

# **OsmoGGSN VTY Reference**

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**COLLABORATORS**

	<i>TITLE :</i> OsmoGGSN VTY Reference		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		April 20, 2018	

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME
v1	06th September 2017	Initial version as of OsmoGGSN v1.0.0	hw

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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 sismocom 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 echo .MESSAGE

#### Command

```
echo .MESSAGE
```

#### Parameters

##### echo

Echo a message back to the vty

##### .MESSAGE

The message to echo

### 1.2.2 enable

#### Command

```
enable
```

#### Parameters

##### enable

Turn on privileged mode command

---

### 1.2.3 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

### 1.2.4 logging disable

#### Command

```
logging disable
```

#### Parameters

##### logging

Configure logging

##### disable

Disables logging to this vty

### 1.2.5 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

## 1.2.6 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

## 1.2.7 logging level (all|ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|...

### Command

```
logging level (all|ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl| ←  
lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf) (everything|debug|info| ←  
notice|error|fatal)
```

### Parameters

#### logging

Configure logging

#### level

Set the log level for a specified category

#### all

Global setting for all subsystems

#### ip

IP Pool and other groups

#### tun

Tunnel interface

---

ggsn  
GGSN

sgsn  
SGSN Emulator

icmp6  
ICMPv6

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
everything	Don't use. It doesn't log anything
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 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

---

### 1.2.9 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>')

### 1.2.10 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

### 1.2.11 logging print file (0|1|basename)

#### Command

```
logging print file (0|1|basename)
```

#### 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

### 1.2.12 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

### 1.2.13 logging set log mask MASK

#### Command

```
logging set log mask MASK
```

#### Parameters

##### logging

Configure logging

##### set

Decide which categories to output.

##### log

Log commands

##### mask

Mask commands

##### MASK

'set log mask' is deprecated, please refer to the docs of 'set-log-mask' instead

### 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 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.2.17 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.2.18 show ggsn [NAME]

#### Command

```
show ggsn [NAME]
```

#### Parameters

show

Show running system information

ggsn

Display information on the GGSN

[NAME]

(null)

### 1.2.19 show history

#### Command

```
show history
```

#### Parameters

show

Show running system information

history

Display the session command history

### 1.2.20 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

---

### 1.2.21 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.2.22 show pdp-context ggsn NAME [apn APN]

#### Command

```
show pdp-context ggsn NAME [apn APN]
```

#### Parameters

##### show

Show running system information

##### pdp-context

Show PDP Context Information

##### ggsn

Gateway GPRS Support NODE (GGSN)

##### NAME

GGSN Name

##### [apn

(null)

##### APN]

(null)

### 1.2.23 show pdp-context imsi IMSI [<0-15>]

#### Command

```
show pdp-context imsi IMSI [<0-15>]
```

#### Parameters

##### show

Show running system information

pdp-context

Display information on PDP Context

imsi

PDP contexts for given IMSI

IMSI

PDP context for given NSAPI

[<0-15>]

(null)

### 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 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

### 1.2.27 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

**1.2.28 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)

**1.2.29 show version****Command**

```
show version
```

**Parameters****show**

Show running system information

**version**

Displays program version

### 1.2.30 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)

### 1.2.31 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

### 1.2.32 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 echo .MESSAGE

#### Command

```
echo .MESSAGE
```

#### Parameters

##### echo

Echo a message back to the vty

##### .MESSAGE

The message to echo

---

### 1.3.5 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

### 1.3.6 logging disable

#### Command

```
logging disable
```

#### Parameters

##### logging

Configure logging

##### disable

Disables logging to this vty

### 1.3.7 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

---

### 1.3.8 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

### 1.3.9 logging level (all|ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|...

#### Command

```
logging level (all|ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl| ←  
lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf) (everything|debug|info| ←  
notice|error|fatal)
```

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### all

Global setting for all subsystems

##### ip

IP Pool and other groups

##### tun

Tunnel interface

---

ggsn  
GGSN

sgsn  
SGSN Emulator

icmp6  
ICMPv6

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
everything	Don't use. It doesn't log anything
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 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



### 1.3.11 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>')

### 1.3.12 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 YYYYMMDDhhmmssnn

### 1.3.13 logging print file (0|1|basename)

#### Command

```
logging print file (0|1|basename)
```

#### 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

### 1.3.14 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

### 1.3.15 logging set log mask MASK

#### Command

```
logging set log mask MASK
```

#### Parameters

##### logging

Configure logging

##### set

Decide which categories to output.

