John Drefahl

Automation Engineer | n8n Certified Level 1 and 2 | AI Workflow Architect | MCP Server Developer

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PROFESSIONAL SUMMARY

Automation Engineer specializing in n8n workflow orchestration, AI system integration, and end-to-end business process automation. Since February 2024 I have been running Velocity BPA full-time — an active automation consultancy where I have built production systems spanning automated sales and delivery pipelines, operational intelligence agents, enterprise treasury workflows, real-time trading systems, and a node development pipeline that has published over 200 n8n community nodes to npm. I am currently available for senior or principal employment with a company that has real operational complexity to automate. My primary languages are TypeScript and Node.js, and I hold n8n Level 1 and Level 2 certifications. I have been building in the blockchain and crypto space since 2013.

CORE COMPETENCIES

n8n Workflow Orchestration	AI Integration and Prompt Engineering	MCP Server Development
Business Process Automation	Automated Sales and Delivery Pipelines	API Integration Architecture
TypeScript / Node.js	AWS Cloud Infrastructure	Operational Intelligence Systems
GitHub Actions CI/CD	Airtable Data Modeling	Blockchain and DeFi Systems

KEY METRICS

200+ n8n community nodes published to npm | 9 production MCP servers | 168+ integrations monitored | 45-node autonomous generation pipeline | 4 to 11 minute build times vs. days of manual work | 8-workflow automated sales and delivery system | 8-workflow enterprise treasury suite | 200+ GitHub repositories

EXPERIENCE

CEO / Lead Consultant | Velocity BPA | Grayslake, IL
February 2024 - Present

Velocity BPA is an active business process automation consultancy. The work spans automated sales and client delivery systems, operational intelligence workflows, enterprise financial automation, trading infrastructure, and a published n8n integration library. I am currently available for senior or principal employment.

Automated Sales and Client Delivery Pipeline

- Designed and built an 8-workflow end-to-end automated business system: a prospect submits a form on the website, Claude AI scores and qualifies the lead, extracts API specifications from the request, runs a feasibility analysis, generates a tiered quote, and delivers it via AWS SES — all without human involvement.
- On payment via Stripe, the system triggers a build approval gate, routes the job through the 45-node n8n development pipeline, publishes the completed package to npm, and automatically onboards the client by creating an Airtable record, generating a Notion project page, and sending a personalized SES welcome email. The full flow from inquiry to delivered node runs autonomously.

- Built the lead scoring and qualification layer using Claude AI to analyze inbound requests, assess complexity, and route them to the appropriate workflow branch — replacing what would otherwise require a sales and project management function.

Operational Intelligence and CEO Agent Suite

- Built 5 n8n workflows that form the operational intelligence layer of the business: twice-daily Telegram briefings aggregating pending approvals, new client activity, and inbound inquiry classifications generated by Claude Haiku.
- Built an automated invoice chase system that runs daily, queries Airtable for overdue items, uses Claude Haiku to draft context-aware chase emails, stages them as Outlook drafts for one-click sending, and logs all activity back to Airtable.
- Built a daily approval processor that surfaces all pending-approval workflow items with a one-tap bulk-approve button delivered via Telegram, allowing the entire approval function to be handled in under a minute.
- Built a client onboarding enricher triggered by Stripe checkout completion that simultaneously creates the Airtable client record, generates a Notion project page, and sends the SES welcome sequence without any manual steps.

MCP Server Architecture

- Designed and deployed nine production MCP servers in TypeScript, giving Claude AI direct programmatic control over all business systems: Airtable (project and client management), n8n (workflow orchestration and execution monitoring), GitHub (repository operations, releases, npm publishing), AWS (S3, CloudFront, Route 53, SES, Lightsail), Claude Agents (23 tools for chained AI operations), Notion (18 tools for workspace management), Stripe (payment operations), npm-stats (package analytics and monitoring), and Dropbox (file management).
- Deployed OpenClaw, a self-hosted AI agent gateway, on a private server to provide Telegram-based access to the full MCP tool suite from anywhere — enabling remote autonomous operations without cloud dependency.
- Built the ZHC approval architecture: Claude AI executes autonomously on well-defined tasks and automatically escalates ambiguous or high-stakes decisions to a human-in-the-loop gate via Telegram, maintaining quality without requiring constant supervision.

