# Training Course Portfolio

## Version 5.4.9 – 2023

# Contents

# Education Services Overview

## Objective

The primary objective of MATRIXX Education Services is to ensure that our customers and partners gain the greatest possible benefit from their investment in MATRIXX Software systems. Through our training programs, a comprehensive, structured set of courses are available using a variety of training media and blended learning approaches.

All MATRIXX training courses are modular in nature. Each module has specific objectives and training paths that have been designed from extensive analysis of well-defined user roles. At the end of each module, students are asked to complete either a self-assessment or hands-on lab exercise to reinforce the topics taught.

## Delivery Formats

Training courses from MATRIXX Education Services are supported through a number of delivery formats:

- *Web-Based Training (WBT)*
- *Instructor-Led Training (ILT)*
- *Virtual Classroom (VC)*
- *eLearning (eLT)*
- *Mentoring*
- *MATRIXX Micro-Learning*
- *Briefings*
- *Open Enrollment*

### Web-Based Training

Informative and engaging, each WBT module is made up from a series of presentations, demonstrations and simulations. Voiceovers are used on all WBT along with interactive tests following each unit.

### Instructor-Led Training

Traditional classroom-based training is still the most efficient and interactive way to conduct knowledge transfer programs. Class sizes are restricted to ensure productive student/instructor interaction. All MATRIXX instructors have real-world rating and billing backgrounds to bring personal experience to the course. On-site, customized and tailored training options exist under the ILT banner.

### Virtual Classroom

Travel to a venue for a widely dispersed team is not always viable. MATRIXX offers all ILT course deliveries through virtual classroom technology. Lab exercises are conducted in a hosted environment with instructor monitoring facilities to ensure all students are able to complete the necessary challenges.

### eLearning

Our core disciplines of Operations, Installation, Integration and Pricing Configuration are covered to a Specialist-Level through self-paced eLearning courses. All modules in our full Instructor Led Training courses are reflected in these time-bounded programs. Hands-on lab exercises are supported by preconfigured Virtual Machines. These VMs are available for the duration of the course, however for a fixed runtime. Support is given through user groups and lab environment problem resolution by email/direct intervention.

### Workplace Mentoring

Part of the on-going knowledge transfer that is intrinsic to becoming proficient in the platform is the mentoring program. If a learner is employed on a project with MATRIXX Professional Services in attendance then a mentor will be assigned. This mentor is the learner's buddy and can assist the learner with practical use of the knowledge gained in formal training.

### MATRIXX Life-Long-Learning

To ensure that students are progressing in their development to becoming successful practitioners, MATRIXX provides the Life-Long-Learning program. This program runs continuously for all students registered and is delivered using Micro-Learning. Micro-Learning comprises a series of flash Learning Pods. Each Pod is designed to last no more than 15 minutes in duration and presents key information with a self-assessment quiz. There is a Micro-Learning program for the core technical disciplines - Operations, Integration, Installation and Pricing Configuration – and another specifically for the Business teams. The objective is to reenforce knowledge, bring awareness of new areas of the product and provide a path to success for customers and their staff with MATRIXX. The Micro-Learning program is constantly being 'topped-up' with new Pods so students can regularly return to refresh or update knowledge.

### Briefings

A *Briefing* is a short duration course, typically ranging from one hour to half a day. *Briefings* are typically used to deliver update training.

### Open Enrollment

MATRIXX runs scheduled Open Enrollment courses in time-zones around the world in order to meet local, low-volume demand. Please contact education@matrixx.com for the latest listings

## Training Portfolio

MATRIXX training courses are loosely divided into two streams – **Business** and **Technical**. The **Business** stream includes courses that are typically followed by staff actively involved with either selling MATRIXX solutions, managing projects or creating/updating price plans. All graphical user interface training is conducted under this heading. The **Technical** side is focused on the implementation and operation of MATRIXX-based solutions. Usual roles for this type of training are solution architects, integration engineers, installation and operations staff. There may be some crossover between the two

streams where a senior implementation engineer is also trained on developing and implementing price plans.

