

Performing Table Joins

QGIS Tutorials and Tips



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000000 00 00 000000 **shapefile** 00 000000 000000 00000. 00 00000 0000 00 00000000
 00 0000 0000 00 00 000000 0000 0000 00000. 0 0000 0000 00 `Table Join` 00 0000 00 0
 0000000 **QGIS** 00 0000 0000 0000 00000000.



US Census Bureau shapefile.



- CSVファイルは、テキスト形式で保存されたデータファイル。拡張子は **.csv** である。
- QGISは、CSVファイルを読み込んで、地図上で表示することができる。



US Census Bureau MAF/TIGER shapefile

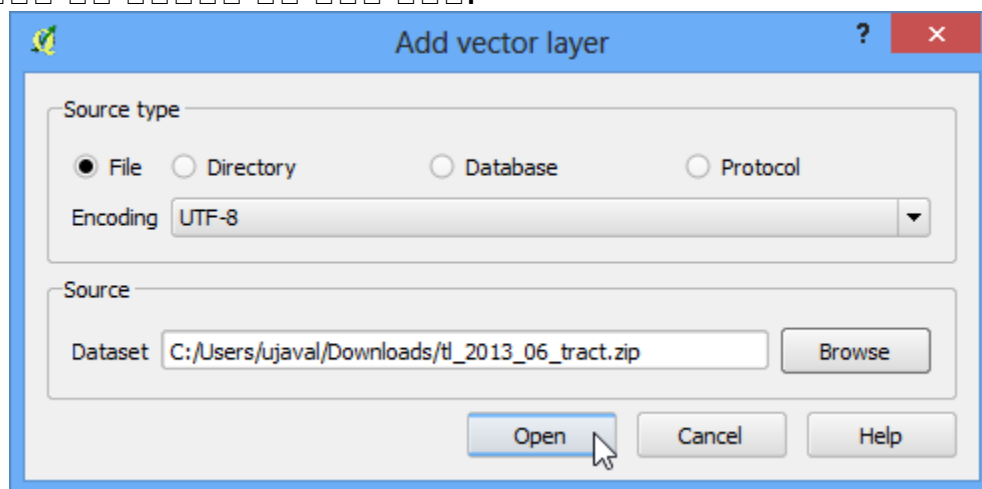
Americal FactFinder
 <<http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>>`_□
 □□□ □□ □□□ □□□□□. `Advanced Search` □ □□□ □ □□ □□□ CSV □ □□□ □□□□ □□
 □□ `Topic - Total Population` □ `Geographies - All Census Tracts in California` □ □□□ □
 □□□□. □ □□□□□ `Total Population 2010 Census Summary File 1` □ □□□□□.

□□□ □□ [TIGER] [USCENSUS]

- ```
1. shapefile --> Add Vector Layer`
```



2. 파일을 불러와서 `tl\_2013\_06\_tract.zip`을 불러옵니다. QGIS에 불러와서 불러오기 버튼을 클릭합니다. 불러오기 버튼을 클릭하면 불러오기 창이 나타납니다.



