

n8n: AI Content Automation & JavaScript Nodes

Learn to build n8n automations with JavaScript for AI content, chatbots, WhatsApp, email and database integration.

4 Days

32 HOURS

4

MODULES

186

TOPICS

COURSE OVERVIEW

This intensive course is specifically designed for content creators and business owners who want to automate their content creation workflow using N8N. You'll learn to create automated systems for generating videos, audio, images, and intelligent chatbots integrated with WhatsApp and Email, all customized to your unique voice and brand tone. Additionally, you'll master database integration with MySQL and PostgreSQL for intelligent data management and AI-powered querying. The course includes essential JavaScript training to help you work effectively with N8N's code nodes and create advanced custom automations.

WHO THIS COURSE IS FOR

Content Creators

Business Owners

Marketing Automation Specialists

Customer Support Teams

Email Marketers

PREREQUISITES

VPS Hosting Requirement (Critical for Production Use): Why VPS is Required

- For N8N to work reliably and be accessible 24/7, you need a Virtual Private Server (VPS). While you can test N8N locally on your computer during learning, a VPS is essential for:
- Always-on automation: Workflows run even when your computer is off
- Webhook reliability: WhatsApp, email, and API integrations need a stable URL
- Database connectivity: Secure connection to MySQL/PostgreSQL
- Professional deployment: No interruptions from local system issues
- Remote access: Manage automations from anywhere

What You Will Learn

- Build content automation workflows for social media and scheduling
- Apply JavaScript in n8n code nodes for data manipulation and logic
- Integrate AI tools for image, audio, video and avatar generation
- Develop custom AI chatbots trained on a brand voice
- Configure WhatsApp Business automation with intelligent message routing
- Implement MySQL and PostgreSQL database integration with n8n
- Apply AI-powered natural language querying against databases
- Build email automation systems for classification, drafting and campaigns

4 Modules, 186 Topics

01

8 hours

N8N Fundamentals & Content Creation Automation

SECTION 1.1: N8N FUNDAMENTALS FOR CONTENT CREATORS (1.5 HOURS)

- **What You'll Learn:** Understanding workflow automation specifically for content creation
- **What You'll Learn:** N8N interface navigation and essential components
- **What You'll Learn:** Setting up your N8N environment for content projects
- **What You'll Learn:** Introduction to nodes, triggers, and workflow execution
- **What You'll Learn:** Understanding when to use low-code vs code nodes
- **What You'll Build:** Your first simple automation: Auto-posting content to multiple social media platforms
- **What You'll Build:** A basic content scheduler workflow
- **Example:** Create a workflow that automatically posts your morning quote to Facebook, Twitter, and LinkedIn at 8 AM daily

SECTION 1.2: JAVASCRIPT ESSENTIALS FOR N8N - PART 1 (2 HOURS)

- **What You'll Learn:** JavaScript basics: variables, data types, and operators
- **What You'll Learn:** Working with strings, numbers, and booleans in N8N context
- **What You'll Learn:** Understanding objects and arrays for data manipulation
- **What You'll Learn:** Conditional statements (if/else) for workflow logic
- **What You'll Learn:** Accessing and manipulating data from previous nodes using `$input.item.json`
- **What You'll Build:** Simple code node: Extract specific data from incoming webhook
- **What You'll Build:** Text manipulation workflow: Clean and format user inputs automatically
- **What You'll Build:** Conditional routing based on data values using JavaScript
- **Example:** Create a workflow where incoming customer messages are analyzed - if message contains "urgent", route to priority queue; otherwise, route to standard queue using JavaScript code node

SECTION 1.3: AI IMAGE GENERATION INTEGRATION (1.5 HOURS)

- **What You'll Learn:** Integrating AI image generation tools (DALL-E, Midjourney, Stable Diffusion) with N8N
- **What You'll Learn:** Creating automated image generation workflows based on text prompts
- **What You'll Learn:** Batch image creation for social media content
- **What You'll Learn:** Image resizing and optimization within workflows
- **What You'll Learn:** Storing and organizing generated images automatically
- **What You'll Build:** An automated image generator that creates 5 social media graphics from a single topic input
- **What You'll Build:** A workflow that generates thumbnail images for blog posts automatically
- **What You'll Build:** Brand-consistent image generator with your color palette and style
- **Example:** Input "5 tips for productivity" and automatically generate 5 unique Instagram carousel images with your branding