## Training Course Structure

The diagram below shows each of the training courses in the MATRIXX portfolio.
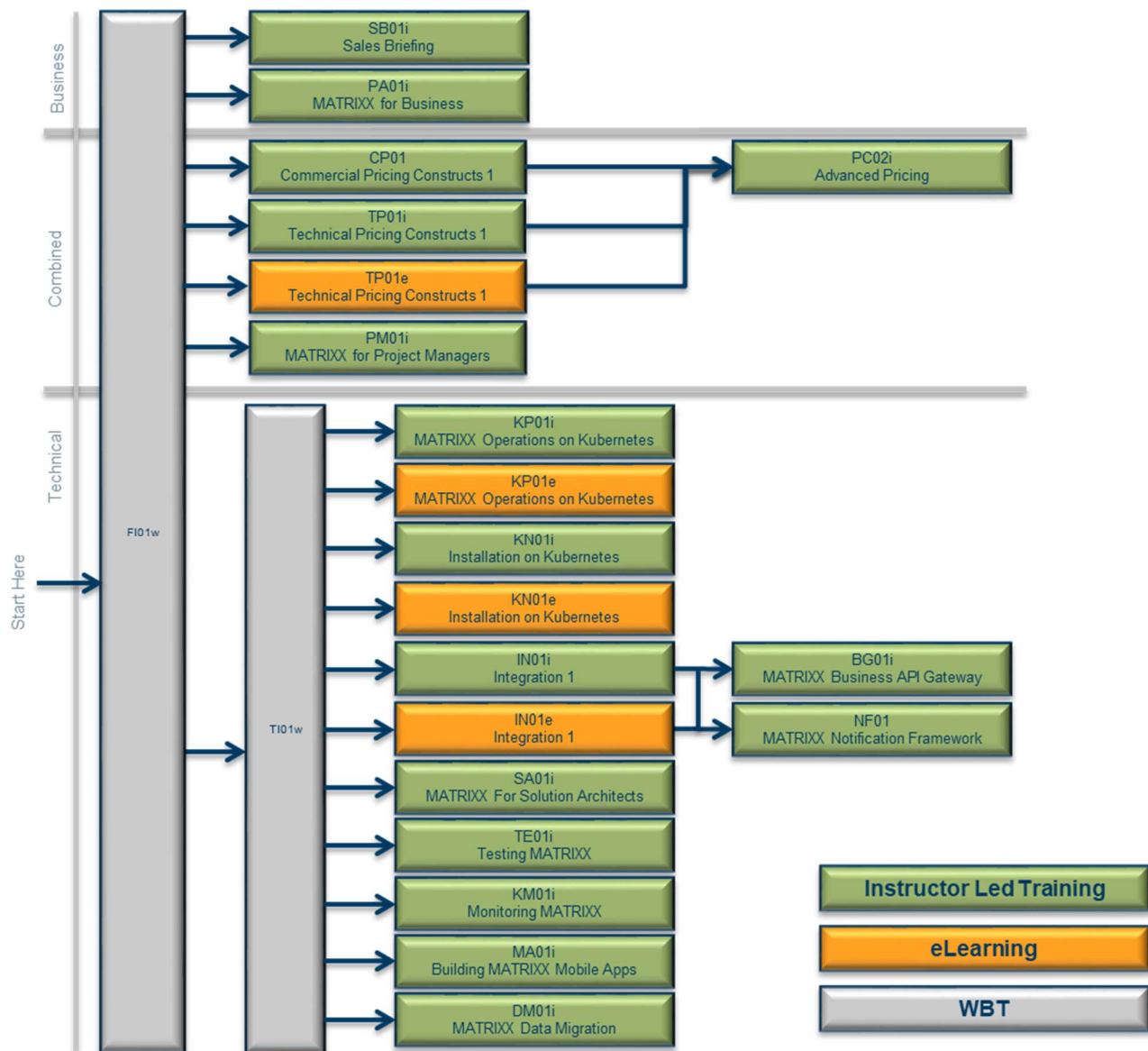


Any courses suffixed with a 'w' are *Web-Based Training* (WBT), those suffixed with an 'i' are *Instructor-Led Training* (ILT) and 'e' indicates *eLearning* (eLT).

