



TerraLib for LUA

**Web-aplicativos utilizando um binder LUA para TerraLib
e o banco de dados PostGIS**

CAP349- Banco de Dados Geográficos
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Objetivos



Fontes de Dados



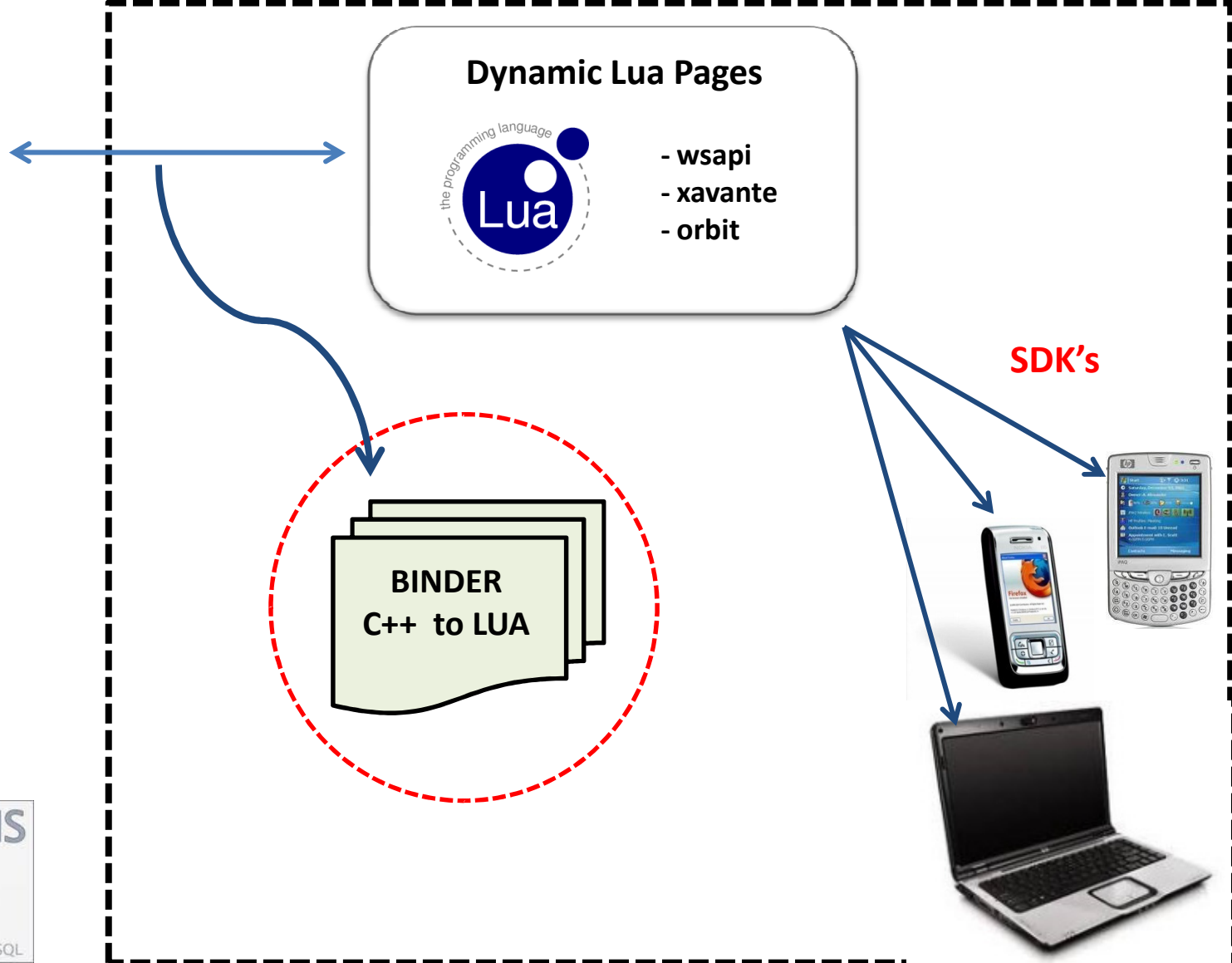
Dynamic Lua Pages



- wsapi
- xavante
- orbit

BINDER
C++ to LUA

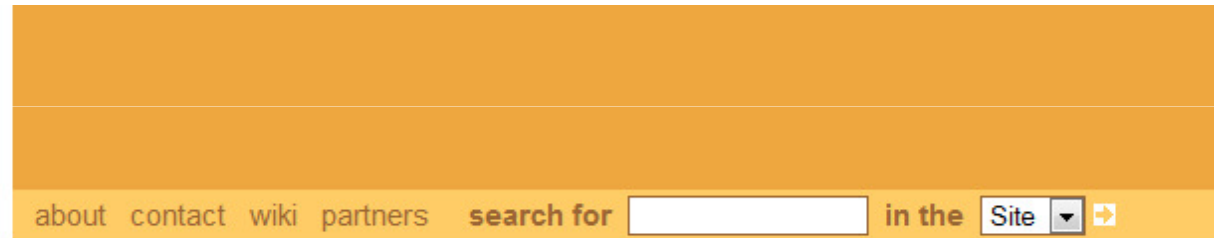
SDK's





A TerraLib

- Projeto na área de Geoinformática desenvolvido pelo INPE
- Software livre (LGPL): <http://www.terralib.org/>
- Ambiente para pesquisa e desenvolvimento de inovações tecnológicas



WHAT IS TERRALIB?
TerraLib is a GIS classes and functions library, available from the Internet as open source, allowing a collaborative environment and its use for the development of multiple GIS tools. Its main aim is to enable the development of a new generation of GIS applications, based on the technological advances on spatial databases.[more]



