Section : . Pengenalan QGIS

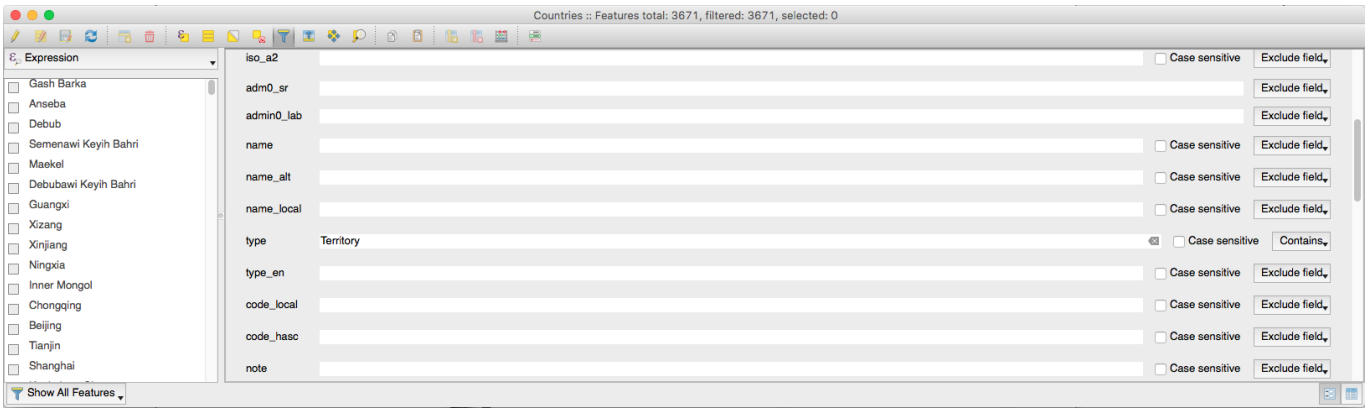
Module : . Query and Filter Attributes

Filtering attribute data using Forms

"QGIS allows you to filter, sort and manipulate attribute data."

In the table view, each row in the attribute table displays the attributes of a unique feature in the layer. Selecting a row selects the feature and likewise, selecting a feature in the map canvas (in case of geometry enabled layer) selects the row in the attribute table. If the set of features selected in the map canvas (or attribute table) is changed, then the selection is also updated in the attribute table (or map canvas) accordingly.

With QGIS you can manipulate the table display by filtering and sorting these attributes. You can also use queries to search for features with specific characteristics. In this exercise, we will try out some of these capabilities.



You try:

Goal: To query and filter attributes

- Load the Countries layer from the exercise data.
- Open the attribute table for the layer.
- Enable the form-based filter tool.
- Filter the table based on the specification in the table below.
- Scroll down if needed and use the 'Filter Features' button to filter the table.

Check your results

How many records were listed once the filter was applied?

Name	Expectation
First Filter field	type
Filter text	Disputed

Filter Case	Case sensitive
Filter Expression	Contain
Second Filter field	pop_est
Filter Value	150000
Filter Expression	Greater than

More about filtering attribute data

When you filter features in the attribute table, the filter only applies to the table – the map canvas will still show all the features. If you use the `select features` button rather than the `filter features` button, the matching rows will be selected – you can zoom to the selected features on the map or raise the selected features to the top of the table.

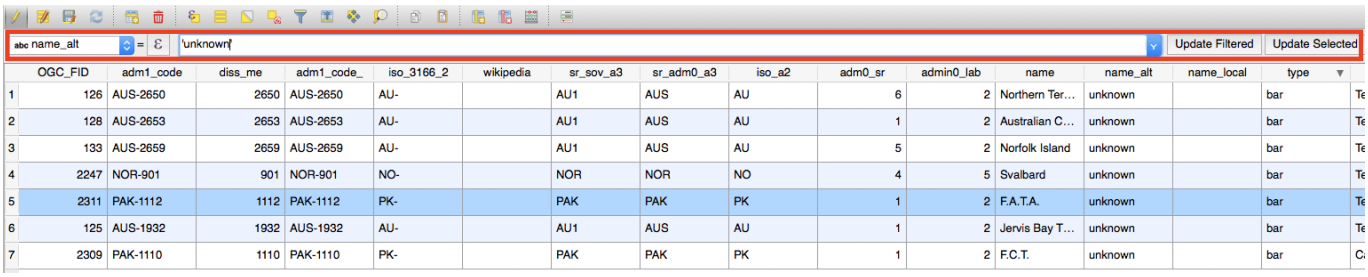
Once there is a table filter in place, you can easily update all the filtered features by placing the table in edit mode and using the quick formula bar. Note that, as of QGIS 2.18, you need to force a refresh of the table to see your updates applied to the table.

There are also ways to filter your layer for both geometries and attribute data in QGIS. For example, you can:

- Do a `subset` filter on a layer (via the layer properties dialogue) which will hide any features (including from the attribute table) that do not match the query criteria
- Use virtual layers to create a `view` of a subset of layers
- Use DB manager to query data from a database that meets your specific criteria

You can also use `soft` approaches to filter features shown in the map canvas - for example using a rule-based renderer to exclude certain features from the map render.

There is another way to filter the records shown in the QGIS table view - you can limit the list of features shown to only those that are also visible in the map canvas by using the filter button on the bottom left corner of the attribute table and setting it to Show `features visible on the map`.



	OGC_FID	adm1_code	diss_me	adm1_code_	iso_3166_2	wikipedia	sr_sov_a3	sr_adm0_a3	iso_a2	adm0_sr	admin0_lab	name	name_alt	name_local	type
1	126	AUS-2650	2650	AUS-2650	AU-		AU1	AUS	AU	6	2	Northern Ter…	unknown		bar
2	128	AUS-2653	2653	AUS-2653	AU-		AU1	AUS	AU	1	2	Australian C…	unknown		bar
3	133	AUS-2659	2659	AUS-2659	AU-		AU1	AUS	AU	5	2	Norfolk Island	unknown		bar
4	2247	NOR-901	901	NOR-901	NO-		NOR	NOR	NO	4	5	Svalbard	unknown		bar
5	2311	PAK-1112	1112	PAK-1112	PK-		PAK	PAK	PK	1	2	F.A.T.A.	unknown		bar
6	125	AUS-1932	1932	AUS-1932	AU-		AU1	AUS	AU	1	2	Jervis Bay T…	unknown		bar
7	2309	PAK-1110	1110	PAK-1110	PK-		PAK	PAK	PK	1	2	F.C.T.	unknown		bar

Check your knowledge:

1. True or false: Applying a filter in the attribute table will result in only those features being shown on the canvas:
   a. *True*

   b. *False*

2. What is the purpose of filtering the attribute table - choose all that apply:
   a. *to quickly view a list of records that match your criteria*
   b. *to create a selection of features*
   c. *to be able to quickly update the attributes of a subset of features*

3. Why would you choose filter using form rather than the normal filtering:
   a. *Form based filter allows you to combine multiple filters on a combination of columns*
   b. *Normal filtering only works on a single attribute column even in advanced mode*
   c. *Normal filtering is not case sensitive.*

Module video tutorial:

- https://youtu.be/lB2oIuj2xTo

Further reading:

- Attribute_table: https://docs.qgis.org/3.16/en/docs/user_manual/working_with_vector/attribute_table.html#interacting-with-features-in-an-attribute-table

Download the sample data for the lesson from http://changelog.qgis.org/media/images/lesson/worksheet/external_data/c0027da3e618da439f76c32c996f0520aef8d63d.zip.