

WAREHOUSE · SQL GUARD · HITL · FORECAST

AI Revenue Intelligence & Autonomous Business Analytics

Dockerized ARIBAP platform for multi-source warehouse ingest, metrics/anomaly/RCA, Text-to-SQL + RAG, alerts with HITL, executive briefs, forecast/finance/MCP/eval, and simulation — for teams that need production revenue ops, not a BI paste-up.

M0–M10
MILESTONES CLOSED

PASS
PHASE 1 / 2 / 3

1.0.0
API VERSION

ALL_PASS
M10_UAT

Built by **Abdul Basit** · AI Automation Engineer

BUSINESS IMPACT

Trusted KPIs · safe actions · operator control

Ingest→NL/SQL→HITL · finance exposure 0 · destructive SQL 0 · Phase gates Met · UAT ALL_PASS

OVERVIEW

CRM, payments, and sheets normalize into a PostgreSQL warehouse. FastAPI owns metrics, anomaly/RCA, secured Text-to-SQL, business RAG, multi-agent analyst/reporting, HITL alerts, briefs, forecasting/finance/MCP/eval, and simulation. n8n runs modular ingest and notify workflows. Operators get an RBAC executive dashboard. Live prod connector cutover is formally waived for sandbox acceptance.

TYPE	Revenue intelligence platform (not a single n8n flow)
ROLE	AI Automation Engineer / AI Systems Architect
DELIVERY	API 1.0.0 · Milestone M10 · Closeout 2026-09-12 · Milestones doc v2.1
STACK	FastAPI · n8n · Postgres · Redis · Qdrant · Caddy · CRM/payments mocks · Slack/Email stubs
BUYERS	RevOps & finance ops needing grounded NL, SQL guard, and HITL

THE PROBLEM

- **Siloed sources** — CRM / Stripe / sheets
- **Invented KPIs** — conflicting defs
- **Free SQL risk** — DROP / UPDATE
- **Ungated actions** — collections/pricing
- **Alert storms** — duplicate noise
- **Finance exposure** — wrong roles

THE SOLUTION

- **FastAPI intelligence** — metrics, SQL, RAG
- **Thin n8n** — ingest / notify wrappers
- **Warehouse SoR** — Postgres normalize
- **HITL gates** — collections / pricing
- **Dashboard RBAC** — finance fail-closed
- **Forecast + MCP** — P1 / P2 packs

WHO IT SERVES

- Teams needing **gated revenue AI**
- Ops needing one warehouse + dashboard
- Sandbox demos without live OAuth
- Lead demo: **ingest** → **NL** → **HITL**
- Secondary: forecast · finance ACL

CAPABILITY SURFACES

SURFACE	FOCUS	SURFACE	FOCUS
Ingest	HubSpot · Stripe · Sheets · P1/P2	Intelligence	Metrics · anomaly · SQL · RAG
HITL / alerts	Suppress · approve · collections	Ops UI	Dashboard · briefs · notify
P1 / P2	Forecast · finance · MCP · sim	Security	Finance RBAC · SQL deny

Demo lead: ingest → metrics/anomaly → NL ask → HITL → brief/dashboard. **Secondary:** finance 403 · forecast · simulation. **Closeout:** m10_uat.py ALL_PASS.

Architecture rule: FastAPI owns AI / AuthZ / SQL / HITL · n8n stays thin · finance fail-closed · destructive SQL never executes · env-only secrets.

ARCHITECTURE & CAPABILITIES

Architecture, journey, connectors

Principle: FastAPI owns metrics, SQL guard, RAG, agents, HITL, and finance ACL; **n8n owns thin side effects** — no god-workflow.

Sources (HubSpot / Stripe / Sheets / Shopify / QB / P2)
→ n8n ingest + quality + DLQ → PostgreSQL warehouse
→ FastAPI: metrics · anomaly/RCA · Text-to-SQL · RAG · agents · HITL
→ Dashboard + notify stubs · Qdrant · Redis · forecast / finance / MCP / sim

COMPONENT	ROLE
Caddy + dashboard	Proxy; executive SPA with role-gated widgets
FastAPI	Auth (X-API-Key + X-Role), analytics, agents, SQL, RAG
SQL / finance	Allowlist SELECT; finance paths RBAC; destructive = 0
HITL	Collections / pricing / retention / critical notify
Phase 3	Forecast, MCP/eval, simulation, P2 connectors

INTELLIGENCE

- Metrics dictionary + snapshots
- Anomaly + heuristic RCA
- Text-to-SQL allowlist
- Qdrant business RAG
- Eval scorecards + cost rollup

INTEGRATIONS

HubSpot / Stripe	Mock P0
Sheets / CSV	Mock P0
Shopify / QB	Mock P1
Odoo / SF / ...	Mock P2
Live prod	Waived

SAFETY & OPS

- HITL before collections/pricing
- Finance role gate
- Injection + tool ACL
- Idempotent ingest / notify
- DLQ replay path

LEAD DEMO PATH

- Mock ingest → warehouse counts
- NL ask / Text-to-SQL grounded
- Anomaly → alert → suppress
- Approve HITL → HubSpot mock task
- Dashboard KPIs + finance hide

SECURITY PROOF POINTS

Analyst finance → **403** · destructive SQL never executes · ReportingAgent cannot escalate anomalies tool · UAT finance exposure **0**.

