Model Context Protocol

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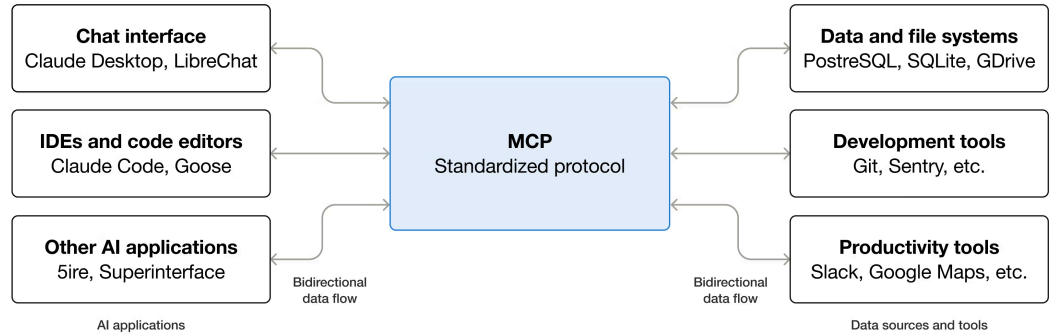
Table of contents

In Today’s session

1. What is MCP and Why MCP?
2. MCP Primitives and Components
3. Few MCP servers
4. Using MCP in development workflow

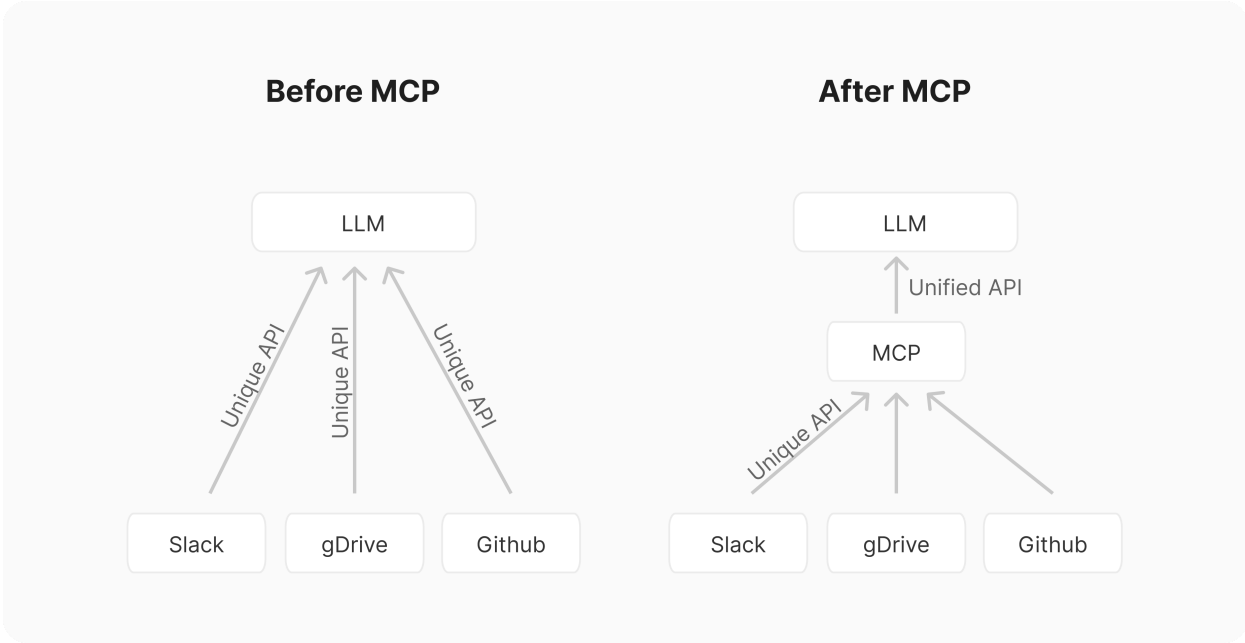
MCP by Anthropic

> *The Model Context Protocol is an open standard that enables developers to build secure, two-way connections between their data sources and AI-powered tools. - Anthropic*

