

# **OsmoHLR VTY Reference**

Copyright © 2017

This work is copyright by sysmocom - s.f.m.c. GmbH. All rights reserved.

---

**COLLABORATORS**

	<i>TITLE :</i> OsmoHLR VTY Reference		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		March 21, 2023	

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME
v1	18th September 2017	Initial	nh

# Contents

<b>1</b>	<b>VTY reference</b>	<b>1</b>
1.1	Common Commands	1
1.1.1	end	2
1.1.2	exit	2
1.1.3	help	2
1.1.4	list	2
1.1.5	show running-config	3
1.1.6	write	3
1.1.7	write file	3
1.1.8	write memory	3
1.1.9	write terminal	4
1.2	view	4
1.2.1	enable	4
1.2.2	logging color (0 1)	4
1.2.3	logging disable	5
1.2.4	logging enable	5
1.2.5	logging filter all (0 1)	5
1.2.6	logging level (main db acl ssl global l lapd l in mux l mib l sms l ctr l gtp l ...	6
1.2.7	logging level force-all (debug info notice error fatal)	7
1.2.8	logging level set-all (debug info notice error fatal)	8
1.2.9	logging print category (0 1)	9
1.2.10	logging print category-hex (0 1)	9
1.2.11	logging print extended-timestamp (0 1)	10
1.2.12	logging print file (0 1 basename) [last]	10
1.2.13	logging print level (0 1)	11
1.2.14	logging set-log-mask MASK	11
1.2.15	logging timestamp (0 1)	11
1.2.16	no logging level force-all	12
1.2.17	show alarms	12
1.2.18	show asciidoc counters	13

1.2.19	show gsup-connections . . . . .	13
1.2.20	show history . . . . .	13
1.2.21	show logging vty . . . . .	14
1.2.22	show online-help . . . . .	14
1.2.23	show rate-counters . . . . .	14
1.2.24	show stats . . . . .	15
1.2.25	show stats level (globalpeer subscriber) . . . . .	15
1.2.26	show subscriber (imsilmsisdnlidlimei) IDENT . . . . .	15
1.2.27	show talloc-context (application all) (full brief DEPTH) . . . . .	16
1.2.28	show talloc-context (application all) (full brief DEPTH) filter REGEXP . . . . .	17
1.2.29	show talloc-context (application all) (full brief DEPTH) tree ADDRESS . . . . .	17
1.2.30	show version . . . . .	18
1.2.31	subscriber (imsilmsisdnlidlimei) IDENT show . . . . .	18
1.2.32	terminal length <0-512> . . . . .	19
1.2.33	terminal no length . . . . .	19
1.2.34	who . . . . .	19
1.3	enable . . . . .	19
1.3.1	configure terminal . . . . .	20
1.3.2	copy running-config startup-config . . . . .	20
1.3.3	disable . . . . .	20
1.3.4	logging color (0 1) . . . . .	21
1.3.5	logging disable . . . . .	21
1.3.6	logging enable . . . . .	21
1.3.7	logging filter all (0 1) . . . . .	22
1.3.8	logging level (main db auc ss l global llapd linp lmux lmi l mib l sms l ctrl l gtp l... . . . .	22
1.3.9	logging level force-all (debug info notice error fatal) . . . . .	24
1.3.10	logging level set-all (debug info notice error fatal) . . . . .	25
1.3.11	logging print category (0 1) . . . . .	25
1.3.12	logging print category-hex (0 1) . . . . .	26
1.3.13	logging print extended-timestamp (0 1) . . . . .	26
1.3.14	logging print file (0 1 basename) [last] . . . . .	27
1.3.15	logging print level (0 1) . . . . .	27
1.3.16	logging set-log-mask MASK . . . . .	28
1.3.17	logging timestamp (0 1) . . . . .	28
1.3.18	no logging level force-all . . . . .	28
1.3.19	show alarms . . . . .	29
1.3.20	show asciidoc counters . . . . .	29
1.3.21	show gsup-connections . . . . .	29
1.3.22	show history . . . . .	30

