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Process Recipes

The Process classes are in the **geoscript.process** package.

Execute a built-in Process

Create a Process from a built-in process by name

```
Process process = new Process("vec:Bounds")
String name = process.name
println name
```

```
vec:Bounds
```

Get the title

```
String title = process.title
println title
```

```
Bounds
```

Get the description

```
String description = process.description
println description
```

```
Computes the bounding box of the input features.
```

Get the version

```
String version = process.version
println version
```

```
1.0.0
```

Get the input parameters

```
Map parameters = process.parameters
println parameters
```

```
[features:class geoscript.layer.Cursor]
```

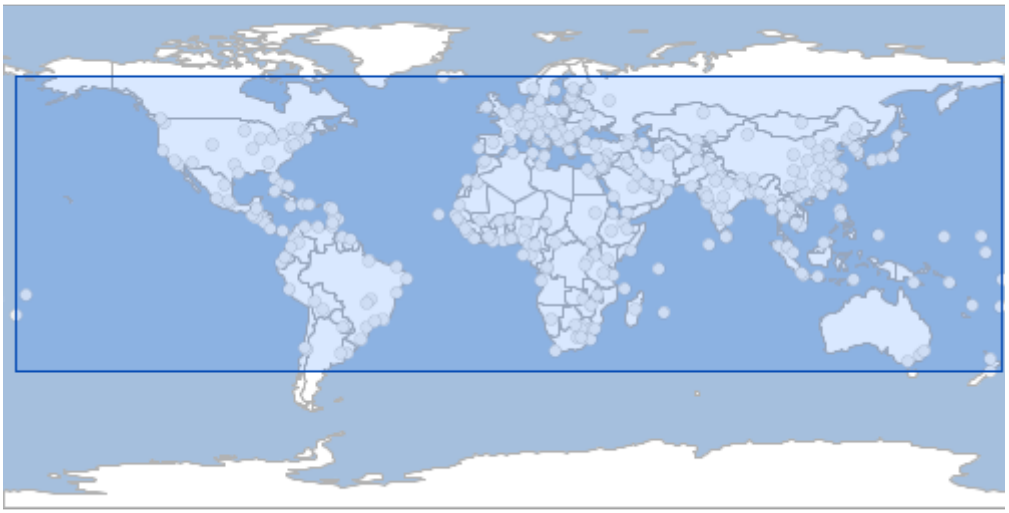
Get the output parameters

```
Map results = process.results
println results
```

```
[bounds:class geoscript.geom.Bounds]
```

Execute the Process to calculate the bounding box of all Features in a Layer

```
Workspace workspace = new GeoPackage('src/main/resources/data.gpkg')
Layer layer = workspace.get("places")
Map executeResults = process.execute([features: layer])
Bounds bounds = executeResults.bounds
```



Listing built-in Processes

Get the names of all built-in Processes

```
List<String> processes = Process.processNames
processes.each { String name ->
    println name
}
```

```
geo:isValid
geo:buffer
geo:union
geo:intersection
```

```
geo:splitPolygon
geo:difference
geo:area
geo:numGeometries
geo:convexHull
geo:crosses
geo:distance
geo:boundary
geo:centroid
geo:interiorPoint
geo:getGeometryN
geo:reproject
geo:symDifference
geo:isClosed
geo:envelope
geo:isSimple
geo:isWithinDistance
geo:overlaps
geo:relate
geo:touches
geo:within
geo:simplify
geo:densify
geo:numPoints
geo:dimension
geo:exteriorRing
geo:numInteriorRing
geo:geometryType
geo:getX
geo:getY
geo:isRing
geo:startPoint
geo:endPoint
geo:polygonize
geo:equalsExact
geo:relatePattern
geo:pointN
geo:interiorRingN
geo:equalsExactTolerance
geo:length
geo:isEmpty
geo:contains
geo:disjoint
geo:intersects
ras:AddCoverages
ras:Affine
ras:AreaGrid
ras:BandMerge
ras:BandSelect
ras:Contour
ras:ConvolveCoverage
```

```
ras:CoverageClassStats
ras:CropCoverage
ras:MultiplyCoverages
ras:NormalizeCoverage
ras:PolygonExtraction
ras:RangeLookup
ras:RasterAsPointCollection
ras:RasterZonalStatistics
ras:RasterZonalStatistics2
ras:ScaleCoverage
ras:StyleCoverage
vec:Aggregate
vec:BarnesSurface
vec:Bounds
vec:BufferFeatureCollection
vec:Centroid
vec:Clip
vec:CollectGeometries
vec:Count
vec:Feature
vec:FeatureClassStats
vec:Grid
vec:Heatmap
vec:InclusionFeatureCollection
vec:IntersectionFeatureCollection
vec:LRSGeocode
vec:LRSMeasure
vec:LRSSegment
vec:Nearest
vec:PointBuffers
vec:PointStacker
vec:Query
vec:RectangularClip
vec:Reproject
vec:Simplify
vec:Snap
vec:Transform
vec:UnionFeatureCollection
vec:Unique
vec:VectorToRaster
vec:VectorZonalStatistics
```

Executing a new Process

Create a Process using a Groovy Closure

```
Process process = new Process("convexhull",
        "Create a convexhull around the features",
        [features: geoscript.layer.Cursor],
        [result: geoscript.layer.Cursor],
        { inputs ->
            def geoms = new GeometryCollection(inputs.features.collect{f -> f.geom})
            def output = new Layer()
            output.add([geoms.convexHull])
            [result: output]
        }
)
String name = process.name
println name
```

```
geoscript:convexhull
```

Get the title

```
String title = process.title
println title
```

```
convexhull
```

Get the description

```
String description = process.description
println description
```

```
Create a convexhull around the features
```

Get the version

```
String version = process.version
println version
```

```
1.0.0
```

Get the input parameters

```
Map parameters = process.parameters
println parameters
```

```
[features:class geoscript.layer.Cursor]
```

Get the output parameters

```
Map results = process.results
println results
```

```
[result:class geoscript.layer.Cursor]
```

Execute the Process created from a Groovy Closure

```
Workspace workspace = new GeoPackage('src/main/resources/data.gpkg')
Layer layer = workspace.get("places")
Map executeResults = process.execute([features: layer.cursor])
Cursor convexHullCursor = executeResults.result
```