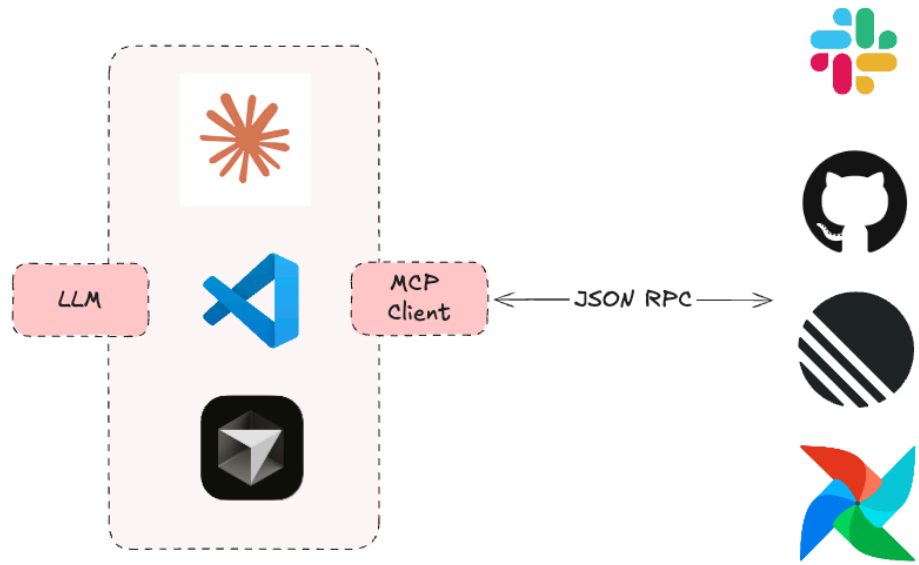


Why MCP?

Life before MCP

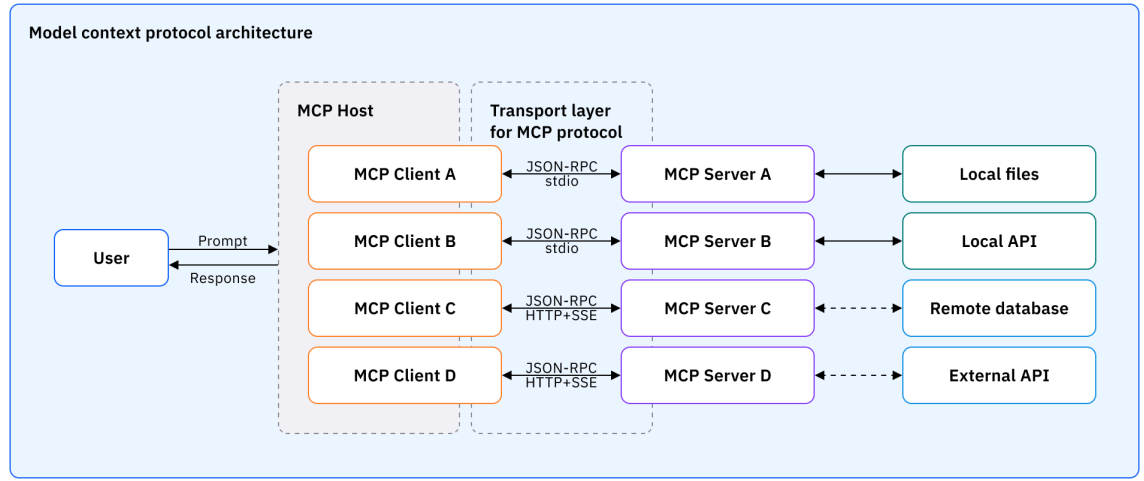


MCP world of opportunities



MCP Architecture

- **MCP Host**: The AI application that coordinates and manages one or multiple MCP clients
- **MCP Client**: A component that maintains a connection to an MCP server and obtains context from an MCP server for the MCP host to use
- **MCP Server**: A program that provides context to MCP clients



Demo

MCP Primitives

MCP Primitives

- **Notifications**
- **Server**
  - Tools
  - Resources
  - Prompts
- **Client**
  - Sampling
  - Roots
  - Elicitation

MCP Server Primitives

Feature	Examples	Who controls it
Tools	Search flights Send messages Create calendar events	Model
Resources	Retrieve documents Access knowledge bases Read calendars	Application
Prompts	Plan a vacation Summarize my meetings Draft an email	User

MCP Client Primitives

Feature	Example
Sampling	Handing off LLM Calling responsibility to client
Roots	Read specific files
Elicitation	Ask user details

