Training: Google Cloud
Build Production-Ready Agents on Google Cloud

TRAINING GOALS:

In this course, you will use your knowledge of developing agents using Agent Development Kit to productionize agents using Google's Agentic Stack on Google Cloud. After reviewing the agentic stack and different deployment targets, you will build an agent using session, memory and example services available within Google Cloud. You will integrate external tools using Model Context Protocol (MCP) and communicate with other agents using Agent2Agent (A2A) protocol. Finally, you will design applications with human-agent interaction in mind.

What you'll learn:

- Reinforce understanding of Google's Agentic Stack.
- Leverage state, memory, and example services for context management in agents.
- Gain proficiency in Model Context Protocol (MCP) tool usage and server creation.
- Apply design principles necessary for creating A2A multi-agent solutions.
- Understand Human-Agent interaction patterns and build full, agent enabled applications.

Audience

Generative AI developers, AI engineers and agentic system architects.

Products

- Gemini Enterprise
- Agent Platform
- Agent Runtime on Gemini Enterprise Agent Platform
- Agent Studio on Gemini Enterprise Agent Platform

CONSPECT:

- Module 1 - Reviewing Google’s Agentic Ecosystem

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    - Topics:
        - Agentic stack overview
        - Models and the “brain” of the agent
        - The Agent Development Kit (ADK)
        - Open source libraries and protocols
        - Deployment targets
- Module 2 - Managing Context with Session, Memory, and Examples
    - Topics:
        - Sessions: Current conversation context
        - Memory: Cross-session context
        - Example Store: Example database
    - Activities:
        - Lab: Building an ADK Agent with Session, Memory, and Example Services
- Module 3 - Leveraging Model Context Protocol (MCP)
    - Topics:
        - MCP Fundamentals
        - Using MCP with ADK
- Module 4 - Building Agent2Agent (A2A) Multi-Agent Solutions
    - Topics:
        - A2A Fundamentals
        - Leveraging A2A in ADK
    - Activities:
        - Lab: Connect to Remote Agents with ADK and the A2A SDK
- Module 5 - Designing Human-Agent Interactions
    - Topics:
        - Communicating with agents
        - Access control
        - Building client experiences

REQUIREMENTS:

- Completion of "Completion of "Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine" or equivalent knowledge
- Python
- Prompt engineering
- Agent Development Kit

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Difficulty level

CERTIFICATE:

The participants will obtain certificates signed by Google Cloud (course completion).

TRAINER:

Authorized Google Cloud Trainer

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