

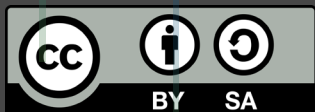
Creating Intuitive AI Agents for PowerShell with AI Shell

Mike Nelson

Steven Bucher

Technical Evangelist @ Pure Storage

Product Manager @ Microsoft



April 7-10, 2025

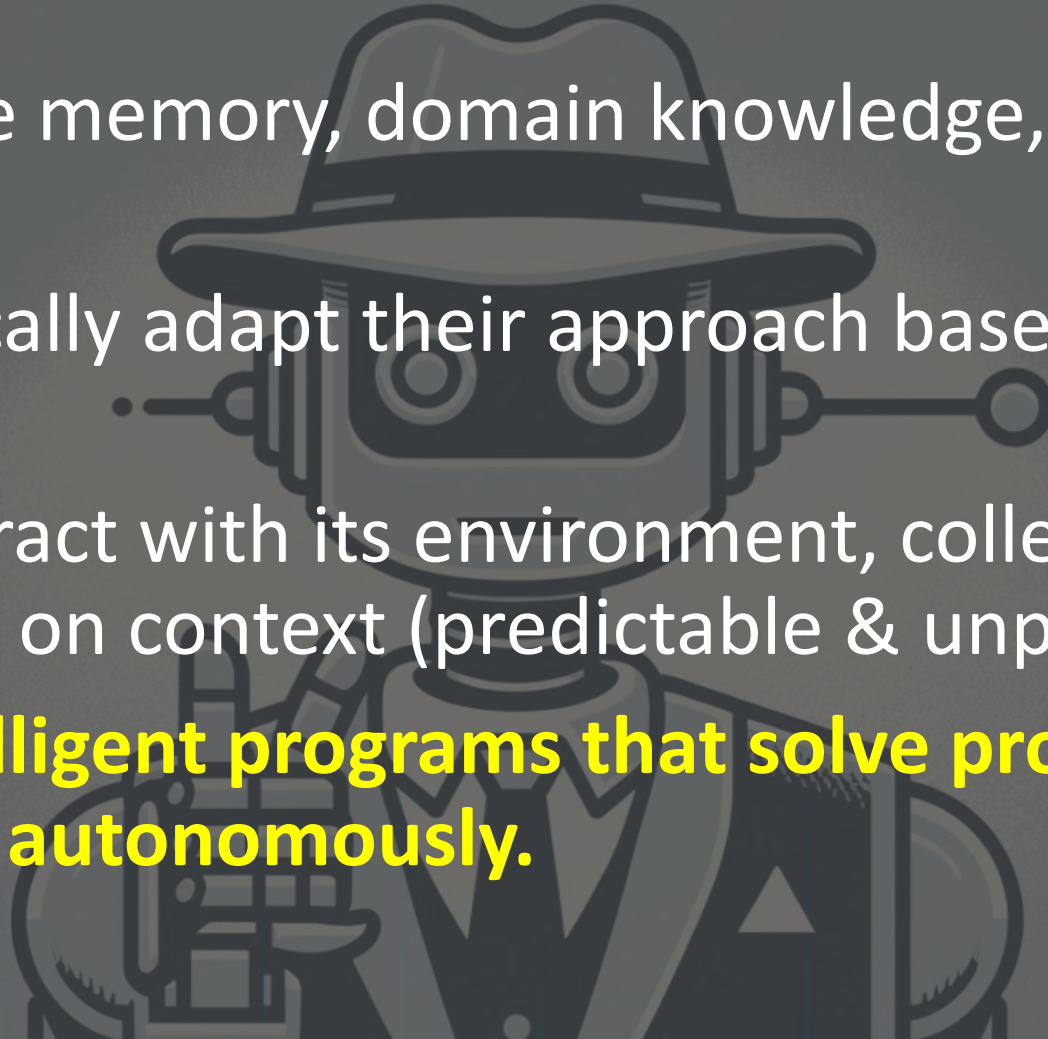


Thank you Sponsors

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What is an AI Agent?

