

IBM App Connect Professional

ZE550 (Self-paced)

Course description

This course introduces you to IBM App Connect Professional, which is designed to simplify the delivery of capabilities that are needed for cloud and on-premise application integration.

In this course, you learn how to use the “configuration, not coding” approach for implementing and managing IBM App Connect integration solutions that link internet protocol, database, and web service endpoints. It begins with an overview of the IBM App Connect product set and deployment options. The course then covers topics such as variables and data transformation, testing project components, utility and logic activities, and working with flat files and web services.

In hands-on exercises throughout the course, you build integration solutions by using the IBM App Connect Studio to create projects that contain orchestrations. You publish these projects to the integration runtime, and then use the browser-based Web Management Console to manage and monitor execution.

The lab environment for this course uses both the Ubuntu and Windows platforms.

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

http://www.ibm.com/training

General information

Delivery method

Self-paced virtual classroom (SPVC)

Course level

ERC 1.0

Product and version

IBM Business Process Manager Advanced V8.5.7

Audience

This course is designed for application integrators, systems engineers, and business analysts who participate in the development of integration solutions that are based on the IBM App Connect Appliance.

Learning objectives

After completing this course, you should be able to:

* Configure and manage orchestrations that:
  + Transform data
  + Implement business logic
  + Receive data from and deliver data to the most commonly used endpoints, including file servers, web servers (by using Hypertext Transfer Protocol (HTTP) or web services), email servers, and database management systems

Prerequisites

Before taking this course, you should be familiar with database management, Extensible Markup Language (XML), and scripting.

Duration

3 days

Skill level

Intermediate

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 an update of the following previous courses:

* WB858 and ZB858, *Developing Applications in IBM Business Process Manager Advanced V8.5.5 - II*

Course agenda

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| Course introduction  Duration: 15 minutes |

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| Unit 1. Introduction to IBM App Connect Professional  Duration: 30 minutes | |
| Overview | This unit introduces the IBM App Connect product set and deployment options, and describes the types of applications that IBM App Connect can integrate. |
| Learning objectives | After completing this unit, you should be able to:   * Describe IBM App Connect Professional * Describe how App Connect can be helpful * Describe Hybrid Connectivity * Explain how user roles expand in the App Connect Hybrid Integration environment * Describe App Connect event flows * Describe App Connect connectivity |

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| Unit 2. IBM App Connect Studio  Duration: 1 hour | |
| Overview | This unit describes the IBM App Connect Studio, which is a development environment for creating integration projects. It explains how to create a project and publish it to the integration server, and presents an overview of the steps that are involved in developing integration projects. |
| Learning objectives | After completing this unit, you should be able to:   * Identify the components of IBM App Connect Studio * Describe the steps for building integration solutions by using IBM App Connect Studio * Identify the steps that are required to create an integration project * Identify the steps that are required to publish an integration project * Describe the HTTP Receive and HTTP Send activities |

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| Exercise 1. Creating a project  Duration: 30 minutes | |
| Overview | In this exercise, you create a new project with an orchestration that receives an HTTP request and sends back a hardcoded response. When the orchestration is complete, you publish and deploy the project, and then test the orchestration by using both HTTP GET and POST methods. |
| Learning objectives | After completing this exercise, you should be able to:   * Create a project * Work with basic HTTP activities * Configure Basic Activity Mapping * Validate a project * Publish and deploy a project |

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| Unit 3. IBM App Connect Professional architecture  Duration: 1 hour | |
| Overview | This unit provides an architectural overview of IBM App Connect Professional. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the deployment models * Describe the architecture of IBM App Connect Professional * Describe high availability * Describe secure connectivity * Identify the steps that are involved in installation and maintenance * Describe how to back up and recover virtual appliances * Describe how to import and export a repository * Describe management and monitoring |

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| Unit 4. Web Management Console (WMC)  Duration: 1 hour | |
| Overview | This unit describes the Web Management Console, which is the browser-based graphical interface to the integration appliance. You use the Web Management Console to configure, deploy, stop, cancel, and undeploy projects. You also browse job history, read error messages, and manage the device itself. |
| Learning objectives | After completing this unit, you should be able to:   * Launch the Web Management Console * Describe the features of the Web Management Console * Use the Web Management Console to configure orchestrations * Use the Web Management Console to deploy and undeploy a project |