Node Development Pipeline

- Built a 45-node n8n workflow (v3.1, 57 nodes) that accepts a service name as input and produces a complete, publishable n8n community node package in 4 to 11 minutes — TypeScript source, Jest tests, README documentation, and GitHub Actions CI/CD — replacing a process that previously required days of manual work.
- Shipped over 200 production n8n nodes through this pipeline across blockchain and DeFi (Uniswap, Aave, XRPL, Solana, Kraken, Alpaca, 80-plus others), enterprise SaaS (Auth0, Braze, Datadog, Canvas LMS, Bitwarden), and fintech (Dwolla, Square, Recurly, Klarna, Railsr, Adyen).
- Wrote the complete prompt engineering layer for Claude AI: Sonnet for TypeScript code generation, Opus for architecture decisions. Replaced sequential API calls with Promise.all parallel execution, handling 10 to 20-plus resource types simultaneously per pipeline run. All four Claude API calls use Anthropic prompt caching, reducing per-node cost significantly.
- Implemented a Qdrant vector memory layer (self-hosted on AWS Lightsail) that makes the pipeline self-improving with every build. Before each run, the pipeline generates a Voyage AI embedding of the target service, queries the build_memory collection for the top-5 most similar past builds (similarity threshold 0.65), and injects those results — including auth patterns, documented gotchas, and resource structures — directly into Claude's prompts. After each build, metadata is re-embedded and stored back into Qdrant. The result: every build makes future similar builds faster and higher quality.

API Change Monitor

- Built a three-tier monitoring system continuously watching 168 published integrations: OpenAPI spec diffing, documentation page hashing, and GitHub release tracking.
- Claude AI scores detected changes 0 to 100. Changes scoring 60 or higher trigger automatic rebuilds through the node development pipeline, keeping the entire catalog current without manual initiation.

Enterprise Treasury Automation

- Designed and built an 8-workflow n8n system for corporate finance and treasury: cross-border AP payment routing via XRPL blockchain with RLUSD stablecoin settlement, treasury liquidity sweep management, milestone-based escrow payment release, FX exposure hedging, intercompany netting, and automated XRPL-to-BlackLine reconciliation via MT940 export.
- Integrated natively with SAP, GTreasury, Workday, BlackLine, Coupa, and Clarity PPM using custom n8n nodes from the Velocity BPA library. Compliance layer covers KYC, AML, and sanctions screening via Alloy. Custody layer uses Ripple Custody and BitGo for MPC/HSM signing.
- Every workflow applies configurable approval-gate logic before executing payment instructions and persists full audit trails to Airtable for compliance review.

Cross-DEX Arbitrage Bot Suite

- Designed and built an 8-workflow n8n system monitoring price spreads across Uniswap, SushiSwap, 1inch, OKX DEX, and Kraken on a 30-second polling interval, with paper trading tracked across nine Airtable tables.
- Gas optimization engine queries Etherscan Gas API V2 every 15 minutes to compute dynamic minimum-spread thresholds. ML threshold optimizer processes historical data across three strategy profiles mapped to market volatility, converging near 1.5 percent spread at full training confidence.
- Portfolio risk manager runs every five minutes evaluating exposure concentration across correlated asset pairs. Real-time Bootstrap and Chart.js dashboard refreshes on 30-second cycles.

Client: Hello Crypto

- Built DEX Opportunity Tracker dashboards and AI-powered trading bots for a blockchain startup in Sao Paulo using n8n workflows and Bootstrap. Wrote real-time market analysis algorithms using OpenAI GPT and Anthropic Claude APIs.

Technology Stack: *n8n, MCP (Model Context Protocol), Claude AI API (Sonnet, Opus, Haiku), OpenAI GPT API, TypeScript, Node.js, Airtable, Stripe API, GitHub API, AWS (S3, CloudFront, Route 53, SES, Lightsail), npm, Jest, GitHub Actions, Bootstrap, Chart.js, XRPL, RLUSD, SAP, GTreasury, Workday, BlackLine, Coupa, Etherscan Gas API, pnpm*

Claude Conductor — Open Source Desktop Application

- Built Claude Conductor, a macOS desktop application using Tauri (Rust and Node.js) that solves a real limitation in Claude Desktop: the inability to run multiple MCP server configurations simultaneously. Claude Conductor lets you define named profiles — each with its own MCP server set — and launch multiple fully isolated Claude Desktop instances in parallel with no shared state.
- Credentials and API keys are stored in the macOS Keychain per profile, never written to disk in plaintext. Running instances show live status with Focus and Kill controls. Published open source at github.com/Velocity-BPA/claude-conductor.
- Built to solve a practical problem in daily MCP server operations: switching between client contexts, dev and production configurations, and different tool sets without manual config file editing and app restarts.

