

# Course : Microsoft Fabric data engineer

*Practical course - 3d - 21h00 - Ref. FDN*

*Price : 2360 CHF E.T.*

NEW

Over three days, this course immerses participants in Microsoft Fabric to unlock its full potential for data engineering. From batch to real-time ingestion, you will learn how to design reliable pipelines, automate processing workflows, and optimize performance. Security, governance, and DevOps best practices complete the program, enabling you to industrialize data projects and transform data into strategic assets at scale.

## Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Set up a work environment adapted to the needs of an analytical project
- ✓ Understanding the impact of parameters (Spark, Domain, OneLake...) on performance
- ✓ Adapt loading models to project needs
- ✓ Understand different batch ingestion methods and know how to transform and clean data
- ✓ Master orchestration tools and automate according to events
- ✓ Understand real-time data processing concepts
- ✓ Ensure operational follow-up of treatments
- ✓ Quickly diagnose errors
- ✓ Integrating DevOps practices in a data environment
- ✓ Ensuring data security

## Intended audience

Data engineers, data architects, developers or data consultants.

## Prerequisites

Knowledge of relational databases, Python, and SQL, as well as a foundational understanding of data programming and general data engineering concepts.

### PARTICIPANTS

Data engineers, data architects, developers or data consultants.

### PREREQUISITES

Knowledge of relational databases, Python, and SQL, as well as a foundational understanding of data programming and general data engineering concepts.

### TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

### ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.

Participants also complete a placement test before and after the course to measure the skills they've developed.

## Practical details

### Exercise

Discussions, practical work.

### Teaching methods

Active.

## Course schedule

### 1 Introducing the Fabric platform

- Understanding the Microsoft Fabric ecosystem and its key components
- Identify typical use cases in data engineering
- Situating Fabric in a modern data architecture

### 2 Configuring Microsoft Fabric workspace parameters

- Create and configure a workspace for the needs of a data project

#### Hands-on work

Create and configure workspace parameters. Justify configuration choices according to context.

### 3 Design and implement loading models

- Understanding the challenges of full and incremental loading
- Preparing data for a dimensional model
- Defining a loading model for streaming
- Lakehouse, warehouse and eventhouse

#### Hands-on work

Design the right model for the job. Efficiently manage incoming flows.

### 4 Ingest and transform batch data

- Choice of storage type
- Use of dataflows, notebooks, KQL and T-SQL
- Shortcut management, mirror duplication
- Ingestion with pipelines
- Transformation with PySpark, SQL
- Denormalization, aggregation
- Management of duplicates, missing or out-of-date data

#### Hands-on work

Define an operational batch ingestion strategy. Apply the right transformations.

### TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

### TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

### ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at [psh-accueil@orsys.fr](mailto:psh-accueil@orsys.fr) to review your request and its feasibility.

## 5 Orchestrating processes

- Pipeline or notebook
- Creating event schedules and triggers
- Integration of parameters and dynamic expressions in notebooks/pipelines

### Hands-on work

Identify the right orchestration method. Implement a pipeline with event-based automation.

## 6 Real-time ingestion presentation

- Use native storage or shortcuts
- Processing with Eventstreams, Spark structured streaming, KQL

### Hands-on work

Master the concepts and tools associated with real-time ingestion.

## 7 Monitor Fabric resources

- Monitoring ingestion, transformation, model updating
- Alert configuration

### Hands-on work

Identify the right KPIs. Respond to alerts.

## 8 Identifying and resolving errors

- Identifying errors in pipelines, streams, notebooks, eventhouses, eventstreams, T-SQL

### Hands-on work

Detect, analyze and correct errors.

## 9 Implementing lifecycle management in Fabric

- Git integration overview
- Implementation of database projects
- Creating and configuring deployment pipelines

### Hands-on work

Create an operational deployment pipeline. Identify the impact of a new version.

## 10 Configuring security and governance

- Implementing workspace-level access controls
- Configure access controls by resource, row, column, object
- Setting up dynamic masking
- Activating and using workspace logging

### Hands-on work

Apply fine-grained access strategies. Demonstrate dynamic masking. Analyze logs pertinently.