- Agents *can* have memory, domain knowledge, ability to use tools.
- Agents dynamically adapt their approach based on the context & tools results.
- Agents can interact with its environment, collect data, and make decisions based on context (predictable & unpredictable).
- **Agents are intelligent programs that solve problems interactively or autonomously.**



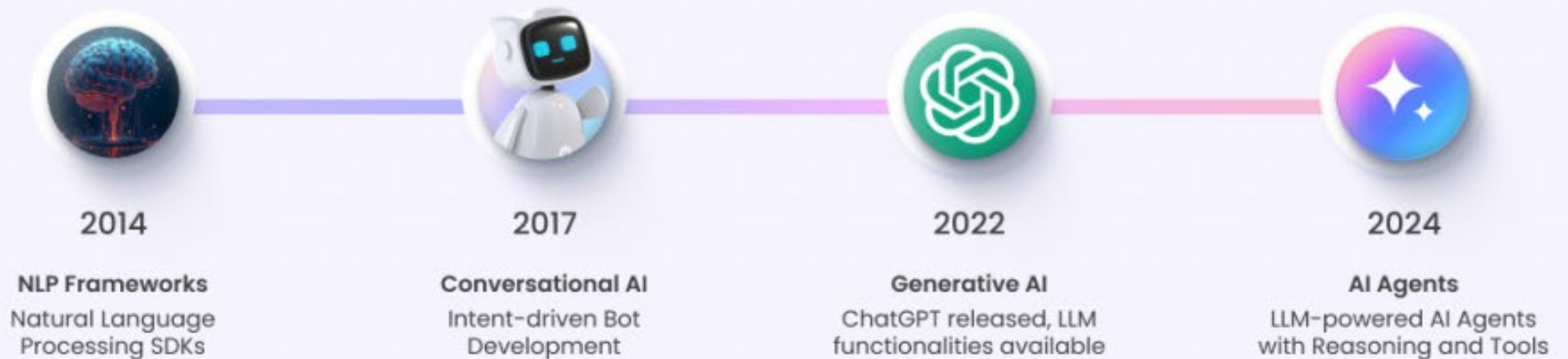
Agent or Assistant?

AI agents are **proactive**, working interactively or autonomously to achieve a specific goal by any means at their disposal.

AI assistants are **reactive**, performing tasks at your request.



