

## **OsmoCBC VTY Reference**

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**COLLABORATORS**

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## Chapter 1

# VTY reference

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

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

Table 1.1: VTY Parameter Patterns

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

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

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

Table 1.2: VTY port numbers

### 1.1 Common Commands

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



### 1.1.1 end

#### Command

```
end
```

#### Parameters

end

End current mode and change to enable mode.

### 1.1.2 exit

#### Command

```
exit
```

#### Parameters

exit

Exit current mode and down to previous mode

### 1.1.3 help

#### Command

```
help
```

#### Parameters

help

Description of the interactive help system

### 1.1.4 list [with-flags]

#### Command

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

#### Parameters

list

Print command list

[with-flags]

Also print the VTY attribute flags

---

### 1.1.5 show running-config

#### Command

```
show running-config
```

#### Parameters

##### show

Show running system information

##### running-config

running configuration

### 1.1.6 show vty-attributes

#### Command

```
show vty-attributes
```

#### Parameters

##### show

Show running system information

##### vty-attributes

List of VTY attributes

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

#### Command

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

#### Parameters

##### show

Show running system information

##### vty-attributes

List of VTY attributes

##### application

Application specific attributes only

##### library

Library specific attributes only

##### global

Global attributes only

---

### 1.1.8 write

#### Command

```
write
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

### 1.1.9 write file [PATH]

#### Command

```
write file [PATH]
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### file

Write to configuration file

##### [PATH]

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

### 1.1.10 write memory

#### Command

```
write memory
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### memory

Write configuration to the file (same as write file)

### 1.1.11 write terminal

#### Command

```
write terminal
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### terminal

Write to terminal

## 1.2 view

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

### 1.2.1 delete message expired id <0-65535>

#### Command

```
delete message expired id <0-65535>
```

#### Parameters

##### delete

Delete message from the local expired list

##### message

Delete message from the local expired list

##### expired

Delete message from the local expired list

##### id

Message ID

##### <0-65535>

Message ID

---

### 1.2.2 enable [expert-mode]

#### Command

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

#### Parameters

##### enable

Turn on privileged mode command

##### [expert-mode]

Enable the expert mode (show hidden commands)

### 1.2.3 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.2.4 show message id <0-65535>

#### Command

```
show message id <0-65535>
```

#### Parameters

##### show

Show running system information

##### message

Display information about currently active SMSCB messages

##### id

Message ID

##### <0-65535>

Message ID

---

### 1.2.5 show messages cbs

#### Command

```
show messages cbs
```

#### Parameters

##### show

Show running system information

##### messages

Display information about currently active SMSCB messages

##### cbs

Display Cell Broadcast Service (CBS) messages

### 1.2.6 show messages etws

#### Command

```
show messages etws
```

#### Parameters

##### show

Show running system information

##### messages

Display information about currently active SMSCB messages

##### etws

Display ETWS (CMAS, KPAS, EU-ALERT, PWS, WEA) Emergency messages

### 1.2.7 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

---

### 1.2.8 show peers

#### Command

```
show peers
```

#### Parameters

##### show

Show running system information

##### peers

Display Information about RAN peers connected to this CBC

### 1.2.9 show pid

#### Command

```
show pid
```

#### Parameters

##### show

Show running system information

##### pid

Displays the process ID

### 1.2.10 show runtime

#### Command

```
show runtime
```

#### Parameters

##### show

Show running system information

##### runtime

Display runtime information

### 1.2.11 show uptime

#### Command

```
show uptime
```

#### Parameters

##### show

Show running system information

##### uptime

Displays how long the program has been running

### 1.2.12 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.2.13 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)

---



### 1.2.14 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

### 1.2.15 who

#### Command

```
who
```

#### Parameters

who

Display who is on vty

## 1.3 enable

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

### 1.3.1 configure [terminal]

#### Command

```
configure [terminal]
```

#### Parameters

configure

Configuration from vty interface

[terminal]

Configuration terminal

---

### 1.3.2 copy running-config startup-config

#### Command

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

#### Parameters

copy

Copy configuration

running-config

Copy running config to...

