

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

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

# Web-based configuration interfaces

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

Tool	URL	Purpose
<b>MeshCore Web Flasher</b>	<a href="https://flasher.meshcore.io">flasher.meshcore.io</a>	Flash firmware via WebSerial (Chrome/Edge). Choose the firmware variant (Companion / Repeater / Room Server / Sensor) here

Tool	URL	Purpose
MeshCore Web Config	<a href="https://config.meshcore.io">config.meshcore.io</a>	Configure node settings via WebSerial (the official URL; <code>config.meshcore.dev</code> is not canonical)
MeshCore Web App (NZ)	<a href="https://app.meshcore.nz">app.meshcore.nz</a>	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  $\leq 6$  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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