

## **OsmoGbProxy VTY Reference**

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**COLLABORATORS**

	<i>TITLE :</i> OsmoGbProxy VTY Reference		
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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

#### Command

```
list
```

#### Parameters

list

Print command list

### 1.1.5 show running-config

#### Command

```
show running-config
```

#### Parameters

show

Show running system information

running-config

running configuration

### 1.1.6 write

#### Command

```
write
```

#### Parameters

write

Write running configuration to memory, network, or terminal

### 1.1.7 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

### 1.1.8 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)

---

### 1.1.9 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

#### Command

```
enable
```

#### Parameters

##### enable

Turn on privileged mode command

### 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 filter nsvc (nsei|nsvci) <0-65535>

#### Command

```
logging filter nsvc (nsei|nsvci) <0-65535>
```

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### nsvc

Filter based on NS Virtual Connection

##### nsei

Identify NS-VC by NSEI

##### nsvci

Identify NS-VC by NSVCI

##### <0-65535>

Numeric identifier

### 1.2.7 logging level (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|l...

#### Command

```
logging level (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats| ↵  
lgsup|loap|lss7|lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error| ↵  
fatal)
```

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### gprs

GPRS Packet Service

##### ns

GPRS Network Service (NS)

##### bssgp

GPRS BSS Gateway Protocol (BSSGP)

##### lglobal

Library-internal global log family



---

llapd  
LAPD in libosmogsm

linp  
A-bis Input 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

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 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

### 1.2.9 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

### 1.2.10 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

### 1.2.11 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>')

### 1.2.12 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

### 1.2.13 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.

### 1.2.14 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

---

### 1.2.15 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 (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgs...

#### Command

```
logp (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap ↵
|lss7|lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal) . ↵
LOGMESSAGE
```

#### Parameters

##### logp

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

gprs

GPRS Packet Service

ns

GPRS Network Service (NS)

bssgp

GPRS BSS Gateway Protocol (BSSGP)

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Input 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

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 asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

##### show

Show running system information

##### asciidoc

Asciidoc generation

##### counters

Generate table of all registered counters

### 1.2.21 show gbproxy [stats]

#### Command

```
show gbproxy [stats]
```

#### Parameters

##### show

Show running system information

##### gbproxy

Display information about the Gb proxy

##### [stats]

Show statistics

---

### 1.2.22 show gbproxy links

#### Command

```
show gbproxy links
```

#### Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

links

Show logical links

### 1.2.23 show history

#### Command

```
show history
```

#### Parameters

show

Show running system information

history

Display the session command history

### 1.2.24 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

---

### 1.2.25 show ns

#### Command

```
show ns
```

#### Parameters

show

Show running system information

ns

Display information about the NS protocol

### 1.2.26 show ns (nsei|nsvc) <0-65535> [stats]

#### Command

```
show ns (nsei|nsvc) <0-65535> [stats]
```

#### Parameters

show

Show running system information

ns

Display information about the NS protocol

nsei

Select one NSE by its NSE Identifier

nsvc

Select one NSE by its NS-VC Identifier

<0-65535>

The Identifier of selected type

[stats]

Include Statistics

### 1.2.27 show ns persistent

#### Command

```
show ns persistent
```

#### Parameters

show

Show running system information

ns

Display information about the NS protocol

persistent

Show only persistent NS

### 1.2.28 show ns stats

#### Command

```
show ns stats
```

#### Parameters

##### show

Show running system information

##### ns

Display information about the NS protocol

##### stats

Include statistics

### 1.2.29 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.2.30 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

##### show

Show running system information

##### rate-counters

Show all rate counters

### 1.2.31 show stats

#### Command

```
show stats
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

### 1.2.32 show stats level (global|peer|subscriber)

#### Command

```
show stats level (global|peer|subscriber)
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### level

