

LIFESIGNS BLE GATEWAY - DEPLOYMENT MANUAL (v1.0)

Version: 1.0 (Initial Release)

Date: January 2026

System: Ubuntu / Debian Linux

1. Overview

The **Lifesigns BLE Gateway** manages the communication between BLE devices, the MQTT Broker, and the User Dashboard. This system is designed for high resilience in critical hospital environments, featuring:

- **Auto-Healing:** Services automatically restart if they crash.
- **Nuclear Port Cleanup:** Automatically kills zombie processes holding ports 1883, 8080, or 8083 during start/stop.
- **Centralized Alerts:** Crashes are reported silently to the central **Lifesigns Master Bot** on Telegram.
- **Strict Configuration:** Uses a Linux-optimized configuration that mirrors your specific deployment needs.

2. Prerequisites

2.1 Server Requirements

- **OS:** Ubuntu 22.04 LTS (Recommended) or Debian 11+
- **User:** Root or Sudo access
- **Internet:** Required for initial installation (GitHub downloads)

2.2 Telegram Configuration

The system is pre-configured to use the **Lifesigns Master Bot**.

- **Bot Token:** 8585438117:AAHAXCGJk0pVjFsfi0K4sL9qwUDWu9LpcKY
- **Chat ID:** 7797517403

Note: You do not need to configure this manually. The installer will use these credentials automatically.

3. Installation

1. **Copy Script:** Transfer `lifesigns-setup.sh` to the server.
2. **Run Installer:**

```
sudo bash lifesigns-setup.sh
```

3. **Select Option 1:** "Install / Reinstall Lifesigns Gateway".
4. **Hospital Identification:** Enter the **Hospital Name** and **Region**. This allows the network team to identify which specific gateway is sending alerts in the central chat.
5. **Interactive Configuration:** The script will pause and ask if you want to edit the configuration files (`mqtt.conf` , `config.json`).

4. Daily Operations

The system provides custom commands for easy management.

Start Gateway

Starts all services, cleans ports, and checks config.

```
sudo gateway-start
```

Stop Gateway

Stops all services and **disables auto-restart**.

```
sudo gateway-stop
```

Restart Gateway

Use this if the system is acting strange. It forces a configuration reload.

```
sudo gateway-restart
```

Check Status

Displays a dashboard of running services, listening ports, and access URLs.

```
gateway-status
```

5. Configuration Files

All configuration files are located in `/opt/lifesigns` . You can edit them manually or use the interactive prompts in `gateway-restart` .

Component	File Path	Notes
MQTT Broker	<code>/opt/lifesigns/mqtt.conf</code>	Linux-adapted version of your template.
Orchestrator	<code>/opt/lifesigns/orchestrator/config.json</code>	Defines MQTT broker IP and BLE settings.
Dashboard	<code>/opt/lifesigns/dashboard/config.json</code>	Dashboard settings.
Alert Config	<code>/opt/lifesigns/alert_config.env</code>	Contains Telegram Token & Chat ID.

6. Logs & Debugging

Log files are stored in `/var/log/lifesigns` .

Live Monitoring (Tail)

- **MQTT:** `view-mqtt`
- **Orchestrator:** `view-orchestrator`
- **Dashboard:** `view-dashboard` *(Press Ctrl+C to exit)*

Historical Logs (Scrollable)

- **MQTT:** `logs-mqtt`
- **Orchestrator:** `logs-orchestrator`
- **Dashboard:** `logs-dashboard` *(Press 'q' to exit)*

File Manager

To see all files and open the directory:

```
gateway-files
```

7. Troubleshooting

"Address already in use" / Boot Loop

- **Cause:** An old instance of Mosquitto or the Orchestrator is running in the background.
- **Fix:** Run `sudo gateway-stop` . The setup script performs a "Nuclear Cleanup" that aggressively kills any process holding ports 1883, 8080, or 8083. Then run `sudo gateway-start` .

Alerts not arriving

- **Fix:** Check your internet connection (`ping google.com`).
- **Fix:** Check the config file: `sudo cat /opt/lifesigns/alert_config.env` . Ensure the Hospital Name is correct.

8. Uninstallation

To completely remove the gateway:

1. Run `sudo bash lifesigns-setup.sh` .
2. Select **Option 2 (Uninstall)**.
3. The script will:
 - Stop all `lifesigns-*` services.
 - Kill all associated processes.
 - Remove `/opt/lifesigns` .