

**OM-DA8: MySQL 8.0 Database Administrator**

Course Code: OM-DA8

Duration: 5 days

Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

**OVERVIEW*****MySQL 8.0 Database Administrator***

The MySQL for Database Administrators enables DBAs and other database professionals to maximize their organization's investment in MySQL. Learn to configure the MySQL Server, set up replication and security, perform database backups and recoveries, optimize query performance, and configure for high availability.

**SKILLS COVERED**

- Install and configure MySQL Server and client programs
- Recognize the key components of the MySQL architecture
- Manage user accounts and secure your server
- Troubleshoot server slowdowns and other issues
- Backup and recover MySQL database
- Configure and administer a variety of replication topologies

**WHO SHOULD ATTEND?**

Anyone who are interested.

**PREREQUISITES**

There are no prerequisites required to attend this course.

**MODULES****Module 1: Introduction to MySQL**

- Introduction to MySQL
- MySQL Powers the Web
- Practice 1-1: Course Environment

**Module 2: Installing and Upgrading MySQL**

- Installing and Upgrading MySQL
- Linux MySQL Server Installation Directories
- Starting and Stop
- Practice 2-1: Installing MySQL
- Practice 2-2: Connecting to MySQL
- Practice 2-3: Configuring the MySQL Service
- Practice 2-4: Upgrading MySQL
- Practice 2-5: Deploying MySQL with Docker

**Module 3: Understanding MySQL Architecture**

- Understanding MySQL Architecture
- Storage Layer
- What Is a Data Dictionary?
- Redo Logs
- Practice 3-1: Configuring Tablespaces
- Practice 3-2: Configuring the Buffer Pool

**Module 4: Configuring MySQL**

- Configuring MySQL
- Server System Variables
- Practice 4-1: Modifying a Setting by Using Command-Line Arguments
- Practice 4-2: Modifying the Configuration File
- Practice 4-3: Changing Dynamic Settings
- Practice 4-4: Persisting Global Variables
- Practice 4-5: Configuring the Client

- Practice 4-6: Running Multiple MySQL Servers on the Same Host with system

### **Module 5: Monitoring MySQL**

- Monitoring MySQL
- Status Variables
- MySQL Enterprise Audit
- MySQL Enterprise Monitor
- Practice 5-1: Configuring
- Practice 5-2: Using Performance Schema
- Practice 5-3: Installing MySQL Enterprise Monitor
- Practice 5-4: Monitoring Server Activity

### **Module 6: Managing MySQL Users**

- Managing MySQL
- Setting the Account Password
- Authorization
- Using Role Privileges
- Practice 6-1: Quiz-User Management
- Practice 6-2: Creating Users and Roles
- Practice 6-3: Granting Permission

### **Module 7: Securing MySQL**

- Securing MySQL
- Preventing MySQL Password Security Risks
- Keyring
- MySQL Enterprise Firewall
- Practice 7-1: Quiz- Securing MySQL
- Practice 7-2: Enabling SSL for Secure Connections
- Practice 7-3: Encrypting MySQL Data-at-Rest
- Practice 7-4: Configuring MySQL Enterprise firewall

### **Module 8: Maintaining a Stable System**

- Maintaining a stable system
- Capacity Planning

- Identifying the causes of server slowdowns
- Practice 8-1: Quiz- Maintaining a stable system
- Practice 8-2: Identifying the cause of slow performance

### **Module 9: Optimizing Query Performance**

- Optimizing Query Performance
- Index Statistics
- Practice 9-1: Improving query performance with indexes
- Practice 9-2: Using MySQL Query Analyzer

### **Module 10: Choosing a backup strategy**

- choosing a backup strategy
- backup techniques
- Practice 10-1: Quiz- Backup Strategies

### **Module 11: Performing Backup**

- Performing Backups
- mysqldump and mysqlpump
- Physical InnoDB Backups: Overview
- Overview of practices for lesson 11
- Practice 11-1: Backing Up with MySQL Enterprise Backup
- Practice 11-2: Backing Up with mgsqldump and mysqlpump
- Practice 11-3: Restoring the Database Using Binary Log

### **Module 12: Configuring a Replication Topology**

- Configuring a Replication Topology
- Replication Use Cases
- Binary Log Formats
- Asynchronous Replication
- Overview of practices for lesson 12
- Practice 12-1: Quiz- Configuring Replication
- Practice 12-2: Configuring Replication

- Practice 12-3: Adding a New Slave with the Cloning Method
- Practice 12-4: enabling GTID and Configuring Replication

### **Module 13: Administering a Replication Topology**

- Administering a Replication Topology
- Monitoring replication
- Troubleshooting MySQL replication
- Practice 13-1: Monitoring Replication with MySQL Enterprise Monitor
- Practice 13-2: Troubleshooting Replication Errors
- Practice 13-3: Performing a Replication Failover

### **Module 14: Achieving High Availability with MySQL InnoDB Cluster**

- Achieving High Availability with MySQL InnoDB Cluster
- MYSQL Shell
- Managing Sandbox Instances
- Practice 14-1: Creating MySQL InnoDB Cluster
- Practice 14-2: Deploying MySQL Router and Testing the Cluster
- Practice 14-3: Testing High Availability

### **Module 15: Conclusion**

- Conclusion

**END OF PAGE**