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* [WatchUnwatch](https://github.com/oneclick/rubyinstaller/toggle_watch)
* [Fork](https://github.com/oneclick/rubyinstaller/fork)
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* [Git Access](https://github.com/oneclick/rubyinstaller/wiki/_access)

**Development Kit**

* [Page History](https://github.com/oneclick/rubyinstaller/wiki/Development-Kit/_history)

**DevKit Overview**

The DevKit is a toolkit that makes it easy to build and use native C/C++ extensions such as RDiscount and RedCloth for Ruby on Windows.

Simply download, double-click, choose an installation directory, run the Ruby install helper script, possibly tweak a config.yml file for your system specifics, and you’re ready to start using native Ruby extensions.

**DevKit Background**

One of the challenges many Ruby on Windows users have is how to easily use native RubyGems from the community such as the [rdiscount](http://rubygems.org/gems/rdiscount/) or [curb](http://rubygems.org/gems/curb/) gems. In many cases this isn’t a problem because the extension author has provided a binary gem compatible with the users Ruby environment. In other cases, only the extension source code is available in the gem and the user is expected to have a “sane” environment installed and configured in order to build and use the native gem. A “sane” environment typically means a system with make, gcc, sh and similar \*nix build tools installed.

This expectation of a “sane” build environment is not always true for Windows users and is the primary reason why the DevKit was created. The DevKit, based upon MSYS and MinGW components, is an easy-to-install and easy-to-use solution for quickly setting up a “sane” build environment, enabling you to use most native RubyGems developed by the Ruby community.

We use the DevKit internally for the RubyInstaller project. The DevKit is used to build MRI Ruby and the required dependencies needed to deliver the RubyInstaller for Windows. Many community members also use the DevKit as their “foundation” toolkit for building other native software.

The DevKit is currently available for download as a self-extracting archive and a Windows installer is in development.

**Requirements**

* Window XP or greater (32 or 64-bit).
* A Ruby installation from RubyInstaller. This is important as it will not work with any other version of Ruby (e.g. old One-Click)
* ***[optional]*** For RubyInstaller’s previous to 1.9.2-p0 you may feel more comfortable using the DevKit-3.4.5-CCYYMMDD-sfx.exe as the earlier RubyInstallers were built using MSys/MinGW v3.4.5. Currently no issues have been reported when either the 4.5.0 or 4.5.1 DevKit’s are used with previous RubyInstaller versions.

**Installation Instructions**

While installation is (in general) simple, please ensure you carefully follow each step below.

**1. Preparation**

* If you previously installed the legacy DevKit devkit-3.4.5r3-20091110.7z, its artifacts were extracted into each Ruby installation and need to be manually removed. Remove the gcc.bat, make.bat, and sh.bat stub batch files in <RUBY\_INSTALL\_DIR>\bin and the <RUBY\_INSTALL\_DIR>\devkit subdirectory for each Ruby installation using the legacy DevKit.
* If you previously installed one of the legacy self-extracting DevKit’s, follow the [SFX DevKit upgrade](http://github.com/oneclick/rubyinstaller/wiki/FAQ#upgrade_dk) instructions.

**2. Download Files**

* The current DevKit is available at the [RubyInstaller download](http://rubyinstaller.org/downloads/) page with older versions available at the [archives](http://rubyinstaller.org/downloads/archives/) page. As backup, check our [GitHub downloads](http://github.com/oneclick/rubyinstaller/downloads/) page.

**3. Extract Files**

* Left double-click the self-extracting executable (SFX) downloaded from Step 2 and choose a directory (without spaces) to install the DevKit artifacts into. For example, C:\DevKit. **NOTE:** the SFX is really a 7-Zip archive with a bit of embedded magic. If you already have [7-Zip](http://7-zip.org/) installed, you can simply right-click it and extract it’s contents as you would a normal 7z archive. In the instructions that follow, the directory that you selected is identified as <DEVKIT\_INSTALL\_DIR>.

**4. Run Installation Scripts**

* cd <DEVKIT\_INSTALL\_DIR> from Step 3 above.
* ruby dk.rb init to generate the config.yml file to be used later in this Step. Your installed Rubies will be listed there (only those installed by a RubyInstaller package are detected at present).
* edit the generated config.yml file to include installed Rubies not automagically discovered or remove Rubies you do not want to use the DevKit with.
* ***[optional]*** ruby dk.rb review to review the list of Rubies to be enhanced to use the DevKit and verify the changes you made to it are correct.
* finally, ruby dk.rb install to DevKit enhance your installed Rubies. This step installs (or updates) an operating\_system.rb file into the relevant directory needed to implement a RubyGems pre\_install hook and a devkit.rb helper library file into <RUBY\_INSTALL\_DIR>\lib\ruby\site\_ruby. **NOTE:** you may need to use the --force option to update (with backup of the originals) the above mentioned files as discussed at the [SFX DevKit upgrade](https://github.com/oneclick/rubyinstaller/wiki/FAQ#upgrade_dk) FAQ entry.

**5. Test Installation**

* Confirm your Ruby environment is correctly using the DevKit by running gem install rdiscount --platform=ruby. RDiscount should install correctly and you should see Temporarily enhancing PATH to include DevKit... in the screen messages. Next run ruby -rubygems -e "require 'rdiscount'; puts RDiscount.new('\*\*Hello RubyInstaller\*\*').to\_html" to confirm that the rdiscount gem is working.