Set the maximum group level

##### global

Show global groups only

##### peer

Show global and network peer related groups

##### subscriber

Show global, peer, and subscriber groups

### 1.2.33 show talloc-context (application|all) (full|brief|DEPTH)

#### Command

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

#### Parameters

##### show

Show running system information

---

**talloc-context**  
Show talloc memory hierarchy

**application**  
Application's context

**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

### 1.2.34 **show talloc-context (application|all) (full|brief|DEPTH) filter REGEXP**

Command

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

Parameters

**show**  
Show running system information

**talloc-context**  
Show talloc memory hierarchy

**application**  
Application's context

**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

### 1.2.35 show talloc-context (application|all) (full|brief|DEPTH) tree ADDRESS

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### 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)

### 1.2.36 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.2.37 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)

### 1.2.38 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

### 1.2.39 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 delete-gbproxy-link <0-65534> (stale|de-registered)

#### Command

```
delete-gbproxy-link <0-65534> (stale|de-registered)
```

#### Parameters

##### delete-gbproxy-link

Delete a GBProxy logical link entry by NSEI and identification

##### <0-65534>

NSEI number

##### stale

Delete stale entries

##### de-registered

Delete de-registered entries

---

### 1.3.4 delete-gbproxy-link <0-65534> (tlli|imsi|sgsn-nsei) IDENT

#### Command

```
delete-gbproxy-link <0-65534> (tlli|imsi|sgsn-nsei) IDENT
```

#### Parameters

##### delete-gbproxy-link

Delete a GBProxy logical link entry by NSEI and identification

##### <0-65534>

NSEI number

##### tlli

Delete entries with a matching TLLI (hex)

##### imsi

Delete entries with a matching IMSI

##### sgsn-nsei

Delete entries with a matching SGSN NSEI

##### IDENT

Identification to match

### 1.3.5 delete-gbproxy-peer <0-65534> (only-bvc|only-nsvc|all) [dry-run]

#### Command

```
delete-gbproxy-peer <0-65534> (only-bvc|only-nsvc|all) [dry-run]
```

#### Parameters

##### delete-gbproxy-peer

Delete a GBProxy peer by NSEI and optionally BVCI

##### <0-65534>

NSEI number

##### only-bvc

Only delete BSSGP connections (BVC)

##### only-nsvc

Only delete dynamic NS connections (NS-VC)

##### all

Delete BVC and dynamic NS connections

##### [dry-run]

Show what would be deleted instead of actually deleting

### 1.3.6 delete-gbproxy-peer <0-65534> bvci <2-65534>

#### Command

```
delete-gbproxy-peer <0-65534> bvci <2-65534>
```

#### Parameters

##### delete-gbproxy-peer

Delete a GBProxy peer by NSEI and optionally BVCI

##### <0-65534>

NSEI number

##### bvci

Only delete peer with a matching BVCI

##### <2-65534>

BVCI number

### 1.3.7 disable

#### Command

```
disable
```

#### Parameters

##### disable

Turn off privileged mode command

### 1.3.8 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

---

### 1.3.9 logging disable

#### Command

```
logging disable
```

#### Parameters

##### logging

Configure logging

##### disable

Disables logging to this vty

### 1.3.10 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

### 1.3.11 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

---

### 1.3.12 logging filter nsvc (nsei|nsvci) <0-65535>

#### Command

```
logging filter nsvc (nsei|nsvci) <0-65535>
```

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### nsvc

Filter based on NS Virtual Connection

##### nsei

Identify NS-VC by NSEI

##### nsvci

Identify NS-VC by NSVCI

##### <0-65535>

Numeric identifier

### 1.3.13 logging level (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|l...

#### Command

```
logging level (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats| ↵
lgsup|loap|lss7|lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error| ↵
fatal)
```

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### gprs

GPRS Packet Service

##### ns

GPRS Network Service (NS)

##### bssgp

GPRS BSS Gateway Protocol (BSSGP)

##### lglobal

Library-internal global log family

---

llapd  
LAPD in libosmogsm

linp  
A-bis Input 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

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

### 1.3.14 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

### 1.3.15 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

### 1.3.16 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



### 1.3.17 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>')

### 1.3.18 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

### 1.3.19 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.

### 1.3.20 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

### 1.3.21 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

### 1.3.22 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

### 1.3.23 logp (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgs...

#### Command

```
logp (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap ↵
|lss7|lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal) . ↵
LOGMESSAGE
```