N8N Fundamentals & Content Creation Automation (continued)

SECTION 1.4: AI AUDIO & VIDEO CONTENT GENERATION (3 HOURS)

- **What You'll Learn:** Integrating text-to-speech AI services (ElevenLabs, Google Text-to-Speech, Azure TTS)
- **What You'll Learn:** Cloning your voice for authentic audio content
- **What You'll Learn:** Creating automated podcast intro/outro generation
- **What You'll Learn:** Converting blog posts to audio format automatically
- **What You'll Learn:** Integrating AI avatar platforms (D-ID, HeyGen, Synthesia) with N8N
- **What You'll Learn:** Creating and training your personal digital avatar
- **What You'll Learn:** Script-to-video automation workflows
- **What You'll Build:** Voice cloning workflow: Upload 5-minute voice sample to generate your AI voice
- **What You'll Build:** Blog-to-podcast automation: Convert written articles to audio with your cloned voice
- **What You'll Build:** Personal avatar video generator: Input text → Output video of YOU speaking
- **What You'll Build:** Multi-language video generator using your avatar
- **Example:** Write a 500-word article, automatically generate a podcast episode in your voice, and create a 2-minute video with your avatar presenting the same content in English, Spanish, and French

JavaScript for Advanced Automation & Data Processing

SECTION 2.1: JAVASCRIPT ESSENTIALS FOR N8N - PART 2 (2.5 HOURS)

- **What You'll Learn:** Loops (for, forEach, map) for processing multiple items
- **What You'll Learn:** Array methods: filter, find, reduce, sort for data manipulation
- **What You'll Learn:** String methods: split, replace, trim, substring for text processing
- **What You'll Learn:** Working with JSON data: parse, stringify, and nested objects
- **What You'll Learn:** Date and time manipulation in JavaScript
- **What You'll Learn:** Regular expressions (regex) basics for pattern matching
- **What You'll Build:** Bulk data processor: Process 100+ customer records in one workflow
- **What You'll Build:** Smart text analyzer: Extract emails, phone numbers, URLs from text automatically
- **What You'll Build:** Date-based workflow: Send different messages based on time of day/day of week
- **What You'll Build:** Data aggregator: Combine multiple API responses into single formatted output
- **Example:** Receive a CSV with 500 customer emails → Use JavaScript to filter only customers who haven't purchased in 30 days → Send personalized re-engagement email with dynamic content based on their last purchase category

SECTION 2.2: JAVASCRIPT FUNCTIONS & ERROR HANDLING (1.5 HOURS)

- **What You'll Learn:** Creating reusable functions in N8N code nodes
- **What You'll Learn:** Understanding scope and variables in JavaScript
- **What You'll Learn:** Try-catch blocks for error handling in workflows
- **What You'll Learn:** Working with async/await for API calls
- **What You'll Learn:** Debugging JavaScript code in N8N
- **What You'll Learn:** Best practices for clean, maintainable code in automation
- **What You'll Build:** Custom validation function: Check email, phone, URL formats before processing
- **What You'll Build:** Error-proof workflow: Gracefully handle API failures and continue processing
- **What You'll Build:** Reusable code snippets library for common tasks
- **What You'll Build:** Logging system to track workflow execution with detailed error messages
- **Example:** Create a workflow that processes payments - if payment API fails, JavaScript catches the error, logs it, sends you a notification, and automatically retries after 5 minutes without breaking the entire workflow

JavaScript for Advanced Automation & Data Processing (continued)

SECTION 2.3: JAVASCRIPT FOR API INTEGRATION & DATA TRANSFORMATION (2 HOURS)