1.3.23	show logging vty	30
1.3.24	show online-help	30
1.3.25	show rate-counters	31
1.3.26	show startup-config	31
1.3.27	show stats	31
1.3.28	show stats level (globalpeer subscriber)	32
1.3.29	show subscriber (imsilmsisdnlid imei) IDENT	32
1.3.30	show talloc-context (application all) (full brief DEPTH)	33
1.3.31	show talloc-context (application all) (full brief DEPTH) filter REGEXP	33
1.3.32	show talloc-context (application all) (full brief DEPTH) tree ADDRESS	34
1.3.33	show version	34
1.3.34	subscriber (imsilmsisdnlid imei) IDENT delete	35
1.3.35	subscriber (imsilmsisdnlid imei) IDENT show	35
1.3.36	subscriber (imsilmsisdnlid imei) IDENT update aud2g (comp128v1 comp128v2 comp128...	36
1.3.37	subscriber (imsilmsisdnlid imei) IDENT update aud2g none	37
1.3.38	subscriber (imsilmsisdnlid imei) IDENT update aud3g milenage k K (op opc) OP_C [...	37
1.3.39	subscriber (imsilmsisdnlid imei) IDENT update aud3g none	38
1.3.40	subscriber (imsilmsisdnlid imei) IDENT update imei (none IMEI)	39
1.3.41	subscriber (imsilmsisdnlid imei) IDENT update msisdn (none MSISDN)	40
1.3.42	subscriber (imsilmsisdnlid imei) IDENT update network-access-mode (none cs ps cs...	40
1.3.43	subscriber imsi IDENT create	41
1.3.44	terminal length <0-512>	42
1.3.45	terminal monitor	42
1.3.46	terminal no length	42
1.3.47	terminal no monitor	43
1.3.48	who	43
1.4	config	43
1.4.1	banner motd default	43
1.4.2	banner motd file [FILE]	44
1.4.3	ctrl	44
1.4.4	enable password (8 ) WORD	44
1.4.5	enable password LINE	45
1.4.6	hlr	45
1.4.7	hostname WORD	45
1.4.8	line vty	45
1.4.9	log alarms <2-32700>	46
1.4.10	log file .FILENAME	46
1.4.11	log gsm tap [HOSTNAME]	46
1.4.12	log stderr	47

1.4.13	log syslog (authpriv cron daemon ftp lpr mail news user uucp)	47
1.4.14	log syslog local <0-7>	48
1.4.15	no banner motd	48
1.4.16	no enable password	48
1.4.17	no hostname [HOSTNAME]	49
1.4.18	no log alarms	49
1.4.19	no log file .FILENAME	49
1.4.20	no log stderr	50
1.4.21	no log syslog	50
1.4.22	no service advanced-vty	50
1.4.23	no service terminal-length [<0-512>]	51
1.4.24	no stats reporter log	51
1.4.25	no stats reporter statsd	51
1.4.26	password (8) WORD	52
1.4.27	password LINE	52
1.4.28	service advanced-vty	52
1.4.29	service terminal-length <0-512>	53
1.4.30	show history	53
1.4.31	stats interval <1-65535>	53
1.4.32	stats reporter log	54
1.4.33	stats reporter statsd	54
1.5	config-log	54
1.5.1	logging color (01)	54
1.5.2	logging filter all (01)	55
1.5.3	logging level (main db acl ssl global llapd linp lmux lmi lmi lsm lctrl llgtp l...)	55
1.5.4	logging level force-all (debug info notice error fatal)	57
1.5.5	logging level set-all (debug info notice error fatal)	58
1.5.6	logging print category (01)	58
1.5.7	logging print category-hex (01)	59
1.5.8	logging print extended-timestamp (01)	59
1.5.9	logging print file (01 basename) [last]	60
1.5.10	logging print level (01)	60
1.5.11	logging timestamp (01)	61
1.5.12	no logging level force-all	61
1.6	config-stats	61
1.6.1	disable	61
1.6.2	enable	62
1.6.3	level (global peer subscriber)	62
1.6.4	local-ip ADDR	62