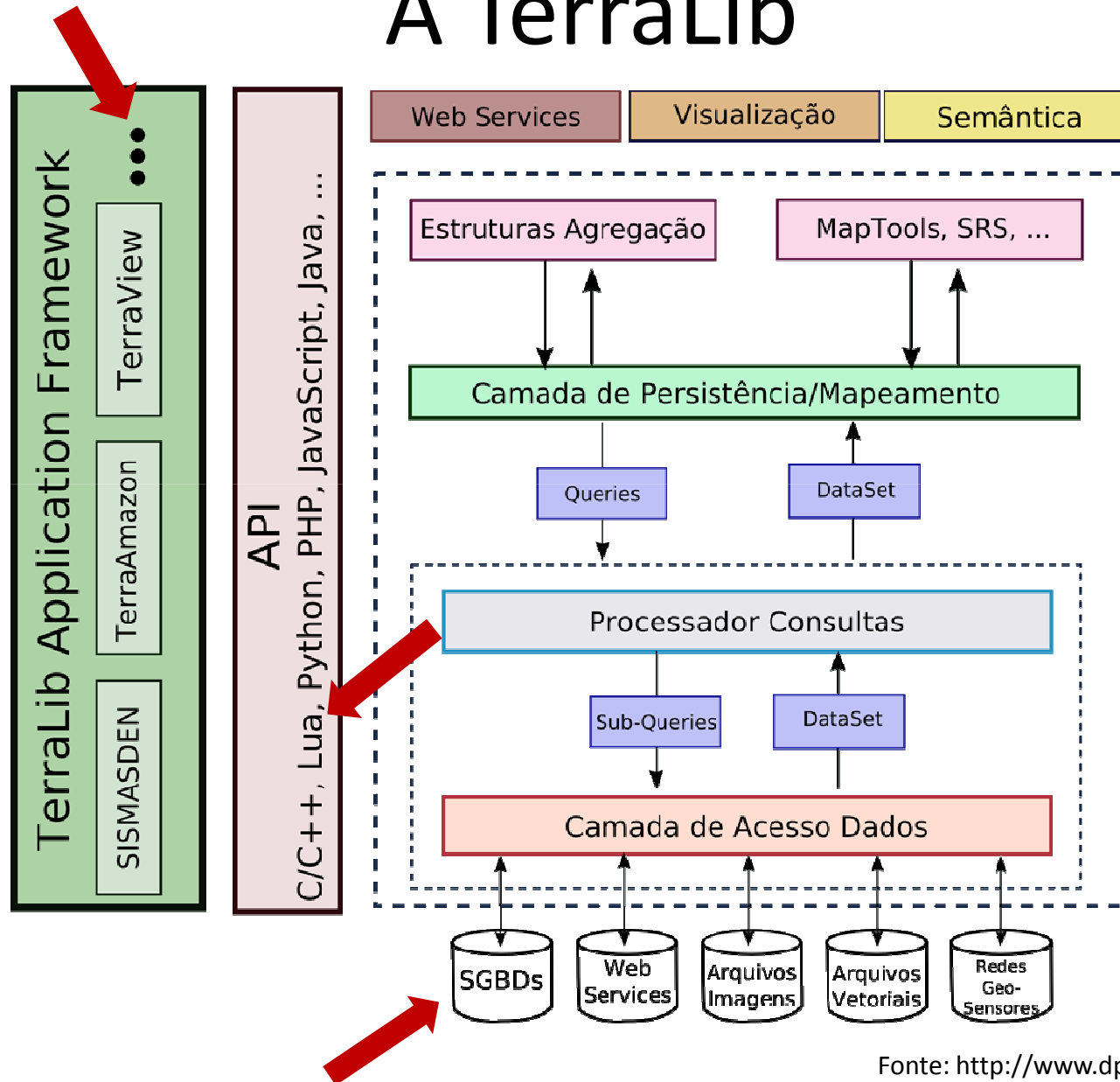
NEWS

[2010-01-28] [TerraLib/TerraView software repository migrated to SVN](#)

The Source Code Management System used with TerraLib




A TerraLib





A Linguagem Lua

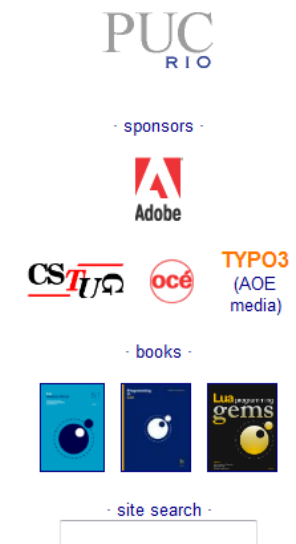
- Portabilidade
- Simplicidade
- Pequeno tamanho
- Mecanismos ao invés de políticas (Economia conceitual)
- Prototipagem rápida



the programming language
Lua


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New *Lua Programming Gems* now available as an e-book.
New Try Lua in the [live demo](#).





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Lua Pages

- ❑ Projeto Kepler (WSAPI, Xavante, Orbit)
 - ❑ Utilização de lua na construção de aplicativos web



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Overview

Using WSAPI

Community

Overview

Why Lua?

