Ruby 2.5 Information and Documentation

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This is Edition 0.1a of *Ruby 2.5 Information and Documentation*.

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Preface

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What Is Covered

Text and chapter by chapter description here.

Typographical Conventions

This book is written in an enhanced version of Texinfo, the GNU documentation formatting language. A single Texinfo source file is used to produce both the printed and online versions of a program's documentation. Because of this, the typographical conventions are slightly different than in other books you may have read.

Examples you would type at the command-line are preceded by the common shell primary and secondary prompts, '`$`' and '`>`'. Input that you type is shown *`like this`*. Output from the command is preceded by the glyph "⊣". This typically represents the command's standard output. Error messages, and other output on the command's standard error, are preceded by the glyph " error ". For example:

```
$ echo hi on stdout
⊣ hi on stdout
$ echo hello on stderr 1>&2
error  hello on stderr
```

In the text, command names appear in `this font`, while code segments appear in the same font and quoted, '`like this`'. Options look like this: `-f`. Some things are emphasized *like this*, and if a point needs to be made strongly, it is done **like this**. The first occurrence of a new term is usually its *definition* and appears in the same font as the previous occurrence of "definition" in this sentence. Finally, file names are indicated like this: `/path/to/our/file`.

Acknowledgements

1 Introduction

Ruby is . . .

A dynamic, open source programming language with a focus on simplicity and productivity. It has an elegant syntax that is natural to read and easy to write.

2 Documentation

Here you will find pointers to manuals, tutorials and references that will come in handy when you feel like coding in Ruby.

2.1 Installing Ruby

Installation Methods

There are several ways to install Ruby:

- **Package Manager**: When you are on a UNIX-like operating system, using your systems package manager is the easiest way of getting started. However, the packaged Ruby version usually is not the newest one.
- **Installers**: can be used to install a specific or multiple Ruby versions. There is also an installer for Windows.
- **Managers** help you to switch between multiple Ruby installations on your system.
- **Source**: And finally, you can also build Ruby from source.

The following overview lists available installation methods for different needs and platforms.

2.1.1 Package Management Systems

If you cannot compile your own Ruby, and you do not want to use a third-party tool, you can use your systems package manager to install Ruby.

Certain members in the Ruby community feel very strongly that you should never use a package manager to install Ruby and that you should use tools instead. While the full list of pros and cons is outside of the scope of this page, the most basic reason is that most package managers have older versions of Ruby in their official repositories. If you would like to use the newest Ruby, make sure you use the correct package name, or use the tools described further below instead.

2.1.1.1 Homebrew (OS X)

Homebrew

On macOS (High) Sierra and OS X El Capitan, Ruby 2.0 is included.

Many people on OS X use Homebrew as a package manager. It is really easy to get a newer version of Ruby using Homebrew:

```
$ brew install ruby
```

This should install the latest Ruby version.

2.1.2 Installers

If the version of Ruby provided by your system or package manager is out of date, a newer one can be installed using a third-party installer. Some of them also allow you to install multiple versions on the same system; associated managers can help to switch between the different Rubies. If you are planning to use RVM as a version manager you do not need a separate installer, it comes with its own.

2.1.2.1 `ruby-build`

`ruby-build`

`rbenv`

`ruby-build` is a plugin for `rbenv` (see Section 2.1.3.2 "`rbenv`", page 4, that allows you to compile and install different versions of Ruby into arbitrary directories. `ruby-build` can also be used as a standalone program without `rbenv`. It is available for OS X, Linux, and other UNIX-like operating systems.

2.1.2.2 `ruby-install`

`ruby-install` version manager `chruby` version switcher

`ruby-install`

`chruby`

`ruby-install` allows you to compile and install different versions of Ruby into arbitrary directories. There is also a sibling, `chruby` (see Section 2.1.3.1 "chruby", page 4), which handles switching between Ruby versions. It is available for OS X, Linux, and other UNIX-like operating systems.