#### Parameters

##### logp

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

---

gprs  
GPRS Packet Service

ns  
GPRS Network Service (NS)

bssgp  
GPRS BSS Gateway Protocol (BSSGP)

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input 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

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

### 1.3.24 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>'

### 1.3.25 nsvc (nsei|nsvci) <0-65535> (block|unblock|reset)

#### Command

```
nsvc (nsei|nsvci) <0-65535> (block|unblock|reset)
```

#### Parameters

##### nsvc

Perform an operation on a NSVC

##### nsei

NSEI to identify NS-VC Identifier (NS-VCI)

##### nsvci

NS-VC Identifier (NS-VCI)

##### <0-65535>

The NSEI

##### block

Initiate BLOCK procedure

##### unblock

Initiate UNBLOCK procedure

##### reset

Initiate RESET procedure

### 1.3.26 show alarms

#### Command

```
show alarms
```

#### Parameters

##### show

Show running system information

##### alarms

Show current logging configuration

### 1.3.27 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

---

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.3.28 show gbproxy [stats]

Command

```
show gbproxy [stats]
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

[stats]

Show statistics

### 1.3.29 show gbproxy links

Command

```
show gbproxy links
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

links

Show logical links

### 1.3.30 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

### 1.3.31 show logging vty

#### Command

```
show logging vty
```

#### Parameters

show

Show running system information

logging

Show current logging configuration

vtv

Show current logging configuration for this vty

### 1.3.32 show ns

#### Command

```
show ns
```

#### Parameters

show

Show running system information

ns

Display information about the NS protocol

### 1.3.33 show ns (nsei|nsvc) <0-65535> [stats]

#### Command

```
show ns (nsei|nsvc) <0-65535> [stats]
```

#### Parameters

show

Show running system information

ns

Display information about the NS protocol

nsei

Select one NSE by its NSE Identifier

nsvc

Select one NSE by its NS-VC Identifier

<0-65535>

The Identifier of selected type

[stats]

Include Statistics

---



### 1.3.34 show ns persistent

#### Command

```
show ns persistent
```

#### Parameters

##### show

Show running system information

##### ns

Display information about the NS protocol

##### persistent

Show only persistent NS

### 1.3.35 show ns stats

#### Command

```
show ns stats
```

#### Parameters

##### show

Show running system information

##### ns

Display information about the NS protocol

##### stats

Include statistics

### 1.3.36 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.3.37 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

##### show

Show running system information

##### rate-counters

Show all rate counters

### 1.3.38 show startup-config

#### Command

```
show startup-config
```

#### Parameters

##### show

Show running system information

##### startup-config

Contentes of startup configuration

### 1.3.39 show stats

#### Command

```
show stats
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

### 1.3.40 show stats level (global|peer|subscriber)

#### Command

```
show stats level (global|peer|subscriber)
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### level

Set the maximum group level

##### global

Show global groups only

##### peer

Show global and network peer related groups

##### subscriber

Show global, peer, and subscriber groups

### 1.3.41 show talloc-context (application|all) (full|brief|DEPTH)

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### 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

---

### 1.3.42 show talloc-context (application|all) (full|brief|DEPTH) filter REGEXP

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### 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

### 1.3.43 show talloc-context (application|all) (full|brief|DEPTH) tree ADDRESS

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### 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)

### 1.3.44 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

### 1.3.45 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)

---

### 1.3.46 terminal monitor

#### Command

```
terminal monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### monitor

Copy debug output to the current terminal line

### 1.3.47 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

### 1.3.48 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

---

### 1.3.49 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 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

### 1.4.4 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

### 1.4.5 gbproxy

#### Command

```
gbproxy
```

#### Parameters

##### gbproxy

Configure the Gb proxy



### 1.4.6 hostname WORD

#### Command

