Developing APIs with Google Cloud's Apigee API Platform

Topics

Module 1: Apigee Overview

- Understand the placement and role of API management in modern application development.

- Define Apigee API Platform logical components and organizational structure.

- Differentiate between Apigee flexible deployment models.

- Explain API lifecycle.

Module 2: API First and OpenAPI Specifications

- Describe REST API design.

- Understand the value of API-First development and how to apply it.

- Discuss OpenAPI specification and its use in the context of API-First development.

API Proxies

- Define the building blocks of APIs and API proxies.

- Describe how APIs proxies work and how capabilities such as flows, policies, route rules, virtual hosts and target servers play a role.

- Understand how APIs are exposed.

- Understand how API proxies connect to backend systems.

Module 4: API Products

- Define API products and the value behind API product strategy.

- Understand the role of developers, applications, and API keys in API management.

- Describe the API publication process.

- Understand API responses and status codes for REST APIs.

Module 5: Authentication, Authorization, and OAuth

- Discuss the importance of API Security.

- Understand the value of application identity.

- Understand the role of user authentication and authorization.

- Gain deep understanding of OAuth (Access token, Refresh token, Common pattern for all grant types) and its application in the context of API design and management.

- Discuss federated identity and the use of JSON Web Tokens in your API proxies.

Module 6: Content, Transport, and Internal Security

- Explore platform capabilities for protecting against content-based attacks and transport security.
- Understand how to protect sensitive data using encrypted KVMs, data masking, private variables.

Module 7: Mediation

- Understand the out-of-the-box platform capabilities for implementing mediation and fault handling.
- Describe implementation patterns and policies for JSON, XML, and SOAP.
- Understand extensibility options using Service Callouts, JavaScript, Python, and hosted targets.
- Explore development practices and capabilities used to reuse, share, and enforce execution of flows and policies.
- Illustrate out-of-the-box options to invoke Google Cloud services and third-party components using extensions.

Module 8: Traffic Management

- Describe when and how to use traffic management.
- Evaluate options and applicable use cases for rate limiting with spike arrests and quotas.
- Understand caching strategy and how to apply it.

Module 9: API Publishing

- Describe API publishing strategy and process.
- Expand understanding of REST API design by discussing API versioning.
- Describe the role of developer portals in the API lifecycle and as a critical part of API strategy.

Module 10: Logging and Analytics

- Discuss available options for message logging.
- Understand the value and use of API analytics.
- Differentiate between message logging and API analytics.
- Understand the extensibility options available for API analytics using custom metrics and dimensions.

Module 11: Advanced Topics

- Discuss recommended practices and tooling for Apigee offline development.
- Describe the capabilities offered by management API.
- Evaluate options to leverage CI/CD as part of API lifecycle.
- Explore Apigee Deployment Options.