The Evolution of AI Agents



The Five Core Components of AI Agents



Building Blocks of an Agent

Agent Client

Agent 1

AI perceptions

Data/Actions

Agent 2

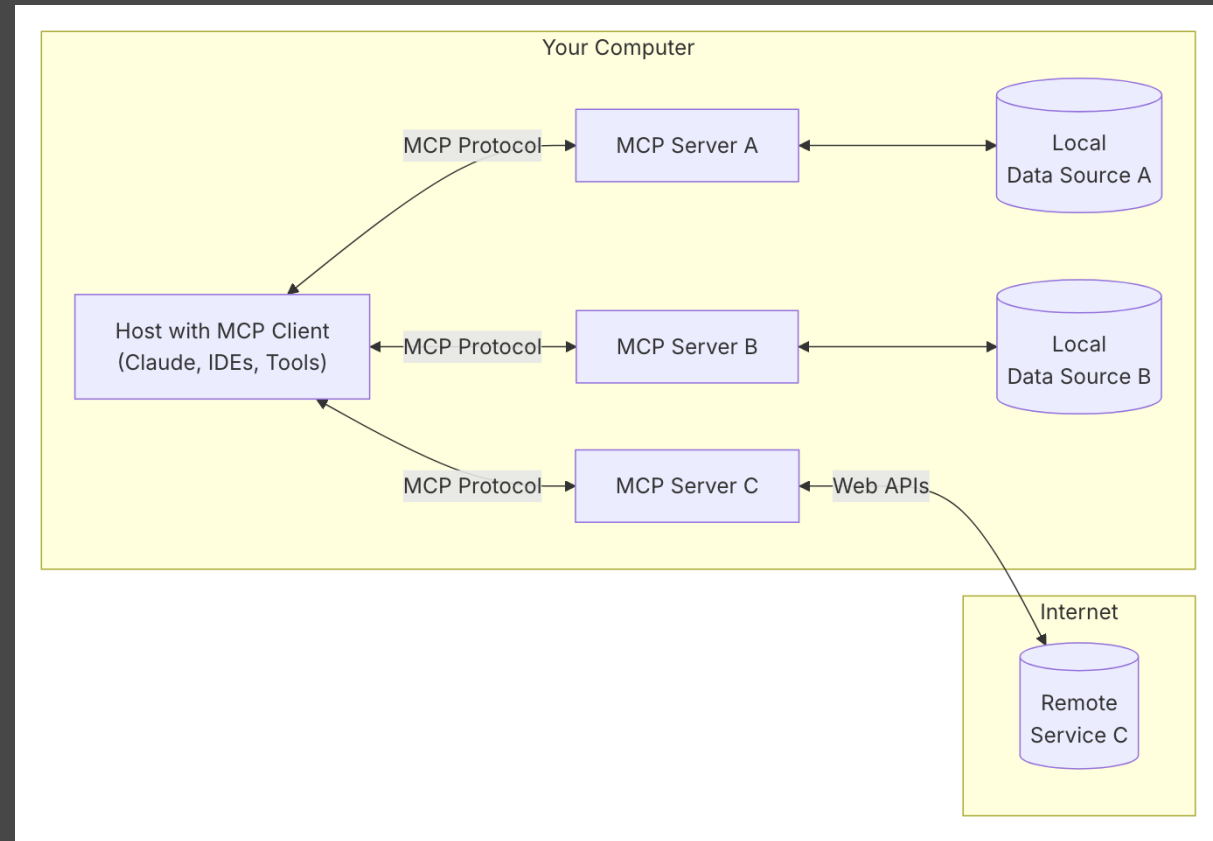
AI perceptions

Data/Actions



Model Context Protocol – Getting Data to your LLM

- Data building block



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Spectrum of Agents

Simple

- Single interactions
- Could be as simple as prompt grounding

Complex

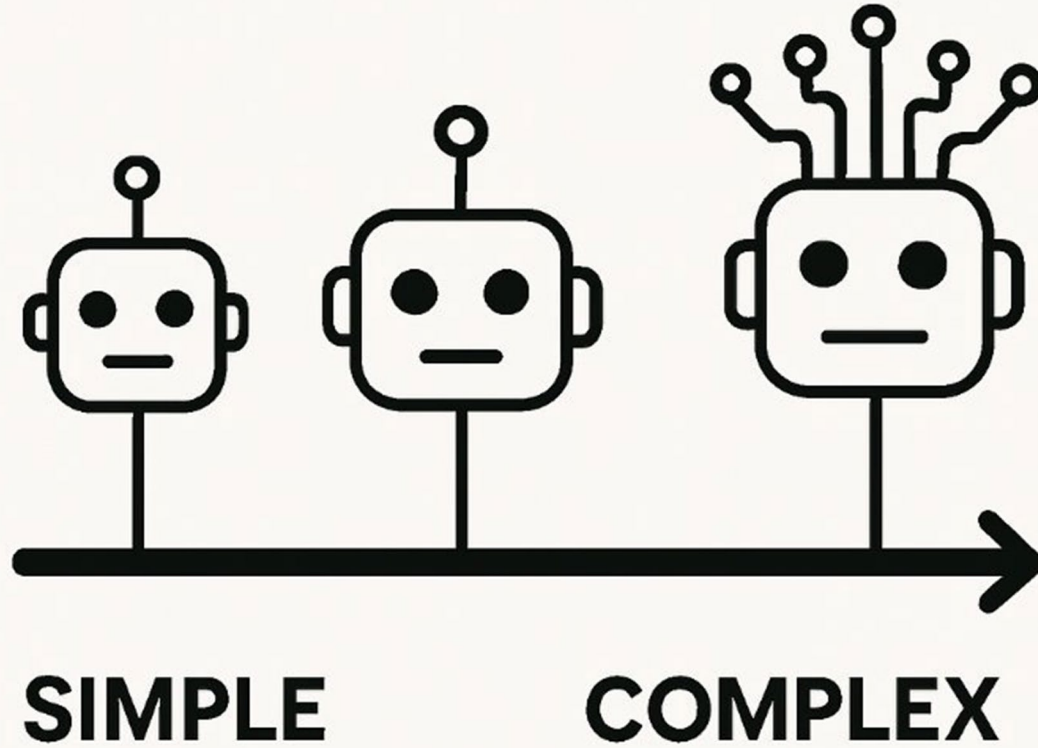
- Autonomous
- Multiple LLM calls
- Takes action



