuration

1.3.22 show cpu-sched threads

Command

```
show cpu-sched threads
```

Parameters

show

    Show running system information

cpu-sched

    Show Sched section information

threads

    Show information about running threads)

1.3.23 show gtp

Command

```
show gtp
```

Parameters

show

    Show running system information

gtp

    Active GTP tunnels, both tunend and tunmap

1.3.24 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.3.25 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vty

Show current logging configuration for this vty

1.3.26 show netinst [NAME]

Command

```
show netinst [NAME]
```

Parameters

show

Show running system information

netinst

List configured Network Instance entries

[NAME]

Show the Network Instance with this name (show all when omitted)

1.3.27 **show online-help**

Command

```
show online-help
```

Parameters

show
    Show running system information

online-help
    Online help

1.3.28 **show pdr**

Command

```
show pdr
```

Parameters

show
    Show running system information

pdr
    List all sessions' PDR and FAR status

1.3.29 **show session**

Command

```
show session
```

Parameters

show
    Show running system information

session
    PFCP Session status

1.3.30 show startup-config

Command

```
show startup-config
```

Parameters

show

> Show running system information

startup-config

> Contentes of startup configuration

1.3.31 show talloc-context (application|global|all) (full|brief|DEPTH)

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH)
```

Parameters

show

> Show running system information

talloc-context

> Show talloc memory hierarchy

application

> Application's context

global

> Global context (OTC_GLOBAL)

all

> All contexts, if NULL-context tracking is enabled

full

> Display a full talloc memory hierarchy

brief

> Display a brief talloc memory hierarchy

DEPTH

> Specify required maximal depth value

1.3.32   show talloc-context (application|global|all) (full|brief|DEPTH) filter REGEXP

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH) filter REGEXP
```

Parameters

show
    Show running system information

talloc-context
    Show talloc memory hierarchy

application
    Application's context

global
    Global context (OTC_GLOBAL)

all
    All contexts, if NULL-context tracking is enabled

full
    Display a full talloc memory hierarchy

brief
    Display a brief talloc memory hierarchy

DEPTH
    Specify required maximal depth value

filter
    Filter chunks using regular expression

REGEXP
    Regular expression

1.3.33   show talloc-context (application|global|all) (full|brief|DEPTH) tree ADDRESS

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH) tree ADDRESS
```

Parameters

show
    Show running system information

talloc-context
    Show talloc memory hierarchy

application

    Application's context

global

    Global context (OTC_GLOBAL)

all

    All contexts, if NULL-context tracking is enabled

full

    Display a full talloc memory hierarchy

brief

    Display a brief talloc memory hierarchy

DEPTH

    Specify required maximal depth value

tree

    Display only a specific memory chunk

ADDRESS

    Chunk address (e.g. 0xdeadbeef)

1.3.34   show timer [(pfcp)] [TNNNN]

Command

```
show timer [(pfcp)] [TNNNN]
```

Parameters

show

    Show running system information

timer

    Show timers

[pfcp]

    PFCP endpoint timers

[TNNNN]

    T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

1.3.35 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.3.36 shutdown

Command

```
shutdown
```

Parameters

shutdown

Request a shutdown of the program

1.3.37 terminal length <0-512>

Command

```
terminal length <0-512>
```

Parameters

terminal

Set terminal line parameters

length

Set number of lines on a screen

<0-512>

Number of lines on screen (0 for no pausing)

1.3.38 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal
> Set terminal line parameters

monitor
> Copy debug output to the current terminal line

1.3.39 terminal no length

Command

```
terminal no length
```

Parameters

terminal
> Set terminal line parameters

no
> Negate a command or set its defaults

length
> Set number of lines on a screen

1.3.40 terminal no monitor

Command

```
terminal no monitor
```

Parameters

terminal
> Set terminal line parameters

no
> Negate a command or set its defaults

monitor
> Copy debug output to the current terminal line

1.3.41 who

Command

