

Managing, Monitoring, and Subscribing APIs with IBM API Connect V5

WD502 (Classroom)

ZD502 (Self-paced)

Course description

This course teaches you how to manage, monitor, and subscribe APIs with IBM API Connect V5. You learn how to manage and monitor the API Connect infrastructure through the Cloud Manager server. You learn how the API Manager server manages and enforces the API lifecycle. You also learn how to manage provider organizations and developer organizations, and how to customize the layout and design of the Developer Portal. Finally, the course explains how to analyze the API event record and statistics.

For information about other related courses, see the IBM Training website:

http://www.ibm.com/training

General information

Delivery method

Classroom or self-paced virtual classroom (SPVC)

Course level

ERC 1.0

Product and version

IBM API Connect version 5.0.6

Audience

This course is designed for API Connect cloud administrators, lifecycle administrators, and application developers.

Learning objectives

After completing this course, you should be able to:

* Manage and monitor an on-premises installation of API Connect V5
* Manage developer organizations and registries
* Create a catalog and Developer Portal
* Customize the Developer Portal
* Create applications and subscribe to plans
* Manage Products and APIs through the Product lifecycle
* Review and approve API lifecycle requests
* Monitor and review API analytics

Prerequisites

Conceptual knowledge of the API Economy; for more information, see the resources at https://developer.ibm.com/apiconnect/

Duration

2 days

Skill level

Intermediate

|  |  |
| --- | --- |
| Classroom (ILT) setup requirements | |
| Processor | Intel Core i5 2.5 GHz or higher |
| GB RAM | 4 GB |
| GB free disk space | 60 GB |
| Network requirements | LAN / Internet / DHCP |
| Other requirements | None |

Notes

The following unit and exercise durations are estimates, and might not reflect every class experience. If the course is customized or abbreviated, the duration of unchanged units will probably increase.

This course is a companion course to:

* WD501: *Creating, Publishing, and Securing APIs with IBM API Connect V5*

Course agenda

|  |
| --- |
| Course introduction  Duration: 15 minutes |

|  |  |
| --- | --- |
| Unit 1. Managing and monitoring the API Connect cloud  Duration: 1 hour | |
| Overview | When you install IBM API Connect, you must define an on-premises cloud. You define the topology of your on-premises cloud with the Cloud Manager web user interface. As the Cloud administrator, you configure the runtime components in an IBM API Connect solution: the Management server, the Gateway server, and the Developer Portal. In addition, you manage the membership of provider organizations by creating the owner for the organization that creates APIs. |
| Learning objectives | After completing this unit, you should be able to:   * Explain the concept of the API Connect cloud * Explain the purpose of the Cloud Manager and Cloud Management Console * Explain the role of the Cloud administrator * Review the topology of an API Connect cloud * Examine the configuration of gateway and management servers * Explain the concept of a provider organization * Explain the purpose of TLS profiles * Explain the concept of cloud dissociation * Explain how to resynchronize a gateway * Identify the health analytics that the Cloud Manager tracks |

|  |  |
| --- | --- |
| Demonstration 1. Managing and monitoring the API Connect cloud  Duration: 15 minutes | |
| Overview | This demonstration shows you the features of the Cloud Manager Console, which is the web interface of the Management server. It shows how to add a gateway server in Cloud Manager. You also learn how to review the configuration settings for the API Manager, Cloud Manager, API Gateway, and the Developer Portal. The demonstration also reviews the default TLS profile that configures mutually authenticated secure connections between servers, and the user registry and membership of provider organizations. Finally, you learn how to monitor resource usage in Cloud Manager. |
| Learning objectives | After completing this demonstration, you should be able to:   * Sign on to the Cloud Manager and DataPower gateway user interfaces * Review the XML Management Interface settings in DataPower * Add a gateway server in Cloud Manager * Review the generated API Domain in DataPower * Examine the configuration settings of gateway servers, management servers, and Developer Portal in Cloud Manager * Review user registries * Review the default TLS profile settings * Create a Provider organization account * Sign on to the API Manager user interface * Review the provider organization in Cloud Manager and API Manager * View the graphical resource usage for API services in Cloud Manager |

