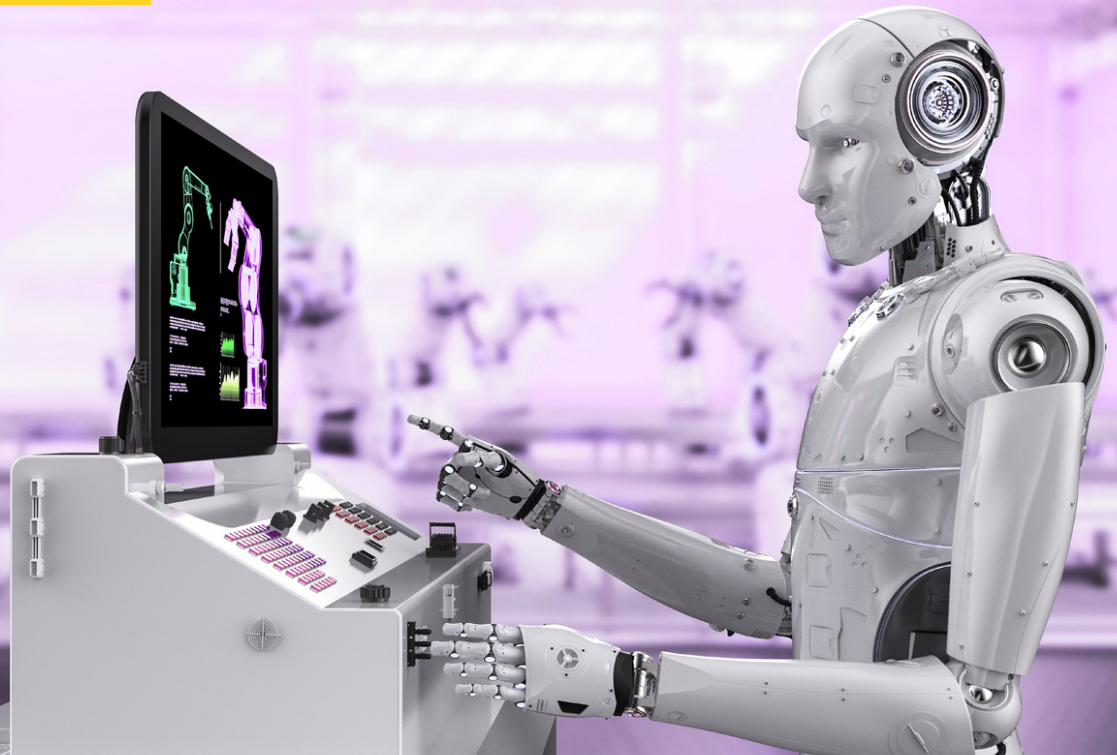


AI AGENT WITH MODEL CONTEXT PROTOCOL (MCP) FOR GOOGLE WORKSPACE AUTOMATION



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AI SOLUTIONS

AI Solutions use machine learning and smart algorithms to automate tasks, solve problems, and power intelligent chatbots for natural, efficient user interactions.

BACKGROUND & CHALLENGE

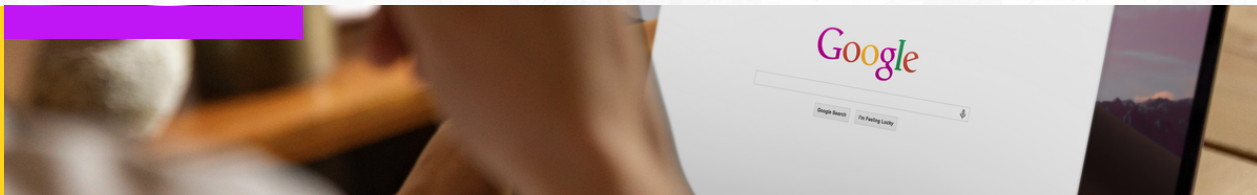
Orblogic was engaged by a B2B logistics client to develop an intelligent AI agent that could automate operations across Google Workspace services including Google Sheets, Docs, and Drive.

The client managed operational data such as shipment schedules in Google Sheets, contracts in Google Docs, and archived files in Google Drive. They needed an agent that could respond to natural language instructions like:

- “Update the shipment schedule in Google Sheets with today’s data”
- “Find the latest contract in Google Docs for Client X”

CHALLENGES:

- Data was fragmented across services
- Traditional tools couldn’t process unstructured content or handle dynamic language
- Manual API integrations were complex and lacked standardization
- Security and access control needed to be robust and compliant



SOLUTION OVERVIEW

Orblogic delivered a solution combining the OpenAI-Agents SDK, GPT models, and a custom-built MCP (Model Context Protocol) server. This enabled secure, real-time interaction between the AI agent and Google Workspace tools.

The implementation followed two phases:

PHASE 1: MCP SERVER SETUP

The MCP server, built using Google Apps Script, exposed standardized tools that the AI agent could call securely and efficiently. It eliminated the need for manual API coding and unified access to all Workspace services.

Key integrations included:

- **Google Sheets:** Read, write, and update cells using tools like `update_spreadsheet`
- **Google Docs:** Search and modify documents using `search_docs`, `edit_doc`
- **Google Drive:** Search, list, and retrieve files with `search_files_on_Google_Drive`, `read_file`

Security was handled via OAuth 2.0, with scoped permissions to ensure only authorized access.

PHASE 2: AI AGENT DEVELOPMENT

Using the **OpenAI-Agents SDK**, Orblogic built an AI agent that acted as an MCP client, capable of understanding and executing natural language instructions.

Key capabilities:

- **Dynamic tool integration:** The agent auto-discovered tools from the MCP server

- **Natural language processing:** GPT translated queries into tool calls
- **Real-time automation:** Tasks such as updating a spreadsheet or retrieving a document were completed in seconds
- **Stateful context:** The agent maintained session state across multi-step interactions

To support real-time execution, Apache Airflow was integrated to monitor Workspace changes and trigger the agent automatically.

SOLUTION ARCHITECTURE

The overall system included:

- **MCP Server:** Hosted on Google Apps Script, exposing Workspace tools via JSON-RPC
- **AI Agent:** Built with OpenAI-Agents SDK and GPT, serving as the interface for user queries
- **Automation Layer:** Airflow monitored changes in Workspace and triggered relevant tasks
- **Security Layer:** OAuth 2.0 ensured secure, permissioned access to user data

TECHNOLOGIES USED

- **Google Apps Script** for the MCP server
- **OpenAI-Agents SDK** for building the AI agent
- **GPT Models** for language understanding
- **Apache Airflow** for real-time task orchestration
- **MCP Protocol** for standardized communication
- **Python** for agent logic and workflow scripts

RESULTS & IMPACT

The AI agent significantly improved operational workflows:

- **Seamless task execution:** Complex multi-step tasks completed in under 5 seconds
- **70% reduction in manual work:** Automating repetitive tasks freed up employee time
- **Real-time insights:** Data changes reflected in agent responses within 3 minutes
- **Enhanced security:** Controlled access via OAuth and scoped permissions

CONCLUSION

Orblogic successfully transformed the client's fragmented Google Workspace environment into a unified, intelligent system. By combining GPT-powered AI with a secure MCP-based architecture, the solution enabled real-time automation, reduced manual effort, and improved operational efficiency.