Gems on Ruby

Ruby/RubyGems/Bundler

Hiroshi SHIBATA / GMO Pepabo, Inc.

2018.10.25 rubyconf.my 2018

self.introduce

self.introduce

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

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

- Ruby Core Team
- Ruby 2.6+
- RubyGems
- RubyGems 3.0/4.0
- Bundler
- RubyGems&Bundler

1.

Ruby Core team

What's Ruby Core Team?

Full-time commiters

Heroku




- matz
- nOkada

Money Forward



- shyouhei

Cookpad

- ko1
- mametter

Speee



- mrkn

Total 97 people + 2 bots

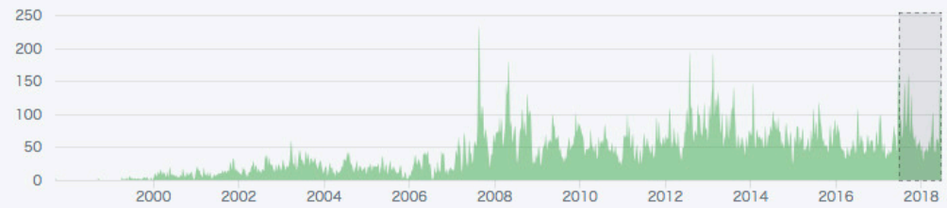
```
$ cat ~svn/.ssh/authorized_keys | awk '{print $5}' | sort | uniq | wc -l
99
```

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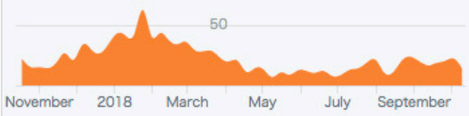
Contributions: Commits

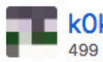
Contributions to trunk, excluding merge commits





nobu #1
1,153 commits 17,226 ++ 9,572 --





k0kubun #2
499 commits 24,431 ++ 19,096 --

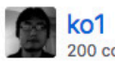


matzbot #3
414 commits 1,248 ++ 1,246 --





mame #4
264 commits 10,876 ++ 10,125 --



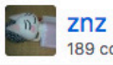
ko1 #5
200 commits 4,170 ++ 2,521 --





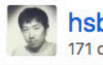
shyouhei #6
195 commits 10,828 ++ 9,985 --





znz #7
189 commits 1,355 ++ 2,822 --





hsbt #8
171 commits 27,080 ++ 84,420 --





nurse #9
153 commits 6,047 ++ 6,245 --





yui-knk #10
131 commits 3,313 ++ 2,341 --



Branch maintainers

trunk known as 2.6

@nurse: Release manager



2.5

@nagachika: Stable branch maintainer



2.4 and 2.3

@unak: Old stable branch maintainer



Sponsors of the Ruby language

- **heroku:**
  Provide the free Enterprise account
- **fastly:**
  OSS plan of CDN for *.ruby-lang.org
- **NaCl:**
  Network and Compute resources for website
- **Ruby Association:**
  Grant of development for cloud resources
- **Nihon Ruby no Kai:**
  Grant of development for hardware

2.

Ruby 2.6+

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 2.6 timeframe

2/24: 2.6.0preview1 release
It contained MJIT feature
see https://bugs.ruby-lang.org/issues/14235

