IBM Mastering Flink SQL on Confluent Cloud - Essentials

Cursusduur: 1 Dag **Cursuscode: MASTERFLINKG** **Trainingsmethode: Virtual Learning**

Beschrijving:

Learn to design, query, and analyze real-time streaming data using Flink SQL on Confluent Cloud, enabling you to transform live events into actionable business insights.

Master real-time stream processing with Flink SQL on Confluent Cloud. This hands-on course teaches you to process live data streams, build dynamic tables, and run complex time-windowed queries- equipping you to turn raw streaming data into immediate, actionable insights within a fully managed cloud environment.
NB: This course is included in FLINKCC2G for the first 2 days.

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Virtueel en Klassikaal™

Virtueel en Klassikaal™ is een eenvoudig leerconcept en biedt een flexibele oplossing voor het volgen van een klassikale training. Met Virtueel en Klassikaal™ kunt u zelf beslissen of u een klassikale training virtueel (vanuit huis of kantoor)of fysiek op locatie wilt volgen. De keuze is aan u! Cursisten die virtueel deelnemen aan de training ontvangen voor aanvang van de training alle benodigde informatie om de training te kunnen volgen.

Doelgroep:

This course is designed for SQL practitioners who want to extend their skills to stream processing using Flink SQL on Confluent Cloud. It is ideal for data engineers, analysts, and developers who are familiar with SQL and need to apply it to real-time data streams.

Doelstelling:

- **After this course participants should be able to:**
- Understanding the fundamentals of Apache Flink and its relevance to stream processing
- Writing and executing Flink SQL queries on Confluent Cloud
- Differentiating between streaming and batch processing
- Working with dynamic tables and understand streamtable duality
- Managing time attributes and windows for effective stream processing
- Performing complex windowed aggregations in real-time with Flink SQL
- Utilizing Flink SQL for efficient joining of streaming data
- Appling pattern-matching techniques to identify complex event sequences

Vereiste kennis en vaardigheden:

Learners are recommended to have foundational SQL knowledge and a general understanding of data management and cloud computing concepts to maximize the benefits of this course.

Examens en certificering

None

Vervolgcursussen:

None recommended

Cursusinhoud:

Module 1: Introduction to Flink

- Origin of Stream Processing
- What is Apache Flink-
- Apache Flink's APIs
- Flink Job ; Topology
- Lab 1: Setting up the lab environment

Module 2: Getting Started with Flink SQL

- Why Flink SQL for Stream Processing-
- Flink SQL Syntax
- Streaming vs. Batch Processing
- Flink SQL on Confluent Cloud
- Lab 2: Working with Flink in Confluent Cloud

Module 3: Working with Dynamic Tables

- Traditional SQL vs. Streaming SQL
- Stream-Table Duality
- Dynamic Table Creation
- Column Types
- Stateless vs. Stateful Operators
- Lab 3: Working with Dynamic Tables

Module 4: Time ; Windows

- Event Time vs. Processing Time
- Time Attributes vs. Timestamps
- Watermarks
- Windows
- Time Functions ; Data Types
- Lab 4: Using Watermarks and Windows

Module 5: Aggregations

- Overview
- GROUP BY vs. OVER
- Aggregate Functions
- Special Aggregation Queries
- Additional Aggregation Options
- Aggregations: Important Considerations
- Lab 5: Using Aggregations in a Practical Use Case

Module 06: Joins

- Introduction to Joins
- Regular Joins
- Optimized Joins
- Window Joins
- Other Type of Joins
- Lab 6: Exploring Various Types of Joins

Appendix: Pattern Matching

- Introduction
- Understand Query (Partitioning, Order of Events, DEFINE, MEASURES, Define a Pattern, Output Mode, After Match Strategy)
- Pattern Navigation
- Time Attributes

Examples

Extra informatie:

Official course book provided to participants

Nadere informatie:

Neem voor nadere informatie of boekingen contact op met onze Customer Service Desk 030 - 60 89 444

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