

Data Management & IT/IS-GIS

5 days

DATA/DAMAITGIS

Overview

LEVEL

Knowledge

PURPOSE

Whatever the Oil & Gas discipline, data is taking a more and more important role in all business decision processes. Therefore, the role of the data manager which was mainly seen as a data custodian is now perceived as a major shareholder in all discipline.

The purpose of this module is to train Oil & Gas technicians and engineers to understand all the IT and Geographic Information System (GIS) aspects and underlyings of value creation based on data. The following topics will be covered:

- the data as an asset,
- what are the main data types used in the E&P industry,
- the IT and IS aspects of the data management,
- geographic information systems.

LEARNING OBJECTIVES

Upon completion of the course, participants will:

- learn the main concepts of IT and IS in data management (SQL, SQL DB...),
- be able familiar with programming language in data management (Python),
- be able to interact effectively with IT and software engineer to define the data management resources,
- be able to specify a GIS project.

WAYS AND MEANS

Daily lecture, exercises, hands-on practice and a one week project.

PREREQUISITES

No prerequisites are necessary to attend this training except a solid interest to data!

Agenda

THE IT & IS ASPECTS OF DATA MANAGEMENT

3 d

Storing data on tapes, disc and cloud. Data virtualization.

Element of SQL language.

During this module, the trainees will practice SQL to build a geoscience DB and retrieve it. The Codd rules will be detailed.

No SQL DB.

Relational DB have some limitations when dealing with large amount of data. What are the alternatives?

My first line of Python to manipulate data.

Python is an easy to learn programming language to manipulate data. This module will help the trainees to produce they first line of Python through practical exercises.

GEOGRAPHIC INFORMATION SYSTEM

2 d

What is a GIS?

This module details what is a GIS, what are its components and how it can be used.

ArcGIS basics.

After having installed ArcGIS, the trainees will the GIS data change the properties of GIS layers to change map displays. The notion of coordinates and projection will be explained and that knowledge will be applied to run geo-processing tools.

Creating a map with data, sharing data.

Using ArcGIS and data available on the net, the trainees will create complete maps with proper symbology and discuss how to export the result according to the project needs.