```
who
```

Parameters

who

Display who is on vty

1.4 config

The config node is the root for all configuration commands, which are identical to the config file format. Changes made on the telnet VTY can be made persistent with the 'write file' command.

1.4.1 banner motd default

Command

```
banner motd default
```

Parameters

banner

Set banner string

motd

Strings for motd

default

Default string

1.4.2 banner motd file [FILE]

Command

```
banner motd file [FILE]
```

Parameters

banner

Set banner

motd

Banner for motd

file

Banner from a file

[FILE]

Filename

1.4.3 cpu-sched

Command

```
cpu-sched
```

Parameters

cpu-sched

Configure CPU Scheduler related settings

1.4.4 ctrl

Command

```
ctrl
```

Parameters

ctrl

Configure the Control Interface

1.4.5 enable password (8|) WORD

Command

```
enable password (8|) WORD
```

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN 'enable' password string

1.4.6 enable password LINE

Command

```
enable password LINE
```

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

LINE

The UNENCRYPTED (cleartext) 'enable' password

1.4.7 hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

1.4.8 line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vty

Virtual terminal

1.4.9 log alarms <2-32700>

Command

```
log alarms <2-32700>
```

Parameters

log

Configure logging sub-system

alarms

Logging alarms to osmo_strrb

<2-32700>

Maximum number of messages to log

1.4.10 log file FILENAME [blocking-io]

Command

```
log file FILENAME [blocking-io]
```

Parameters

log

Configure logging sub-system

file

Logging to text file

FILENAME

Filename

[blocking-io]

Use blocking, synchronous I/O

1.4.11 log gsmtap [HOSTNAME]

Command

```
log gsmtap [HOSTNAME]
```

Parameters

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

Host name to send the GSMTAP logging to (UDP port 4729)

1.4.12 log stderr [blocking-io]

Command

```
log stderr [blocking-io]
```

Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

[blocking-io]

Use blocking, synchronous I/O

1.4.13 log syslog (authpriv|cron|daemon|ftp|lpr|mail|news|user|uucp)

Command

```
log syslog (authpriv|cron|daemon|ftp|lpr|mail|news|user|uucp)
```

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

authpriv

Security/authorization messages facility

cron

Clock daemon (cron/at) facility

daemon

General system daemon facility

ftp

Ftp daemon facility

lpr

Line printer facility

mail

Mail facility

news

News facility

user

Generic facility

uucp

UUCP facility

1.4.14 log syslog local <0-7>

Command

```
log syslog local <0-7>
```

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

local

Syslog LOCAL facility

<0-7>

Local facility number

1.4.15 log systemd-journal [raw]

Command

```
log systemd-journal [raw]
```

Parameters

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

[raw]

Offload rendering of the meta information (location, category) to systemd

1.4.16 netinst

Command

```
netinst
```

Parameters

netinst

Enter the Network Instance configuration node

1.4.17 no banner motd

Command

```
no banner motd
```

Parameters

no
  Negate a command or set its defaults

banner
  Set banner string

motd
  Strings for motd

1.4.18 no enable password

Command

```
no enable password
```

Parameters

no
  Negate a command or set its defaults

enable
  Modify enable password parameters

password
  Assign the privileged level password

1.4.19 no hostname [HOSTNAME]

Command

```
no hostname [HOSTNAME]
```

Parameters

no
  Negate a command or set its defaults

hostname
  Reset system's network name

[HOSTNAME]
  Host name of this router

1.4.20 no log alarms

Command

```
no log alarms
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

alarms

Logging alarms to osmo_strrb

1.4.21 no log file FILENAME

Command

```
no log file FILENAME
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

file

Logging to text file

FILENAME

Filename

1.4.22 no log gsmtap [HOSTNAME]

Command

```
no log gsmtap [HOSTNAME]
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

Host name to send the GSMTAP logging to (UDP port 4729)

1.4.23 **no log stderr**

Command

```
no log stderr
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

stderr

Logging via STDERR of the process

1.4.24 **no log syslog**

Command

```
no log syslog
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

syslog

Logging via syslog

1.4.25 **no log systemd-journal**

Command

```
no log systemd-journal
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

1.4.26   no service advanced-vty

Command