# Course Descriptions

All training courses are fully defined in the training data sheets.  These sheets give details on the benefits of taking the course, target audience, goals, objectives, modules, duration and prerequisites. A brief summary of each course is included below.  Duration of the ILT is given and also, where eLT is available, in brackets as overall time-bounding and VM runtime lease.

## Functional Introduction – FI01w

Duration – One to one and a half hours

As the name suggests, this *Web-Based Training* module introduces students to the features and functions supported by MATRIXX Digital Commerce Platform. Where MATRIXX fits into a Digital Service Provider's systems landscape is discussed along with who could use the system and in what way. Details are given on the charging and policy aspects, concepts, how they are configured and used.

## Technical Introduction – TI01w

Duration – One to one and a half hours

This introductory course is intended for anyone who will be involved with the implementation, or operation, of a MATRIXX system. The course describes the hardware and software architecture, standard installation layouts and the (limited) external dependencies. All key terms used in the MATRIXX Digital Commerce Platform are defined and basic operational activities are also discussed.

## Project Manager 1 – PM01i

Duration – One day

This course introduces project managers to the project management details that are specific to a MATRIXX implementation project. Typical implementation phases are considered along with all recommended deliverables. Staffing skill sets are defined and example staff levels considered. A small case study is given showing original requirements, implementation plan and example deliverable documents.

## Solution Architect – SA01i

Duration – One day

This course has been designed to enable solution architects to create high-level MATRIXX-based designs against pre-defined requirement specifications. A review of the architecture of the MATRIXX Digital Commerce Platform is carried out followed by a detailed investigation of the various interfaces available for integration. Case studies support the main theory and there is a group exercise in developing a proposed solution.

## Sales Briefing – SB01i

Duration – Half day

Operator challenges, market trends, motivations and MATRIXX USPs are covered in this *Briefing*. Reference customers are reviewed with details on their MATRIXX implementations.

This course is reserved for MATRIXX partners only.

## MATRIXX Kick-Start – KS01i

Duration – Five days

Designed as an intensive hands-on course for anyone who needs technical details on the basics of MATRIXX. This course reviews the overall architecture of the Digital Commerce Platform and continues with basic operations on the core engine. Integration techniques are explained along with the key integration points and overall configuration process. Finally, MATRIXX Pricing configuration is examined with details of the main pricing components. 50/50 theory/hands-on.

This course is reserved for MATRIXX partners only.

## MATRIXX for Business – PA01i

Duration – One day

The goal of this course is to make students aware of the flexibility and capability of the MATRIXX Platform so that innovative product offers can be defined. Pricing concepts and case studies are the main focus with real-world examples everywhere. In addition, Hands-On exercises show how the My MATRIXX GUI can be used by business teams to create now Catalog Items and define eligibility rules.

## Catalog Pricing Configuration – CP01i

Duration – One day

This is a foundation level course for people involved in the development of a Digital Communication Provider's catalog. A single day in duration, the course enables students to create MATRIXX Catalog Items based on templates from Product Offers and Bundles defined in the Technical Catalog. Also considered in detail are MATRIXX Catalogs and Eligibility Rules to control the visibility of Catalog Items to subscribers. This *Instructor-Led Training* course is classroom-based with 50% hands-on lab time.

## Technical Pricing Configuration – TP01i (e)

Duration – Four days (4 weeks/20 hours)

Even though this is considered a foundation level course, the level of detail is significant and even experienced pricing configuration implementers will find it challenging. The course is designed for teams responsible for the technical configuration of MATRIXX Pricing and enables students to create, test and deploy simple to moderately complex plans. Over the four days, students will investigate the basics of Pricing Configuration and go on to build ever more complex Offers and Bundles. Testing is considered in great detail and all plans are rigorously examined using predefined test cases.