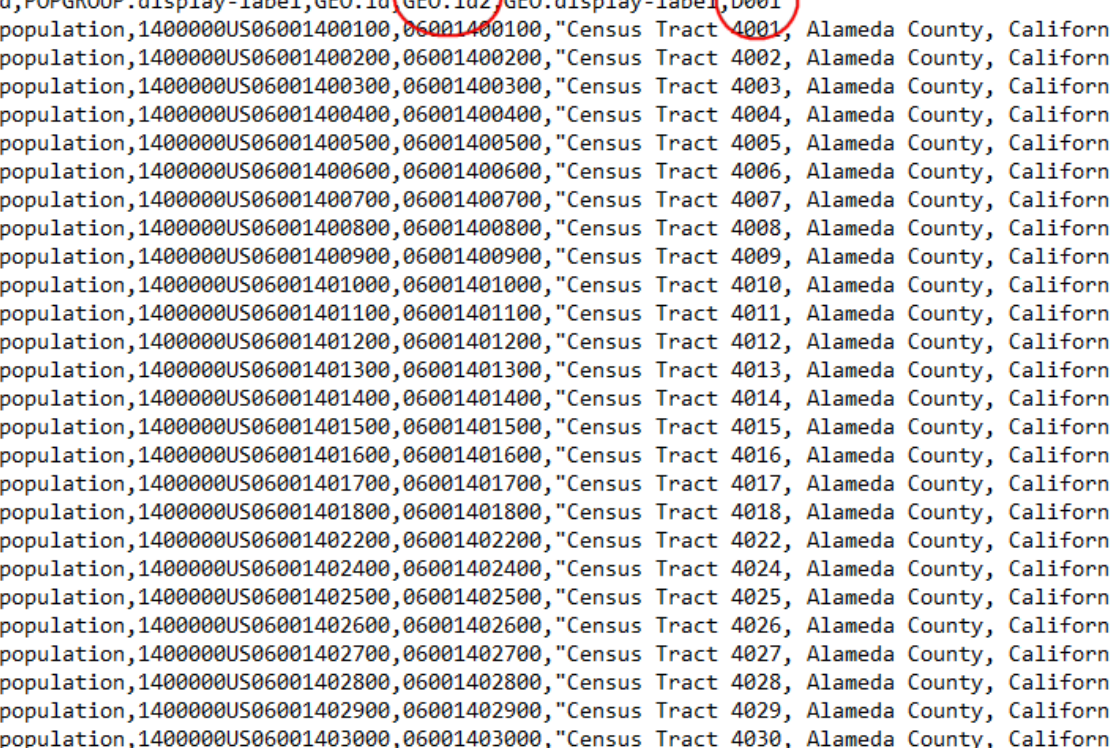
3. `tl\_2013\_06\_tract.shp` 파일을 불러옵니다. :guilabel: `OK` 버튼을 클릭합니다.





6. □□ shapefile□ □□□ □□□□□□. □ shapefile□ □□□□ □□□□ □□□□ □ □□□ □□□□ □□□□ □□□□□□. □ □□□□ **\*\*GEOID\*\***□□□□ □ □□□□ □□□□ □□□□ □□ ID□ □□□□ □□ □□ □□□□ □ shapefile□ '□□' □ □ □□□□.





The screenshot shows a Notepad window with the file 'ca\_tracts\_pop.csv' open. The text in the window is a CSV file containing data for census tracts in Alameda County, California. The first row is highlighted, and the columns are circled in red. The columns are: POPGROUP.id, POPGROUP.display-label, GEO.id, GEO.id2, GEO.display-label, and D001. The data rows show population information for various census tracts, including tract 4001, Alameda County, California, with a population of 2937.