startup-config

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

### 1.3.3 delete message expired id <0-65535>

#### Command

```
delete message expired id <0-65535>
```

#### Parameters

delete

Delete message from the local expired list

message

Delete message from the local expired list

expired

Delete message from the local expired list

id

Message ID

<0-65535>

Message ID

### 1.3.4 disable

#### Command

```
disable
```

#### Parameters

disable

Turn off privileged mode command

### 1.3.5 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.3.6 show message id <0-65535>

#### Command

```
show message id <0-65535>
```

#### Parameters

##### show

Show running system information

##### message

Display information about currently active SMSCB messages

##### id

Message ID

<0-65535>

Message ID

### 1.3.7 show messages cbs

#### Command

```
show messages cbs
```

#### Parameters

##### show

Show running system information

##### messages

Display information about currently active SMSCB messages

##### cbs

Display Cell Broadcast Service (CBS) messages

---

### 1.3.8 show messages etws

#### Command

```
show messages etws
```

#### Parameters

##### show

Show running system information

##### messages

Display information about currently active SMSCB messages

##### etws

Display ETWS (CMAS, KPAS, EU-ALERT, PWS, WEA) Emergency messages

### 1.3.9 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.3.10 show peers

#### Command

```
show peers
```

#### Parameters

##### show

Show running system information

##### peers

Display Information about RAN peers connected to this CBC

---

### 1.3.11 show runtime

#### Command

```
show runtime
```

#### Parameters

##### show

Show running system information

##### runtime

Display runtime information

### 1.3.12 show startup-config

#### Command

```
show startup-config
```

#### Parameters

##### show

Show running system information

##### startup-config

Contentes of startup configuration

### 1.3.13 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.3.14 shutdown

#### Command

```
shutdown
```

#### Parameters

##### shutdown

Request a shutdown of the program

### 1.3.15 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)

### 1.3.16 terminal monitor

#### Command

```
terminal monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### monitor

Copy debug output to the current terminal line

---

### 1.3.17 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

### 1.3.18 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

### 1.3.19 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 cbc

#### Command

```
cbc
```

#### Parameters

##### cbc

Cell Broadcast Centre

---



### 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 hostname WORD

#### Command

```
hostname WORD
```

#### Parameters

##### hostname

Set system's network name

##### WORD

This system's network name

---

### 1.4.7 line vty

#### Command

```
line vty
```

#### Parameters

line

Configure a terminal line

vtty

Virtual terminal

### 1.4.8 no banner motd

#### Command

```
no banner motd
```

#### Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

### 1.4.9 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

---

### 1.4.10 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

### 1.4.11 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

### 1.4.12 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)

---

### 1.4.13 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

### 1.4.14 password LINE

#### Command

```
password LINE
```

#### Parameters

##### password

Assign the terminal connection password

##### LINE

The UNENCRYPTED (cleartext) line password

### 1.4.15 service advanced-vty

#### Command

```
service advanced-vty
```

#### Parameters

##### service

Set up miscellaneous service

##### advanced-vty

Enable advanced mode vty interface

### 1.4.16 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)

### 1.4.17 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

## 1.5 config-line

### 1.5.1 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

---

### 1.5.2 login

#### Command

```
login
```

#### Parameters

login

Enable password checking

### 1.5.3 no login

#### Command

```
no login
```

#### Parameters

no

Negate a command or set its defaults

login

Enable password checking

## 1.6 config-cbc

This node allows to configure the CBC. Will enter the CBC specific VTY configuration node.

### 1.6.1 cbsp

#### Command

```
cbsp
```

#### Parameters

cbsp

Cell Broadcast Service Protocol

### 1.6.2 ecbe

#### Command

```
ecbe
```

#### Parameters

ecbe

External CBS Entity (REST Interface)

### 1.6.3 no peer NAME

#### Command

```
no peer NAME
```

#### Parameters

no

Negate a command or set its defaults

peer

Remote Peer

NAME

Name identifying the peer

### 1.6.4 peer (cbbsp|sbcap) NAME

#### Command

```
peer (cbbsp|sbcap) NAME
```

#### Parameters

peer

Remote Peer

cbbsp

Cell Broadcast Service Protocol (GSM)

sbcap

SBc Application Part (LTE)

NAME

Name identifying the peer

---

### 1.6.5 peer NAME

Configure a CBC RAN peer (BSC, ...). Will enter a sub-node where parameters about that peer can be configured. The NAME has local significance only (for VTY and logging).

Command

