



**Avowal Data Systems**  
AI Automation



AI AGENT



# AI AUTOMATION

Build Intelligent Chatbots, Voicebots  
& Automated AI Workflows



WORKFLOW AUTOMATION



AI CHATBOT



VOICEBOT



TRIGGER

Webhook



PROCESS

Function



AI AGENT

Decision



API CALL

HTTP Request



DATABASE

Store / Retrieve



Supabase

DATABASE



Qdrant

VECTOR DB



LLM  
INTEGRATION



TOOL  
CALLING



{...}  
JSON  
HANDLING



SECURE  
DATA FLOWS



REAL-TIME  
AUTOMATION

**Trainer**  
**Raju K**



INDUSTRY RELEVANT  
CURRICULUM



HANDS-ON  
PROJECTS



REAL-WORLD  
APPLICATIONS



CERTIFICATION  
OF COMPLETION



## ABOUT THE TRAINER

# Raju Kolikapogu

### Technical Architect

With over 20 years of experience, I specialize in architecting projects end-to-end and mentoring teams to success. I am also an expert in providing training for both individuals and corporate teams.



#### MY SKILL SET:



#### AI Automation:

Master n8n, Make.com, and Generative AI tools—langchain, RAG to streamline your workflows and boost efficiency.



#### Chatbots:

Master the art of building advanced chatbots w/o voice using VAPI, Voiceflow, BotPress, and Dialogflow to create seamless and engaging user interactions.



#### Data Analytics:

Harness the power of AI, Machine Learning, and Python to extract meaningful insights from data and drive business decisions, leveraging tools like Airflow, Spark, and Kubeflow for large-scale data handling.



**20+**  
Years of  
Experience

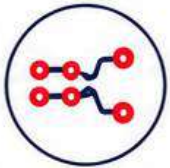


**Trained**  
Individuals &  
Corporate Teams

## MODULE 1

# Basics & Setup

1



### n8n Architecture & Cloud Setup

Understand n8n interface, nodes, triggers, and execution logs.  
Set up your n8n cloud instance.

2



### Your First Automation

Build a simple automated workflow (e.g., catching data and passing it to a webhook).

3



### Supabase Fundamentals

Set up a Supabase account. Learn to create tables, schemas, and understand relational data structure.

4



### Connecting n8n to Supabase

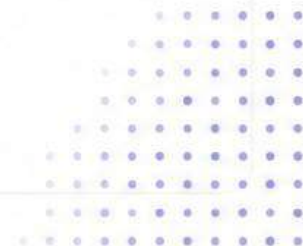
Build a workflow that takes incoming JSON data and inserts/updates rows in a Supabase table.

5



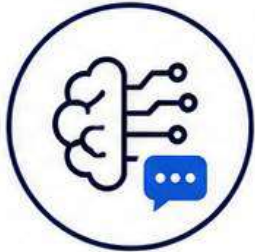
### Qdrant & Vector DB Basics

Understand embeddings, vector databases, and initialize a local/cloud trial instance of Qdrant.



# Prompt Engineering

1



## LLM Basics & Core Principles

Connect Google Gemini/OpenAI to n8n.  
Learn the baseline anatomy of an AI system prompt.

2



## System Prompts & Constraints

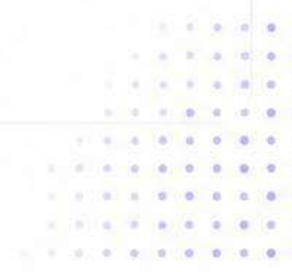
Master advanced prompt structuring:  
Role, Context, Constraints, and Explicit Output Formatting.

3



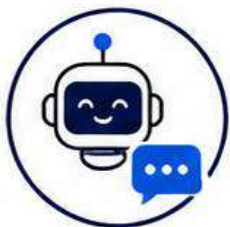
## Few-Shot Prompting for Data

Train your LLM inside n8n to strictly output  
structured JSON using few-shot classification examples.



# Chatbot Development

1



## Intro to Chat Nodes in n8n

Understand the n8n Advanced AI Advanced Agent node and how chat trigger memory works.

2



## Building a Context-Aware Bot

Create a basic E-commerce customer service chatbot that remembers user sessions using Supabase.

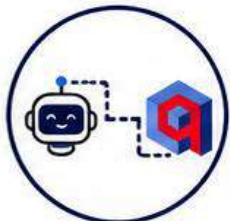
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## RAG Foundations with Qdrant

Chunk a sample product catalog list, generate embeddings, and upsert them into Qdrant.