##### log

Log commands

##### mask

Mask commands

##### MASK

'set log mask' is deprecated, please refer to the docs of 'set-log-mask' instead

### 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 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.3.19 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.3.20 show ggsn [NAME]

#### Command

```
show ggsn [NAME]
```

#### Parameters

show

Show running system information

ggsn

Display information on the GGSN

[NAME]

(null)

### 1.3.21 show history

#### Command

```
show history
```

#### Parameters

show

Show running system information

history

Display the session command history

### 1.3.22 show logging vty

#### Command

```
show logging vty
```

#### Parameters

show

Show running system information

logging

Show current logging configuration

vty

Show current logging configuration for this vty

---

### 1.3.23 show online-help

#### Command

```
show online-help
```

#### Parameters

show

Show running system information

online-help

Online help

### 1.3.24 show pdp-context ggsn NAME [apn APN]

#### Command

```
show pdp-context ggsn NAME [apn APN]
```

#### Parameters

show

Show running system information

pdp-context

Show PDP Context Information

ggsn

Gateway GPRS Support NODE (GGSN)

NAME

GGSN Name

[apn

(null)

APN]

(null)

### 1.3.25 show pdp-context imsi IMSI [<0-15>]

#### Command

```
show pdp-context imsi IMSI [<0-15>]
```

#### Parameters

show

Show running system information

### pdp-context

Display information on PDP Context

### imsi

PDP contexts for given IMSI

### IMSI

PDP context for given NSAPI

[<0-15>]

(null)

## 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 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

### 1.3.30 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

### 1.3.31 **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)

### 1.3.32 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

### 1.3.33 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)

### 1.3.34 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

---

### 1.3.35 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

### 1.3.36 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

### 1.3.37 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 ggsn NAME

#### Command

```
ggsn NAME
```

#### Parameters

##### ggsn

Configure the Gateway GPRS Support Node

##### NAME

GGSN Name (has only local significance)

---

### 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 ggsn NAME

Command

```
no ggsn NAME
```

Parameters

no

Negate a command or set its defaults

ggsn

Remove the named Gateway GPRS Support Node

NAME

GGSN Name (has only local significance)

---

### 1.4.18 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

### 1.4.19 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

### 1.4.20 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

### 1.4.21 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

### 1.4.22 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

### 1.4.23 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

### 1.4.24 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)

### 1.4.25 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

### 1.4.26 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

### 1.4.27 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

### 1.4.28 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

### 1.4.29 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

### 1.4.30 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)

### 1.4.31 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.4.32 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

---

### 1.4.33 stats reporter log

#### Command

```
stats reporter log
```

#### Parameters

##### stats

Configure stats sub-system

##### reporter

Configure a stats reporter

##### log

Report to the logger

### 1.4.34 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 (all|ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|...****Command**

```
logging level (all|ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl| ↵
lgtp|lstats|lgsup|loap|lss7|lscpp|lsua|lm3ua|lmgcp|ljibuf) (everything|debug|info| ↵
notice|error|fatal)
```

**Parameters****logging**

Configure logging



---

level  
Set the log level for a specified category

all  
Global setting for all subsystems

ip  
IP Pool and other groups

tun  
Tunnel interface

ggsn  
GGSN

sgsn  
SGSN Emulator

icmp6  
ICMPv6

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
everything	Don't use. It doesn't log anything
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 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

### 1.5.5 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>')

### 1.5.6 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

### 1.5.7 logging print file (0|1|basename)

#### Command

```
logging print file (0|1|basename)
```

#### 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

### 1.5.8 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

## 1.5.9 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

## 1.6 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

Configure parameters of the Telnet/VTY Interface, such as to which IP address it should bind/listen to.

### 1.7.1 bind A.B.C.D

#### Command

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

#### Parameters

##### bind

Accept VTY telnet connections on local interface

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

Local interface IP address (default: 127.0.0.1)

---



## 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

Configure parameters of the CTRL Interface, such as to which IP address it should bind/listen to.