```
no service advanced-vty
```

Parameters

no
     Negate a command or set its defaults

service
     Set up miscellaneous service

advanced-vty
     Enable advanced mode vty interface

1.4.27   no service terminal-length [<0-512>]

Command

```
no service terminal-length [<0-512>]
```

Parameters

no
     Negate a command or set its defaults

service
     Set up miscellaneous service

terminal-length
     System wide terminal length configuration

[<0-512>]
     Number of lines of VTY (0 means no line control)

1.4.28   password (8|) WORD

Command

```
password (8|) WORD
```

Parameters

password
     Assign the terminal connection password

8
     Specifies a HIDDEN password will follow

dummy string

WORD
     The HIDDEN line password string

1.4.29 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

1.4.30 pfcp

Command

```
pfcp
```

Parameters

pfcp

Enter the PFCP configuration node

1.4.31 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

1.4.32 service terminal-length <0-512>

Command

```
service terminal-length <0-512>
```

Parameters

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

<0-512>

Number of lines of VTY (0 means no line control)

1.4.33 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.4.34 timer [(pfcp)] [TNNNN] [(<0-2147483647>|default)]

Command

```
timer [(pfcp)] [TNNNN] [(<0-2147483647>|default)]
```

Parameters

timer

Configure or show timers

[pfcp]

PFCP endpoint timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

[<0-2147483647>]

New timer value

[default]

Set to default timer value

1.4.35   tunend

Command

```
tunend
```

Parameters

tunend

> Enter the 'tunend' node to configure Linux GTP kernel module usage

1.4.36   tunmap

Command

```
tunmap
```

Parameters

tunmap

> Enter the 'tunmap' node to configure nftables usage

1.5   config-log

The log node is commonly available in all Osmocom programs and allows configuring logging to stderr and/or log files, including logging category and level filtering as well as output formatting options. Note that the 'logging enable' command is required to make logging commands available on the telnet VTY.

1.5.1   logging color (0|1)

Command

```
logging color (0|1)
```

Parameters

logging

> Configure logging

color

> Configure color-printing for log messages

0

> Don't use color for printing messages

1

> Use color for printing messages

1.5.2 logging filter all (0|1)

Disable/enable general log output on a given target. Typically, 'logging filter all 1' allows to see the usual log output on a given target. Setting to '0' can be useful when logging to the telnet VTY console: mute all log output to allow typing VTY commands on the telnet prompt without interference from log output; 'logging filter all 1' then re-enables logging in the same log output configuration as before. Some applications provide more specific filters, e.g. to log a given IMSI only. To employ such filters, set 'logging filter all 0' to disable general logging, and then enable a more specific filter instead.

Command

```
logging filter all (0|1)
```

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

1.5.3 logging level (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lc...

Command

```
logging level (ref|peer|session|gtp|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl| ←
    lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata ←
    |lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

ref

Reference Counting

peer

PFCP peer association

session

  PFCP sessions

gtp

  GTP tunneling

nft

  GTP forwarding rules via linux netfilter

lglobal

  Library-internal global log family

llapd

  LAPD in libosmogsm

linp

  A-bis Intput Subsystem

lmux

  A-bis B-Subchannel TRAU Frame Multiplex

lmi

  A-bis Input Driver for Signalling

lmib

  A-bis Input Driver for B-Channels (voice)

lsms

  Layer3 Short Message Service (SMS)

lctrl

  Control Interface

lgtp

  GPRS GTP library

lstats

  Statistics messages and logging

lgsup

  Generic Subscriber Update Protocol

loap

  Osmocom Authentication Protocol

lss7

  libosmo-sigtran Signalling System 7

lsccp

  libosmo-sigtran SCCP Implementation

lsua

  libosmo-sigtran SCCP User Adaptation

lm3ua

  libosmo-sigtran MTP3 User Adaptation

lmgcp

    libosmo-mgcp Media Gateway Control Protocol

ljibuf

    libosmo-netif Jitter Buffer

lrspro

    Remote SIM protocol

lns

    GPRS NS layer

lbssgp

    GPRS BSSGP layer

lnsdata

    GPRS NS layer data PDU

lnssignal

    GPRS NS layer signal PDU

liuup

    Iu UP layer

lpfcp

    libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

    libosmo-csn1 Concrete Syntax Notation 1 codec

lio

    libosmocore IO Subsystem

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

1.5.4 logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

Globally force all logging categories to a specific level. This is released by the 'no logging level force-all' command. Note: any 'logging level <category> <level>' commands will have no visible effect after this, until the forced level is released.