Vision

General FAQ

Credits





Site Map



Overview

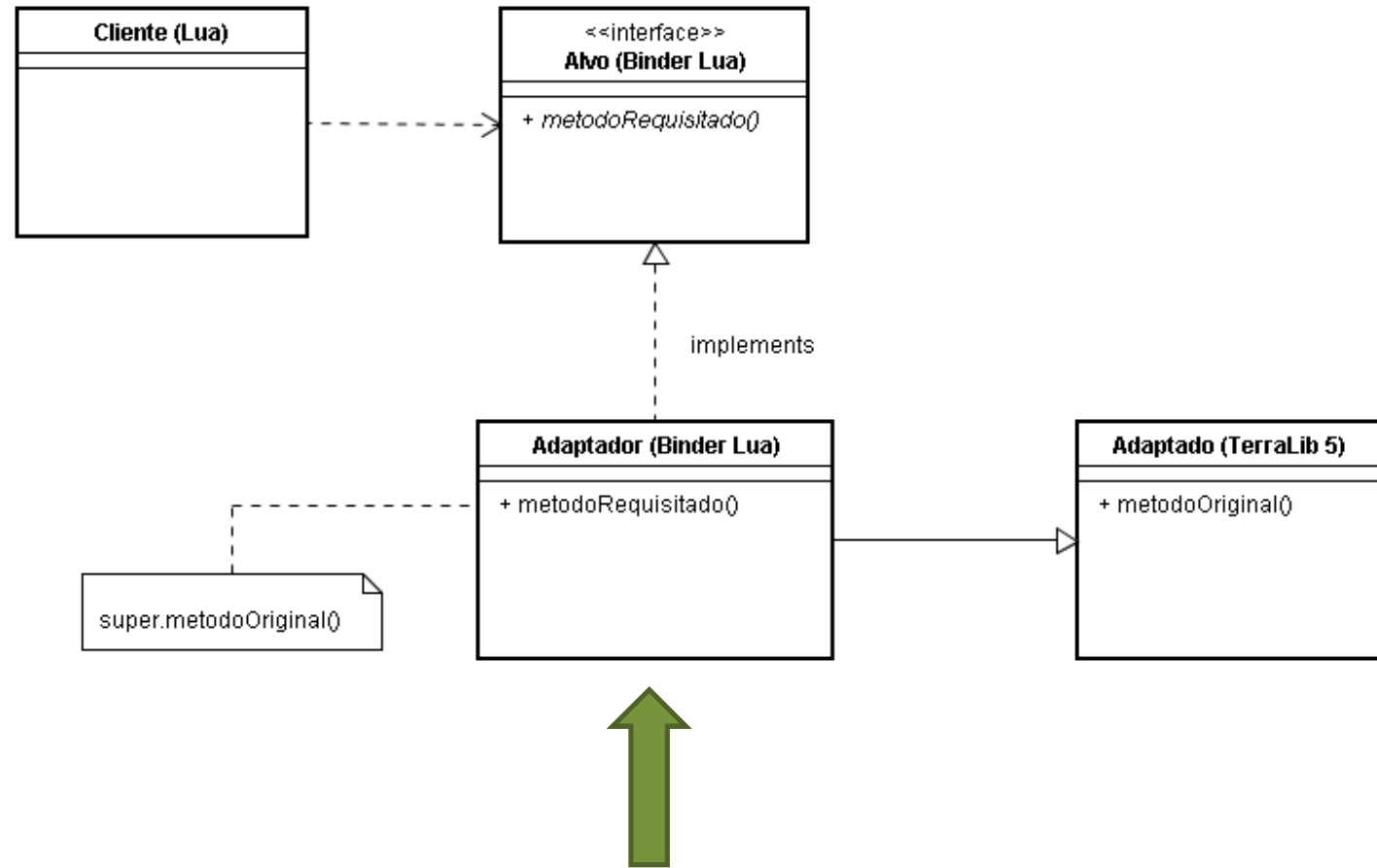
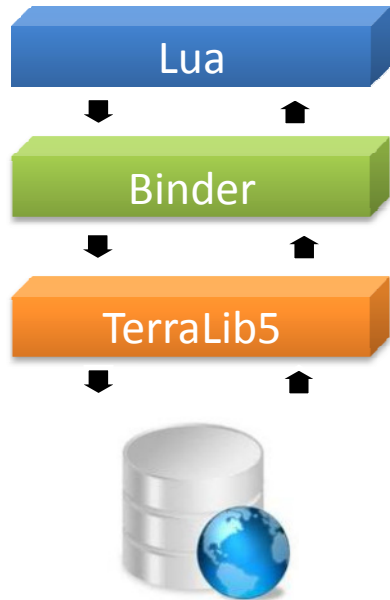
Kepler is a [community](#) of software developers building open software to help make [Lua](#) a viable option for development of web applications. Kepler was originally started by Fábrica Digital and PUC-Rio in 2004 but has had many other [contributors](#) since. While it initially was deployed as unified web platform, it has evolved into a collection of separate projects using a common set of standards. Most of the projects use [LuaRocks](#) for installing components and many use [WSAPI](#) as the server API.

