

TASK-09  
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TOOL CALLING

FUNCTION CALLING

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## 🔧 Tool Calling / Function Calling - Explained

### 🔧 What is Functions Calling?

In programming, Function Calling means asking a specific piece of code (a function) to run. Functions are reusable blocks of code that perform a specific task.

#### 📌 Syntax Example in Python:

Here, `greet("Ahmed")` is a function call.

A laptop screen displaying Python code examples.

```
def greet(name):  
    return f"Hello, {name}!"  
  
print(greet("Ahmed")) #  
This is a function call
```

# Function Calling?

Title:

 Function Calling – Simple Words

Points:

- Model calls a function/tool based on user input
- Example:
- "What's the weather in Lahore?" → calls `getWeather(city="Lahore")`

Visual idea:

User ➔ GPT ➔ Weather Tool ➔ Response



Update App

## ◆ What is Tool Calling?

**In AI (like OpenAI's ChatGPT), Tool Calling means the model can call external tools, functions, or APIs to get more information or perform specific actions.**



For example, in ChatGPT:

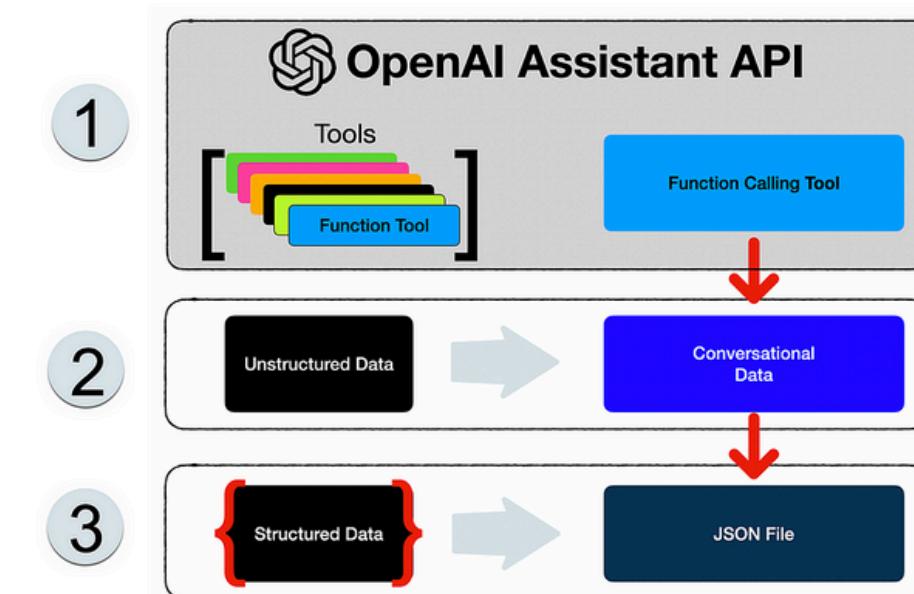
Tool calling might call a weather API to check the weather.

It might call a Python tool to calculate results.

It can use a Web Browser tool to get real-time data.

This allows the AI to go beyond just responding and actually perform actions or retrieve real data.

### OpenAI Function Calling Tools



# Benefits of Tool Calling in AI

- 🔎 Real-time information
- 🧠 Dynamic decision-making
- 🤖 Enhanced interactivity
- 💡 Reusability of functions



**Title:**  
**Tool Functions = Model's Superpowers**



**Points:**

- External APIs or functions
- Help model do things (not just talk)

