Data Lake vs Data Warehouse Training Course

Professional Development Training Course Outline

Category	Business Intelligence	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today’s data-driven economy, organizations are rapidly adopting modern data architectures to handle big data, real-time analytics, and scalable storage solutions. Data Lake vs Data Warehouse Training Course provides a comprehensive understanding of data engineering, cloud computing, data integration, and advanced analytics platforms. Participants will explore key concepts such as structured vs unstructured data, ETL vs ELT processes, data governance, and business intelligence systems. The course emphasizes industry-relevant tools and technologies, enabling professionals to design high-performance data ecosystems aligned with digital transformation strategies.

This course integrates practical learning with trending technologies like cloud data platforms, AI-driven analytics, and scalable data pipelines. Learners will gain hands-on experience in building data lakes and data warehouses while understanding their differences, use cases, and performance optimization strategies. With a strong focus on data architecture, data modeling, and big data frameworks, this training equips participants with the skills required to manage enterprise data systems efficiently and support decision-making processes through advanced data insights.

Programme Curriculum

Data Lake vs Data Warehouse Training Course

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Course Objectives

1. Understand data lake architecture and data warehouse design principles
2. Differentiate between structured, semi-structured, and unstructured data
3. Implement ETL and ELT data integration techniques
4. Analyze big data processing frameworks such as Hadoop and Spark
5. Design scalable cloud-based data storage solutions
6. Apply data governance and data security best practices
7. Develop real-time data processing pipelines
8. Optimize query performance and storage efficiency
9. Integrate business intelligence and analytics tools
10. Build data models for enterprise data systems
11. Evaluate modern data platforms and cloud ecosystems
12. Implement data lifecycle management strategies
13. Apply machine learning readiness in data architecture

Organizational Benefits

- Improved data-driven decision making
- Enhanced scalability of data infrastructure
- Faster data processing and analytics
- Better data governance and compliance
- Cost optimization through cloud adoption
- Increased operational efficiency
- Improved data accessibility and sharing
- Enhanced business intelligence capabilities
- Reduced data silos across departments
- Future-ready data architecture implementation

Target Audiences

1. Data Engineers
2. Data Analysts
3. Business Intelligence Professionals
4. IT Managers
5. Cloud Architects
6. Database Administrators
7. Software Developers
8. Digital Transformation Leaders

Course Duration: 5 days

Course Modules

Module 1: Introduction to Data Architecture

- Overview of data ecosystems
- Evolution of data lakes and warehouses
- Key components of modern data platforms
- Data architecture frameworks
- Industry trends in big data
- Case study: Transition from traditional databases to modern data platforms

Module 2: Data Lake Fundamentals

- Definition and architecture of data lakes
- Handling raw and unstructured data
- Storage technologies and formats
- Data ingestion techniques
- Data catalog and metadata management
- Case study: Implementing a cloud-based data lake

Module 3: Data Warehouse Fundamentals

- Data warehouse architecture concepts
- Structured data storage techniques
- Schema design (star and snowflake)
- Data marts and OLAP systems
- Performance optimization strategies
- Case study: Enterprise data warehouse implementation

Module 4: Data Lake vs Data Warehouse Comparison

- Key differences and similarities
- Use case analysis
- Performance and scalability comparison
- Cost considerations
- Integration strategies
- Case study: Choosing between data lake and warehouse

Module 5: Data Integration Techniques

- ETL vs ELT processes
- Data ingestion pipelines
- Batch vs real-time processing
- Data transformation methods
- Integration tools and frameworks
- Case study: Building a real-time data pipeline

Module 6: Big Data Technologies

- Hadoop ecosystem overview
- Apache Spark fundamentals
- Distributed data processing

- Data storage frameworks
- Scalability and fault tolerance
- Case study: Big data analytics implementation

Module 7: Cloud Data Platforms

- Overview of cloud computing for data
- Data storage services in the cloud
- Data lake and warehouse in cloud environments
- Multi-cloud and hybrid strategies
- Security and compliance in cloud
- Case study: Migrating data systems to the cloud

Module 8: Data Governance and Security

- Data governance frameworks
- Data quality management
- Security and privacy principles
- Regulatory compliance requirements
- Access control mechanisms
- Case study: Implementing data governance in enterprises

Training Methodology

- Instructor-led interactive sessions
- Hands-on practical labs and exercises
- Real-world case studies and scenarios
- Group discussions and collaborative learning
- Cloud-based project demonstrations
- Continuous assessments and feedback
- Industry best practices integration
- Practical assignments and capstone project

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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