

## Targeted skills

By the end of this module, you will know how to:

- open shapefiles
- show attribute tables
- browse the map: zoom (in, out, to region), pan, ...
- select features: individually, by regions, by attribute value, through spatial query
- change the order of layers
- access layers properties
- style map features (basic)
- save open layers, styling in a QGIS project

## Data

Data to be used in this module can be found in the following folders:

```
data/ne_110m_admin_0_countries/
data/ne_110m_populated_places/
data/ne_110m_rivers_lake_centerlines/
```

## Exercise outline & memos

### 1. Opening a shapefile

Option 1:

[In QGIS top menu]

Layer   Add Layer   Add Vector Layer

Option 2:

[In QGIS side toolbar]

Add Vector Layer

Hint: *function of icons will appear when hovering over it*

Check out QGIS User Guide for more information

Shapefiles to be open in this exercise are:

```
data/ne_110m_admin_0_countries/ne_110m_admin_0_countries.shp
data/ne_110m_populated_places/ne_110m_populated_places.shp
data/ne_110m_rivers_lake_centerlines/ne_110m_rivers_lake_centerlines.shp
```

Warning: *note that what we called a shapefile is actually a combination of files with the following extensions: .shx, .shp, .dbf, ... When we want to open a shapefile in GIS software, we are opening the .shp one.* See wikipedia entry for shapefile.

### 2. Showing attribute table

A GIS layer has always two facets, representations: geographical (the map itself) and attribute table (tabular) representations.

In the attribute table, each row corresponds to a map feature (a point, a line or a polygon) and columns attributes recorded for this feature (population, type of disease, ...).

To open the attribute table:

Option 1:

[In QGIS top menu]  
Layer   Open Attribute Table

Option 2:

[In QGIS top toolbar]  
Click the 'table' icon

Option 3:

[In QGIS Layers list]  
Click right on the layer of interest and select 'Open Attribute Table'

### 3. Browsing the map

Option 1:

[In QGIS top menu]  
View   Zoom Full  
     or  
View   Zoom to Layer  
...

Option 2:

[In QGIS top toolbar]

*Hint: you will find a series of buttons with magnifiers icon. Play around ...*

### 4. Select features

Option 1:

[In QGIS top menu]  
View   Select   ...

Option 2:

[In QGIS top toolbar]

#### 4.1 Select by attribute value

[In QGIS top menu]  
View   Select   Select by Expression ...

then in [input text box], write:

"pop\_est" > 50000000   and click 'Select' button

#### 4.2 Select by spatial query

Install "Spatial Query Plugin" if not already installed. If/when installed the plugin needs to be activated (checkbox on).

Select a country, let's say "Brazil"

[In QGIS top menu]  
Vector   Spatial Query   Spatial Query

[In "Select source features from" dropdown]

Choose: "ne\_110m\_populated\_places"

[In "Where the features" dropdown]

Choose: "Within"

[In "Reference features of"]

Choose: "ne\_110m\_admin\_0\_countries" (check selected geometries checkbox)

Then click "Apply"

## 6. Accessing layer properties

[In Layers Panel]

Simply drag and drop layers you want to move up or down in layers stack

## 5. Changing order of layers

[In Layers Panel]

Click right on layer of interest    Properties

then, on left side of the properties window, you will find a bunch of choice/option, such as:

- General
- Style
- Labels
- ...

We will only focus on “Style” properties for now.

## 6. Styling map features

Open layer properties

Click "Style" option and play around with colours to your liking;

## 7. Saving open layers and styles as QGIS project

To save your QGIS environment/project:

[In QGIS top menu]

Project    Save As...