Project Report: n8n Automation Workflow Overview

Project: Conversational Support Agent

Platform: n8n Automation Workflows

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1. Executive Summary

This document provides a comprehensive overview of the n8n-based conversational support agent, covering its end-to-end workflow, key components, and integration options for retrieving order and ticket information. Two Shopify data retrieval approaches are compared: a Google Sheets-based lookup and a direct API Code Tool.

2. Project Overview

The goal of this project is to build an automated conversational agent in n8n that:
- Classifies incoming user queries into FAQs or order/ticket requests.
- Responds to frequent questions using a knowledge base (Google Sheets and memory).
- Retrieves support ticket and order details via configurable tools.
- Formats and returns responses through a webhook to the chat interface.

3. Workflow Steps

1. Webhook Trigger: Receives user messages via webhook.
2. Input Normalization: Cleans and maps fields using a Set node.
3. Intent Classification: Classifies as FAQ or Order/Ticket with an If node.
4. FAQ Agent Execution: If FAQ, invokes AI model + memory + Google Sheets tool.
5. Order/Ticket Agent Execution: If request, routes to data retrieval nodes.
6. Response Formatting: Prepares JSON payload (`{ "text": ... }`) for both paths.
7. Webhook Response: Sends the final JSON back to the chat interface.

4. Key Components

4.1 Intent Classification

- Edit Fields (Classifier): Normalizes user input and extracts intent.
- If Node: Routes workflow based on boolean flag (FAQ vs Order/Ticket).

4.2 FAQ Agent

-AI Model: OpenAI Chat for frequent question answering.
- Simple Memory: Maintains conversational context for FAQs.
- Google Sheets Tool: Reads from 'FAQs' sheet to fetch canonical answers.

4.3 Order/Ticket Agent

- AI Model: OpenAI Chat to interpret order/ticket queries.
- Simple Memory: Preserves context across interactions.
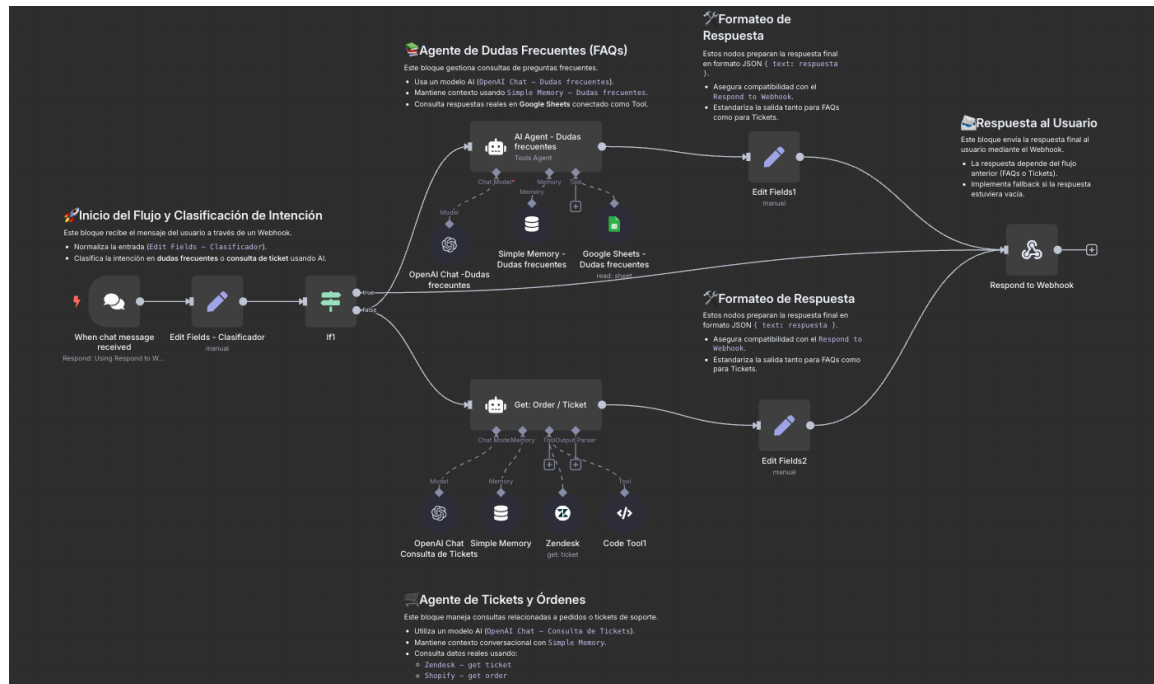- Data Tool Options: Reach out to backend systems for details.

Figure 1 Workflow Demostration V2.0.1, n8n

5. Shopify Data Retrieval Options

Two interchangeable methods are available for fetching Shopify order information:

Aspect	Google Sheets Lookup	Direct API Code Tool
Data Source	Google Sheets ("ordenes" sheet)	Shopify REST API via Code Tool
Implementation	n8n Google Sheets node	Custom JavaScript code in Code Tool
Maintenance	Manual sheet updates	Credential/config only
Latency	Moderate (sheet read)	Low (API call)
Reliability	Potential stale data	Real-time data
Error Handling	Built-in node retry	Custom error parsing

6. Recommendations & Next Steps

- - Adopt the Direct API Code Tool for real-time accuracy.
- - Implement fallback to Google Sheets when API is unavailable.
- - Add monitoring and alerts for API rate limits and failures.
- - Document workflow and schema in the project README.
- - Version-control pseudocode and diagrams under docs/ directory.

7. Contact & Repository

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