

# Dev Professional Course

## Course Outline



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# Introduction

## Context

In recent years, the IT landscape has been changing considerably. After an initial phase of exploration, digital transformation is becoming the goal of every company and organization that aims to survive in an increasingly growing market. Concepts, technologies and methods are becoming commonplace and their adoption has been the challenge of the last decade. As if this was not enough, the global crisis of 2020 has accelerated more than ever the need to adopt technologies and skills that allow companies to invade the digital world and develop new technological and business paradigms, thus trying to satisfy the consumer in increasingly effective, efficient and innovative ways.

## Mia-Academy

Mia-Academy was created to address this challenge.

Mia-Academy is a proven professional culture empowerment system, in which Agile methods are taught and used.

*Mia-Academy's goal is to make teams autonomous in the development of new generation digital platforms.*

The following document illustrates the training path for the Mia-Platform Dev Professional certification and it is dedicated to those who want to install and maintain the Mia-Platform Console.

## Course Description

In this course, participants will learn how to use the Mia-Platform console to design, develop, and deploy microservices, interface with NoSQL databases, configure plugins, and other Mia-Platform products. The course will also cover the usage of the Fast Data component. The lessons in the course involve constant use of the Console to allow participants to firsthand experience the topics discussed. Each participant will have access to a personal project where they can familiarize themselves with the product, recreate the exercises done in class, and practice for the exam.

## Course goals

The course goals include learning to create, expose, release, and utilize CRUD operations for managing MongoDB collections. Participants will also gain the ability to create microservices from templates, examples, and Docker images, and learn how to expose, release, and monitor these microservices. They will explore Mia-Platform Marketplace to leverage ready-to-implement microservices. Additionally, the course covers the implementation of Proxies and Cronjobs using Mia-Platform Console. Participants will also learn to configure and customize a Headless CMS with Mia-Platform Console. Lastly, the course offers an in-depth understanding of Fast Data, including theoretical overviews, practical demonstrations on the console, and hands-on experience in creating Projections, Single Views, and API exposure.

**Duration:** 4 sessions of 3 hours + exam

# Modules

## Module 1: Introduction to Mia-Platform Console, Microservices creation and management

The initial module provides an introduction to all the sections within Mia-Platform Console, with a particular emphasis on design and the creation and configuration of microservices. This module will delve into the entire lifecycle of a microservice, beginning with its inception, progressing through deployment, and concluding with monitoring. Additionally, the module highlights the ability for teams to create services from Mia-Platform Marketplace, where they can discover examples, templates, and even pre-built plugins like the function service.

- Introduction
  - Mia-Platform Console overview
  - Git Repositories explanation
- Microservices Management
  - Marketplace overview
  - Microservice Creation
  - Route Display
  - Microservice Deploy
  - Manage environment variables
  - How to modify a service
  - How to invoke APIs from production environment
  - How to consult the logs
  - How to configure pod resources and limits
  - How to configure pod health routing
  - Scaling HPA
- API Authorization/Authentication
  - Authorization service flow
  - Rönd

### *Takeaways:*

- Gain the knowledge and skills to create a customized service from the marketplace, configure it to meet your specific needs, deploy it, and effectively monitor its performance.
- Learn how to expose APIs on Mia-Platform while safeguarding them using Mia-Platform's built-in security components.

## Module 2: Data Management

Data manipulation and management can be challenging without a centralized tool that serves as the master of data schemas. The CRUD service facilitates the creation of a standardized schema and offers a unified point of access to data structures. In this module, we will delve into the configuration and exposure of a CRUD service. Lastly, we'll demystify the Saga Pattern and guide you through the configuration of a new Saga using the Flow Manager plugin.

- CRUD Introduction
  - How to create a CRUD Service from Marketplace
  - How to expose the endpoints of a CRUD Collection
  - Commit and deploy your changes
  - Encrypt APIs with the CRUD Encryption
  - How to test your APIs using the API Portal
- Flow Manager
  - Introduction to SAGA pattern
  - Flow Manager configurations
  - Flow Manager visualizer

### *Takeaways:*

- Learn how to create and manage APIs from a CRUD Collection via Mia-Platform CRUD Service
- Learn how to create and configure Sagas using the Flow Manager plug-in

## Module 3: Fast Data Introduction

In this module, we will immerse ourselves in the Fast Data architecture and its features, demonstrating how Mia-Platform Console simplifies the configuration process. The lesson will encompass the setup of the System of Record and Projections, the configuration of the Single View Creator plugin, and the subsequent exposure of Single Views Endpoints. To provide a comprehensive understanding, a complete system demonstration will be conducted during the session.

- Fast Data
  - Theoretical overview of the Fast Data
  - Fast Data components deep dive and hands-on
  - Projection and Single View creation and API exposure
  - Monitoring Fast Data

### *Takeaways:*

- Learn the basics of Fast Data architecture and its components
- Learn how to setup projections and single views and how to manage them

## Module 4: Fast Data Deep Dive

In this section we will go deeper into the Mia-Platform Fast Data setting up a real hands-on with the product. We will start setting up all the microservices needed to leverage a fully event-driven Mia-Platform Fast Data Architecture.

Then we will create together all the projections needed and lastly we will create the Single View aggregation and test the end-to-end flow.

- Fast Data
  - Install all the microservices needed
  - Creating projections and single views
  - Creating aggregations
  - Exposing single view

### *Takeaways:*

- Learn how to leverage a fully event-driven Mia-Platform Fast Data architecture from microservice creation to endopond exposure