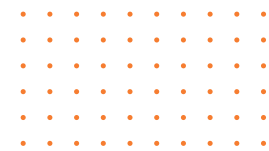


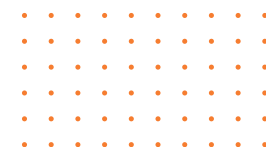


Tech Learniversity



JOB GUARANTEED PROGRAM

QUALITY EDUCATION FROM QUALITY PEOPLE



PROGRAM NAME

DATABASE ADMINISTRATOR PROGRAM

QUALITY EDUCATION FROM QUALITY PEOPLE





DATABASE ADMINISTRATOR PROGRAM

This Database Administrator Program is a comprehensive journey through the fundamentals of database management, design principles, SQL programming, and cloud administration. Delivered over 60 hours, it equips students with practical skills necessary for managing and optimizing databases in various environments.

Course Overview

The Database Administrator Program is designed to provide a comprehensive understanding of database management and administration over 60 hours. Participants will learn essential concepts such as database design, SQL programming, user management, backup and recovery strategies, and cloud database administration. The curriculum includes hands-on projects like a Library Management System and an E-Commerce Database Administration project that simulate real-world scenarios. By the end of the program, students will be equipped with practical skills necessary for managing databases effectively in various environments. This course is ideal for beginners or professionals looking to enhance their expertise in database technologies.



COURSE TYPE

Designed for beginners to intermediate learners interested in pursuing careers as Database Administrators or enhancing their existing skill set in database technologies.

Course Objectives

1. Understand fundamental database concepts including DBMS/RDBMS distinctions.
2. Design effective databases using normalization techniques.
3. Execute essential SQL operations proficiently across various scenarios.
4. Install/configure popular relational databases effectively.
5. Implement user security measures while ensuring compliance with best practices.
6. Develop robust backup/recovery plans tailored to organizational needs.
7. Monitor performance metrics while applying tuning techniques for optimization.
8. Explore high availability solutions through replication/clustering setups.



Duration

60 Hours

Requirements

- A computer (Windows/macOS/Linux) with at least 8 GB RAM recommended
- Reliable internet connection
- Willingness to install necessary software (e.g., MySQL/PostgreSQL)



PRE-REQUISITES

Basic understanding of linear algebra is helpful but not mandatory. Familiarity with programming concepts will be beneficial as well as knowledge of fundamental statistics.

Target Audience

This program is ideal for:

1. Beginners or early-career professionals targeting roles in Database Administration
2. Software developers looking to shift into DBA roles
3. IT professionals seeking advanced skills in database management
4. Anyone interested in mastering backend data systems



CAREER AND FUTURE PROSPECTS

1. Junior Database Administrator
2. Database Administrator
3. Senior DBA
4. Cloud Database Specialist
5. Data Analyst focusing on backend processes

Designation/Title

1. Junior Database Administrator / Associate DBA: Entry-level roles focused on supporting database operations and learning best practices.
2. Database Administrator: Responsible for managing databases, ensuring performance, security, and availability.
3. Senior Database Administrator: Advanced role involving leadership responsibilities, optimizing complex databases, and implementing strategic solutions.
4. Cloud Database Specialist: Focuses on cloud-based database management systems like AWS RDS or Azure SQL.
5. Data Analyst with Backend Focus: Utilizes database skills to analyze data trends and provide actionable insights.



PROJECTS

Hands-on practice is emphasized throughout the program which includes:

1. Minor Project – Library Management System:
 - Design a relational schema incorporating books/members/staff functionalities using SQL queries effectively demonstrating learned concepts from earlier modules.
2. Major Project – E-Commerce Database Administration & Deployment:
 - Create a complete e-commerce solution encompassing user/product/order/payment systems utilizing all aspects learned throughout the course including installation/configuration/security measures along with deployment on cloud platforms.

Salary

India : ₹6 LPA – ₹15 LPA

USA : \$70,000 – \$120,000

Canada : CA\$65,000 – CA\$110,000

UK : £40,000 – £75,000

Australia : AU\$70,000 – AU\$110,000



FEATURES

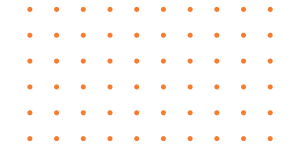
- Hands-On Curriculum: Engage with real tools like MySQL, PostgreSQL, and Oracle for comprehensive database management solutions.
- Cloud Integration: Explore cloud platforms such as AWS, Azure, or GCP for scalable and efficient database administration.
- Industry Best Practices: Adopt essential practices including normalization techniques, performance tuning, security measures, and backup strategies.
- Portfolio-Building Projects: Each module includes practical tasks leading to a final capstone project that simulates real-world DBA responsibilities.
- Career Support: Receive guidance on resume/CV building, interview preparation, and networking opportunities tailored for database-focused roles.

Benefits

- Comprehensive Database Mastery: Acquire essential skills in database design, management, and administration across various platforms.
- Technical & Soft Skills Development: Combine SQL proficiency, performance tuning, data security practices, and effective communication with stakeholders.
- Real-World Application: Engage in hands-on projects that simulate actual DBA responsibilities, ensuring practical relevance to industry demands.
- Professional Networking Opportunities: Connect with peers, instructors, and industry professionals within a collaborative learning environment.
- Enhanced Career Prospects: Equip yourself for roles such as Database Administrator, Cloud Database Specialist, or Data Analyst with backend focus.