## Advanced Pricing – PC02i

Duration – Two days

Building on the foundation given in TP01 and CP01, this course investigates additional features of the MATRIXX pricing environment including product offer versions and revisions, cancellation, tax, validity periods and priorities. Also included are deep dives on normalizers and normalizer chains, and balances/meters. An extensive test module allows students to investigate shared balances amongst group subscribers.

When delivered as a closed course at a customer's site, implementation details of the customer's pricing configuration are investigated to reveal both the architecture of the pricing configuration and maintenance recommendations.

## MATRIXX Installation on Kubernetes – KN01i

Duration – Two days

This course enables students to carry out the installation, configuration and management of the MATRIXX DCP on a vanilla K8S platform.  Default Helm charts are examined and used to install both core Engine and ancillary MTX components.  Upgrade options are considered through the use of CI/CD technologies.

## MATRIXX Operations on Kubernetes – KP01i

Duration – Four days

This is the sister course to OP01i and transfers all relevant knowledge to students on carrying out MATRIXX DCP operations in a Kubernetes environment.  The course covers all MATRIXX components, their management and monitoring capabilities plus extends a default Grafana Dashboard with additional MATRIXX specific panels

## Operations 1 – OP01i

Duration – Four Days

Operations 1 is an extensive hands-on training course to enable students to carry out the basic day-today running of a MATRIXX system running in a bare metal environment. This course gives each student their own MATRIXX Digital Commerce Platform to investigate through assisted and unassisted exercises.

## Operations 2 – OP02i

Duration – Two Days

This course builds on the work done in OP01 with investigations into MATRIXX support for SNMP, export of data and an extensive fault-finding module. Students are invited to run a series of scripts, each of which putting a fault on their system, and resolve the issue. A detailed investigation is conducted into tracking usage messages and how they are rated in the engine.

## Installation and Configuration 1 – CN01i

Duration – Two Days

Installing the extensive components of the MATRIXX Digital Commerce Platform and configuring it on a bare metal platform in preparation for an implementation project is the subject of this course. Students will go through a complete installation process, set up key configuration parameters and run their engines and ancillary servers.

## Integration 1 – IN01i

Duration – Four days (4 weeks/20 hours)

MATRIXX Digital Commerce Platform has a number of key interface points and this course has been designed to enable students to use them all. Hands-on lab exercises are the backbone of this course which takes a student through the extension of the network interfaces including CAMEL, Diameter and 5G CHF, through to mapping new parameters to internal data structures and on to the north facing APIs. Also included are sections on interfacing with billing and revenue management systems through MATRIXX's MEF files. Details are studied on the notification framework and how it can be used in practical installations.

## MATRIXX for Dev Ops – DO02i

Duration – Three days

To enable application admins and system admins to automate tasks related to MATRIXX.  CI/CD pipelines are springing up in may of our customer's environments and this course will introduce learners on how to use a Jenkins platform to automate such things as pricing deployment, reconfiguration of MATRIXX and software upgrade.

## Testing MATRIXX Pricing – TE01i

Duration – Three days

This course has been designed to give students sufficient knowledge to test the implementation of MATRIXX to confirm requirements in pricing configuration have been met. A technology review/ investigation is followed by detailed pricing studies. This enables students to identify edge case scenarios and carry out the test labs using MATRIXX supplied test and monitoring tools.

## MATRIXX Data Migration – DM01i

Duration – Two days

Transitioning from legacy systems to MATRIXX by transfer of subscriber data is the subject of this course. Strategies and approaches from both the technical and business perspective are considered along with the necessary planning for a successful execution.  This is a hands-on course and the tools available for bulk and API loading of data into MATRIXX are taught.