---

1.6.5	mtu <100-65535>	63
1.6.6	no local-ip	63
1.6.7	no mtu	63
1.6.8	no prefix	63
1.6.9	prefix PREFIX	64
1.6.10	remote-ip ADDR	64
1.6.11	remote-port <1-65535>	64
1.7	config-line	65
1.7.1	bind A.B.C.D [<0-65535>]	65
1.7.2	login	65
1.7.3	no login	65
1.8	config-ctrl	66
1.8.1	bind A.B.C.D	66
1.9	config-hlr	66
1.9.1	database PATH	66
1.9.2	euse NAME	66
1.9.3	gsup	67
1.9.4	ncss-guard-timeout <0-255>	67
1.9.5	no euse NAME	67
1.9.6	no store-imei	67
1.9.7	no subscriber-create-on-demand	68
1.9.8	no ussd default-route	68
1.9.9	no ussd route prefix PREFIX	68
1.9.10	store-imei	69
1.9.11	subscriber-create-on-demand (no-msisdnl<3-15>) (nonelcslpslcs+ps)	69
1.9.12	ussd default-route external EUSE	69
1.9.13	ussd route prefix PREFIX external EUSE	70
1.9.14	ussd route prefix PREFIX internal (own-msisdnlown-imsi)	70
1.10	config-hlr-gsup	71
1.10.1	bind ip A.B.C.D	71
1.11	config-hlr-euse	71

---



# List of Tables

1.1	VTY Parameter Patterns . . . . .	1
1.2	VTY port numbers . . . . .	1

# 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

#### Command

```
write file
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### file

Write to configuration file

### 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 level (main|db|auc|ss|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|l...

### Command

```
logging level (main|db|auc|ss|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

#### main

Main Program

#### db

Database Layer

#### auc

Authentication Center

#### ss

Supplementary Services

#### 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
lscpp	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

### 1.2.7 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 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

### 1.2.15 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

### 1.2.16 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>'

### 1.2.17 show alarms

#### Command

```
show alarms
```

#### Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.2.18 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

##### show

Show running system information

##### asciidoc

Asciidoc generation

##### counters

Generate table of all registered counters

### 1.2.19 show gsup-connections

#### Command

```
show gsup-connections
```

#### Parameters

##### show

Show running system information

##### gsup-connections

GSUP Connections from VLRs, SGSNs, EUSEs

### 1.2.20 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.2.21 show logging vty

#### Command

```
show logging vty
```

#### Parameters

##### show

Show running system information

##### logging

Show current logging configuration

##### vtty

Show current logging configuration for this vty

### 1.2.22 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.2.23 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

##### show

Show running system information

##### rate-counters

Show all rate counters

### 1.2.24 show stats

#### Command

```
show stats
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

### 1.2.25 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

### 1.2.26 show subscriber (imsi|msisdn|id|imei) IDENT

#### Command

```
show subscriber (imsi|msisdn|id|imei) IDENT
```

#### Parameters

##### show

Show running system information



**subscriber**

Subscriber management commands

**imsi**

Identify subscriber by IMSI

**msisdn**

Identify subscriber by MSISDN (phone number)

**id**

Identify subscriber by database ID

**imei**

Identify subscriber by IMEI

**IDENT**

IMSI/MSISDN/ID/IMEI of the subscriber

### 1.2.27 **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

---

### 1.2.28 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

### 1.2.29 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)

### 1.2.30 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

### 1.2.31 subscriber (imsi|msisdn|id|imei) IDENT show

Command

