

# Upwork Automation Workflow — Deployment & Enhancements (Assignment 2)

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## 1) Workflow Summary (end-to-end)

- n8n self-hosted on Docker; imported provided workflow and wired Apify + Airtable credentials via n8n Credentials (no secrets in JSON/repo).
- Schedule Trigger set to run every 8 hours; manual runs used for debugging and validation.
- Apify fetches Upwork listings; pipeline filters to jobs posted within the last 6 hours (scraper parameters or n8n filter).
- LLM scoring (Gemini as a drop-in replacement for OpenAI 4o) returns strict JSON: Score (1-10), Priority (High/Medium/Low), Reasoning (short).
- Validated end-to-end on a live run processing 10+ items; Airtable receives structured rows for proposal readiness.

## 2) Issues Identified & Fixes

- **API rate limiting / 429 errors:** Moved to sequential processing (Loop Over Items) with a small delay ( $\approx 2s$ ) + retries / Continue On Fail to prevent crashes.
- **Inconsistent AI parsing (missing fields):** Enforced a strict JSON schema + “return raw JSON only” prompting so Score/Priority/Reasoning always exist and types remain consistent.
- **Airtable field type conflicts:** Normalized Airtable schema/mappings; Posted At stored as ISO timestamp (or text fallback when the scraper only provides relative time).

## 3) Mandatory Enhancements Implemented (2)

- **Skill-based scoring via custom variables:** Configured a reusable “target skills” list (n8n/workflows, API integrations, AI agents, Twilio/Retell) to boost relevant jobs and penalize manual/“no automation” listings.
- **Improved error handling & logging:** Added reliability guardrails: sequential batching, backoff/wait, node-level Continue On Fail, and execution-log based observability for faster incident debugging.

## 4) 5 Sample Scored Jobs (live run)

Job Title	Score	Priority	Reasoning (short)
Urgent: Python Web Scraper	7	Medium	High-urgency automation; good quick win, but more code-heavy than no-code workflows.
Manual Research (No Scraping)	1	Low	Client explicitly forbids automation/scraping; opposite of the target work.
n8n Workflow Expert Needed	10	High	Direct match: n8n + integrations + automation delivery; ideal portfolio lead.
Virtual Assistant for Data Entry	2	Low	Repetitive manual task; low leverage and minimal automation scope.
Twilio Voice Agent Developer	9	High	High-value Voice AI + Twilio; strongly aligned with conversational automation goals.

## 5) Suggested Future Improvements

- Duplicate detection (URL hash): check Airtable before scoring/writing to reduce LLM calls and noise.
- Parse/normalize Posted At to an absolute timestamp for cleaner filtering, analytics, and “last 6 hours” enforcement.
- Alerting + digest: Slack/Email notification for Score  $\geq 8$  (or Priority = High) and a daily summary with metrics.