## Monitoring MATRIXX – KM01i

Duration – One day

Monitoring is a key element of all MATRIXX implementations. This course has been designed to enable partners and customers to set up their own monitoring system to display key parameters from the Digital Commerce Platform.

## MATRIXX Business API Gateway – BG01i

Duration – Three days

To simplify and speed the integration of the Digital Commerce Platform to external north-side systems, MATRIXX has developed a configurable, customizable integration framework. This framework is the Business API Gateway and through its facilities, integrators can create business-like API calls to support CRM, web-app and mobile app provisioning/self-care systems. This course investigates how new API calls can be developed and deployed in the Gateway and enables students to create and test their own

extensions to the integration elements of MATRIXX.  IDEs, GitLab and CI/CD Pipelines are considered through examples

### Configuring MATRIXX Notification Framework – NF01i

Duration – One day

To enable students to set up and manage a MATRIXX Notification Framework for successful delivery of notifications against configured channels is the goal of this two-day course. Students will learn to construct notification messaging components to work together to publish and receive messages, configure notification templates and message routing to external systems. The course also investigates the backwards compatibility facilities of the framework and how these can be used in mature environments.


# Training Selection

## Overview

This section identifies the main roles seen in many MATRIXX implementation projects.  Included are brief details of the tasks carried out and the skills recommended.  Also included is a selection matrix. Customer and Partner roles do vary, please contact education@matrixx.com for detailed TNA opportunities

### Project Manager

| Knowledge | 3GPP standards including Diameter/5G. Mobile/Fixed-Line network technologies. |
|---|---|
| Experience | At least 5 years as a Project Manager or Delivery Manager in a highly technical environment in the Telecoms domain |
| Skills | Plan programs Report progress Resolve project related issues Resolve interpersonal issues Arbitrate Multi-task A good 'people person' A good 'technical shoulder' Chair meetings |

## Solution Architect

| Knowledge | 3GPP standards including Diameter and 5G.<br>SIGTRAN/SS7 standards<br>Mobile/Fixed-Line network technologies.<br>Messaging systems<br>Authentication and authorisation systems<br>Telco data modeling standards<br>Load balancing solutions<br>Network technologies including Ethernet<br>Kubernetes<br>CI/CD Pipelines |
|---|---|
| Experience | At least 5 years as a Solution Architect in a highly technical environment in the Telecoms domain preferably in the charging sphere |
| Skills | Technically creative<br>Design ability |

## Integration Engineer

| Knowledge | Linux<br>Java<br>Apache ActiveMQ, CAMEL, KAFKA<br>Network technologies including Ethernet |
|---|---|
| Experience | At least 3 years integrating complex technology systems in the Telco domain |
| Skills | Linux Shell, vi, sed, XML, JMS, |

## Installation Engineer

| Knowledge | RedHat Enterprise Linux<br>Apache ActiveMQ<br>Network technologies including Ethernet<br>Kubernetes<br>Helm Charts<br>CI/CD Pipelines<br>K8s monitoring solutions including Prometheus, Grafana, FluentBit/FluentD |
|---|---|
| Experience | At least 3 years installation and configuration of complex OSS/BSS |

| Skills | Linux Shell, vi, sed, XML, rpm, Jenkins or similar |
|--------|-----------------------------------------------------|

## Pricing Analyst

| Knowledge | Market view of current and future trends in Telco product development |
|-----------|-----------------------------------------------------------------------|
| Experience | At least 3 years analysis and design of Telco Product Offers |
| Skills | General computer skills<br>Subscriber usage pattern interpretation<br>Market research interpretation<br>Imagination<br>Creativity |

## Pricing Implementer

| Knowledge | General computer application functionality<br>BSS user interface techniques<br>Charging system interface capabilities<br>Detailed knowledge of Telco pricing techniques |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Experience | At least 3 years implementation of Telco Product Offers |
| Skills | Technically creative<br>Programming in any language is a benefit |