|  |  |
| --- | --- |
| Unit 2. Managing developer organizations  Duration: 45 minutes | |
| Overview | Users in developer organizations subscribe to plans and products that you create in API Connect. In this unit, you learn how to create and manage developer organizations with the API Manager, and define developer communities to control access to plans. You also learn how to configure a user registry to secure developer access to catalogs and APIs. |
| Learning objectives | After completing this unit, you should be able to:   * Explain the purpose of the management server in an API Connect architecture * Explain the concept of a developer organization * Compare the concepts of a developer organization with a provider organization * Explain how to create a developer organization * Explain how to send messages to developers in a developer organization * Describe the management options that are available to the owner of a developer organization in the Developer Portal * Describe how to add users (developers) in the Developer Portal * Explain the purpose of user registries in API Connect * Identify the types of supported user registries * Explain how to define a user registry in API Manager * Explain the password lockout criteria |

|  |  |
| --- | --- |
| Exercise 1. Managing developer organizations  Duration: 1 hour | |
| Overview | This exercise shows you how to manage developer organizations through the API Manager and Developer Portal web interfaces. You review the role of the provider organization owner in creating and managing the list of developer organizations. You also learn how to manage individual developer accounts and configure user roles and permissions in the Developer Portal. |
| Learning objectives | After completing this exercise, you should be able to:   * Create a non-development catalog * Configure settings for the Developer Portal * Define a user registry in API Manager * Activate the admin user for the Developer Portal * Create a developer organization in API Manager * Respond to the email message to activate the developer organization * Add a user to the developer organization * Manage user roles and permissions in the Developer Portal |

|  |  |
| --- | --- |
| Unit 3. Working with catalogs  Duration: 45 minutes | |
| Overview | This unit explains the concept of catalogs in API Connect. You learn the relationship between a catalog and a Product, and examine the automatic subscription feature and the publish target URL for a catalog. |
| Learning objectives | After completing this unit, you should be able to:   * Explain the concept of a catalog * Describe the use of spaces within a catalog * Describe the relationship between a catalog and a Product * Explain the purpose of the automatic subscription feature * Explain the purpose of the publish target URL for a catalog * Describe the steps to create a catalog and its associated Developer Portal |

|  |  |
| --- | --- |
| Exercise 2. Defining an API and Product in API Manager  Duration: 45 minutes | |
| Overview | In this exercise, you work with the API Manager web user interface. You sign in to the API Manager web interface in the role of the organization owner for the API Provider. You define an API interface by importing a set of API REST operations and data definitions in an OpenAPI (Swagger V2.0) document. You create a plan and a Product, and implement the API operation as a service proxy in an assembly in API Manager. You then test the assembly in the Sandbox catalog. |
| Learning objectives | After completing this exercise, you should be able to:   * Sign in to API Manager * Create a draft API and import an OpenAPI definition * Create a Product and a plan in API Manager * Create an assembly that proxies the API to a back-end service * Test the API in API Manager |

|  |  |
| --- | --- |
| Unit 4. The Product lifecycle  Duration: 1 hour and 15 minutes | |
| Overview | This unit explains the concept of the Product lifecycle. The lifecycle management feature controls the staging of a Product version to a catalog, continues through publishing to make the Product version available to your application developers, and eventually controls retiring and archiving. |
| Learning objectives | After completing this unit, you should be able to:   * Explain the Product lifecycle stages * Identify the Product lifecycle management features in API Manager * Explain the concept of application subscriptions * Explain the concept of replacing and superseding published Products * Explain the product availability and visibility settings * Explain how to migrate subscriptions to a new plan * Explain how to migrate subscribed users to a new Product |

|  |  |
| --- | --- |
| Exercise 3. Managing and approving API Products  Duration: 1 hour | |
| Overview | This exercise shows you how the Product lifecycle is managed in API Manager. You examine how to define a user for the provider organization. You configure lifecycle settings and approval settings for a catalog. You configure Product and API availability and visibility settings, create and modify plans, and manage Product and API versions. You publish artifacts to the Staging catalog, and then review and approve the lifecycle stage for a published Product. |
| Learning objectives | After completing this exercise, you should be able to:   * Review product availability and visibility settings * Create and configure plans * Review the users in the API Manager user registry * Create a user in API Manager with the publisher role * Sign in to API Manager with the publisher role * Configure lifecycle and approval settings * Review the status of Products and APIs in the catalogs * Stage and publish a Product and APIs to the Staging catalog * Create a new version of the draft API and Product * Approve a published Product |

|  |  |
| --- | --- |
| Unit 5. Creating an application and subscribing to a plan  Duration: 1 hour | |
| Overview | This unit covers the roles of developer organization owner and application developer on the Developer Portal. An application developer discovers APIs, plans, and Products that are published to the Developer Portal. The developer can review the details of the APIs and plans and can optionally test the API operations in the Developer Portal. To use APIs, an application developer creates an application in the Developer Portal, and then subscribes the application to a plan that is associated with the API and Product. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the relationship between the provider organization owner and the owner of the developer organization * Review the Developer Portal permissions that are configured in API Manager * Review the visibility settings for published Products and APIs * Describe how to create an application in the Developer Portal * Describe how to subscribe to a Product plan |

