

Google Cloud AI and ML Fundamentals

Course Overview

This course introduces you to Google Cloud's AI and machine learning tools for building both predictive and generative AI projects. You'll explore the products and technologies used across the full data-to-AI lifecycle including AI foundations, model development, and real-world solutions. The course focuses on practical, hands-on learning to help you strengthen your skills and apply AI effectively using Google Cloud.

Duration: 02 days / 16 hours

Level: Foundation

Prerequisites: Basic knowledge of SQL.

Course Outcome: Learner will be prepared to understand Google Cloud AI and ML basics.

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AI Foundations

- Why AI
- AI/ML architecture on Google Cloud
- Google Cloud infrastructure
- Data and AI products
- ML model categories
- BigQuery ML
- Lab: Predict Visitor Purchases with BigQuery ML

AI Development Options

- AI development options
- Pre-trained APIs
- Vertex AI
- AutoML
- Custom training
- Lab: Entity and Sentiment Analysis with the Natural Language API

AI Development Workflow

- ML workflow
- Data preparation
- Model development
- Model serving
- MLOps and workflow automation

- How a machine learns
- Lab: Vertex AI: Predicting Loan Risk with AutoML

Generative AI

- Generative AI and workflow
- Gemini multimodal
- Prompt design
- Model tuning
- Model Garden
- AI solutions
- Lab: Get Started with Vertex AI Studio