OsmoGGSN VTY Reference

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	TITLE : OsmoGGSN VTY Reference		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY		September 13, 2023	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME
1.10.2	2023-Jul-21	Automatically Generated VTY Reference	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 sysmocom products:

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

Table 1.2: VTY port numbers

1.1 Common Commands

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

1.1.1 **end**

Command

```
end
```

Parameters

end

   End current mode and change to enable mode.

1.1.2 **exit**

Command

```
exit
```

Parameters

exit

   Exit current mode and down to previous mode

1.1.3 **help**

Command

```
help
```

Parameters

help

   Description of the interactive help system

1.1.4 **list [with-flags]**

Command

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

Parameters

list

   Print command list

[with-flags]

   Also print the VTY attribute flags

1.1.5 show running-config

Command

```
show running-config
```

Parameters

show
  Show running system information

running-config
  running configuration

1.1.6 show vty-attributes

Command

```
show vty-attributes
```

Parameters

show
  Show running system information

vty-attributes
  List of VTY attributes

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

Command

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

Parameters

show
  Show running system information

vty-attributes
  List of VTY attributes

application
  Application specific attributes only

library
  Library specific attributes only

global
  Global attributes only

1.1.8 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.1.9 write file [PATH]

Command

```
write file [PATH]
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

[PATH]

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

1.1.10 write memory

Command

```
write memory
```

Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

1.1.11   write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.2   view

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

1.2.1   enable [expert-mode]

Command

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

Parameters

enable

Turn on privileged mode command

[expert-mode]

Enable the expert mode (show hidden commands)

1.2.2   logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging
　　Configure logging

disable
　　Disables logging to this vty

1.2.4 logging enable

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

Command

```
logging enable
```

Parameters

logging
　　Configure logging

enable
　　Enables logging to this vty

1.2.5 logging filter all (0|1)

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

Command

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

Parameters

logging
　　Configure logging

filter
　　Filter log messages

all

>   Do you want to log all messages?

0

>   Only print messages matched by other filters

1

>   Bypass filter and print all messages

1.2.6   logging level (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctr...

Command

```
logging level (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp| ←
    lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata| ←
    lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

>   Configure logging

level

>   Set the log level for a specified category

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 Intput Subsystem

lmux

>   A-bis B-Subchannel TRAU Frame Multiplex

lmi

>   A-bis Input Driver for Signalling

lmib

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

lsms

    Layer3 Short Message Service (SMS)

lctrl

    Control Interface

lgtp

    GPRS GTP library

lstats

    Statistics messages and logging

lgsup

    Generic Subscriber Update Protocol

loap

    Osmocom Authentication Protocol

lss7

    libosmo-sigtran Signalling System 7

lsccp

    libosmo-sigtran SCCP Implementation

lsua

    libosmo-sigtran SCCP User Adaptation

lm3ua

    libosmo-sigtran MTP3 User Adaptation

lmgcp

    libosmo-mgcp Media Gateway Control Protocol

ljibuf

    libosmo-netif Jitter Buffer

lrspro

    Remote SIM protocol

lns

    GPRS NS layer

lbssgp

    GPRS BSSGP layer

lnsdata

    GPRS NS layer data PDU

lnssignal

    GPRS NS layer signal PDU

liuup

    Iu UP layer

lpfcp

    libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

    libosmo-csn1 Concrete Syntax Notation 1 codec

lio

    libosmocore IO Subsystem

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

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

Command

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

Parameters

logging

    Configure logging

level

    Set the log level for a specified category

force-all

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

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.2.9 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.2.10   logging print category-hex (0|1)

Command

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

Parameters

logging

>   Configure logging

print

>   Log output settings

category-hex

>   Configure log message

0

>   Don't prefix each log message

1

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

1.2.11   logging print extended-timestamp (0|1)

