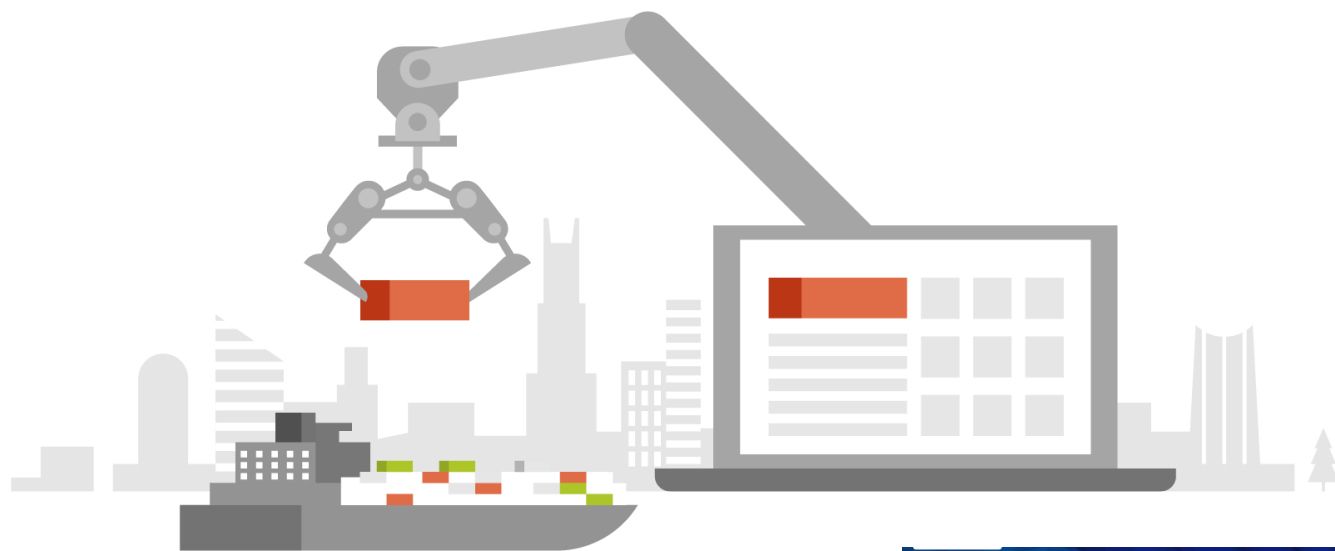


讓 Kubernetes 會思考

AI 助手強化維運診斷與資源操作



Weithenn Wang

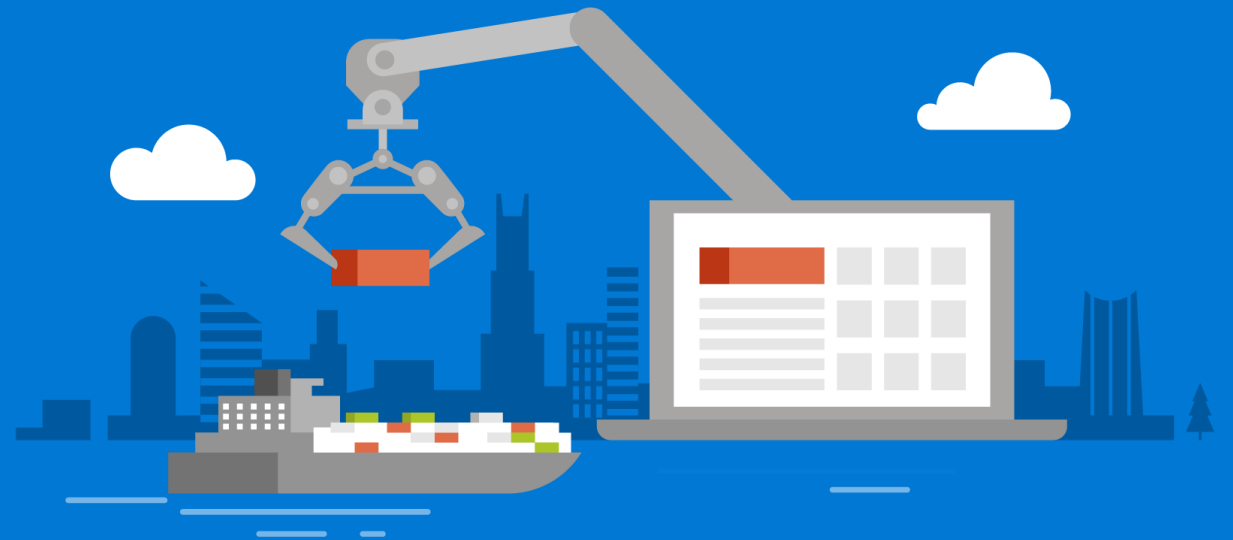


About Weithenn



- Weithenn.org
- Microsoft MVP 2012 – 2026
- VMware vExpert 2012 – 2026
- Nutanix NTC 2025 – 2026
- 19 IT books and NetAdmin Magazine
- AI Summit 2026 、 DevOpsDays Taipei 2026 、 DevOpsDays Tokyo 2026 、 Hello World Dev Conference 2025 、 Kubernetes Summit 2025 、 Cloud Summit 2025 、 DevOpsDays Taipei 2025 、 DevOpsDays Tokyo 2025 、 WebConf Taiwan 2024 、 .NET Conf Taiwan 2024 、 Kubernetes Summit 2024 、 DevOpsDays Taipei 2024 、 SRE Conference 2024 、 DevOpsDays Tokyo 2024.....

Workshop Environment



Workshop Environment – Day 1

RDP URL

kubesummit-[01-54]

.eastasia.cloudapp.azure.com

Username

Password

kubeadmin

KubeSummit@2026

Azure VM (Standard_D16as_v5)

Windows Server 2025(16 vCPU / 64 GB vMemory / Premium SSD LRS)

Workshop Environment – Day 2

RDP URL

ks-[01-54]

.eastasia.cloudapp.azure.com

Username

Password

kubeadmin

KubeSummit@2026

Azure VM (Standard_D16as_v5)

Windows Server 2025(16 vCPU / 64 GB vMemory / Premium SSD LRS)



Azure VM: Windows Server 2025

Size: D16as_v5 (16 vCPU, 64GB vMemory)



Kubernetes Cluster (AKS EE - K3s)



Azure/mcp-kubernetes
(MCP Server)

Execute
cluster
operations



Ollama - Gemma4:e4b
(LLM Brain)

Processing AI logic

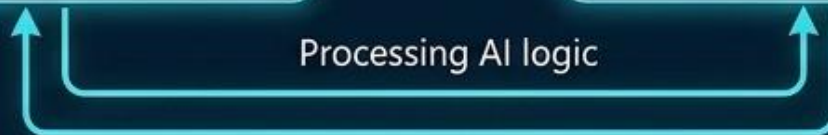
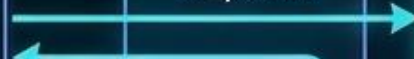
Kubernetes Cluster
(AKS EE - K3s)



VSCode - Continue
(MCP Client)

MCP protocol
requests

Secure
network





Azure VM: Windows Server 2025

Size: D16as_v5 (16 vCPU, 64GB vMemory)



Kubernetes Cluster (AKS EE - K3s)



Azure/mcp-kubernetes
(MCP Server)

Execute
cluster
operations

MCP
Integration
Hub



Ollama - Gemma4:e4b
(LLM Brain)

Processing AI logic

Kubernetes Cluster
(AKS EE - K3s)



VSCode - Continue
(MCP Client)