```
hostname WORD
```

#### Parameters

##### hostname

Set system's network name

##### WORD

This system's network name

### 1.4.7 line vty

#### Command

```
line vty
```

#### Parameters

##### line

Configure a terminal line

##### vty

Virtual terminal

### 1.4.8 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

---

### 1.4.9 log file .FILENAME

#### Command

```
log file .FILENAME
```

#### Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

### 1.4.10 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)

### 1.4.11 log stderr

#### Command

```
log stderr
```

#### Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 1.4.12 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

### 1.4.13 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

#### 1.4.14 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

#### 1.4.15 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

#### 1.4.16 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

### 1.4.17 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

### 1.4.18 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

### 1.4.19 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

---

### 1.4.20 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

### 1.4.21 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

### 1.4.22 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)

---

### 1.4.23 no stats reporter log

#### Command

```
no stats reporter log
```

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.24 no stats reporter statsd

#### Command

```
no stats reporter statsd
```

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

### 1.4.25 ns

#### Command

```
ns
```

#### Parameters

ns

Configure the GPRS Network Service

---

### 1.4.26 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

### 1.4.27 password LINE

#### Command

```
password LINE
```

#### Parameters

##### password

Assign the terminal connection password

##### LINE

The UNENCRYPTED (cleartext) line password

### 1.4.28 service advanced-vty

#### Command

```
service advanced-vty
```

#### Parameters

##### service

Set up miscellaneous service

##### advanced-vty

Enable advanced mode vty interface

---



### 1.4.29 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)

### 1.4.30 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.4.31 stats interval <1-65535>

#### Command

```
stats interval <1-65535>
```

#### Parameters

##### stats

Configure stats sub-system

##### interval

Set the reporting interval

##### <1-65535>

Interval in seconds

---

### 1.4.32 stats reporter log

#### Command

```
stats reporter log
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.33 stats reporter statsd

#### Command

```
stats reporter statsd
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

## 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 filter nsvc (nsei|nsvci) <0-65535>

#### Command

```
logging filter nsvc (nsei|nsvci) <0-65535>
```

#### Parameters

## logging

Configure logging

---

filter

Filter log messages

nsvc

Filter based on NS Virtual Connection

nsei

Identify NS-VC by NSEI

nsvci

Identify NS-VC by NSVCI

<0-65535>

Numeric identifier

### 1.5.4 logging level (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|l...

Command

```
logging level (|gprs|ns|bssgp|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats| ↵
             lgsup|loap|lss7|lscdp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error| ↵
             fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

gprs

GPRS Packet Service

ns

GPRS Network Service (NS)

bssgp

GPRS BSS Gateway Protocol (BSSGP)

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Input 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

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 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