| POPGROUP.id | POPGROUP.display-label | GEO.id               | GEO.id2     | GEO.display-label                               | D001 |
|-------------|------------------------|----------------------|-------------|-------------------------------------------------|------|
| 001         | Total population       | 1400000US06001400100 | 06001400100 | "Census Tract 4001, Alameda County, California" | 2937 |
| 001         | Total population       | 1400000US06001400200 | 06001400200 | "Census Tract 4002, Alameda County, California" | 1974 |
| 001         | Total population       | 1400000US06001400300 | 06001400300 | "Census Tract 4003, Alameda County, California" | 4865 |
| 001         | Total population       | 1400000US06001400400 | 06001400400 | "Census Tract 4004, Alameda County, California" | 3703 |
| 001         | Total population       | 1400000US06001400500 | 06001400500 | "Census Tract 4005, Alameda County, California" | 3517 |
| 001         | Total population       | 1400000US06001400600 | 06001400600 | "Census Tract 4006, Alameda County, California" | 1571 |
| 001         | Total population       | 1400000US06001400700 | 06001400700 | "Census Tract 4007, Alameda County, California" | 4206 |
| 001         | Total population       | 1400000US06001400800 | 06001400800 | "Census Tract 4008, Alameda County, California" | 3594 |
| 001         | Total population       | 1400000US06001400900 | 06001400900 | "Census Tract 4009, Alameda County, California" | 2302 |
| 001         | Total population       | 1400000US06001401000 | 06001401000 | "Census Tract 4010, Alameda County, California" | 5678 |
| 001         | Total population       | 1400000US06001401100 | 06001401100 | "Census Tract 4011, Alameda County, California" | 4156 |
| 001         | Total population       | 1400000US06001401200 | 06001401200 | "Census Tract 4012, Alameda County, California" | 2416 |
| 001         | Total population       | 1400000US06001401300 | 06001401300 | "Census Tract 4013, Alameda County, California" | 3528 |
| 001         | Total population       | 1400000US06001401400 | 06001401400 | "Census Tract 4014, Alameda County, California" | 4314 |
| 001         | Total population       | 1400000US06001401500 | 06001401500 | "Census Tract 4015, Alameda County, California" | 2630 |
| 001         | Total population       | 1400000US06001401600 | 06001401600 | "Census Tract 4016, Alameda County, California" | 2163 |
| 001         | Total population       | 1400000US06001401700 | 06001401700 | "Census Tract 4017, Alameda County, California" | 2667 |
| 001         | Total population       | 1400000US06001401800 | 06001401800 | "Census Tract 4018, Alameda County, California" | 1703 |
| 001         | Total population       | 1400000US06001402200 | 06001402200 | "Census Tract 4022, Alameda County, California" | 2385 |
| 001         | Total population       | 1400000US06001402400 | 06001402400 | "Census Tract 4024, Alameda County, California" | 2351 |
| 001         | Total population       | 1400000US06001402500 | 06001402500 | "Census Tract 4025, Alameda County, California" | 1784 |
| 001         | Total population       | 1400000US06001402600 | 06001402600 | "Census Tract 4026, Alameda County, California" | 1151 |
| 001         | Total population       | 1400000US06001402700 | 06001402700 | "Census Tract 4027, Alameda County, California" | 1569 |
| 001         | Total population       | 1400000US06001402800 | 06001402800 | "Census Tract 4028, Alameda County, California" | 3345 |
| 001         | Total population       | 1400000US06001402900 | 06001402900 | "Census Tract 4029, Alameda County, California" | 1434 |
| 001         | Total population       | 1400000US06001403000 | 06001403000 | "Census Tract 4030, Alameda County, California" | 2788 |
| 001         | Total population       | 1400000US06001403100 | 06001403100 | "Census Tract 4031, Alameda County, California" | 2238 |

8. `String (text)` `csv` `D001`` `QG/S`` `.csvt`` `ca_tracts_pop.csvt`` `download: download the csvt file from here. <../static/performing_table_joins/data/ca_tracts_pop.csvt>`



9. In QGIS, open the CSV file and load it into the project. Then, go to Layer --> Add Delimited Text Layer and click OK.





10. CSV file format. File format: CSV (comma separated values). No geometry (attribute only table). OK.

**Create a Layer from a Delimited Text File**

File Name:

Layer name:  Encoding:

File format: ☒ CSV (comma separated values) ☐ Custom delimiters ☐ Regular expression delimiter

Record options: Number of header lines to discard:  ☒ First record has field names

Field options: ☐ Trim fields ☐ Discard empty fields ☐ Decimal separator is comma

Geometry definition: ☐ Point coordinates ☐ Well known text (WKT) ☒ No geometry (attribute only table)

Layer settings: ☐ Use spatial index ☐ Use subset index ☐ Watch file

|   | POPGROUP.id | POPGROUP.display-label | GEO.id               | GEO.id2     | GEO.display-label                 |
|---|-------------|------------------------|----------------------|-------------|-----------------------------------|
| 1 | 001         | Total population       | 1400000US06001400100 | 06001400100 | Census Tract 4001, Alameda County |
| 2 | 001         | Total population       | 1400000US06001400200 | 06001400200 | Census Tract 4002, Alameda County |
| 3 | 001         | Total population       | 1400000US06001400300 | 06001400300 | Census Tract 4003, Alameda County |
| 4 | 001         | Total population       | 1400000US06001400400 | 06001400400 | Census Tract 4004, Alameda County |
| 5 | 001         | Total population       | 1400000US06001400500 | 06001400500 | Census Tract 4005, Alameda County |

11. CSV ☐ ☐ QGIS ☐ ☐ ☐ ☐ ☐.



12. Select the ***tl\_2013\_06\_tract*** layer. Right-click on it and select Properties.



13. Click on Layer Properties and Joins. Click on the Join icon in the Layer Properties dialog. Click on the Join icon in the Layer Properties dialog.



