

New development of OpenResty in 2016

OpenResty 2016 新发展

😊 *agentzh@openresty.org* 😊

Yichun Zhang (@agentzh)



2016.12

☺ *Community* Development

社区发展

OpenResty 大会

- ✓ OpenResty Con 2015
- ✓ OpenResty Con 2016

OpenResty Software *Foundation*

OpenResty 软件基金会

OpenResty

OpenResty 是一个全功能的 Web 应用服务器。它打包了标准的 Nginx 核心、很多的常用的第三方模块，以及它们的大多数依赖项。

通过众多进行良好设计的 Nginx 模块，OpenResty 有效地把 Nginx 服务器转变为一个强大的 Web 应用服务器。基于它开发人员可以使用 Lua 编程语言对 Nginx 核心以及现有的各种 Nginx C 模块进行脚本编程，构建出可以处理 C100k 以上并发请求的极端高性能的 Web 应用。”



New OpenResty.org Site

新 OpenResty.org 官网

openresty.org/en/

☆ OFF

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OpenRestyTM

Scalable Web Platform by Extending NGINX with Lua

Search OpenResty.org

OpenResty is a dynamic web platform based on NGINX and LuaJIT.

It's open-source stuff so you can contribute: [Contribute on GitHub »](#)

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OpenResty

OpenRestyTM is a full-fledged web platform by integrating the standard [Nginx](#) core, [LuaJIT](#), many carefully written Lua libraries, lots of high quality [3rd-party Nginx modules](#), and most of their external dependencies. It is designed to help developers easily build scalable web applications, web services, and dynamic web gateways.

By taking advantage of various well-designed [Nginx](#) modules (most of which are developed by the OpenResty team themselves), OpenResty effectively turns the nginx server into a powerful web app server, in which the web developers can use the Lua programming language to script various existing nginx C modules and Lua modules and construct extremely high-performance web applications that are capable to handle 10K ~ 1000K+ connections in a single box.

OpenResty aims to run your server-side web app completely in the [Nginx](#) server, leveraging [Nginx](#)'s event model to do non-blocking I/O not only with the HTTP clients, but also with remote backends like MySQL, PostgreSQL, Memcached, and Redis.

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openresty.org/cn/



OpenResty™

通过 Lua 扩展 NGINX 实现的可伸缩的 Web 平台



搜索 OpenResty.org 中文站

OpenResty 是一个基于 NGINX 和 LuaJIT 的 Web 平台。

这是一个开源项目，所以你也可以来贡献：



在 GitHub 上贡献你的力量 »



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安装

新手上路

概览

组件

活动

样例

性能评测

幻灯片

电子图书

资源

亦面压由

OpenResty

OpenResty™ 是一个基于 [Nginx](#) 与 Lua 的高性能 Web 平台，其内部集成了大量精良的 Lua 库、第三方模块以及大多数的依赖项。用于方便地搭建能够处理超高并发、扩展性极高的动态 Web 应用、Web 服务和动态网关。

OpenResty 通过汇聚各种设计精良的 [Nginx](#) 模块（主要由 OpenResty 团队自主开发），从而将 [Nginx](#) 有效地变成一个强大的通用 Web 应用平台。这样，Web 开发人员和系统工程师可以使用 Lua 脚本语言调动 [Nginx](#) 支持的各种 C 以及 Lua 模块，快速构造出足以胜任 10K 乃至 1000K 以上单机并发连接的高性能 Web 应用系统。

OpenResty 的目标是让你的 Web 服务直接跑在 [Nginx](#) 服务内部，充分利用 [Nginx](#) 的非阻塞 I/O 模型，不仅仅对 HTTP 客户端请求，甚至于对远程后端诸如 MySQL、PostgreSQL、Memcached 以及 Redis 等都进行一致的高性能响应。

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Behind a Chinese *CDN network*
for Chinese visitors

对于中国大陆的访客，
官网启用了中国的 CDN 网络。

100% in OpenResty/Lua

100% 使用 OpenResty/Lua 编写。

GitHub, Inc. [US]

https://github.com/openresty/openresty.org

☆

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This repository

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Code and data for the openresty.org site <https://openresty.org> — Edit

713 commits

6 branches

0 releases

15 contributors

Branch: master ▾

New pull request

Create new file

Upload files

Find file

Clone or download ▾

 hugo committed with agentzh en: faq: a typo fix. ...

