Package ‘SQLiteMap’

February 14, 2012

Type Package

Title Wrapper to spatialite functions

Version 0.6.2

Date 2012-02-03

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Depends R (>= 2.12.2), RSQLite, sp

Description Provides bindings to spatialite functionalities. Through this bindings (due to OGC specifications) numerous spatial functions can be performed by simple SQL statements.

License GPL-2

LazyLoad yes

Repository CRAN

Date/Publication 2012-02-06 13:38:03

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`SQLiteMap-package` *Wrapper to spatialite functions*

Description

Provides bindings to spatialite functionalities. Through this bindings (due to OGC specifications) numerous spatial functions can be performed by simple SQL statements.

Details

Package:	SQLiteMap
Type:	Package
Version:	0.5
Date:	2011-04-05
License:	GPL-2
LazyLoad:	yes

Main available SQL statements

AddGeometryColumn	ExteriorRing	MBRWithin
Area	FilterMbrWithin	NumInteriorRings
AsBinary	FilterMbrContains	NumGeometries
AsText	FilterMbrIntersects	NumPoints
Buffer	GeometryN	Overlaps
Centroid	GeometryType	PointN
Contains	GeomFromText	RecoverGeometryColumn
ConvexHull	GeomFromWKB	Relate
CreateMbrCache	GLength	SetSrid
CreateSpatialIndex	GUnion	Simplify
Crosses	InteriorRingN	SimplifyPreserveTopology
Difference	Intersection	SRID
Dimension	Intersects	StartPoint
DisableSpatialIndex	MBRContains	SymDifference
DiscardGeometryColumn	MBRDisjoint	Touches
Disjoint	MBREqual	Transform
EndPoint	MBRIntersects	Within
Envelope	MBROverlaps	X
Equal	MBRTouches	Y

Author(s)

Norbert Solymosi

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References

http://www.sqlite.org/
http://www.gaia-gis.it/spatialite/
http://www.gaia-gis.it/spatialite-2.4.0-4/spatialite-cookbook/
http://www.opengeospatial.org/standards
http://www.qgis.org/
http://sourceforge.net/projects/maps2winbugs

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spatialite.init *Initialize the SQLite database as spatialite one*

Description

Load the spatialite extension into the database connection

Usage

```
spatialite.init(con)
```

Arguments

con	a SQLite connection

Author(s)

Norbert Solymosi <solymosi.norbert@gmail.com>

See Also

init_extensions

Examples

```
sqli.db <- system.file("sqlimaps/maps.sqlite", package="SQLiteMap")
drv <- dbDriver("SQLite")
con <- dbConnect(drv, dbname = sqli.db, loadable.extensions = TRUE)
spatialite.init(con)
```

sqli.dump *Save maps into spatialite database*

Description

Save Spatial objects into SQLite database as a geometry and an attribute tables.

Usage

```
sqli.dump(db, mapobj, mn)
```

Arguments

db	path of SQLite database
mapobj	the Map or Spatial object
mn	save as name of object

Author(s)

Norbert Solymosi <solymosi.norbert@gmail.com>

See Also

sqli2sp, sp package

Examples

```
sqli.db <- system.file("sqlimaps/maps.sqlite", package="SQLiteMap")
drv <- dbDriver("SQLite")
con <- dbConnect(drv, dbname = sqli.db, loadable.extensions = TRUE)
spatialite.init(con)

sql <- 'select SP_ID, NAME, BIR74, SID74, BIR79, SID79,
  astext(geometry) as geom from sids'
sids <- dbGetQuery(con, sql)

sids.sp <- sqli2sp(geoms=sids, gcol='geom', idcol='NAME')
sids.attr <- data.frame(R74 = sids$SID74/sids$BIR74,
  R79 = sids$SID79/sids$BIR79)
rownames(sids.attr) <- sids$NAME
sids.df <- SpatialPolygonsDataFrame(sids.sp, sids.attr)

## Not run:
t.db = '/home/user/wd/targetdb.sqlite'
t.con = dbConnect(SQLite(), dbname = t.db)
sqli.dump(t.con, mapobj = sids.df, mn = 'sidsexport')

## End(Not run)
```

sqli2sp *Read SQLite geometry table into spatial*

Description

From SQLite database transforms the source geometries in WKT form to SpatalPolygons, SpatialLines or SpatialPoints object.

Usage

```
sqli2sp(geoms, gcol, idcol)
```

Arguments

geoms	table contains the WKT geometry field
gcol	WKT field of geoms table, what can be transformed from spatialite Geometry type field by SQL statement Astext()
idcol	field of geoms table for identification

Value

Returns SpatalPolygons, SpatialLines or SpatialPoints depending on the source geometry type.

Author(s)

Norbert Solymosi <solymosi.norbert@gmail.com>

See Also

sqli.dump, sp package

Examples

```
sqli.db <- system.file("sqlimaps/maps.sqlite", package="SQLiteMap")
drv <- dbDriver("SQLite")
con <- dbConnect(drv, dbname = sqli.db, loadable.extensions = TRUE)
spatialite.init(con)

sql <- 'select SP_ID, NAME, BIR74, SID74, BIR79, SID79,
  astext(geometry) as geom from sids'
sids <- dbGetQuery(con, sql)

sids.sp <- sqli2sp(geoms=sids, gcol='geom', idcol='NAME')
sids.attr <- data.frame(R74 = sids$SID74/sids$BIR74,
  R79 = sids$SID79/sids$BIR79)
rownames(sids.attr) <- sids$NAME
sids.df <- SpatialPolygonsDataFrame(sids.sp, sids.attr)

spplot(sids.df)
```

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