Applications and Frameworks

-  [WSAPI](#) - an API that abstracts the web server from Lua web applications; the base for many projects.
-  [Xavante](#) - a Lua Web server that offers a WSAPI interface.
-  [Orbit](#) - an MVC web framework for Lua, based on WSAPI.
-  [Sputnik](#) - a wiki/CMS developed over WSAPI.



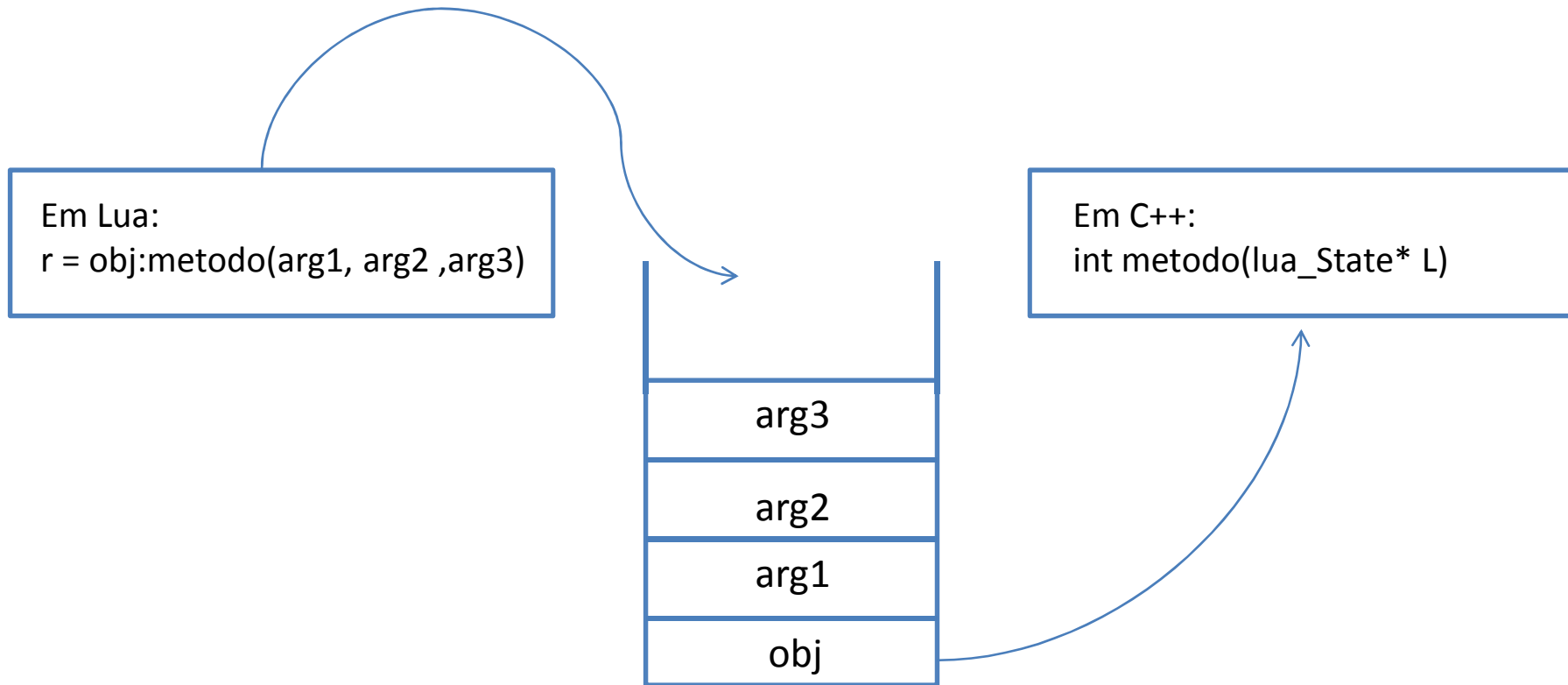
O Binder





O Binder

- Como funciona?





