INFOSOFT IT SOLUTIONS

Training | Projects | Placements

Revathi Apartments, Ameerpet, 1ˢᵗ Floor, Opposite Annapurna Block, Infosoft It solutions, Software Training & Development Institute, **+91 - 9059683947 | +91 - 9182540872**

DATA WAREHOUSING COURSE CONTENT

Introduction to Data Warehousing

- Overview of data warehousing concepts and architecture

- Importance of data warehousing in decision support systems

- Evolution of data warehousing technologies

- Role of data warehouses in business intelligence

Data Warehouse Design Principles

- Introduction to dimensional modeling

- Star schema and snowflake schema design

- Fact and dimension tables

- Normalization vs. denormalization in data warehousing

ETL Processes in Data Warehousing

- Introduction to ETL (Extract, Transform, Load) processes

- Data extraction techniques from heterogeneous sources

- Data transformation and cleansing techniques

- Loading data into the data warehouse

Data Warehouse Architecture

- Overview of data warehouse architecture components

- Data mart vs. enterprise data warehouse (EDW)

- Single-tier, two-tier, and three-tier architectures

- Scalability, reliability, and performance considerations

Data Quality and Master Data Management

- Importance of data quality in data warehousing

- Data profiling and data cleansing techniques

- Introduction to master data management (MDM)

- Data governance and stewardship

Data Warehouse Modeling Techniques

- Overview of different modeling techniques (e.g., Inmon vs. Kimball)

- Hybrid approaches to data warehousing

- Bridge tables and slowly changing dimensions (SCDs)

- Real-world case studies and modeling exercises

Advanced ETL Techniques

- Incremental loading and change data capture (CDC)

- Parallel processing and partitioning for ETL performance

- Error handling and logging in ETL processes

- Introduction to data integration tools

Performance Optimization in Data Warehousing

- Indexing strategies for data warehouses

- Query optimization techniques

- Materialized views and aggregate tables

- Partitioning and compression for performance improvement

Data Warehousing in the Cloud

- Overview of cloud-based data warehousing solutions (e.g., Amazon Redshift, Google Big Query, Snowflake)

- Benefits and challenges of cloud data warehousing

- Migrating on-premises data warehouses to the cloud

- Hands-on experience with a selected cloud data warehousing platform

Data Visualization and Reporting in Data Warehousing

- Overview of BI tools for data visualization and reporting (e.g., Tableau, Power BI)

- Designing dashboards and reports for data analysis

- Integrating BI tools with data warehouses

- Real-time analytics and streaming data integration

Data Warehousing Security and Compliance

- Security challenges in data warehousing

- Role-based access control (RBAC) and data encryption

- Compliance requirements (e.g., GDPR, HIPAA) for data warehousing

- Auditing and monitoring in data warehousing environments

Capstone Project

- Final project where students apply their knowledge and skills to design and implement a data warehousing solution for a real-world scenario

- Project planning, data modeling, ETL processes, and performance optimization

- Presentation of projects and peer feedback