



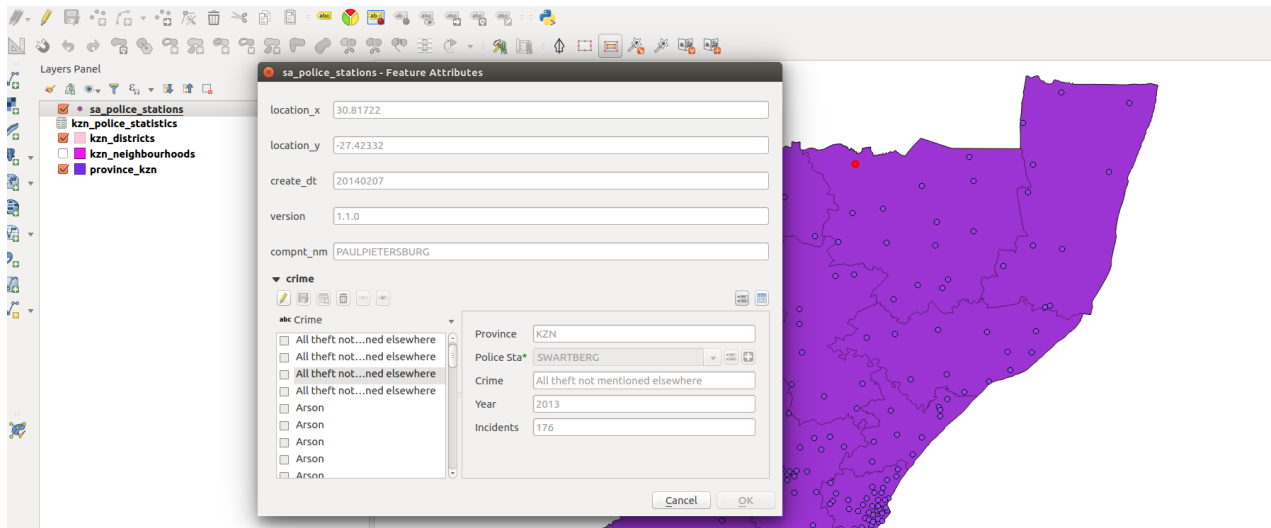
# Section: Vector Analysis

## Module : Table Joins and Relations

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“Attribute table joins is the process of combining two tables based on columns containing the same attribute values.”

In this module we will look at the various types of table joins that can be achieved in. In order for two tables to be linked they have to have common values between two tables. The columns that are to be linked can have different names but contain represent the same values



### You try:

**Goal:** To learn the basics of attribute joins and distinguish between 1 to 1 join and 1 to many joins

**Problem:** You are an estate agent and you need to identify the crime patterns that occur at two police stations near a new residential location.

**Data:** appendix3-local-data

- \* Load police\_station.csv, districts as spatial layers
- \* Add the crime.csv using add vector menu.
- \* Toggle edit the crime layer and use field calculator to update the name column with the given expression.
- \* Create a join between crime and police station.
- \* Open the attribute table for police stations and interpret the results. *What type of join is it?*

\* Remove the table join.

\* Click on project menu and choose project properties. Select relations tab.

\* Create a relation between crime and police

station. (**Referencing child:** crime, **Referencing parent:** police station)

\* Open police station attribute table and chose form view. Interpret the results. *What type of join is it?*

Name	Value
Spatial Operation	Expressions editor QGIS
Table operations	1-1 Join 1- Many Join
Layers	crime, police_station, districts
Expressions	Upper(name)

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## More about

Attribute table joins allows us to pull information from another table by using column with values that are common between the two tables. This is sufficient when each row these tables are distinct. In situations when there are rows which are not distinct in one of the tables creating a table join does not satisfy the requirement as this kind of relationship is termed 1 to many. When there is 1 to many relationships we need to define a relation between the two tables.



### Check your knowledge:

**1. Describe a table join:**

- a) A spatial operation that is only available in QGIS
- b) When one combines two tables using column values that are available in both tables.
- c) A type of GIS layer

**2. Which of the following is True:**

- a) When doing table join between two columns the attributes do not matter what case they are in. They can be either upper case or lower case
- b) You can only do a join between a spatial layer and a non spatial layer
- c) When you want to show the relationship between two tables that have 1 to many relation you create a relation.

**3. Table joins can be used when the two tables use column with identical names:**

- True
- False

Answers: 1b, 2a, 3f



### Further reading:

[http://docs.qgis.org/2.14/en/docs/user\\_manual/working\\_with\\_vector/vector\\_properties.html#joins-menu](http://docs.qgis.org/2.14/en/docs/user_manual/working_with_vector/vector_properties.html#joins-menu)  
<http://www.digital-geography.com/qgis-tutorial-ii-how-to-join-data-with-shapefiles/#.WQHDIDclHQo>