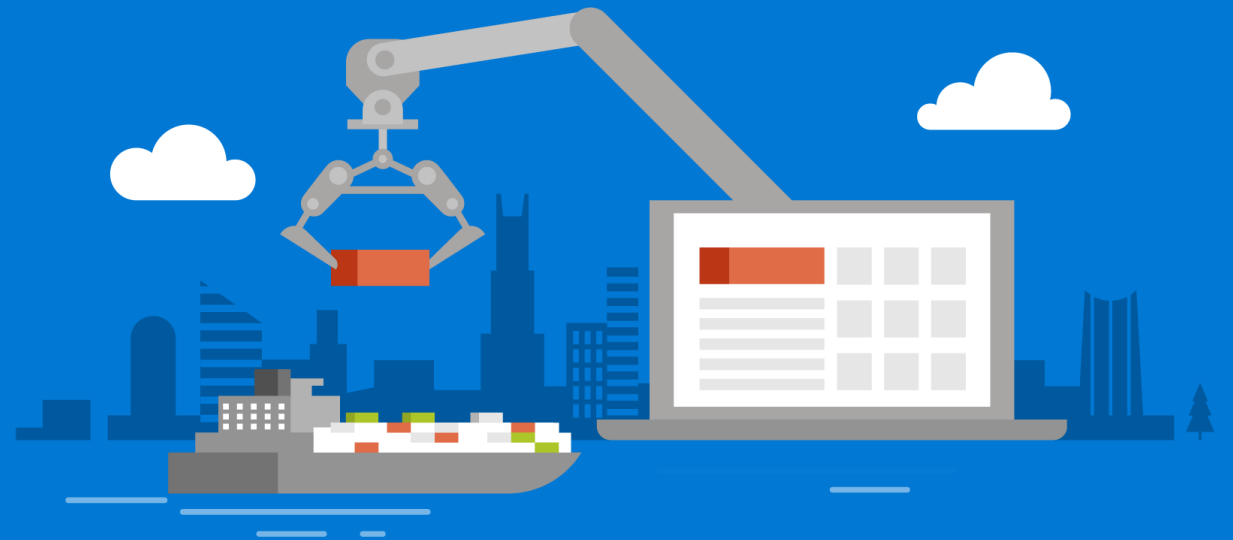
MCP protocol
requests

Secure
network
(TLS 1.3)

MCP
Protocol
Stream

MCP
Protocol
Stream

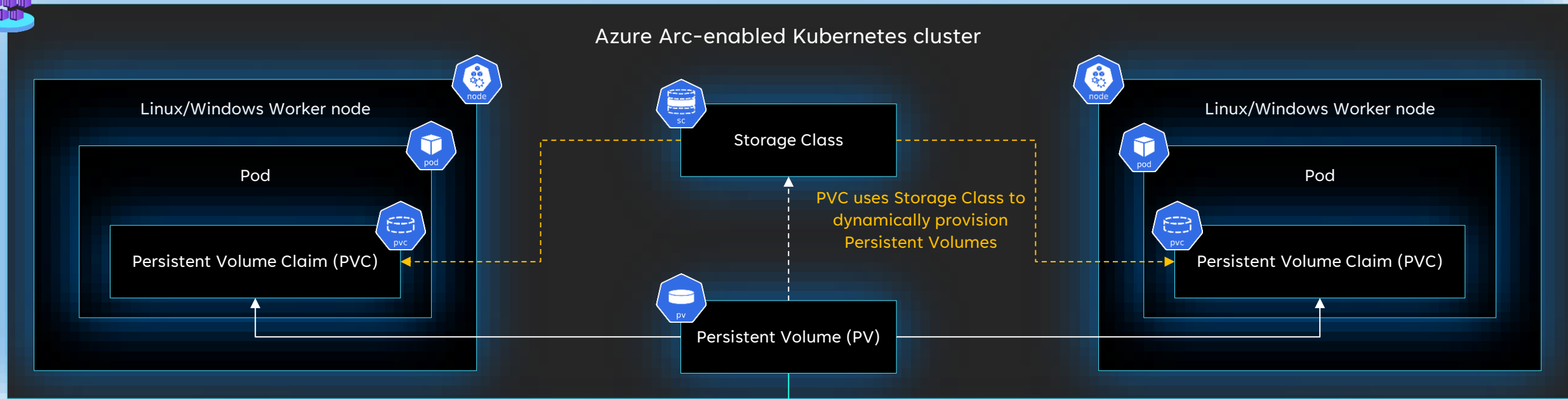
What is AKS EE?



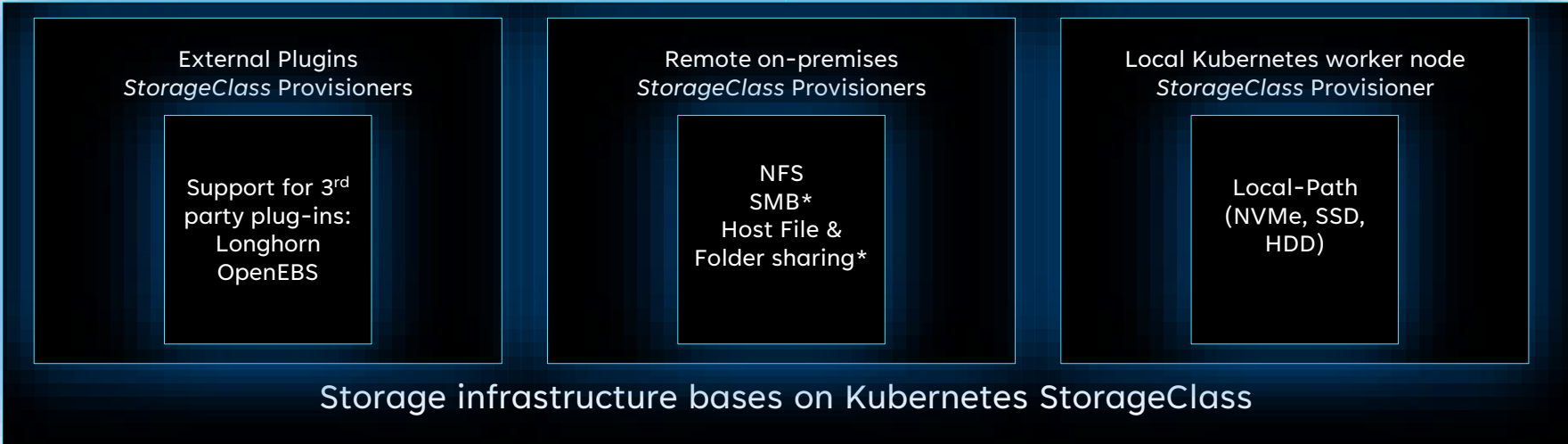
Azure Kubernetes Service (AKS) hybrid options on Windows



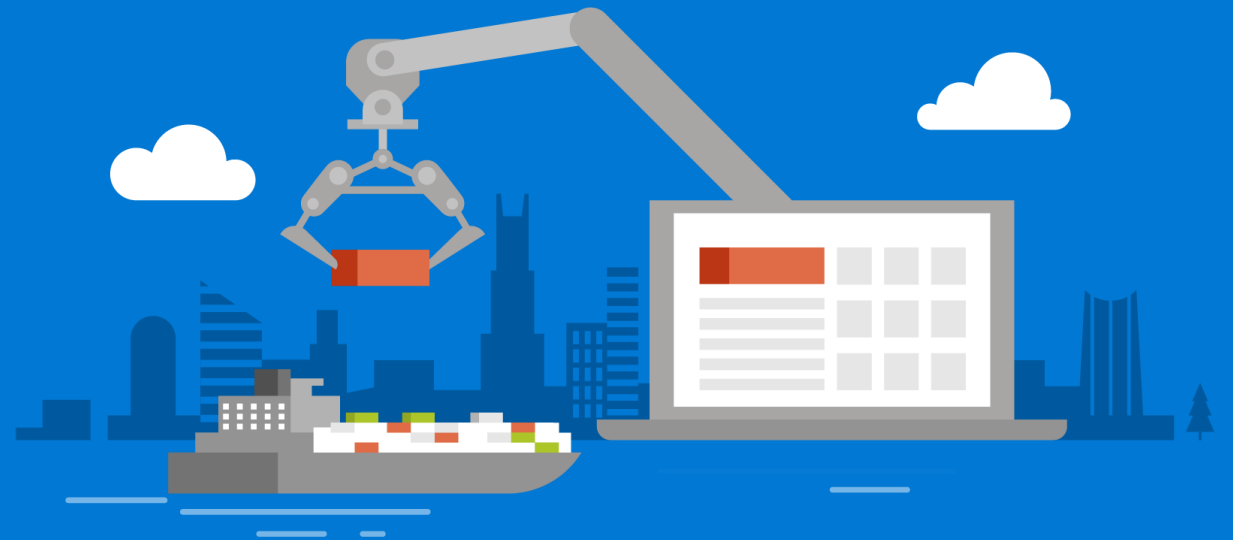
Azure Kubernetes Service Edge Essentials (AKS EE) Storage Options



