INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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Dimensional Data Mode ling Training

Introduction to Data Mode ling

- Overview of Data Mode ling
- Importance of Dimensional Mode ling
- Comparison with Other Mode ling Techniques (ER Mode ling, etc.)
- Characteristics of Dimensional Models

Star Schema Fundamentals

- Introduction to Star Schema
- Key Elements: Fact Tables and Dimension Tables
- Design Principles of Star Schema
- Advantages and Use Cases

Dimensional Mode ling Techniques

- Snowflake Schema: Concepts and Implementation
- Fact Constellations: Design Considerations
- Bridge Tables and Many-to-Many Relationships

Design Best Practices

- Identifying Business Processes and Metrics
- Granularity and Grain Definition
- Handling Slowly Changing Dimensions (SCDs)
- Dimensional Hierarchies and Roll-Up/Drill-Down

Advanced Topics

- Role-Playing Dimensions
- Aggregation Strategies and Materialized Views
- Handling Junk Dimensions and Degenerate Dimensions
- Designing for Performance: Indexing and Partitioning

Implementation and Tools

- Tools and Software for Dimensional Modeling
- Practical Examples and Case Studies
- Hands-On Exercises with Sample Datasets

Review of Fundamentals

- Recap of Star Schema and Snowflake Schema
- Advanced Design Considerations
- Dimensional Modeling vs. Data Vault Modeling

Advanced Dimensional Modeling Techniques

- Factless Fact Tables: Use Cases and Design Patterns
- Aggregate Fact Tables: Design and Implementation
- Handling Semi-Additive and Non-Additive Facts
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Advanced Design Patterns

- Conformed Dimensions across Organizations
- Rapidly Changing Dimensions (RCDs) and Historical Tracking
- Hybrid Slowly Changing Dimensions (SCDs)

Advanced Performance Optimization

- Indexing Strategies for Dimensional Models
- Partitioning Techniques for Large Fact Tables
- Query Optimization and Performance Tuning

Advanced Aggregation Strategies

- Aggregation Awareness in ETL Processes
- Advanced Materialized Views and Cubes
- Incremental Data Loading Techniques

Advanced Topics in Dimensional Mode ling

- Advanced Role-Playing Dimensions
- Designing for Big Data and Real-Time Analytics
- Multidimensional Mode ling and OLAP Considerations

Case Studies and Practical Applications

- Real-World Case Studies from Different Industries
- Best Practices in Implementing Dimensional Models
- Hands-On Workshops with Complex Datasets

Emerging Trends and Technologies

- Dimensional Modeling in the Cloud: AWS Redshift, Google BigQuery, etc.
- Streaming Data and Dimensional Mode ling