MeshCore CLI Configuration

MeshCore nodes can be configured using two distinct CLI systems. The **meshcore-cli Python tool** drives a **Companion** node (BLE/USB-Companion firmware) over **BLE, TCP, or Serial**. The **serial / web-console CLI** documented at docs.meshcore.io/cli_commands administers **Repeater, Room Server, and Sensor** firmware. They are separate interfaces targeting different firmware types, not two ways of doing the same thing.

Option A: meshcore-cli (Python tool)

Installation

```
pipx install meshcore-cli   # recommended (upstream guidance)
pip install meshcore-cli    # also works
```

Requires Python 3.10 or newer. On Windows, ensure Python and pip/pipx are in PATH. meshcore-cli depends on the `meshcore` Python package; installing meshcore-cli pulls it in automatically.

Connect to your device

meshcore-cli has no `connect` or `ports` subcommand. You select the transport with flags, then chain the commands you want to run. The general form is `meshcore-cli <connection flags> <command>`.

```
# List available BLE / serial devices, then exit
meshcore-cli -l

# Connect via serial and run a command
meshcore-cli -s COM5 infos          # Windows
meshcore-cli -s /dev/ttyUSB0 infos  # Linux/Mac

# Connect via BLE (by name or address)
meshcore-cli -d "My Node" infos     # BLE by device name
```

```
meshcore-cli -a <ble-address> infos # BLE by address

# Connect via TCP (MeshCore default TCP port is 5000)
meshcore-cli -t 192.168.1.50 -p 5000 infos
```

Connection flags: `-s <port>` serial, `-a <address>` BLE address, `-d <name>` BLE name, `-S` BLE scan, `-t <host> -p <port>` TCP. Note: some Companion builds compile in only one interface, so a BLE-only Companion is not reachable over serial.

Common commands

Command	Description
`meshcore-cli -s COM5 infos`	Print node info (name, ID, battery). Alias: `i`
`meshcore-cli -s COM5 ver`	Show firmware version. Alias: `v`
`meshcore-cli -s COM5 contacts`	List known contacts (use `contact_info <name>` / `ci` for signal/path detail). Alias: `lc`
`meshcore-cli -s COM5 set name "My Node"`	Set the node's display name via meshcore-cli's `set` params (see `set help`)
Role is fixed by the flashed firmware type (Companion / Repeater / Room Server / Sensor). There is no `set role`; `get role` only reads it. To change role, reflash the desired firmware.	
There is no `set preset` command. Apply the USA/Canada preset in the app or at config.meshcore.io, or set the radio explicitly (see the Repeater section below).	
`meshcore-cli -s COM5 set tx 22`	Set TX power in dBm (valid range 1–22; SX1262 max is 22)
Advert behaviour is split into flood and zero-hop commands. Send a flood advert with `advert`; send a zero-hop advert with `advert.zerohop`.	
`meshcore-cli -s COM5 set flood.advert.interval 12`	Flood advert cadence in **hours** (range 3–168, default 12)
`meshcore-cli -s COM5 set advert.interval 60`	Separate zero-hop advert cadence in **minutes** (60–240)
`meshcore-cli -s COM5 set lat 47.6062` `meshcore-cli -s COM5 set lon -122.3321`	Set node position (decimal degrees). Latitude and longitude are set with separate commands — there is no `--lon` flag
`meshcore-cli -s COM5 reboot`	Reboot the node
`meshcore-cli -s COM5 erase`	Erase / factory reset — wipes all configuration and contacts (destructive). The command is `erase`, not `factory-reset`

Repeater-specific configuration

Repeater behaviour comes from flashing the Repeater firmware, not from a `set role` command. Once flashed, configure the radio and identity explicitly:

```
# Set the radio parameters (USA/Canada: 910.525 MHz, BW 62.5 kHz, SF 7, CR 5)
set radio 910.525,62.5,7,5

# Or set frequency on its own (MHz, not kHz)
set freq 910.525

# Flood advert cadence (hours)
set flood.advert.interval 12

# TX power in dBm (1-22; 22 is the SX1262 chip max)
set tx 22

# Node name
set name MY-REPEATER-NAME

# Position so the repeater appears on network maps (lat/lon set separately)
set lat 47.6062
set lon -122.3321
```