Latest commit 3f95fa1 5 days ago

 .github	added an issue template for github.	6 months ago
 v1	moved old site into v1/. also added a new README for v2.	9 months ago
 v2	en: faq: a typo fix.	5 days ago
 .gitignore	updated .gitignore.	6 months ago
 README.md	doc: fixed the psql prompts.	7 months ago

 README.md

Name

OpenResty.org - Code and data for the official site of OpenResty

Table of Contents

```
agentzh@fedora64 ~/git/openresty.org/v2 $ cat po/cn.po
```

```
#. TRANSLATORS: Please leave %s, %d, and etc as is, because it  
# is needed by the program.  
#. Thank you for contributing to this project.
```

```
#: lua/openresty_org/controller.lua:148
```

```
msgid "Bad search query"
```

```
msgstr "非法的搜索查询"
```

```
#: lua/openresty_org/controller.lua:149
```

```
msgid "No query provided."
```

```
msgstr "没有提供任何搜索词。"
```

```
#: lua/openresty_org/controller.lua:154
```

```
msgid "Query too long (more than %d bytes)."
```

```
msgstr "查词太长了 (已经超出 %d 字节) 。"
```


OpenResty *User Survey* Page

OpenResty 用户调查页面

User Survey

The OpenResty team will keep the submitted user information strictly confidential unless being explicitly told otherwise.

By "OpenResty" we mean either the OpenResty bundle or just core OpenResty components like the [ngx_lua module](#).

Fields marked by * are required.

First Name

*

Last Name

*

Country/Region

*

City

*

Email

*

Home Page

GitHub ID

Twitter ID

Company

Company URL

Job Title

Department

用户调查

OpenResty 团队会对用户提交的信息严格保密，除非用户明确允许我们公开其中的某些信息。

当我们说“OpenResty”的时候，我们既指 OpenResty 软件包，也指 OpenResty 的核心组件，例如 [ngx_lua 模块](#)。

标记有 * 的表单字段为必填项。

姓 姓 *	名 名 *
国家/地区 国家/地区 *	城市 城市 *
电子信箱 电子信箱 *	个人主页 个人主页
GitHub ID GitHub ID	新浪微博 ID 新浪微博 ID
公司名称 公司名称	公司主页 公司主页
工作职位 工作职位	公司部门 公司部门



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openresty / openresty-survey

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OpenResty Web App for OpenResty User Survey — Edit

8 commits 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

 agentzh moved set_timeout() before connect(); also used local variables to sa... Latest commit 37d986f on Dec 19, 2015

conf	added CN page.	a year ago
css	css: skipped certain rules for small screens.	a year ago
html	fixed the HTML5 form input patterns; also tweaked the text a bit.	a year ago
init	added CN page.	a year ago
js/vendor	initial check in.	a year ago
logs	initial check in.	a year ago
lua/survey	moved set_timeout() before connect(); also used local variables to sa...	a year ago
template	fixed the HTML5 form input patterns; also tweaked the text a bit.	a year ago
.gitignore	initial check in.	a year ago
Makefile	added CN page.	a year ago
README.md	doc: more doc love.	a year ago