Command

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

Parameters

logging

>   Configure logging

print

>   Log output settings

extended-timestamp

>   Configure log message timestamping

0

>   Don't prefix each log message

1

>   Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging
>   Configure logging

print
>   Log output settings

file
>   Configure log message

0
>   Don't prefix each log message

1
>   Prefix each log message with the source file and line

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

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

1.2.13 logging print level (0|1)

Command

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

Parameters

logging
>   Configure logging

print
>   Log output settings

level
>   Configure log message

0
>   Don't prefix each log message

1
>   Prefix each log message with the log level name

1.2.14 logging print thread-id (0|1)

Command

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

Parameters

logging
> Configure logging

print
> Log output settings

thread-id
> Configure log message logging Thread ID

0
> Don't prefix each log message

1
> Prefix each log message with current Thread ID

1.2.15 logging set-log-mask MASK

Command

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

Parameters

logging
> Configure logging

set-log-mask
> Set the logmask of this logging target

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

1.2.16   logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.2.17   logp (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|ls...

Command

```
logp (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats| ←
    lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal| ←
    liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters

logp

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

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 Intput Subsystem

lmux

    A-bis B-Subchannel TRAU Frame Multiplex

lmi

    A-bis Input Driver for Signalling

lmib

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

lsms

    Layer3 Short Message Service (SMS)

lctrl

    Control Interface

lgtp

    GPRS GTP library

lstats

    Statistics messages and logging

lgsup

    Generic Subscriber Update Protocol

loap

    Osmocom Authentication Protocol

lss7

    libosmo-sigtran Signalling System 7

lsccp

    libosmo-sigtran SCCP Implementation

lsua

    libosmo-sigtran SCCP User Adaptation

lm3ua

    libosmo-sigtran MTP3 User Adaptation

lmgcp

    libosmo-mgcp Media Gateway Control Protocol

ljibuf

    libosmo-netif Jitter Buffer

lrspro

    Remote SIM protocol

lns

    GPRS NS layer

lbssgp

>   GPRS BSSGP layer

lnsdata

>   GPRS NS layer data PDU

lnssignal

>   GPRS NS layer signal PDU

liuup

>   Iu UP layer

lpfcp

>   libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

>   libosmo-csn1 Concrete Syntax Notation 1 codec

lio

>   libosmocore IO Subsystem

debug

>   Log debug messages and higher levels

info

>   Log informational messages and higher levels

notice

>   Log noticeable messages and higher levels

error

>   Log error messages and higher levels

fatal

>   Log only fatal messages

.LOGMESSAGE

>   Arbitrary message to log on given category and log level

1.2.18 no logging level force-all

Command

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

Parameters

no

>   Negate a command or set its defaults

logging

>   Configure logging

level

>   Set the log level for a specified category

force-all

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

1.2.19 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

1.2.20 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

1.2.21 show cpu-sched threads

Command

```
show cpu-sched threads
```

Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

1.2.22 show ggsn [NAME]

Command

```
show ggsn [NAME]
```

Parameters

show

Show running system information

ggsn

Display information on the GGSN

[NAME]

(null)

1.2.23 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.2.24 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vty

Show current logging configuration for this vty

1.2.25 show online-help

Command

```
show online-help
```

Parameters

show
    Show running system information

online-help
    Online help

1.2.26 show pdp-context ggsn NAME

Command

```
show pdp-context ggsn NAME
```

Parameters

show
    Show running system information

pdp-context
    Show PDP Context Information

ggsn
    Gateway GPRS Support NODE (GGSN)

NAME
    GGSN Name

1.2.27 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

    Filter by APN

APN

    APN name

1.2.28 show pdp-context ggsn NAME imsi IMSI [<0-15>]

Command

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

Parameters

show

    Show running system information

pdp-context

    Display information on PDP Context

ggsn

    Gateway GPRS Support NODE (GGSN)

NAME

    GGSN Name

imsi

    PDP contexts for given IMSI

IMSI

    PDP context for given NSAPI

[<0-15>]

    (null)

1.2.29 show pdp-context ggsn NAME ipv4 A.B.C.D

Command