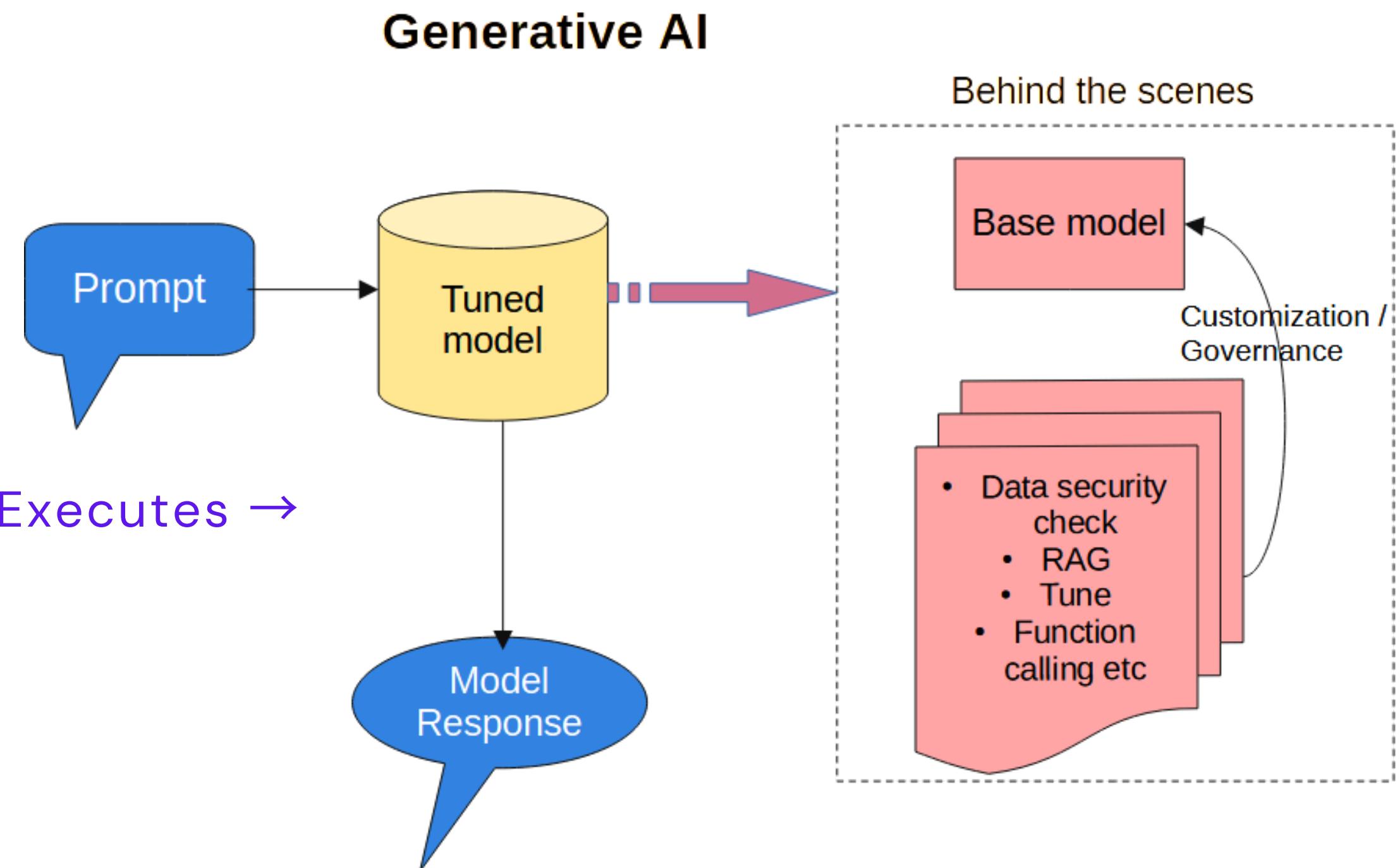


**Examples:**

- `getWeather()`
- `searchWeb()`
- `bookFlight()`

# Function Calling Architecture

Title:  
⚙️ Behind the Scenes  
Visual Suggestion:  
User → GPT → Tool Call → Tool Executes →  
Response Back to User



