

Class No	Module Details	Duration
Module Name: Introduction to Databases and MySQL		
01	<ul style="list-style-type: none"> <li>Overview of databases and their importance</li> <li>Introduction to MySQL and its features</li> <li>Understanding the relational database model</li> <li><b>Real life example</b></li> </ul>	02 Hours
Module Name: MySQL Installation and Configuration		
02	<ul style="list-style-type: none"> <li>Installation of MySQL Server on various platforms (Windows, Linux, macOS)</li> <li>Configuration of MySQL Server settings</li> <li>Manage user, group, files etc</li> <li>Remote access</li> <li>Setting up user accounts and privileges</li> </ul>	02 Hours
Module Name: MySQL Database Design		
03	<ul style="list-style-type: none"> <li>Fundamentals of database design</li> <li>How data stores, different types of keys etc</li> <li>Creating and managing databases</li> <li>Creating and manages tables</li> <li>Understanding data types and constraints</li> </ul>	02 Hours
Module Name: SQL Fundamentals		
04	<ul style="list-style-type: none"> <li>Introduction to SQL (Structured Query Language)</li> <li>Describe basic SQL queries</li> <li>Writing basic SQL queries (SELECT, INSERT, UPDATE, DELETE)</li> <li>Advanced SQL querying (JOINS, subqueries, aggregate functions)</li> </ul>	02 Hours
Module Name: Data Manipulation and Transactions		
05	<ul style="list-style-type: none"> <li>Inserting, updating data</li> <li>Deleting data</li> <li>Managing transactions and ensuring data integrity</li> <li>Handling errors and exceptions</li> </ul>	02 Hours
Module Name: Database Backup and Recovery		
06	<ul style="list-style-type: none"> <li>Importance of backups and recovery strategies</li> <li>Types of mysql backups and there uses</li> <li>Performing backups using mysqldump and other tools</li> <li>Schedule Backups and restore</li> <li>Strategies for database recovery in case of failures</li> </ul>	02 Hours
Module Name: Performance Tuning and Optimization		
07	<ul style="list-style-type: none"> <li>Identifying and resolving performance bottlenecks</li> <li>Optimizing database schema and queries</li> <li>Slow query log, error log etc</li> </ul> <b>InnoDB Engine Status</b> <ul style="list-style-type: none"> <li></li> </ul>	02 Hours

	<ul style="list-style-type: none"> <li>Monitoring and analyzing database performance</li> </ul>	
	Module Name: High Availability and Replication	
08	<ul style="list-style-type: none"> <li>Understanding high availability concepts</li> <li>MySQL Replication and its advantages</li> <li>Replication Method, Synchronization, format</li> <li>Configuring and managing replication for MySQL</li> <li>Implementing failover and load balancing</li> </ul>	02 Hours
	Module Name: Security and Access Control	
09	<ul style="list-style-type: none"> <li>Securing the MySQL server and databases</li> <li>Different types of security and access policy</li> <li>Implementing access controls and permissions</li> <li>Best practices for securing sensitive data</li> <li>Real life example</li> </ul>	02 Hours
	Module Name: MySQL Utilities and Tools	
10	<ul style="list-style-type: none"> <li>Overview of MySQL utilities and command-line tools</li> <li>Using graphical administration tools such as MySQL Workbench</li> <li>Install and uses of different tools</li> <li>Automation and scripting for database administration tasks</li> </ul>	02 Hours
	Module Name: Case Studies and Real-world Scenarios	
11	<ul style="list-style-type: none"> <li>Practical examples and case studies from industry</li> <li>Hands-on exercises and projects to reinforce learning</li> <li>Different error handling</li> <li>Troubleshooting common database problems</li> </ul>	02 Hours
	Module Name: Best Practices and Advanced Topics	
12	<ul style="list-style-type: none"> <li>Advanced optimization techniques</li> <li>Scalability and sharding strategies</li> <li>Cloud-based MySQL Service</li> <li>Advantages and disadvantages of different cloud-based service</li> <li>deployments and managed services</li> </ul>	02 Hours