### 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-ggsn

Configure an Instance of a (virtual) GGSN

---

### 1.9.1 apn NAME

#### Command

```
apn NAME
```

#### Parameters

apn

APN Configuration

NAME

APN Name

### 1.9.2 default-apn NAME

#### Command

```
default-apn NAME
```

#### Parameters

default-apn

Set a default-APN to be used if no other APN matches

NAME

APN Name

### 1.9.3 description .TEXT

#### Command

```
description .TEXT
```

#### Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

---

### 1.9.4 gtp bind-ip A.B.C.D

#### Command

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

#### Parameters

gtp

GTP Parameters

bind-ip

Set the IP address for the local GTP bind

A.B.C.D

IPv4 Address

### 1.9.5 gtp control-ip A.B.C.D

#### Command

```
gtp control-ip A.B.C.D
```

#### Parameters

gtp

GTP Parameters

control-ip

Set the IP address states as local IP in GTP-C messages

A.B.C.D

IPv4 Address

### 1.9.6 gtp state-dir PATH

#### Command

```
gtp state-dir PATH
```

#### Parameters

gtp

GTP Parameters

state-dir

Set the directory for the GTP State file

PATH

Local Directory

### 1.9.7 gtp user-ip A.B.C.D

#### Command

```
gtp user-ip A.B.C.D
```

#### Parameters

gtp

GTP Parameters

user-ip

Set the IP address states as local IP in GTP-U messages

A.B.C.D

IPv4 Address

### 1.9.8 no apn NAME

#### Command

```
no apn NAME
```

#### Parameters

no

Negate a command or set its defaults

apn

Remove APN Configuration

NAME

APN Name

### 1.9.9 no default-apn

#### Command

```
no default-apn
```

#### Parameters

no

Negate a command or set its defaults

default-apn

Remove default-APN to be used if no other APN matches

---

### 1.9.10 no description

#### Command

```
no description
```

#### Parameters

no

Negate a command or set its defaults

description

Remove description of the object

### 1.9.11 no shutdown ggsn

#### Command

```
no shutdown ggsn
```

#### Parameters

no

Negate a command or set its defaults

shutdown

Gateway GPRS Support NODE (GGSN)

ggsn

Remove the GGSN from administrative shut-down

### 1.9.12 shutdown ggsn

#### Command

```
shutdown ggsn
```

#### Parameters

shutdown

Put the GGSN in administrative shut-down

ggsn

Gateway GPRS Support NODE (GGSN)

## 1.10 config-ggsn-apn

Configure an Access Point Name (APN) inside a GGSN Instance

---

### 1.10.1 description .TEXT

#### Command

```
description .TEXT
```

#### Parameters

##### description

Save human-readable description of the object

##### .TEXT

Text until the end of the line

### 1.10.2 g-pdu tx-sequence-numbers

#### Command

```
g-pdu tx-sequence-numbers
```

#### Parameters

##### g-pdu

G-PDU Configuration

##### tx-sequence-numbers

Enable transmission of G-PDU sequence numbers

### 1.10.3 gtpu-mode (tun|kernel-gtp)

#### Command

```
gtpu-mode (tun|kernel-gtp)
```

#### Parameters

##### gtpu-mode

Set the Mode for this APN (tun or Linux Kernel GTP)

##### tun

GTP-U in userspace using TUN device

##### kernel-gtp

GTP-U in kernel using Linux Kernel GTP

---

### 1.10.4 ip dns <0-1> A.B.C.D

#### Command

```
ip dns <0-1> A.B.C.D
```

#### Parameters

ip

IP information

dns

Configure DNS Server

<0-1>

primary/secondary DNS

A.B.C.D

IP address of DNS Sever

### 1.10.5 ip ifconfig A.B.C.D/M

#### Command

```
ip ifconfig A.B.C.D/M
```

#### Parameters

ip

IP information

ifconfig

GGSN-based interface configuration

A.B.C.D/M

IPv4 Adress/Prefix-Length

### 1.10.6 ip prefix (static|dynamic) A.B.C.D/M

#### Command

```
ip prefix (static|dynamic) A.B.C.D/M
```

#### Parameters

ip

IP information

prefix

Prefix (Network/Netmask)

---

static

IPv4 Address/Prefix-Length

dynamic

(null)

A.B.C.D/M

(null)