- **What You'll Learn:** Making HTTP requests with JavaScript in N8N
- **What You'll Learn:** Parsing and transforming API responses
- **What You'll Learn:** Building custom API request bodies dynamically
- **What You'll Learn:** Handling pagination in API calls
- **What You'll Learn:** Working with authentication tokens and headers
- **What You'll Learn:** Combining data from multiple APIs intelligently
- **What You'll Build:** Multi-API data aggregator: Pull data from 3 different services and merge intelligently
- **What You'll Build:** Dynamic API caller: Generate API requests based on user input
- **What You'll Build:** Rate-limited API handler: Process 1000 requests without hitting API limits
- **What You'll Build:** Custom webhook processor with data validation
- **Example:** Customer submits form with their business name → JavaScript calls Google Places API for business info → Calls social media APIs for follower counts → Combines all data into comprehensive business report → Saves to database → Emails report in branded PDF format

SECTION 2.4: BUILDING CUSTOM AI CHATBOTS WITH YOUR BRAND VOICE (2 HOURS)

- **What You'll Learn:** Integrating ChatGPT, Claude, or custom LLMs into N8N workflows
- **What You'll Learn:** Using JavaScript to customize AI prompts dynamically
- **What You'll Learn:** Training chatbots with your brand voice, tone, and personality
- **What You'll Learn:** Creating knowledge bases from your existing content
- **What You'll Learn:** Context-aware conversation flows with JavaScript logic
- **What You'll Learn:** Personality customization and response templates
- **What You'll Build:** Your brand's AI assistant: Trained on your FAQs, product info, and communication style
- **What You'll Build:** Multi-personality chatbot (professional for business, casual for social media)
- **What You'll Build:** Context-remembering conversation system using JavaScript variables
- **What You'll Build:** Dynamic prompt generator that adapts based on customer history
- **Example:** Create a chatbot that analyzes customer's previous 5 conversations using JavaScript, identifies their interests, and generates personalized AI responses that reference their past interactions - all in your authentic communication style

WhatsApp, Database Integration & Advanced Workflows

SECTION 3.1: WHATSAPP BUSINESS AUTOMATION INTEGRATION (2 HOURS)

- **What You'll Learn:** Connecting N8N with WhatsApp Business API
- **What You'll Learn:** Using JavaScript to create intelligent message routing
- **What You'll Learn:** Automated message responses based on keywords with regex
- **What You'll Learn:** Creating interactive WhatsApp menus and workflows
- **What You'll Learn:** Multimedia message automation (sending images, videos, documents)
- **What You'll Learn:** Lead capture and qualification through WhatsApp
- **What You'll Learn:** Integration with CRM systems for contact management
- **What You'll Build:** Complete WhatsApp business automation system
- **What You'll Build:** Auto-responder for common inquiries in your tone
- **What You'll Build:** Lead qualification chatbot that books appointments automatically
- **What You'll Build:** Product catalog browser via WhatsApp with JavaScript-powered search
- **What You'll Build:** Automated order confirmation and tracking system
- **Example:** Customer messages "I need information about your coaching program" → JavaScript analyzes message intent → Chatbot responds in your tone → Sends video overview and pricing PDF → Uses JavaScript to check your calendar API → Books consultation call → Saves all data to database

SECTION 3.2: DATABASE INTEGRATION - MYSQL & POSTGRESQL SETUP (2 HOURS)

- **What You'll Learn:** Connecting N8N with MySQL and PostgreSQL databases
- **What You'll Learn:** Using JavaScript to build dynamic SQL queries
- **What You'll Learn:** Database authentication and security best practices
- **What You'll Learn:** Creating, reading, updating, and deleting (CRUD) operations
- **What You'll Learn:** JavaScript for data validation before database insertion
- **What You'll Learn:** Setting up database schemas for content and customer data
- **What You'll Learn:** Complex queries with JOIN operations using JavaScript
- **What You'll Build:** Database connection workflow for customer data storage
- **What You'll Build:** JavaScript-powered data validator: Clean data before saving to database
- **What You'll Build:** Automated customer information capture and storage system
- **What You'll Build:** Content metadata database (storing info about generated videos, images, audio)
- **What You'll Build:** Product/service catalog database integrated with WhatsApp
- **Example:** When customer interacts with WhatsApp bot → JavaScript extracts and validates name, email, phone → Checks if customer exists in PostgreSQL using custom query → Updates existing record or creates new one → Links conversation history → All with proper error handling

