Google Cloud Vertex AI Agent Builder

Course Overview

This course offers a practical path from core Google Cloud infrastructure to enterprise-grade generative AI solutions using Vertex AI. Participants will build foundational skills in compute, storage, networking, and prompt engineering. They will then design semantic search engines and conversational agents with Vertex AI Search and Dialogflow CX. Hands-on labs reinforce real-world tasks in data ingestion, chat deployment, and monitoring. Course concludes with best practices for productionizing AI applications at scale.

Duration: 03 day/24 hours

Level: Foundation

Prerequisites: No

Course Outcome: Learner will be prepared to understand Infrastructure in GCP & Vertex AI Agent Builder and apply the learning to real world scenarios.

Table of Content

Google Cloud Fundamentals: Core Infrastructure

- Introducing Google Cloud
- Resources and Access in the Cloud
- Virtual Machines and Networks in the Cloud
- Storage in the Cloud
- Containers in the Cloud
- Applications in the Cloud
- Prompt Engineering
- Lab: Google Cloud Fundamentals: Getting Started with Cloud Marketplace
     Getting Started with VPC Networking and Google Compute Engine
     Getting Started with Cloud Storage and Cloud SQL
     Hello Cloud Run

Introduction to Vertex AI Search and Conversation

- Vertex AI
- Vertex AI Search and Conversation
- Example use cases
- Explore Vertex AI as a platform for enterprise-ready generative AI.
- Describe example use cases of Vertex AI Search and Conversation.

Vertex AI Search in Commerce

- Apps, engines and data stores
- Data preparation
- Creating a custom search engine
- Configuration options

- Understand the main concepts of apps, engines, and data stores.
- Create a search engine using Vertex AI Search.
- Configure and integrate custom search engines.
- Lab: Product Discovery - Ingesting Retail Catalog and User Event Data

Vertex AI Conversation

- Dialogflow CX basic concepts
- Creating a chat app
- Options deploying conversational agents
- Understand the basic concepts of data store agents and Dialogflow CX
- Lab: Create a Generative Chat App with Vertex AI Conversation

Productionizing Vertex AI Search and Conversation

- Refreshing data and schemas
- Security and DLP
- Monitoring and logging
- Troubleshooting
- Manage changing data and schemas in data stores.
- Explain security features of Vertex AI Search and Conversation.
- Use monitoring and logging for Vertex AI Search and Conversation apps.
- Troubleshoot Vertex AI Search and Conversation applications.
- Lab: Monitoring and Managing Recommendations AI and Retail Search