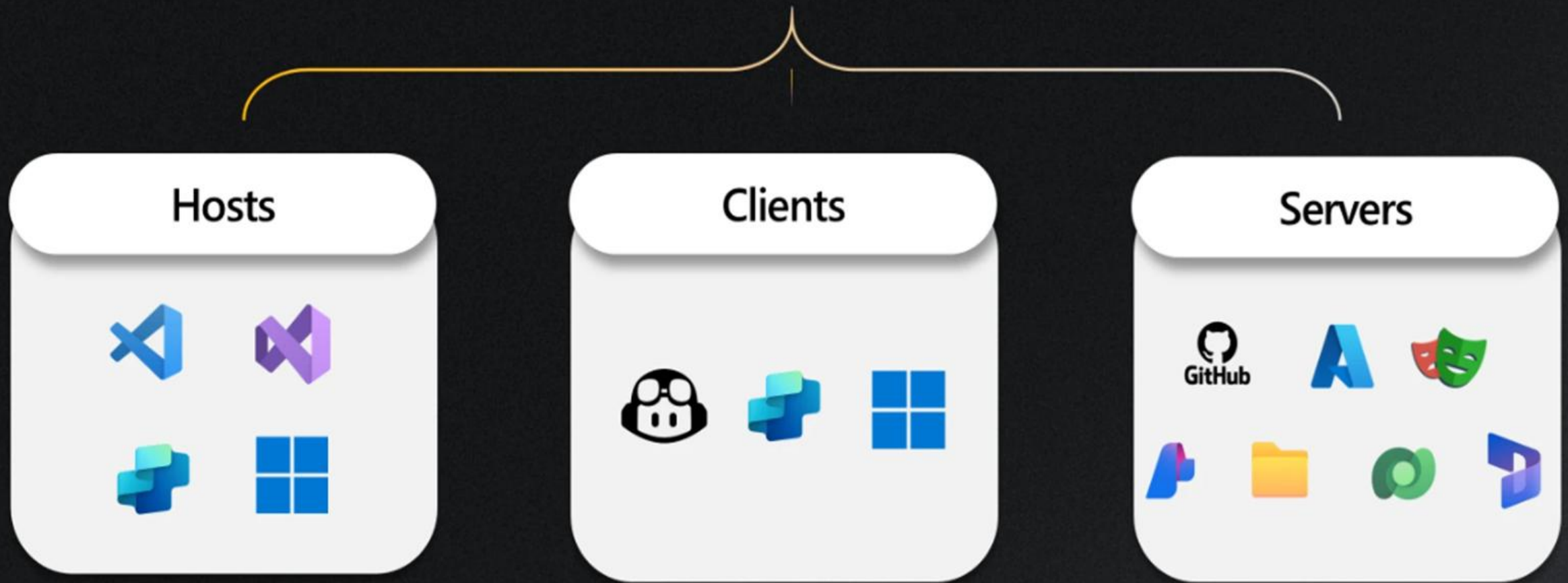
Storage infrastructure type selected at deployment time



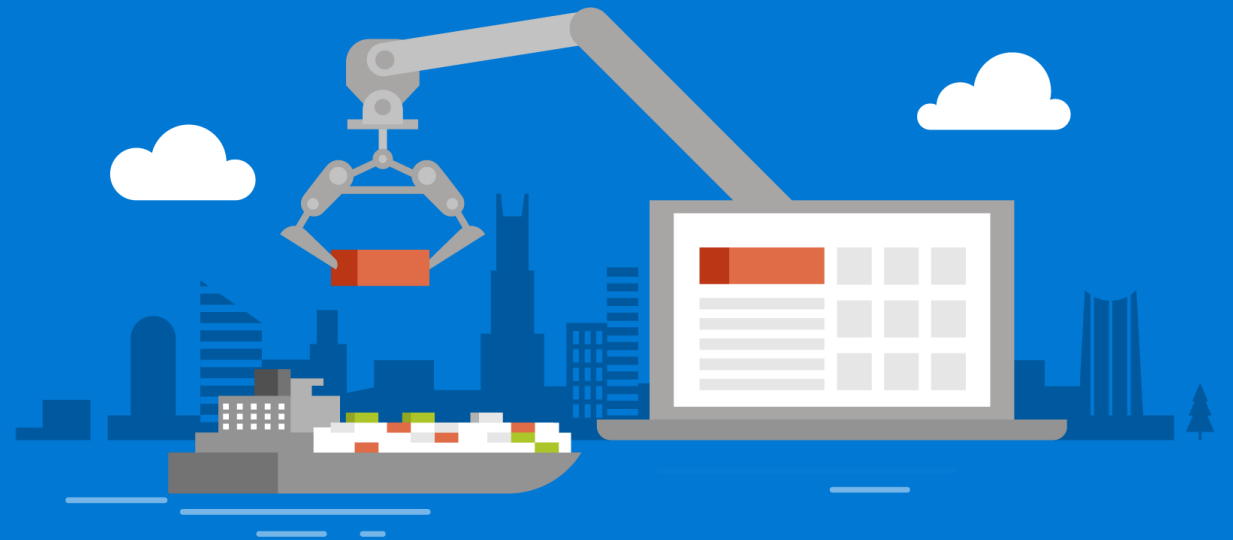
What is MCP?

