Training: Google Cloud
Workflow Orchestration with Cloud Composer

Google Cloud

TRAINING GOALS:

Cloud Composer is a fully managed workflow orchestration service built on Apache Airflow. Composer enables you to create, schedule, monitor, and manage workflow pipelines that span across clouds and on-premises data centers.

In this course, you will learn about Apache Airflow and its implementation via Cloud Composer. You will learn how to provision Composer instances, create and manage Airflow DAGs on Composer, and perform tasks such as testing, debugging, and monitoring of Airflow DAGs.

What you'll learn

- Explore Apache Airflow and Cloud Composer as workflow orchestration solutions
- Create and manage Airflow DAGs following best practices
- Test and debug Airflow DAGs
- Monitor and observe Airflow DAGs on Cloud Composer

Audience

This course is intended for data engineers, data scientists, and cloud professionals who need to design, schedule, and manage data workflows using Google Cloud Composer (Apache Airflow).

Products

- Cloud Composer

CONSPECT:

- Introduction to Cloud Composer
  - Topics
    - Data Engineer's need for Workflow Orchestration
    - Introduction to Apache Airflow

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        - Cloud Composer
        - Environment Setup
        - Using the Composer and Airflow
    - Objectives
        - Explore Apache Airflow and Cloud Composer
        - Provision Cloud Composer instances
        - Explore the Airflow and Composer UIs
    - Activities
        - Lab: Provisioning Cloud Composer
- Creating and managing DAGs
    - Topics
        - DAG structure and best practices
        - Common operators
        - Dependencies, trigger rules, and flow control
        - Integration of Airflow and Google Cloud Services
    - Objectives
        - Write DAGs.
        - Explore common Airflow operators.
        - Manage triggers, dependencies, and flow control.
        - Integrate Airflow with Google Cloud Services.
    - Activities
        - Lab: Assembling a Data Processing Workflow
- Advanced Airflow techniques and best practices
    - Topics
        - Advanced Airflow features
        - Debugging DAGs
        - Performance and scalability
        - Security and Access Control
        - Observability and monitoring
    - Objectives
        - Leverage advanced Airflow features
        - Debug DAGs
        - Observe and monitor your running DAGs
    - Activities
        - Lab: Extending and Monitoring DAGs

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REQUIREMENTS:

Completion of "Building Batch Data Pipelines on Google Cloud" or equivalent knowledge of data analytics and engineering on Google Cloud.

Difficulty level



CERTIFICATE:

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

TRAINER:

Authorized Google Cloud Trainer

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