

# Getting Started with Python Programming

## QGIS Tutorials and Tips



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Translations by

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Natural Earth [Airports](#) □□□□ □□□□.

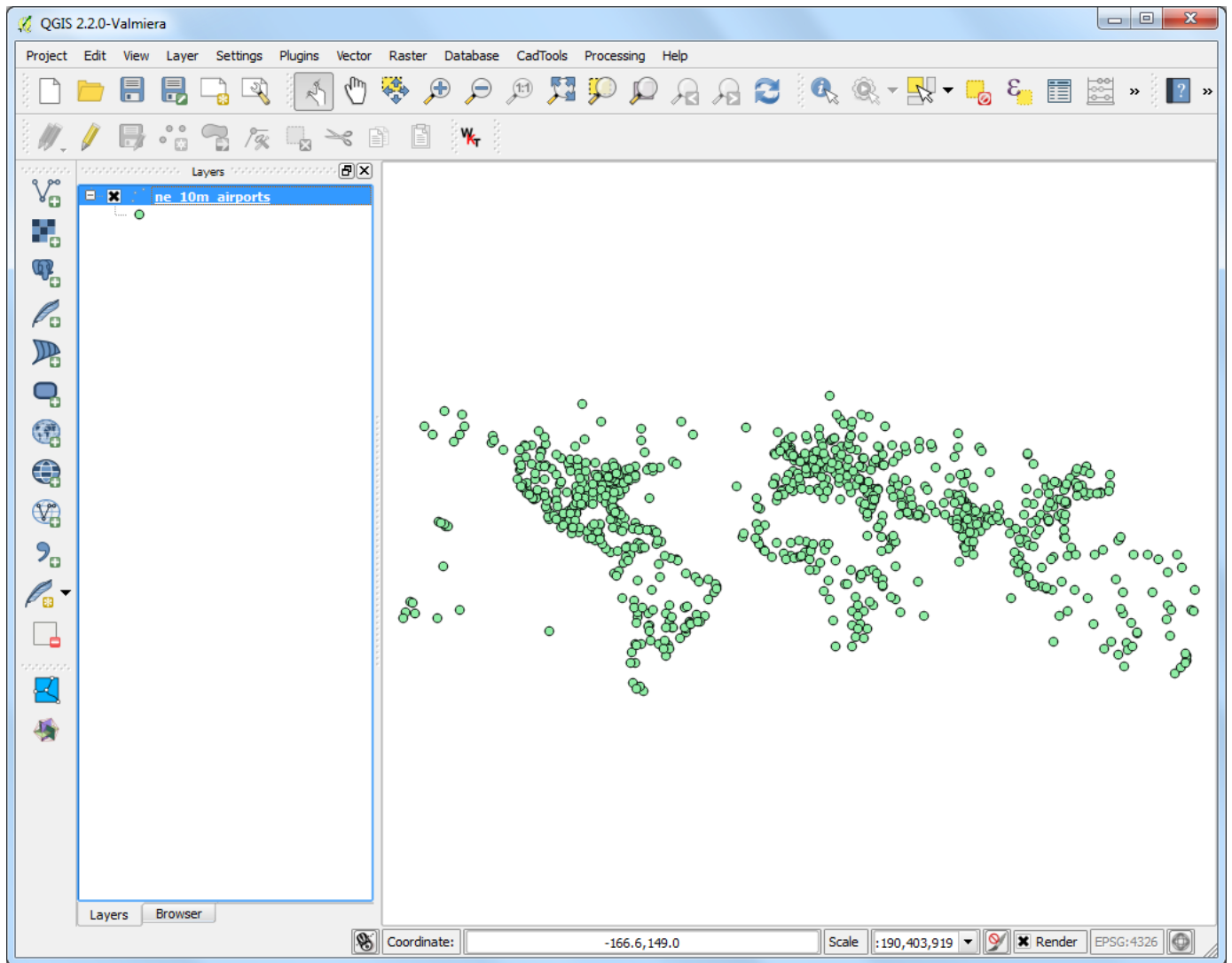
```
`Airports` shapefile <http://www.naturalearthdata.com/http://www.naturalearthdata.com/download/10m/cultural/ne\_10m\_airports.zip>`_ 00000 00000.
```

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```
1. QGIS --> File --> Open --> ne_10m_airports.zip
Vector Layer --> Add
:guilabel: Open --> ne_10m_airports.shp
:guilabel: OK
```



2. QGIS `ne\_10m\_airports` 。



3. Identify the fields in the 'ne\_10m\_airports' layer. The fields are 'name' and 'iata\_code'.