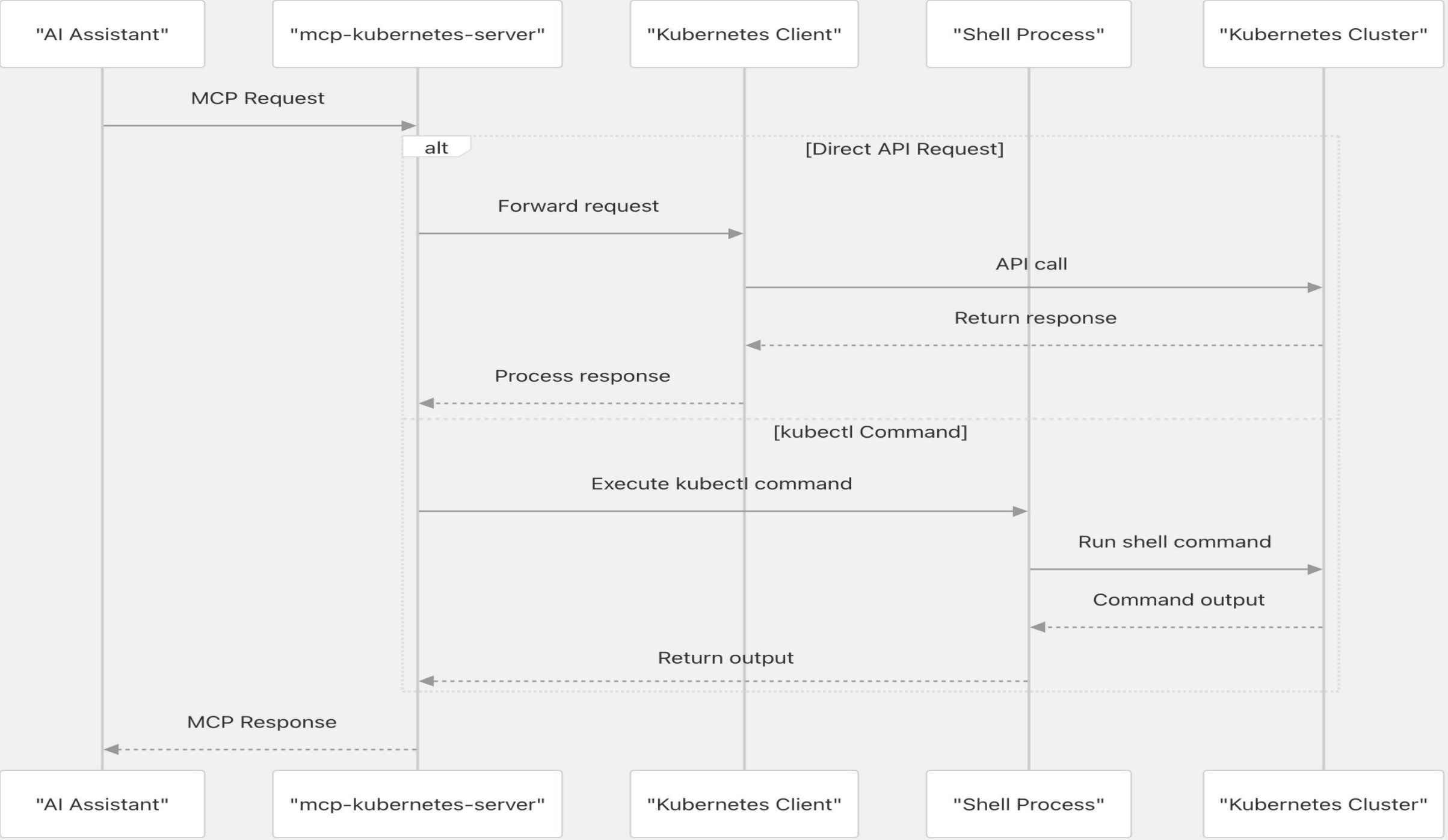


Model Context Protocol (MCP) is an open protocol that **standardizes** how applications provide context to LLMs.

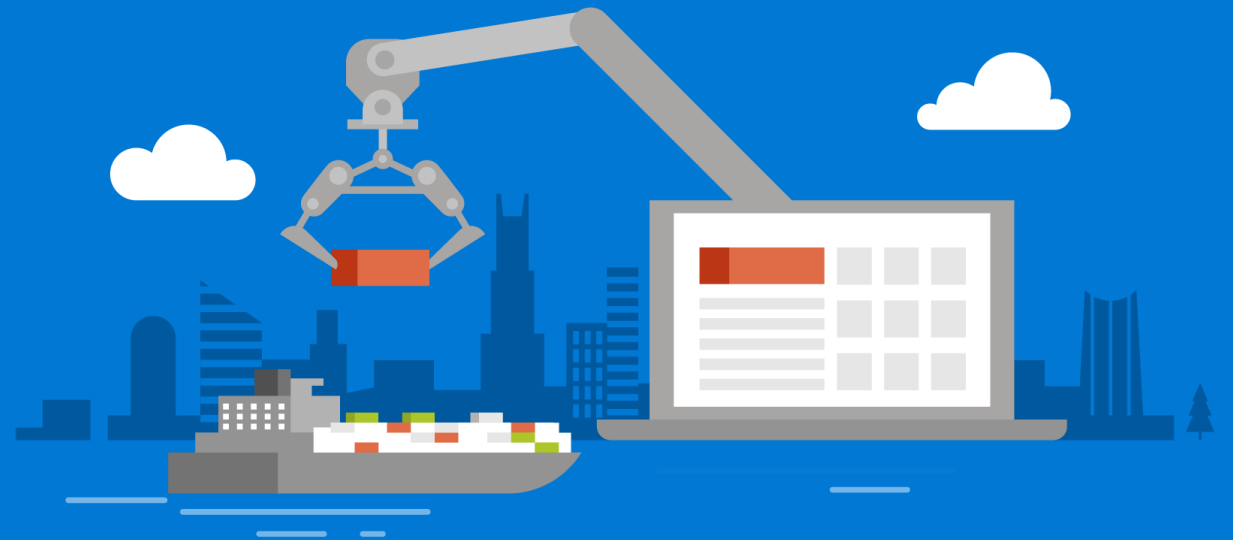


What is *Azure/* *mcp-kubernetes*?





