

Szkolenie: Google Cloud Enterprise Database Migration



Cel szkolenia:

This course is intended to give architects, engineers, and developers the skills required to help enterprise customers architect, plan, execute, and test database migration projects. Through a combination of presentations, demos, and hands-on labs participants move databases to GCP while taking advantage of various GCP services.

This course covers how to move on-premises, enterprise databases like SQL Server to Google Cloud (Compute Engine and Cloud SQL) and Oracle to Google Cloud bare metal.

What you'll learn

- Plan, execute, test, and monitor simple and complex enterprise database migrations to Google Cloud.
- Evaluate on-premises database architectures and plan migrations to cloud-optimized deployments.
- Choose appropriate Google Cloud database targets based on on-premises data sources.
- Migrate SQL Server databases to Cloud SQL and Compute Engine.
- Run Oracle databases on Google Cloud bare metal.
- Recognize and overcome the real-world challenges of moving data to prevent data loss, preserve data integrity, and minimize downtime.
- Test and monitor data migration projects.
- Leverage tools to automate data migration.
- Make the business case for moving databases to Google Cloud.

Audience

This course is primarily intended for engineers planning a data migration to GCP; Engineers working on a database migration project; and Technical managers, IT decision-makers, and others who want to understand the benefits, risks, rewards, and processes of migrating databases to the cloud.

Products

- Associated topic areas

Plan szkolenia:

- Migrating Enterprise Databases to the Cloud
 - Objectives
 - Get a high-level solution overview of use cases, customers, and competitors.
 - Understand traditional database architectures.
 - Optimize databases for the cloud.
 - Architect cloud databases for high-availability, scalability, and durability.
 - Activities
 - Lecture
- Google Cloud Data Migration Solutions
 - Objectives
 - Evaluate the database solutions available on Google Cloud.
 - Run databases on Google Cloud infrastructure using Compute Engine.
 - Leverage Kubernetes and GKE for deploying databases.
 - Use Cloud SQL for managed database solutions.
 - Provision Bare Metal Solution for Oracle databases.
 - Estimate the cost of database solutions.
 - Activities
 - Lecture, labs, and activity
- Google Implementation Methodology
 - Objectives
 - Migrate to the cloud using Google's implementation methodology
 - Perform the key database migration activities
 - Choose the appropriate database migration approach.
 - Activities
 - Lecture and activity
- Migration Strategies
 - Objectives
 - Lift and shift databases from on-premises to Google Cloud.
 - Backup and restore databases from on-premises to Google Cloud services.
 - Migrate databases to the cloud with no downtime.
 - Optimize databases for the cloud.
 - Activities
 - Lecture

- Networking for Secure Database Connectivity
 - Objectives
 - Build secure networks to host databases and database client applications.
 - Allow secure communication across networks using VPC Peering, VPNs, and interconnect.
 - Control access to databases using firewall rules.
 - Automate network infrastructure using Terraform
 - Activities
 - Lecture and labs
- Migrating SQL Server Databases to Google Cloud
 - Objectives
 - Lift and shift SQL Server databases using Compute Engine.
 - Employ Cloud SQL for managed SQL Server databases.
 - Architect SQL Server for security, high availability, and disaster recovery.
 - Configure SQL Server to run with Kubernetes on GKE
 - Activities
 - Lecture and labs
- Migrating Oracle Databases to Google Cloud
 - Objectives
 - Explain why running Oracle on Google Cloud makes sense.
 - Review the technical specs of Oracle BMS.
 - Define common use cases for running Oracle on Google Cloud.
 - Activities
 - Lecture and lab
- Testing and Monitoring Databases in Google Cloud
 - Objectives
 - Use unit, integration, and regression testing techniques to ensure database migration success.
 - Monitor your migration projects with Google tools
 - Activities
 - Lecture and labs
- Google Cloud Data Migration Tools
 - Objectives
 - Move large amounts of data to the cloud using Google transfer services
 - Program data processing and ETL pipelines using Cloud Data Fusion
 - Create workflows using Composer
 - Activities



- Lecture and lab
- Making the Business Case for Moving to Google Cloud
 - Objectives
 - Write a business case to justify a database migration.
 - Perform risk and cost/benefit analysis on a cloud migration project.
 - Estimate the costs associated with database migration.
 - Activities
 - Lecture and activity

Wymagania:

GCP Professional Cloud Architect and/or Professional Data Engineer certification; Understanding of relational and NoSQL database design; Database development experience using SQL; Programming experience.

Poziom trudności



Certyfikaty:

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

Prowadzący:

Authorized Google Cloud Trainer