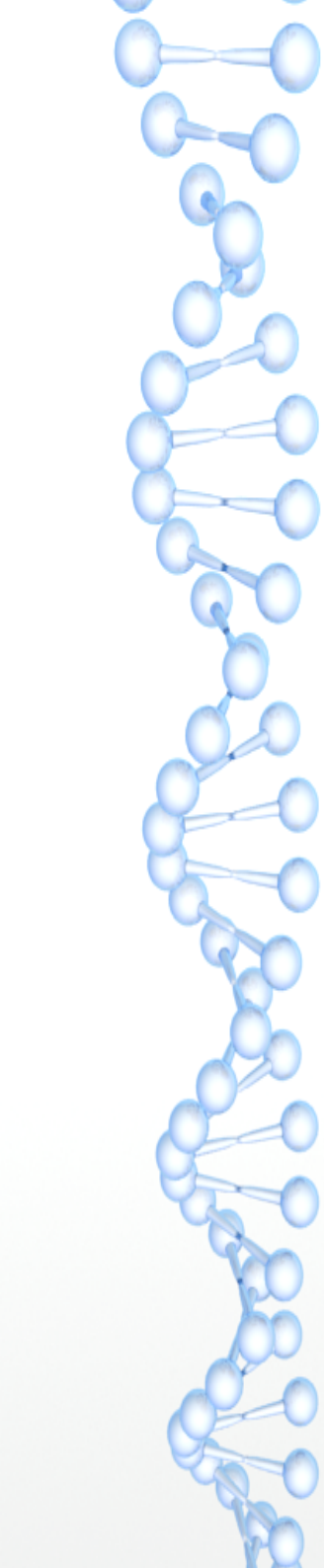
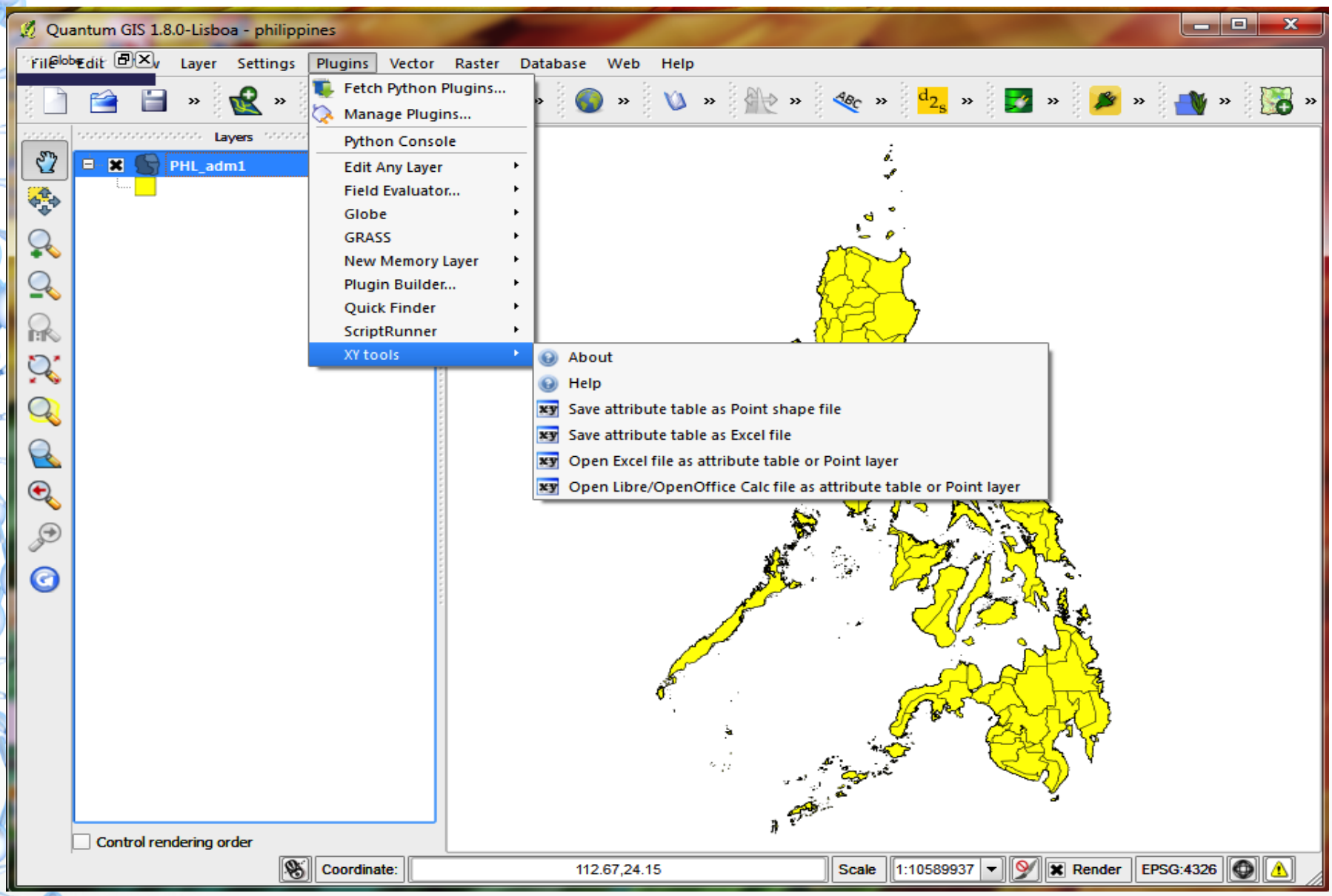