**Troubleshooting**

Please refer to [Troubleshooting](https://github.com/oneclick/rubyinstaller/wiki/Troubleshooting) for known issues or [RubyInstaller Google Group](http://groups.google.com/group/rubyinstaller) for further help.

**Example Native RubyGem Installations using the DevKit**

Once you’ve installed the DevKit you’ll discover there are but a few different types of native installation scenarios to deal with.

* The Typical Install Scenario – most of the native RubyGems you’re likely to encounter can be installed by running something similar to gem install bson\_ext --platform=ruby. It’s crucial that you include the --platform=ruby option to force RubyGems to build the native gem rather than potentially installing an incorrect binary gem.
* The Manual Install Scenario – sometimes a native RubyGem requires additional artifacts to already exist on your system and be usable. One such gem is [curb](http://rubygems.org/gems/curb/) which requires [curl’s](http://curl.haxx.se/) native header and library files in order be built and installed. In this scenario you need to tell RubyGems where to find those headers and library files by using a command similar to gem install curb --platform=ruby -- --with-curl-lib="C:/curl/bin" --with-curl-include="C:/curl/include". In addition, the curl library found in the directory specified with --with-curl-lib must be on your PATH for use at runtime by the curb gem.
* The Hacky Developer Scenario – a developer building native gems wants to be able to quickly test that their extconf.rb file used to create a Makefile for the native library works correctly. To shorten the development cycle, the DevKit enables the developer to run ruby -rdevkit extconf.rb.

**Accessing the Full MSys/MinGW Environment**

To access all of the MSYS/MinGW tools from a Command Prompt shell, run the devkitvars.bat helper script (lives in <DEVKIT\_INSTALL\_DIR>) to update the shell’s PATH environment variable. Similarly, if you’re using PowerShell, run the devkitvars.ps1 helper script.

**Building the DevKit**

As the DevKit is a fundamental part of the RubyInstaller build recipes, you can always build your own DevKit by simply:

1. git clone git://github.com/oneclick/rubyinstaller.git
2. cd rubyinstaller
3. rake devkit sfx=1

**Next Steps**

Now that you’ve installed the DevKit, you should be able to use many of the native C RubyGems without problems.

However, some extensions may require additional header and library files to also be installed, and still other extensions may need additional work done by the authors in order to get them to compile with the MSys/MinGW based DevKit. If you have problems, please drop us a line at our [RubyInstaller Google Group](http://groups.google.com/group/rubyinstaller)

Last edited by luislavena, June 05, 2011

[Delete this Page](https://github.com/oneclick/rubyinstaller/wiki/Development-Kit)

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**Keyboard Shortcuts** [**(see all)**](https://github.com/oneclick/rubyinstaller/wiki/Development-Kit)

**Site wide shortcuts**

s

Focus site search

?

Bring up this help dialog

**Commit list**

j

Move selected down

k

Move selected up

t

Open tree

p

Open parent

c *or* o *or* enter

Open commit

y

Expand URL to its canonical form

**Pull request list**

j

Move selected down

k

Move selected up

o *or* enter

Open issue

**Issues**

j

Move selected down

k

Move selected up

x

Toggle select target

o *or* enter

Open issue

I

Mark selected as read

U

Mark selected as unread

e

Close selected

y

Remove selected from view

c

Create issue

l

Create label

i

Back to inbox

u

Back to issues

/

Focus issues search

**Network Graph**

← *or* h

Scroll left

→ *or* l

Scroll right

↑ *or* k

Scroll up

↓ *or* j

Scroll down

t

Toggle visibility of head labels

shift ← *or* shift h

Scroll all the way left

shift → *or* shift l

Scroll all the way right

shift ↑ *or* shift k

Scroll all the way up

shift ↓ *or* shift j

Scroll all the way down

**Source Code Browsing**

t

Activates the file finder

l

Jump to line

y

Expand URL to its canonical form

**Markdown Cheat Sheet**

**Format Text**

Headers

# This is an <h1> tag

## This is an <h2> tag

###### This is an <h6> tag

Text styles

\*This text will be italic\*

\_This will also be italic\_

\*\*This text will be bold\*\*

\_\_This will also be bold\_\_

\*You \*\*can\*\* combine them\*

**Lists**

Unordered

\* Item 1

\* Item 2

\* Item 2a

\* Item 2b

Ordered

1. Item 1

2. Item 2

3. Item 3

\* Item 3a

\* Item 3b

**Miscellaneous**

Images

![GitHub Logo](/images/logo.png)

Format: ![Alt Text](url)

Links

http://github.com - automatic!

[GitHub](http://github.com)

Blockquotes

As Kanye West said:

> We're living the future so

> the present is our past.

**Code Examples in Markdown**

Syntax highlighting with [GFM](http://github.github.com/github-flavored-markdown/)

```javascript

function fancyAlert(arg) {

if(arg) {

$.facebox({div:'#foo'})

}

}

```

Or, indent your code 4 spaces

Here is a Python code example

without syntax highlighting:

def foo:

if not bar:

return true

Inline code for comments

I think you should use an

`<addr>` element here instead.