

# Oracle Training: Replication, Clustering & High Availability (MYSQLCL, 4 jours)

---

## Description

The course Replication, Clustering & High Availability (Oracle Training) is an exploration of clustering & high availability with MySQL. The training includes clustering basic concepts and discusses the hardware, topology & software requirements of a clustered MySQL implementation. The course covers MySQL cluster design, installation, configuration & implementation. This MySQL course also includes a full discussion on MySQL cluster monitoring, troubleshooting & optimization.

## Tarifs

- Tarification: \$3,750/person
- Rabais de 10% lorsque vous inscrivez 3 personnes.

## Plan de cours

### MYSQL High Availability Overview

---

The Need for High Availability

Overview of MySQL Enterprise Features

MySQL Replication

MySQL Cluster

MySQL High Availability Components

### MySQL Replication

---

Managing the MySQL Binary Log

MySQL Replication Threads and Files

MySQL Replication Environment Setup

Designing Replication Topologies

Multi-Master and Circular Replication

Performing a Controlled Switchover

Monitoring and Troubleshooting MySQL Replication

Replication with Global Transaction Identifiers (GTIDs)

### Installing MySQL Cluster

---

Hardware, Software, and Network Requirements

Choosing and Installing Cluster Distributions

Installing and Configuring Cluster Nodes

MySQL Cluster Auto-Installer

Starting a Cluster with a Basic Configuration

Upgrading a Cluster

### MySQL Cluster Architecture

---

The NDB storage engine

Clustered tables

SQL and NoSQL API nodes

Data Nodes and Node Groups

Partitions and Replicas

Checkpoints and the Redo Log

Redundancy and Resilience

### Designing a MySQL Cluster

---

Design Guidelines

Sizing Memory Usage

In-Memory and Disk Data Storage

Configuring Disk Data Storage

Designing Clusters for Scale and High Availability

Cluster Configuration Examples

## Configuring MySQL Cluster

---

MySQL Cluster Configuration Files

Basic Configuration Options: NodeId and HostName

Management Node Configuration

Data Node Configuration

Configuring Multi-Threaded Data Nodes

Cluster Program Startup Options

Viewing Cluster Configuration Information

## Maintaining a MySQL Cluster

---

Modifying Table Structure

Working with Command-Line Tools

About the Single-User Mode

Backing Up a Cluster

Restoring a Cluster from Backup

## MySQL Cluster Manager

---

Installing MySQL Cluster Manager Agent and Clients

Sites, Clusters, Hosts, Processes, Packages, and Configuration Attributes

Creating Managed Clusters

Importing a Configuration from an Unmanaged Cluster

Accessing Cluster Information

Site and Cluster Maintenance

## Monitoring MySQL Cluster

---

Monitoring Overview

Working with the ndb\_mgm Client

Using the Cluster Log

ndbinfo Database

Status Variables

MySQL Enterprise Monitor

## Troubleshooting MySQL Cluster

---

Troubleshooting Methodology

About Heartbeats

Dealing with Configuration Issues

Dealing with Disk Activity Issues

Dealing with Application Design Issues

## Optimizing Performance

---

Performance Concepts

Identifying Queries for Optimization

Optimizing with Indexes

Using EXPLAIN

Adaptive Query Localization

Distribution Awareness