Hands-On Time

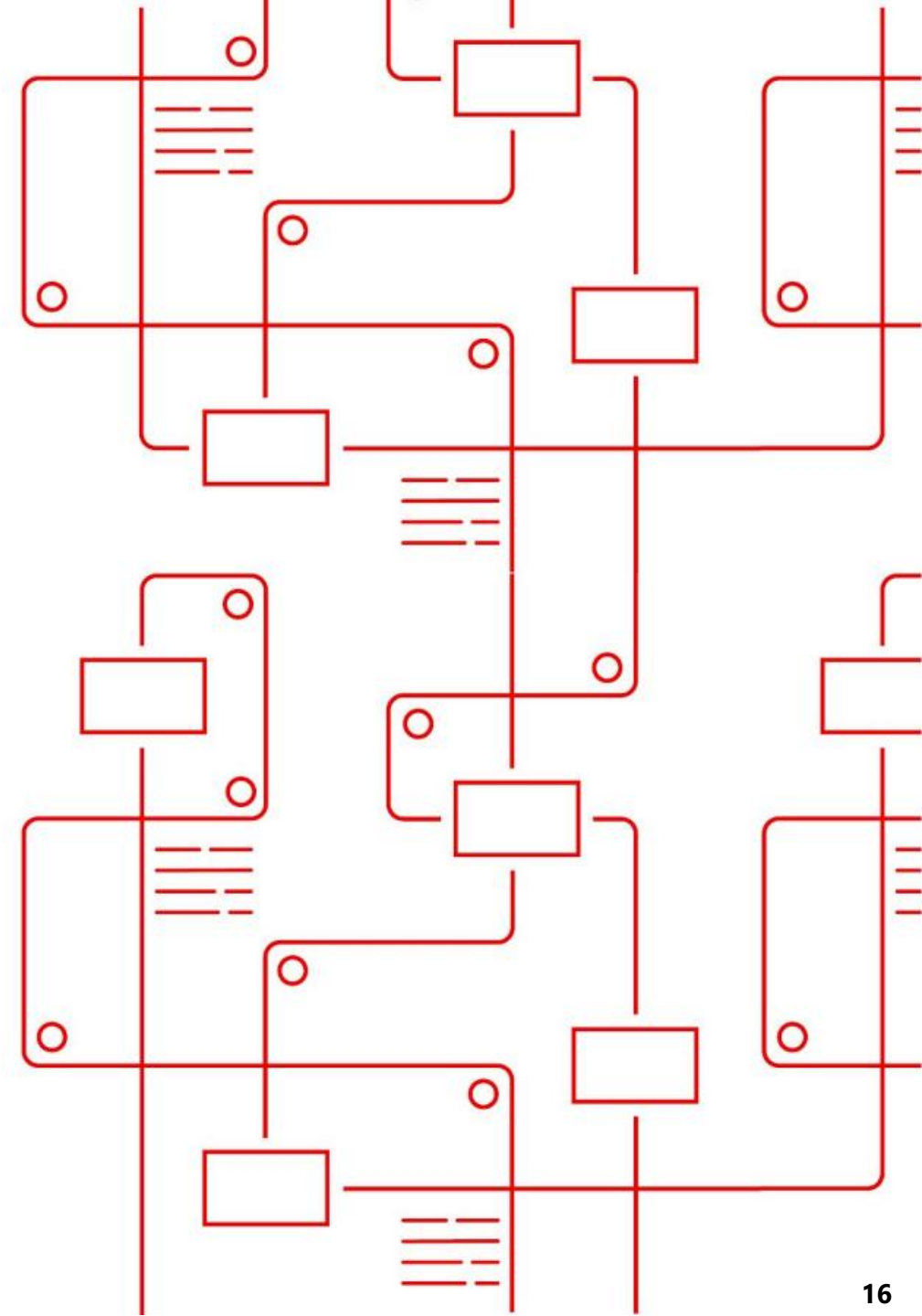


Scenario 1

AI 驅動的維運診斷：

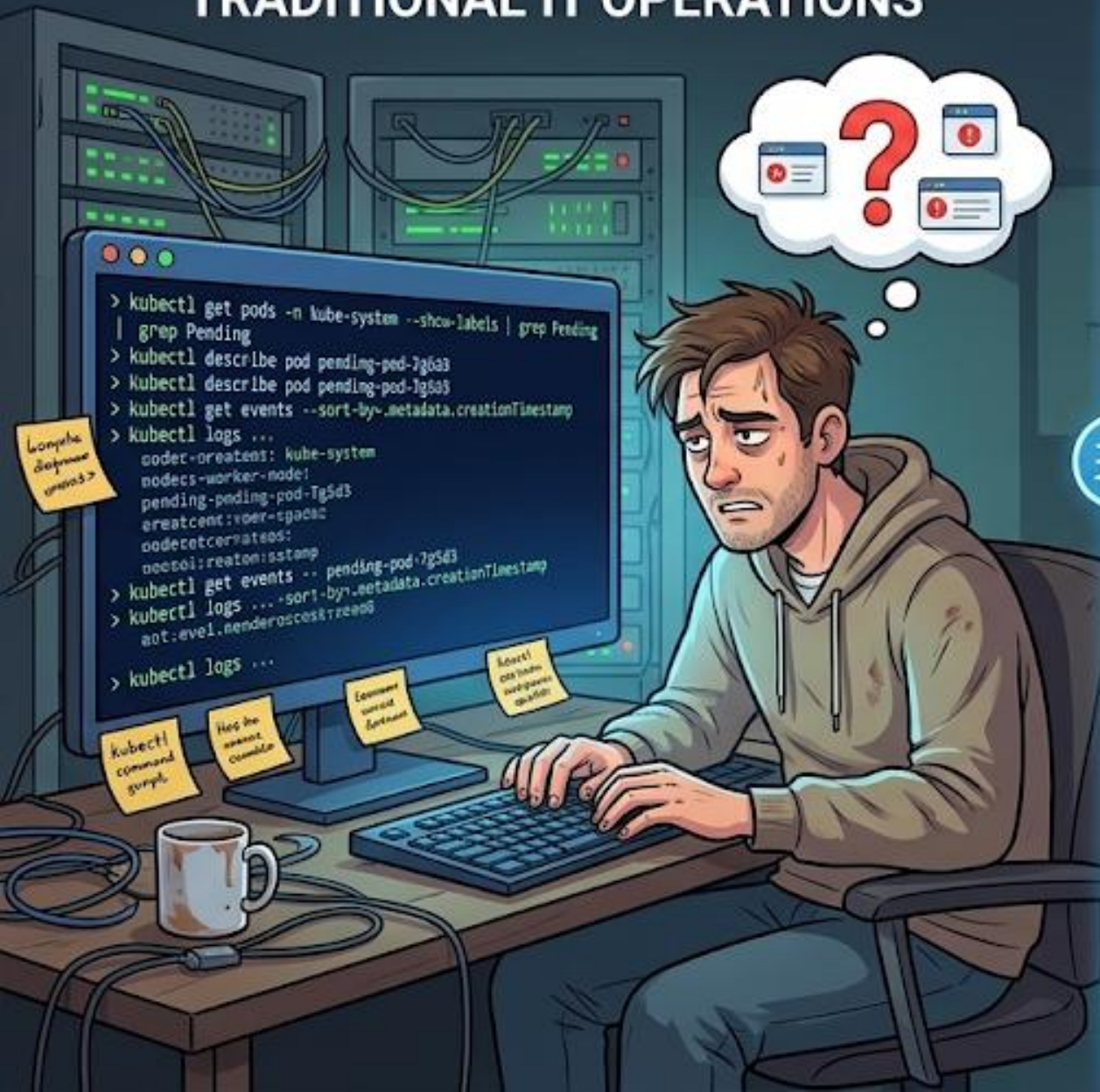
為什麼 Pod Pending？讓 AI 透過 MCP 呼叫 `kubectl describe pod`，回傳診斷並解釋原因。

- Windows Server 2025
- MCP Server
 - Azure/mcp-kubernetes
- MCP Client
 - VS Code (Continue Extension)
- LLM Brain
 - Ollama | Gemma4:e4b