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| Unit 5. Variables and data transformation  Duration: 1 hour | |
| Overview | This unit describes how data is moved, stored, and transformed within a project. Data is held in variables. As data is moved from a source to a destination, you must specify how it is interpreted. For example, in the exercises, you read account information from a software-as-a-service (SaaS) application and store that account information in a database. The process of parsing the data and assigning it into the appropriate database tables is an example of mapping data. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the properties of orchestration variables * Describe IBM App Connect mapping capabilities * Identify transformation activities * Describe the purpose of transformation activities * Identify recommendations for mapping and data transformation |

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| Unit 6. Testing project components  Duration: 30 minutes | |
| Overview | This unit describes how to use IBM App Connect Studio to test orchestrations. IBM App Connect Studio can test endpoint connectivity, mapping, and orchestration execution. |
| Learning objectives | After completing this unit, you should be able to:   * Use IBM App Connect Studio features to test endpoints, maps, and orchestrations |

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| Unit 7. Turbo Salesforce and flat file processing  Duration: 1 hour | |
| Overview | In this unit, you learn how IBM App Connect reads and writes flat files. IBM App Connect Studio has a wizard that can help define the schema of flat files. It also has activities to read and write files that use schemas to parse and interpret the data fields. |
| Learning objectives | After completing this unit, you should be able to:   * Describe Salesforce.com and the growth of cloud computing * Identify traditional choices for cloud integration * Describe how IBM App Connect Professional is aligned with Salesforce.com * Describe flat file formats * Identify the activities that are used to access the contents of flat files * Describe how to create delimited flat file schemas * Describe the File Transfer Protocol (FTP) endpoint * Identify FTP activities |

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| Exercise 2. Loading accounts from a flat file  Duration: 1 hour and 30 minutes | |
| Overview | In this exercise, you create a project, work with basic HTTP activities, and configure basic activity mapping. You also validate, publish, and deploy the project. |
| Learning objectives | After completing this exercise, you should be able to:   * Configure the HTTP Receive Request * Configure the Transform Read Flat File activity * Configure the For Each statement that is used to loop through multiple records that come from a source of data * Configure the If Then…Else statement that is used to add Business Rules or Business Logic * Create objects within Salesforce * Create log messages that are used to create internal log messages |

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| Unit 8. Outbound database activities and error handling  Duration: 1 hour | |
| Overview | This unit describes the use of databases in projects. You learn how to use Configuration Properties to configure a database endpoint so that the project can be used easily in various runtime environments. The unit also surveys available database activities and delivery rules that can be used in projects. |
| Learning objectives | After completing this unit, you should be able to:   * Identify supported databases * Describe the purpose of a database endpoint * Describe the purpose and use of configuration parameters * Identify database activities * Describe outbound activities * Describe the role of IBM App Connect control tables * Identify database operations recommendations * Identify the error handling best practices * Describe error handling options:   + Try activity   + Fault Variables   + If Then in CatchAll   + Catch Branch   + Global Exception Handler   + Common Error |

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| Exercise 3. Single database table operation into Salesforce.com  Duration: 1 hour and 15 minutes | |
| Overview | In this exercise, you read a DB2 database table record and create or update a Salesforce account. Since an account originates in DB2, it is the “system of record.” The exercise works as a synchronization of records from DB2 into Salesforce.com. |
| Learning objectives | After completing this exercise, you should be able to:   * Create a Database Poll Table * Write logic for the For Each statement * Configure Salesforce.com Upsert Objects * Configure the Send Email function * Write logic for the Try statement * Read the Utilities Log Message |

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| Unit 9. Salesforce.com activities  Duration: 30 minutes | |
| Overview | This unit describes how IBM App Connect connects to and works with Salesforce.com, a software-as-a-service (SaaS) application in the Customer Relationship Management area. Account information is copied from Salesforce.com to a local database. This scenario is an example of a hybrid cloud environment; the source is cloud-based and the destination is on premises. |
| Learning objectives | After completing this unit, you should be able to:   * Create, configure, and test a Salesforce endpoint * List and describe Salesforce activities |

