Global Horizon
TRAINING CENTER

Training Course:
Reservoir Numerical Simulation Skills (Petrel,
Eclipse)

14 - 18 September 2025
Cairo (Egypt)
Holiday Inn & Suites Cairo Maadi, an IHG Hotel

Training Course:
Reservoir Numerical Simulation Skills (Petrel, Eclipse)

Training Course code: EN236182 From: 14 - 18 September 2025 Venue: Cairo (Egypt) - Holiday Inn & Suites Cairo Maadi, an IHG Hotel Training Course Fees: 4200 Euro

Introduction

Reservoir simulation plays a critical role in the effective management and forecasting of oil and gas fields. With increasing reservoir complexity and economic pressure to optimize hydrocarbon recovery, professionals must master powerful simulation tools like Petrel and Eclipse. This training program, designed by Global Horizon Training Center, provides participants with the essential knowledge and technical capabilities to perform reservoir modeling and dynamic simulation using industry-standard Schlumberger software.

The course emphasizes both the theoretical foundation and practical workflows required to develop accurate static and dynamic models, enabling data-driven decisions throughout the field development lifecycle.

Objectives

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

- Understand the principles of reservoir simulation and modeling.

- Build static models using Petrel, including geological modeling and property distribution.

- Perform dynamic simulations using Eclipse for reservoir forecasting and development planning.

- Integrate petrophysical, seismic, and production data into simulation workflows.

- Analyze simulation results to guide reservoir management strategies.

Course Methodology

- Interactive instructor-led sessions

- Demonstrations using Petrel and Eclipse interfaces

- Workflow-oriented training with case-based examples

- Group discussions and scenario analysis

- Simulation project walkthroughs no hands-on labs unless requested

Organizational Impact

- Enhanced decision-making through advanced reservoir modeling capabilities

- Improved recovery forecasting and development planning

- Optimization of production strategies and well placement

- Reduced uncertainty in reservoir performance predictions

- Strengthened in-house technical capability using Petrel and Eclipse

Target Audience

- Reservoir Engineers

- Petroleum Engineers

- Geoscientists and Geologists involved in field development

- Simulation and modeling specialists

- Technical staff transitioning into subsurface modeling roles

Outline

Day 1: Fundamentals of Reservoir Simulation

- Introduction to reservoir simulation concepts

- Static vs. dynamic modeling

- Role of simulation in field development and forecasting

- Overview of Petrel and Eclipse architecture and interfaces

- Data preparation and quality control

Day 2: Geological and Static Modeling Using Petrel

- Geological framework modeling

- Stratigraphic and structural interpretation

- Property modeling: porosity, permeability, and saturation

- Gridding techniques and upscaling for simulation

- Exporting simulation-ready models to Eclipse

Day 3: Dynamic Modeling Using Eclipse

- Eclipse input data structure and keywords

- Black-oil and compositional models

- Fluid properties, PVT, and relative permeability

- Initialization and history matching principles

- Simulation setup and running initial cases

Day 4: Integrating Field Data and Running Scenarios

- Well modeling and production constraints

- History matching and sensitivity analysis

- Surface facilities and production systems modeling

- Forecasting production under various scenarios

- Using Petrel for post-processing and visualization

Day 5: Simulation Review and Reservoir Management Applications

- Reviewing and interpreting simulation results

- Strategy formulation for reservoir development

- Field case studies and benchmarking

- Transition from model to action: supporting investment decisions

- Summary discussion and Q&A.

Registration form on the Training Course:
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