README.md

Name

openresty-survey - OpenResty Web App for OpenResty User Survey

微信群

✓ OpenResty 技术交流

✓ OpenResty 2 群

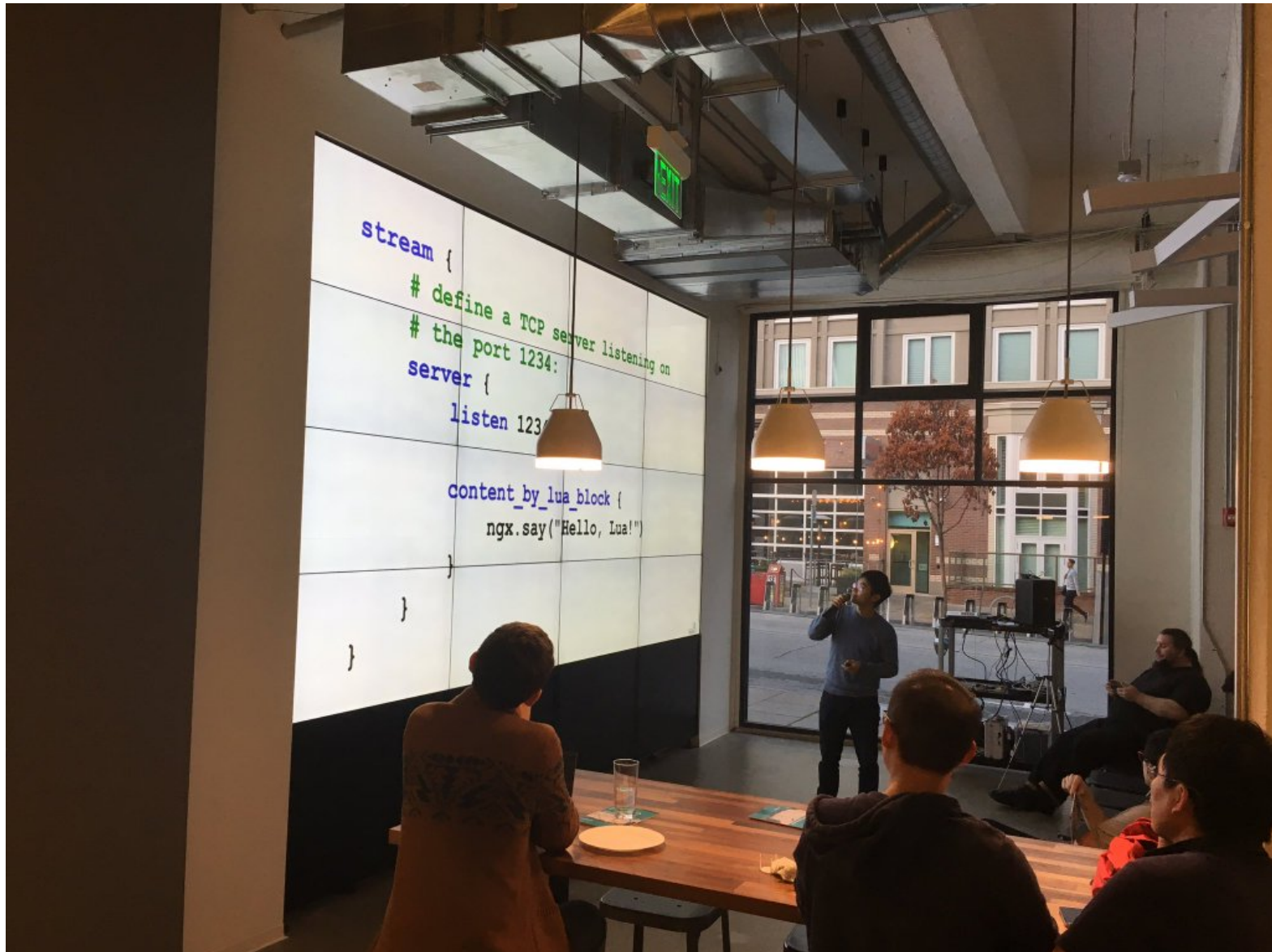
OpenResty 邮件列表

✓ `openresty` 中文邮件列表

✓ `openresty-en` 英文邮件列表

SF Bay Area OpenResty Meetup

湾区 OpenResty 聚会



nginx.conf 2016

Lua Workshop 2016 SF

😊 OpenResty *Package* Management

OpenResty 包管理

OPM:

The *official* OpenResty package manager

opm.openresty.org



OPM - OpenResty Package Manager

How to Use

Please read the [opm documentation](#) for more details.

Recent Uploads

We already have 135 successful uploads across 84 distinct package names from 33 contributors. Come on, OPM authors!

Indexed	hongliang5316/lua-resty-ftpclient	v0.1	Lua ftp client driver for the ngx_lua based on the cosocket API	hongliang5316	2016-12-09 07:30:19.858251+00
Indexed	aptise/peter_sslers-lua-resty	v0.1.1	openresty ssl certificate routines for peter_sslers SSL Certificate manager	jvanasco	2016-12-06 23:57:24.551449+00
Indexed	aptise/peter_sslers-lua-resty	v0.1	openresty ssl certificate routines for peter_sslers SSL Certificate manager	jvanasco	2016-12-02 23:27:13.378214+00
Indexed	p0pr0ck5/lua-resty-influx	v0.2	OpenResty client writer for InfluxDB	p0pr0ck5	2016-12-02 01:47:01.137569+00
Indexed	dailymotion/lua-nginx-guard-jwt	v0.6.0	Verification of the JWT Token with mapping of the token claims values to the HTTP Headers of Query.	tsunammis	2016-11-29 09:36:19.170049+00
Indexed	firesnow/lua-resty-location-match	v0.02	Determine which location the request entered	firesnow	2016-11-27 15:44:28.428402+00
Indexed	firesnow/lua-resty-location-match	v0.01	Determine which location the request entered	firesnow	2016-11-27 15:19:02.623051+00
Indexed	sumory/lor	v0.2.6	A fast and minimalist web framework based on OpenResty.	sumory	2016-11-26 10:42:57.387108+00