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| Exercise 4. Loading a Salesforce.com account to ESB by using IBM MQ  Duration: 1 hour and 15 minutes | |
| Overview | This exercise shows how to use App Connect Professional to extract information from a SaaS-based application and format messages that can be passed to an ESB backbone. The exercise uses IBM MQ to expose the ESB interfaces. |
| Learning objectives | After completing this exercise, you should be able to:   * Configure HTTP Receive * Configure Salesforce.com Query Objects * Configure Map variables * Write XML * Send an IBM MQ Put message |

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| Unit 10. Introduction to web services  Duration: 30 minutes | |
| Overview | In this unit, you learn about consuming web services, which is the process of calling web services from within an orchestration. The next unit explains how to make web services available so that other orchestrations can use them. |
| Learning objectives | After completing this unit, you should be able to:   * Describe web services * Describe the web service activity by using simple and complex Web Services Description Language (WSDL) files * Describe the use of the Try activity to handle SOAP faults |

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| Exercise 5. Invoking web services  Duration: 45 minutes | |
| Overview | In this exercise, you create a new project with an orchestration that invokes a web service. |
| Learning objectives | After completing this exercise, you should be able to:   * Create a project * Configure an HTTP Receive request * Configure an HTTP Send request * Configure a Web Service Invoke Service * Configure a Transform Read XML |

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| Exercise 6. Interacting with RESTful Services and Salesforce  Duration: 1 hour | |
| Overview | This exercise illustrates how IBM App Connect Professional can expose and work with REST-based services as part of an infrastructure that integrates seamlessly with SaaS, The exercise uses the Force.com API exposed by Salesforce.com. You build a new project that is exposed as a RESTful service and able to be consumed as an incoming request with a parameter as part of the URI. It calls a backend REST service and formats the output of that request so that it can then be upserted into an object that resides in Salesforce.com, and provides a response to the original requester. |
| Learning objectives | After completing this exercise, you should be able to:   * Configure an HTTP Receive request * Configure an HTTP Get request * Configure an HTTP Send response * Configure an If/Then command * Read JSON * Upsert objects with Salesforce |

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| Unit 11. SAP integration with IBM App Connect  Duration: 30 minutes | |
| Overview | In this unit, you learn how IBM App Connect Professional Designer integrates with SAP via the Gateway component. |
| Learning objectives | After completing this unit, you should be able to:   * Explain how IBM App Connect Professional Designer integrates with SAP * Register the SAP Gateway with IBM App Connect * Import a SAP Client * Create a SAP Endpoint * Discover the interface in SAP |

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| Unit 12. Using OData  Duration: 30 minutes | |
| Overview | In this unit, you learn about consuming web services, which is the process of calling web services from within an orchestration. The next unit explains how to make web services available so that other orchestrations can use them. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the OData support in IBM App Connect * Describe the OData APIs for Salesforce * Identify the OData activities * Provide an OData scenario |

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| Exercise 7. Developing with OData  Duration: 45 minutes | |
| Overview | This exercise introduces you to OData and explains how it works with IBM App Connect Professional. |
| Learning objectives | After completing this exercise, you should be able to:   * Create an application by using OData |

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| Unit 13. Introduction to IBM App Connect Designer  Duration: 45 minutes | |
| Overview | This unit introduces you to IBM App Connect Designer. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the major functions of IBM App Connect Designer |

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| Exercise 8. Combining multiple sources with IBM App Connect Designer  Duration: 1 hour | |
| Overview | In this exercise, you learn how to combine data from multiple sources and process each record that is returned. |
| Learning objectives | After completing this exercise, you should be able to:   * Combine data from multiple sources * Process each record that is returned * Verify that records exist |

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| Exercise 9. Salesforce account API  Duration: 1 hour | |
| Overview | In this exercise, you update the Salesforce accounts and contracts to be created. You configure a supplied utility program that creates the objects with the Salesforce account details. |
| Learning objectives | After completing this exercise, you should be able to:   * Enhance mobile and web apps to include customer account information |

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| Unit 14. Course summary  Duration: 15 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 further 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

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