```
show pdp-context ggsn NAME ipv4 A.B.C.D
```

Parameters

show

>   Show running system information

pdp-context

>   Display information on PDP Context

ggsn

>   Gateway GPRS Support NODE (GGSN)

NAME

>   GGSN Name

ipv4

>   IPv4 address type

A.B.C.D

>   IP address

1.2.30   show pid

Command

```
show pid
```

Parameters

show

>   Show running system information

pid

>   Displays the process ID

1.2.31   show rate-counters [skip-zero]

Command

```
show rate-counters [skip-zero]
```

Parameters

show

>   Show running system information

rate-counters

>   Show all rate counters

[skip-zero]

>   Skip items with total count zero

1.2.32   show stats [skip-zero]

Command

```
show stats [skip-zero]
```

Parameters

show

    Show running system information

stats

    Show statistical values

[skip-zero]

    Skip items with total count zero

1.2.33   show stats level (global|peer|subscriber) [skip-zero]

Command

```
show stats level (global|peer|subscriber) [skip-zero]
```

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

[skip-zero]

    Skip items with total count zero

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

    All contexts, if NULL-context tracking is enabled

full

    Display a full talloc memory hierarchy

brief

    Display a brief talloc memory hierarchy

DEPTH

    Specify required maximal depth value

filter

    Filter chunks using regular expression

REGEXP

    Regular expression

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

Command

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

Parameters

show

    Show running system information

talloc-context

    Show talloc memory hierarchy

application

    Application's context

global

    Global context (OTC_GLOBAL)

all

    All contexts, if NULL-context tracking is enabled

full

    Display a full talloc memory hierarchy

brief

    Display a brief talloc memory hierarchy

DEPTH

    Specify required maximal depth value

tree

    Display only a specific memory chunk

ADDRESS

    Chunk address (e.g. 0xdeadbeef)

1.2.37   show timer [(gtp)] [TNNNN]

Command

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

Parameters

show

Show running system information

timer

Show timers

[gtp]

GTP (libgtp) timers

[TNNNN]

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

1.2.38   show uptime

Command

```
show uptime
```

Parameters

show

Show running system information

uptime

Displays how long the program has been running

1.2.39   show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.2.40   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)

1.2.41   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

1.2.42   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 (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctr...

Command

```
logging level (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp| ←
    lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata| ←
    lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

> Configure logging

level

> Set the log level for a specified category

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 Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

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

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

    libosmo-mgcp Media Gateway Control Protocol

ljibuf

    libosmo-netif Jitter Buffer

lrspro

    Remote SIM protocol

lns

    GPRS NS layer

lbssgp

    GPRS BSSGP layer

lnsdata

    GPRS NS layer data PDU

lnssignal

    GPRS NS layer signal PDU

liuup

    Iu UP layer

lpfcp

    libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

    libosmo-csn1 Concrete Syntax Notation 1 codec

lio

    libosmocore IO Subsystem

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

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

Command

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

Parameters

logging

>   Configure logging

level

>   Set the log level for a specified category

force-all

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

debug

>   Log debug messages and higher levels

info

>   Log informational messages and higher levels

notice

>   Log noticeable messages and higher levels

error

>   Log error messages and higher levels

fatal

>   Log only fatal messages

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

Command

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

Parameters

logging

>   Configure logging

level

>   Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.3.11 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.3.12 logging print category-hex (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

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

1.3.13   logging print extended-timestamp (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

file

    Configure log message

0

    Don't prefix each log message

1

    Prefix each log message with the source file and line

basename

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

[last]

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

1.3.15 logging print level (0|1)

Command

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

Parameters

logging

    Configure logging

print

    Log output settings

level

    Configure log message

0

    Don't prefix each log message

1

    Prefix each log message with the log level name

1.3.16 logging print thread-id (0|1)

Command

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

Parameters

logging

    Configure logging

print

Log output settings

thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

1.3.17 logging set-log-mask MASK

Command

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

Parameters

logging

Configure logging

set-log-mask

Set the logmask of this logging target

MASK

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

1.3.18 logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.3.19   logp (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|ls...

