# 🔄 System Health & Monitoring Panel

## ✨ Module Overview

The **System Health & Monitoring Panel** offers real-time visibility into platform-wide operational status, third-party API connections, scheduled task runners, and tenant-specific service health. This module is essential for proactive troubleshooting, uptime assurance, and performance diagnostics for both the superadmin and developer teams.

It integrates deeply with each module’s job queues, token proxies, webhook listeners, and sync processors.

## 🔧 Core Monitoring Sections

### 1. 📅 Cron Jobs & Queue Runners

* Scheduled Tasks: Blog generator, Sync engines, Weekly summaries
* Queues: Email jobs, Webhook processors, AI generation
* Track:
  + Job name
  + Last run
  + Next due
  + Fail count
  + Retry queue length

**Tables:** - cron\_jobs - job\_queue - job\_failures

**Alerts:** - If retry queue > 10, flag in red - If job not run in >1hr, show warning

### 2. 🔧 API & Token Health

* FB/IG Token Expiry Check (per tenant)
* WooCommerce Token validity
* WhatsApp Webhook test (ping)
* GPT Token/API Quota Status

**Tables:** - token\_validations - token\_expiry\_logs - token\_alerts

**Integration:** - Auto-run every 12 hours - Add failure summary to Superadmin Inbox

### 3. 🚀 Uptime & Latency

* Ping all tenant subdomains (e.g., brand1.myplatform.com)
* Response time histogram
* DNS/TLS check failures
* Webhook delay monitor

**Tools:** - Built-in HTTP pinger - Store ping logs (last 7 days) - Alert on: - 2+ fails in 10min - >500ms average latency

### 4. ⚠️ Error Logs (Realtime)

* Collect error logs from all services:
  + AI Gen errors
  + Post failures
  + Stripe failures
  + App crashes
* Group by severity: [Info, Warning, Error, Critical]
* Include tenant & feature flags

**Stack:** - Store in centralized error\_logs table - Push critical logs to Slack/Webhook - Allow per-feature filter in UI

### 5. 📊 Resource Usage Metrics

* CPU, Memory (server-level)
* API calls used per GPT provider
* Image generation load
* Peak hour charts (per 24h)

**Sources:** - VPS Prometheus or Light dashboard - AI Token usage logs - Background queues utilization

### 6. 🔹 Tenant Sync Status

* See each tenant’s:
  + Last blog sync
  + Last product update
  + UGC import success/fail
  + Campaign launch history
* Highlight stuck/inactive tenants

**Tables:** - tenant\_syncs - sync\_failures

## 📅 UI & Display Design

Page: /admin/system-health - Tabs: - Jobs - Tokens - Uptime - Logs - Metrics - Syncs

**Default Widgets:** - [!] Critical Errors Today (count) - [🚫] Expiring Tokens - [🔹] Queued Jobs Pending - [📊] API Usage Stats - [🚨] Tenants with Missed Syncs

## 🔈 Notification Integrations

* Slack channel (admin): new critical error, failed sync, token expired
* Email every 24h: health summary
* WhatsApp optional alert (superadmin toggle)

## 🔌 Admin Actions

* Manually retry stuck job
* Ping token/connection again
* Mark incident as resolved (logs)
* Add note to health log for incident

## ✅ Benefits

* **Proactive alerting** before customers report
* Reduce downtime across AI features, syncs, inbox
* Helps dev team debug system bugs faster
* Tracks trends across all tenants/platform usage

## 📆 Dev To-Do

* Setup all log tables with rotation
* Implement centralized job queue logger
* Build UI widgets using reusable Admin Template
* Connect with Token Proxy and Cron Modules
* Add Slack alerting via webhook

## 🌎 Future Upgrades

* Add historical performance charts (last 30 days)
* Auto-restart failed jobs (with max retry)
* Tenant-level health score (display on Tenant Card)

✅ **This file is finalized and ready to be linked under Admin Ops + Infra Monitoring group.**