Materiaali ja harjoitus

<https://learn.microsoft.com/en-us/training/modules/introduction-end-analytics-use-microsoft-fabric/1-introduction>

Ympäristö/sovellus

[https://app.fabric.microsoft.com](https://app.fabric.microsoft.com/)

**Implementing a Lakehouse with Microsoft Fabric**

**Introduction to end-to-end analytics using Microsoft Fabric**

Discover how Microsoft Fabric can meet your enterprise’s analytics needs in one platform. Learn about Microsoft Fabric, how it works, and identify how you can use it for your analytics needs.

* Describe end-to-end analytics in Microsoft Fabric

**Get started with lakehouses in Microsoft Fabric**

Lakehouses merge data lake storage flexibility with data warehouse analytics. Microsoft Fabric offers a lakehouse solution for comprehensive analytics on a single SaaS platform.

* Describe core features and capabilities of lakehouses in Microsoft Fabric
* Create a lakehouse
* Ingest data into files and tables in a lakehouse
* Query lakehouse tables with SQL

**Use Apache Spark in Microsoft Fabric**

Apache Spark is a core technology for large-scale data analytics. Microsoft Fabric provides support for Spark clusters, enabling you to analyze and process data in a Lakehouse at scale.

* Configure Spark in a Microsoft Fabric workspace
* Identify suitable scenarios for Spark notebooks and Spark jobs
* Use Spark dataframes to analyze and transform data
* Use Spark SQL to query data in tables and views
* Visualize data in a Spark notebook

**Work with Delta Lake tables in Microsoft Fabric**

Tables in a Microsoft Fabric lakehouse are based on the Delta Lake storage format commonly used in Apache Spark. By using the enhanced capabilities of delta tables, you can create advanced analytics solutions.

* Understand Delta Lake and delta tables in Microsoft Fabric
* Create and manage delta tables using Spark
* Use Spark to query and transform data in delta tables
* Use delta tables with Spark structured streaming

**Ingest Data with Dataflows Gen2 in Microsoft Fabric**

Data ingestion is crucial in analytics. Microsoft Fabric’s Data Factory offers Dataflows (Gen2) for visually creating multi-step data ingestion and transformation using Power Query Online.

* Describe Dataflow (Gen2) capabilities in Microsoft Fabric
* Create Dataflow (Gen2) solutions to ingest and transform data
* Include a Dataflow (Gen2) in a pipeline

**Use Data Factory pipelines in Microsoft Fabric**

Microsoft Fabric includes Data Factory capabilities, including the ability to create pipelines that orchestrate data ingestion and transformation tasks.

* Describe pipeline capabilities in Microsoft Fabric
* Use the Copy Data activity in a pipeline
* Create pipelines based on predefined templates
* Run and monitor pipelines

**Implement a Data Warehouse with Microsoft Fabric**

**Get started with data warehouses in Microsoft Fabric**

Data warehouses are analytical stores built on a relational schema to support SQL queries. Microsoft Fabric enables you to create a relational data warehouse in your workspace and integrate it easily with other elements of your end-to-end analytics solution.

* Describe data warehouses in Fabric.
* Understand a data warehouse vs a data Lakehouse.
* Work with data warehouses in Fabric.
* Create and manage fact tables and dimensions within a data warehouse

**Load data into a Microsoft Fabric data warehouse**

Data warehouse in Microsoft Fabric is a comprehensive platform for data and analytics, featuring advanced query processing and full transactional T-SQL capabilities for easy data management and analysis.

* Learn different strategies to load data into a data warehouse in Microsoft Fabric.
* Learn how to build a data pipeline to load a warehouse in Microsoft Fabric.
* Learn how to load data in a warehouse using T-SQL.
* Learn how to load and transform data with dataflow (Gen 2).

**Query a data warehouse in Microsoft Fabric**

Data warehouse in Microsoft Fabric is a comprehensive platform for data and analytics, featuring advanced query processing and full transactional T-SQL capabilities for easy data management and analysis.

* Use SQL query editor to query a data warehouse.
* Explore how visual query editor works.
* Learn how to connect and query a data warehouse using SQL Server Management Studio.

**Monitor a Microsoft Fabric data warehouse**

A data warehouse is a vital component of an enterprise analytics solution. It's important to learn how to monitor a data warehouse so you can better understand the activity that occurs in it.

* Monitor capacity unit usage with the Microsoft Fabric Capacity Metrics app.
* Monitor current activity in the data warehouse with dynamic management views.
* Monitor querying trends with query insights views.