### 1.5.6 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

### 1.5.7 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

### 1.5.8 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>')

### 1.5.9 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

### 1.5.10 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.



### 1.5.11 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

### 1.5.12 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-stats

### 1.6.1 disable

Command

```
disable
```

Parameters

disable

Disable the reporter

### 1.6.2 enable

Command

```
enable
```

Parameters

enable

Enable the reporter

### 1.6.3 level (global|peer|subscriber)

Command

```
level (global|peer|subscriber)
```

Parameters

level

Set the maximum group level

global

Report global groups only

peer

Report global and network peer related groups

subscriber

Report global, peer, and subscriber groups

---

### 1.6.4 local-ip ADDR

#### Command

```
local-ip ADDR
```

#### Parameters

local-ip

Set the IP address to which we bind locally

ADDR

IP Address

### 1.6.5 mtu <100-65535>

#### Command

```
mtu <100-65535>
```

#### Parameters

mtu

Set the maximum packet size

<100-65535>

Size in byte

### 1.6.6 no local-ip

#### Command

```
no local-ip
```

#### Parameters

no

Negate a command or set its defaults

local-ip

Set the IP address to which we bind locally

### 1.6.7 no mtu

#### Command

```
no mtu
```

#### Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

---

### 1.6.8 no prefix

#### Command

```
no prefix
```

#### Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

### 1.6.9 prefix PREFIX

#### Command

```
prefix PREFIX
```

#### Parameters

prefix

Set the item name prefix

PREFIX

The prefix string

### 1.6.10 remote-ip ADDR

#### Command

```
remote-ip ADDR
```

#### Parameters

remote-ip

Set the remote IP address to which we connect

ADDR

IP Address

### 1.6.11 remote-port <1-65535>

#### Command

```
remote-port <1-65535>
```

#### Parameters

remote-port

Set the remote port to which we connect

<1-65535>

Remote port number

---

## 1.7 config-line

### 1.7.1 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

### 1.7.2 login

#### Command

```
login
```

#### Parameters

login

Enable password checking

### 1.7.3 no login

#### Command

```
no login
```

#### Parameters

no

Negate a command or set its defaults

login

Enable password checking

## 1.8 config-ns

### 1.8.1 encapsulation framerelay-gre enabled (1|0)

#### Command

```
encapsulation framerelay-gre enabled (1|0)
```

#### Parameters

##### encapsulation

NS encapsulation options

##### framerelay-gre

NS over Frame Relay over GRE Encapsulation

##### enabled

Enable or disable Frame Relay over GRE

1

Enable

0

Disable

### 1.8.2 encapsulation framerelay-gre local-ip A.B.C.D

#### Command

```
encapsulation framerelay-gre local-ip A.B.C.D
```

#### Parameters

##### encapsulation

NS encapsulation options

##### framerelay-gre

NS over Frame Relay over GRE Encapsulation

##### local-ip

Set the IP address on which we listen for NS/FR/GRE

A.B.C.D

IP Address

### 1.8.3 encapsulation udp dscp <0-255>

#### Command

```
encapsulation udp dscp <0-255>
```

#### Parameters

##### encapsulation

NS encapsulation options

##### udp

NS over UDP Encapsulation

##### dscp

Set DSCP/TOS on the UDP socket

##### <0-255>

DSCP Value

### 1.8.4 encapsulation udp local-ip A.B.C.D

#### Command

```
encapsulation udp local-ip A.B.C.D
```

#### Parameters

##### encapsulation

NS encapsulation options

##### udp

NS over UDP Encapsulation

##### local-ip

Set the IP address on which we listen for NS/UDP

##### A.B.C.D

IP Address

### 1.8.5 encapsulation udp local-port <0-65535>

#### Command

```
encapsulation udp local-port <0-65535>
```

#### Parameters

##### encapsulation

NS encapsulation options

udp

NS over UDP Encapsulation

local-port

Set the UDP port on which we listen for NS/UDP

<0-65535>

UDP port number

### 1.8.6 no nse <0-65535>

Command

```
no nse <0-65535>
```

Parameters

no

Delete Persistent NS Entity

nse

Delete Persistent NS Entity

<0-65535>

NS Entity ID (NSEI)

### 1.8.7 nse <0-65535> encapsulation (udp|framerelay-gre)

Command

```
nse <0-65535> encapsulation (udp|framerelay-gre)
```

Parameters

nse

Persistent NS Entity

<0-65535>

NS Entity ID (NSEI)

encapsulation

Encapsulation for NS

udp

UDP/IP Encapsulation

framerelay-gre

Frame-Relay/GRE/IP Encapsulation



### 1.8.8 nse <0-65535> fr-dlci <16-1007>

#### Command

```
nse <0-65535> fr-dlci <16-1007>
```

#### Parameters

nse

Persistent NS Entity

<0-65535>

NS Entity ID (NSEI)

fr-dlci

Frame Relay DLCI

<16-1007>

Frame Relay DLCI Number

### 1.8.9 nse <0-65535> nsvci <0-65534>

#### Command

```
nse <0-65535> nsvci <0-65534>
```

#### Parameters

nse

Persistent NS Entity

<0-65535>

NS Entity ID (NSEI)

nsvci

NS Virtual Connection

<0-65534>

NS Virtual Connection ID (NSVCI)

