Training Course on Cloud Computing and Data Management in Oil and Gas Industry

Professional Development Training Course Outline

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

Course Introduction

The oil and gas (O&G) sector is undergoing a digital transformation where advanced technologies such as cloud computing, big data analytics, and AI-powered data management systems are becoming critical. These innovations enhance operational efficiency, streamline asset management, and ensure real-time decision-making. As organizations seek to reduce costs and increase productivity, cloud-based infrastructure becomes a strategic enabler for achieving sustainable competitive advantage in upstream, midstream, and downstream operations.

Training Course on Cloud Computing & Data Management in Oil & Gas Industry equips professionals with the knowledge and hands-on skills required to implement and manage cloud-based solutions and data governance frameworks in the O&G sector. Participants will explore industry-relevant applications including edge computing, IoT integration, cybersecurity for cloud environments, and data lifecycle management, all tailored to the complex challenges and opportunities in oil and gas.

Programme Curriculum

Training Course on Cloud Computing & Data Management in Oil & Gas Industry

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Course Objectives

1. Understand the fundamentals of cloud computing in oil & gas operations.
2. Explore real-world applications of AI-driven data management.
3. Develop skills in cloud migration strategies specific to energy enterprises.
4. Learn to implement data security & compliance frameworks for O&G.
5. Analyze the impact of edge computing on upstream and downstream workflows.
6. Evaluate hybrid cloud architectures for scalable infrastructure.
7. Gain insight into IoT-enabled predictive maintenance using cloud platforms.
8. Master data warehousing and cloud-based analytics for exploration and production.
9. Design disaster recovery and business continuity plans in cloud environments.
10. Understand regulatory implications of data sovereignty in O&G cloud systems.
11. Use data lakes and pipelines to drive operational intelligence.
12. Apply machine learning for real-time reservoir data analysis.
13. Execute strategic plans for digital oilfield transformation.

Target Audience

1. IT Managers in Oil & Gas
2. Data Scientists & Engineers in Energy Sector
3. Cloud Architects for Industrial Applications
4. Petroleum Engineers and Reservoir Analysts
5. Compliance Officers in Energy Operations
6. CIOs and CTOs in Oil & Gas Firms
7. Operations & Production Managers
8. Energy Sector Consultants

Course Duration: 5 days

Course Modules

Module 1: Introduction to Cloud Computing in O&G

- Overview of cloud computing models (IaaS, PaaS, SaaS)
- Benefits of cloud in the energy sector
- Challenges and risks in cloud adoption
- Integration with existing SCADA and ERP systems
- Key O&G use cases: exploration, drilling, and refining
- **Case Study**: Shell’s cloud transformation journey

Module 2: Cloud Infrastructure & Architecture for O&G

- Hybrid and multi-cloud strategies
- Infrastructure automation and scalability
- Edge computing deployment in remote locations
- Network latency and bandwidth optimization
- Storage solutions: object vs. block storage
- **Case Study**: BP’s hybrid cloud implementation

Module 3: Data Management & Governance in Energy Enterprises

- Data lifecycle in oil & gas operations
- Metadata and master data management
- Data quality and integrity frameworks
- Implementing data governance policies
- Role of cloud in compliance and auditing
- **Case Study**: Chevron's data governance model

Module 4: Cybersecurity & Compliance in Cloud Environments

- Threat landscape in cloud for O&G
- Identity and access management (IAM)
- Encryption standards and data loss prevention
- Regulatory frameworks: GDPR, ISO/IEC 27001
- Cloud provider responsibility matrix
- **Case Study**: ExxonMobil's approach to cloud security

Module 5: AI & Machine Learning in Cloud-Based Analytics

- Machine learning workflows in cloud platforms
- AI for seismic data interpretation
- Automating drilling operations with AI
- Predictive analytics for equipment maintenance
- AI model deployment and monitoring
- **Case Study**: Equinor's AI-based cloud analytics

Module 6: Cloud-Based IoT Integration for Smart Oilfields

- Introduction to Industrial IoT (IIoT)
- Cloud gateways and device management
- Real-time sensor data collection and analysis
- Asset tracking and remote diagnostics
- Integrating cloud with digital twins
- **Case Study**: TotalEnergies' smart field operations

Module 7: Cloud Data Storage, Warehousing & Visualization

- Data lakes vs. data warehouses in O&G
- ETL/ELT processes and cloud data pipelines
- Real-time dashboarding and visualization tools
- Business intelligence platforms (Power BI, Tableau)
- Unified data access strategies across silos
- **Case Study**: ConocoPhillips' cloud analytics platform

Module 8: Cloud Strategy, Migration & Digital Transformation

- Building a cloud migration roadmap
- Change management and skill transformation
- Aligning cloud strategy with business KPIs
- Vendor selection and SLA negotiations
- Measuring ROI in digital oilfield initiatives
- **Case Study**: Saudi Aramco's digital transformation journey

Training Methodology

- Interactive lectures with real-world examples from the oil & gas industry
- Hands-on labs and cloud platform simulations

- Group discussions and peer knowledge exchange
- Case study analysis for strategic decision-making
- Assessments and quizzes to reinforce key concepts
- Instructor-led demonstrations using leading cloud tools (AWS, Azure, Google Cloud)

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

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com