WhatsApp, Database Integration & Advanced Workflows (continued)

SECTION 3.3: AI-POWERED DATABASE QUERYING WITH JAVASCRIPT (2 HOURS)

- **What You'll Learn:** Natural language to SQL query conversion using AI
- **What You'll Learn:** Using JavaScript to sanitize and secure AI-generated queries
- **What You'll Learn:** Integrating AI (ChatGPT/Claude) for intelligent database queries
- **What You'll Learn:** Automated report generation from database data
- **What You'll Learn:** Creating conversational database interfaces
- **What You'll Learn:** Complex query automation (joins, aggregations, filtering) with JavaScript
- **What You'll Learn:** Data visualization preparation using JavaScript
- **What You'll Build:** Natural language database query system: "Show me all customers from last month" → AI generates SQL → JavaScript validates → Returns formatted results
- **What You'll Build:** WhatsApp bot that answers database questions ("How many orders did I get yesterday?")
- **What You'll Build:** Automated weekly/monthly report generator pulling data from your database
- **What You'll Build:** Customer lookup system via WhatsApp using natural language
- **What You'll Build:** Dashboard data processor: JavaScript formats database data for charts and graphs
- **Example:** Customer asks WhatsApp bot "What's the status of my order #12345?" → AI interprets question → JavaScript builds secure SQL query → Queries PostgreSQL database → JavaScript formats response in conversational tone → Returns order status, tracking info, and estimated delivery with personalized upsell suggestion based on order history

SECTION 3.4: ADVANCED VIDEO WORKFLOWS & MULTI-PLATFORM PUBLISHING (2 HOURS)

- **What You'll Learn:** Creating video series automation (course content, tutorials)
- **What You'll Learn:** Using JavaScript for dynamic video script generation
- **What You'll Learn:** Automated video editing and scene transitions
- **What You'll Learn:** Adding dynamic elements with code (text overlays, logos, CTAs)
- **What You'll Learn:** Video format conversion for different platforms (YouTube, Instagram Reels, TikTok)
- **What You'll Learn:** Content calendar integration and batch production
- **What You'll Learn:** JavaScript-powered scheduling logic for optimal posting times
- **What You'll Build:** Complete video production pipeline: Script → Avatar Video → Editing → Platform-specific versions
- **What You'll Build:** Automated tutorial video series generator
- **What You'll Build:** Social media video repurposing workflow (1 long video → 10 short clips)
- **What You'll Build:** 30-day content automation system: Generate a month's worth of videos, images, and audio
- **What You'll Build:** Multi-platform publishing scheduler with intelligent timing
- **Example:** Record one 10-minute training video → JavaScript splits into 10 segments → Generates platform-specific captions → Creates Instagram Reels (9:16), YouTube Shorts (vertical), LinkedIn posts (square) → Analyzes your audience engagement data → Schedules posts at optimal times throughout the month

Email Automation & Complete System Integration

SECTION 4.1: AI-POWERED EMAIL RESPONSE SYSTEM (2 HOURS)

- **What You'll Learn:** Connecting email providers (Gmail, Outlook) with N8N
- **What You'll Learn:** JavaScript for intelligent email parsing and classification
- **What You'll Learn:** AI-powered email classification and routing
- **What You'll Learn:** Automated email drafting in your personal tone
- **What You'll Learn:** Using JavaScript to create dynamic email templates
- **What You'll Learn:** Priority inbox management and auto-labeling
- **What You'll Learn:** Follow-up automation and email sequences
- **What You'll Build:** Personal email assistant: Drafts replies in your writing style
- **What You'll Build:** Intelligent email categorization system using JavaScript (urgent, can-wait, spam)
- **What You'll Build:** Auto-responder for common email types (meeting requests, pricing inquiries)
- **What You'll Build:** JavaScript-powered email analyzer: Extracts action items and deadlines
- **What You'll Build:** Email nurture sequence automation with conditional logic
- **Example:** Receive inquiry email → JavaScript extracts key information (name, company, request type) → AI reads it and drafts personalized response in your style → JavaScript checks if similar inquiry exists in database → Merges relevant info → Sends for your approval → If approved, sends reply, adds contact to relevant email sequence, and creates follow-up task