## Operations Engineer

| Knowledge | RedHat Enterprise Linux,<br>Apache ActiveMQ<br>Network technologies including Ethernet/ReST<br>Kubernetes<br>CI/CD Pipelines<br>K8s Monitoring solutions such as Prometheus, Grafana, |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Experience | At least 3 years Operational experience |
| Skills | Linux Shell, vi sed, XML |

## Test Engineer

| Knowledge | RedHat Enterprise Linux, Automated Test Environments Diameter and SS7 Interpretation of logs |
|---|---|
| Experience | At least 3 years experience in a high tech Telco Test environment |
| Skills | Linux Shell, vi, sed, XML, scripting. |

## Training Paths

The following training paths are provided as suggestions for each major project role. Further options are available from MATRIXX Education Services.

Note – a green cross indicates a suggested course for an initial training program and the red for a follow-up or advanced series.

| | Project Manager | Solution Architect | Pricing Analyst | Product Expert | Operations Engineer | Installation Engineer | Integration Engineer | Pricing Implementer | Tester |
|---|---|---|---|---|---|---|---|---|---|
| FI01w | X | X | X | X | X | X | X | X | X |
| TI01w | X | X | | X | X | X | X | | X |
| PM01i | X | | | | | | | | |
| SA01i | | X | | | | | | | |
| PA01i | | X | X | | | | | | |
| TP01i(e) | | | | X | | | | X | |
| CP01 | | | X | X | | | | X | |
| PC02i | | | | X | | | | X | |
| KP01i(e) | | | | X | X | | | | |
| KN01i(e) | | | | X | | X | | | |
| IN01i(e) | | | | X | | | X | | |
| TE01i | | | | | | | | | X |
| DM01i | | | | X | | | X | | |
| KM01i | | | | | | X | X | | |
| BG01i | | | | X | | | X | | |
| NF01i | | | | X | | | X | | |

# Further Information

## Delivery Options

### On-Site

Instructor Led Training and *Briefings* may be held at customer premises. Each venue used to run a MATRIXX course must meet the minimum on-site requirements which, for all hands-on courses, includes a high-speed internet access facility. Full details are given in the *On-Site Logistics* document available from your account manager or direct from MATRIXX Education Services at education@matrixx.com.

### Open Enrollment Courses

Where sufficient demand exists in a particular region, open enrollment courses at mutually convenient locations are scheduled. These courses will be standard off-the-shelf deliveries with no reference to any specific customer implementation details.

### Virtual Classroom

As described in the paragraph headed *Delivery Formats* above, all MATRIXX *Instructor-Led Training* courses may be delivered across the internet as *Virtual Classroom* events.

### eLearning

Knowledge and skills in the MATRIXX core disciplines may be gained through Self-Paced eLearning courses.  These courses cover the same objectives as the traditional ILT courses and are available through the MATRIXX LMS.

## Tailored and Customized Training

MATRIXX Education Programs have been built to cover the majority of training required by our customers and partners; however, if you need something more specific, we can adjust a program to your particular requirements. We categorize this aspect of our offering into two groups – **Tailored** and **Customized**.

### Tailored Courses

A tailored course is built from modules taken from our existing library including the WBT material. Courses may be built from any modules from any current courses, however, please be aware that some modules do have other module dependencies.

### Customized Courses

If you need training on a particular implementation – for example maintaining a specific pricing plan – then a customized class is for you. Together, we can define the objectives and build a course or program that fits your needs exactly.

## Professional Certification

It is a challenging task to be certain that the staff you place on a project are capable of filling the role you assign. MATRIXX Professional Certification provides a clear, objective assessment of an individual's abilities. Our examinations are both comprehension and skill-based – online exams provide a quantifiable demonstration of the amount of knowledge an individual has retained from the courses they have attended and our lab-based exams demonstrate skills acquired. For further information on staff certification, please see the document titled MATRIXX Professional Services – Professional Certification.

## Next Steps

For more information, availability and bookings, please contact your local Customer Success manager, or email education@matrixx.com.