Command

```
logp (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats| ←
    lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal| ←
    liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters

logp

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

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 Intput Subsystem

lmux

   A-bis B-Subchannel TRAU Frame Multiplex

lmi

   A-bis Input Driver for Signalling

lmib

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

lsms

   Layer3 Short Message Service (SMS)

lctrl

   Control Interface

lgtp

   GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

lns

GPRS NS layer

lbssgp

GPRS BSSGP layer

lnsdata

GPRS NS layer data PDU

lnssignal

GPRS NS layer signal PDU

liuup

Iu UP layer

lpfcp

libosmo-pfcp Packet Forwarding Control Protocol

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lio

libosmocore IO Subsystem

debug

Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

.LOGMESSAGE

    Arbitrary message to log on given category and log level

1.3.20   no logging level force-all

Command

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

Parameters

no

    Negate a command or set its defaults

logging

    Configure logging

level

    Set the log level for a specified category

force-all

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

1.3.21   show alarms

Command

```
show alarms
```

Parameters

show

    Show running system information

alarms

    Show current logging configuration

1.3.22 **show asciidoc counters**

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

1.3.23 **show cpu-sched threads**

Command

```
show cpu-sched threads
```

Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

1.3.24 **show ggsn [NAME]**

Command

```
show ggsn [NAME]
```

Parameters

show

Show running system information

ggsn

Display information on the GGSN

[NAME]

(null)

1.3.25 show history

Command

```
show history
```

Parameters

show
    Show running system information

history
    Display the session command history

1.3.26 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

1.3.27 show online-help

Command

```
show online-help
```

Parameters

show
    Show running system information

online-help
    Online help

1.3.28   show pdp-context ggsn NAME

Command

```
show pdp-context ggsn NAME
```

Parameters

show
   Show running system information

pdp-context
   Show PDP Context Information

ggsn
   Gateway GPRS Support NODE (GGSN)

NAME
   GGSN Name

1.3.29   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
   Filter by APN

APN
   APN name

1.3.30 show pdp-context ggsn NAME imsi IMSI [<0-15>]

Command

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

Parameters

show

Show running system information

pdp-context

Display information on PDP Context

ggsn

Gateway GPRS Support NODE (GGSN)

NAME

GGSN Name

imsi

PDP contexts for given IMSI

IMSI

PDP context for given NSAPI

[<0-15>]

(null)

1.3.31 show pdp-context ggsn NAME ipv4 A.B.C.D

Command

```
show pdp-context ggsn NAME ipv4 A.B.C.D
```

Parameters

show

Show running system information

pdp-context

Display information on PDP Context

ggsn

Gateway GPRS Support NODE (GGSN)

NAME

GGSN Name

ipv4

IPv4 address type

A.B.C.D

IP address

1.3.32 show rate-counters [skip-zero]

Command

```
show rate-counters [skip-zero]
```

Parameters

show

> Show running system information

rate-counters

> Show all rate counters

[skip-zero]

> Skip items with total count zero

1.3.33 show startup-config

Command

```
show startup-config
```

Parameters

show

> Show running system information

startup-config

> Contentes of startup configuration

1.3.34 show stats [skip-zero]

Command

```
show stats [skip-zero]
```

Parameters

show

> Show running system information

stats

> Show statistical values

[skip-zero]

> Skip items with total count zero

1.3.35 show stats level (global|peer|subscriber) [skip-zero]

Command

```
show stats level (global|peer|subscriber) [skip-zero]
```

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

[skip-zero]

Skip items with total count zero

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

filter

Filter chunks using regular expression

REGEXP

Regular expression

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

tree

Display only a specific memory chunk

ADDRESS

Chunk address (e.g. 0xdeadbeef)

1.3.39   show timer [(gtp)] [TNNNN]

Command

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

Parameters

show

Show running system information

timer

Show timers

[gtp]

GTP (libgtp) timers

[TNNNN]

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

1.3.40 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.3.41 shutdown

Command