SECTION 4.2: EMAIL CONTENT GENERATION & ADVANCED JAVASCRIPT TECHNIQUES (2.5 HOURS)

- **What You'll Learn:** AI-powered email copywriting integrated with N8N
- **What You'll Learn:** JavaScript for dynamic content personalization at scale
- **What You'll Learn:** Creating email templates that match your voice
- **What You'll Learn:** Advanced JavaScript: Working with HTML templates
- **What You'll Learn:** A/B testing automation for email campaigns using JavaScript logic
- **What You'll Learn:** Converting blog posts to email newsletters with custom formatting
- **What You'll Learn:** Integrating with email marketing platforms (Mailchimp, ConvertKit)
- **What You'll Build:** Blog-to-newsletter automation with JavaScript content extraction
- **What You'll Build:** Personalized email campaign generator (1000+ unique emails from one template)
- **What You'll Build:** JavaScript-powered A/B testing engine: Automatically tests subject lines and content
- **What You'll Build:** Automated welcome series for new subscribers with branching logic
- **What You'll Build:** Dynamic email designer: JavaScript generates HTML emails based on content type
- **Example:** Publish new blog post → JavaScript extracts main points, quotes, and images → AI generates newsletter in your conversational style with personalized intro for each subscriber segment → JavaScript creates 3 subject line variations → Sends A/B test to first 10% → Automatically selects winning version → Sends to remaining 90% at optimal times based on past engagement data

Email Automation & Complete System Integration (continued)

SECTION 4.3: JAVASCRIPT MASTERY - CUSTOM AUTOMATION FUNCTIONS (1.5 HOURS)

- **What You'll Learn:** Building complex custom functions for specific business needs
- **What You'll Learn:** JavaScript libraries you can use in N8N (moment.js, lodash, etc.)
- **What You'll Learn:** Creating mini-applications within N8N using code nodes
- **What You'll Learn:** Performance optimization for JavaScript in workflows
- **What You'll Learn:** Advanced data structures: Maps, Sets, and when to use them
- **What You'll Learn:** Handling large datasets efficiently with JavaScript
- **What You'll Build:** Custom business logic processor for your specific needs
- **What You'll Build:** Intelligent data merger: Combine data from multiple sources with deduplication
- **What You'll Build:** Advanced scheduler: Calculate optimal times based on multiple factors
- **What You'll Build:** Custom analytics engine: Process thousands of records and generate insights
- **What You'll Build:** Reusable JavaScript function library for your future workflows
- **Example:** Create a smart content performance analyzer that processes data from YouTube, Instagram, Facebook, TikTok → JavaScript normalizes different data formats → Calculates engagement scores using custom algorithm → Identifies best-performing content patterns → Generates weekly strategy recommendations → Sends formatted report with actionable insights

SECTION 4.4: COMPLETE SYSTEM INTEGRATION & MASTER DASHBOARD (2 HOURS)

- **What You'll Learn:** Connecting all automation systems into one unified workflow
- **What You'll Learn:** JavaScript for orchestrating complex multi-step processes
- **What You'll Learn:** Creating your personal AI content assistant dashboard
- **What You'll Learn:** Integrating database with content creation and communication systems
- **What You'll Learn:** Real-time monitoring and analytics with JavaScript
- **What You'll Learn:** Error handling and fallback procedures across entire system
- **What You'll Learn:** Security best practices for automated workflows
- **What You'll Learn:** Scaling your automation as your business grows
- **What You'll Build:** Master control dashboard: Monitor all automations from one place
- **What You'll Build:** End-to-end content creation pipeline with JavaScript orchestration
- **What You'll Build:** Complete customer journey automation: Lead capture → Database storage → Nurturing → Conversion → Onboarding
- **What You'll Build:** Your "Digital Twin" system: Handles 80% of communication automatically
- **What You'll Build:** Unified database that connects content, customers, and conversations
- **What You'll Build:** Emergency override system: Manual controls for critical workflows

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

✉ info@koenig-solutions.com