Training: AWS
Building Streaming Data Analytics Solutions on AWS

TRAINING GOALS:

In this course, you will learn to build streaming data analytics solutions using AWS services, including Amazon Kinesis and Amazon Managed Streaming for Apache Kafka (Amazon MSK). Amazon Kinesis is a massively scalable and durable real-time data streaming service. Amazon MSK offers a secure, fully managed, and highly available Apache Kafka service. You will learn how Amazon Kinesis and Amazon MSK integrate with AWS services such as AWS Glue and AWS Lambda. The course addresses the streaming data ingestion, stream storage, and stream processing components of the data analytics pipeline. You will also learn to apply security, performance, and cost management best practices to the operation of Kinesis and Amazon MSK.

Course objectives

In this course, you will learn to:

- Understand the features and benefits of a modern data architecture. Learn how AWS streaming services fit into a modern data architecture.
- Design and implement a streaming data analytics solution
- Identify and apply appropriate techniques, such as compression, sharding, and partitioning, to optimize data storage
- Select and deploy appropriate options to ingest, transform, and store real-time and near real-time data
- Choose the appropriate streams, clusters, topics, scaling approach, and network topology for a particular business use case
- Understand how data storage and processing affect the analysis and visualization mechanisms needed to gain actionable business insights
- Secure streaming data at rest and in transit
- Monitor analytics workloads to identify and remediate problems
- Apply cost management best practices

Intended audience

This course is intended for:

- Data engineers and architects
- Developers who want to build and manage real-time applications and streaming data analytics solutions

Compendium Centrum Edukacyjne Spółka z o.o.
ul. Tatarska 5, 30-103 Kraków, tel.: (12) 298 47 77
ul. Postępu 18B, 02-676 Warszawa, tel.: (22) 417 41 70
BNP Paribas Bank Polska S.A.
EUR: PL 79 1600 1462 1853 6451 3000 0006
USD: PL 52 1600 1462 1853 6451 3000 0007

CONSPECT:

- Module A: Overview of Data Analytics and the Data Pipeline
  - Data analytics use cases
  - Using the data pipeline for analytics
- Module 1: Using Streaming Services in the Data Analytics Pipeline
  - The importance of streaming data analytics
  - The streaming data analytics pipeline
  - Streaming concepts
- Module 2: Introduction to AWS Streaming Services
  - Streaming data services in AWS
  - Amazon Kinesis in analytics solutions
  - Demonstration: Explore Amazon Kinesis Data Streams
  - Practice Lab: Setting up a streaming delivery pipeline with Amazon Kinesis
  - Using Amazon Kinesis Data Analytics
  - Introduction to Amazon MSK
  - Overview of Spark Streaming
- Module 3: Using Amazon Kinesis for Real-time Data Analytics
  - Exploring Amazon Kinesis using a clickstream workload
  - Creating Kinesis data and delivery streams
  - Demonstration: Understanding producers and consumers
  - Building stream producers
  - Building stream consumers
  - Building and deploying Flink applications in Kinesis Data Analytics
  - Demonstration: Explore Zeppelin notebooks for Kinesis Data Analytics
  - Practice Lab: Streaming analytics with Amazon Kinesis Data Analytics and Apache Flink
- Module 4: Securing, Monitoring, and Optimizing Amazon Kinesis
  - Optimize Amazon Kinesis to gain actionable business insights
  - Security and monitoring best practices
- Module 5: Using Amazon MSK in Streaming Data Analytics Solutions
  - Use cases for Amazon MSK
  - Creating MSK clusters
  - Demonstration: Provisioning an MSK Cluster
  - Ingesting data into Amazon MSK
  - Practice Lab: Introduction to access control with Amazon MSK
  - Transforming and processing in Amazon MSK

Compendium Centrum Edukacyjne Spółka z o.o.
ul. Tatarska 5, 30-103 Kraków, tel.: (12) 298 47 77
ul. Postępu 18B, 02-676 Warszawa, tel.: (22) 417 41 70
BNP Paribas Bank Polska S.A.
EUR: PL 79 1600 1462 1853 6451 3000 0006
USD: PL 52 1600 1462 1853 6451 3000 0007

- Module 6: Securing, Monitoring, and Optimizing Amazon MSK
  - Optimizing Amazon MSK
  - Demonstration: Scaling up Amazon MSK storage
  - Practice Lab: Amazon MSK streaming pipeline and application deployment
  - Security and monitoring
  - Demonstration: Monitoring an MSK cluster
- Module 7: Designing Streaming Data Analytics Solutions
  - Use case review
  - Class Exercise: Designing a streaming data analytics workflow
- Module B: Developing Modern Data Architectures on AWS
  - Modern data architectures

REQUIREMENTS:

We recommend that attendees of this course have:

- At least one year of data analytics experience or direct experience building real-time applications or streaming analytics solutions. We suggest the Streaming Data Solutions on AWS whitepaper for those that need a refresher on streaming concepts.
- Completed either Architecting on AWS or Data Analytics Fundamentals
- Completed Building Data Lakes on AWS

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by AWS (course completion).

TRAINER:

AWS Authorized Instructor (AAI)

Compendium Centrum Edukacyjne Spółka z o.o.
ul. Tatarska 5, 30-103 Kraków, tel.: (12) 298 47 77
ul. Postępu 18B, 02-676 Warszawa, tel.: (22) 417 41 70
BNP Paribas Bank Polska S.A.
EUR: PL 79 1600 1462 1853 6451 3000 0006
USD: PL 52 1600 1462 1853 6451 3000 0007