Reliability, M0–M10, Phase gates, closeout

RELIABILITY AND SECURITY

AREA	WHAT SHIPPED
Auth	X-API-Key + X-RoLe RBAC
SQL	Allowlist SELECT · deny destructive
Finance	Role-gated summary / AR paths
HITL	Approve before high-impact side effects
Ingest	Idempotent upserts · quality flags
ACL	Server-side agent tool allowlists
Audit	Agent runs · SQL denies · approvals

PHASE GATES + CLOSEOUT

Phase 1 (M4) — ingest→warehouse; metrics; SQL deny; RAG; analyst; destructive SQL → 0 Phase 2 (M7) — \$6.1–6.5 E2E; HITL; brief; dashboard; finance exposure → 0 Phase 3 (M10) — forecast/finance/MCP; sim/P2; docs+KT; sandbox Met	
m10_uat.py	ALL_PASS (m7+m8+m9+SEC)
API version	1.0.0
Closeout date	2026-09-12
Evidence chain	docs/m4 → m7 → m8 → m9 → m10

MILESTONES M0–M10 (ALL COMPLETE)

ID	THEME	WHAT UNLOCKED
M0	Kickoff & architecture	Architecture baseline, principles, RACI
M1–M2	Skeleton → ingest	Compose, RBAC, HubSpot/Stripe/Sheets mocks
M3–M4	Metrics → Phase 1	Anomaly/RCA, Text-to-SQL, RAG, Phase 1 Met
M5–M6	Alerts → briefs	HITL, HubSpot tasks, daily brief, NL ask
M7	Dashboard / MVP	Notify ledger, MVP Met (sandbox)
M8–M9	P1 → P2 polish	Forecast, finance, MCP, sim, P2 connectors
M10	Docs / UAT / KT	Closeout pack, Phase 3 Met, API 1.0.0

WAREHOUSE
P0–P2 mock adapters → Postgres SoR with quality flags and sync_runs.

SQL + RAG

- Allowlist Text-to-SQL
- Qdrant cited answers
- Tool ACL per agent

OPS + RECOVERY

- Dashboard + HITL queue
- pg_dump backup procedure
- Cutover checklist + KT

Concrete reliability: analyst finance → 403 · DROP never executes · collections require HITL · duplicate alerts suppressed · finance exposure / destructive SQL at UAT: **0 / 0**.

Delivery truth: M0–M10 complete · Phase 1/2/3 Met · m10_uat ALL_PASS · API 1.0.0 · cite live /health in demos.

OUTCOMES · TECH · DEPTH

Stack, UAT, journeys, n8n, residual risks

TECH STACK + REPRODUCE
FastAPI · n8n · Postgres · Redis · Qdrant · HubSpot/Stripe/Sheets (+ Shopify/QB/P2) mocks · Caddy · Compose project **aribap**
docker compose up -d --build · python /app/kb_fixtures/m10_uat.py
Surfaces: /dashboard/ · /health · /docs · n8n :5678 · Auth: X-API-Key + X-Role

SCOPE HONESTY

- Portfolio case study — no fake logos or reviews
- Sandbox-first connectors without live OAuth
- Waivers: live prod cutover, PDF reports, live LLM
- Not a BI sheet — full ARIBAP M0–M10

M10 CLOSEOUT EVIDENCE INDEX

DOC	PURPOSE
UAT.md / ACCEPTANCE.md	\$6 journeys Met · PRD Complete/Waived · ALL_PASS
CUTOVER.md / RUNBOOKS.md / KT.md	Deploy checklist · day-2 ops · KT notes
ARCHITECTURE_v1.md (v1.1)	As-built topology + module inventory
m10_uat.py	m7+m8+m9 smokes · SEC pytest · 1.0.0

DASHBOARD

KPIs	Snapshots
Alerts	Suppress
Finance	Role-gated

P1 / P2

Forecast	vs-actual
MCP / eval	Cost rollup
Simulation	Non-mutating
P2 connectors	Mocks

N8N CATALOG

- wf_ingest_*
- wf_anomaly / alert
- wf_daily_brief
- wf_forecast / sim

N8N (THIN CALLERS)
Ingest · snapshot · anomaly · alert · RAG reindex · brief · notify · forecast · reconcile · simulation · global error — env API key only

RESIDUAL RISKS (HONEST)
Live vendor sandboxes · prod TLS/secret rotation · LLM quality vs corpus · wet-ink acceptance — tracked as M10 waivers; **none reopen Phase gates.**

SAMPLE JOURNEYS J1–J7

J1 Ingest warehouse	J2 NL / Text-to-SQL	J3 Anomaly alert	J4 Daily brief
J5 HITL / collections	J6 Finance / SQL deny	J7 Forecast / sim	

PORTFOLIO ONE-LINER
ARIBAP — Dockerized FastAPI + n8n revenue intelligence: warehouse ingest, metrics/anomaly/RCA, Text-to-SQL + RAG, HITL alerts, briefs, forecast/finance, simulation — M0–M10 complete at API 1.0.0.

SYSTEM VISUALS

Architecture & before / after