```
subscriber (imsi|msisdn|id|imei) IDENT show
```

Parameters

subscriber

Subscriber management commands

imsi

Identify subscriber by IMSI

msisdn

Identify subscriber by MSISDN (phone number)

id

Identify subscriber by database ID

imei

Identify subscriber by IMEI

IDENT

IMSI/MSISDN/ID/IMEI of the subscriber

show

Show subscriber information

### 1.2.32 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)

### 1.2.33 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

### 1.2.34 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 (main|db|auc|ss|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|l...

#### Command

```
logging level (main|db|auc|ss|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

##### main

Main Program

##### db

Database Layer

##### auc

Authentication Center

---

ss  
Supplementary Services

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

### 1.3.9 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 YYYYMMDDhhmmssnn

### 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 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

### 1.3.17 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

### 1.3.18 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>'

### 1.3.19 show alarms

#### Command

```
show alarms
```

#### Parameters

##### show

Show running system information

##### alarms

Show current logging configuration

### 1.3.20 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

##### show

Show running system information

##### asciidoc

Asciidoc generation

##### counters

Generate table of all registered counters

### 1.3.21 show gsup-connections

#### Command

```
show gsup-connections
```

#### Parameters

##### show

Show running system information

##### gsup-connections

GSUP Connections from VLRs, SGSNs, EUSEs

### 1.3.22 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.3.23 show logging vty

#### Command

```
show logging vty
```

#### Parameters

##### show

Show running system information

##### logging

Show current logging configuration

##### vtty

Show current logging configuration for this vty

### 1.3.24 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

---

### 1.3.25 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

show

Show running system information

rate-counters

Show all rate counters

### 1.3.26 show startup-config

#### Command

```
show startup-config
```

#### Parameters

show

Show running system information

startup-config

Contentes of startup configuration

### 1.3.27 show stats

#### Command

```
show stats
```

#### Parameters

show

Show running system information

stats

Show statistical values



### 1.3.28 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

### 1.3.29 show subscriber (imsi|msisdn|id|imei) IDENT

#### Command

```
show subscriber (imsi|msisdn|id|imei) IDENT
```

#### Parameters

show

Show running system information

subscriber

Subscriber management commands

imsi

Identify subscriber by IMSI

msisdn

Identify subscriber by MSISDN (phone number)

id

Identify subscriber by database ID

imei

Identify subscriber by IMEI

IDENT

IMSI/MSISDN/ID/IMEI of the subscriber

### 1.3.30 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

### 1.3.31 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

### 1.3.32 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)

### 1.3.33 show version

**Command**

```
show version
```

**Parameters****show**

Show running system information

**version**

Displays program version

### 1.3.34 subscriber (imsi|msisdn|id|imei) IDENT delete

#### Command

```
subscriber (imsi|msisdn|id|imei) IDENT delete
```

#### Parameters

##### subscriber

Subscriber management commands

##### imsi

Identify subscriber by IMSI

##### msisdn

Identify subscriber by MSISDN (phone number)

##### id

Identify subscriber by database ID

##### imei

Identify subscriber by IMEI

##### IDENT

IMSI/MSISDN/ID/IMEI of the subscriber

##### delete

Delete subscriber from database

### 1.3.35 subscriber (imsi|msisdn|id|imei) IDENT show

#### Command

```
subscriber (imsi|msisdn|id|imei) IDENT show
```

#### Parameters

##### subscriber

Subscriber management commands

##### imsi

Identify subscriber by IMSI

##### msisdn

Identify subscriber by MSISDN (phone number)

##### id

Identify subscriber by database ID

##### imei

Identify subscriber by IMEI

##### IDENT

IMSI/MSISDN/ID/IMEI of the subscriber

##### show

Show subscriber information

### 1.3.36 subscriber (imsi|msisdn|id|imei) IDENT update aud2g (comp128v1|comp128v2|comp128v3|xor) ←→

#### Command

```
subscriber (imsi|msisdn|id|imei) IDENT update aud2g (comp128v1|comp128v2|comp128v3|xor) ←→
ki KI
```

#### Parameters

##### subscriber

Subscriber management commands

##### imsi

Identify subscriber by IMSI

##### msisdn

Identify subscriber by MSISDN (phone number)

