# Overview

**LEVEL**

Awareness

**PURPOSE**

This course provides participants with an understanding of all data types needed to build a reservoir model (seismic, geological, petrophysical and dynamic) and a clear understanding of the techniques related to reservoir modeling.

**LEARNING OBJECTIVES**

Upon completion of the course, participants will be able to:
- recognize the techniques and challenges related to reservoir modeling (focus on reservoir properties),
- build required competencies for reservoir geoscientists to analyze a specific dataset and construct a reliable static model,
- apply the workflow for building a reservoir model using dedicated software,
- identify the uncertainties and assess them in order to reduce the risk and optimize the investments.

**WAYS AND MEANS**

Interactive presentations and hands-on activities using software dedicated for reservoir modeling (EasyTrace™ and Petrel™).

Software used during workshops: with courtesy of Beicip-Franlab and Schlumberger.

**LEARNING ASSESSMENT**

Knowledge assessment with multiple-choice questions.

**PREREQUISITES**

Degree in geology, geophysics or reservoir engineering, or equivalent experience.

## Agenda

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<td><strong>BASIC PRINCIPLES - RESERVOIR CHARACTERIZATION WORKFLOW</strong></td>
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<td><strong>PROJECT ORGANIZATION</strong></td>
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<td><strong>STRUCTURAL MODELING</strong></td>
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<td>Well correlation and stratigraphic data analysis.</td>
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Constraining static model with dynamic data.
Generating surfaces.
Picking horizons and faults on seismic.
Reservoir layering.
Structural modeling.
Mapping reservoir structures.
Modeling results QC.

ROCK-TYPING & PROPERTY MODELING
Scaling up logs. Comparison with rock-types.
Geostatistical tools.
Facies modeling. Rock-typing (EasyTrace™).
Petrophysical modeling.
Mapping result for QC: gross thickness, N-t-G, reservoir properties.

VOLUME CALCULATION
Volumetrics: quantification of accumulation for selected parameters.
Sensitivity study on parameters.
Key parameters determination for risk assessment.

SUMMARY, SYNTHESIS & WRAP-UP