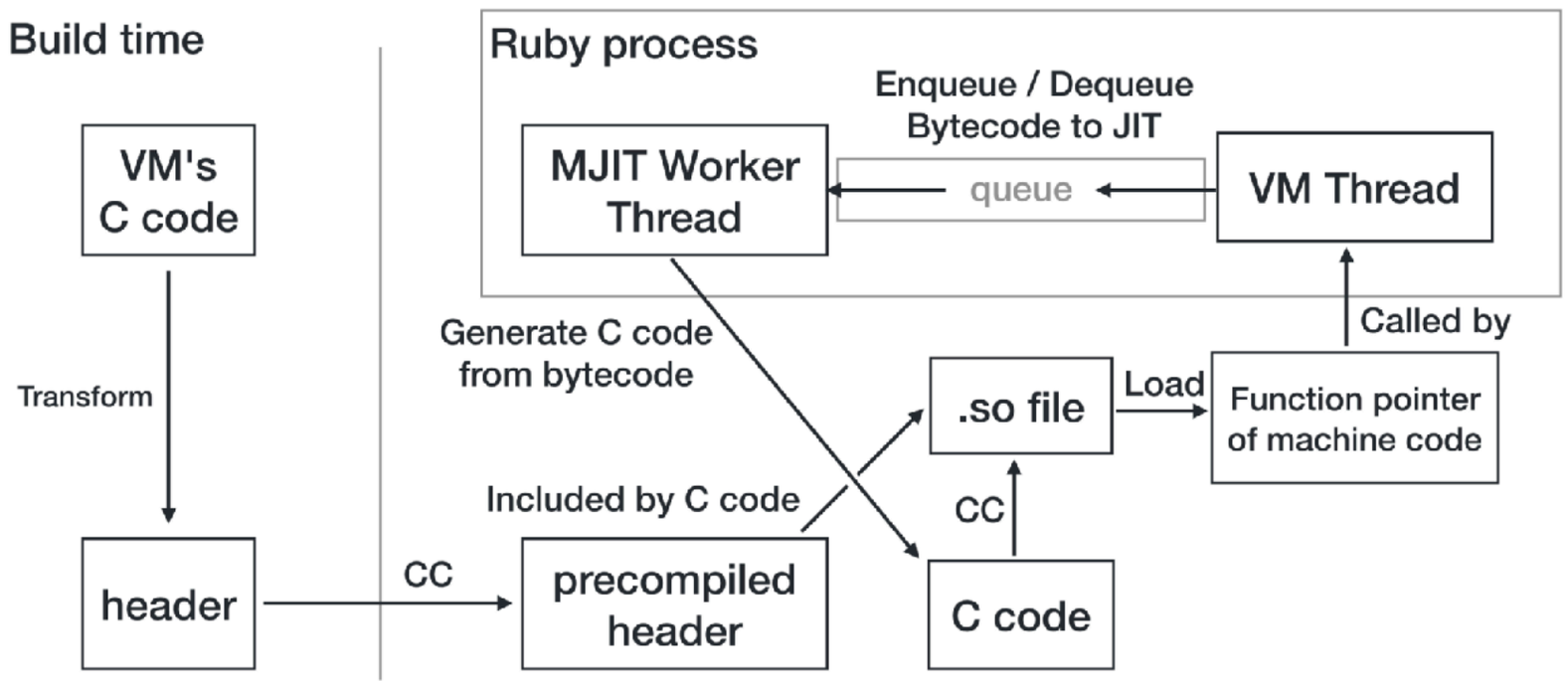
5/31: 2.6.0preview2 release
RubyGems 3.0.0.beta1, Improve MJIT Performance

11/?: 2.6.0preview3 release
RubyGems 3.0.0.beta2, Psych-3.1.0.pre2

12/25: 2.6.0 final release

What's MJIT?

- JIT(Just In Time) Comile feature for Ruby
- It's developed by @k0kubun
- See https://medium.com/@k0kubun/the-method-jit-compiler-for-ruby-2-6-388ee0989c13



Gemification Project

- **Standard Libraries**
  - **Upstream: Only Ruby core repository(svn.ruby-lang.org)**
  - **Release cycle: 1 year**

- **Default Gems**
  - **Upstream: Ruby core repository and GitHub**
  - **Release cycle: 1year or maintainers matter**

- **Bundled Gems**
  - **Upstream: Only GitHub**
  - **Release cycle: Maintainers matter**

Classification of standard libraries

In Ruby 2.5

Standard Libraries

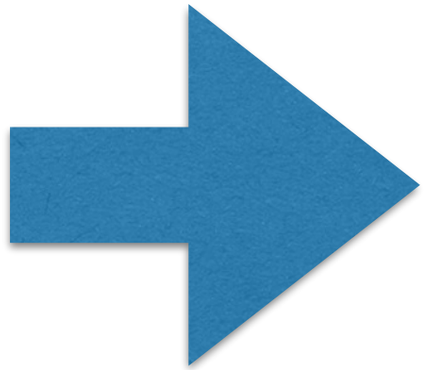
- **Pure ruby: 64**
- **Extensions: 14**