14. Add vector join Join layer` `ca\_tracts\_pop`  
 shapefile CSV id Join field` `Target field` `GEO.id2` `GEOID`  
 :guilabel:`OK`



15. Layer Properties QGIS CSV shapefile  
 `tl\_2013\_06\_tract` Open  
 Attribute Table`



16. □□ ca\_tracts\_pop\_D001 □□□ □ □□□ □□□ □□□ □ □ □□□□. □□ CSV□□□□□ □ □□□ □□□□ □□□□□. □□ □□□□ □□ QGIS□ □□□□□.

Attribute table - tl\_2013\_06\_tract :: Features total: 8057, filtered: 8057, selected: 0

|    | INTPTLAT    | INTPTLON     | tracts_pop_POPGRC | op_POPGROURdi    | tracts_pop_GEC | pop_GEQdis    | ca_tracts_pop_D001 |
|----|-------------|--------------|-------------------|------------------|----------------|---------------|--------------------|
| 0  | +37.5371514 | -122.0081094 | 001               | Total population | 1400000US06... | Census Tra... | 2873               |
| 1  | +37.5293619 | -121.9931002 | 001               | Total population | 1400000US06... | Census Tra... | 2816               |
| 2  | +34.0175004 | -118.1974975 | 001               | Total population | 1400000US06... | Census Tra... | 2598               |
| 3  | +34.0245059 | -118.2142985 | 001               | Total population | 1400000US06... | Census Tra... | 3766               |
| 4  | +34.0187546 | -118.2117956 | 001               | Total population | 1400000US06... | Census Tra... | 3618               |
| 5  | +34.0682177 | -118.2320356 | 001               | Total population | 1400000US06... | Census Tra... | 3127               |
| 6  | +34.0571230 | -118.2311021 | 001               | Total population | 1400000US06... | Census Tra... | 7883               |
| 7  | +34.0299036 | -118.2244531 | 001               | Total population | 1400000US06... | Census Tra... | 2146               |
| 8  | +34.0561941 | -118.2466502 | 001               | Total population | 1400000US06... | Census Tra... | 1363               |
| 9  | +37.5184093 | -121.9748369 | 001               | Total population | 1400000US06... | Census Tra... | 7194               |
| 10 | +34.0798577 | -118.3181008 | 001               | Total population | 1400000US06... | Census Tra... | 3628               |
| 11 | +34.0798690 | -118.3068568 | 001               | Total population | 1400000US06... | Census Tra... | 3670               |
| 12 | +34.0799255 | -118.3024972 | 001               | Total population | 1400000US06... | Census Tra... | 5067               |
| 13 | +34.0813650 | -118.2961539 | 001               | Total population | 1400000US06... | Census Tra... | 4389               |
| 14 | +34.0800134 | -118.2881064 | 001               | Total population | 1400000US06... | Census Tra... | 3513               |
| 15 | +34.0781753 | -118.3695958 | 001               | Total population | 1400000US06... | Census Tra... | 2037               |
| 16 | +34.1022274 | -118.2669741 | 001               | Total population | 1400000US06... | Census Tra... | 4717               |
| 17 | +34.0992506 | -118.2836893 | 001               | Total population | 1400000US06... | Census Tra... | 3203               |
| 18 | +37.5184218 | -121.9515237 | 001               | Total population | 1400000US06... | Census Tra... | 2917               |
| 19 | +37.5168344 | -121.9605916 | 001               | Total population | 1400000US06... | Census Tra... | 5918               |
| 20 | +37.5071943 | -121.9271475 | 001               | Total population | 1400000US06... | Census Tra... | 4611               |
| 21 | +37.4707325 | -121.9129556 | 001               | Total population | 1400000US06... | Census Tra... | 4074               |

Show All Features

17. `tl_2013_06_tract` :guilabel: `Properties` .



18. Click Style in the Layer Properties dialog. In the Style section, select Graduated. In the Column section, select ca\_tracts\_pop\_D001. In the Color ramp section, select Quantile (Equal Count). In the Mode section, select Classify. Click OK.





19. `guiLabel: 'Zoom in'`



20. □□□□□□ □□□□ □□□ □□□□□ □□□ □□□□. □□□ □□□ □□□□ □□□ □□□ □□□ □□□ □□□ □□□ □□□□.