```
peer NAME
```

Parameters

### 1.6.6 sbcap

Command

```
sbcap
```

Parameters

sbcap

SBc Application Part

### 1.6.7 unknown-peers (accept|reject)

Whether or not the CBC should accept incoming CBSP/TCP connections from unknown peers, i.e. such peers that don't have an explicit 'peer' configuration.

Command

```
unknown-peers (accept|reject)
```

Parameters

unknown-peers

What to do with peers from unknown IP/port

accept

Accept peers from unknown/unconfigured source IP/port

reject

Reject peers from unknown/unconfigured source IP/port

### 1.6.8 unknown-peers (accept|reject)

Whether or not the CBC should accept incoming CBSP/TCP connections from unknown peers, i.e. such peers that don't have an explicit 'peer' configuration.

Command

```
unknown-peers (accept|reject)
```

Parameters

---



## 1.7 config-cbc-peer

This node allows to configure one CBC RAN peer (BSC, ...)

### 1.7.1 mode (server|client|disabled)

Command

```
mode (server|client|disabled)
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

mode

Connect to peer as TCP(CBSP)/SCTP(SBc-AP) server or client

server

server: listen for inbound TCP (CBSP) / SCTP (SBc-AP) connections from a remote peer

client

client: establish outbound TCP (CBSP) / SCTP (SBc-AP) connection to a remote peer

disabled

Disable CBSP link

### 1.7.2 no remote-ip (A.B.C.D|X:X::X:X)

Command

```
no remote-ip (A.B.C.D|X:X::X:X)
```

Parameters

no

Negate a command or set its defaults

remote-ip

Keep remote IP of peer

A.B.C.D

IPv4 address of peer

X:X::X:X

IPv6 address of peer

### 1.7.3 no remote-port

#### Command

```
no remote-port
```

#### Parameters

no

Negate a command or set its defaults

remote-port

Configure remote (TCP) port of peer

### 1.7.4 remote-ip (A.B.C.D|X:X::X:X)

#### Command

```
remote-ip (A.B.C.D|X:X::X:X)
```

#### Parameters

remote-ip

Configure remote IP of peer

A.B.C.D

IPv4 address of peer

X:X::X:X

IPv6 address of peer

### 1.7.5 remote-port <0-65535>

#### Command

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

#### Parameters

remote-port

Configure remote (TCP) port of peer

<0-65535>

Remote (TCP) port number of peer

## 1.8 config-cbsp

### 1.8.1 local-ip (A.B.C.D|X:X::X:X)

#### Command

```
local-ip (A.B.C.D|X:X::X:X)
```

#### Parameters

##### local-ip

Local IP address for CBSP

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

Local IPv4 address for CBSP

##### X:X::X:X

Local IPv6 address for CBSP

### 1.8.2 local-port <0-65535>

#### Command

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

#### Parameters

##### local-port

Local TCP port for CBSP

##### <0-65535>

Local TCP port for CBSP

## 1.9 config-sbcap

### 1.9.1 local-ip (A.B.C.D|X:X::X:X)

#### Command

```
local-ip (A.B.C.D|X:X::X:X)
```

#### Parameters

##### local-ip

Local IP address for SBc-AP

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

Local IPv4 address for SBc-AP Interface

##### X:X::X:X

Local IPv6 address for SBc-AP Interface

---

### 1.9.2 local-port <0-65535>

#### Command

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

#### Parameters

local-port

Local TCP port for SBc-AP Interface

<0-65535>

Local TCP port for SBc-AP Interface

### 1.9.3 no local-ip (A.B.C.D|X:X::X:X)

#### Command

```
no local-ip (A.B.C.D|X:X::X:X)
```

#### Parameters

no

Negate a command or set its defaults

local-ip

Local IP address for SBc-AP

A.B.C.D

Local IPv4 address for SBc-AP Interface

X:X::X:X

Local IPv6 address for SBc-AP Interface

## 1.10 config-ecbe

### 1.10.1 local-ip (A.B.C.D|X:X::X:X)

#### Command

```
local-ip (A.B.C.D|X:X::X:X)
```

#### Parameters

local-ip

Local IP address for CBSP

A.B.C.D

Local IPv4 address for ECBE REST Interface

X:X::X:X

Local IPv6 address for ECBE REST Interface

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### 1.10.2 local-port <0-65535>

#### Command

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

#### Parameters

##### local-port

Local TCP port for ECBE REST Interface

##### <0-65535>

Local TCP port for ECBE REST Interface