Dispositivos Móveis

- ❑ Dispositivos móveis podem interagir com web-services fomentando as mais diversas aplicações, acessando e modificando dados

- ❑ SDK's
 - ❑ Symbian
 - ❑ Android
 - ❑ Brew
 - ❑ J2ME



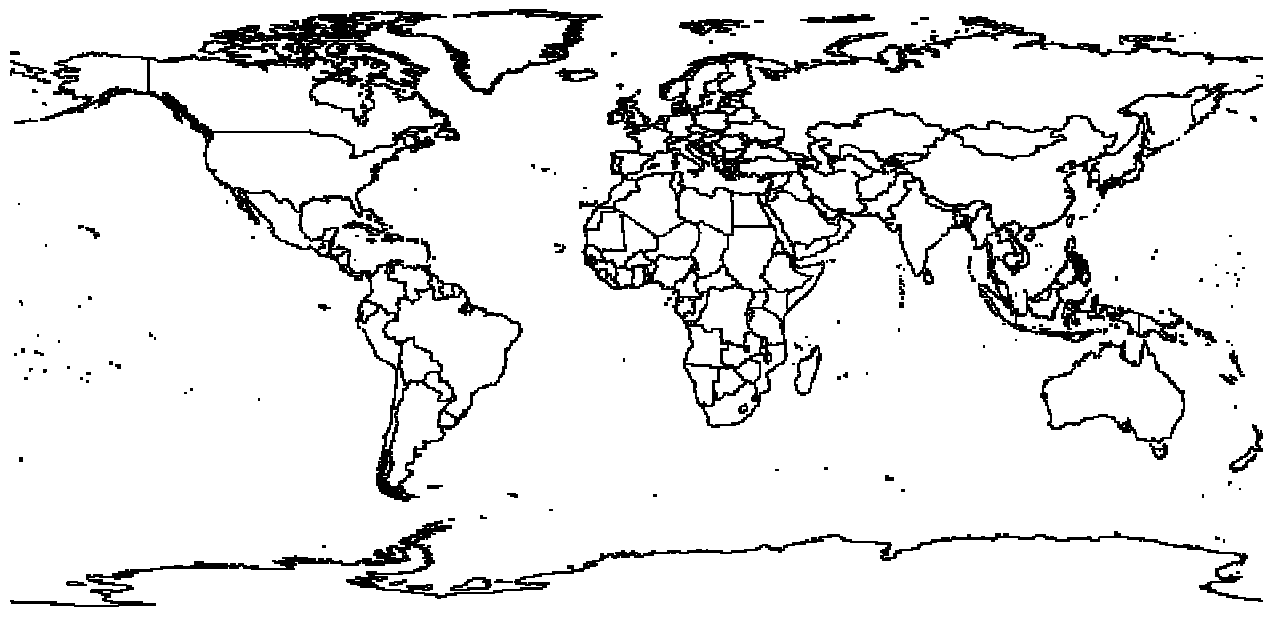


Exemplo Lua

```
01 - require "terralib_lua"  
02 - terralib.Platform.initialize() --inicializa os módulos da terralib  
03 - datasource=terralib.DataSourceFactory.make("DataSource=PostGIS&host=localhost&  
    port=5432&dbname=postgis&user=postgres &password=postgres&connect_timeout=20")  
04 - datasource:open()  
05 - datasource:loadCatalog(true)  
06 - transactor = datasource:getTransactor()  
    08 - sql = "SELECT * FROM country"  
09 - dataset = transactor:query(sql)  
10 - canvas = terralib.QtCanvas.new(700, 355)  
11 - canvas:adjustWorldWindow(-180, -90, 180, 90)  
12 - geomcol = dataset:getType():getDefaultGeomPropertyPos()  
  
13 - while dataset:moveNext() do  
14 -     g = dataset:getValue(geomcol)  
15 -     canvas:draw(g) --desenha cada país  
16 - end  
  
17 - canvas:save("country.png")
```



Exemplo Lua





Aplicativo Exemplo

- WebServer LUA (wsapi-xavante)
- PostGIS for PostgreSQL 8.4
- Importado shapefile com divisão política dos países
 - Datum WGS84 - SRID 4326