```
shutdown
```

Parameters

shutdown

Request a shutdown of the program

1.3.42 stats report

Command

```
stats report
```

Parameters

stats

Stats related commands

report

Manurally trigger reporting of stats

1.3.43 stats reset

Command

```
stats reset
```

Parameters

stats

Stats related commands

reset

Reset all rate counter stats

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 cpu-sched

Command

```
cpu-sched
```

Parameters

cpu-sched

> Configure CPU Scheduler related settings

1.4.4 ctrl

Command

```
ctrl
```

Parameters

ctrl

> Configure the Control Interface

1.4.5 enable password (8|) WORD

Command

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

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN 'enable' password string

1.4.6 enable password LINE

Command

```
enable password LINE
```

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

LINE

The UNENCRYPTED (cleartext) 'enable' password

1.4.7 ggsn NAME

Command

```
ggsn NAME
```

Parameters

ggsn

Configure the Gateway GPRS Support Node

NAME

GGSN Name (has only local significance)

1.4.8 hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

1.4.9 line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vty

Virtual terminal

1.4.10 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

1.4.11   log file FILENAME [blocking-io]

Command

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

Parameters

log
    Configure logging sub-system

file
    Logging to text file

FILENAME
    Filename

[blocking-io]
    Use blocking, synchronous I/O

1.4.12   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)

1.4.13   log stderr [blocking-io]

Command

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

Parameters

log
    Configure logging sub-system

stderr
    Logging via STDERR of the process

[blocking-io]
    Use blocking, synchronous I/O

1.4.14 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

1.4.15 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

1.4.16 log systemd-journal [raw]

Command

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

Parameters

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

[raw]

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

1.4.17 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

1.4.18 no enable password

Command

```
no enable password
```

Parameters

no

Negate a command or set its defaults

enable

Modify enable password parameters

password

Assign the privileged level password

1.4.19 no 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)

1.4.20 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

1.4.21 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

1.4.22 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

1.4.23 no log gsmtap [HOSTNAME]

Command

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

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

1.4.24 **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

1.4.25 **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

1.4.26 **no log systemd-journal**

Command

```
no log systemd-journal
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

1.4.27 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

1.4.28 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)

1.4.29 no stats reporter log [NAME]

Command

```
no stats reporter log [NAME]
```

Parameters

no

Negate a command or set its defaults

stats

> Configure stats sub-system

reporter

> Configure a stats reporter

log

> Report to the logger

[NAME]

> Name of the reporter

1.4.30   no stats reporter statsd [NAME]

Command

```
no stats reporter statsd [NAME]
```

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

[NAME]

> Name of the reporter

1.4.31   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

1.4.32 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

1.4.33 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

1.4.34 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)

1.4.35 show history

Command

```
show history
```

Parameters

show

> Show running system information

history

> Display the session command history

1.4.36 stats interval <0-65535>

Command

```
stats interval <0-65535>
```

Parameters

stats

> Configure stats sub-system

interval

> Set the reporting interval

<0-65535>

> Interval in seconds (0 disables the reporting interval)

1.4.37 stats reporter log [NAME]

Command

```
stats reporter log [NAME]
```

Parameters

stats

> Configure stats sub-system

reporter

> Configure a stats reporter

log

> Report to the logger

[NAME]

> Name of the reporter

1.4.38   stats reporter statsd [NAME]

Command

```
stats reporter statsd [NAME]
```

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

[NAME]

Name of the reporter

1.4.39   stats-tcp batch-size <1-65535>

Command

```
stats-tcp batch-size <1-65535>
```

Parameters

stats-tcp

Configure stats sub-system

batch-size

Set the number of tcp sockets that are processed per stats polling interval

<1-65535>

Number of sockets per interval

1.4.40   stats-tcp interval <0-65535>

Command

```
stats-tcp interval <0-65535>
```

Parameters

stats-tcp

Configure stats sub-system

interval

Set the tcp socket stats polling interval

<0-65535>

Interval in seconds (0 disables the polling interval)

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 (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctr...

