KOENIG SOLUTIONS · COURSE OUTLINE

# Anypoint Platform Architecture: Application Networks

Learn to architect application networks on Anypoint Platform, from API-led connectivity and C4E governance to deployment and monitoring.

| 3 Days | 10 | 53 |
| --- | --- | --- |
| DURATION | MODULES | TOPICS |

3 days in-person or online

## COURSE OVERVIEW

An application network connects applications, data, and devices within an enterprise and to external ecosystems using APIs. This instructor-led course teaches experienced enterprise and solution architects how to direct the emergence of an effective application network out of individual integration solutions following API-led connectivity across an organization. It is case-study driven, with the solution architecture and effect on the organization's enterprise architecture for two strategic change initiatives being documented as the course progresses. This course prepares students to take the MuleSoft Certified Platform Architect – Level 1 exam and includes a voucher for two exam attempts.

WHO THIS COURSE IS FOR

# Who Should Attend

**Senior solution and enterprise architects who have experience with common integration approaches (like SOA) and integration technologies/platforms and have basic knowledge and experience with the components of Anypoint Platform**

PREREQUISITES

A basic knowledge and experience with the components of Anypoint Platform from one of the following:

- Completion of the instructor-led Getting Started with Anypoint Platform (Mule 4 or Mule 3) course or the self-study MuleSoft.U Getting Started with Anypoint Platform(Mule 4 or Mule 3) course
- Completion of the instructor-led Anypoint Platform Development: Fundamentals (Mule 4 or Mule 3) course or the self-study MuleSoft.U Development Fundamentals (Mule 4 or Mule 3) course
- Equivalent knowledge and experience with the components of Anypoint Platform to the extent covered in the Getting Started with Anypoint Platform (Mule 4 or Mule 3) course
- Prior architecture knowledge and experience including:
- A clear understanding of the concepts and steps involved in developing software for the JVM (usually from experience developing in some JVM-based programming language)
- Recent experience as an architect for a cloud platform software development initiative using any technology stack
- A full understanding of the fundamental ingredients of enterprise integration including interface definitions and contracts; data encoding using XML or JSON; REST APIs or SOAP web services; SQL or NoSQL database access; message-passing using JMS, AMQP or similar; network protocols like TCP/IP, HTTP and HTTPS; single-resource transactions
- Familiarity with the purpose of common components of enterprise and cloud technology architectures including identity providers, load-balancers, and name servers
- Familiarity with basic security concepts including certificates and encryption at rest and in transit

LEARNING OBJECTIVES

# What You Will Learn

At the end of this course, students should be able to:

- Conceptualize integration capability delivery holistically according to Outcome-Based Delivery (OBD)
- Advise on the establishment and operation of a Center for Enablement (C4E)
- Select Anypoint Platform deployment options
- Break down functional requirements into business-aligned, versioned APIs with effective granularity and API data model
- Direct creation and publication of API-related assets using RAML and Anypoint Platform components
- Architect for non-functional requirements on the level of API invocations and API implementations using components of Anypoint Platform
- Architect for specific requirements by augmenting API-led connectivity with Event-Driven Architecture
- Advise on effective use of the automation capabilities of Anypoint Platform for DevOps, CI/CD, and testing

CERTIFICATION

This course prepares students to take the **MuleSoft Certified Platform Architect** – Level 1 exam and includes a voucher for two exam attempts.

COURSE SYLLABUS

# 10 Modules, 53 Topics

01

## Introducing the Course

TOPICS

- Define Outcome-Based Delivery (OBD)
- Describe how this course is aligned to parts of OBD
- Use essential course terminology correctly
- Recognize the ArchiMate 3 notation subset used in this course

02

## Introducing MuleSoft, the Application Network Vision, and Anypoint Platform

TOPICS

- Articulate MuleSoft's mission
- Explain MuleSoft's proposal for closing the increasing IT delivery gap
- Describe the capabilities and high-level components of Anypoint Platform

03

## Establishing Organizational and Platform Foundations

TOPICS

- Advise on establishing a C4E and identify KPIs to measure its success
- Choose between options for hosting Anypoint Platform and provisioning Mule runtimes
- Describe the set-up of organizational structure on Anypoint Platform
- Compare and contrast Identity Management and Client Management on Anypoint Platform

04

## Identifying, Reusing, and Publishing APIs

TOPICS

- Map planned strategic initiatives to products and projects
- Identify APIs needed to implement these products
- Assign each API to one of the three tiers of API-led connectivity
- Reason in detail about composition and collaboration of APIs
- Reuse APIs wherever possible
- Publish APIs and related assets for reuse

05

## Enforcing NFRs on the Level of API Invocations Using Anypoint API Manager

TOPICS

- Describe how Anypoint API Manager controls API invocations
- Use API policies to enforce non-functional constraints on API invocations
- Choose between enforcement of API policies in an API implementation and an API proxy
- Register an API client for access to an API version
- Describe when and how to pass client ID/secret to an API
- Establish guidelines for API policies suitable for System APIs, Process APIs, and Experience APIs

06

## Designing Effective APIs

TOPICS

- Appreciate the importance of contract-first API design and RAML fragments
- Opt for semantic API versioning and where to expose what elements of an API's version
- Choose between Enterprise Data Model and Bounded Context Data Models
- Consciously design System APIs to abstract from backend systems
- Apply HTTP-based asynchronous execution of API invocations and caching to meet NFRs
- Identify idempotent HTTP methods and HTTP-native support for optimistic concurrency

07

## Architecting and Deploying Effective API Implementations

TOPICS

- Describe auto-discovery of API implementations implemented as Mule applications
- Appreciate how Anypoint Connectors serve System APIs
- Describe CloudHub's features and technology architecture
- Apply strategies that help API clients guard against failures in API invocations
- Describe the role of CQRS and the separation of commands and queries in API-led connectivity
- Explain the role of Event Sourcing

08

## Augmenting API-Led Connectivity with Elements from Event-Driven Architecture

TOPICS

- Selectively choose elements of Event-Driven Architecture in addition to API-led connectivity
- Make effective use of events and message destinations
- Impose event exchange patterns in accordance with API-led connectivity
- Describe Anypoint MQ and its features
- Apply Event-Driven Architecture with Anypoint MQ to address specific NFRs

09

## Transitioning into Production

TOPICS

- Locate API-related activities on a development lifecycle
- Interpret DevOps using Anypoint Platform tools and features
- Design automated tests from the viewpoint of API-led connectivity and the application network
- Identify the factors involved in scaling API performance
- Use deprecation and deletion of API versions in Anypoint Platform
- Identify single points of failure

10

## Monitoring and Analyzing the Behavior of the Application Network

TOPICS

- Describe the origins of data used in monitoring, analysis, and alerting on Anypoint Platform
- Describe the metrics collected by Anypoint Platform on the level of API invocations
- Describe the grouping of API metrics available in Anypoint Analytics
- Make use of options for performing API analytics within and outside of Anypoint Platform
- Define alerts for key metrics of API invocations for all tiers of API-led connectivity
- Use metrics and alerts for API implementations to augment those for API invocations
- Recognize operations teams as an important stakeholder in API-related assets and organize documentation accordingly

WHAT IS INCLUDED

## Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

## Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

## Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

### Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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