

geo-shell

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Introduction

geo-shell is an interactive shell for geospatial analysis.

geo-shell has modules for dealing with **vectors**, **rasters**, **tiles**, **maps**, and **styles**.

For **vector** layers, you can use **workspace** commands access layers of spatial data in datasets like shapefiles, geopackages, or postgis databases. With **layer** commands you can perform geoprocessing functions like calculating centroids or buffer features.

For **raster** layers, you can use **format** commands access individual rasters from geotifs or world images. With **raster** commands you can perform mosaic, raster algebra, or crop functions.

The **tile** commands let you create tile layers, get tiles, and get rasters from tiles.

The **style** commands let you create styles for vector layers and raster.

The **map** commands allow you to visualize vector, raster, and tile layers.

Workspace

Workspaces hold vector layers. A Workspace can be a GeoPackage database, a directory of Shapefiles, or a PostGIS database.

Basics

You can open, close, and list Workspaces. The earliest Workspace to open is an in memory Workspace.

Open a Workspace

```
geo-shell> workspace open --name mem --params memory  
Workspace mem opened!
```

You can open a Workspace with --params or connection parameters. You can give it a name with --name flag.

List open Workspaces

```
geo-shell> workspace list  
mem = Memory
```

Listing open Workspaces give you the name and the type Workspace.

Close a Workspace

```
geo-shell> workspace close --name mem  
Workspace mem closed!
```

Once you close a Workspace by name it will no longer appear with the list command.

Layers

In this example, we will open a GeoPackage database filled with data from Natural Earth.

Open a Workspace

```
geo-shell> workspace open --name naturalearth --params src/test/resources/naturalearth.gpkg  
Workspace naturalearth opened!
```

List open Workspaces

```
geo-shell> workspace layers --name naturalearth  
countries  
ocean  
places  
states
```

Close a Workspace

```
geo-shell> workspace close --name naturalearth  
Workspace naturalearth closed!
```

Layer

Graticule

Square

```
geo-shell> workspace open --name layers --params memory  
Workspace layers opened!
```

```
geo-shell> layer graticule square --workspace layers --name squares --bounds -180,-90,180,90  
--length 20  
Created Square Graticule Layer squares!
```

```
geo-shell> style vector default --layer squares --color #1E90FF --opacity 0.30 --file  
examples/squares.sld  
Default Vector Style for squares written to /home/travis/build/jericks/geo-  
shell/examples/squares.sld!
```

```
geo-shell> layer style set --name squares --style examples/squares.sld  
Style /home/travis/build/jericks/geo-shell/examples/squares.sld set on squares
```

```
geo-shell> workspace open --name naturalearth --params examples/naturalearth.gpkg  
Workspace naturalearth opened!
```

```
geo-shell> layer open --workspace naturalearth --layer countries --name countries  
Opened Workspace naturalearth Layer countries as countries
```

```
geo-shell> layer style set --name countries --style examples/countries.sld  
Style /home/travis/build/jericks/geo-shell/examples/countries.sld set on countries
```

geo-shell> **layer open** --workspace naturalearth --layer ocean --name ocean
Opened Workspace naturalearth Layer ocean as ocean

geo-shell> **layer style set** --name ocean --style examples/ocean.sld
Style /home/travis/build/jericks/geo-shell/examples/ocean.sld set on ocean

geo-shell> **map open** --name graticule
Map graticule opened!

geo-shell> **map add layer** --name graticule --layer ocean
Added ocean layer to map graticule

geo-shell> **map add layer** --name graticule --layer countries
Added countries layer to map graticule

geo-shell> **map add layer** --name graticule --layer squares
Added squares layer to map graticule

geo-shell> **map draw** --name graticule --file examples/square_graticules.png
Done drawing /home/travis/build/jericks/geo-shell/examples/square_graticules.png!

geo-shell> **map close** --name graticule
Map graticule closed!

