Building Data Lakes on AWS

Duration: 1 day
Audience: Professionnel TI

Who is this training for?

- Data Platform Engineers
- Solution Architects
- IT Professionals

Training objectives

- Apply data lake methodologies in the planning and design of a data lake
- Articulate the components and services needed to build an AWS data lake
- Secure a data lake with the appropriate permissions
- Integrate, store, and transform data in a data lake
- Query, analyze, and visualize data in a data lake

Summary

In this course, you will learn how to build an operational data lake that supports the analysis of both structured and unstructured data. You will learn the components and features of the services involved in creating a data lake. You'll use AWS Lake Formation to create a data lake, AWS Glue to create a data catalog, and Amazon Athena to analyze the data. Lectures and labs deepen your learning by exploring several common data lakes.

Course outline

Module 1: Introduction to Data Lakes

- Describe the Value of Data Lakes
- Compare Data Lakes and Data Warehouses
- Describe the Components of a Data Lake
- Recognize Common Data Lake-Based Architectures

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Module 2: Data Integration, Cataloging, and Preparation

- Describe the Relationship Between Data Lake Storage and Data Integration
- Describe AWS Glue Bots and How They Are Used to Create a Data Catalog
- Identify data formatting, partitioning, and compression for efficient storage and information request
- Lab 1: Set up a simple data lake

Module 3: Data processing and analysis

- Recognize how data processing applies to a data lake
- Use AWS Glue to process data in a data lake
- Describe how to use Amazon Athena to analyze data in a data lake.

Module 4: Building a Data Lake with AWS Lake Formation

- Describe the features and benefits of AWS Lake Formation
- Use AWS Lake Formation to create a data lake
- Understand the AWS Lake Formation security model
- Lab 2: Create a data lake using AWS Lake Formation

Module 5: Additional AWS Lake Formation configurations

- Automate AWS Lake Formation using blueprints and workflows
- Apply AWS Lake Formation Security and Access Controls
- Match Records with AWS Lake Formation FindMatches
- Visualize Data with Amazon QuickSight
- Lab 3: Automate Data Lake Building Using AWS Lake Formation Blueprints
- Lab 4: Visualize Data Using Amazon QuickSight

Module 6: Architecture and Course Review

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- Post-Course Knowledge Check
- Architecture Review
- Course Review

Approach and methodology

Progressive learning from the basic concepts of data lakes Presentation of AWS services (S3, Glue, Athena, Lake Formation) with real-world examples Guided demonstrations to illustrate the implementation of a data lake Practical workshops to create, integrate and analyze data Case studies based on common data lake architectures Exchange and trainer support to facilitate understanding

Prerequisites

Have completed the AWS Technical Essentials classroom course or equivalent content

Recommendations

1 year of experience building data analytics pipelines or having completed the Data Analytics Fundamentals Digital Course

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