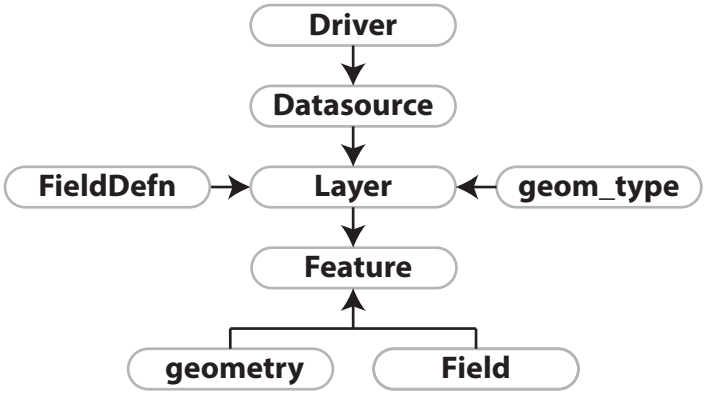
GDAL/OGR — Cheatsheet n°1 - Vector

Class Overview



Get Shapefile

```
driver = ogr.GetDriverByName('ESRI Shapefile')
datasource = driver.Open(filename GA ReadOnly)
if datasource is None:
    print 'Could not open file'
    sys.exit (1)
layer = datasource.GetLayer()
```

Iterate over features

```
feature = layer.GetFeature(0)
```

```
for f in layer :
    #do something with f
```

```
feature = layer.GetNextFeature()
while feature :
    feature = layer.GetNextFeature()
    #do something with f
layer.ResetReading()
```

Layer

```
layer.GetFeatureCount()
layer.GetExtent()
```

Feature

```
geometry = feature.GetGeometryRef()
x = geometry.GetX()
y = geometry.GetY()
```

Tools

```
output = geom1.Intersection(geom2)
output = geom1.Union(geom2)
output = geom1.Difference(geom2)
output = geom1.buffer(500)
output = geom1.GetEnvelope()
output = geom1.ConvexHull()
geom1.Contains(geom2)
geom1.Overlaps(geom2)
geom1.Disjoint(geom2)
geom1.Distance(geom2)
```

Fields

```
layerDefinition = layer.GetLayerDefn()
layerDefinition.GetFieldCount()
layerDefinition.GetFieldDefn(i).GetName()
layerDefinition.GetFieldDefn(i).GetType()
layerDefinition.GetFieldDefn(i).GetWidth()
```

Geometry

Point | Line | Polygon

Create a point

```
point = ogr.Geometry(ogr.wkbPoint)
point.AddPoint(1198054.34, 648493.09))
```

Create a line

```
line = ogr.Geometry(ogr.wkbLineString)
line.AddPoint(1116651.4, 637392.6)
line.AddPoint(1188804.0, 652655.7)
line.AddPoint(1226730.3, 634155.0)
line.AddPoint(1281307.3, 636467.6)
```

Create a polygon

```
ring = ogr.Geometry(ogr.wkbLinearRing)
ring.AddPoint(1116651.4, 637392.6)
ring.AddPoint(1188804.0, 652655.7)
ring.AddPoint(1226730.3, 634155.0)
ring.AddPoint(1281307.3, 636467.6)
poly = ogr.Geometry(ogr.wkbPolygon)
poly.AddGeometry(ring)
```

Field definition

```
fieldDefn = ogr.FieldDefn('id', ogr.OFTinteger)
layer.CreateField(fieldDefn)
```

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