### 1.8.10 nse <0-65535> remote-ip A.B.C.D

#### Command

```
nse <0-65535> remote-ip A.B.C.D
```

#### Parameters

nse

Persistent NS Entity

<0-65535>

NS Entity ID (NSEI)

remote-ip

Remote IP Address

A.B.C.D

Remote IP Address

### 1.8.11 nse <0-65535> remote-port <0-65535>

Command

```
nse <0-65535> remote-port <0-65535>
```

Parameters

nse

Persistent NS Entity

<0-65535>

NS Entity ID (NSEI)

remote-port

Remote UDP Port

<0-65535>

Remote UDP Port Number

### 1.8.12 nse <0-65535> remote-role (sgsn|bss)

Command

```
nse <0-65535> remote-role (sgsn|bss)
```

Parameters

nse

Persistent NS Entity

<0-65535>

NS Entity ID (NSEI)

remote-role

Remote NSE Role

sgsn

Remote Peer is SGSN

bss

Remote Peer is BSS

### 1.8.13 timer (tns-block|tns-block-retries|tns-reset|tns-reset-retries|tns-test|tns-aliv...

#### Command

```
timer (tns-block|tns-block-retries|tns-reset|tns-reset-retries|tns-test|tns-alive|tns- ↵
    alive-retries|tsns-prov) <0-65535>
```

#### Parameters

##### timer

Network Service Timer

##### tns-block

(un)blocking Timer (Tns-block) timeout

##### tns-block-retries

(un)blocking Timer (Tns-block) number of retries

##### tns-reset

Reset Timer (Tns-reset) timeout

##### tns-reset-retries

Reset Timer (Tns-reset) number of retries

##### tns-test

Test Timer (Tns-test) timeout

##### tns-alive

Alive Timer (Tns-alive) timeout

##### tns-alive-retries

Alive Timer (Tns-alive) number of retries

##### tsns-prov

SNS Provision Timer (Tsns-prov) timeout

<0-65535>

Timer Value

## 1.9 config-gbproxy

Configure the Gb proxy

### 1.9.1 acquire-imsi

#### Command

```
acquire-imsi
```

#### Parameters

##### acquire-imsi

Acquire the IMSI before establishing a LLC connection (Experimental)

### 1.9.2 core-access-point-name (APN|none)

#### Command

```
core-access-point-name (APN|none)
```

#### Parameters

##### core-access-point-name

Use this access point name (APN) for the backbone

##### APN

Replace APN by this string

##### none

Remove APN

### 1.9.3 core-mobile-country-code <1-999>

#### Command

```
core-mobile-country-code <1-999>
```

#### Parameters

##### core-mobile-country-code

Use this country code for the core network

##### <1-999>

MCC value

### 1.9.4 core-mobile-network-code <1-999>

#### Command

```
core-mobile-network-code <1-999>
```

#### Parameters

##### core-mobile-network-code

Use this network code for the core network

##### <1-999>

NCC value

### 1.9.5 link stored-msgs-max-length <1-99999>

#### Command

```
link stored-msgs-max-length <1-99999>
```

#### Parameters

link

Set TLLI parameters

stored-msgs-max-length

Limit list length

<1-99999>

Maximum number of msgb stored in the logical link waiting to acquire its IMSI

### 1.9.6 link-list clean-stale-timer <1-999999>

#### Command

```
link-list clean-stale-timer <1-999999>
```

#### Parameters

link-list

Set TLLI list parameters

clean-stale-timer

Periodic timer to clean stale links

<1-999999>

Frequency at which the periodic timer is fired (in seconds)