Geoprocessing with Python

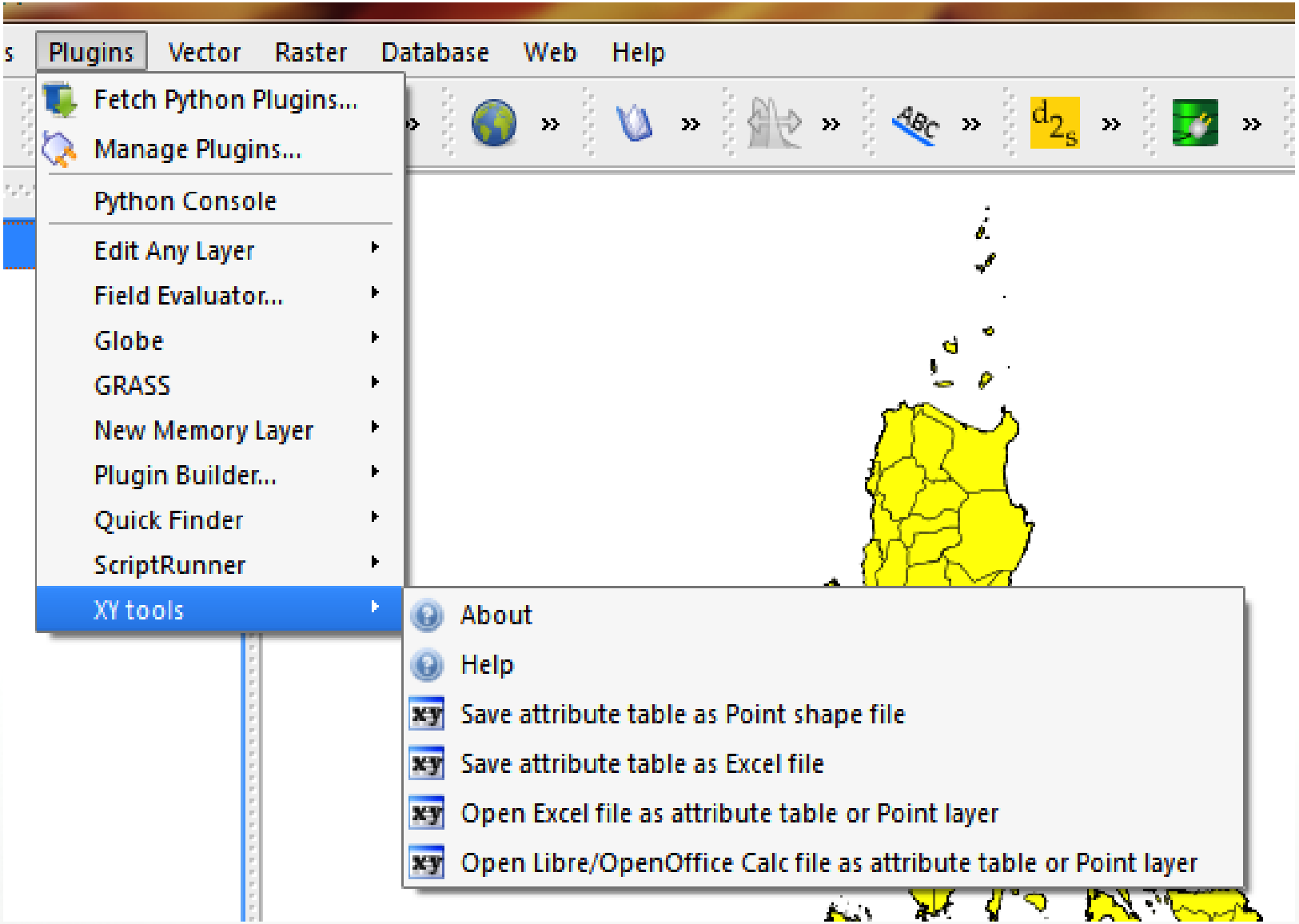
- QGIS and Python Console
- Running Python Script in QGIS
- PyQGIS