Default gems

- **Pure ruby: 6**
- **Extensions: 14**

Bundled Gems

- **Pure ruby: 7**
- **Extensions: 0**



In Ruby 2.6

Standard Libraries

- **Pure ruby: 49(-15)**
- **Extensions: 14**

Default gems

- **Pure ruby: 21 (+15)**
- **Extensions: 14**

Bundled Gems

- **Pure ruby: 7**
- **Extensions: 0**

git.ruby-lang.org

GMOペパボ株式会社

index : ruby.git

The Ruby Programming Language

summary refs log tree commit diff

Branch	Commit message	Author
trunk	win32/configure.bat: stop when setup failed	nobu
ruby_2_4	merge revision(s) 60384: [Backport #13887]	nagachika
ruby_2_5	merge revision(s) 62606,62607: [Backport #14557]	naruse
ruby_2_2	merge revision(s) 62422,62436: [Backport #14481]	usa
ruby_2_3	merge revision(s) 62422,62436: [Backport #14481]	usa
ruby_2_1	* 2016-04-22	svn
ruby_2_0_0	merge revision(s): 53153 and 23405@ruby_1_9_1	usa
ruby_1_9_3	merge revision(s) 48402:	usa
ruby_1_9_2	bump patchlevel	hone
ruby_1_8_7	merge revision(s) 44717:	naruse
[...]		

Tag	Download	Author
v2_6_0_preview1	commit ce0e3fc1b1...	naruse
v2_5_0	commit 4e0a512972...	naruse
v2_3_6	commit 2551734626...	usa
v2_2_9	commit 72113d58cd...	usa
v2_4_3	commit a5ec07c73f...	nagachika
v2_5_0_rc1	commit c6f401b6b8...	naruse
v2_5_0_preview1	commit f11fbd79fd...	naruse
v2_2_8	commit f3c3c788aa...	usa
v2_3_5	commit e07613e27e...	usa
v2_4_2	commit 595af866bb...	nagachika
[...]		

Age	Commit message	Author
116 min.	win32/configure.bat: stop when setup failed HEAD trunk	nobu
3 hours	vm.c: refined error message	nobu
4 hours	* 2018-03-15	svn
4 hours	Unconditionally define `TRACE_INSN_P`	tenderlove
13 hours	configure.ac: basic libs	nobu
15 hours	test_weakmap.rb: fixing CI failures	nobu
24 hours	quote symbols	nobu
36 hours	* 2018-03-14	svn
36 hours	Fix typos [ci skip]	kazu
38 hours	test/ripper/test_lexer.rb: add test for r62743	k0kubun
[...]		

3.

RubyGems

What's rubygems?

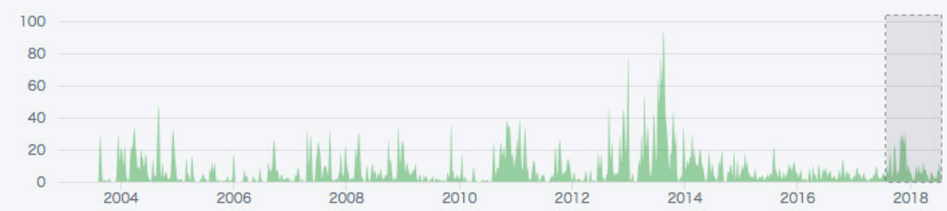
- The package manager of Ruby libraries.
- `gem install rails -v "~> 5.2"`
- You can install specified version of Ruby libraries that called `Gem`. RubyGems handles global environment on your box.
- You could specify `gem 'rails', '~> 5.2'` syntax without its dependency.

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Contributions: **Commits**

Contributions to master, excluding merge commits







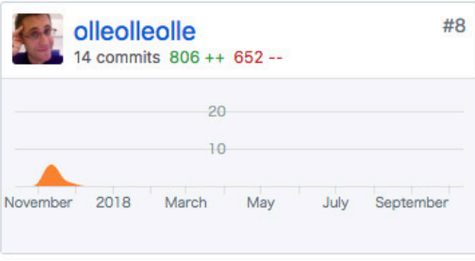
















What does mean “official”?

“official” means “Matz controllable”

Un-controllable examples:

- ruby-doc.org (not docs.ruby-lang.org)
- rubygems.org
- bundler.io
- Ruby version manager(rvm/rbenv/chruby)

The policy of RubyGems versioning

- The RubyGems accepts SemVer Policy.