##### id

Identify subscriber by database ID

##### imei

Identify subscriber by IMEI

##### IDENT

IMSI/MSISDN/ID/IMEI of the subscriber

##### update

Set or update subscriber data

##### aud2g

Set 2G authentication data

##### comp128v1

Use COMP128v1 algorithm

##### comp128v2

Use COMP128v2 algorithm

##### comp128v3

Use COMP128v3 algorithm

##### xor

Use XOR algorithm

##### ki

Set Ki Encryption Key

##### KI

Ki as 32 hexadecimal characters

### 1.3.37 subscriber (imsi|msisdn|id|imei) IDENT update aud2g none

#### Command

```
subscriber (imsi|msisdn|id|imei) IDENT update aud2g none
```

#### Parameters

##### subscriber

Subscriber management commands

##### imsi

Identify subscriber by IMSI

##### msisdn

Identify subscriber by MSISDN (phone number)

##### id

Identify subscriber by database ID

##### imei

Identify subscriber by IMEI

##### IDENT

IMSI/MSISDN/ID/IMEI of the subscriber

##### update

Set or update subscriber data

##### aud2g

Set 2G authentication data

##### none

Delete 2G authentication data

### 1.3.38 subscriber (imsi|msisdn|id|imei) IDENT update aud3g milenage k K (op|opc) OP\_C [...

#### Command

```
subscriber (imsi|msisdn|id|imei) IDENT update aud3g milenage k K (op|opc) OP_C [ind- ←  
bitlen] [<0-28>]
```

#### Parameters

##### subscriber

Subscriber management commands

##### imsi

Identify subscriber by IMSI

##### msisdn

Identify subscriber by MSISDN (phone number)

**id**  
Identify subscriber by database ID

**imei**  
Identify subscriber by IMEI

**IDENT**  
IMSI/MSISDN/ID/IMEI of the subscriber

**update**  
Set or update subscriber data

**aud3g**  
Set UMTS authentication data (3G, and 2G with UMTS AKA)

**milena**  
Use Milena algorithm

**k**  
Set Encryption Key K

**K**  
K as 32 hexadecimal characters

**op**  
Set OP key

**opc**  
Set OPC key

**OP\_C**  
OP or OPC as 32 hexadecimal characters

**[ind-bitlen]**  
Set IND bit length

**[<0-28>]**  
IND bit length value (default: 5)

### 1.3.39 subscriber (imsi|msisdn|id|imei) IDENT update aud3g none

#### Command

```
subscriber (imsi|msisdn|id|imei) IDENT update aud3g none
```

#### Parameters

##### subscriber

Subscriber management commands

##### imsi

Identify subscriber by IMSI

##### msisdn

Identify subscriber by MSISDN (phone number)

---

id  
Identify subscriber by database ID

imei  
Identify subscriber by IMEI

IDENT  
IMSI/MSISDN/ID/IMEI of the subscriber

update  
Set or update subscriber data

aud3g  
Set UMTS authentication data (3G, and 2G with UMTS AKA)

none  
Delete 3G authentication data

### 1.3.40 subscriber (imsi|msisdn|id|imei) IDENT update imei (none|IMEI)

#### Command

```
subscriber (imsi|msisdn|id|imei) IDENT update imei (none|IMEI)
```

#### Parameters

subscriber  
Subscriber management commands

imsi  
Identify subscriber by IMSI

msisdn  
Identify subscriber by MSISDN (phone number)

id  
Identify subscriber by database ID

imei  
Identify subscriber by IMEI

IDENT  
IMSI/MSISDN/ID/IMEI of the subscriber

update  
Set or update subscriber data

imei  
Set IMEI of the subscriber (normally populated from MSC, no need to set this manually)

none  
Forget IMEI

IMEI  
Set IMEI (use for debug only!)