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.5.5 logging level set-all (debug|info|notice|error|fatal)

Command

```
logging level set-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

Once-off set all categories to the given log level. There is no single command to take back these changes -- each category is set to the given level, period.

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.5.6 logging print category (0|1)

Command

```
logging print category (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.5.7 logging print category-hex (0|1)

Command

```
logging print category-hex (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem nr in hex ('<000b>')

1.5.8 logging print extended-timestamp (0|1)

Command

```
logging print extended-timestamp (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

1.5.9 logging print file (0|1|basename) [last]

Command

```
logging print file (0|1|basename) [last]
```

Parameters

logging

Configure logging

print

Log output settings

file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

basename

Prefix each log message with the source file's basename (strip leading paths) and line

[last]

Log source file info at the end of a log line. If omitted, log source file info just before the log text.

1.5.10   logging print level (0|1)

Command

```
logging print level (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

1.5.11   logging print thread-id (0|1)

Command

```
logging print thread-id (0|1)
```

Parameters

logging

Configure logging

print

    Log output settings

thread-id

    Configure log message logging Thread ID

0

    Don't prefix each log message

1

    Prefix each log message with current Thread ID

1.5.12 logging timestamp (0|1)

Command

```
logging timestamp (0|1)
```

Parameters

logging

    Configure logging

timestamp

    Configure log message timestamping

0

    Don't prefix each log message

1

    Prefix each log message with current timestamp

1.5.13 no logging level force-all

Command

```
no logging level force-all
```

Parameters

no

    Negate a command or set its defaults

logging

    Configure logging

level

    Set the log level for a specified category

force-all

    Release any globally forced log level set with 'logging level force-all <level>'

1.6   config-line

1.6.1   bind A.B.C.D [<0-65535>]

Command

```
bind A.B.C.D [<0-65535>]
```

Parameters

bind

Accept VTY telnet connections on local interface

A.B.C.D

Local interface IP address (default: 127.0.0.1)

[<0-65535>]

Local TCP port number

1.6.2   login

Command

```
login
```

Parameters

login

Enable password checking

1.6.3   no login

Command

```
no login
```

Parameters

no

Negate a command or set its defaults

login

Enable password checking

1.7   config-ctrl

1.7.1   bind A.B.C.D [<0-65535>]

Command
```
bind A.B.C.D [<0-65535>]
```

Parameters

bind
>   Set bind address to listen for Control connections

A.B.C.D
>   Local IP address (default 127.0.0.1)

[<0-65535>]
>   Local TCP port number

1.8   config-cpu-sched

1.8.1   cpu-affinity (self|all|<0-4294967295>|THREADNAME) CPUHEXMASK [delay]

Command
```
cpu-affinity (self|all|<0-4294967295>|THREADNAME) CPUHEXMASK [delay]
```

Global attributes

Flag: !
>   This command applies immediately

Parameters

cpu-affinity
>   Set CPU affinity mask on a (group of) thread(s)

self
>   Set CPU affinity mask on thread running the VTY

all
>   Set CPU affinity mask on all process' threads

<0-4294967295>
>   Set CPU affinity mask on a thread with specified PID

THREADNAME
>   Set CPU affinity mask on a thread with specified thread name

CPUHEXMASK
>   CPU affinity mask

[delay]
>   If set, delay applying the affinity mask now and let the app handle it at a later point

1.8.2 policy rr <1-32>

Command

