

Data Management Excellence: Upstream Oil & Gas Industry

10-Day Program Outline

Day-1: Data Governance

- Concept (Data Management and Data Governance, Typical Data Governance Committees / Bodies, Data Governance Operating Model Types, Data Stewardship, Data Asset Valuation, Perform Readiness Assessment, Organizational Touch Points, Goals, Principles, and Policies)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises

Day-2: Data Architecture

- Concept (Enterprise Architecture Domains, Zachman Framework, Conceptual vs. Logical vs. Physical Data Models, Enterprise Data Model, Subject Area Models, Data Flow Design, Chain of dependency)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises

Day-3: Data Modelling and Design

- Concept (Entity, Relationship, Attribute, Domain, Data Modelling Schemes, Logical data model, Denormalization, Conceptual Data Modelling)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises

Day-4: Data Storage and Operations

- Concept (Database Architecture Types, Database Processing Types, Database Organization, Common Database Processes, Plan for Business Continuity, Database Performance Service Levels)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises

Day-5: Data Security

- Concept (Sources of Data Security Requirements, Risk Reduction, Private-key & Public-key, Confidential Data, Security Roles)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises

Day-6: Data Integration and Interoperability

- Concept (Extract, Transform, and Load, ELT – Extract, Load, and Transform, ETL Mapping, DII Architecture Concepts, Data Exchange Standards, Data Integration Activities)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises

Day-7: Document and Content Management

- Concept (Generally Acceptable Recordkeeping Principles, Content Metadata, Controlled Vocabularies, Taxonomies, Ontology, Document Management, Records Management, Digital Asset Management, Enterprise Content Management Systems, Information Governance Reference Model-IGRM)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises

Day-8: “Reference and Master Data” & “Data Warehousing and Business Intelligence”

- Reference and Master Data - Concept (Differences Between Master and Reference Data, Reference Data Structure, Master Data, Master Data Management Key Processing Steps, Entity Resolution and Identifier Management, Master Data Management Key Processing Steps, Data Sharing Architecture)
- Data Warehousing and Business Intelligence - Concept (Corporate Information Factory-Inmon, Dimensional DW, Data Storage Areas, Multi-dimensional Analysis – OLAP)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises

Day-9: Metadata

- Concept (Types of Metadata, Metadata for Unstructured Data, Sources of Metadata, Types of Metadata Architecture, Metadata Strategy, Meta Model, Data Lineage and Impact Analysis)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises

Day-10: “Data Quality” & “Data Management Maturity Assessment”

- Data Quality - Concept (Data Quality Dimensions, Relationship Between Data Quality Dimensions, Data Quality Improvement Lifecycle, Data Quality Business Rule Types, Data Profiling, Effective Data Quality Metrics, Statistical Process Control)
- Data Management Maturity Assessment - Concept (Assessment Levels and Characteristics, Assessment Criteria, DMM Assessment Chart, CMMI Data Management Maturity Model-DMM, DMMA Metrics)
- Application of the concept on Oil & Gas Upstream sector
- Scenario based exercises