

Calculating Line Lengths and Statistics

QGIS Tutorials and Tips



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- □□□□□□ □□□ □□□(Projected Coordinate Reference System, CRS)□ □□□ □ □□.
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`Natural Earth
<<http://www.naturalearthdata.com/downloads/10m-cultural-vectors/railroads/>>`_□□
□□ □□□ □□ □□□□□ □□□□. □□□□ `North America supplement <http://www.naturalearthdata.com/http://www.naturalearthdata.com/download/10m/cultural/ne_10m_railroads_north_america.zip>`_□□□□□□ □□□□ □□□□.

For convenience, you may directly download a copy of the dataset from the link below:

[ne_10m_railroads_north_america..zip](#)

□□□ □□ [NATURALEARTH]

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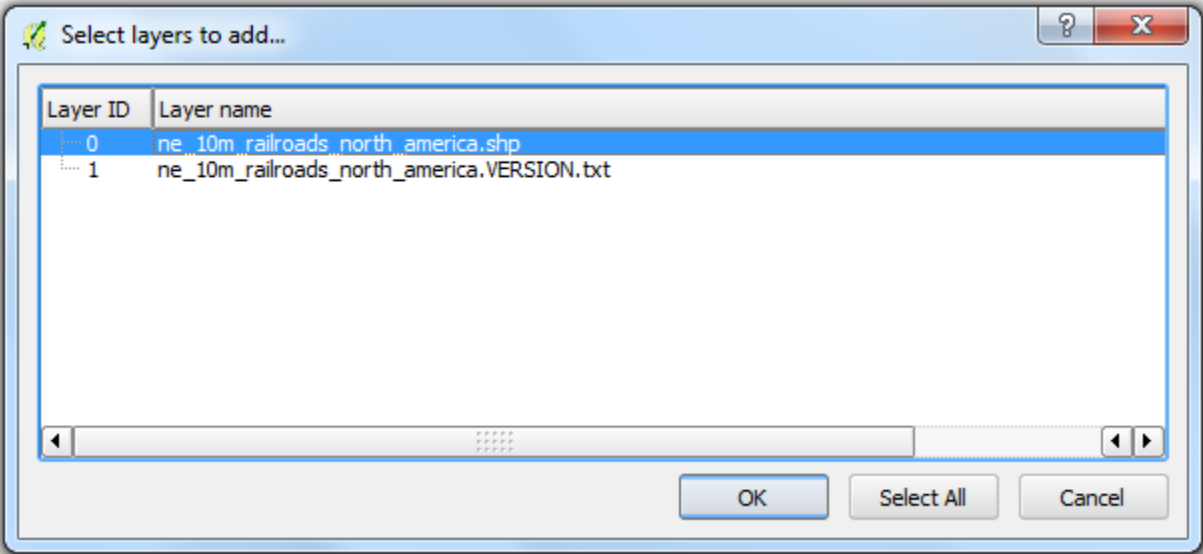
1. □□□□ :menuselection: `Layer --> Add Vector Layer` □ □□□□.



2. ``ne_10m_railroads_north_america.zip`` □□□ □□□ :guilabel:``OK`` □ □□□□□.



3. In the Select layers to add... dialog, choose *ne_10m_railroads_north_america.shp* layer.



4. 表の属性名、属性型、属性値を指定して、属性を定義する。属性名は、属性型は、属性値は、属性値の型に一致する必要がある。属性名は、属性型は、属性値は、属性値の型に一致する必要がある。
:guilabel: `Open Attribute Table` のボタンをクリック。



5. `guiabel: `sov_a3`` `00 000 0000 0000`. `000 00 300 000 00 000 000`
`00 00000 0000 00 000000`. `0 0000 0000 000000 000 000 0 00000`.

Attribute table - ne_10m_railroads_north_america :: Features total: 1127, filtered: 1127, selected: 0

| | scalerank | featurecla | sov_a3 | uident | add | natriscala | continent |
|----|-----------|------------|--------|--------|-----|------------|---------------|
| 0 | 8 | Railroad | USA | 1506 | 0 | 0 | North America |
| 1 | 9 | Railroad | USA | 1606 | 1 | 5 | North America |
| 2 | 8 | Railroad | USA | 1706 | 0 | 0 | North America |
| 3 | 8 | Railroad | USA | 1806 | 0 | 0 | North America |
| 4 | 8 | Railroad | USA | 1906 | 0 | 0 | North America |
| 5 | 8 | Railroad | USA | 2006 | 0 | 0 | North America |
| 6 | 8 | Railroad | USA | 2106 | 0 | 0 | North America |
| 7 | 9 | Railroad | USA | 2206 | 1 | 5 | North America |
| 8 | 8 | Railroad | USA | 2306 | 0 | 0 | North America |
| 9 | 8 | Railroad | USA | 2406 | 0 | 0 | North America |
| 10 | 8 | Railroad | USA | 2506 | 0 | 0 | North America |
| 11 | 8 | Railroad | USA | 2606 | 0 | 0 | North America |
| 12 | 8 | Railroad | USA | 2706 | 0 | 0 | North America |
| 13 | 8 | Railroad | USA | 2806 | 0 | 0 | North America |
| 14 | 9 | Railroad | USA | 2906 | 1 | 5 | North America |
| 15 | 9 | Railroad | USA | 3006 | 1 | 5 | North America |
| 16 | 8 | Railroad | USA | 3106 | 0 | 0 | North America |
| 17 | 8 | Railroad | USA | 3206 | 0 | 0 | North America |
| 18 | 8 | Railroad | USA | 3306 | 0 | 0 | North America |
| 19 | 8 | Railroad | USA | 3506 | 0 | 0 | North America |
| 20 | 8 | Railroad | USA | 3606 | 0 | 0 | North America |
| 21 | 8 | Railroad | USA | 3706 | 0 | 0 | North America |
| 22 | 8 | Railroad | USA | 3806 | 0 | 0 | North America |
| 23 | 9 | Railroad | USA | 3906 | 1 | 5 | North America |