UI/UX Technical Lead, AEM / BTS | AbbVie | Abbott Park, IL
September 2020 - January 2024

- GxP Operations lead for all UI/UX integrations on the AbbVie Web Content Management platform (AEM 6.5), coordinating front-end work with two offshore teams across 130-plus global website projects.
- Built the AWCM AbbVie Components Library in React and JavaScript — a shared module system adopted as the team standard, with governance documentation in Confluence.
- Directed the AbbVie Contract Manufacturing product for 18 months; features shipped drove a 36 percent quarterly increase in user engagement.
- Led the WCAG AA accessibility upgrade across AbbVie.com and all affiliated global sites using SiteImprove and UserTesting.
- Set up project management workflows in JIRA, Miro, and Confluence for a 10-person dev team, reducing cycle times by approximately 30 percent.
- Conducted early AI integration research with AbbVie AI and Adobe Firefly on AWS for licensing and accessibility automation use cases.

Technology Stack: *AEM 6.5, HTML5, CSS3, JavaScript, React, JSON, XML, Figma, Adobe XD, SiteImprove, UserTesting, JIRA, Git, Asana, Azure, AWS, Confluence, Miro*

UX/UI Software Developer (Architect III) | CVS/Aetna | Downers Grove, IL
March 2020 - June 2020

- Partnered with backend developers via Azure DevOps and SharePoint to deliver digital solutions, cutting development time by 25 percent. Handled API integrations using JSON across multiple application modules.

Technology Stack: HTML5, Bootstrap, CSS3, JavaScript, JSON, Figma, JIRA, Git, Azure DevOps, SharePoint, Confluence

Full Stack Developer | Ken Cook Company | Milwaukee, WI
July 2018 - January 2019

- Built a training delivery e-commerce platform on React.js, Next.js, Node.js, GraphQL, and MongoDB. Page load times dropped 35 percent; server response times improved 40 percent on AWS.
- Engineered the RESTful API in Node.js and Express, load-tested to 1,200 concurrent users. Introduced GraphQL with TypeScript type safety, boosting front-end developer productivity by approximately 60 percent.

Technology Stack: React, Next.js, TypeScript, GraphQL, MongoDB, Node.js, Express, AWS, jUnit, Chai, JIRA, Git

Full Stack Developer | Pandora | Oakland, CA
November 2015 - February 2017

- Built E-Learning training modules in Angular and JavaScript with SQL databases; training completion rates improved 25 percent. Shipped a React web application that cut page load times by 40 percent.
- Integrated Ticket Fly's scheduling platform via JSON APIs into Pandora's HR training registration system, eliminating a manual scheduling process.

Technology Stack: HTML5, Angular, React, JavaScript, SQL, JSON, Bootstrap, JIRA, Git, Asana, Confluence

Founder, CTO | AlphaLion Technologies | San Francisco, CA
March 2013 - October 2016

- Founded and led a blockchain startup building multi-signature wallet applications on Bitcoin and OpenTransactions protocols. Built backend services in Python on Linux, deployed on AWS. Foundation of crypto and blockchain depth.

Technology Stack: Python, Bitcoin, OpenTransactions, HTML5, Bootstrap, CSS3, AWS, Linux Shell, JIRA, Git

Senior Front End Developer | AKQA | San Francisco, CA
September 2011 - March 2013

- Led frontend development on Target.com. Responsive design work increased mobile engagement by 30 percent. Managed IBM WebSphere CMS and Akamai CDN for enterprise content delivery.

Technology Stack: HTML5, CSS3, jQuery, JavaScript, JSON, XML, Bootstrap, IBM WebSphere, Akamai CDN, JIRA, Git

EARLIER CAREER

The following roles built the technical and design foundation that supports the automation and systems work above.

Full Stack Developer, Swirl, San Francisco, CA *(2015)* Walt Disney Family Museum website on Drupal, PHP, MySQL. React and Node.js personalization features lifted engagement 35 percent.

