

Lab 030: Microsoft Foundry Agent Service + MCP

Level: L300 Path: Foundry + MCP Time: ~90 min ? Cost: Azure subscription ? gpt-4o-mini token costs

warning "Azure subscription required" This lab requires an Azure subscription. ?

Prerequisites guide

What You'll Learn

Deploy Azure AI Foundry Hub + Project with one click Deploy a gpt-4o-mini model endpoint

Create an Agent in the Foundry Agent Service Connect your MCP server as a tool for the

agent Run an end-to-end agent conversation with tool calls

Deploy Infrastructure

Option A ? Deploy to Azure (one click)

Deploy to Azure

This deploys: Azure AI Foundry Hub AI Project (OutdoorGear Agent Project) Storage Account + Key Vault (required by Foundry)

tip "Recommended location" Use East US or Sweden Central for best model availability.

Option B ? Azure CLI (Bicep)

[diagram or code sample]

Lab Exercise

Step 1: Deploy gpt-4o-mini in Foundry

1. Go to ai.azure.com ? your project 2. Model catalog ? search gpt-4o-mini ? Deploy 3.

Name: gpt-4o-mini ? keep defaults 4. Copy your endpoint URL and API key from the deployment page

Step 2: Start your MCP server

Use the server from Lab 020 or Lab 028. For local testing:

[diagram or code sample]

Step 3: Create an agent with Foundry SDK

[diagram or code sample]

[diagram or code sample]

Step 4: Run a conversation

[diagram or code sample]

Step 5: Add MCP tools to the agent

[diagram or code sample]

Cleanup

[diagram or code sample]

Next Steps

Add pgvector for RAG: ? Lab 031 ? pgvector on Azure Row Level Security: ? Lab 032 ? RLS for Agents

Phase 3 modernization

warning "Verified 2026-10-27" Use the Microsoft Foundry name and GA Agent Service surfaces based on the Responses API. Evaluations are GA; hosted agents remain preview and must be labeled accordingly. Do not build new dependencies on portal Workflows scheduled for retirement on 2026-12-01.

[diagram or code sample]

Foundry Agent Service GA announcement Foundry Agent Service Foundry evaluation Foundry Workflows retirement

Supporting kit

The site build generates stable PDF and ZIP downloads. The ZIP contains the lab guide and every supporting file declared for this lab.

Download generated PDF Download generated ZIP

Supporting file: CHEATSHEET.md

Supporting files: Lab 030: Microsoft Foundry Agent Service + MCP

Start with the documented local or free path. Record assumptions and validation evidence.

Keep hosted services optional unless the lab marks them required.

Supporting file: README.md

Lab 030: Microsoft Foundry Agent Service + MCP

Use these files with the lab guide and generated kit.