Wilfredo M. Rada

QGIS Interface



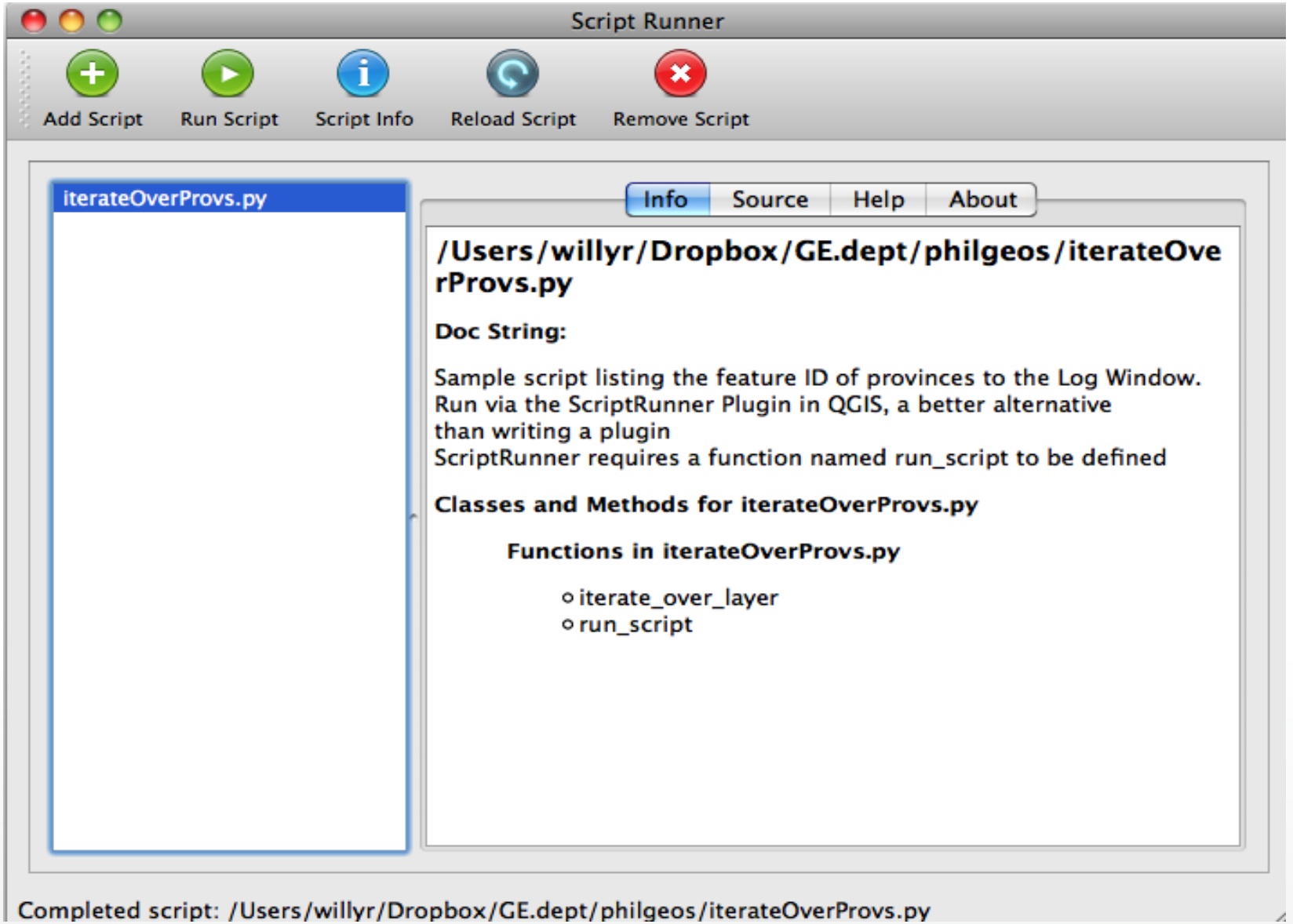
QGIS Plugins Menu



What can We do with Plugins Menu

1. *Fetch Plugins* – Find and install published plugins from the QGIS Plugins Repository.
2. *Manage Plugins* – enable or disable installed plugins.
3. *Python console* – open a Python window and run python commands e.g., to process the layers in the QGIS project.
4. *Run plugins* by clicking.