---



### 1.3.41 subscriber (imsi|msisdn|id|imei) IDENT update msisdn (none|MSISDN)

#### Command

```
subscriber (imsi|msisdn|id|imei) IDENT update msisdn (none|MSISDN)
```

#### Parameters

##### subscriber

Subscriber management commands

##### imsi

Identify subscriber by IMSI

##### msisdn

Identify subscriber by MSISDN (phone number)

##### id

Identify subscriber by database ID

##### imei

Identify subscriber by IMEI

##### IDENT

IMSI/MSISDN/ID/IMEI of the subscriber

##### update

Set or update subscriber data

##### msisdn

Set MSISDN (phone number) of the subscriber

##### none

Remove MSISDN (phone number)

##### MSISDN

New MSISDN (phone number)

### 1.3.42 subscriber (imsi|msisdn|id|imei) IDENT update network-access-mode (none|cs|ps|cs...

#### Command

```
subscriber (imsi|msisdn|id|imei) IDENT update network-access-mode (none|cs|ps|cs+ps)
```

#### Parameters

##### subscriber

Subscriber management commands

##### imsi

Identify subscriber by IMSI

##### msisdn

Identify subscriber by MSISDN (phone number)

- id  
Identify subscriber by database ID
- imei  
Identify subscriber by IMEI
- IDENT  
IMSI/MSISDN/ID/IMEI of the subscriber
- update  
Set or update subscriber data
- network-access-mode  
Set Network Access Mode (NAM) of the subscriber
- none  
Do not allow access to circuit switched or packet switched services
- cs  
Allow access to circuit switched services only
- ps  
Allow access to packet switched services only
- cs+ps  
Allow access to both circuit and packet switched services

### 1.3.43 subscriber imsi IDENT create

#### Command

```
subscriber imsi IDENT create
```

#### Parameters

- subscriber  
Subscriber management commands
- imsi  
Identify subscriber by IMSI
- IDENT  
IMSI/MSISDN/ID of the subscriber
- create  
Create subscriber by IMSI

### 1.3.44 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)

### 1.3.45 terminal monitor

#### Command

```
terminal monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### monitor

Copy debug output to the current terminal line

### 1.3.46 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

---

### 1.3.47 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

### 1.3.48 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 ctrl

### Command

```
ctrl
```

### Parameters

#### ctrl

Configure the Control Interface

## 1.4.4 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

---

### 1.4.5 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

### 1.4.6 hlr

#### Command

```
hlr
```

#### Parameters

##### hlr

Configure the HLR

### 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

#### Command

```
log file .FILENAME
```

#### Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

### 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

#### Command

```
log stderr
```

#### Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 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 no banner motd

#### Command

```
no banner motd
```

#### Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

### 1.4.16 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

---

### 1.4.17 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

### 1.4.18 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

### 1.4.19 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

### 1.4.20 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

### 1.4.21 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

### 1.4.22 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

### 1.4.23 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)

### 1.4.24 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

### 1.4.25 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

### 1.4.26 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 level (main|db|auc|ss|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|l...****Command**

```
logging level (main|db|auc|ss|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

main  
Main Program

db  
Database Layer

auc  
Authentication Center

ss  
Supplementary Services

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

lntp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lscpp  
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

#### 1.5.4 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 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

### 1.5.12 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-ctrl

### 1.8.1 bind A.B.C.D

Command

```
bind A.B.C.D
```

Parameters

bind

Set bind address to listen for Control connections

A.B.C.D

Local IP address (default 127.0.0.1)

## 1.9 config-hlr

### 1.9.1 database PATH

Command

```
database PATH
```

Parameters

database

Set the path to the HLR database file

PATH

Relative or absolute file system path to the database file (default is 'hlr.db')