\$ which opm

/usr/local/openresty/bin/opm

```
$ opm search ini
```

```
doujiang24/lua-resty-ini
```

```
ini parser for OpenResty
```

```
$ sudo opm get doujiang24/lua-resty-ini
```

```
* Fetching doujiang24/lua-resty-ini
```

```
  Downloading https://opm.openresty.org/api/pkg/tarball/doujiang24/lua-resty-ini-0.01.opm.tar.gz
```

% Total	% Received	% Xferd	Average Speed	Time	Time	Time	Current				
			Dload Upload Total Spent Left Speed								
100	2783	100	2783	0	0	2681	0	0:00:01	0:00:01	--:--:--	2683

```
Package doujiang24/lua-resty-ini 0.01 installed successfully under /usr/local/openresty/site/ .
```



```
$ sudo opm remove lua-resty-ini
```

```
Package doujiang24/lua-resty-  
ini 0.01 removed successfully.
```

```
cat ~/.opmrc
```

```
opm build
```

```
opm upload
```

OpenResty's Official *Yum* Repositories for

- ✓ CentOS 5/6/7
- ✓ RHEL 5/6/7
- ✓ Fedora 23/24/25/rawhide

```
sudo yum-config-manager --add-repo \  
    https://openresty.org/yum/cn/centos/OpenResty.repo
```

openresty.org/en/linux-packages.html

☆ OFF 🔔 4! iD ⚡ ⋮

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Scalable Web Platform by Extending NGINX with Lua

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Linux Packages

Yichun Zhang (agentzh) , 30 Nov 2016 (created 14 Jul 2016)

OpenResty provides official pre-built packages for the following Linux distributions and versions.

◦ RHEL/CentOS

Version	Supported Architectures
5.x	x86_64, i386
6.x	x86_64, i386
7.x	x86_64

◦ Fedora

Version	Supported Architectures
23	x86_64, i386
24	x86_64, i386
25	x86_64, i386
rawhide	x86_64, i386

CentOS



openresty.org/en/rpm-packages.html



OpenResty TM

Scalable Web Platform by Extending NGINX with Lua



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RPM Packages

Yichun Zhang (agentzh) , 18 Nov 2016 (created 14 Jul 2016)

The OpenResty official Yum repositories provide the following RPM packages.

openresty

This is the production build for the core OpenResty server.

This package registers `/usr/bin/openresty`, which is symbolic link to OpenResty's `nginx` executable file, `/usr/local/openresty/nginx/sbin/nginx`. This `openresty` command should be visible to your `PATH` environment by default. Always type `openresty` instead of `nginx` when you want to invoke the `nginx` executable provided by this package. The `nginx` executable is not visible to your `PATH` environment by default, however, to avoid any confusions with

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Coming **soon**...

OpenResty's Official *Deb* Repositories
for Ubuntu/Debian

OpenResty's Official *Win32* Binary Packages

←

→

↻

📄

openresty.org/en/download.html

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Win32

All the releases are signed by the public PGP key [A0E98066](#) of Yichun Zhang.

◦

[openresty-1.11.2.2-win32.zip](#)

11MB

[PGP](#)

- 17 November 2016

☺ New *features* of OpenResty
in the past year

过去一年中 OpenResty 的新特性

New *TCP* and *UDP* Server Support

新的 TCP 和 UDP 服务器支持

ngx_stream_lua_module

OpenResty *DNS* Server

New *Template* Engine

新的模版引擎

Template

TT2 template files

⇒ [template]

⇒ Lua module files for OpenResty

TT2 template files

⇒ [jemplate]

