

Szkolenie: Google Cloud

Deploy multi-agent systems with Agent Development Kit and Agent Engine



## Cel szkolenia:

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.

## What you'll 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.
- Evaluate agents within the Agent Development Kit.

## Audience

### This course is for:

- Machine learning engineers
- Gen AI engineers

## Plan szkolenia:

- 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.
- 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
- 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
- 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

- 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.

## Wymagania:

- Python, gen AI prompt engineering, gen AI tool use

## Poziom trudności



## Certyfikaty:

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

## Prowadzący:

Authorized Google Cloud Trainer