```
5. QGIS 0000 0000 0000 0000 0000 00 00 0000. 0000 000 0 00 0000
>>>`■ ■■ ■■■■■ ■■■ ■■■■. QGIS■■■ ■■■■■■■■ `iface 000 00000
000. QGIS00 00 0000 0000 0000 0000 000 00 00000 00
Enter`0 0000. 0 0000 00000 00 0000 0000 0000 0000 `layer` 000 00000.
```

```
layer = iface.activeLayer()
```



6. `dir()` returns a list of attributes and methods of the active layer. `layer` is the name of the active layer.

```
dir(layer)
```



7. `getFeatures()` returns a list of features. Each feature is a dictionary with keys for the feature's attributes and values for the attribute values. The first key is always 'id', which is the feature's unique identifier. The other keys are the names of the attributes. The values are the values of the attributes. For example, if a feature has two attributes, 'name' and 'population', the dictionary would look like this: `{ 'id': 1, 'name': 'New York', 'population': 20000000 }`.

```

for f in layer.getFeatures():
    print f
  
```





8. `f` 对象是 `QgsFeature` 类型的实例。每个 `f` 对象都有一个 `name` 属性，它返回机场的名称。每个 `f` 对象还有一个 `iata_code` 属性，它返回机场的 IATA 代码。

```

for f in layer.getFeatures():
    print f['name'], f['iata_code']

```



```

    geom = f.geometry()
    print geom.asPoint()

```

```

for f in layer.getFeatures():
    geom = f.geometry()
    print geom.asPoint()

```

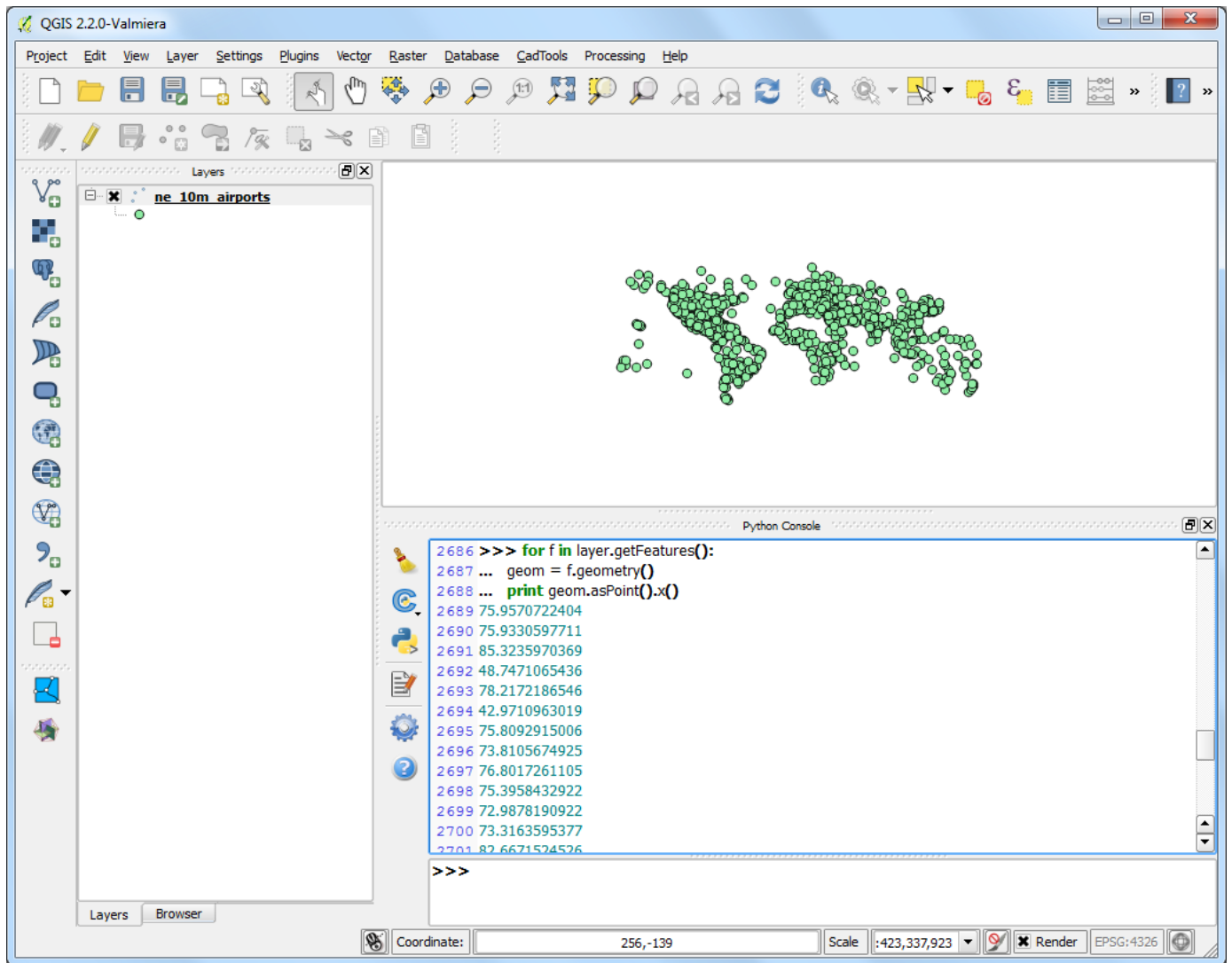


10. `for f in layer.getFeatures():`  
`geom = f.geometry()`  
`print geom.asPoint().x()`