There isn't a strict requirement on what defines an "agent"

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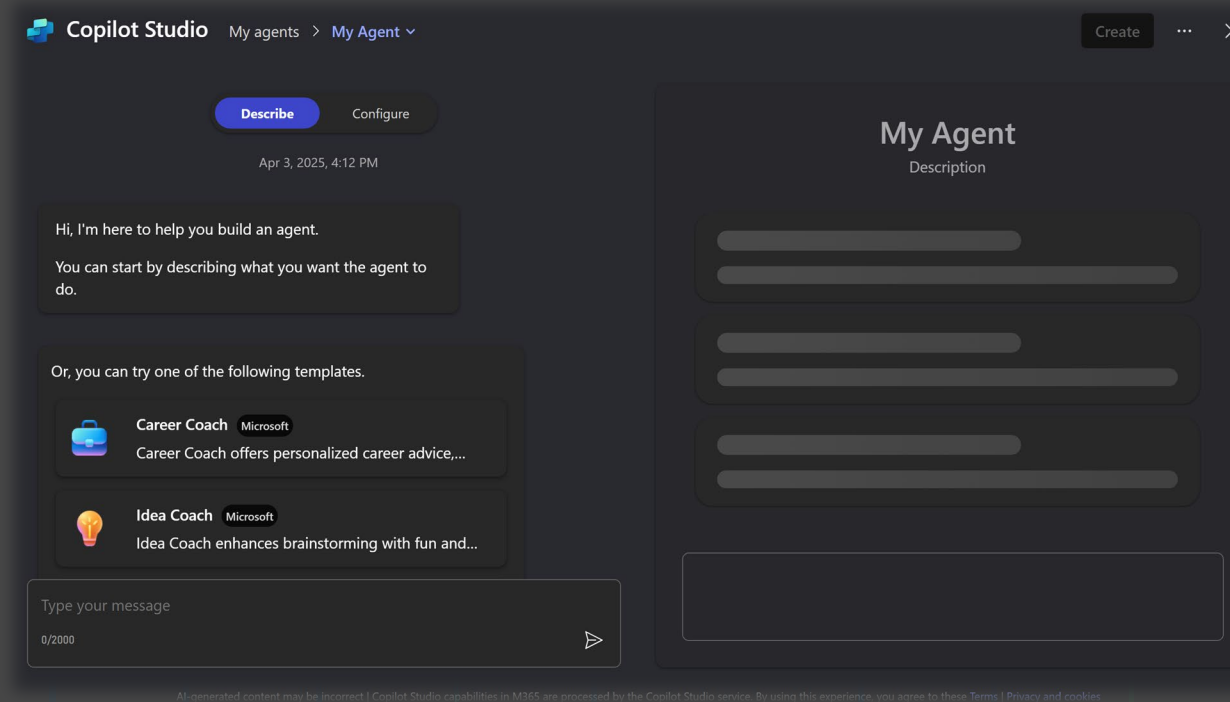
AI AGENTS



