



LuaRocks

the package manager for Lua

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Lua, a peculiar language

Super lightweight

Designed for embedding in applications

(.tar.gz is 272Kib)

Minimalistic API

“Batteries not included”

“How do I ____ in Lua?”

Modules to the rescue!





What is LuaRocks

Package manager...

like dpkg (apt), RPM (yum), RubyGems, npm, etc.



...for Lua extension modules...

written in Lua (.lua files)

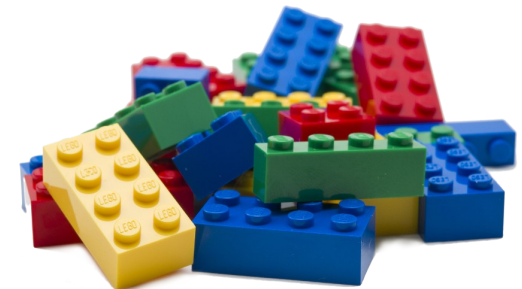
or binary modules (.so/.dll files)



...that lets you "add features" to Lua

networking, database,

graphics, etc etc etc.





The LuaRocks project

An international community

<http://luarocks.org>

Site for finding and uploading rocks

<http://github.com/keplerproject/luarocks>

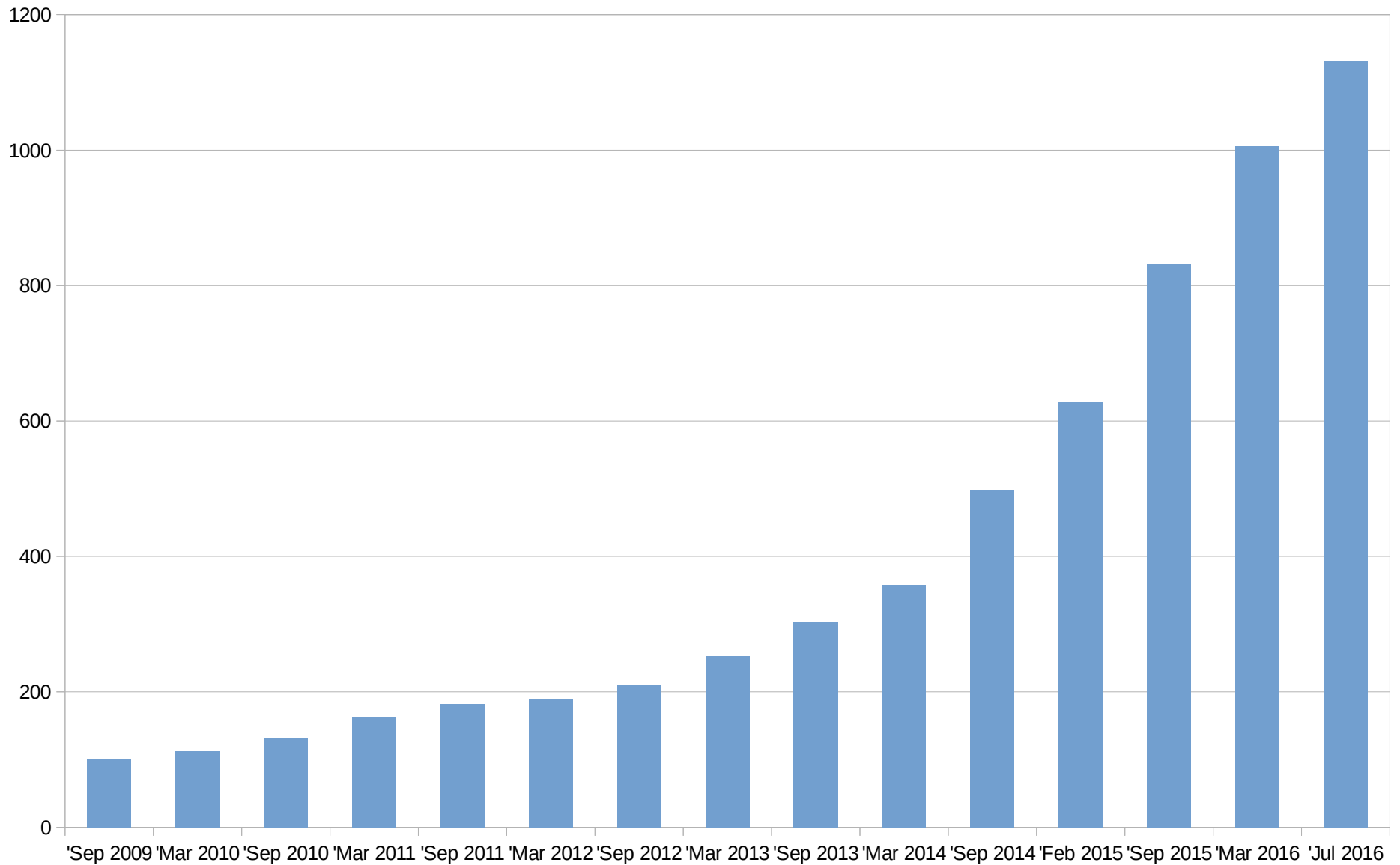
Development of the luarocks command-line tool

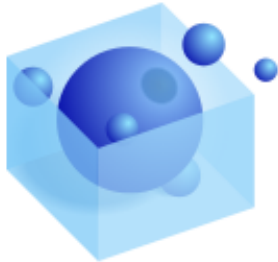
<http://github.com/leafo/luarocks-site>

Development of the site



The LuaRocks.org module ecosystem





LuaRocks is the package manager for Lua modules.

It allows you to create and install Lua modules as self-contained packages called *rocks*. You can download and install LuaRocks on Unix and Windows. [Get started](#)

LuaRocks is free software and uses the same license as Lua.