### 1.9.2 euse NAME

Command

```
euse NAME
```

Parameters

euse

Configure a particular External USSD Entity

NAME

Alphanumeric name of the External USSD Entity

---

### 1.9.3 gsup

#### Command

```
gsup
```

#### Parameters

gsup

Configure GSUP options

### 1.9.4 ncss-guard-timeout <0-255>

#### Command

```
ncss-guard-timeout <0-255>
```

#### Parameters

ncss-guard-timeout

Set guard timer for NCSS (call independent SS) session activity

<0-255>

Guard timer value (sec.), or 0 to disable

### 1.9.5 no euse NAME

#### Command

```
no euse NAME
```

#### Parameters

no

Negate a command or set its defaults

euse

Remove a particular External USSD Entity

NAME

Alphanumeric name of the External USSD Entity

### 1.9.6 no store-imei

#### Command

```
no store-imei
```

#### Parameters

no

Do not save the IMEI in the database, when receiving Check IMEI requests.

store-imei

(null)

---

### 1.9.7 no subscriber-create-on-demand

#### Command

```
no subscriber-create-on-demand
```

#### Parameters

no

Do not make a new record when a subscriber is first seen.

subscriber-create-on-demand

(null)

### 1.9.8 no ussd default-route

#### Command

```
no ussd default-route
```

#### Parameters

no

Negate a command or set its defaults

ussd

USSD Configuration

default-route

Remove the default-route for all USSD to unknown destinations

### 1.9.9 no ussd route prefix PREFIX

#### Command

```
no ussd route prefix PREFIX
```

#### Parameters

no

Negate a command or set its defaults

ussd

USSD Configuration

route

Routing Configuration

prefix

Prefix-Matching Route

PREFIX

USSD Prefix

### 1.9.10 store-imei

#### Command

```
store-imei
```

#### Parameters

##### store-imei

Save the IMEI in the database when receiving Check IMEI requests. Note that an MSC does not necessarily send Check IMEI requests (for OsmoMSC, you may want to set 'check-imei-rqd 1').

### 1.9.11 subscriber-create-on-demand (no-msisdn|<3-15>) (none|cs|ps|cs+ps)

#### Command

```
subscriber-create-on-demand (no-msisdn|<3-15>) (none|cs|ps|cs+ps)
```

#### Parameters

##### subscriber-create-on-demand

Make a new record when a subscriber is first seen.

##### no-msisdn

Do not automatically assign MSISDN.

##### <3-15>

Length of an automatically assigned MSISDN.

##### none

Do not allow any NAM (Network Access Mode) by default.

##### cs

Allow access to circuit switched NAM by default.

##### ps

Allow access to packet switched NAM by default.

##### cs+ps

Allow access to circuit and packet switched NAM by default.

### 1.9.12 ussd default-route external EUSE

#### Command

```
ussd default-route external EUSE
```

#### Parameters

##### ussd

USSD Configuration

**default-route**

Configure default-route for all USSD to unknown destinations

**external**

External USSD Handler

**EUSE**

Name of External USSD Handler (IPA CCM ID)

**1.9.13 ussd route prefix PREFIX external EUSE****Command**

```
ussd route prefix PREFIX external EUSE
```

**Parameters****ussd**

USSD Configuration

**route**

Routing Configuration

**prefix**

Prefix-Matching Route

**PREFIX**

USSD Prefix

**external**

External USSD Handler

**EUSE**

Name of External USSD Handler (IPA CCM ID)

**1.9.14 ussd route prefix PREFIX internal (own-msisdn|own-imsi)****Command**

```
ussd route prefix PREFIX internal (own-msisdn|own-imsi)
```

**Parameters****ussd**

USSD Configuration

**route**

Routing Configuration

**prefix**

Prefix-Matching Route

**PREFIX**

USSD Prefix

**internal**

Internal USSD Handler

**own-msisdn**

Respond with subscribers' own MSISDN

**own-imsi**

Respond with subscribers' own IMSI

## 1.10 config-hlr-gsup

### 1.10.1 bind ip A.B.C.D

**Command**

```
bind ip A.B.C.D
```

**Parameters****bind**

Listen/Bind related socket option

**ip**

IP information

**A.B.C.D**

IPv4 Address to bind the GSUP interface to

## 1.11 config-hlr-euse