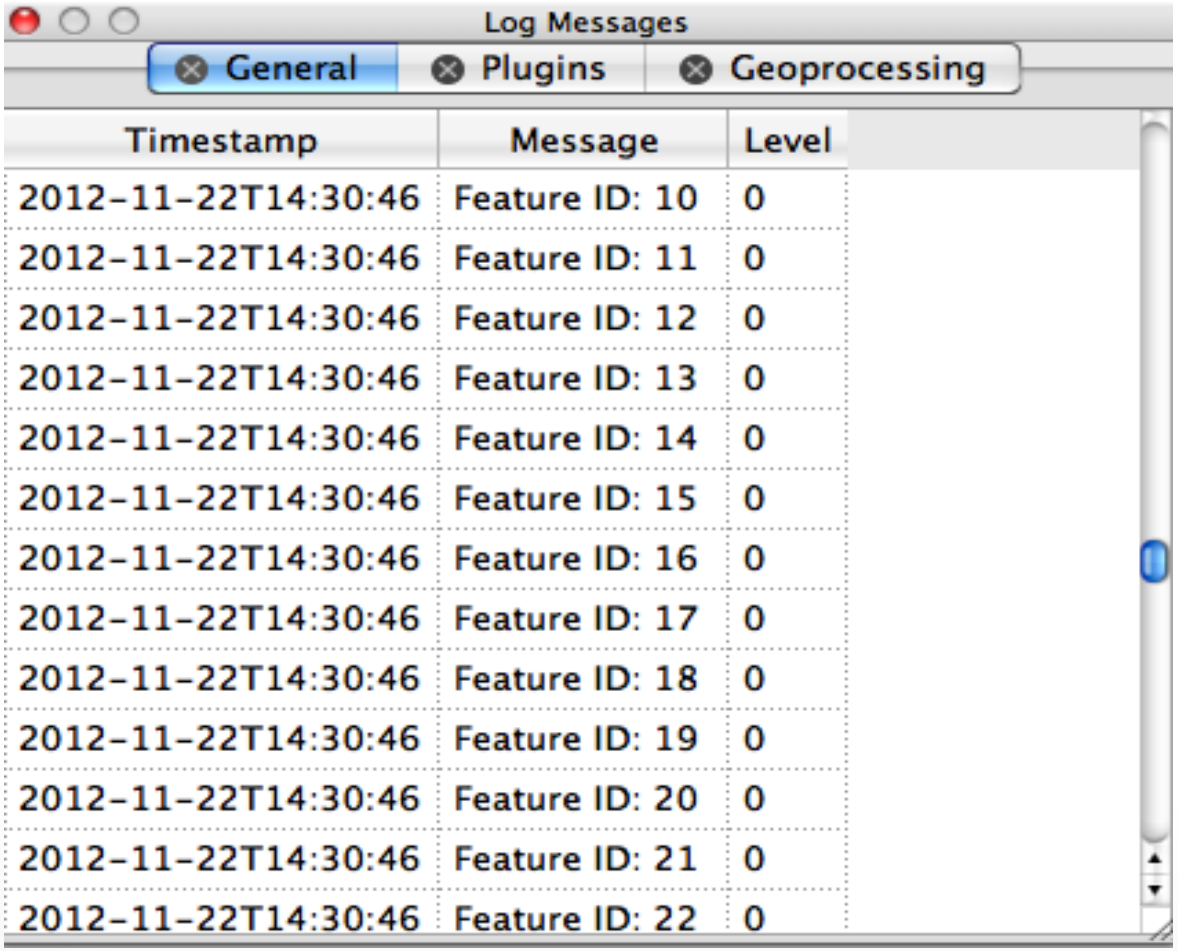
Script Runner Plugin



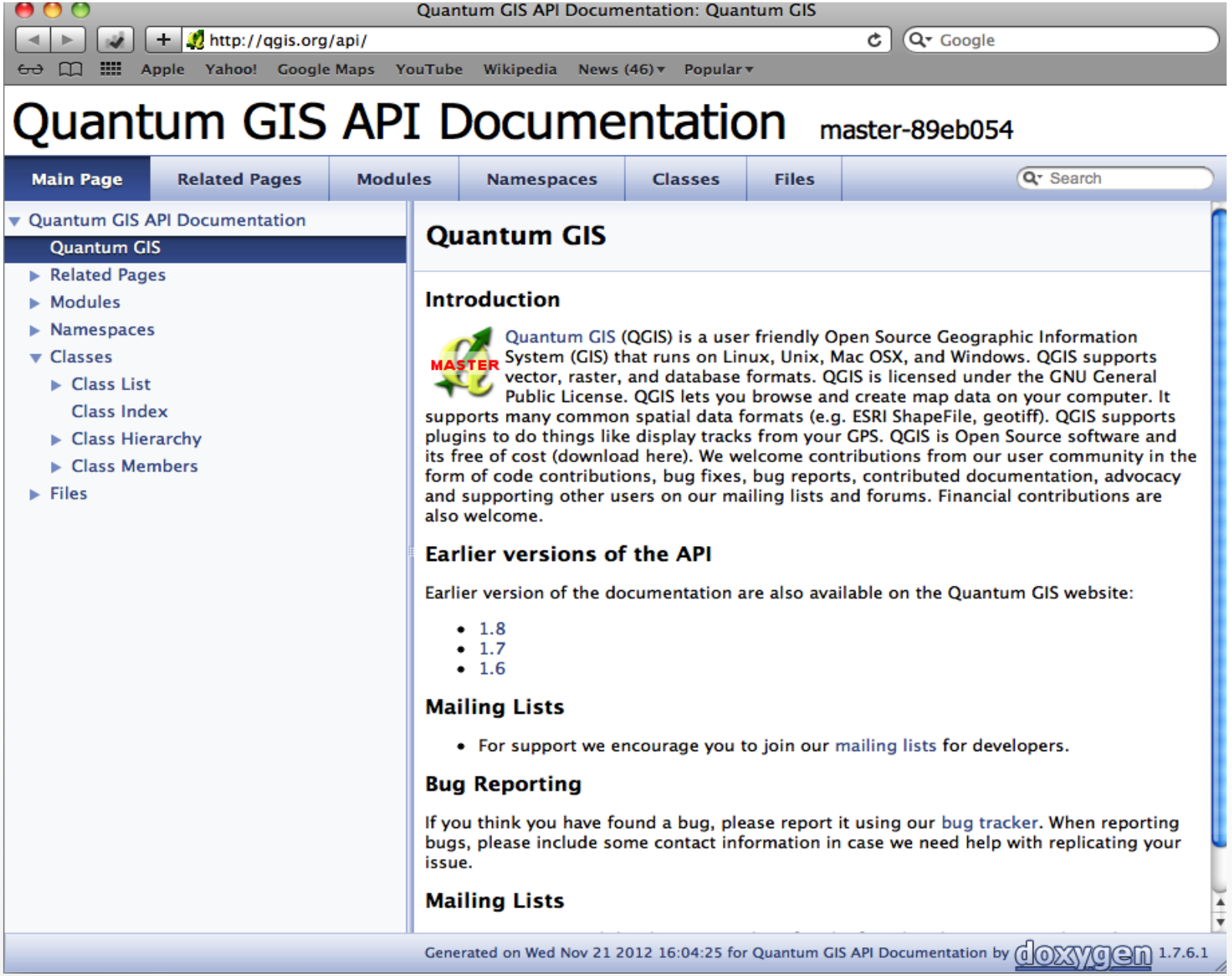
Sample Python Script

```
"""
Sample script listing the feature ID of provinces to the Messages Log Window.
Run via the ScriptRunner Plugin in QGIS, a better alternative
than writing a plugin
ScriptRunner requires a function named run_script to be defined
"""

import qgis.core as qc

def run_script(iface):
    """
    the required function by Scrip Runner plugin
    """
    iterate_over_layer(iface)


def iterate_over_layer(iface):
    """
    the called function
    """

    # get the active layer
