Training: AWS
Planning and Designing Databases on AWS

TRAINING GOALS:

In this course, you will learn about planning and designing your solutions with purpose-built Amazon Web Services (AWS) Cloud databases. The course introduces you to the features and characteristics of each of these databases and shares the design considerations that you should make while using them. By taking this course, you can develop the analytical skills needed to choose the right AWS database for your unique needs. By the end of the course, you will be able to analyze a business use case, analyze the workload, and assess application requirements to identify and design the most suitable AWS database solution to support your organizational needs.

Course objectives

In this course, you learn to do the following:

- Summarize the AWS Well-Architected Framework for designing database solutions
- Choose an appropriate purpose-built database service for a given workload
- Design a relational database solution to solve a business problem
- Design a NoSQL database solution to solve a business problem
- Analyze data from multiple databases to solve a business problem
- Discuss the security considerations for your database solution

Intended audience

This course is intended for:

- Solutions architects
- Database architects
- Developers

CONSPECT:

- Module 1: AWS Purpose-Built Databases
  - Well-Architected Database

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

- Purpose-Built Databases
- Relational and Non-Relational Databases
- Step 1: Analyze Workload Requirements
- Step 2: Choose the Data Model
- Step 3: Choose the Right Purpose-Built Database

- Module 2: Amazon Relational Database Service (Amazon RDS)
  - Relational Database Concepts
  - Use Cases
  - What is Amazon RDS?
  - Why Amazon RDS?
  - Amazon RDS Design Considerations - DB instances
  - Amazon RDS Design Considerations
- Module 3: Amazon Aurora
  - What is Aurora?
  - Why Aurora?
  - Aurora Design Considerations
  - Aurora Serverless v2
- Lab 1: Working with Amazon Aurora Databases
- Module 4: Amazon DynamoDB
  - Key-Value Database Concepts
  - Use Cases
  - What is Amazon DynamoDB?
  - Why use Amazon DynamoDB?
  - DynamoDB Data Modeling and Design Considerations
  - Secondary Index Design Considerations
  - Additional DynamoDB Design Considerations
- Lab 2: Working with Amazon DynamoDB Tables
- Module 5: Amazon Keyspaces (For Apache Cassandra)
  - Wide-Column Database Concepts
  - Use Cases
  - What is Apache Cassandra?
  - What is Amazon Keyspaces?
  - Why Amazon Keyspaces?
  - Keyspaces Data Modeling and Design Considerations
  - Additional Keyspaces Design Considerations
- Module 6: Amazon DocumentDB

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

- Document Database Concepts
- Use Cases
- What is Amazon DocumentDB?
- Why Amazon DocumentDB?
- Amazon DocumentDB Design Considerations
- Demonstrations

- Module 7: Amazon Neptune
  - Graph Database Concepts
  - Use Cases
  - What is Amazon Neptune?
  - Why Amazon Neptune?
  - Machine Learning with Neptune ML
  - Neptune Data Modeling and Design Considerations
- Module 8: Amazon Timestream
  - Time-series Introduction
  - What is Amazon Timestream?
  - Why Use Amazon Timestream?
  - Timestream Design Considerations
- Module 9: Amazon ElastiCache
  - In-Memory Database Concepts
  - Use Cases
  - What is Amazon ElastiCache?
  - Why Amazon ElastiCache?
  - Amazon ElastiCache Design Considerations
- Module 10: Amazon MemoryDB for Redis
  - Amazon MemoryDB
  - Use Cases
- Module 11: Amazon Redshift
  - Why Use a Data Warehouse?
  - What is a Data Warehouse?
  - What is Amazon Redshift?
  - Why Use Amazon Redshift?
  - Amazon Redshift Design Considerations
- Lab 3: Working with Amazon Redshift
- Module 12: Tools for Working with AWS Databases
  - Overview of Tools for Working with AWS Databases

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

- Lab 4: Working with Amazon Athena
- Lab 5: Working with Amazon DocumentDB Databases

REQUIREMENTS:

Recommended prerequisites:

- Familiarity with AWS database services
- Understanding databases design concepts and/or data modeling for relational or non-relational databases
- Familiarity with cloud computing concepts
- Familiarity with general networking and encryption concepts
- Completion of the digital course 'Introduction to Building with Databases

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