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Course Code: ZD515GS

Course Title: Create, Secure, and Publish APIs with IBM API Connect 10

## Description:

This self-paced course with hands-on exercises teaches you how to configure a newly built API Connect 10 environment.

You are taught how to configure a catalog with the gateway, portal, and analytics services and set up the environment for API development. You then define API interfaces according to the OpenAPI specification. You build SOAP and REST based APIs along with a GraQL API. You assemble message processing policies and define client authorization schemes, such as OAuth 2.0, in the API definition. You verify the proper sequencing of policies in the assembly tester and further test your APIs in the new Test tab and Local Test Environment. After building and testing your APIs, you publish them and make them available on the Developer Portal. You manage all aspects of the provider organization in the API Manager user interface to create, publish, version, and retire API artifacts such as products, plans and APIs themselves. You also learn how to manage consumer organizations who use the APIs that are made available on the Developer Portal. You learn how to add members to the consumer organization that provides access to the APIs on the Developer Portal. You learn how the layout of the Developer Portal can be customized. Finally, you call the APIs on the secure gateway and you view the gras and metrics of API usage.

## Objectives:

- Configure services in Cloud Manager for an on-premises installation of API Connect
- Create a catalog and Developer Portal
- Create consumer and provider organizations
- Create, test, and publish SOAP, REST, and GraQL APIs
- Create message processing policies that transform API requests and responses
- Authorize client API requests with security definitions
- Enforce an OAuth flow with an OAuth 2.0 API security provider
- Perform advanced testing of APIs by using the Test tab and the Local Test Environment
- Define products and plans in API Manager
- Stage, publish, version, migrate, deprecate, and retire products and APIs
- Manage member roles and permissions in the Developer Portal
- Create an application and subscribe to a plan
- Review API analytics in the Developer Portal
- Review analytics dashboards and visualizations in API Manager
- Customize the Developer Portal

## Exercises

- Exercise 1: Reviewing the API Connect development and runtime environment
- Exercise 2: Managing catalogs and consumer organizations
- Exercise 3: Defining an API that calls an existing SOAP service
- Exercise 4: Defining a REST API from a target service
- Exercise 5: Assemble message processing policies
- Exercise 6: Implementing OAuth Security
- Exercise 7: Introduction to the Test tab

- Exercise 8: Creating and testing a GraQL API
- Exercise 9: Testing an API in the Local Test Environment
- Exercise 10: Define and publish an API product
- Exercise 11: Managing and approving API Products
- Exercise 12: Subscribing and testing APIs in the Developer Portal
- Exercise 13: Calling an API on the gateway and monitoring API usage
- Exercise 14: Customizing the Developer Portal

## **Prerequisites:**

- Basic understanding of web services and protocols
- Basic understanding of application programming
- Conceptual knowledge of APIs
- Basic understanding of Red Hat Linux

## **Duration:**

40 Hrs

## **Topics:**

- Introduction to IBM API Connect V10
- Exercise: Reviewing the API Connect development and runtime environments
- Managing catalogs and organizations
- Exercise: Managing catalogs and consumer organizations
- Defining APIs in API Manager
- Exercise: Defining an API that calls an existing SOAP service
- Defining a REST API in API Manager
- Exercise: Defining a REST API from a target service
- Assembling message processing policies
- Exercise: Assembling message processing policies
- Declaring client authorization requirements
- Creating an OAuth 2.0 provider
- Exercise: Implementing OAuth 2.0 security
- Testing and debugging APIs
- Exercise: Introduction to the Test tab
- Creating and testing a GraQL API
- Exercise: Creating and testing a GraQL API
- Testing an API in the Local Test Environment
- Exercise: Testing an API in the Local Test Environment
- Publishing and managing products and APIs
- Exercise: Define and publish an API product
- The product lifecycle
- Exercise: Subscribing and testing APIs in the Developer Portal
- Exercise: Managing and approving API Products
- Subscribing and testing APIs in the Developer Portal API Analytics
- Exercise: Calling an API on the gateway and monitoring API usage
- Customizing the Developer Portal
- Exercise: Customizing the Developer Portal

## **Audience:**

This course is designed for API developers.