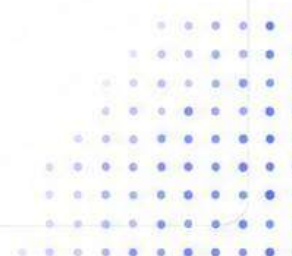
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## Connecting Chatbot to Qdrant

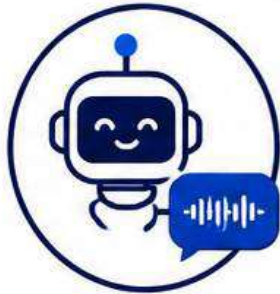
Build a retrieval workflow where the chatbot pulls missing product details from Qdrant vectors.

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# Voicebot Integration

1



## Introduction to Vapi

Explore Vapi dashboard.  
Understand Assistant configuration, Transcripts,  
and Webhook architecture.

2



## System Prompting for Voice

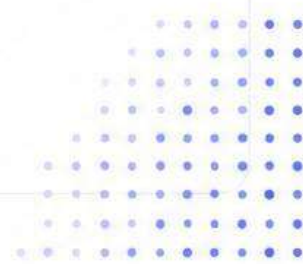
Design high-performance prompts specifically for voice:  
forcing brevity, managing interruptions, and phone handling.

3



## Connecting Vapi to n8n

Configure Vapi to send inbound/outbound call event  
webhooks directly into an n8n workflow.



# Backend Automation

1



### Python API Setup (FastAPI)

Build a lightweight local Python FastAPI app to simulate an external order management inventory database.

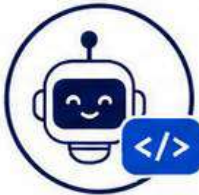
2



### Deploying Python APIs

Deploy your Python FastAPI backend online using a free tier/trial cloud instance.

3



### Tool Calling (Function Calling)

Learn how to prompt an AI Agent to recognize \*when\* it needs to fetch data from an external API tool.

4



### n8n HTTP Request Nodes

Connect n8n to your live Python API using GET/POST requests. Handle custom headers and authorization keys.

5



### Securing Data Flows

Practice converting and parsing JSON payloads smoothly between Vapi, n8n, and your backend DB.

# Capstone Project

1



## Project Architecture Blueprint

Map out your E-commerce Capstone logic: Synchronizing Chatbot, Voicebot, Supabase DB, and Python API.

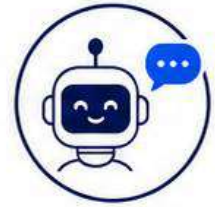
2



## Step 1: DB & API Preparation

Build the final Supabase schema (`orders`, `inventory`) and write endpoints in your Python API for tracking/ordering.

3



## Step 2: Designing the Chatbot

Build the n8n Chatbot interface. Prompt it extensively to handle catalog browsing and capture user delivery details.

4



## Step 3: Chatbot Tool Integration

Equip your Chatbot node with custom n8n tools to execute "Create Order" API actions on your Python backend.

5



## Step 4: Building the Vapi Voicebot

Create the Vapi voice voicebot. Write its system prompt to sound like an empathetic phone support agent.

6



## Step 5: Voicebot Dynamic Tooling

Hook Vapi's system up to an n8n webhook so the voicebot can verbally pull tracking info live from the API.

7



## Step 6: Syncing Shared Memory

Ensure that if an order is created via the Chatbot, the Voicebot can instantly lookup its status in Supabase.

8



## Step 7: Testing Edge Cases

Run end-to-end tests: Simulate items out-of-stock, invalid order numbers, and noisy voice environments.

9



## Step 8: Bug Fixing & Optimization

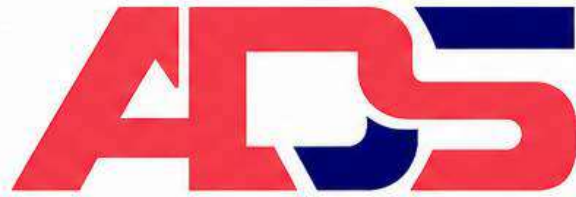
Optimize your LLM prompt instructions to decrease latency, handle interruptions, and minimize API errors.

10



## Final Capstone Live Demo

Perform an end-to-end run:  
Order an item via Chatbot ->  
Track order via Voicebot ->  
Check state in Supabase DB.



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## Contact Us



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