

MeshCore CLI Reference

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Connecting to Your Device

The MeshCore CLI (`meshcore-cli`) supports three connection methods. Choose the one that matches your hardware and situation.

Serial (USB)

The most reliable method. Connect your device via USB and specify the serial port with `-s`:

```
meshcore-cli -s /dev/ttyUSB0
```

The serial port must be given explicitly with `-s` — it is not auto-detected. Use the port that matches your system:

```
meshcore-cli -s /dev/ttyUSB0 # Linux/macOS
meshcore-cli -s COM3         # Windows
```

If you need to set a non-default baud rate, pass it with `-b` (for example `-b 115200`). MeshCore serial consoles commonly run at **115200**, matching the firmware's default, but set it explicitly with `-b` if your connection fails.

Bluetooth (BLE)

Connect wirelessly to a nearby device. BLE is the default transport — scan for devices and pick one with `-S`, or target a known device directly with `-a <address>` or `-d <name>`:

```
meshcore-cli -S # scan and select a BLE device
meshcore-cli -a <ble-address> # connect to a known device
```

If the device does not appear, ensure it is powered on and not already connected to the MeshCore app. A BLE companion connection is a single GATT link, so generally only one client can connect at a time.

TCP (Wi-Fi / LAN)

Connect to a device that exposes a TCP interface (useful for remote administration of fixed nodes). Use `-t` for the host and `-p` for the port:

```
meshcore-cli -t 192.168.1.100 -p 5000
```

Replace the IP with the device's actual address. Port **5000** is the meshcore-cli TCP default.

Verifying Connection

Once connected, run `infos` (shortcut `i`) to confirm the connection and see device details:

```
infos
```

The `infos` output includes the node's public key, node name, TX power, location (lat/lon), and radio configuration (frequency, bandwidth, spreading factor, coding rate). Firmware version is shown by the separate `ver` command, and battery/telemetry by `self_telemetry` (shortcut `t`).

Full Command Reference

MeshCore has two command surfaces. The device-side **serial CLI** (canonical reference: `docs.meshcore.io/cli_commands`) uses bare `get`/`set` verbs and is used to configure repeaters and room servers over USB serial. The host tool **meshcore-cli** (invoked as `meshcore-cli`/`meshcli`) connects to a companion radio over BLE, TCP, or Serial; commands can be passed on the command line or entered in interactive chat mode. The tables below note which surface each command belongs to.

Device Information & Status

Command	Purpose
<code>infos</code> (alias <code>i</code>)	meshcore-cli: print node info (public key, TX power, radio params, name, location). For firmware version use <code>ver</code> ; for battery/telemetry use <code>self_telemetry</code> / <code>req_status</code> .
<code>stats-radio</code> / <code>stats-core</code> / <code>stats-packets</code>	Serial CLI: radio stats (noise floor, RSSI/SNR, airtime), core stats (battery, uptime, queue), and packet counters. There is no bare <code>status</code> command.
<code>contacts</code> / <code>list</code> (alias <code>lc</code>)	meshcore-cli: list known contacts (nodes you have received adverts from). Use <code>node_discover <filter> (nd)</code> to discover nodes by type, or <code>neighbors</code> on a repeater's serial CLI.
<code>get <param></code>	Read a setting (e.g. <code>get radio</code> , <code>get name</code> , <code>get tx</code>). Run <code>get help</code> for the parameter list. There is no <code>config get</code> command.

Configuration

Command	Purpose
<code>set name <name></code>	Set the node name (no <code>config set</code> prefix).
<code>set tx <dbm></code>	Set LoRa transmit power in dBm (valid 1–22 for SX1262). Choose a value that keeps EIRP within your region's limit — 36 dBm EIRP in the US per FCC Part 15.247. Setting too high may violate local law.
<code>erase</code>	Restore factory defaults. Serial-only and destructive. There is no <code>config reset</code> command.

Command	Purpose
<code>set lat <degrees></code>	Set latitude in degrees.
<code>set lon <degrees></code>	Set longitude in degrees.
<code>password <new_password></code>	Set the admin password. Any node presenting this password is added to the admin ACL.

Messaging

Command	Purpose
<code>msg <name> <message></code> (alias <code>m</code>)	meshcore-cli: send a direct message to a contact by name.
<code>public <message></code> or <code>chan <nb> <message></code>	meshcore-cli: send to the public channel (0) or to channel number <nb>. Channel messages flood to subscribers. There is no <code>broadcast</code> command.
<code>msgs_subscribe</code> (alias <code>ms</code>)	meshcore-cli: display messages as they arrive. Use <code>recv (r)</code> / <code>wait_msg (wm)</code> to read them, or chat mode. There is no <code>listen</code> command.