Show All Features

6. ☐ ☐ ☐ Attribute Table` ☐ ☐ ☐ ☐ ☐ :guilabel:`Select features using an expression ☐ ☐ ☐ ☐.



8. Back in the main QGIS window, you will see that all lines that fall in USA are selected and appear in yellow.



9. `ne_10m_railroads_north_america`, `Save Selection As...`



10. `:guilabel: 'Browse'` `usa_railroads.shp` `:guilabel: 'CRS'` `:guilabel: 'Browse'`

Note

CRS `EPSG:4326` `**degrees**` `**degrees**` `**degrees**` `**meters` `**feet**`



11. `filter = 'Filter'` `crs = 'north america equ'` `crs = 'North_America_Equidistant_Conic'` `crs = 'EPSG:102010'` `crs = 'OK'`



12. □ □□□ □ □□ □□□ Save vector layer as... □□□□□ □□ □□ □□ □□
 :guilabel: `Add saved file to map` □ □□□ :guilabel: `OK` □ □□□□.



13. □□ □□□□ □□□ □□□ □□□□ □□□
 usa_railroads`~■■■■■ QGIS ■■■■■. ■■■■ ``ne_10m_railroads_north_america
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14. ``usa_railroads`` 〇〇〇〇 〇〇〇 〇〇〇 〇〇〇〇 〇〇 〇〇〇 〇〇 :guilabel: ``Open Attribute Table`` 〇 〇〇〇〇〇.

Attribute table - usa_railroads :: Features total: 752, filtered: 752, selected: 0



| | scalerank | featurda | sov_a3 | uident | | continent |
|----|-----------|----------|--------|--------|---|---------------|
| 0 | 8 | Railroad | USA | 1506 | 0 | North America |
| 1 | 9 | Railroad | USA | 1606 | 1 | North America |
| 2 | 8 | Railroad | USA | 1706 | 0 | North America |
| 3 | 8 | Railroad | USA | 1806 | 0 | North America |
| 4 | 8 | Railroad | USA | 1906 | 0 | North America |
| 5 | 8 | Railroad | USA | 2006 | 0 | North America |
| 6 | 8 | Railroad | USA | 2106 | 0 | North America |
| 7 | 9 | Railroad | USA | 2206 | 1 | North America |
| 8 | 8 | Railroad | USA | 2306 | 0 | North America |
| 9 | 8 | Railroad | USA | 2406 | 0 | North America |
| 10 | 8 | Railroad | USA | 2506 | 0 | North America |
| 11 | 8 | Railroad | USA | 2606 | 0 | North America |
| 12 | 8 | Railroad | USA | 2706 | 0 | North America |
| 13 | 8 | Railroad | USA | 2806 | 0 | North America |
| 14 | 9 | Railroad | USA | 2906 | 1 | North America |
| 15 | 9 | Railroad | USA | 3006 | 1 | North America |
| 16 | 8 | Railroad | USA | 3106 | 0 | North America |
| 17 | 8 | Railroad | USA | 3206 | 0 | North America |
| 18 | 8 | Railroad | USA | 3306 | 0 | North America |
| 19 | 8 | Railroad | USA | 3506 | 0 | North America |
| 20 | 8 | Railroad | USA | 3606 | 0 | North America |
| 21 | 8 | Railroad | USA | 3706 | 0 | North America |
| 22 | 8 | Railroad | USA | 3806 | 0 | North America |
| 23 | 9 | Railroad | USA | 3906 | 1 | North America |

Show All Features

16. `Field Calculator` `Create a new field` `length_km`.
`Output field name` `length_km`. `Output field type` `Decimal number (real)`. `Precision` `2`. `Function list` `Geometry` `$length`. `Expression` `$length / 1000`. `CRS` `meters` `km`. `OK`.



17. 属性表 Attribute Table 中，单击“长度”列，在弹出的对话框中，将“输出字段名”设置为 length_km，将“输出字段类型”设置为“十进制数（实数）”，将“输出字段宽度”设置为 10，将“精度”设置为 2，单击“确定”按钮，完成长度字段的创建。

Basics statistics

Input Vector Layer
usa_railroads

☐ Use only selected features

Target field
length_km

Statistics output

| Parameter | Value |
|-------------------------|----------------|
| Mean | 127.751569149 |
| StdDev | 125.80562595 |
| Sum | 96069.18 |
| Min | 0.01 |
| Max | 936.6 |
| N | 752.0 |
| CV | 0.984767755... |
| Number of unique values | 743 |

Press Ctrl+C to copy results to the clipboard

0% OK Close