Course : Python, programming QGIS extensions

Practical course - 3d - 21h00 - Ref. QGS
Price : 1940 CHF E.T.

QGIS is a free GIS (Geographic Information System) software that lets you write new functions using the Python language. This course teaches you how to write a new QGIS function in Python (integrating a graphical interface in Qt).

Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Learn the basics of PyQT
- ✓ Discover the QGIS API
- ✓ Be able to build a QGIS extension

Intended audience
Developers supporting a geomatics department.

Prerequisites
Knowledge of geomatics and Python.

Practical details
Hands-on work
Training alternating theory and practice.

Course schedule

1 **Structure of a QGIS extension**

- Basic extension files.
- The initialization file.
- The main class file.
- Ancillary functions file.
- The graphical interface.
- The interaction file.
- Event management.
- Create actions associated with events.

Hands-on work
Writing an extension.

② Distribution of a plugin, creation of a repository

- QGIS extension repository system.
- The extension installer.
- Add an extension to QGIS.
- Mandatory files (metadata).
- Depositing and sharing extensions.

Hands-on work
Submission of an extension.

③ PyQt

- Qt widgets.
- Basic HMI components (QMainWindow, QFrame, QLabel…).
- Widget customization.
- Event management.
- Notions of signal and slot.
- Link between Qt and Python.
- Integration of widgets in python code.
- Signal and slot management.

Hands-on work
Write a Python program with a PyQt interface.

④ Writing an extension with a Qt interface

- Create extensions with a PyQt interface.
- Distribute the extension.

Dates and locations

REMOTE CLASS
2026 : 24 June