- 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 release of RubyGems

- RubyGems also have HackerOne.
  - 3 people handle vulnerability issues and will release RubyGems by SemVer Policy like “2.7.7” from “2.7.6”
- On the other hand, The Ruby core team will back port only vulnerability fixes by independent version like “2.6.5.1”, not “2.7.7”

4.

RubyGems 3 & 4

What's new in RubyGems3?

- Removed deprecated methods.
- Removed to support for < Ruby 2.2.
- Added warnings of deprecated methods.
- Removed deprecated options.
  - [CAUTION] `--ri` and `--rdoc` options

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)

test/rubygems/test_gem_specification.rb
2305:  s.required_rubygems_version = Gem::Requirement.new(\"> 0\".freeze) if s.respond_to? :required_ruby
2316:  if s.respond_to? :specification_version then

…snip
```

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

What's new in RubyGems4?

- It has non-compatible features.
  - Make enable as default for conservative option: https://github.com/rubygems/rubygems/pull/2233
  - Make ruby gem install to user-install by default: https://github.com/rubygems/rubygems/issues/1394
  - Executables in bin folder conflict with their gem versions: https://bugs.ruby-lang.org/issues/5060
  - Behaviour changes with default gems installer: https://github.com/rubygems/rubygems/pull/2166

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.

5.

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

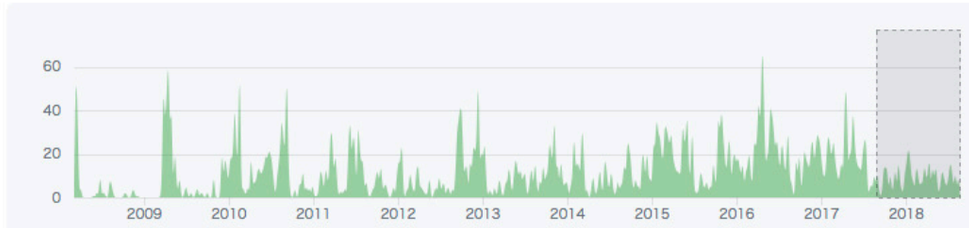
# We need a newish Rake since Active Job sets its test tasks' descriptions.
gem "rake", ">= 11.1"
```

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Contributions: Commits

Contributions to master, excluding merge commits





bundlerbot #1
103 commits 1,919 ++ 565 --



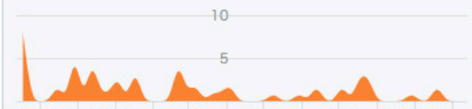


agrim123 #2
71 commits 2,076 ++ 949 --





segiddins #3
57 commits 1,162 ++ 453 --





colby-swandale #4
41 commits 454 ++ 139 --





deivid-rodriguez #5
40 commits 371 ++ 207 --



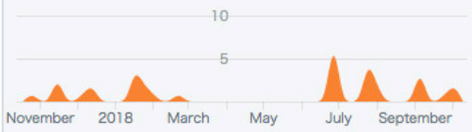


hsbt #6
38 commits 512 ++ 408 --





indirect #7
37 commits 550 ++ 289 --



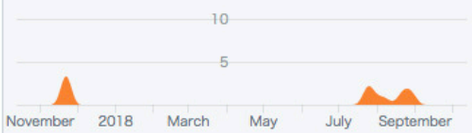


saveriomiroddi #8
15 commits 182 ++ 113 --





eregon #9
14 commits 87 ++ 21 --





nesaulov #10
11 commits 46 ++ 11 --



When is coming Bundler 2?

- Maybe, It's this year.
- We disabled the incompatible features like renaming `gems.rb` from `Gemfile`
- We will release 1.17.0 at this week. After that, We bump its version to 2.0.0 and drop to support under the Ruby 2.2.

6.

RubyGems & Bundler

RubyGems/Bundler integration

- We are working to integrate RubyGems and Bundler.
- 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. After that, I will promote Bundler 2 as standard library of the Ruby Core.

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
```

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.**











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Director of Business Process Re-engineering Office
Director of Technical Division
at GMO Pepabo, Inc. @pepabo

https://www.hsbt.org

GMOペパボ株式会社

Ruby is designed to make programmers happy.

Yukihiro Matz Matsumoto