



Big Data Technology Trends and Roadmap Decisions Training Course

8 – 12 August 2027
Muscat

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Ref: 789_159991 **Date:** 8 – 12 August 2027 **Location:** Muscat **Fees:** 5700 Euro

Overview

Big Data Technology Trends and Roadmap Decisions Training Course is a five-day managerial course for technology leaders, enterprise architects, data leaders, transformation teams, innovation functions, and strategic decision makers who leave with a Big Data Technology Trends Assessment and Roadmap Pack. Participants connect modernization, distributed architecture, cloud-native data platforms, batch and streaming, lakehouse patterns, data products, interoperability, metadata, analytical AI, platform maturity, adoption risk, technical debt, and technology roadmaps. Agile Leaders Training Center develops practical big data technology assessment capability.

Who Should Attend

- Technology leadership functions responsible for platform direction and modernization investment
- Enterprise architecture functions responsible for principles, interoperability, and option evaluation
- Data leadership functions responsible for platform capability, governance, and analytical value
- Transformation teams responsible for adoption, dependencies, and roadmap delivery
- Innovation functions responsible for testing emerging patterns and evidence
- Strategic decision makers responsible for risk, investment, and technology sequencing

The course assumes participants can interpret architecture diagrams, platform capabilities, investment choices, and adoption risks, and leaves out coding, product administration, detailed solution design, vendor selection procurement, and certification preparation.

Departments and Industries

The course supports departments and industries evaluating data-platform modernization and analytical technology choices.

- Financial services technology strategy
- Retail and digital commerce platforms
- Manufacturing and industrial data systems
- Telecommunications data architecture
- Healthcare information platforms
- Public-service digital modernization

Learning Objectives

By the end of this course, participants will be able to:



- Analyze big-data technology trends and adoption drivers
- Compare distributed, cloud-native, batch, and streaming patterns
- Evaluate lakehouse, data-product, and analytical AI options
- Assess interoperability, governance, security, and trust implications
- Diagnose platform maturity, technical debt, and adoption risk
- Build evidence-based technology-roadmap decisions

Course Agenda

Day 1: Read the Technology Landscape

- NIST Big Data Adoption and Modernization Map
- Technology Trend Evidence and Horizon Scan
- Distributed Architecture Evolution Matrix
- Cloud-Native Data Platform Capability Map
- Business Driver and Technology Implication Canvas

Day 2: Compare Processing and Storage Patterns

- Batch and Streaming Workload Decision Matrix
- Spark Structured Streaming Capability Profile
- Kafka Stream and Table Processing Pattern
- Data Lake and Lakehouse Architecture Comparison
- Open Format, Portability, and Lock-In Assessment

Day 3: Evaluate Data Products and Analytics

- Data Product Ownership and Interface Model
- Metadata, Catalogue, and Lineage Service Map
- Analytical AI Integration Pattern Matrix
- Reusable Data Service and Interoperability Canvas
- Insight Latency and Decision Value Profile

Day 4: Decide Modernization Priorities

- Platform Maturity and Capability Assessment
- Technical Debt and Modernization Risk Register
- Security, Privacy, Governance, and Trust Checklist
- Technology Option Value and Tradeoff Scorecard
- Adoption Readiness and Dependency Map



Day 5: Practice Technology Roadmap Decisions

- Exercise: Assess a Big Data Technology Trend
- Exercise: Compare Architecture and Processing Options
- Exercise: Evaluate Data Product and Analytical AI Patterns
- Exercise: Prioritize Modernization Risks and Adoption Waves
- Capstone: Big Data Technology Trends Assessment and Roadmap Pack

Practical Exercises

The course uses suggested activities based on financial services, retail, industrial, telecommunications, healthcare, and public-service platform scenarios.

- Suggested activity: separate observable technology evidence from vendor claims and speculative forecasts.
- Suggested activity: compare batch, streaming, storage, interoperability, portability, and trust implications for a selected workload.
- Suggested activity: assess data-product, metadata, lineage, and analytical AI options against decision value.
- Suggested activity: assemble maturity, technical debt, risks, options, dependencies, and waves in the final roadmap pack.

FAQs

Who suits big data technology trends training, and what does it assume?

Technology, architecture, data, transformation, innovation, and strategic decision functions suit the course; it assumes familiarity with architecture, platform capabilities, investments, and adoption risks.

How does big data technology trends training differ from platform administration training?

Big data technology trends training evaluates patterns, capabilities, tradeoffs, maturity, risk, and roadmap choices, while platform administration training teaches configuration, operation, troubleshooting, and product-specific procedures.

How should leaders assess a big data technology trend?

Leaders should assess evidence, problem fit, maturity, interoperability, portability, security, governance, skills, technical debt, adoption dependencies, option value, and measurable decision benefit.



What is the strategic difference between batch and streaming data platforms?

Batch platforms optimize bounded scheduled processing, while streaming platforms process continuing events with lower latency and state; the choice follows workload, reliability, cost, skill, and decision-timing requirements.

How should a big data technology roadmap handle uncertainty?

A technology roadmap should use staged experiments, architecture principles, exit criteria, reversible options, dependency tracking, risk controls, evidence reviews, and decision gates instead of treating trend forecasts as commitments.

Conclusion

Participants take back a Big Data Technology Trends Assessment and Roadmap Pack linking evidence, architectures, processing patterns, storage, data products, analytics, interoperability, maturity, debt, risk, options, and adoption waves. It changes trend watching into a disciplined decision workflow. The pack supports modernization choices that remain traceable to business needs and technical evidence.