geo-shell

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Version 0.7-SNAPSHOT

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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 eariest 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

Geoprocessing

Random Points

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

geo-shell> **layer random** --output-workspace layers --output-name points --geometry -180,-90,180,90 --number 100 --projection EPSG:4326
Done!

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

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

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 randomMap
Map randomMap opened!

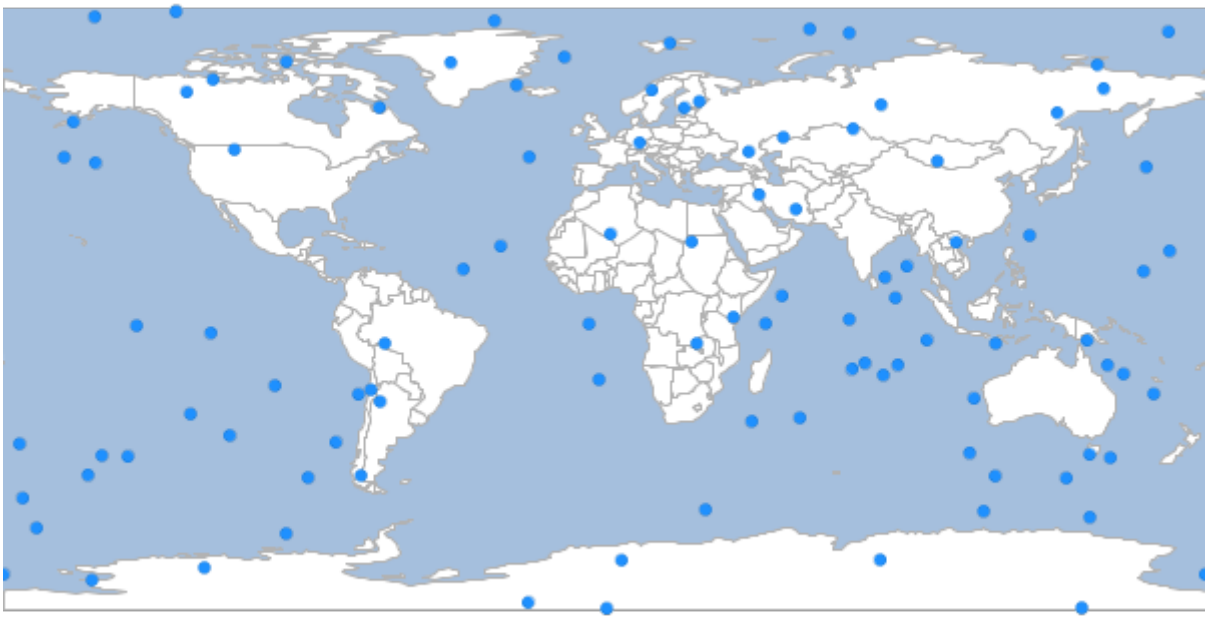
geo-shell> **map add layer** --name randomMap --layer ocean
Added ocean layer to map randomMap

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

geo-shell> **map add layer** --name randomMap --layer points
Added points layer to map randomMap

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

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



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!

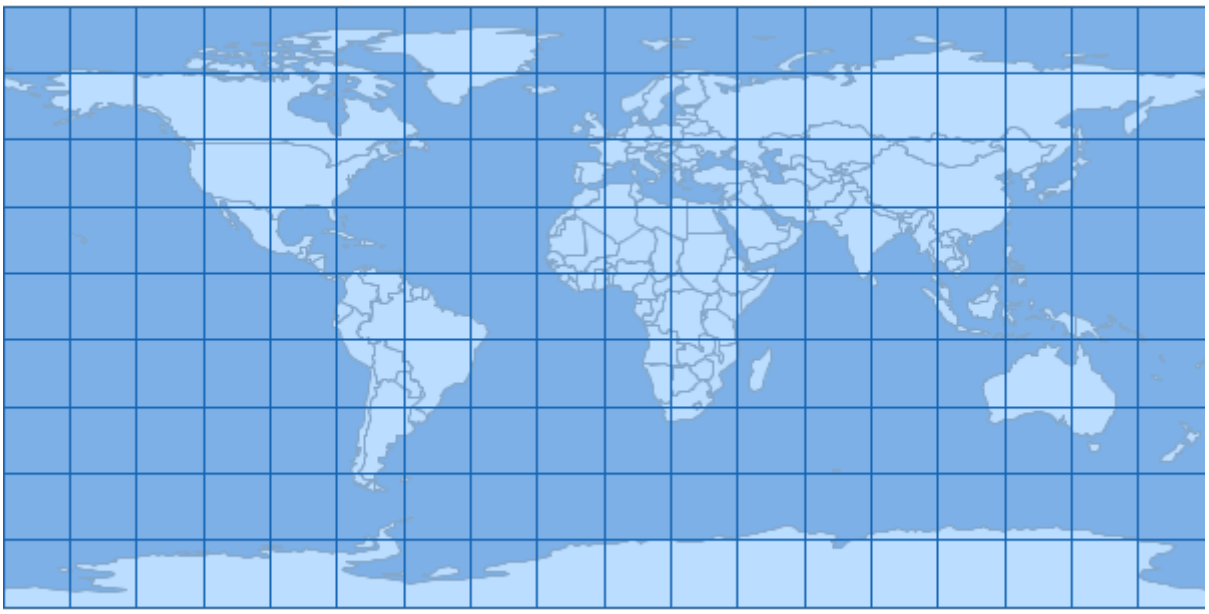
geo-shell> **map add layer** --name graticule --layer ocean
Added ocean layer to map graticule

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!



Oval

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

geo-shell> **layer graticule oval** --workspace layers --name ovals --bounds -180,-90,180,90 --size 20
Created Oval Graticule Layer ovals!

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

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

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 ovals
Added ovals layer to map graticule

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

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