|  |  |
| --- | --- |
| Exercise 4. Creating an application and subscribing to a plan  Duration: 45 minutes | |
| Overview | In this exercise, you learn how to create an application and subscribe to a plan in the Developer Portal. You see how an application is migrated from one version to another when the publisher supersedes the published Product on the Staging catalog. You also review the retire and archive actions in API Manager. |
| Learning objectives | After completing this exercise, you should be able to:   * Sign on as a developer to the Developer Portal * Create an application that uses the published Product * Subscribe to a plan * Sign on to API Manager with the publisher role * Stage a new version of the Product * Supersede the published Product on the Staging catalog * Review the results in the Developer Portal |

|  |  |
| --- | --- |
| Unit 6. Customizing the Developer Portal  Duration: 45 minutes | |
| Overview | As the administrator, you can change the appearance and layout of the Developer Portal. This unit describes the customization options that are available to you. You learn how to customize the Developer Portal through the administration menu, and examine the options for using themes and sub-themes on the Developer Portal. |
| Learning objectives | After completing this unit, you should be able to:   * Briefly explain the purpose of the Developer Portal * Explain the role of the Drupal open source project in the Developer Portal * Explain the concept of modules and themes * List the roles that are defined in the Developer Portal * Describe the Drupal terminology that is used when administering the portal * Describe the various ways to create a theme for the Developer Portal * Describe the use of sub-themes for customizing the standard API Connect Developer Portal theme |

|  |  |
| --- | --- |
| Exercise 5. Customizing the Developer Portal  Duration: 45 minutes | |
| Overview | This exercise shows you the customization options in the Developer Portal. You learn how to log in to the Developer Portal with a Portal administrator account, add and configure a Drupal theme, and review the user interface settings options. |
| Learning objectives | After completing this exercise, you should be able to:   * Log in to the Developer Portal as a Portal administrator * Add and customize the Developer Portal theme * Identify the Portal administrator actions in the Developer Portal * Identify the forum moderator actions in the Developer Portal |

|  |  |
| --- | --- |
| Unit 7. API analytics  Duration: 30 minutes | |
| Overview | This unit describes the API analytics features in IBM API Connect. API analytics is built on the Kibana open source analytics and visualization platform. You learn how to configure logging preferences that capture API event data, and customize dashboards to present the data from standard visualizations that API Manager supplies. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the role of the Kibana open source platform in the API Connect API analytics feature * Describe where analytics are collected in API Connect * Describe the layout of the overview dashboard for catalogs * Explain dashboard customization * Describe how to manage visualizations * Describe API events and event records * Describe how to configure logging preferences for the API event details * Explain how to view analytics and API event data * Describe how to export analytics and API event data |

|  |  |
| --- | --- |
| Exercise 6. Debugging an API and monitoring API usage  Duration: 1 hour | |
| Overview | In this exercise, you test an API assembly with the debug option to see the calls to the API endpoint and the back-end service. You optionally review the test feature in the Developer Portal. You run a script to generate API calls, review the API analytics capabilities in IBM API Connect, and examine and customize the dashboard analytical visualizations in API Manager. |
| Learning objectives | After completing this exercise, you should be able to:   * Examine the test and debug features for an assembly in API Manager * Review the test options in the Developer Portal * Identify the API endpoints in the gateway * Identify the analytical elements in the Overview dashboard for a catalog * Change the time period filter of a dashboard * View API event data from visualizations * Customize the analytics dashboard * Export the API event data for all visualizations in the dashboard |

|  |  |
| --- | --- |
| Unit 8. Course summary  Duration: 5 minutes | |
| Overview | This unit summarizes the course and provides information for future study. |
| Learning objectives | After completing this unit, you should be able to:   * Explain how the course met its learning objectives * Access the IBM Training website * Identify other IBM Training courses that are related to this topic * Locate appropriate resources for future study |

For more information

To learn more about this course and other related offerings, and to schedule training, see ibm.com/training

To learn more about validating your technical skills with IBM certification, see ibm.com/certify

To stay informed about IBM training, see the following sites:

IBM Training News: ibm.com/blogs/ibm-training

YouTube: youtube.com/IBMTraining

Facebook: facebook.com/ibmtraining

Twitter: twitter.com/IBMCloudEdu