

Project 049 - AI-Powered Lead Intelligence & CRM Orchestration System

Workflow Notes | GoHighLevel + n8n + AI/LLM + REST API + JavaScript

System role GHL = operational CRM n8n = intelligence/orchestration layer	Core objective Turn raw lead submissions into validated AI intelligence, deterministic scores, and CRM-ready actions.	Primary proof Cross-platform webhook handoff, structured AI, guardrails, deterministic scoring, API enrichment, native CRM routing.
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Workflow 01A - GHL New Lead Intelligence Intake

TRIGGER	Form Submitted - Elevate Growth Discovery Form
ACTION	Send Lead to n8n - POST the contact/form payload to the production n8n webhook.

Workflow 01B - n8n AI Lead Intelligence & CRM Enrichment

Module	Nodes	Key Notes
1. Lead Intake & Validation	01 GHL Lead Intake 02 Normalize Lead Data 03 Validate Lead 04 Valid Lead? 05A/05B Prepare paths 06A Gmail invalid alert	Normalizes GHL payload keys, standardizes phone/source/consent values, checks required fields, and prevents incomplete submissions from reaching AI. Invalid leads are routed to staff review by Gmail.
2. AI Qualification & Guardrails	06B AI Lead Qualification 07 Validate AI Qualification 08 AI Qualification Valid? 08A Prepare AI Exception 08B Gmail AI Failure Alert	AI returns structured signals: intent, service fit, buying readiness, budget fit, urgency, summary, and recommended action. A code validator enforces allowed values before scoring. Invalid AI output is stopped and escalated.
3. Deterministic Scoring & Priority	09 Calculate Lead Score 10 Assign Lead Priority	AI does not decide the final priority. JavaScript converts validated signals into a 0-100 score, then applies fixed thresholds: Hot 75-100, Warm 45-74, Cold 0-44.
4. GHL CRM Enrichment	11 Update GHL Contact Intelligence	REST API writes the final intelligence back to the existing GHL contact using actual custom-field IDs. CRM source attribution is left untouched.

Scoring Logic

Intent: Low 5 / Medium 15 / High 25 | Service Fit: Weak 5 / Moderate 12 / Strong 20 | Buying Readiness: Exploring 5 / Considering 15 / Ready 25 | Budget Fit: Poor 3 / Fair 7 / Good 12 / Strong 15 | Urgency: Low 3 / Medium 8 / High 15.

Example: Maya Reyes = High + Strong + Ready + Good + High = **97/100 -> Hot.**

Workflow 02 - GHL AI Lead Priority Routing

Native CRM execution after n8n writes AI Lead Priority back to the contact.

Trigger & Record Resolution

Trigger: Contact Changed -> AI Lead Priority has changed.

Find Opportunity: finds the most recently created open opportunity in the Elevate - Agency Sales Pipeline for the workflow contact. This gives downstream Update Opportunity actions a concrete record to modify.

Router: Hot and Warm use explicit conditions; the default/None branch is treated as Cold because n8n only emits Hot, Warm, or Cold.

Route	Native GHL Actions	Operational Intent
HOT	Remove warm/cold AI tags Add ai-hot-lead Move opportunity -> Qualified (Open) Create priority sales task (1 day) Send internal hot-lead alert	Immediate sales attention. High-value or ready leads are promoted in the pipeline and surfaced to staff with AI context.
WARM	Remove hot/cold AI tags Add ai-warm-lead Move opportunity -> Contacted (Open) Create warm follow-up task (2 days)	Keep the lead active without over-prioritizing. Provides structured follow-up while preserving sales capacity for Hot leads.
COLD	Remove hot/warm AI tags Add ai-cold-lead Move opportunity -> Contacted (Open) Add lead-nurture tag	Do not mark as Lost solely from AI score. Keep the lead available for nurture/reactivation without creating urgent sales work.

GHL AI Lead Intelligence Fields

AI Intent Level	AI Service Fit	AI Buying Readiness
AI Budget Fit	AI Urgency	AI Summary
AI Recommended Action	AI Lead Score	AI Lead Priority

Production & Testing Notes

- **Production webhook:** GHL uses the n8n /webhook/p049-lead-intake URL; no manual "listen for test event" step is required.
- **Guardrail behavior:** incomplete lead data and invalid AI output terminate safely before scoring/CRM enrichment and create staff alerts.
- **API authentication:** GHL Private Integration token with least-privilege contact/custom-field access; actual custom-field IDs are used for reliable updates.
- **Verified Hot test:** Maya Reyes scored 97/100, CRM fields populated, Hot routing applied, opportunity moved to Qualified, priority task created, internal alert sent.
- **Verified Warm test:** Lucas Navarro completed a fresh end-to-end production run from form submission; Warm route executed, opportunity moved to Contacted, and follow-up task was created.

Final Architecture Principle

GHL manages the CRM. n8n makes the CRM smarter. Advanced interpretation, validation, deterministic scoring, and enrichment live in n8n; standard tags, pipeline updates, tasks, and notifications remain native in GHL.

Key evidence to retain: full n8n canvas, AI qualification output, score/priority output, enriched GHL contact, GHL Workflow 02 routing canvas, pipeline result, task creation, enrollment history, and execution logs.