



MFE-IT

Reference: YAS/EN/N8N2

Automation and AI Training Course with n8n

ETL Pipelines, AI Agents and Scalable Business Workflows

Duration: 3 Days | Hours: 18 h

Remote · Sessions guaranteed from 1 registrant · 60% hands-on practice

DESCRIPTION

Intelligent automation is no longer a luxury, it is a necessity. With n8n, an open-source automation platform, and the integration of AI APIs (OpenAI, Anthropic, Mistral, local LLMs) and vector databases, it is now possible to create advanced ETL pipelines and intelligent agents without writing a single line of code.

This Automation and AI with n8n training course teaches you how to design ETL pipelines and automated workflows integrated with AI — data extraction, transformation, loading, plus creation of intelligent agents. Through practical case studies and a guiding project, you will deploy robust and scalable solutions, optimise efficiency, reduce repetitive tasks and create intelligent processes that turn raw data into business value.

LEARNING OBJECTIVES

By the end of this training course, participants will be able to:

- Master n8n as an automation and orchestration platform: create ETL workflows, synchronise data, automate processes
- Integrate AI models and agents (LLM, embeddings, vector databases) into automated workflows
- Set up automated data, document, email or API processing workflows (extraction, transformation, loading), including cleaning and normalisation
- Deploy automated and scalable solutions, either self-hosted or in the cloud, while retaining control over your data
- Design hybrid workflows combining ETL automation, business logic, external interactions and AI for specific use cases (reporting, monitoring, assistants, data synchronisation)

PREREQUISITES

- Basic knowledge of JavaScript or a scripting language for advanced use cases
- Understanding of REST/HTTP APIs, access to databases or external services, ETL principles
- IT environment capable of hosting n8n (self-hosted or cloud), or access to a compatible tenant

Because each participant is unique, a personalised interview is systematically organised in advance with our expert to design a training programme perfectly aligned with their objectives, level and professional challenges.

TARGET AUDIENCE

- Developers, data engineers and IT engineers looking to automate processes and orchestrate data flows
- Data analysts, BI managers and professionals responsible for data integration and transformation
- Digitalisation, ops and DevOps managers, plus IT support teams wishing to outsource repetitive tasks or build automated pipelines
- Any organisation wishing to combine automation (ETL/workflows) with AI capabilities (agents, automated processing, RAG)

DETAILED PROGRAMME

The training alternates between theoretical input and hands-on practice (approximately 60% of the time). Modules are built around practical exercises based on real-world business use cases.

Module 1 – Introduction and Fundamentals of n8n

- Installation and configuration: self-hosted vs n8n Cloud
- n8n architecture and visual interface
- Workflow concepts, triggers, actions and first simple flows

Module 2 – ETL Workflows: Data Extraction and Loading

- Connection to APIs, databases (MySQL, Postgres) and files (CSV, JSON)
- Cloud storage integration and data extraction
- Loading patterns and incremental ingestion

Module 3 – Data Transformation and Cleansing

- Data manipulation, cleaning, mapping and normalisation
- Custom scripting in JavaScript or Python within n8n
- Quality controls and validation patterns

Module 4 – Business Process Automation and Orchestration

- Complex workflows: sequences, conditions, loops, automated processing
- Notifications and integration with external services
- Error handling and retry strategies

Module 5 – AI Integration and Intelligent Agents

- Use of LLMs (OpenAI, Anthropic, Mistral) and embeddings
- Vector databases: Qdrant, Pinecone, Supabase
- AI agents for content generation, monitoring, document and email processing

Module 6 – Hybrid ETL + AI Pipelines: Practical Examples

- Building real pipelines: extraction, transformation, AI enrichment, loading
- Use cases: data ingestion with AI enrichment, storage, notifications, reports
- RAG (Retrieval-Augmented Generation) pipelines

Module 7 – Deployment, Scalability and Best Practices

- Deployment strategies: self-hosted, Docker, Kubernetes, n8n Cloud
- Scalability, queues and worker management
- Monitoring, logging and security best practices

Module 8 – Common Thread Project

- Each participant designs a complete workflow tailored to their context
- Business cases: monitoring, reporting, document processing, CRM automation
- End-to-end implementation: ETL, transformation, AI, orchestration, deployment

TEACHING METHODS

Format and Delivery

The training is delivered remotely via an interactive virtual classroom. It can also be delivered on-site, with content customised to match the needs of your professional project. The theory/practice split is approximately 40%/60%.

MFE-IT Ultra-Personalised Format

Each session accommodates between 1 and 3 participants, ensuring highly individualised support. A preliminary interview allows us to tailor the content to each participant's profile. Inter-company sessions are guaranteed from just 1 registrant (except in cases of force majeure).

Skills Assessment

Throughout the training, the trainer assesses participant progress through multiple-choice questions, role-playing exercises and hands-on work. At the end, a certificate of achievement is issued to each participant.

Post-Training Support

For one month following the training, each participant can contact MFE-IT trainers with questions about implementing acquired knowledge. A response is provided by email or telephone within 48 working hours.

Accessibility

MFE-IT is committed to welcoming people with disabilities. Contact: contact@mfe-it.com.

PRACTICAL INFORMATION

Trainer Resources

- Structured demonstrations aligned with the detailed programme
- Exercise briefs and solutions throughout the training
- A ready-to-use technical environment for practical workshops
- Trainer validation of acquired knowledge at the end of each workshop
- Digital reference documents

Certification and Validation

At the end of the training, a certificate is sent by email specifying the objectives, nature, duration and assessment results. A completion certificate can also be provided on request.

Benefits for Participants

- Train from your workplace or home, with no travel required
- Benefit from an expert trainer-consultant on the subject
- Enjoy an ultra-personalised format (1 to 3 participants)
- Continue training even in the event of unforeseen circumstances

Benefits for the Organisation

- Optimise the training budget by reducing travel and accommodation costs
- Offer quality training to all employees, regardless of location
- Reduce absence time linked to travel
- Support team upskilling in all contexts