

# 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

##### Introduction

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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](mailto: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

- The participant must be conversant with English.
- Upon completion of training the participant will be issued with an Authorized Training Certificate
- Course duration is flexible and the contents can be modified to fit any number of days.
- The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.
- One-year post-training support Consultation and Coaching provided after the course.
- 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   |
|-------------|-------------|----------|---------|
| 21 Sep 2026 | 25 Sep 2026 | Online   | \$1,000 |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$1,500 |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$0     |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$0     |
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|-------------|-------------|----------|-------|
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$0   |

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

[Register Online Now](#)

Email: [info@fineskilltrainingcenter.com](mailto:info@fineskilltrainingcenter.com) | Website: [www.fineskilltrainingcenter.com](http://www.fineskilltrainingcenter.com)