    vlayer = iface.activeLayer()

    if vlayer == None:
        qc.QgsMessageLog.logMessage("No Active (selected) Layer")
        return


    provider = vlayer.dataProvider()
    feat = qc.QgsFeature()

    allAttrs = provider.attributeIndexes()

    # start data retrieval:
    # fetch geometry and all attributes for each feature
    provider.select(allAttrs) # retrieve every feature with its geometry and attributes

    qc.QgsMessageLog.logMessage("Processed Features -------- ")
    while provider.nextFeature(feat):

        msg =  "Feature ID: %d " % feat.id()
        qc.QgsMessageLog.logMessage(msg)
    del vlayer
```

Output


Log Messages
General
Plugins
Geoprocessing
Timestamp
Message
Level
2012-11-22T14:30:46 Feature ID: 10 0
2012-11-22T14:30:46 Feature ID: 11 0
2012-11-22T14:30:46 Feature ID: 12 0
2012-11-22T14:30:46 Feature ID: 13 0
2012-11-22T14:30:46 Feature ID: 14 0
2012-11-22T14:30:46 Feature ID: 15 0
2012-11-22T14:30:46 Feature ID: 16 0
2012-11-22T14:30:46 Feature ID: 17 0
2012-11-22T14:30:46 Feature ID: 18 0
2012-11-22T14:30:46 Feature ID: 19 0
2012-11-22T14:30:46 Feature ID: 20 0
2012-11-22T14:30:46 Feature ID: 21 0
2012-11-22T14:30:46 Feature ID: 22 0

QGIS API Documentation



PyQGIS Developer Cookbook