Command

```
logging level (ip|tun|ggsn|sgsn|icmp6|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp| ↩
    lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata| ↩
    lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

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 Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

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

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

    GPRS GTP library

lstats

    Statistics messages and logging

lgsup

    Generic Subscriber Update Protocol

loap

    Osmocom Authentication Protocol

lss7

    libosmo-sigtran Signalling System 7

lsccp

    libosmo-sigtran SCCP Implementation

lsua

    libosmo-sigtran SCCP User Adaptation

lm3ua

    libosmo-sigtran MTP3 User Adaptation

lmgcp

    libosmo-mgcp Media Gateway Control Protocol

ljibuf

    libosmo-netif Jitter Buffer

lrspro

    Remote SIM protocol

lns

    GPRS NS layer

lbssgp

    GPRS BSSGP layer

lnsdata

    GPRS NS layer data PDU

lnssignal

    GPRS NS layer signal PDU

liuup

    Iu UP layer

lpfcp

    libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

    libosmo-csn1 Concrete Syntax Notation 1 codec

lio

    libosmocore IO Subsystem

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

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

Command

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

Parameters

logging

    Configure logging

level

    Set the log level for a specified category

force-all

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

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.5.6 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.5.7 logging print category-hex (0|1)

Command

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

Parameters

logging
   Configure logging

print
   Log output settings

category-hex
   Configure log message

0
   Don't prefix each log message

1
   Prefix each log message with category/subsystem nr in hex ('<000b>')

1.5.8 logging print extended-timestamp (0|1)

Command

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

Parameters

logging
   Configure logging

print
   Log output settings

extended-timestamp
   Configure log message timestamping

0
   Don't prefix each log message

1
   Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging

>   Configure logging

print

>   Log output settings

file

>   Configure log message

0

>   Don't prefix each log message

1

>   Prefix each log message with the source file and line

basename

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

[last]

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

1.5.10   logging print level (0|1)

Command

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

Parameters

logging

>   Configure logging

print

>   Log output settings

level

>   Configure log message

0

>   Don't prefix each log message

1

>   Prefix each log message with the log level name

1.5.11 logging print thread-id (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

1.5.12 logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.5.13 no logging level force-all

Command

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

Parameters

no
    Negate a command or set its defaults

logging
    Configure logging

level
    Set the log level for a specified category

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

1.6 config-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 flush-period <0-65535>

Command

```
flush-period <0-65535>
```

Parameters

flush-period

> Configure stats sub-system

<0-65535>

> Send all stats even if they have not changed (i.e. force the flush)every N-th reporting interval. Set to 0 to disable regular
> flush (default).

1.6.4 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

1.6.5 local-ip ADDR

Command

```
local-ip ADDR
```

Parameters

local-ip

> Set the IP address to which we bind locally

ADDR

> IP Address

1.6.6 mtu <100-65535>

Command

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

Parameters

mtu

Set the maximum packet size

<100-65535>

Size in byte

1.6.7 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

1.6.8 no mtu

Command

```
no mtu
```

Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

1.6.9 no prefix

Command

```
no prefix
```

Parameters

no

  Negate a command or set its defaults

prefix

  Set the item name prefix

1.6.10 prefix PREFIX

Command

```
prefix PREFIX
```

Parameters

prefix

  Set the item name prefix

PREFIX

  The prefix string

1.6.11 remote-ip ADDR

Command

```
remote-ip ADDR
```

Parameters

remote-ip

  Set the remote IP address to which we connect

ADDR

  IP Address

1.6.12 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 [<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

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 [<0-65535>]

Command

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

Parameters

bind
    Set bind address to listen for Control connections

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

[<0-65535>]
    Local TCP port number

1.9 config-cpu-sched

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

Command

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

Global attributes

Flag: !
>   This command applies immediately

Parameters

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

self
>   Set CPU affinity mask on thread running the VTY

all
>   Set CPU affinity mask on all process' threads

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

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

CPUHEXMASK
>   CPU affinity mask

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

1.9.2 policy rr <1-32>

Command

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

Global attributes

Flag: !
>   This command applies immediately

Parameters

policy
>   Set the scheduling policy to use for the process

rr
>   Use the SCHED_RR real-time scheduling algorithm

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

1.10 config-ggsn

Configure an Instance of a (virtual) GGSN

1.10.1 apn NAME

Command