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M365 Agent showcase

- Easy as writing a *simple* prompt



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ChatGPT agent creation

From simple to mildly complex

Grab one or make your own

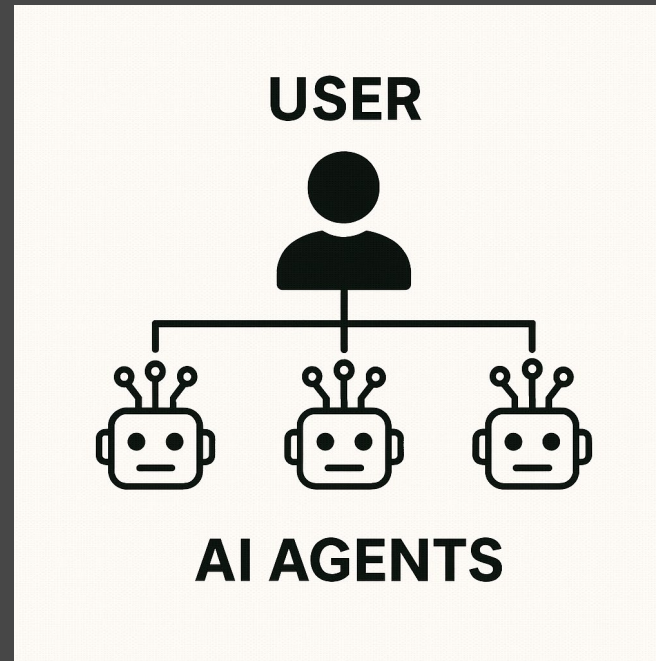
Add local data





Agent Analogy

AI Agents are employees and you are the manager

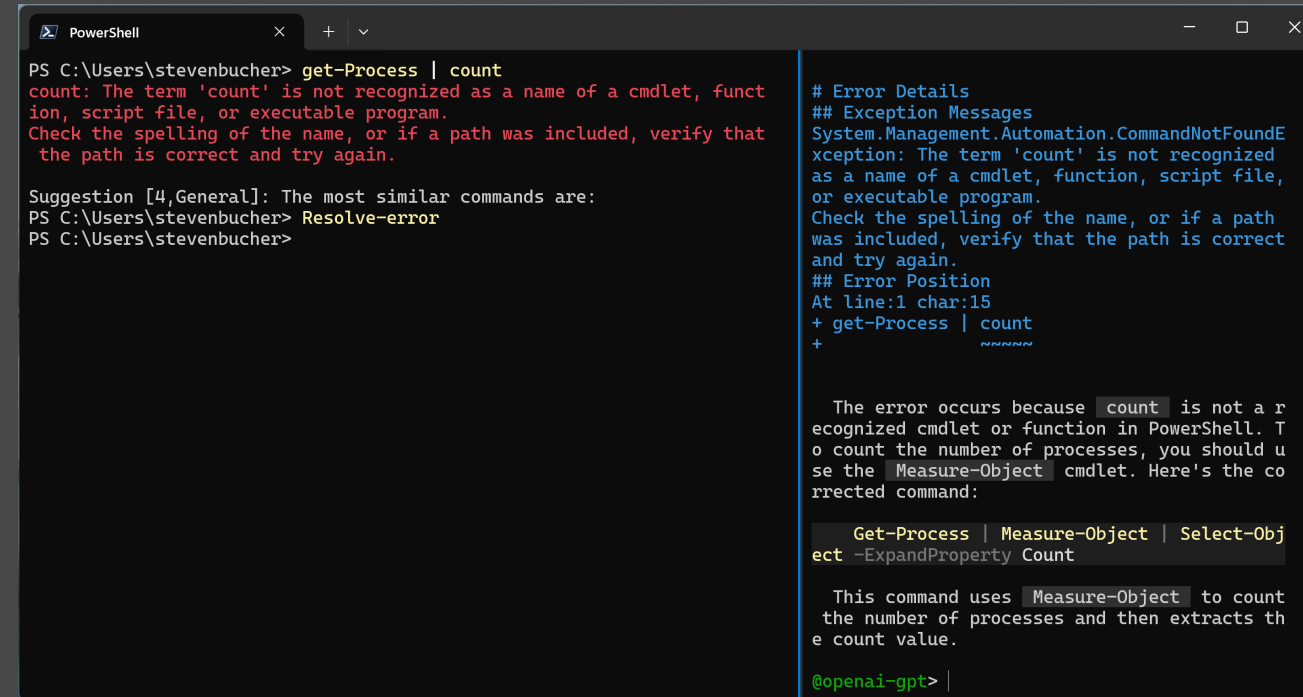


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AI Shell capabilities

- Cross platform
 - Side car experience supported on Mac and Windows
- User experience
 - Sidecar meta language
 - Interactions between sidecar and primary shell
 - Sidecar can read errors from primary shell
 - Primary shell suggest commands returned for execution
- AI Shell is a *client* for AI Agents not an agent itself



```
PowerShell
PS C:\Users\stevenbucher> get-Process | count
count: The term 'count' is not recognized as a name of a cmdlet, function, script file, or executable program.
Check the spelling of the name, or if a path was included, verify that the path is correct and try again.

Suggestion [4,General]: The most similar commands are:
PS C:\Users\stevenbucher> Resolve-error
PS C:\Users\stevenbucher>

# Error Details
## Exception Messages
System.Management.Automation.CommandNotFoundException: The term 'count' is not recognized as a name of a cmdlet, function, script file, or executable program.
Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
## Error Position
At line:1 char:15
+ get-Process | count
+ ~~~~~

The error occurs because count is not a recognized cmdlet or function in PowerShell. To count the number of processes, you should use the Measure-Object cmdlet. Here's the corrected command:

Get-Process | Measure-Object | Select-Object -ExpandProperty Count

This command uses Measure-Object to count the number of processes and then extracts the count value.

