Faysal Aziz

Mastering MariaDB

From Installation to Advanced Management in 2 days

FA-0310 · 2 days

DevOps, Cloud & Infrastructure

Introduction

Course Overview

Ready to become a database wizard? Dive into the world of MariaDB, where data management meets modern innovation!

Think MySQL is cool? Wait until you meet its more powerful cousin! MariaDB is the open-source powerhouse that's catching the eye of tech giants and startups alike. In this hands-on adventure, we'll go from zero to hero with MariaDB, whether you're running it on bare Ubuntu metal or spinning it up in Docker containers.

Led by someone who's been taming databases since before the internet was cool, you'll learn the real-world tricks that make the difference between a database that just works and one that flies. No theoretical fluff here – we're talking about practical skills you can use the moment you get back to your desk.

From setting up your first MariaDB instance to crafting queries that'll make your colleagues go "How did you do that?", this course is your ticket to joining the ranks of database pros who make data dance to their tune. Whether you're managing gigabytes or terabytes, we've got you covered with battle-tested strategies that actually work in the wild.

Learning outcomes

By the end of this course, participants will be able to:

- Install and configure MariaDB on a **remote Ubuntu server**.
- Deploy and manage **MariaDB using Docker**.
- Use **Azure Data Studio** to interact with MariaDB databases.

- Implement **security best practices** for MariaDB installations.
- Perform advanced database management tasks such as **backup, restoration, and performance tuning**.

Prerequisites

Before attending, participants should have:

✔ **Basic understanding of databases** (tables, queries, etc.).
✔ Familiarity with the **command line**.
✔ Basic knowledge of **Linux systems** (recommended but not mandatory).

Training outline

1. 1. Introduction to MariaDB

- What is MariaDB?
- Differences between **MariaDB and MySQL**
- Key **features and advantages** of MariaDB
- Industry adoption and real-world use cases

2. 2. Setting Up the Environment

- Provisioning a **remote Ubuntu server**
- Ensuring required **system dependencies** are installed
- Introduction to **Docker** and why it's useful for databases

3. 3. Installing MariaDB on Ubuntu

- Updating repositories and installing MariaDB
- Starting and enabling MariaDB service
- Running mysql_secure_installation to enhance security
- Verifying installation and default configurations

4. 4. Deploying MariaDB in Docker

- Pulling the **official MariaDB Docker image**
- Running a **MariaDB container** with persistent storage
- Configuring **custom environments and networking**

- Managing **Docker volumes** for data persistence

5. 5. Connecting MariaDB to Azure Data Studio

- Installing and setting up **Azure Data Studio**
- Configuring **MariaDB connection settings**
- Running **queries** and exploring database objects
- Installing **extensions and productivity tools**

6. 6. User Management and Security

- Creating **user accounts** and assigning privileges
- Configuring **password policies and authentication plugins**
- Securing MariaDB with **firewalls and SSL**
- Implementing best practices for **secure remote access**

7. 7. Performance Optimization

- Monitoring MariaDB **resource usage**
- Adjusting **cache and buffer settings** for better performance
- Analyzing **slow queries** and optimizing them
- Using **Performance Schema and EXPLAIN plans**

8. 8. Backup and Recovery Strategies

- Why backups are crucial
- Performing full and incremental backups using mysqldump
- Restoring databases from **backup files**
- Automating backup processes using **cron jobs**

9. 9. Advanced Configuration and Replication

- Fine-tuning **MariaDB configuration files**
- Setting up **Master-Slave Replication** for high availability
- Monitoring and troubleshooting **replication issues**
- Exploring **clustering and Galera Cluster** for MariaDB

10. 10. Real-World Applications & Case Studies

- **Industry use cases** of MariaDB deployments
- **Challenges and solutions** in enterprise-level database management
- **Interactive Q&A** and best practices discussion

Why Take This Course?

- **Hands-on Learning:** Practical labs, real-world scenarios, and guided exercises.
- **Industry-Relevant Content:** Focus on **real-world challenges** rather than just theoretical concepts.
- **Expert-Led:** Instructor with **30+ years of industry experience** in database management.
- **Cloud & Container Focus:** Learn how to manage MariaDB in **Ubuntu servers and Docker** environments.

This course is designed for **database administrators, DevOps engineers, and developers** who want to efficiently deploy and manage **MariaDB in modern environments**.

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