Gems on Ruby

RubyGems/Bundler/rbenv

Hiroshi SHIBATA / GMO Pepabo, Inc.

2018.08.26 LL Event 2018

self.introduce



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https://www.hsbt.org

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self.introduce

```
=> {
  name: “SHIBATA Hiroshi”,
  nickname: “hsbt”,
  organizations: [“ruby”, “rubygems”, “bundler”,
“asakusarb”, “railsgirls”, “pepabo”, …],
  commit_bits: [“ruby”, “rake”, “rubygems”, “bundler”,
“rdoc”, “psych”,  “ruby-build”, “railsgirls”, “railsgirls-
jp”, …],
  sites: [“hsbt.org”, “ruby-lang.org”, “rubyci.org”,
“railsgirls.com”, “railsgirls.jp”],
}
```

ruby / ruby

Unwatch 1,258 | Unstar 14,388 | Fork 3,903

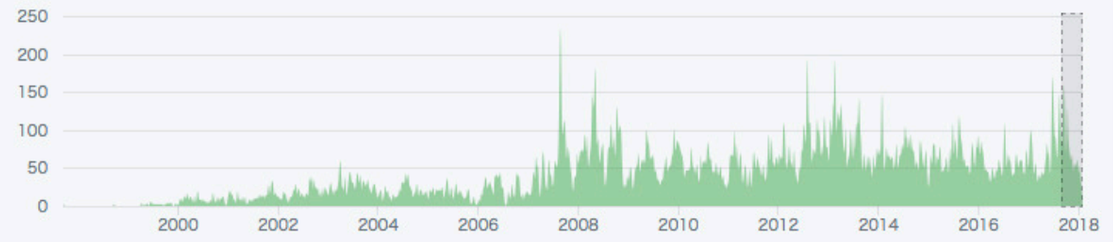
Code | Pull requests 146 | Insights | Settings

- Pulse
- **Contributors**
- Community
- Traffic
- Commits
- Code frequency
- Dependency graph
- Network
- Forks

Dec 25, 2017 – May 29, 2018

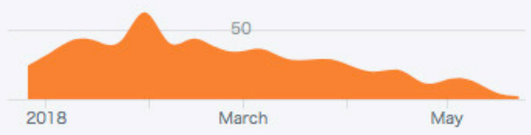
Contributions: **Commits**

Contributions to trunk, excluding merge commits





nobu #1
631 commits 8,405 ++ 4,740 --



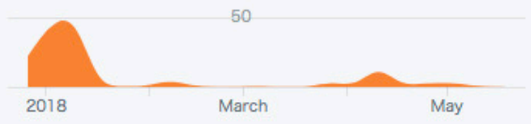


k0kubun #2
166 commits 5,344 ++ 1,412 --

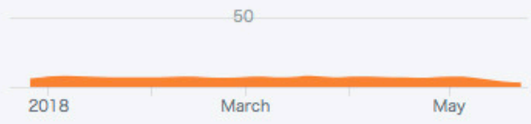




mame #3
155 commits 6,670 ++ 7,377 --

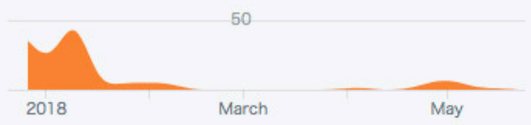


/:|} **matzbot** #4
150 commits 266 ++ 265 --



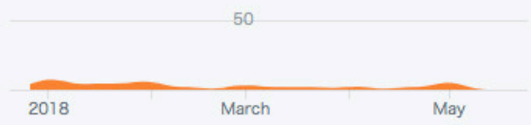


shyouhei #5
145 commits 9,654 ++ 9,399 --



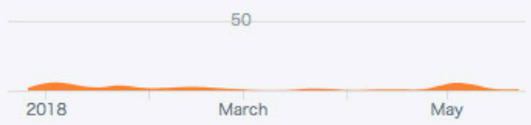


znz #6
61 commits 204 ++ 159 --





hsbt #7
45 commits 3,701 ++ 2,035 --



nurse #8
35 commits 589 ++ 524 --



asakusarb

foo category:bar/baz comment:foobar

README

Imports 426

meetup 389

hanami 1

misc 1

000_Log 2

(no category) 5

README.md

Edit



About (English)

Asakusa.rb is probably the most active regional Rubyist group in Japan. We're having weekly meetup on every '''Ruby

Agenda

- History
- RubyGems
- Bundler
- rbenv/ruby-build
- RubyGems 3.0/4.0
- RubyGems & Bundler

Answer

- Must buy “Web+DB Press Vol.103”
- You should use RubyGems/Bundler/rbenv at all.



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1.