2.1.3 Managers

Many Rubyists use Ruby managers to manage multiple Rubies. They confer various advantages but are not officially supported. Their respective communities are very helpful, however.

2.1.3.1 chruby

`chruby` allows you to switch between multiple Rubies. `chruby` can manage Rubies installed by `ruby-install` (see Section 2.1.2.2 "`ruby-install`", page 4) or even built from source.

2.1.3.2 `rbenv`

`rbenv`

`ruby-build`

`rbenv` allows you to manage multiple installations of Ruby. It does not support installing Ruby, but there is a popular plugin named `ruby-build` (see Section 2.1.2.1 "`ruby-build`", page 4) to install Ruby. Both tools are available for OS X, Linux, or other UNIX-like operating systems.

2.1.3.3 RVM ("Ruby Version Manager")

RVM

RVM allows you to install and manage multiple installations of Ruby on your system. It can also manage different gemsets. It is available for OS X, Linux, or other UNIX-like operating systems.

2.1.3.4 `uru`

Uru

Uru is a lightweight, multi-platform command line tool that helps you to use multiple Rubies on OS X, Linux, or Windows systems.

2.1.4 Building From Source

Ruby 2.5.1

Ruby Github

Of course, you can install Ruby from source. Download and unpack a tarball, then just do this:

```
$ ./configure
$ make
$ sudo make install
```

By default, this will install Ruby into `/usr/local`. To change, pass the `--prefix=DIR` option to the `./configure` script.

Using the third-party tools or package managers might be a better idea, though, because the installed Ruby wont be managed by any tools.

Installing from the source code is a great solution for when you are comfortable enough with your platform and perhaps need specific settings for your environment. Its also a good solution in the event that there are no other premade packages for your platform.

2.1.4.1 Releases Page

Releases Page

For more information about specific releases, particularly older releases or previews, see the Releases page.

This page lists individual Ruby releases.

Ruby 2.5.1 Released

ruby-2.1.5.tar.gz

Posted by naruse on 28 Mar 2018

This release includes some bug fixes and some security fixes.

- CVE-2017-17742: HTTP response splitting in WEBrick
- CVE-2018-6914: Unintentional file and directory creation with directory traversal in tempfile and tmpdir
- CVE-2018-8777: DoS by large request in WEBrick
- CVE-2018-8778: Buffer under-read in String#unpack
- CVE-2018-8779: Unintentional socket creation by poisoned NUL byte in UNIXServer and UNIXSocket
- CVE-2018-8780: Unintentional directory traversal by poisoned NUL byte in Dir
- Multiple vulnerabilities in RubyGems

2.1.4.2 Branches Page

Branches Page

Information about the current maintenance status of the various Ruby branches can be found on the Branches page.

This page lists the current maintenance status of the various Ruby branches. This is a preliminary list of Ruby branches and their maintenance status. The shown dates are inferred from the English versions of release posts or EOL announcements.

The Ruby branches or release series are categorized below into the following phases:

- normal maintenance (bug fix): Branch receives general bug fixes and security fixes.
- security maintenance (security fix): Only security fixes are backported to this branch.
- eol (end-of-life): Branch is not supported by the ruby-core team any longer and does not receive any fixes. No further patch release will be released.
- preview: Only previews or release candidates have been released for this branch so far.

Ruby 2.6

https://cache.ruby-lang.org/pub/ruby/2.6/ruby-2.6.0-preview2.tar.gz

ruby-2.6.0-preview2
status: preview
release date:

Ruby 2.5

https://cache.ruby-lang.org/pub/ruby/2.5/ruby-2.5.1.tar.gz

status: normal maintenance
release date: 2017-12-25

Ruby 2.4

https://cache.ruby-lang.org/pub/ruby/2.4/ruby-2.4.4.tar.gz

status: normal maintenance
release date: 2016-12-25

Ruby 2.3

https://cache.ruby-lang.org/pub/ruby/2.3/ruby-2.3.7.tar.gz

status: security maintenance
release date: 2015-12-25
EOL date: scheduled for 2019-03-31

Ruby 2.2

status: eol
release date: 2014-12-25
EOL date: 2018-03-31

2.1.4.3 Ruby Issue Tracking System

Bugs

How to report a bug

How To Report

Ruby Trunk

Ruby Trunk

All Issues

2.1.4.4 Ruby Core

Ruby Core

Now is a fantastic time to follow Rubys development. With the increased attention Ruby has received in the past few years, theres a growing need for good talent to help enhance Ruby and document its parts. So, where do you start?