The screenshot shows a PostgreSQL 8.4 'Edit Data' window for a table named 'country'. The table contains 27 rows of data, each representing a country with various attributes such as ISO codes, names, population, area, and currency. The 'the_geom' column contains geometry data in SRID 4326.

	gid [PK]	serial	fips_cntry character va	gmi_cntry character va	cntry_name character va	sovereign character va	pop_cntry numeric(10,0)	sqkm_cntry double precis	sqmi_cntry double precis	curr_type character va	curr_code character va	landlocked character va	color_map character va	the_geom
1	1		AA	ABW	Aruba	Netherlands	67074	182.926	70.628	Florin	AWG	N	1	0106000020E61000000100000010
2	2		AC	ATG	Antigua and Bar	Antigua and Bar	65212	462.378	178.524	EC Dollar	XCD	N	2	0106000020E61000000200000010
3	3		AF	AFG	Afeganistão	Afeganistão	17250390	641869.188	247825.703	Afghani	AFA	Y	3	
4	4		AG	DZA	Algeria	Algeria	27459230	2320972	896127.312	Dinar	DZD	N	3	
5	5		AJ	AZE	Azerbaijan	Azerbaijan	5487866	85808.203	33130.551	Manat		Y	4	
6	6		AL	ALB	Albania	Albania	3416945	28754.5	11102.11	Lek	ALL	N	6	0106000020E61000000100000010
7	7		AM	ARM	Armenia	Armenia	3377228	29872.461	11533.76	Dram		Y	7	
8	8		AN	AND	Andorra	Andorra	55335	452.485	174.704	Peseta	ADP	Y	8	0106000020E61000000100000010
9	9		AO	AGO	Angola	Angola	11527260	1252421	483559.812	Kwanza	AOK	N	1	
10	10		AQ	ASM	American Samoz	United States	53000	186.895	72.16	US Dollar	USD	N	2	0106000020E61000000100000010
11	11		AR	ARG	Argentina	Argentina	33796870	2781013	1073749	Peso	ARA	N	8	
12	12		AS	AUS	Australia	Australia	17827520	7706142	2975342	Australia Dollar	AUD	N	4	
13	13		AU	AUT	Austria	Austria	7755406	83738.852	32331.57	Schilling	ATS	Y	1	
14	14		AV	AIA	Anguilla	United Kingdom	9208	86.296	33.319	EC Dollar	XCD	N	6	0106000020E61000000100000010
15	15		AY	ATA	Antarctica	Antarctica	0	12302740	4750088			N	7	
16	16		BA	BHR	Bahrain	Bahrain	575814	657.268	253.771	Dinar	BHD	N	8	0106000020E61000000300000010
17	17		BB	BRB	Barbados	Barbados	260627	439.942	169.862	Dollar	BBD	N	1	0106000020E61000000100000010
18	18		BC	BWA	Botswana	Botswana	1446623	580011.188	223942.297	Pula	BWP	Y	2	
19	19		BD	BMU	Bermuda	United Kingdom	59973	39.412	15.217	Dollar	BMD	N	3	0106000020E61000000100000010
20	20		BE	BEL	Belgium	Belgium	10032460	30479.609	11768.18	Franc	BEF	N	4	
21	21		BF	BHS	Bahamas, The	Bahamas, The	272209	12867.78	4968.25	Dollar	BSD	N	5	
22	22		BG	BGD	Bangladesh	Bangladesh	120732200	138507.203	53477.629	Taka	BDT	N	6	
23	23		BH	BLZ	Belize	Belize	207586	22174.82	8561.698	Dollar	BZD	N	7	0106000020E61000000300000010
24	24		BK	BIH	Bosnia and Herz	Bosnia and Herz	2656240	51403.379	19846.85			N	8	
25	25		BL	BOL	Bolivia	Bolivia	7648315	1090353	420985.312	Boliviano	BOB	Y	2	
26	26		BM	MMR	Myanmar (Burm	Myanmar (Burm	43099620	669820.875	258617.797	Kyat	BUK	N	8	
27	27		BN	BRN	Brunei	Brunei	4137904	51614.703	14000.300	US Dollar	USD	N	5	



Obrigado!