CONCEPT

Master Data Management, Data Quality and Metadata Management

8 – 12 February 2027
Dubai - Five-star CBD venue



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Introduction

Inaccurate customer profiles, conflicting supplier catalogues, and undocumented reference codes undermine analytical integrity, disrupt automated processes, and inflate transactional costs. These recurring defects typically emerge when enterprise data lacks uniform technical definitions, standardized quality criteria, and accountable entity resolution mechanisms. By examining operational records through rigorous profiling routines, validation rules, and automated matching algorithms, organizations establish reliable single sources of truth for critical operational domains. Master data management and data quality practices provide the technical foundation required to isolate source errors, standardise structural metadata, and maintain trusted golden records across enterprise systems. Participants gain hands-on proficiency in diagnosing datasets, deploying survivorship rules, and formulating an actionable operational remediation roadmap through Core Concept.

Course Objectives

- Profile source datasets with SQL queries and OpenRefine to detect anomalies in completeness, validity, uniqueness, and consistency.
- Establish data quality thresholds and quantitative metrics using the ISO/IEC 25012 model and ISO/IEC 25024 specifications.
- Structure enterprise business glossaries and technical data dictionaries following ISO/IEC 11179 metadata naming principles.
- Construct deterministic and probabilistic matching routines paired with automated survivorship rules to generate authoritative golden records.
- Isolate root causes of persistent data defects and establish operational stewardship workflows to resolve exceptions.
- Formulate a Data Quality and Master Data Improvement Plan for a selected operational data domain.

Target Audience

- Data stewards tasked with curating customer, vendor, product, or financial reference records.
- Data analysts and business intelligence specialists troubleshooting reporting discrepancies and data anomalies.
- Master data administrators configuring hub architectures, survivorship parameters, and source synchronisation.
- Systems integration and migration specialists preparing legacy datasets for consolidation.
- Metadata coordinators building and maintaining business glossaries and schema registries.
- Process improvement professionals establishing validation checkpoints within operational workflows.

Course Outline

Day 1: Foundations of Master Data, Quality Dimensions, and Metadata

- Financial and Operational Impacts of Defective Records: The 1-10-100 Cost Trajectory
- Taxonomy and Classification of Master, Reference, and Transactional Data Structures
- DAMA-DMBOK2 Quality Dimensions: Accuracy, Completeness, Consistency, and Timeliness
- Critical Data Element Identification and Prioritisation Matrix
- Current-State Defect Cataloguing and Stakeholder Assessment Protocols

Day 2: Quality Standards, Metadata Registries, and Hub Topologies

- ISO/IEC 25012 Structural and System-Dependent Data Quality Characteristics
- ISO/IEC 25024 Measurement Methods, Metric Ratios, and Evaluation Baselines
- ISO 8000-61 Process Reference Model for Quality Management and Measurement
- ISO/IEC 11179 Standards for Data Element Formulation and Definition Formulation
- Master Data Architecture Patterns: Registry, Consolidation, Coexistence, and Transactional Hubs

Day 3: Laboratory Data Profiling, Validation Rules, and Lineage Tracking

- Hands-On Data Profiling Workflows Using OpenRefine and Diagnostic SQL Procedures
- Quality Assertion Rule Authoring and Automated Validation with Great Expectations
- Business Glossary Compilation and Metadata Tagging via Dublin Core Elements
- Source-to-Target Data Lineage Tracing and Transformation Auditing
- Operational Quality Scorecard Configuration and Defect Trend Monitoring

Day 4: Entity Resolution, Record Survivorship, and Root Cause Analysis

- Deterministic and Fellegi-Sunter probabilistic record matching methodologies
- Automated Survivorship Logic and Master Record Consolidation Design
- ISO 8000-110 Data Quality Portability, Syntax, and Master Data Verification
- Defect Diagnostics and Process Remediation Using the DMAIC Framework
- Stewardship Task Queues, Exception Handling Procedures, and Remediation Workflows

Day 5: Practical Consolidation Laboratories and Improvement Planning

- Multi-Source Customer Record Deduplication and Match-Tuning Laboratory
- Material Master and Supplier Entity Harmonisation Laboratory
- Domain Catalogue Documentation and Metadata Registry Population Exercise
- Assembly and Structuring of the Data Quality and Master Data Improvement Plan
- Peer Critique, Operational Review, and Plan Refinement

Skills You Will Gain

- Automated Data Profiling
- Data Quality Metric Formulation
- Data Quality Rule Design
- Metadata Documentation
- Probabilistic Entity Resolution
- Golden Record Management
- Root Cause Defect Analysis
- Stewardship Workflow Design

Why Attend This Course

- Acquire practical methodologies to quantify data defects into concrete financial and operational metrics that substantiate remediation investment.
- Replace unstable manual data cleansing with systematic, automated matching rules and deterministic survivorship criteria.
- Implement internationally recognized standards including ISO/IEC 25012 and ISO 8000-61 to formalize data evaluation procedures.
- Complete the training with a peer-reviewed Data Quality and Master Data Improvement Plan ready for deployment within your operational unit.

Conclusion

Maintaining high-trust data systems requires systematic profiling, clear metadata definitions, and robust entity resolution routines rather than sporadic manual clean-up campaigns. Through rigorous examination of international standards, automated quality testing tools, and entity survivorship configurations, this course prepares practitioners to resolve data anomalies at their source. By applying these techniques across real-world datasets, professionals ensure their organizations establish governed master records, maintain dependable metadata catalogues, and protect downstream operational processes from costly defects.