Recent Modules ([View all](#)) ([Recent versions](#))

[luaforge](#) by [xunto](#) — downloads: 11

[TaggedCoro-purelua](#) by [mascarenhas](#) — downl...

Tagged Coroutines

[TaggedCoro](#) by [mascarenhas](#) — downloads: 0

Tagged Coroutines

[lua-resty-openidc](#) by [asbjornu](#) — downloads: 5

A library for NGINX implementing the OpenID Connec...

[cosy-editor](#) by [cosyverif](#) — downloads: 0

CosyVerif editor

Most Downloaded ([This week](#))

[lua-resty-string](#) by [rsander](#) — downloads: 273,8...

[LuaSocket](#) by [luarocks](#) — downloads: 265,616

Network support for the Lua language

[lua-cjson](#) by [luarocks](#) — downloads: 255,137

Fast JSON encoding/parsing support for Lua

[LuaFileSystem](#) by [hisham](#) — downloads: 253,327

File System Library for the Lua Programming Language

[LuaSec](#) by [brunoos](#) — downloads: 242,912

A binding for OpenSSL library to provide TLS/SSL com...



Application programming in Lua

Lua is not only a
language for scripting

Perfectly capable
for application programming

Its well-designed
C API makes it a great
extensible language

So it's an excellent language
to form a module ecosystem around





Application programming in Lua is a reality

Several Lua-based projects out there

Server-side tools, games, etc.

Low-level code comes from existing libraries

What I mean by Lua-based

Built on top of the Lua interpreter

Or on top of frameworks like Love2D, OpenResty, Torch that give you a pre-enhanced Lua environment

Lots of opportunity for code reuse





A practical example

In a recent project developed at LabLua,

we leveraged **these rocks**:

xavante
dkjson
lua-requests
lua-schema
luafilesystem
luaposix
serpent
copas
lanes
lualogging

for **these tasks**:

HTTP server
JSON parsing
HTTP client
Table Validation
Filesystem operations
Unix facilities
Serialization
Coroutine scheduling
Threading
Extensible logging

(plus 8 other indirect dependencies)



Plays nice with various ecosystems

Torch uses LuaRocks

<https://github.com/torch/rocks>

Love2D + LuaRocks = LoveRocks

<https://github.com/Alloyed/loverocks>

Tarantool database

Uses LuaRocks as its package manager

OpenResty

Lots of OpenResty modules in luarocks.org



Plays nice with various ecosystems

LuaRocks supports different build system backends

Its own built-in build system, Make, CMake...

LuaRocks.org supports multiple repositories

<https://luarocks.org/m/tarantool> for Tarantool

Bring your ecosystem over, users will benefit!



Up and running in one slide!

```
~$ wget http://lua.org/ftp/lua-5.3.3.tar.gz
~$ tar xzpf lua-5.3.3.tar.gz
~$ cd lua-5.3.3
~$ make linux; sudo make install; cd ..
~$ wget http://luarocks.org/releases/luarocks-2.3.0.tar.gz
~$ tar xzpf luarocks-2.3.0.tar.gz
~$ cd luarocks-2.3.0
~$ ./configure; sudo make bootstrap; cd ..
~$ sudo luarocks install luasocket
~$ lua
Lua 5.3.3 Copyright (C) 1994-2016 Lua.org, PUC-Rio
> require "socket"
```



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```



or, simply...

On Fedora,
for example...

```
~$ yum install lua  
~$ yum install luarocks
```

Ubuntu packages are outdated! Please install manually as explained in the previous slide

On Mac OS X
with Homebrew...

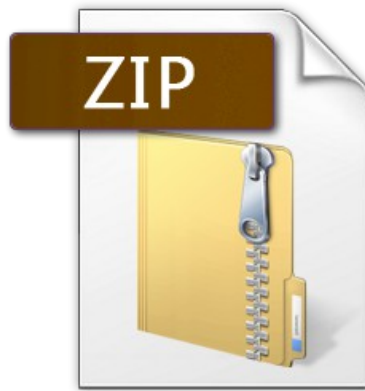
```
~$ brew install lua
```

(In Homebrew, the Lua package includes LuaRocks!)



On Windows?

We've got you covered!



LuaRocks-2.3.0-win32.zip

Package includes Lua, LuaRocks and an INSTALL.BAT script.



If you are a module developer

Share your modules at luarocks.org!

Create an account and:

```
~$ luarocks upload mymodule-1.0-1.rockspec
```

a rockspec is a simple metadata file
that points to your source code

Let LuaRocks take care of deployment issues

Linux, OSX, Windows, other Unix systems...

Lua paths

Visual Studio vs. MinGW on Windows?

Compiler flags? (Never hear complaints about -fPIC again!)



I mean it, it's really simple!

```
package = "LPeg"
version = "1.0.0-1"
source = {
    url = "http://www.inf.puc-rio.br/~roberto/lpeg/lpeg-1.0.0.tar.gz",
}
description = {
    summary = "Parsing Expression Grammars For Lua",
    detailed = [[
        LPeg is a new pattern-matching library for Lua, based on Parsing
        Expression Grammars (PEGs). The nice thing about PEGs is that it
        has a formal basis and allows an efficient and simple implementation,
        and does most things we expect from a pattern-matching library
        (and more, as we can define entire grammars).
    ]],
    homepage = "http://www.inf.puc-rio.br/~roberto/lpeg.html",
    license = "MIT/X11"
}
dependencies = {
    "lua >= 5.1"
}
build = {
    type = "builtin",
    modules = {
        lpeg = { "lpcap.c", "lpcode.c", "lpprint.c", "lptree.c", "lpvm.c" },
        re = "re.lua"
    }
}
```

Thank you!



LuaRocks

<http://luarocks.org>

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