



Metadata Management for Data Stewards

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Module 0. About the Course (9 min)

Module 1. Metadata Basics (39 min)

- Metadata Defined
- Metadata Purpose: Classify
- Metadata Purpose: Describe
- Metadata Purpose: Guide
- Metadata Purpose: Control
- Metadata Classification
- Metadata Kinds
- Metadata Management Processes
- Metadata and IT Projects
- Metadata and Data Governance
- Metadata and Data Stewardship
 - Data Stewards Manage and use Metadata
 - Data Names and Definitions
 - Data Structures and Data Models
 - Data Profiles
 - Data Quality
 - Data Catalog
 - Data Lineage
 - Data Sensitivity
- Module Summary

Module 2. Data Names, Definitions, and Structures (26 min)

- Bad Habits
- Good Practices
- Data Names
 - Problem
 - Bad Habits
 - Solution
- Data Definitions
 - Problem
 - Bad Habits
 - Solution
 - Good Practices
 - Fundamental Data Definitions
 - Basic Principles
- Data Structures
 - Problem
 - Bad Habits
 - Solution
 - Data Structure Components
 - Basic Principles
- Review

Module 3. Data Modeling (24 mins)



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- Data Modeling Defined
- Data Modeling Purpose
- Data Modeling Purpose and Big Data
- Data Modeling and People
- Kinds of Data Models
- New Kinds of Data Models
- Data Modeling Processes
- New Process for Big Dat
- The “Things” in Data Models
- Entity-Relationship Modeling
 - E-R Modeling Overview
- Dimensional Data Modeling
 - Meter and Measures
 - Dimensions
 - Dimension Hierarchies
 - Dimension and Meter Association
 - Dimension Attributes
 - Star Schema Modeling

Module 4. Data Profiling and Data Quality Scorecard (58 min)

- What is Data Profiling
- Myth and Reality of Data Profiling
- Data Profiling Techniques
 - Column Profiling
 - Profiling Relational Data Models
 - Profiling Time-dependent Data
 - Why Special Profiling Techniques
 - Time-dependent Data Profiling
 - Subject Profiling
 - Profiling State Transition Models
 - Attribute Dependency Profiling
 - Dynamic Data Profiling
- Profiling Challenges
 - What to Profile
 - How to Profile
 - How to Organize the Results
 - How to Analyze the Results
- Role of Profiling
 - Profiling and Data Quality Management
 - Profiling and Master Data Management
 - Profiling and Data Migration
 - Profiling and Data Consolidation
 - Profiling and Data Integration Interfaces
 - Profiling and Data Warehouses
- Data Profiling for Big Data
 - Challenges
 - Using Conventional Profiling Methods
 - Using Visual Profiling
 - Using AI/ML Algorithms



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- People and Technology
 - Tools and Technology
 - Role of IT
 - Role of Business
 - Data Profiling Profession
- Building Data Quality Scorecard
 - School Report Card Example
 - A First Look at DQ Scorecard
- Module Summary

Module 5. Data Curation and Cataloging (30 min)

- Data Curation
 - What Does Curated Mean?
 - Focus on Data Sets
 - A Data Management Perspective
 - A Goal-Oriented Perspective
 - Practitioner Perspective
- Why Data Curation?
 - Purpose in the Definition
 - Big Data Influence
- Data Cataloging
 - Definitions
 - Comparisons Parts 1 & 2
- Why Data Cataloging?
 - Analysts Working Blind
 - Improving Data Analysis
 - Supporting the Analytics Lifecycle
- Metadata and the Catalog
 - Scope of Metadata
 - Reading the Metadata Model
 - Data about Datasets
 - Data about Processes
 - Data for Searching
 - Data about People
 - Data about External Entities
 - The Value of Metadata

Module 6. Data Lineage and Data Sensitivity (43 min)

- Data Provenance and Data Lineage
 - What is Data Provenance?
 - What is Data Lineage?
 - Provenance and Lineage Metadata in Data Engineering 1 & 2
 - Collecting/Managing Provenance & Lineage Metadata
 - Presenting Provenance and Lineage Metadata
 - Consuming Provenance and Lineage Metadata
- Data Sensitivity and Data Protection
 - Four Steps to Data Protections
 - Kinds of Sensitive Data
 - Classifying Data
 - Data Sensitivity Levels



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- Tangled mess of Data Protection Regulations
- Common Data Protection Regulations
- Data Protection laws Around the World
- Protecting Sensitive Data
- Module Summary