Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine

Category: AI, Data & Analytics | **Vendor:** Google Cloud

Duration: 8.00 hours (1 days) **6.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

In this course, you'll learn to use the Google Agent Development Kit to build complex, Multi-Agent Systems. You will build agents equipped with tools, and connect them with parent-child relationships and flows to define how they interact. You'll run your agents locally and deploy them to Vertex AI Agent Engine to run as a managed agentic flow, with infrastructure decisions and resource scaling handled by Agent Engine.

About This Course

In this course, you'll learn to use the Google Agent Development Kit to build complex, Multi-Agent Systems. You will build agents equipped with tools, and connect them with parent-child relationships and flows to define how they interact. You'll run your agents locally and deploy them to Vertex AI Agent Engine to run as a managed agentic flow, with infrastructure decisions and resource scaling handled by Agent Engine.

Who Should Attend

Technical roles from partner organizations:

- Machine learning engineers
- Gen AI engineers

Prerequisites & Entry Requirements

General Prerequisites:

Python, gen AI prompt engineering, gen AI tool use

Learning Outcomes

Upon successful completion of this course, participants will be able to:

- Build an agent with tools using the Google Agent Development Kit.
- Establish interaction patterns between multiple agents with parent-child relationships and flows.
- Utilize features such as session memory, artifact storage, and callbacks.
- Deploy a multi-agent app to Agent Engine.
- Query an agent app running on Agent Engine.

Detailed Course Outline

Module 1 - Get started with the Agent Development Kit

Topics

- Basics of building an agent in the Agent Development Kit.

Objectives

- Explain how the Agent Development Kit compares to other tools such as the Google Gen AI SDK or LangChain.
- Describe the parameters used to build an agent in Agent Development Kit.

Activities

- Lecture and lab demo

Module 2 - Empower Agent Development Kit agents with tools

Topics

- Enhance agents with tools and cover the growing breadth of available tools.

Objectives

- Discuss the importance of structured docstrings and typing when writing tool functions for agents.
- Demonstrate the ability to provide tools to an agent.
- List common and useful tools available for the Agent Development Kit agents, including LangChain tools.

Activities

- Lab: Get started with Agent Development Kit (ADK)
- Lab: Empower ADK agents with tools

Module 3 - Build Multi-Agent Systems with Agent Development Kit

Topics

- Manage communication and task-sharing between agents through parent-child relationships and flows to enable coordinated responses to queries.

Objectives

- Describe the directory structure and naming conventions encouraged by the Agent Development Kit.
- Demonstrate the ability to create multiple agents and relate them to one another with parent-child relationships.
- Describe the different flow options and when you might use them.
- Get responses that have passed through multiple agents.
- Control content at different points with callbacks.

Activities

- Lab: Build multi-agent systems with ADK

Module 4 - Deploy Agent Development Kit agents to Agent Engine

Topics

- Deploying agent apps to Agent Engine and querying responses.

Objectives

- Describe the benefits of deploying agents, especially Multi-Agent Systems, to Agent Engine over self-hosting, such as in Vertex AI online predictions.
- Demonstrate deploying to Agent Engine.
- Demonstrate querying a deployed agent app.

Activities

- Lab: Deploy ADK agents to Agent Engine

Module 5 - Evaluate agent systems

Topics

- Evaluate agents within the Agent Development Kit.

Objectives

- Evaluate agents within the Agent Development Kit.
- Use the web interface to view evaluations.

Skills You Will Learn:

- Build an agent with tools using the Google Agent Development Kit.
- Establish interaction patterns between multiple agents with parent-child relationships and flows.
- Utilize features such as session memory, artifact storage, and callbacks.
- Deploy a multi-agent app to Agent Engine.
- Query an agent app running on Agent Engine.

Frequently Asked Questions

Q: What delivery options are available for Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 1-day Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine course provides up to 6.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine training?

The training takes place over 1 day(s), with each day lasting approximately 8.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine?

Yes, we provide corporate training, dedicated training, and closed classes for Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine, AI & Data Science, DMASADKAE

Q: Why choose Nexus Human for Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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