Android Developer, Samsung Design America, San Francisco, CA *(2014 - 2015)* Owned Android Studio development for Samsung Home Assistant: Main Menu, News integration, Weather integration, Bluetooth remote control.

WordPress Developer, Radio One, New York City, NY *(2008 - 2009)* Custom CMS in WordPress and PHP with MySQL across multiple site launches.

Creative Director / Technical Product Manager, GeoSolutions BV, Amsterdam, NL *(2006 - 2008)* Led PlaceMe, a PocketPC mobile location-based services application with social networking API integrations.

Content Manager and Automation Consultant, Apple, Cupertino, CA *(2006)* Built Python automation scripts for iTunes Music Store content processing and QA workflows.

Manager of New Technology, BMG Entertainment, New York City, NY *(2000 - 2002)* Led the B2B Streaming Music Initiative with Akamai CDN and digital rights management infrastructure for MP3 distribution.

User Experience Designer, Inktomi, Vivid Studios, C|NET, Cyborganic, San Francisco, CA *(1996 - 1999)*
Interface design for early web platforms including Nike's first World Cup website, Download.com, and Shareware.com.

TECHNICAL SKILLS

Workflow Automation and Orchestration: n8n (Certified Level 1 and 2), Make, Zapier, Contextual SolutionAI, Airflow

AI Integration and Prompt Engineering: Claude AI API (Sonnet, Opus, Haiku), MCP Server Development, OpenAI GPT API, Prompt Engineering for code generation and AI agent workflows, LLM orchestration

Business Process Automation: End-to-end sales and delivery pipeline automation, approval-gate systems, operational intelligence agents, event-driven automation, API change monitoring, autonomous scheduling

Systems Integration and APIs: RESTful APIs, GraphQL, WebSockets, JSON, XML, OAuth2, GitHub API, Stripe API, npm Registry, MCP (Model Context Protocol), OpenAPI spec parsing, Webhook design

Backend Development: TypeScript, Node.js, Express, Python, PHP, JavaScript, Linux Shell, Docker

Cloud Infrastructure: AWS (S3, CloudFront, Route 53, SES, Lightsail), Azure

Data and Databases: Airtable (advanced API and schema design), MongoDB, MySQL, SQL, GraphQL

CI/CD and DevOps: GitHub Actions, Git, npm Publishing, pnpm, Jest, ESLint, Prettier

Enterprise Financial Systems: SAP, GTreasury, Workday, BlackLine, Coupa, Clarity PPM — integrated via custom n8n nodes

Blockchain and DeFi: XRPL, Ethereum, Bitcoin, DeFi protocols, Solidity, RLUSD, cross-chain settlement — active since 2013

Enterprise Tools: JIRA, Confluence, Miro, Asana, MS Project, Outlook

Frontend (Supporting Capability): React.js, HTML5, CSS3, Angular, Bootstrap, jQuery, Next.js, Chart.js — used to build dashboards and tooling for automation projects

OPEN SOURCE CONTRIBUTIONS

200-plus n8n community nodes published to npm under the Velocity-BPA GitHub organization (github.com/Velocity-BPA). All nodes are built on the n8n community node SDK with TypeScript, Jest tests, and GitHub Actions CI/CD. The catalog covers blockchain and DeFi (87 nodes: Uniswap, Aave, XRPL, Solana, Kraken, Ethereum, Cardano, and 80 others), fintech and payments (19 nodes: Dwolla, Square, Recurly, Klarna, Railsr, Adyen, Tradier), enterprise SaaS (33 nodes: Auth0, Braze, Datadog, Canvas LMS, Bitwarden, Customer.io, Amplitude), and DevOps and infrastructure (29 nodes: CrowdStrike, Render Cloud, EasyPost, ShipStation, Datadog).

CERTIFICATIONS

- n8n Course Level 1 and Level 2 — 2025
- Decentralized Finance Specialization, Duke University — 2023 to 2024: Infrastructure, Opportunities and Risks, Deep Dive
- Neural Networks and Deep Learning, DeepLearning.ai — 2024
- Generative AI with Large Language Models, DeepLearning.ai — 2023
- Adobe Experience Manager: Sites Front-End and Back-End Developer, Adobe — 2022
- Business of Music, New York University — 2001

EDUCATION

Visual Communications (Incomplete) | Milwaukee Institute of Art and Design, Milwaukee, WI | 1995