

🏗️ Market Monitor: System Recovery Guide

1. Hardware & OS Prep

- **OS:** Raspberry Pi OS (64-bit) Bookworm.
- **Storage:** SD Card for OS, USB Drive (UUID: 67E4-9C28) for Logs.
- **Dependencies:** `bash pip install yfinance pandas_ta google-genai pytz schedule matplotlib sudo apt install log2ram`

2. Storage Shield (Log2Ram + USB)

To protect the SD card, logs live in RAM and sync to the USB drive once an hour. * **Mount USB:** Add to `/etc/fstab`: `UUID=67E4-9C28 /mnt/usb_logs exfat defaults,uid=1000,gid=1000,umask=000,nofail 0 0` * **Config Log2Ram:** Set `PATH_DISK="/mnt/usb_logs"` and `SIZE=128M` in `/etc/log2ram.conf`.

3. Resilience (Systemd + Watchdog)

The script is managed by a service that restarts it if it crashes or freezes. * **Enable Watchdog:** In `/etc/systemd/system.conf`, set `RuntimeWatchdogSec=15`. * **Service File:** `/etc/systemd/system/market-monitor.service` * `Restart=always` * `WatchdogSec=30` * `Environment=` (Add your Email and Gemini Keys here)

4. Scheduled Maintenance (Crontab)

Open with `sudo crontab -e`: * **Weekly Reboot:** `00 04 * * 0 /sbin/reboot` (Sundays at 4 AM). * **Hourly Log Sync:** `05 * * * * /usr/local/bin/log2ram write > /dev/null 2>&1`

🔧 Management Cheat Sheet

Task	Command
Check Live Logs	<code>journalctl -u market-monitor.service -f</code>
Check Script Status	<code>systemctl status market-monitor.service</code>
Check USB Health	<code>dmesg grep sda</code>
View USB Logs	<code>ls -lh /mnt/usb_logs</code>
Force Log Sync	<code>sudo log2ram write</code>
Restart Script	<code>sudo systemctl restart market-monitor.service</code>

Final Tip

Always keep a copy of your **Gmail App Password** and **Gemini API Key** in a separate secure place, as they are the only things not stored in this guide.