# What is MCP?

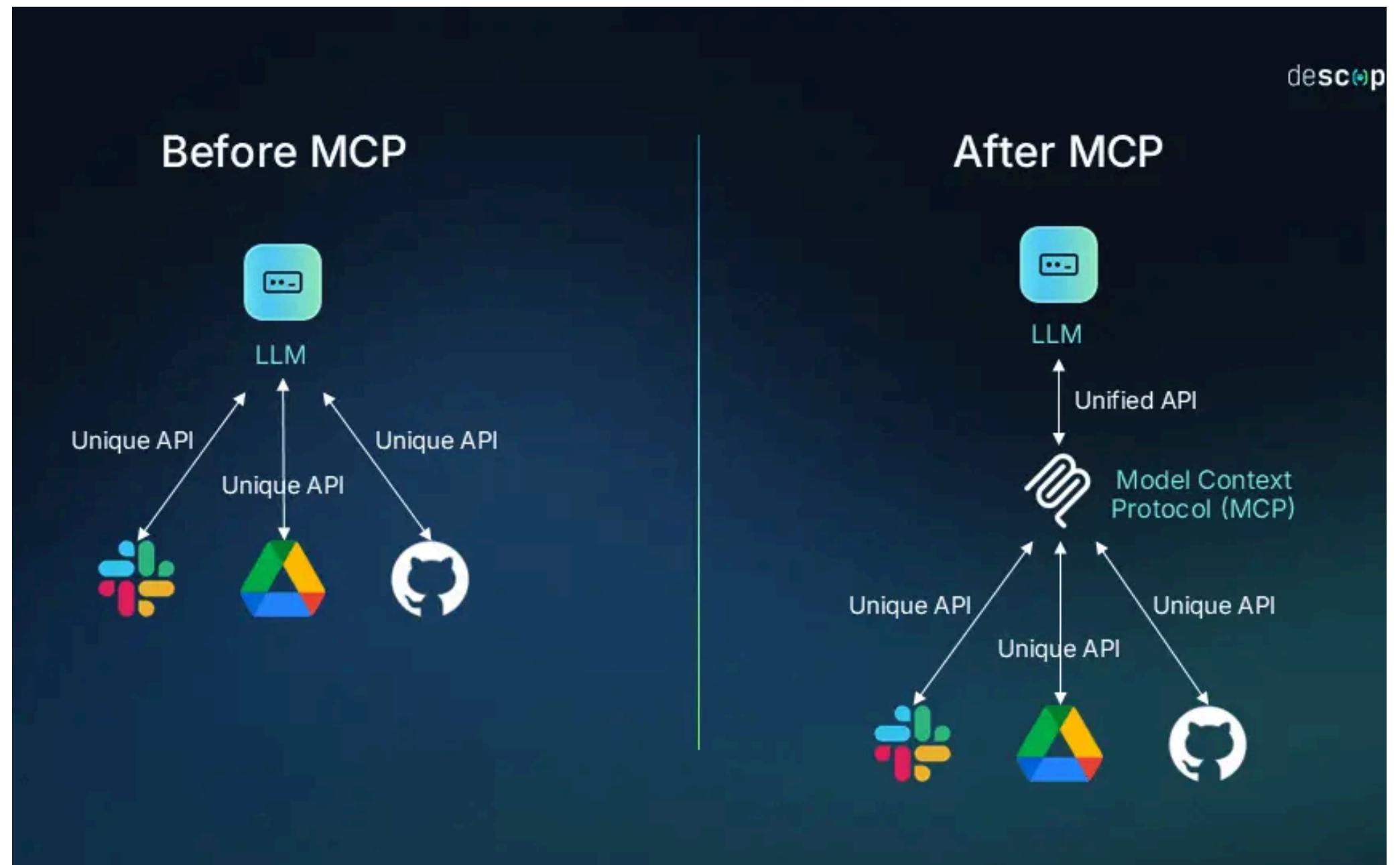
## MCP – Model Context Protocol

Points:

- MCP tells model:
  - What tools are available
  - Tool descriptions & parameters
- Enables structured tool usage
- Format: JSON

MCP Example

```
{  
  "name": "getWeather",  
  "description": "Get current weather of a city",  
  "parameters": {  
    "type": "object",  
    "properties": {  
      "city": { "type": "string" }  
    },  
    "required": ["city"]  
  }  
}
```



Thank you  
very much!

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