```
policy rr <1-32>
```

Global attributes

Flag: !
    This command applies immediately

Parameters

policy
    Set the scheduling policy to use for the process

rr
    Use the SCHED_RR real-time scheduling algorithm

<1-32>
    Set the SCHED_RR real-time priority

1.9 config-pfcp

1.9.1 local-addr IP_ADDR

Command

```
local-addr IP_ADDR
```

Parameters

local-addr
    Set the local IP address to bind on for PFCP

IP_ADDR
    IP address

1.10 config-tunend

1.10.1 dev create DEVNAME [LISTEN_ADDR]

Command

```
dev create DEVNAME [LISTEN_ADDR]
```

Parameters

dev

Configure the GTP device to use for encaps/decaps.

create

Add GTP device, creating a new Linux kernel GTP device. Will listen on GTPv1 port 2152 and GTPv0 port 3386 on the specified LISTEN_ADDR

DEVNAME

device name, e.g. 'apn0'

[LISTEN_ADDR]

IPv4 or IPv6 address to listen on, omit for ANY. LISTEN_ADDR is used to pick a GTP device matching the local address for a PFCP Network Instance, which are configured in the 'netinst' node.

1.10.2   dev delete DEVNAME

Command

```
dev delete DEVNAME
```

Parameters

dev

Configure the GTP device to use for encaps/decaps.

delete

Remove a GTP device from the configuration, and delete the Linux kernel GTP device if it was created here.

DEVNAME

device name, e.g. 'apn0'

1.10.3   dev use DEVNAME [LOCAL_ADDR]

Command

```
dev use DEVNAME [LOCAL_ADDR]
```

Parameters

dev

Configure the GTP device to use for encaps/decaps.

use

Add GTP device, using an existing Linux kernel GTP device, e.g. created by 'gtp-link'

DEVNAME

device name, e.g. 'apn0'

[LOCAL_ADDR]

The local GTP address this device listens on. It is assumed to be ANY when omitted. LOCAL_ADDR is used to pick a GTP device matching the local address for a PFCP Network Instance, which are configured in the 'netinst' node.

1.10.4 mockup

Command

```
mockup
```

Parameters

mockup
> don't actually send commands to the GTP kernel module, just return success

1.10.5 no mockup

Command

```
no mockup
```

Parameters

no
> Negate a command or set its defaults

mockup
> operate GTP kernel module normally

1.11 config-tunmap

1.11.1 mockup

Command

```
mockup
```

Parameters

mockup
> don't actually send rulesets to nftables, just return success

1.11.2 no mockup

Command

```
no mockup
```

Parameters

no
> Negate a command or set its defaults

mockup
> operate nftables rulesets normally

1.11.3 show nft-rule tunmap example

Command

```
show nft-rule tunmap example
```

Parameters

show

Show running system information

nft-rule

nftables rule specifics

tunmap

GTP tunmap use case (a.k.a. forwarding between two GTP tunnels)

example

Print a complete nftables ruleset for a tunmap filled with example IP addresses and TEIDs

1.11.4 table-name TABLE_NAME

Command

```
table-name TABLE_NAME
```

Parameters

table-name

Set the nft inet table name to create and place GTP tunnel forwarding chains in (as in 'nft add table inet foo'). If multiple instances of osmo-upf are running on the same system, each osmo-upf must have its own table name. Otherwise the names of created forwarding chains will collide. The default table name is "osmo-upf".

TABLE_NAME

nft inet table name

1.12 config-netinst

1.12.1 add NAME ADDR

Command

```
add NAME ADDR
```

Parameters

add

add Network Instance: associate a PFCP Network Instance name with a local IP address

NAME

Network Instance name as received in PFCP Network Instance IE

ADDR

IP address of a local interface

1.12.2 clear

Command

```
clear
```

Parameters

clear

> Remove all Network Instance entries

1.12.3 show netinst [NAME]

Command

```
show netinst [NAME]
```

Parameters

show

> Show running system information

netinst

> List configured Network Instance entries

[NAME]

> Show the Network Instance with this name (show all when omitted)