

Certificate in Database Management System (DBMS)



The Certificate in Database Management Systems (DBMS) course provides a comprehensive foundation in understanding, designing, and managing databases. Students will explore both relational and NoSQL database systems, learning essential concepts, including data integrity, normalization, transactions, and security. The course covers advanced SQL techniques for querying and managing databases, alongside practical skills for using modern business intelligence tools to drive informed decision-making. By the end of the course, students will have hands-on experience in designing and managing databases, making them proficient in both SQL and NoSQL environments, and ready to tackle real-world database challenges across various industries.







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Syllabus & Skills covered (120 hours) 7

- Database Fundamentals: Understand the core concepts and history of Database Management Systems (DBMS).
- DBMS vs. Traditional File Systems: Evaluate the advantages and disadvantages of DBMS over traditional file management approaches.
- Database Design: Design and implement relational databases using Entity-Relationship models and relational schema mapping.
- SQL Proficiency: Master SQL for creating, modifying, querying, and managing databases efficiently.
- Transaction Management: Implement database transactions and understand ACID properties and concurrency control.
- NoSQL Databases: Develop and manage NoSQL databases, focusing on their architecture and use cases.
- Advanced SQL Queries: Create complex SQL queries, including nested queries, joins, and aggregates.
- Database Security: Understand and implement security measures such as user permissions and data encryption.
- Practical Application: Apply database management knowledge to realworld projects and case studies.
- Business Intelligence: Develop skills in using modern BI tools for data analytics to aid decision-making.

Career Opportunities

- Junior Database Administrator (DBA)
- Entry-Level Database Designer
- Data Analyst (Entry-Level)
- Application Developer (with DBMS focus)



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