⇒ JavaScript files for web browsers

New *SSL* features

新的 SSL 特性

ssl_certificate_by_lua*

ngx.ssl

ngx.ocsp

ssl_session_fetch_by_lua*

ssl_session_store_by_lua*

ngx.ssl.session

TLS session ticket key *rotation*

lua-ssl-nginx-module

New *shm* features

新的共享内存特性

Shm-based lists or *queues*

基于共享内存的列表或队列

shdict: lpop()

shdict: lpush()

shdict: rpop()

shdict: rpush()

C API for custom shm storage in Lua
via new NGINX C modules

通过 NGINX C 模块定义新的基于共享内存的
存储结构，供 Lua 直接使用。

New Load *Balancer* Features

新的负载均衡特性

balancer_by_lua*

ngx.balancer

New *Light Thread* Features

新的轻量级线程特性

ngx.semaphore

New *Documentation* Tools

新的文档工具

```
$ restydoc ngx_http_proxy
```

```
1. restydoc (~/.git/resty-cli/bin) - VIM (ssh)
⌕ e... ⌕1 ⌕ e... ⌕2 ⌕ a... ⌕3 ⌕ a... ⌕4 ⌕ a... ⌕5 ⌕ a... ⌕6 ⌕ a... ⌕7 ⌕ a... ⌕8 >>
ngx_http_proxy_module(7)                               ngx                               ngx_http_proxy_module(7)

NAME
    ngx_http_proxy_module - Module ngx_http_proxy_module

    The "ngx_http_proxy_module" module allows passing requests to another
    server.

Example Configuration
    location / {
        proxy_pass      http://localhost:8000;
        proxy_set_header Host      $host;
        proxy_set_header X-Real-IP $remote_addr;
    }

Directives
    proxy_bind
        syntax: proxy_bind "address" | "off"

        context: http

        context: server

        context: location

    This directive appeared in version 0.8.22.

    Makes outgoing connections to a proxied server originate from the
```


restydoc -s proxy_pass

restydoc -s table.concat

restydoc -s ffi.new

restydoc -s ngx.re.find

restydoc -s content_by_lua

LuaJIT GC can now allocate much **more memory**.

LuaJIT 垃圾回收器可以分配更多内存了。

1GB → *2GB* in LuaJIT GC-managed memory
per NGINX worker on x86_64.

在 x86_64 系统上，每 NGINX worker 进程中，
LuaJIT 垃圾回收器管理的内存上限
从 1GB 提高到了 2GB。

LuaJIT **GC64** mode

⇒ **128TB** address space per NGINX worker's LuaJIT VM

LuaJIT GC64 模式

⇒ 每 NGINX worker 进程的 LuaJIT 虚拟机有 128TB 地址空间

```
local re = require "ngx.re"
```

```
local str = "John, Bob , Marry,Tom"
```

```
local res_table = re.split(str, [[\s*,\s*]], "jo")
```

Lua 5.2 Compat Features in **LuaJIT**

LuaJIT 的 Lua 5.2 语言兼容特性

lua-resty-limit-traffic

lua-tablepool

Full *Dynamic* NGINX C Module Support

完整的动态 NGINX C 模块支持

☺ OpenResty in *2017*?

2017 年的 OpenResty ?

Fully enter the *DSL* era!

全面进入小语言时代！

OpenResty *Edge* Platform

The *Edge* Language

OpenResty Edge 平台与 Edge 语言

OpenResty *WAF* Platform
atop OpenResty Edge

基于 OpenResty Edge 平台的
OpenResty WAF 平台

OpenResty *DNS* Server with OpenResty Edge

集成了 OpenResty Edge 平台的
OpenResty DNS 服务器

OpenResty *Trace* Platform

The *Y* Language

OpenResty 追踪平台 - Y 语言

OpenResty *Traffic Control* Platform

OpenResty 流量控制平台

Linux **eBPF** in-kernel VM

常驻内核的 Linux eBPF 虚拟机

OpenResty *Analytics* Platform

The *ORSQL* Language

OpenResty 数据分析平台 - ORSQL 语言

OpenResty *Compiler* Platform

The *Fan* Language

OpenResty 编译器开发平台 - Fan 语言

The *Sport* Language & Sport Game Management

体育语言与体育赛事管理

😊 OpenResty Commercialization

OpenResty 的商业化

OpenResty Inc.

The existing OpenResty web platform
will always *remain* open source.

现有的 OpenResty web 平台
会一直继续保持开源。

😊 *Thank you!* 😊

谢谢！