### 1.9.7 link-list keep-mode (never|re-attach|identified|always)

#### Command

```
link-list keep-mode (never|re-attach|identified|always)
```

#### Parameters

link-list

Set TLLI list parameters

keep-mode

How to keep entries for detached logical links

never

Discard entry immediately after detachment

re-attach

Keep entry if a re-attachment has be requested

identified

Keep entry if it associated with an IMSI

always

Don't discard entries after detachment

### 1.9.8 link-list max-age <1-999999>

Command

```
link-list max-age <1-999999>
```

Parameters

link-list

Set TLLI list parameters

max-age

Limit maximum age

<1-999999>

Maximum age in seconds

### 1.9.9 link-list max-length <1-99999>

Command

```
link-list max-length <1-99999>
```

Parameters

link-list

Set TLLI list parameters

max-length

Limit list length

<1-99999>

Maximum number of logical links in the list

### 1.9.10 match-imsi (patching|routing) .REGEXP

#### Command

```
match-imsi (patching|routing) .REGEXP
```

#### Parameters

##### match-imsi

Restrict actions to certain IMSIs

##### patching

Patch MS related information elements on match only

##### routing

Route to the secondary SGSN on match only

##### .REGEXP

Regular expression for the IMSI match

### 1.9.11 no acquire-imsi

#### Command

```
no acquire-imsi
```

#### Parameters

##### no

Negate a command or set its defaults

##### acquire-imsi

Acquire the IMSI before establishing a LLC connection (Experimental)

### 1.9.12 no core-access-point-name

#### Command

```
no core-access-point-name
```

#### Parameters

##### no

Negate a command or set its defaults

##### core-access-point-name

Use this access point name (APN) for the backbone

---

### 1.9.13 no core-mobile-country-code

#### Command

```
no core-mobile-country-code
```

#### Parameters

no

Negate a command or set its defaults

core-mobile-country-code

Use this country code for the core network

### 1.9.14 no core-mobile-network-code

#### Command

```
no core-mobile-network-code
```

#### Parameters

no

Negate a command or set its defaults

core-mobile-network-code

Use this network code for the core network

### 1.9.15 no link stored-msgs-max-length

#### Command

```
no link stored-msgs-max-length
```

#### Parameters

no

Negate a command or set its defaults

link

Set TLLI parameters

stored-msgs-max-length

Limit list length

---



### 1.9.16 no link-list clean-stale-timer

#### Command

```
no link-list clean-stale-timer
```

#### Parameters

no

Negate a command or set its defaults

link-list

Set TLLI list parameters

clean-stale-timer

Periodic timer to clean stale links

### 1.9.17 no link-list max-age

#### Command

```
no link-list max-age
```

#### Parameters

no

Negate a command or set its defaults

link-list

Set TLLI list parameters

max-age

Limit maximum age

### 1.9.18 no link-list max-length

#### Command

```
no link-list max-length
```

#### Parameters

no

Negate a command or set its defaults

link-list

Set TLLI list parameters

max-length

Limit list length

---

### 1.9.19 no match-imsi

#### Command

```
no match-imsi
```

#### Parameters

no

Negate a command or set its defaults

match-imsi

Restrict actions to certain IMSIs

### 1.9.20 no patch-ptmsi

#### Command

```
no patch-ptmsi
```

#### Parameters

no

Negate a command or set its defaults

patch-ptmsi

Patch P-TMSI/TLLI

### 1.9.21 no secondary-sgsn

#### Command

```
no secondary-sgsn
```

#### Parameters

no

Negate a command or set its defaults

secondary-sgsn

Route matching LLC connections to a second SGSN (Experimental)

### 1.9.22 patch-ptmsi

#### Command

```
patch-ptmsi
```

#### Parameters

patch-ptmsi

Patch P-TMSI/TLLI

---

### 1.9.23 secondary-sgsn nsei <0-65534>

#### Command

```
secondary-sgsn nsei <0-65534>
```

#### Parameters

##### secondary-sgsn

Route matching LLC connections to a second SGSN (Experimental)

##### nsei

NSEI to be used in the connection with the SGSN

<0-65534>

The NSEI

### 1.9.24 sgsn nsei <0-65534>

#### Command

```
sgsn nsei <0-65534>
```

#### Parameters

##### sgsn

SGSN information

##### nsei

NSEI to be used in the connection with the SGSN

<0-65534>

The NSEI