Mule 4 Content

Pre-requisites:

1. Basic knowledge on any OOPs (like Java) programming language

2. Good knowledge on Web services (SOAP API and REST API)

3. Basic knowledge on JMS(MOM server i.e. MQ servers like IBM MQ or ActiveMQ) concepts

4. Basic XML,JSON, CSV knowledge

5. Basic database queries

6. Very good or at least moderate knowledge on Maven is mandatory.

7. Basic idea about Http protocol.

Day 1:

MODULE 1: INTRODUCING APPLICATION NETWORKS AND API-LED

CONNECTIVITY

Walkthrough 1-1: Explore an API directory and an API portal

Walkthrough 1-2: Make calls to an API

Deliverables: Participants will be able to understand what is API and how to call APIs from POSTMAN.

MODULE 2: INTRODUCING ANYPOINT PLATFORM

Walkthrough 2-1: Explore Anypoint Platform and Anypoint Exchange

Walkthrough 2-2: Create a Mule application with flow designer

Walkthrough 2-3: Create an integration application with flow designer that consumes an API

Deliverables: Participants will be able to understand what is Anypoint Platform and various tools of it and how to create integration applications using flow designer.

MODULE 3: DESIGNING APIs

Walkthrough 3-1: Use API designer to define an API with RAML

Walkthrough 3-2: Use the mocking service to test an API

Walkthrough 3-3: Add request and response details

Walkthrough 3-4: Add an API to Anypoint Exchange

Walkthrough 3-5: Share an API

Deliverables: Participants will be able to create, mock and share APIs using RAML specifications.

Day 2:

MODULE 4: BUILDING APIS

Walkthrough 4-1: Create a Mule application with Anypoint Studio

Walkthrough 4-2: Connect to data (MySQL database)

Walkthrough 4-3: Transform data

Walkthrough 4-4: Create a RESTful interface for a Mule application

Walkthrough 4-5: Use Anypoint Studio to create a RESTful API interface from a RAML file

Walkthrough 4-6: Implement a RESTful web service

Deliverables: Participants will be able to understand how to implement functionality as RESTful web service for RAML API.

MODULE 5: DEPLOYING AND MANAGING APIS

Walkthrough 5-1: Deploy an application to CloudHub

Walkthrough 5-2: Create and deploy an API proxy

Walkthrough 5-3: Restrict API access with policies and SLAs

Walkthrough 5-4: Request and grant access to a managed API

Walkthrough 5-5: Add client ID enforcement to an API specification

Deliverables: Participants will be able to understand how to deploy Mule apps into Cloud mule servers and how to create API Proxy and apply security and rate limit to the proxy.

Day 3:

MODULE 6: ACCESSING AND MODIFYING MULE EVENTS

Walkthrough 6-1: View event data

Walkthrough 6-2: Debug a Mule application

Walkthrough 6-3: Track event data as it moves in and out of a Mule application

Walkthrough 6-4: Set request and response data

Walkthrough 6-5: Get and set event data using DataWeave expressions

Walkthrough 6-6: Set and get variables

Deliverables: Participants will be able to understand what the messaging structure in Mule 4 is and how to manipulate, access data from it. How to create variables and delete variables in Mule 4 using data weave 2.0

MODULE 7: STRUCTURING MULE APPLICATIONS

Walkthrough 7-1: Create and reference subflows and private flows

Walkthrough 7-2: Pass messages between flows using the VM connector

Walkthrough 7-3: Encapsulate global elements in a separate configuration file

Walkthrough 7-4: Use property placeholders in connectors

Walkthrough 7-5: Create a well-organized Mule project

Walkthrough 7-6: Manage metadata for a project

Deliverables: Participants will be able to understand how to structure mule apps properly by creating flows and sub flows. How to externalize properties from a mule apps.

MODULE 8: CONSUMING WEB SERVICES

Walkthrough 8-1: Consume a RESTful web service that has a connector in Exchange

Walkthrough 8-2: Consume a RESTful web service

Walkthrough 8-3: Consume a SOAP web service

Walkthrough 8-4: Transform data from multiple services to a canonical format

Deliverables: Participants will be able to understand how to consume SOAP and RESTful web services from Mule app. How to transform data from xml and json format to json format using DWL 2.0

Day 4:

MODULE 9: CONTROLLING EVENT FLOW

Walkthrough 9-1: Multicast an event

Walkthrough 9-2: Route events based on conditions

Walkthrough 9-3: Validate events

Deliverables: Participants will be able to understand how to use routers and filters in mule 4 as well as how to validate data in mule 4.

MODULE 10: HANDLING ERRORS

Walkthrough 10-1: Explore default error handling

Walkthrough 10-2: Handle errors at the application level

Walkthrough 10-3: Handle specific types of errors

Walkthrough 10-4: Handle errors at the flow level

Walkthrough 10-5: Handle errors at the processor level

Walkthrough 10-6: Map an error to a custom error type

Walkthrough 10-7: Review and integrate with APIkit error handlers

Walkthrough 10-8: Set a reconnection strategy for a connector

Deliverables: Participants will be able to understand how to handle errors in mule 4

MODULE 11: WRITING DATAWEAVE TRANSFORMATIONS

Walkthrough 11-1: Create transformations with the Transform Message component

Walkthrough 11-2: Transform basic JSON, Java, and XML data structures

Walkthrough 11-3: Transform complex data structures with arrays

Walkthrough 11-4: Transform to and from XML with repeated elements

Day 5:

Walkthrough 11-5: Define and use variables and functions

Walkthrough 11-6: Coerce and format strings, numbers, and dates

Walkthrough 11-7: Define and use custom data types

Walkthrough 11-8: Use DataWeave functions

Walkthrough 11-9: Look up data by calling a flow

Deliverables: Participants will be able to understand the syntax of DWL 2.0 and will be able to write and manipulate DWL 2.0 expressions properly.

MODULE 12: TRIGGERING FLOWS

Walkthrough 12-1: Trigger a flow when a new file is added to a directory

Walkthrough 12-2: Trigger a flow when a new record is added to a database and use automatic watermarking

Walkthrough 12-3: Schedule a flow and use manual watermarking

Deliverables: Participants will be able to understand how to read data from a file, poll data from database as well as schedule a flow to trigger at regular intervels.

MODULE 13: PROCESSING RECORDS

Walkthrough 13-1: Process items in a collection using the For Each scope

Walkthrough 13-2: Process records using the Batch Job scope

Walkthrough 13-3: Use filtering and aggregation in a batch step

Deliverables: Participants will be able to understand how to loop in mule 4, how to process bulk amount of data using mule batch jobs.