Mastering Database Replication: Strategies and Implementation

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Lisbon (Portugal)



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Why This Course

In today's data-driven organizations, ensuring data availability, consistency, and resilience is critical. Database replication plays a central role in supporting high availability, disaster recovery, real-time reporting, and distributed systems. As infrastructures grow more complex—spanning on-premises, cloud, and hybrid environments—IT professionals must master modern replication strategies that ensure performance and reliability without compromising data integrity.

The Database Replication Design & Implementation Program is an intensive 1-week course designed for database administrators, system engineers, IT architects, and data professionals responsible for maintaining business-critical systems. This program combines foundational theory with hands-on configuration across leading platforms, enabling participants to confidently design, deploy, and manage robust replication environments.

What You'll Learn and Practice

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

- Understand core database replication concepts, models, and business benefits.
- Design replication architectures suited to different operational scenarios.
- Configure and manage replication across SQL Server, Oracle, and cloud platforms.
- Troubleshoot replication failures and optimize performance.
- Develop disaster recovery and high availability strategies using replication.
- Apply security and data integrity best practices in replicated environments.

The Program Flow

Day 1 - Introduction to Database Replication

- Replication fundamentals, terminology, and core concepts.
- Types of replication: snapshot, transactional, and merge.
- Replication architectures and topology design.
- Business use cases and strategic advantages of replication.



Day 2 - Implementing Replication in SQL Server

- Configuring publishers, distributors, and subscribers.
- Setting up snapshot replication.
- Implementing and managing transactional replication.
- Merge replication configuration and monitoring.
- Maintenance, monitoring, and performance considerations.

Day 3 - Oracle Database Replication Techniques

- Oracle GoldenGate architecture and key components.
- Configuring and managing Oracle Data Guard.
- Implementing Oracle Streams replication.
- Handling advanced Oracle replication scenarios.

Day 4 - Cross-Platform and Cloud Replication Solutions

- Heterogeneous replication strategies across different database systems.
- Cloud replication services AWS DMS, Azure Data Sync.
- Replication in distributed and hybrid environments.
- Real-time data integration and Change Data Capture CDC.

Day 5 - Best Practices & Advanced Topics

- Performance tuning and optimization techniques.
- Security considerations and access control in replication.
- Disaster recovery planning and high availability architectures.
- Troubleshooting complex replication challenges.
- Emerging trends in replication and data synchronization technologies.

Individual Impact

Participants will leave the program with:

- The ability to design and deploy reliable replication solutions.
- Practical troubleshooting skills to maintain data consistency and uptime.
- Confidence in implementing replication for high availability and disaster recovery.
- Cross-platform expertise relevant to modern hybrid and cloud environments.

Organizational Impact

Organizations benefit through:



- Improved system availability and reduced downtime.
- Stronger disaster recovery readiness and business continuity.
- Better data synchronization across distributed systems.
- Enhanced operational efficiency and performance optimization.
- Secure and scalable replication architectures aligned with business needs.

Training Methodology

This program follows a practical, hands-on approach, including:

- Guided configuration labs across multiple platforms.
- Real-world replication design scenarios.
- Troubleshooting workshops and performance tuning exercises.
- Architecture planning sessions for high availability and disaster recovery.
- Expert-led discussions connecting technical implementation with business continuity strategy.

Beyond the Course

After completing the program, participants will be ready to:

- Lead database replication initiatives within their organizations.
- Design scalable and secure data replication architectures.
- Enhance system resilience through high availability solutions.
- Support digital transformation initiatives with reliable data synchronization strategies.