```

for f in layer.getFeatures():
    geom = f.geometry()
    print geom.asPoint().x()

```



11. `for f in layer.getFeatures():`  
`geom = f.geometry()`  
`print '%s, %s, %f, %f' % (f['name'], f['iata_code'],`  
`geom.asPoint().y(), geom.asPoint().x())`

```

for f in layer.getFeatures():
    geom = f.geometry()
    print '%s, %s, %f, %f' % (f['name'], f['iata_code'],
        geom.asPoint().y(), geom.asPoint().x())

```





airports.txt - Notepad

File Edit Format View Help

Sahnewal, LUH, 30.850360, 75.957072  
Solapur, SSE, 17.625415, 75.933060  
Birsa Munda, IXR, 23.317725, 85.323597  
Ahwaz, AWZ, 31.343159, 48.747107  
Gwalior, GWL, 26.285488, 78.217219  
Hodeidah Int'l, HOD, 14.755253, 42.971096  
Devi Ahilyabai Holkar Int'l, IDR, 22.727749, 75.809292  
Gandhinagar, ISK, 19.966021, 73.810567  
Chandigarh Int'l, IXC, 30.670725, 76.801726  
Aurangabad, IXU, 19.867297, 75.395843  
Faisalabad Int'l, LYP, 31.362744, 72.987819  
Omsk Tsentralny, OMS, 54.957648, 73.316360  
Novosibirsk Tolmachev, OVB, 55.009585, 82.667152  
Zaporozhye Int'l, OZH, 47.873264, 35.301873  
Simpang Tiga, PKU, 0.464601, 101.446569  
Rota Int'l, ROP, 14.171771, 145.243980  
Surgut, SGC, 61.340167, 73.408496  
Tiruchirappalli, TRZ, 10.760357, 78.708958  
Turbat Int'l, TUK, 25.988795, 63.027933  
Quetta Int'l, UET, 30.249043, 66.948731  
Zahedan Int'l, ZAH, 29.475294, 60.900709  
Abdul Rachman Saleh, MLG, -7.929980, 112.711419  
Barnaul, BAX, 53.363385, 83.550453  
Adampur, NULL, 31.432942, 75.758483  
Bareilly, NULL, 28.421809, 79.452003  
Dhamial, NULL, 33.561415, 73.032050  
Cheongju Int'l, CJJ, 36.722023, 127.495916  
Gwangju, KWJ, 35.140005, 126.810839  
Daegu Int'l, TAE, 35.899928, 128.637538  
Ulsan, USN, 35.592896, 129.355731  
Radin Inten II, TKG, -5.242567, 105.176060  
Allahabad, IXD, 25.443522, 81.731727  
Chelyabinsk, CEK, 55.297792, 61.512259  
Tainan, TNN, 22.950668, 120.209733  
Taichung, RMQ, 24.266656, 120.630704  
Rotterdam The Hague, RTM, 51.949130, 4.433844  
Voronezh-Chertovitskoye, VOZ, 51.812617, 39.225450  
Liverpool John Lennon, LPL, 53.336375, -2.858621  
Vishakapatnam, VTZ, 17.727958, 83.223522  
Sultan Hasanuddin Int'l, UPG, -5.058937, 119.545691  
Vava'u Int'l, VAV, -18.586006, -173.968094  
Newcastle Int'l, NCL, 55.037085, -1.710346  
Goloson Int'l, LCE, 15.745160, -86.851469