History

Packaging and Disribution(1)

- RAA(Ruby Application Archive)
    - 2013/08: raa.ruby-lang.org 終了のご報告 https://www.ruby-lang.org/ja/news/2013/08/08/rip-raa/
- RubyForge
    - 2009/10: RubyForge To Be Phased Out, RubyGems.org Takes Over Gem Hosting https://www.infoq.com/news/2009/10/rubyforge-phased-out-rubygemsorg
- gems.github.com
    - 2009/10: Gem Building is Defunct https://www.infoq.com/news/2009/10/github-stops-gem-building

Packaging and Disribution(2)

- gemcutter.org:
    - https://github.com/rubygems/gemcutter
    - You can use `gem yank` command after you did invoke `gem i gemcutter`.
- rubygems.org:
    - gemcutter.org was renamed to rubygems.org.
- bundler:
    - 2010: Released to 1.0.0 version.

2.

RubyGems

What's rubygems?

- The package manager of Ruby libraries.
  - `gem install rails -v "~> 5.2"`
- You can install specified version of Ruby libraries that called `Gem`. RubyGems handles global environment on your box.
- You could specify `gem 'rails', '~> 5.2'` syntax without its dependency.

What does mean “official”?

“official” means “Matz controllable”

Un-controllable examples:

- ruby-doc.org
- rubygems.org
- bundler.io
- Ruby version manager(rvm/rbenv/chruby)

“RubyTogether” maintains RubyGems, Bundler and RubyGems.org(Rails Application).

The policy of RubyGems versioning

- Merge latest stable version into Ruby Core
- Ruby 2.6.0 will bundle RubyGems 3.0(TBD)
- Ruby 2.7 or 3.0 will bundle RubyGems 4.0(TBD)

Security

- RubyGems have HackerOne project.
  - 3 people handle vulnerability issues.
  - But We have no workflow about security release.
- RubyGems 2.7.6 was accidentally released.

Bug #14481

Edit Watch Copy Delete



Backport request for RubyGems 2.7.6

Added by hsbt (Hiroshi SHIBATA) 3 months ago. Updated 2 months ago.

Status:	Closed		
Priority:	Normal		
Assignee:	hsbt (Hiroshi SHIBATA)		
Target version:	-		
ruby -v:		**Backport:**	2.3: DONE, 2.4: DONE, 2.5: DONE
[ruby-core:85598]			

Description Quote

RubyGems 2.7.6 has been released. It contained the several vulnerability fixes.

http://blog.rubygems.org/2018/02/15/2.7.6-released.html

I created patches for all of the active branches of Ruby.

rubygems-276-for-ruby25.patch

This patch for upgrading RubyGems 2.7.3 to 2.7.6 and tiny changes for test-case. So, It includes following fixes:

- https://github.com/rubygems/rubygems/pull/2189
- https://github.com/rubygems/rubygems/pull/2194

3.

Bundler

What's bundler?

- The vendoring tool of Ruby.
- RubyGems couldn't care dependency of Ruby libraries and isolate version managing with ruby process.

- Bundler can do them with `Gemfile`

```
# frozen_string_literal: true

source "https://rubygems.org"

git_source(:github) { |repo| "https://github.com/#{repo}.git" }

gemspec

# We need a newish Rake since Active Job sets its test tasks' descriptions.
gem "rake", ">= 11.1"
```

Dependency Resolver incompatible

- RubyGems 2.x, 3.x uses Molinillo-0.5.7

```
~/D/g/r/rubygems (master) > ls lib/rubygems/resolver/molinillo/lib/molinillo
delegates           dependency_graph.rb gem_metadata.rb     resolution.rb       state.rb
dependency_graph    errors.rb           modules             resolver.rb
```

- Bundler 1.16.x also uses Molinillo-0.6.4

```
~/D/g/b/bundler (master) > ls lib/bundler/vendor/molinillo/lib/molinillo
compatibility.rb    dependency_graph    errors.rb           modules             resolver.rb
delegates           dependency_graph.rb gem_metadata.rb     resolution.rb       state.rb
```

- These are different versions and behavior of dependency resolver.

4.

rbenv/ruby-build

What's rbenv?

- The Ruby version manager (not ruby library)
- The Ruby language will be released Dec.25 every year. You need to take care ruby versions in your box like Ruby 2.3, 2.4, 2.5…
- Ruby isolates library locations used by Ruby versions.
- rbenv(and ruby-build) provides an environment that makes version switching and its build definitions.

Version number and release cycle

We plan to release every Christmas day.

- 2.1.0: 2013/12/25
- 2.2.0: 2014/12/25
- 2.3.0: 2015/12/25
- 2.4.0: 2016/12/25
- 2.5.0: 2017/12/25
- 2.6.0: 2018/12/25(TBD)
- ...
- 3.0.0: 2020/xx/xx



Ruby package manager

RVM

- To support Binary installation
- Applied Custom patchset
- Automatic installation of latest rubygems and bundler

rbenv/ruby-build

- Modify environment variables.
- I’m also maintain them

chruby/ruby-install

- Modify a few environment variables.



rbenv/ruby-build

You can get them from

- homebrew
- git clone

Basic instructions are:

```
$ rbenv install 2.5.0
$ rbenv install 2.6.0-dev
$ RUBY_CONFIGURE_OPT=—disable-install-doc rbenv install 2.4.3
$ rbenv install jruby-9.1.16.0
$ RUBY_CONFIGURE_OPT= rbenv install rbx-3.89
```



5.