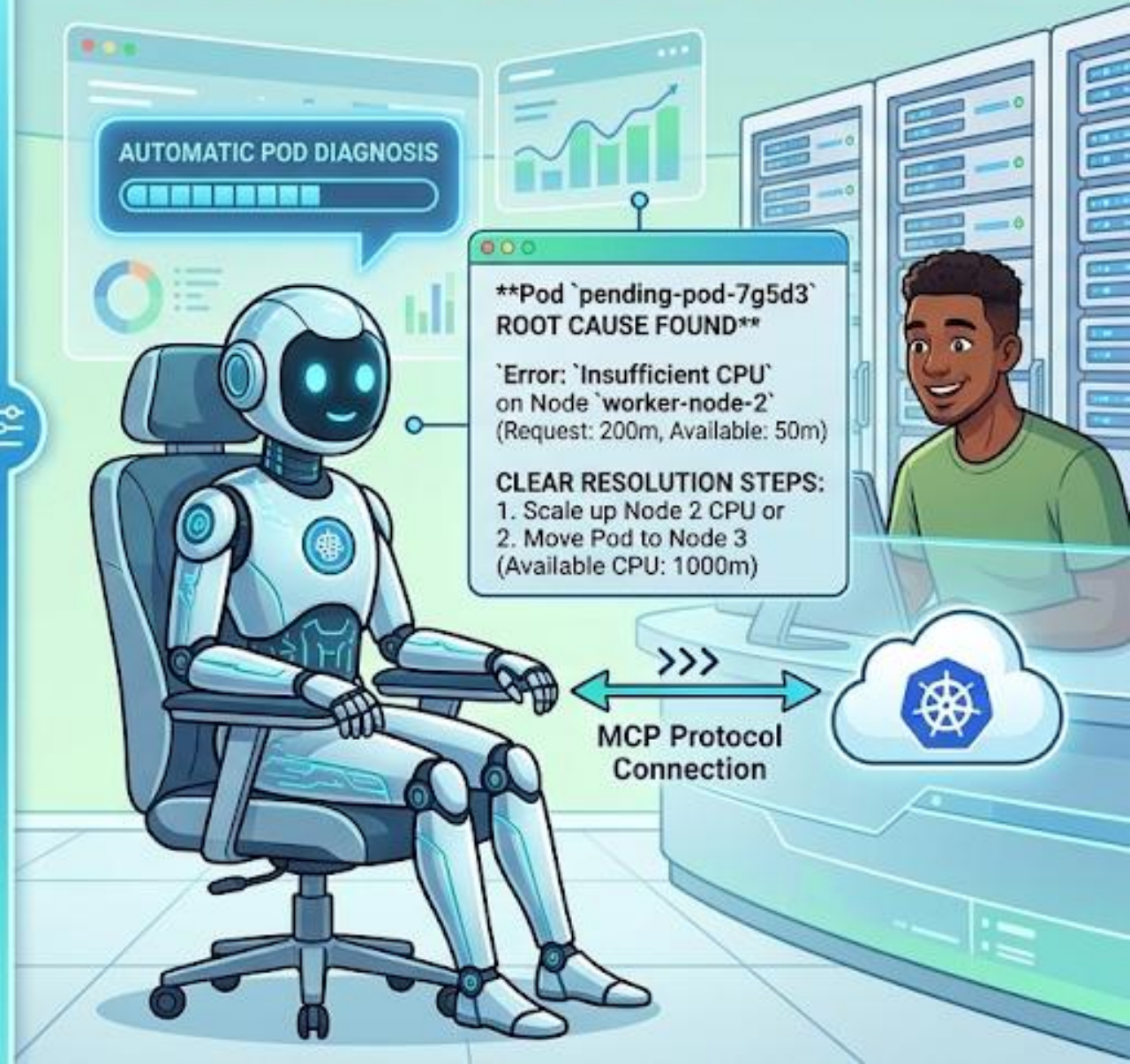


KUBERNETES OPERATIONS: THE SHIFT TO AI-POWERED DIAGNOSIS

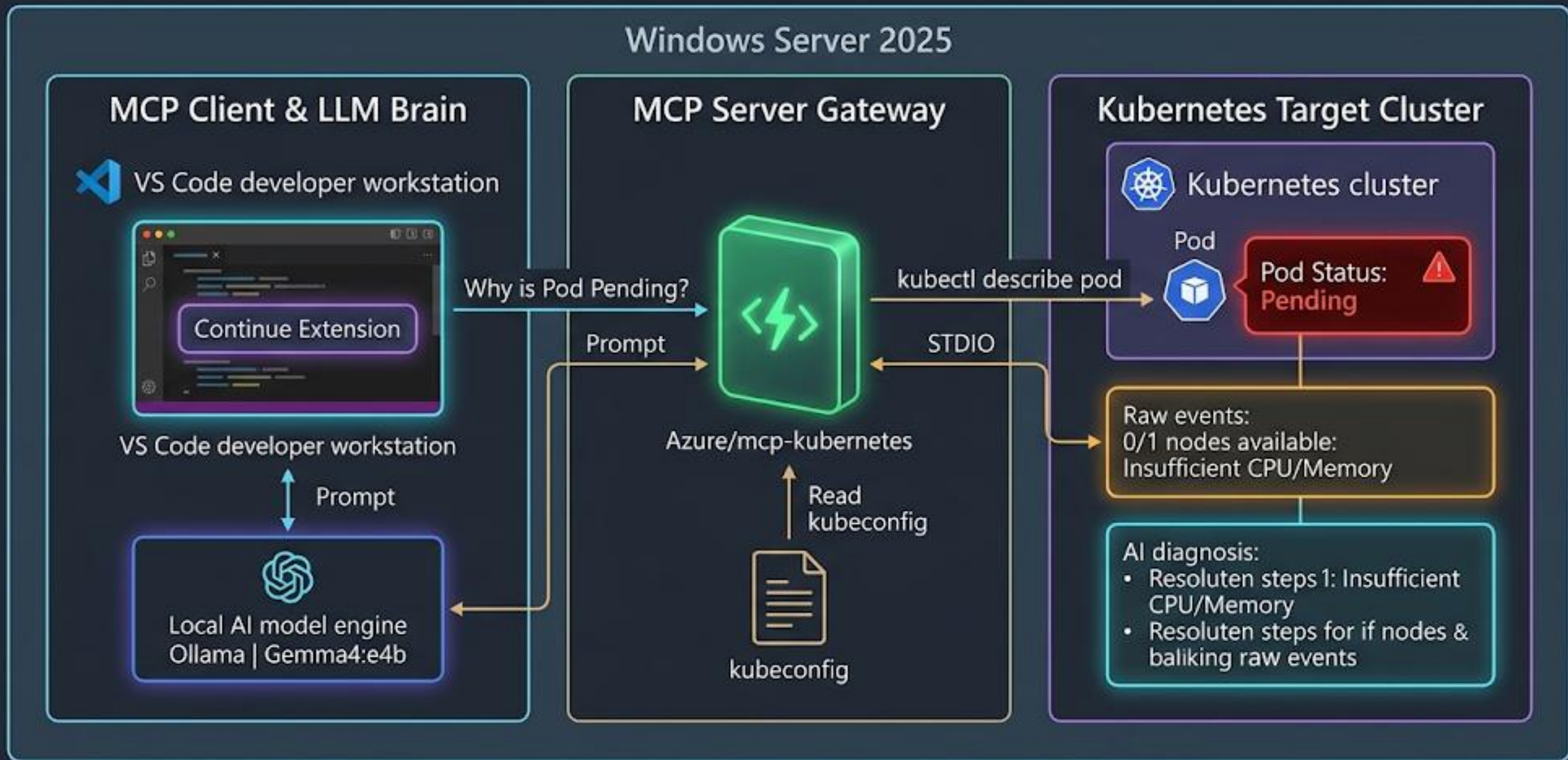
TRADITIONAL IT OPERATIONS



MODERN AI-POWERED OPERATIONS



Scenario 1: AI-Driven Kubernetes Troubleshooting

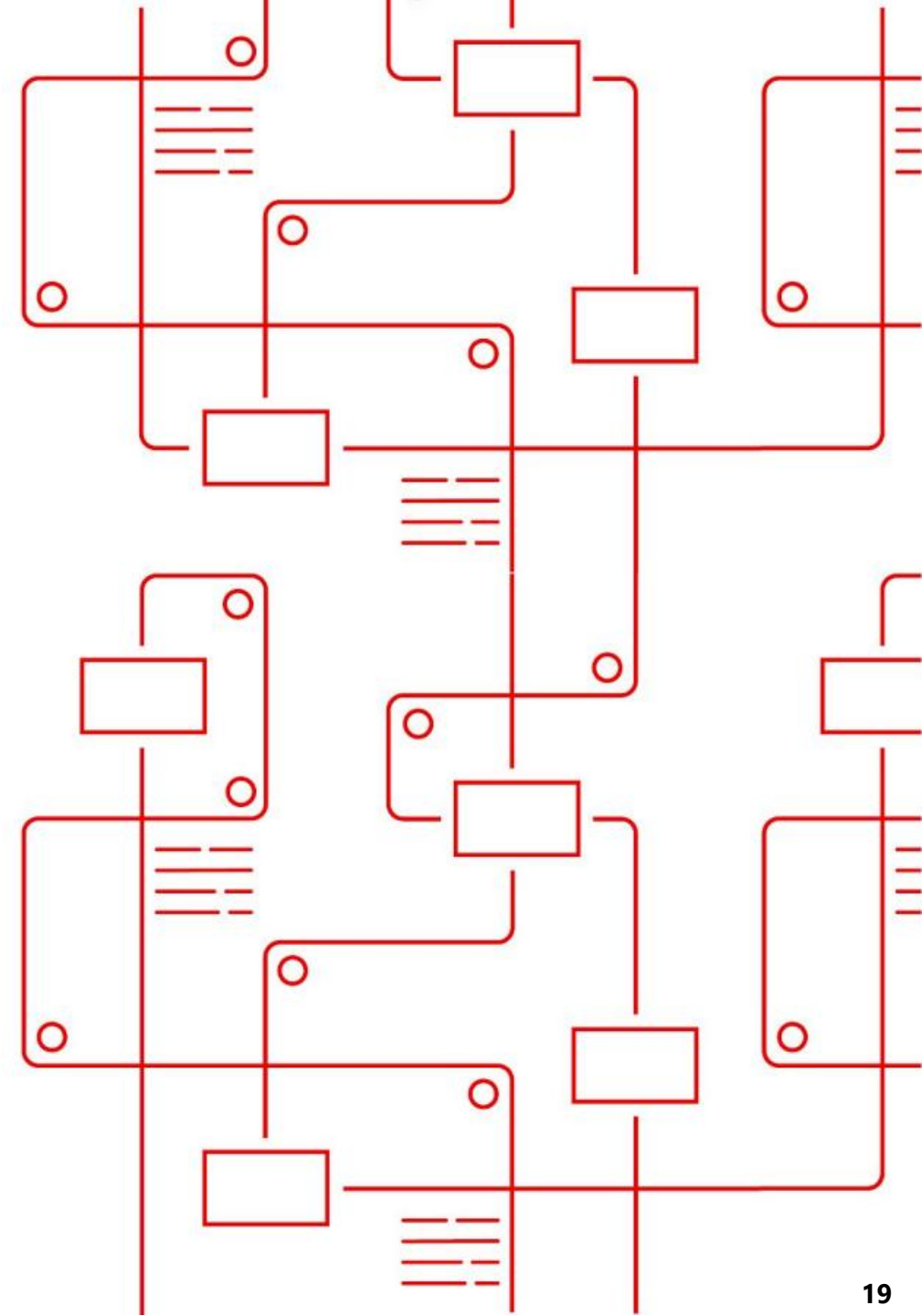


Scenario 2

