

# AI Agents & Automation Workflows

## COMMUNITY PLACE

A Comprehensive Technical Guide to Multi-Agent Systems | [communityplace-info.com](https://communityplace-info.com)

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## What Are AI Agents?

An AI agent is a system that uses a large language model (LLM) as its reasoning engine to autonomously decide which actions to take in order to complete a goal. Unlike a simple chatbot that responds to one question at a time, an AI agent can plan a sequence of steps, use tools, call APIs, search the web, read files, and loop back to check its own work.

## Core Components of an AI Agent

**The LLM Brain** The language model (Claude, GPT-4, Gemini) reasons about the task, decides what tools to use, and evaluates whether the goal has been achieved.

**Tools** Functions the agent can call — web search, database queries, file operations, API calls, email, calculators, code execution. Each tool has a name, description, and input/output schema.

**Memory** Short-term (the current conversation context) and long-term (vector databases like Pinecone where past information is stored and retrieved by similarity search).

**Orchestration** The loop that runs the agent: observe → think → act → observe again. This can be a single loop or a complex chain of specialized sub-agents.

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## Agent Architectures

### Single Agent

One LLM with a set of tools. Good for focused tasks like "research this topic and write a report."

### Multi-Agent (Supervisor Pattern)

A supervisor agent receives the task, breaks it into subtasks, delegates to specialized worker agents, and assembles the final output. Used in Community Place's Real Estate Voice AI.

### Sequential Chain

Agent A completes its task and passes output to Agent B, which passes to Agent C. Good for pipelines where each step depends on the previous one.

### Parallel Agents

Multiple agents work simultaneously on different aspects of a problem. Results are aggregated at the end. Faster for tasks that can be split.

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## Building Agents with N8N

N8N's AI Agent node connects directly to:

- **Claude / GPT-4 / Gemini** — as the reasoning engine