```
apn NAME
```

Parameters

apn
    APN Configuration

NAME
    APN Name

1.10.2 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

1.10.3 description .TEXT

Command

```
description .TEXT
```

Parameters

description
    Save human-readable description of the object

.TEXT
    Text until the end of the line

1.10.4 echo-interval <1-36000>

Command

```
echo-interval <1-36000>
```

Parameters

echo-interval
   Gateway GPRS Support NODE (GGSN)

<1-36000>
   GGSN Number

1.10.5 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

1.10.6 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

1.10.7 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

1.10.8 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

1.10.9 no apn NAME

Command

```
no apn NAME
```

Parameters

no

   Negate a command or set its defaults

apn

   Remove APN Configuration

NAME

   APN Name

1.10.10 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

1.10.11 no description

Command

```
no description
```

Parameters

no

 Negate a command or set its defaults

description

 Remove description of the object

1.10.12 no echo-interval

Command

```
no echo-interval
```

Parameters

no

 Gateway GPRS Support NODE (GGSN)

echo-interval

 GGSN Number

1.10.13 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 shutdown

1.10.14 show sgsn

Command

```
show sgsn
```

Parameters

show

Negate a command or set its defaults

sgsn

Gateway GPRS Support NODE (GGSN)

1.10.15 shutdown ggsn

Command

```
shutdown ggsn
```

Parameters

shutdown

Put the GGSN in administrative shutdown

ggsn

Gateway GPRS Support NODE (GGSN)

1.10.16 timer [(gtp)] [TNNNN] [(<0-2147483647>|default)]

Command

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

Parameters

timer

Configure or show timers

[gtp]

GTP (libgtp) timers

[TNNNN]

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

[<0-2147483647>]

New timer value

[default]

Set to default timer value

1.11 config-ggsn-apn

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

1.11.1 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

1.11.2 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

1.11.3 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

1.11.4 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

1.11.5   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

1.11.6   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 Adress/Prefix-Length

dynamic

(null)

A.B.C.D/M

(null)

1.11.7   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

1.11.8 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

1.11.9 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

1.11.10 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 Adress/Prefix-Length

1.11.11 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 Adress/Prefix-Length

1.11.12 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)

1.11.13 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

1.11.14 no description

Command

```
no description
```

Parameters

no

    Negate a command or set its defaults

description

    Remove description of the object

1.11.15 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

1.11.16 no ip ifconfig

Command

```
no ip ifconfig
```

Parameters

no

 Negate a command or set its defaults

ip

 IP information

ifconfig

 GGSN-based interface configuration

1.11.17 no ipdown-script

Command

```
no ipdown-script
```

Parameters

no

 Negate a command or set its defaults

ipdown-script

 Disable ip-down script

1.11.18 no ipup-script

Command

```
no ipup-script
```

Parameters

no

 Negate a command or set its defaults

ipup-script

 Disable ip-up script

1.11.19 no ipv6 ifconfig

Command

```
no ipv6 ifconfig
```

Parameters

no

Negate a command or set its defaults

ipv6

IPv6 Information

ifconfig

GGSN-based interface configuration

1.11.20 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

1.11.21 no shutdown

Command

```
no shutdown
```

Parameters

no

Negate a command or set its defaults

shutdown

Remove the APN from administrative shutdown

1.11.22   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

1.11.23   shutdown

Command

```
shutdown
```

Parameters

shutdown

Put the APN in administrative shutdown

1.11.24   tun-device NAME

Command

```
tun-device NAME
```

Parameters

tun-device

Configure tun device name

NAME

TUN device name

1.11.25 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