RubyGems 3 & 4

What's new in RubyGems 3?

- Removed deprecated methods.
- Removed to support for < Ruby 2.2.
- Added warnings of deprecated methods.
- Server/Client side 2FA

Ruby 1.8 in 2018

- **Surprisedly, RG 2.7 still supports Ruby 1.8.**

```
~/D/g/r/rubygems (2.7) > rg respond_to
test/rubygems/test_gem_request_set_gem_dependency_api.rb
630:    tf.close! if tf.respond_to? :close!

test/rubygems/test_gem_source.rb
60:    response.uri = URI('http://example') if response.respond_to? :uri

test/rubygems/test_gem_package.rb
755:    tf.close! if tf.respond_to? :close!

test/rubygems/test_gem_util.rb
45:    if File.respond_to?(:realpath)

test/rubygems/test_gem_installer.rb
58:  str = str.dup.force_encoding("BINARY") if str.respond_to? :force_encoding
65:if Gem.respond_to?(:activate_bin_path)
893:    skip unless “".respond_to?(:force_encoding)
```

Only support Ruby 2.2+

- We can use Keywords argument, Refinement, Other cool features in RubyGems now.
- Simple build matrix

Build Jobs

✓	# 4926.1	Ruby: 2.2.10	TEST_TOOL=rubygems YAML=psych	1 min 26 sec
✓	# 4926.2	Ruby: 2.3.7	TEST_TOOL=rubygems YAML=psych	1 min 50 sec
✓	# 4926.3	Ruby: 2.4.4	TEST_TOOL=rubygems YAML=psych	1 min 45 sec
✓	# 4926.4	Ruby: 2.5.1	TEST_TOOL=rubygems YAML=psych	1 min 34 sec
✓	# 4926.5	Ruby: ruby-head	TEST_TOOL=rubygems YAML=psych	1 min 20 sec
✓	# 4926.6	Ruby: 2.2.10	TEST_TOOL=bundler RGV=master	21 min 54 sec
✓	# 4926.7	Ruby: 2.3.7	TEST_TOOL=bundler RGV=master	22 min 30 sec
✓	# 4926.8	Ruby: 2.4.4	TEST_TOOL=bundler RGV=master	21 min 49 sec
✓	# 4926.9	Ruby: 2.5.1	TEST_TOOL=bundler RGV=master	24 min 9 sec

Allowed Failures

✗	# 4926.10	Ruby: ruby-head	TEST_TOOL=bundler RGV=master	3 min 1 sec

RubyGems 4

- It has non-compatible features.
  - Make enable as default for conservative option.
  - Behaviour changes with default gems installer.
    - Executables in bin folder conflict with their gem versions.
    - Make ruby gem install to user-install by default.

Make conservative option as default

- **We got the installation time when already installed gems.**

```
~ > gem i rails
      clone http://rubyonrails.org -> /Users/hsbt/Documents/rubyonrails.org
        git ls-remote http://rubyonrails.org
         hg identify http://rubyonrails.org
        svn info http://rubyonrails.org
      error Could not find version control system: http://rubyonrails.org
     exists /Users/hsbt/Documents/github.com/rails/rails
Successfully installed rails-5.2.0
1 gem installed
```

- **To use conservative is ignore re-install action.**

```
~ > gem i rails -conservative
~ >
```

Make `--user-install` as default

- Rubygems 4 will install the all gems to `~/.gem`
- Pros: Ruby in linux distribution has many of FAQ for gem installation for using `sudo`. This change resolve this issues.
- Cons: Ruby version manager like rbenv is not support it. And This is big incompatible feature.

6.

RubyGems & Bundler

RubyGems/Bundler integration

- We are working to integrate RubyGems and Bundler.
- But It's still working progress status because there is no plan to release Bundler 2.
- RubyGems 3&4 drop to support under the Ruby 2.2. Because Bundler 1.x still supports Ruby 1.8 and 1.9.
- I'm waiting to release Bundler 2 for this integration.

Bundler Integration(rubygems.rb)

- Bundler was located rubygems repository as git submodule

```
if USE_BUNDLER_FOR_GEMDEPS

  ENV["BUNDLE_GEMFILE"] ||= File.expand_path(path)
  require 'rubygems/user_interaction'
  Gem::DefaultUserInteraction.use_ui(ui) do
    require "bundler"
    @gemdeps = Bundler.setup
    Bundler.ui = nil
    @gemdeps.requested_specs.map(&:to_spec).sort_by(&:name)
  end

else

  rs = Gem::RequestSet.new
  @gemdeps = rs.load_gemdeps path

  rs.resolve_current.map do |s|
    s.full_spec.tap(&:activate)
  end

end
```

Ruby is designed to make programmers happy.

Yukihiro Matz Matsumoto