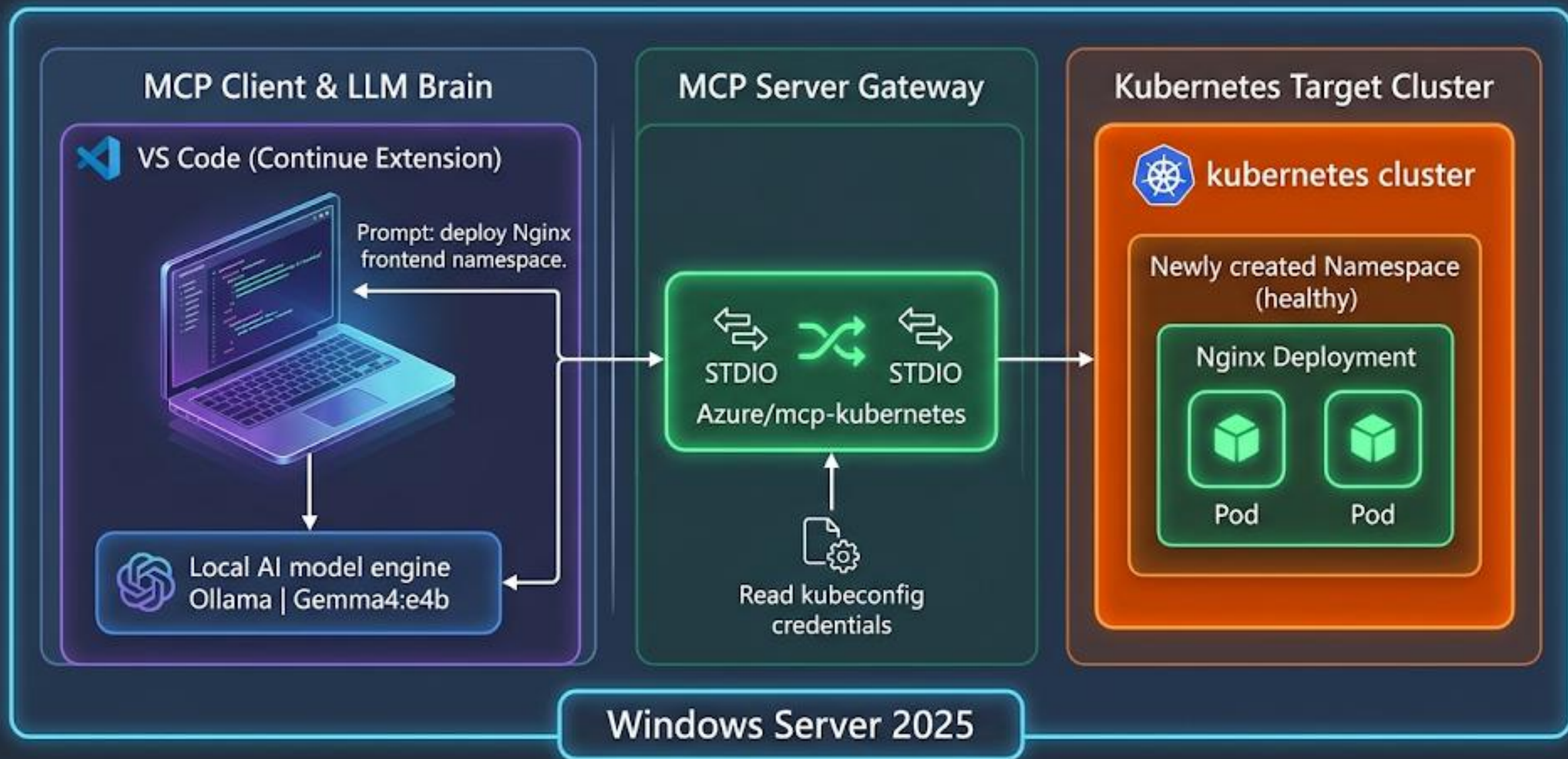
AI 輔助的資源操作：

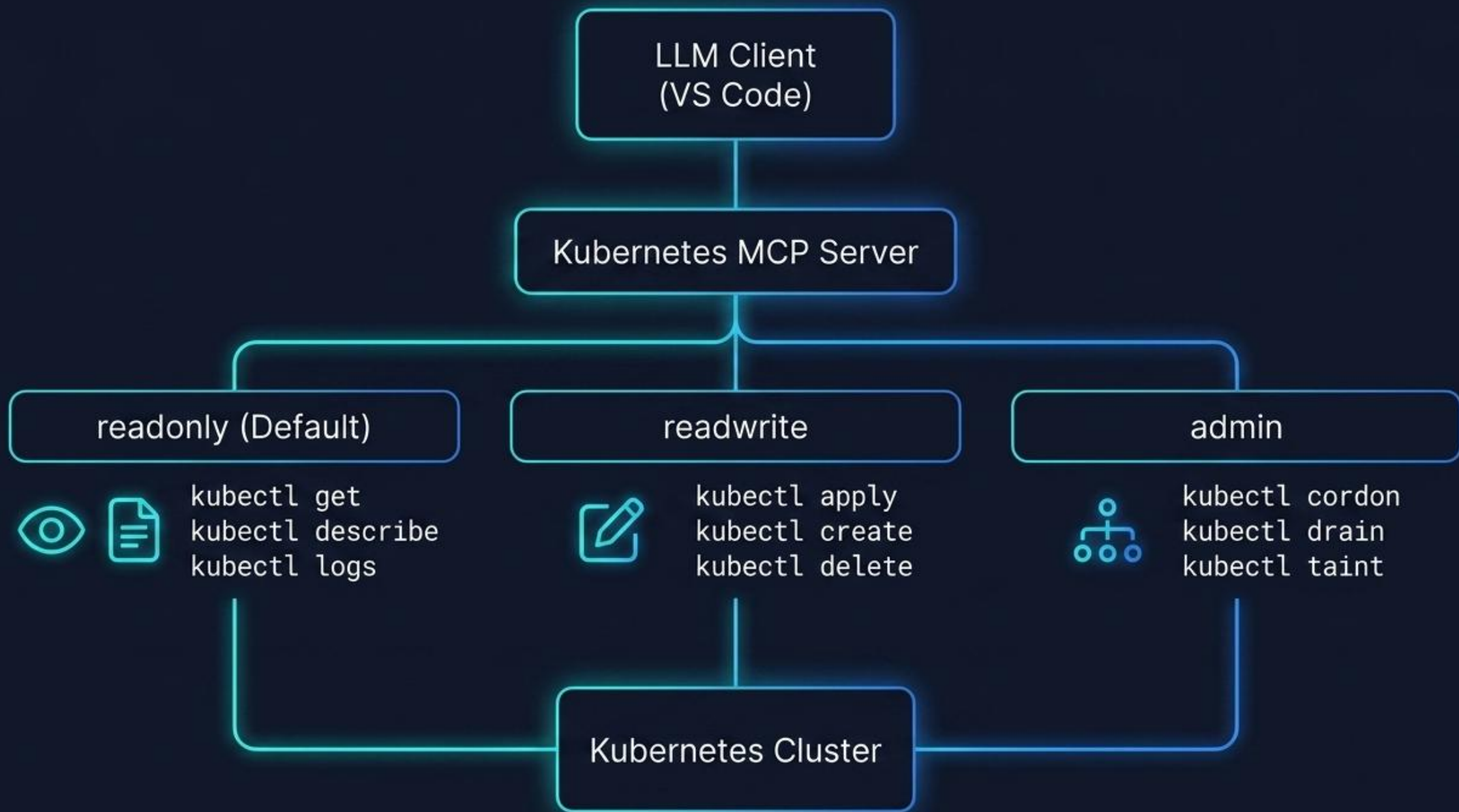
部署一個 Nginx Deployment 在 frontend Namespace，讓 AI 直接透過 MCP 執行 CRUD 動作進行部署作業。

- Windows Server 2025
- MCP Server
 - Azure/mcp-kubernetes
- MCP Client
 - VS Code (Continue Extension)
- LLM Brain
 - Ollama | Gemma4:e4b