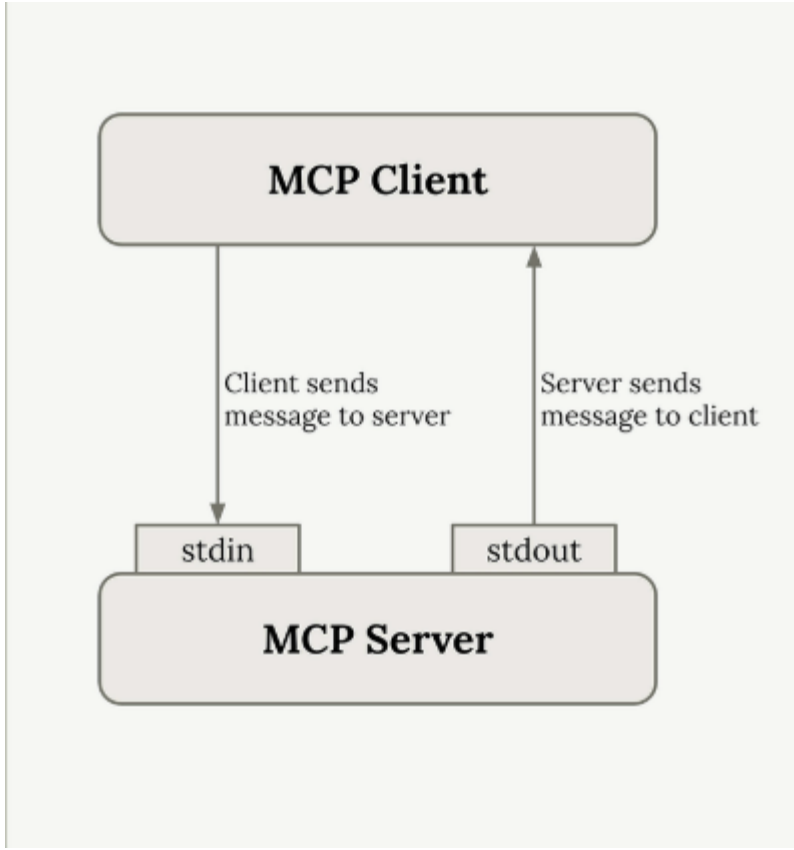
Demo

MCP Communication

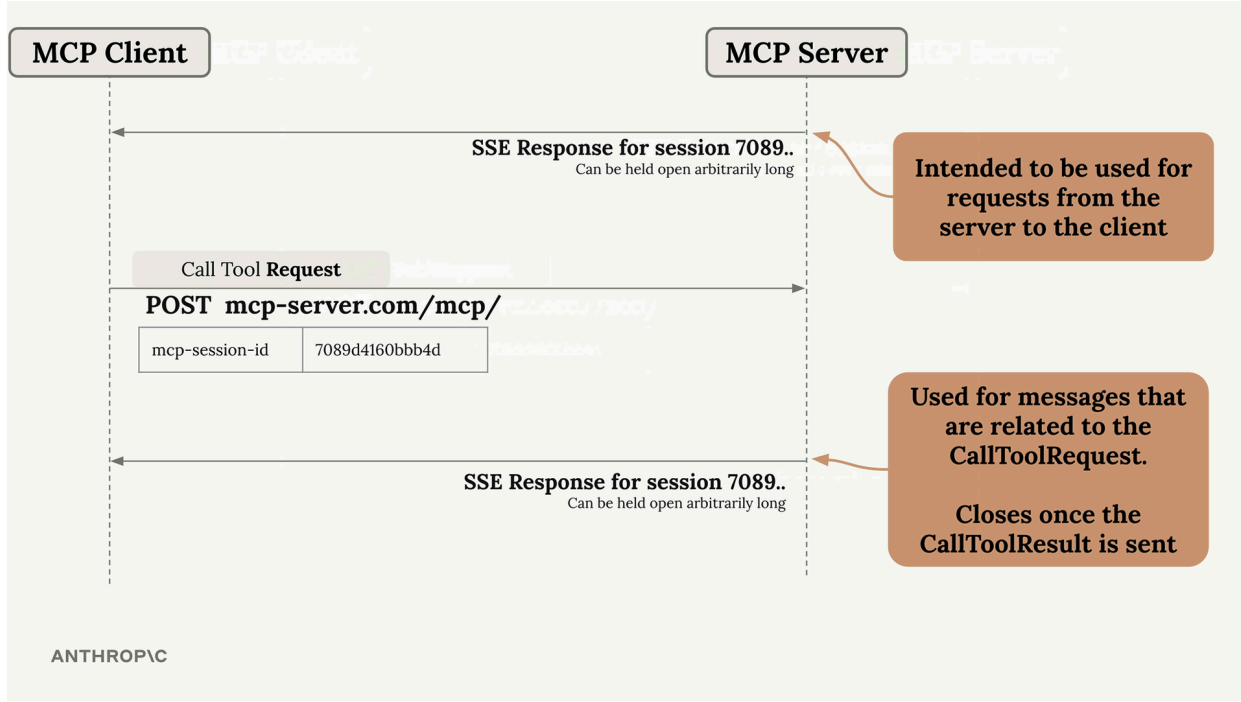
MCP Communication

- MCP communicates via JSON
- JSON can be sent over by multiple ways
  - Stdio
  - Streamable HTTP

Stdio


MCP Client
Client sends
message to server
Server sends
message to client
stdin
stdout
MCP Server

Streamable HTTP



MCP + Dev Workflow

Thank You