Network & Routing

Command	Purpose
<code>advert</code>	Trigger immediate advertisement broadcast (flood). Use <code>advert.zerohop</code> for a zero-hop advert.
<code>set flood.advert.interval <hours></code>	Flood advert interval in hours (valid 3–168; default 12).
<code>set path.hash.mode <0 1 2></code>	Advert path hash size (0=1-byte, 1=2-byte, 2=3-byte; default 0). Affects only this node's own adverts, not forwarding or routing-table behaviour; requires firmware ≥ 1.14.
<code>region put <name> [parent]</code>	Create a region. Names are user-defined (e.g. <code>region put #USA</code>) — there are no predefined US/state scopes. Flooding must be enabled separately.
<code>region put <child> <parent></code>	Create a nested region under a parent (e.g. <code>region put #Colorado #USA</code>). Names are user-defined, not ISO/region codes.
<code>region save</code>	Save region configuration.

Repeater & Room Server

Command	Purpose
<code>set agc.reset.interval <seconds></code>	AGC reset interval in seconds (rounded down to a multiple of 4; 0 disables). Helps with receiver desensitization.
<code>set repeat <on off></code>	Enable/disable packet repeating on a repeater or room server (default on).

Firmware & Maintenance

Command	Purpose
<code>reboot</code>	Restart the device.
<code>start ota</code>	Initiate an over-the-air firmware update (nRF52). Otherwise flash via the MeshCore web flasher or esptool/UF2. There is no <code>flash</code> command.

Key Repeater Settings

These settings are most critical for deploying and maintaining MeshCore repeater and room server nodes.

AGC Reset Interval - Fix Receiver Deafness

```
set agc.reset.interval 8
```

Problem it solves: If a high-power transmitter (such as a nearby ham radio or commercial repeater) is within range, the LoRa receiver's automatic gain control (AGC) can be driven into a saturated state. After the nearby transmission ends, the AGC does not always recover correctly, leaving the MeshCore repeater effectively deaf to normal LoRa signals.

Symptom: The repeater was working, a nearby radio transmission occurred, and now the repeater is not hearing any nodes even though they are transmitting normally.

Fix: The value is in **seconds** (rounded to a multiple of 4; 0 disables the periodic reset). Setting `agc.reset.interval 8` forces the AGC to reset every 8 seconds, preventing permanent desensitization.

Flood Advertisement Interval

```
set flood.advert.interval 47
```

Controls how often the repeater floods its advert (presence). The value is in **hours** (valid 3-168, default 12). Lower values mean neighbors discover the repeater faster after power-on, but generate more radio traffic. 47 hours is a reasonable setting for a fixed infrastructure node on a busy mesh. Small meshes can advert more frequently.

Path Hash Mode

```
set path.hash.mode 2
```

Sets the size of this repeater's own advert path-hash (it does not control message-cache granularity or forwarding):

- 0 - 1-byte hash: **default**; minimal overhead, higher chance of hash collision in large networks
- 1 - 2-byte hash: more precision at slightly higher overhead
- 2 - 3-byte hash: highest precision; use in very large networks where collisions are observed. **Recommended.**

Packet Repeat (Room Server)

```
set repeat on
```

On room server firmware, this enables the node to also act as a packet repeater in addition to its store-and-forward function. Only enable if the room server has good placement; a poorly-placed room server acting as a repeater can cause more harm than good to routing.

TX Power

```
set tx 20
```

TX power is set with `set tx <dbm>`, valid range **1-22 dBm** (the SX1262 maximum is 22). For unlicensed operation in the US 902-928 MHz band, the 30 dBm (1 W) conducted limit is set by **FCC Part 15.247**, not Part 97. (Part 97 - licensed amateur - allows up to 10 W PEP for spread spectrum under 47 CFR 97.313(j), but it requires a license, prohibits encryption, and requires station ID, so default-encrypted MeshCore cannot lawfully run under Part 97.) Antennas over 6 dBi require a dB-for-dB reduction in conducted power. More power is not always better - an overdriven signal can desensitize nearby receivers including your own.

Region Configuration

```
region put us
region put us-co us
region save
```

Region scopes control which nodes can see and communicate through this repeater. The hierarchical scheme (`us` > `us-co`) allows regional segmentation in large deployments.

Name and Location

```
set name MyRepeater-Site1
set lat 39.7392
set lon -104.9903
```

Always set a meaningful name and accurate coordinates for infrastructure nodes. This allows map tools (such as the MeshCore map at meshcore.co.uk/map.html) to display the repeater correctly and helps operators diagnose coverage gaps.