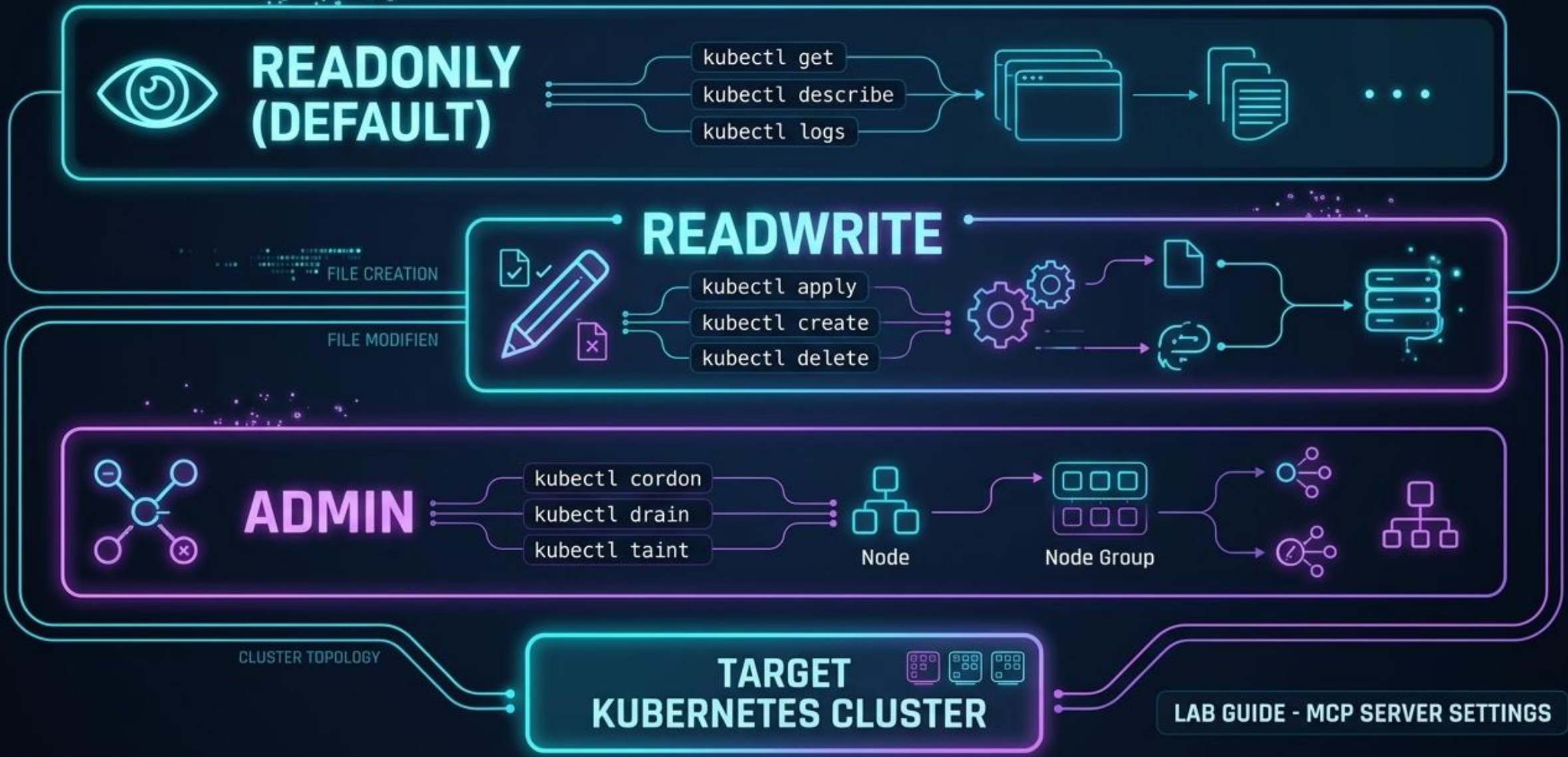


Scenario 2: AI-Powered Kubernetes Resource Operations

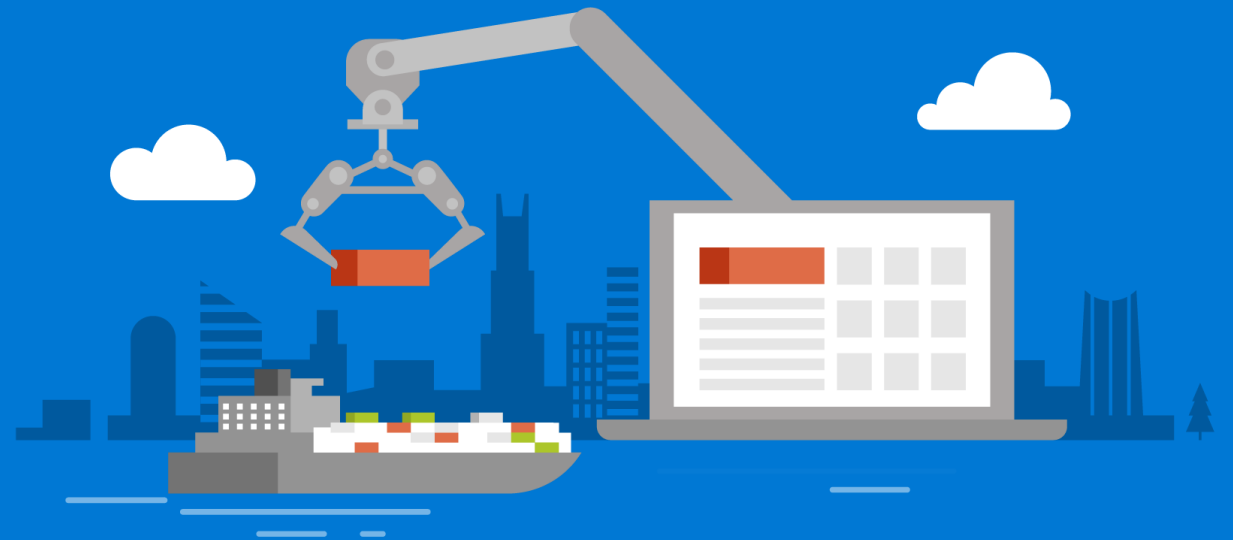




KUBERNETES SECURITY ACCESS CONTROL LEVELS



Documents & Resources





Weithenn

Weithenn

現任 Microsoft MVP, VMware vExpert, Nutanix NTC 及網管人雜誌技術專欄作家，曾擔任 DevOpsDays Tokyo 2026, AI Enterprise Summit 2026...等研討會講師，著有微軟 S2D 軟體定義儲存技術實戰.....等共 19 本著作。

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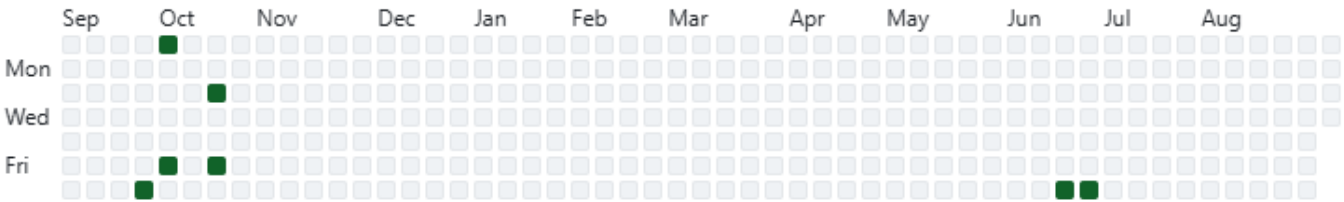
Using docker-compose running ollama and open-webui (COSCUP 2024)

4

7 contributions in the last year

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2026



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2024

2023

2022

Documents & Resources

- [Azure Kubernetes Service 簡介](#)
- [Azure/mcp-Kubernetes | GitHub](#)
- [Ollama/Ollama | GitHub](#)
- [Gemma4](#)
- [Visual Studio Code - The open source AI code editor](#)

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Hands-on practice



Kubernetes
cloud architecture



AI-powered automation