SYLLABUS



MODULE 1. INTRODUCTION TO DATABASES

- What is a Database?
- Types of Databases: Relational vs Non-Relational
- DBMS vs RDBMS
- Overview of Popular RDBMS: Oracle, SQL Server, MySQL, PostgreSQL

MODULE 2. DATABASE DESIGN & DATA MODELING

- Entities, Attributes, and Relationships
- ER Diagrams
- Normalization and Denormalization
- Primary, Foreign Keys, Constraints
- Schema vs Instance

MODULE 3. SQL ESSENTIALS

- Basic SQL: SELECT, INSERT, UPDATE, DELETE
- JOINS, Subqueries, Views
- Indexes and Performance Considerations
- Stored Procedures and Functions
- Transactions and Concurrency Control





SYLLABUS

PROJECT 1. MINOR PROJECT - LIBRARY MANAGEMENT SYSTEM

- Design a relational database schema for a library.
- Create tables for Books, Members, Staff, Issued Books, Fines, etc.
- Write SQL queries for issuing a book, returning a book, checking overdue fines, searching books by author/title.
- Implement constraints, primary & foreign keys.
- Use Views, Joins, and Transactions.
- Goal: Apply database design + SQL essentials in a small real-life project.

MODULE 4. DATABASE INSTALLATION AND CONFIGURATION

- Installation of MySQL / PostgreSQL / SQL Server / Oracle (pick one or more)
- Configuring Database Services
- Creating and Managing Databases and Tablespaces
- Understanding Configuration Files



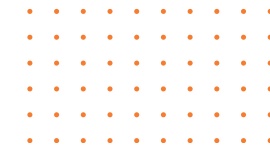
SYLLABUS

MODULE 5. USER MANAGEMENT AND SECURITY

- Creating Users and Roles
- Managing Privileges and Permissions
- Role-Based Access Control (RBAC)
- Database Auditing and Logging
- Encryption (at-rest and in-transit)

MODULE 6. BACKUP AND RECOVERY

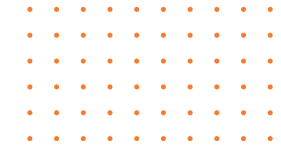
- Backup Types: Full, Incremental, Differential
- Recovery Models (Simple, Full, Bulk-Logged)
- Automated Backup Scripts
- Restore and Point-in-Time Recovery
- Disaster Recovery Strategies





SYLLABUS

MODULE 7. PERFORMANCE MONITORING AND TUNING



- Monitoring Tools and Logs
- Query Optimization Techniques
- Index Tuning and Execution Plans
- Locking and Deadlocks
- Resource Management (CPU, RAM, Disk I/O)

MODULE 8. HIGH AVAILABILITY AND REPLICATION

- Database Clustering Concepts
- Failover and Load Balancing
- Replication Types: Master-Slave, Multi-Master
- AlwaysOn Availability Groups (SQL Server)
- Oracle Data Guard / MySQL Replication





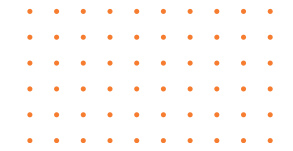
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MODULE 9: AUTOMATION AND SCRIPTING

- Automating Tasks with Bash / PowerShell
- SQL Scripts for Maintenance Jobs
- Cron Jobs / Task Scheduler
- Monitoring Alerts and Notifications

MODULE 10. CLOUD DATABASE ADMINISTRATION

- Introduction to Cloud Platforms: AWS, Azure, GCP
- RDS (Amazon), Cloud SQL (Google), Azure SQL
- Backups and Snapshots in Cloud
- Security and IAM in Cloud
- Cost Management and Scaling





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MAJOR PROJECT. E-COMMERCE DATABASE ADMINISTRATION & DEPLOYMENT

- Design & implement a full-fledged e-commerce database (Users, Products, Orders, Payments, Inventory, Shipping).
- Configure and install on MySQL/PostgreSQL/SQL Server.
- Implement user roles & permissions (admin, seller, customer).
- Set up backup & recovery scripts with automated scheduling.
- Apply query optimization and create indexes for performance.
- Enable replication or clustering for high availability.
- Deploy database to Cloud (AWS RDS / Azure SQL / GCP Cloud SQL).
- Implement monitoring dashboards & alerts.
- Goal: Simulate the real-world responsibilities of a DBA (design, performance tuning, security, backup, cloud deployment).



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Company Description

At Tech Learniversity, we are dedicated to transforming lives through accessible, cutting-edge technology education and personalized learning experiences that empower individuals to excel in the digital era.



ABOUT US

Company Description

Tech Learniversity is a cutting-edge EdTech firm dedicated to revolutionizing global education through personalized learning experiences. We offer innovative training programs, including immersive bootcamps and next-generation AI courses, designed to equip learners with the skills needed to excel in today's competitive job market.

[More Information](#)



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TECH LEARNIVERSITY**