The topics related to Ruby development covered here are:

- "Ruby Core", page 7,
- "Ruby Core", page 7,
- "Patch by Patch", page 7,
- Rules for Core Developers

Using Subversion to Track Ruby Development

Getting the latest Ruby source code is a matter of an anonymous checkout from the Subversion repository. From your command line:

```
$ svn co https://svn.ruby-lang.org/repos/ruby/trunk ruby
```

The `ruby` directory will now contain the latest source code for the development version of Ruby (`ruby-trunk`). Currently patches applied to the trunk are backported to the stable 2.5, 2.4, and 2.3 branches (see below).

If youd like to follow patching of Ruby 2.5, you should use the ruby_2_5 branch when checking out:

```
$ svn co https://svn.ruby-lang.org/repos/ruby/branches/ruby_2_5
```

This will check out the respective development tree into a `ruby_2_5` directory. Developers working on the maintenance branches are expected to migrate their changes to Rubys trunk, so often the branches are very similar, with the exception of improvements made by Matz and Nobu to the language itself.

If you prefer, you may browse Rubys Subversion repository via the web.

How to Use Git With the Main Ruby Repository

Those who prefer to use Git over Subversion can find instructions with the mirror on GitHub, both for those with commit access and everybody else.

Improving Ruby, Patch by Patch

The core team maintains an issue tracker for submitting patches and bug reports to Matz and the gang. These reports also get submitted to the Ruby-Core mailing list for discussion, so you can be sure your request wont go unnoticed. You can also send your patches straight to the mailing list. Either way, you are encouraged to take part in the discussion that ensues.

Please look over the Patch Writers Guide for some tips, straight from Matz, on how to get your patches considered.

Steps for Building a Patch

2.2 Getting Started

2.2.1 Try Ruby!

Try Ruby!

An interactive tutorial that lets you try out Ruby right in your browser. This 15-minute tutorial is aimed at beginners who want to get a feeling of the language.

2.2.2 Official FAQ

The official frequently asked questions.

FAQ

2.2.3 Ruby Koans

Ruby Koans

2.2.4 Whys (Poignant) Guide to Ruby

Why's Guide to Ruby

An unconventional but interesting book that will teach you Ruby through stories, wit, and comics. Originally created by *why the lucky stiff*, this guide remains a classic for Ruby learners.

2.2.5 Ruby in Twenty Minutes

Ruby in Twenty Minutes

A nice tutorial covering the basics of Ruby. From start to finish it shouldnt take you more than twenty minutes.

2.2.6 Ruby from Other Languages

Ruby from Other Languages

2.2.7 Learning Ruby

Learning Ruby

A thorough collection of Ruby study notes for those who are new to the language and in search of a solid introduction to Rubys concepts and constructs.

2.2.8 Ruby Essentials

Ruby Essentials

2.2.9 Learn to Program

Learn to Program

A wonderful little tutorial by Chris Pine for programming newbies. If you dont know how to program, start here.

Learn Ruby the Hard Way

2.3 Manuals

2.4 Reference Documentation

2.5 Editors and IDEs

2.6 Further Reading

Appendix A First Appendix Title

Appendix B Code Chunk Summaries

This appendix presents alphabetical lists of all the file definitions, the code chunk definitions, and the code chunk references.

B.1 Source File Definitions

B.2 Code Chunk Definitions

B.3 Code Chunk References

Bibliography

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