@openai-gpt> |
```



AI Shell Inbox Agents

OpenAI Compatible Agent

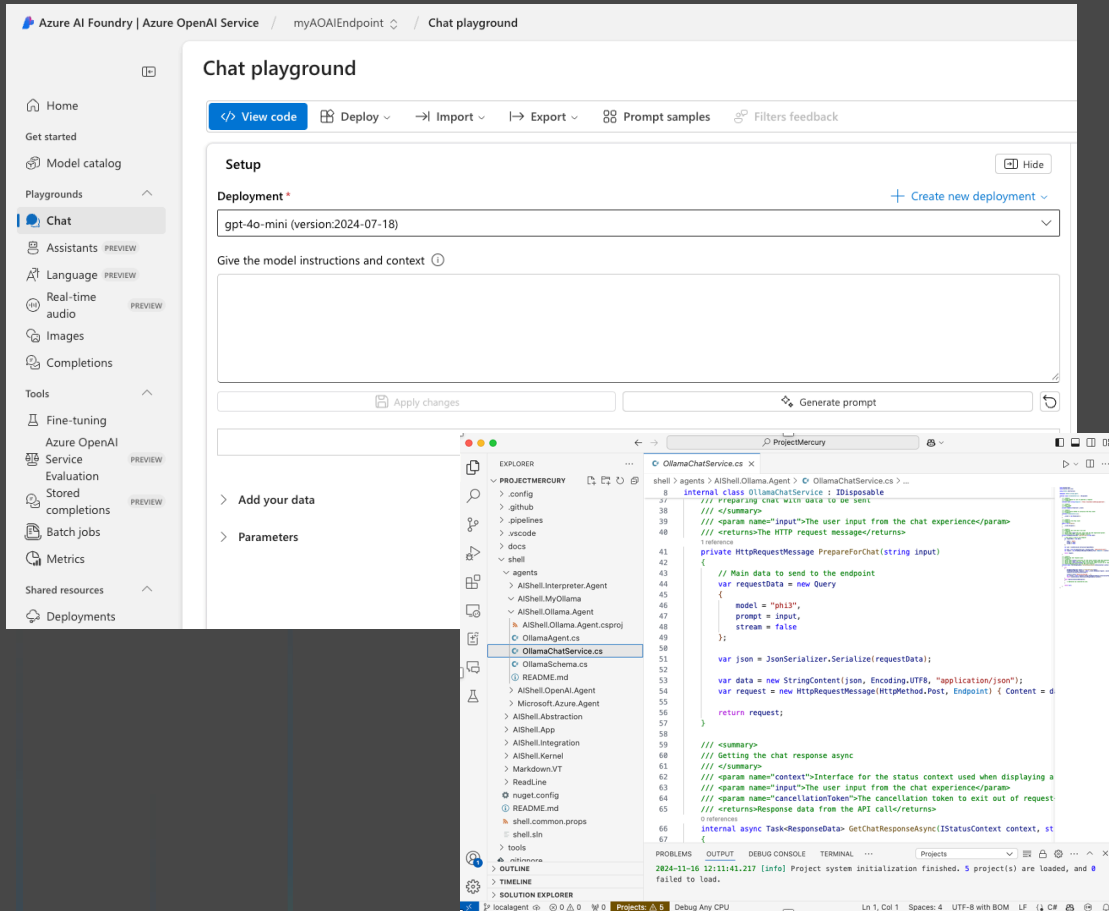
- Any AI provider that uses OpenAI API Format
 - OpenAI
 - Google Gemini
 - Deepseek
 - Ollama
 - Azure OpenAI

Copilot in Azure Agent

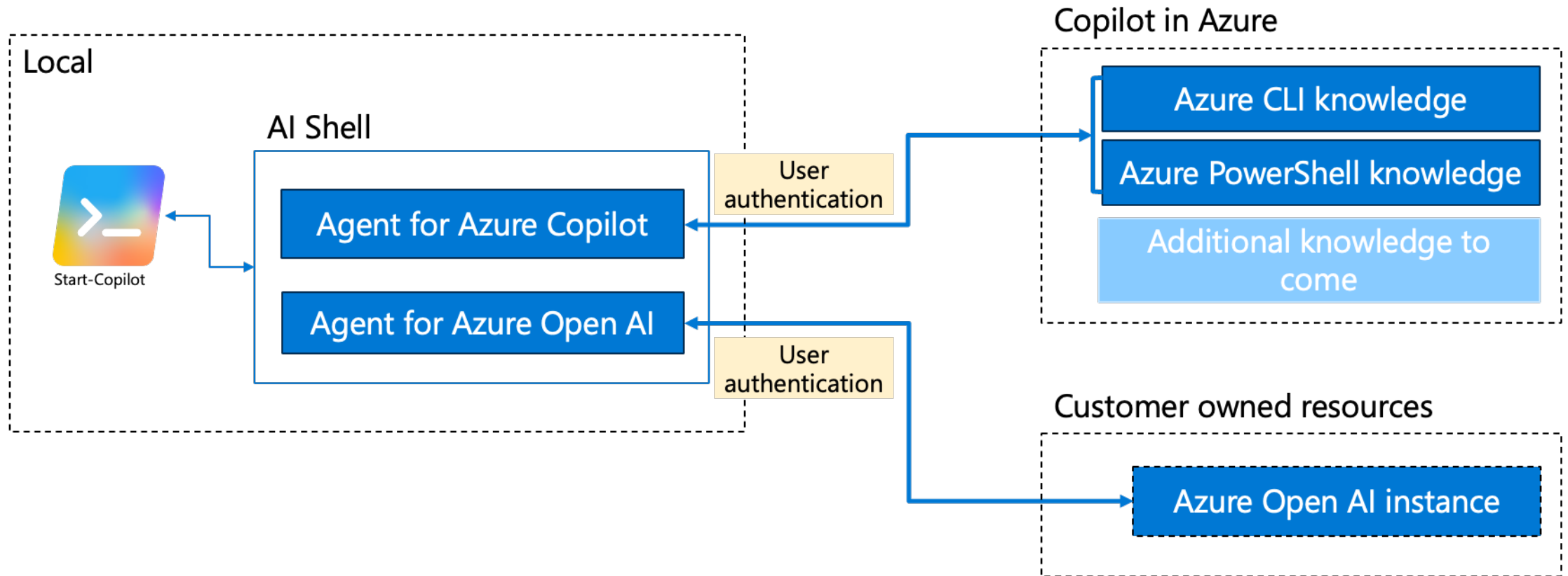
- Connects you to the Copilot in Azure
 - Free service
 - Generate Azure CLI/PS Commands
 - Gain knowledge about Azure



Creating own Agent



- Building your own AI Shell Agent
 - Creating a model/AI assistance specific to your needs
 - Provide company specific knowledge for example
 - Enhance the ability of the shell
- Indepth C# tutorial:
 - <https://aka.ms/AIShell-Create-Agent>



What we will walk through

- What is Azure OpenAI Service
 - How do simply deploy an Azure OpenAI Service via Bicep
 - Modifying and utilizing Azure OpenAI Service Features
 - Filtering
 - Fine-tuning
- Connecting Azure OpenAI Service to AI Shell



Interpreter agent

- SUPER COMPLICATED ONE



AI PS Team

Simulates a Team of AI Agents working together on a project.

Each agent has a specific role that contributes to the outcome of the project, just like a "human" team.

Optional RAG capabilities

The code is very complex – that means the agents are as well



Agents are everywhere



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Agents are everywhere



Agents Benefit You & Your Work

- Get more specific expertise
- Get a different kind of thinking or help fill in gaps of areas
- Could be more secure - Local LLM/SLM
- Add reliable sources of data
- One agent ==> multiple models



THANK YOU

FEEDBACK IS A
GIFT. PLEASE
REVIEW THIS
SESSION

