Data Warehousing Fundamentals

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Module 0. About the Course (8 min)

Module 1. Introductory Concepts (71 min)

- *Overview*
- *Data and Information*
  - Definitions
  - Categories of Data
  - Categories of Information
  - Growth in Data Availability
  - The Rise of Analytics
- *The Modern Data Landscape*
  - Traditional Data
  - Non-Traditional Data
  - Emerging Data Opportunities
  - Diverse Data Structures
  - Emerging Data
- *Generating Information*
  - Segmenting the Demand
  - The Need for Integration
  - Analytics Techniques
- *The Need for Metadata*
  - Metadata Defined
  - Categories and Examples
  - Metadata Management Process
- *Defining the Data Warehouse*
  - Classic Definitions
  - Modern Definitions
  - Traditional Components
  - Non-Traditional Components
  - Combining Two Perspectives
  - The Enterprise Data Hub
  - Revisiting the Scope of This Course
- *Implementation Approaches*
  - Phases and Activities
  - Waterfall Approach
  - Iterative Approach
  - Programs and Projects

Module 2. Planning and Architecture (72 min)

- *Overview*
- *Implementation Planning*
  - The Need for Vision
  - Developing a Vision
  - Assessing and Building Capabilities
  - Implementation Plan
  - Maintaining a Balance
  - The Roadmap
  - Program Charter
- *Architecture Overview*
  - Description and Purpose of Architecture

    - Properties of Architecture
    - Categories of Architecture
    - Data Architecture
    - The Hub Concept
    - Data Hubs
    - Dara Warehouse Concepts
    - The Hub and Spoke Architecture
    - The Bus Architecture
    - Independent Data Marts
- *Requirements Analysis*
    - The Challenges
    - Requirements Context and Causality
    - Categories of Requirements
    - Requirements Techniques
- *Information Requirements*
    - Business Context Models
    - Conceptual Models
    - Conceptual Modeling Techniques
    - Subject Models
    - Information Category Models
    - Business Question Models
    - Fact and Qualifier Models
    - Metadata Requirements

Module 3. Design and Development (73 min)

- *Overview*
- *Design Activities*
    - Scope
    - Description and Objectives
    - Architecture Driven
    - Logical Design
    - Physical Design
- *Design Decisions*
    - Scope of Design
    - Designing Data Stores
    - Designing Data Flows
    - Iterative Design Flow
- *Design Example*
    - Logical Relations Data Warehouse
    - Logical Dimensional Data Mart
    - Logical Integrations Process
    - Logical Data Mapping
    - Logical Transformation Specification
    - Physical Relational Design
    - Physical Dimensional Design
    - Star Schema Data Mart
    - Iterative Design Flow Review
    - Evaluating the Design
- *Development*

  - Strategies and Techniques
  - Testing and Quality Management

Module 4. Operations and Service Delivery (39 min)

- *Overview*
- *Services*
  - Background
  - Defining and Operational Model
  - Example of a DW Operating Model
  - Defining a Service Model
  - Example of a Service Model
- *Categories of Services*
  - Operational
  - Data Merchandising
  - Administration
  - Support
  - Capability Building
  - Governance
- *Managing a Service Catalog*
  - Service Catalog
  - Service Portfolio Management
- *Managing Performance*
  - Feedback and Analysis
  - Implementing Change