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Google ADK Training

2 days (14 hours)

Overview

Google ADK is an open-source framework for building reliable AI agents, orchestrating tools, managing memory, and preparing for enterprise-scale deployments.

Our Google ADK training will help you go beyond the basics to master key topics in agent development with Gemini and the Google Cloud ecosystem.

You'll learn how to structure an agent, integrate tools, manage stateful interactions, organize workflows, and evaluate architectural choices between local execution and deployment.

By the end of the training, you'll be able to design more robust agents, better control orchestration, evaluate behavior, and prepare for production deployment tailored to business constraints.

This training also covers sessions, memory, testing, evaluation, integration best practices, and deployment options for scaling your AI agents.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Understand the architecture and fundamental concepts of Google ADK.
- Create an agent using Gemini, tools, and appropriate orchestration logic.
- Manage sessions, memory, and conversational state tracking.
- Design single-agent or multi-agent systems based on functional requirements.
- Evaluate, test, and prepare to deploy an agent in a Google Cloud environment.

Target Audience

- AI Developer
- Python Developer
- Software Architect
- Data Engineer
- AI Project Manager

Prerequisites

- Proficiency in the fundamentals of Python development.
- Knowledge of API principles and service integration.
- Basic understanding of LLMs and the uses of generative AI.
- Experience designing web applications or services.
- A general understanding of Google Cloud environments is a plus.

Technical Requirements

- A recent computer with enough memory to run the local examples.
- A stable Wi-Fi or Ethernet connection to access cloud services.
- Python 3.x installed, with a working virtual environment.
- A compatible IDE, such as VS Code, to follow along with the exercises.
- Access to a Google Cloud account and the services required for the lab.

Google ADK Training Program

[Day 1 - Morning]

Google ADK Fundamentals

- Google ADK's Position in the Agent Framework Landscape.
- Principles of an execution-, tool-, and state-oriented AI agent.
- Overview of native capabilities, from prototyping to deployment.
- Guidelines on compatible models, using Gemini as a starting point.
- Overview of a typical architecture, from the prompt to orchestration.
- Hands-on workshop: getting started with the environment and launching a first minimal agent.

[Day 1 - Afternoon] Building a

simple agent

- Defining an agent's structure and functional role.
- Configuring the model, instructions, and execution parameters.
- Adding tools to enhance the agent's capabilities.
- Managing inputs, outputs, and structured responses.

- Best practices for ensuring predictable and maintainable behavior.
- Hands-on workshop: Create a conversational agent using an external tool and test its responses.

[Day 2 - Morning]

State, memory, and orchestration

- Understanding sessions and context persistence.
- Differences between short-term memory, session memory, and long-term memory.
- Managing multi-turn conversations and reusable information.
- Introduction to task orchestration and action chaining.
- Structuring an agent-based workflow tailored to a business use case.
- Hands-on workshop: Enhancing an agent with conversational state and simple memory.

[Day 2 - Afternoon] Evaluation

and Deployment

- Overview of functional testing and behavior validation.
- Introduction to evaluating execution paths and responses.
- Preparing for the transition from an on-premises to a cloud environment.
- Deployment concepts with Google Cloud and operational constraints.
- Best practices for reliability, monitoring, and continuous improvement.
- Hands-on workshop: finalizing a deployment-ready agent and conducting a full demonstration.

Target Audience

This training is intended for both individuals and companies—large or small—that wish to train their teams in new, advanced IT technologies or to acquire specific industry knowledge or modern methodologies.

Prerequisites

The assessment conducted upon enrollment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency with various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Hands-On Training: 60% Practical, 40% Theoretical. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the instructor—supported by examples and reflection sessions—and group work.

Assessment

At the end of the session, a multiple-choice quiz is administered to verify that participants have successfully acquired the skills.

Certification

A certificate will be issued to each trainee who has completed the entire training program.