Option B: Serial / web-console CLI (Repeater, Room Server, Sensor)

Repeater, Room Server, and Sensor firmware (and serial-enabled Companions) expose a serial console, commonly at 115200 8N1. This works with any terminal emulator — no Python required. BLE-only Companion builds are not reachable over serial. Confirm the exact baud from your device's flash notes. The full command set is documented at docs.meshcore.io/cli_commands.

Connecting

- **Windows:** PuTTY or Windows Terminal with the COM port at 115200 8N1 (general serial-terminal guidance — verify baud per device)
- **Mac/Linux:** `screen /dev/ttyUSB0 115200` or `minicom -b 115200 -D /dev/ttyUSB0`

Serial CLI commands

Type commands directly in the terminal. Commands are entered in lowercase and submitted with Enter:

Command	Description
`get <param>`	Read a setting, e.g. `get role`, `get freq`, `get tx`, `get radio`
`contacts`	List known contacts
`neighbors`	List directly-heard neighbour nodes
`stats-core` / `stats-radio` / `stats-packets`	Show node statistics (RSSI/SNR are in `stats-radio`)
`set name My Repeater`	Set node name
There is no `set role` command and no 0/1/2 role mapping. Role is fixed by the flashed firmware variant; `get role` only reads it.	
`set radio 910.525,62.5,7,5`	Set freq (MHz), bandwidth (kHz), spreading factor, coding rate in one command
`set freq 910.525`	Set frequency in **MHz** (910.525 = 910.525 MHz). The value is MHz, not kHz
Spreading factor, bandwidth, and coding rate are fields of `set radio <freq>,<bw>,<sf>,<cr>` — there are no standalone `set sf` / `set bw` / `set cr` commands. Bandwidth is expressed as `62.5`, not `62`.	
`set tx 22`	Set TX power in dBm (valid range 1–22). The command is `set tx`, not `set txpower`
`set lat 47.6062`	Set latitude
`set lon -122.3321`	Set longitude
`advert`	Send a flood advertisement (`advert.zerohop` for zero-hop)
`reboot`	Reboot device
`erase`	Erase / factory reset (destructive)

Web-based configuration interfaces

Several browser-based tools offer configuration and flashing without any local software installation:

Tool	URL	Purpose
MeshCore Web Flasher	flasher.meshcore.io	Flash firmware via WebSerial (Chrome/Edge). Choose the firmware variant (Companion / Repeater / Room Server / Sensor) here

Tool	URL	Purpose
MeshCore Web Config	config.meshcore.io	Configure node settings via WebSerial (the official URL; `config.meshcore.dev` is not canonical)
MeshCore Web App (NZ)	app.meshcore.nz	Community-hosted web app for messaging and config

Note: All web tools require Chrome or Edge (WebSerial API). Firefox is not supported. For web flasher use, see the *Flashing Repeater Firmware* page.

Recommended configuration for a new repeater deployment

1. Flash with **Repeater firmware** using the web flasher (this is what sets the repeater role — there is no `set role` command)
2. Set the radio parameters explicitly (USA/Canada): `set radio 910.525,62.5,7,5`
3. Set name (use something descriptive): `set name MT-RAINIER-SOUTH`
4. Set position (lat/lon separately): `set lat 46.8523` then `set lon -121.7603`
5. Set flood advert cadence: `set flood.advert.interval 12`
6. Set TX power appropriate for antenna + FCC limits: `set tx 22`. Under 47 CFR 15.247(b), the max conducted power on 902–928 MHz is 30 dBm (1 W) with antennas ≤6 dBi; for every dB of antenna gain above 6 dBi you must reduce conducted power by the same amount. For bare SX1262 boards the chip max is 22 dBm
7. Verify settings: `get radio`, `get tx`, `get role`
8. Reboot: `reboot`

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