### 1.10.7 ipdown-script PATH

Command

```
ipdown-script PATH
```

Parameters

ipdown-script

Configure name/path of ip-down script

PATH

File/Path name of ip-down script

### 1.10.8 ipup-script PATH

Command

```
ipup-script PATH
```

Parameters

ipup-script

Configure name/path of ip-up script

PATH

File/Path name of ip-up script

### 1.10.9 ipv6 dns <0-1> X:X::X:X

Command

```
ipv6 dns <0-1> X:X::X:X
```

Parameters

ipv6

IPv6 Information

dns

Configure DNS Server

<0-1>

primary/secondary DNS

X:X::X:X

IP address of DNS Sever

---



### 1.10.10 ipv6 ifconfig X:X::X:X/M

#### Command

```
ipv6 ifconfig X:X::X:X/M
```

#### Parameters

ipv6

IPv6 Information

ifconfig

GGSN-based interface configuration

X:X::X:X/M

IPv6 Address/Prefix-Length

### 1.10.11 ipv6 link-local X:X::X:X/M

#### Command

```
ipv6 link-local X:X::X:X/M
```

#### Parameters

ipv6

IPv6 Information

link-local

GGSN-based interface configuration

X:X::X:X/M

IPv6 Link-local Address/Prefix-Length

### 1.10.12 ipv6 prefix (static|dynamic) X:X::X:X/M

#### Command

```
ipv6 prefix (static|dynamic) X:X::X:X/M
```

#### Parameters

ipv6

IPv6 Information

prefix

Prefix (Network/Netmask)

static

IPv6 Address/Prefix-Length

dynamic

(null)

X:X::X:X/M

(null)

---

### 1.10.13 no (ip|ipv6) dns <0-1>

#### Command

```
no (ip|ipv6) dns <0-1>
```

#### Parameters

no

Negate a command or set its defaults

ip

IP information

ipv6

IPv6 Information

dns

Disable DNS Server

<0-1>

primary/secondary DNS

### 1.10.14 no description

#### Command

```
no description
```

#### Parameters

no

Negate a command or set its defaults

description

Remove description of the object

### 1.10.15 no g-pdu tx-sequence-numbers

#### Command

```
no g-pdu tx-sequence-numbers
```

#### Parameters

no

Negate a command or set its defaults

g-pdu

G-PDU Configuration

tx-sequence-numbers

Disable transmission of G-PDU sequence numbers

---

### 1.10.16 no ip ifconfig

#### Command

```
no ip ifconfig
```

#### Parameters

no

Negate a command or set its defaults

ip

IP information

ifconfig

GGSN-based interface configuration

### 1.10.17 no ipdown-script

#### Command

```
no ipdown-script
```

#### Parameters

no

Negate a command or set its defaults

ipdown-script

Disable ip-down script

### 1.10.18 no ipup-script

#### Command

```
no ipup-script
```

#### Parameters

no

Negate a command or set its defaults

ipup-script

Disable ip-up script

### 1.10.19 no ipv6 ifconfig

#### Command

```
no ipv6 ifconfig
```

#### Parameters

no

Negate a command or set its defaults

ipv6

IPv6 Information

ifconfig

GGSN-based interface configuration

### 1.10.20 no ipv6 link-local

#### Command

```
no ipv6 link-local
```

#### Parameters

no

Negate a command or set its defaults

ipv6

IPv6 Information

link-local

GGSN-based interface configuration

### 1.10.21 no shutdown

#### Command

```
no shutdown
```

#### Parameters

no

Negate a command or set its defaults

shutdown

Remove the APN from administrative shut-down

### 1.10.22 no type-support (v4|v6|v4v6)

#### Command

```
no type-support (v4|v6|v4v6)
```

#### Parameters

no

Negate a command or set its defaults

type-support

Disable support for PDP Type

v4

IPv4(-only) PDP Type

v6

IPv6(-only) PDP Type

v4v6

IPv4v6 (dual-stack) PDP Type

### 1.10.23 shutdown

#### Command

```
shutdown
```

#### Parameters

shutdown

Put the APN in administrative shut-down

### 1.10.24 tun-device NAME

#### Command

```
tun-device NAME
```

#### Parameters

tun-device

Configure tun device name

NAME

TUN device name

---

### 1.10.25 type-support (v4|v6|v4v6)

#### Command

```
type-support (v4|v6|v4v6)
```

#### Parameters

##### type-support

Enable support for PDP Type

##### v4

IPv4(-only) PDP Type

##### v6

IPv6(-only) PDP Type

##### v4v6

IPv4v6 (dual-stack) PDP Type