Course : Microsoft Fabric data engineer

Practical course - 3d - 21h00 - Ref. FDN
Price : 2360 CHF E.T.

NEW

This two-day course will take you to the heart of Microsoft Fabric, enabling you to take full advantage of its data engineering potential. From batch ingestion to real time, you'll learn how to design reliable pipelines, automate processing and optimize performance. Security, governance and DevOps practices will complete this learning process, enabling you to industrialize your projects and transform your data into large-scale strategic levers.

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 and SQL, knowledge of data programming and general knowledge of data engineering.

PARTICIPANTS

Data engineers, data architects, developers or data consultants.

PREREQUISITES

Knowledge of relational databases and SQL, knowledge of data programming and general knowledge of data engineering.

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.

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.

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 to review your request and its feasibility.

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.