

Ruby master - Feature #4046

Saving C's `**argv` and `cwd` allows Ruby programs to reliably restart themselves

11/12/2010 12:32 PM - rocky (Rocky Bernstein)

Status:	Feedback	
Priority:	Normal	
Assignee:		
Target version:		
Description		
<pre>=begin In a debugger often one gets to a state where one just wants to restart everything exactly the way the program was previously invoked. It would helpful if Ruby saved <code>**argv</code> and <code>cwd</code>. The attached patch saves these in <code>RubyVM::OS_ARGV</code> and <code>RubyVM::OS_STARTUP_DIR</code>. With this, if a Ruby program wants to restart itself, it can run: chdir RubyVM::OS_STARTUP_DIR exec(*RubyVM::OS_ARGV) =end</pre>		
Related issues:		
Has duplicate Ruby master - Feature #6648: Provide a standard API for retriev...		Assigned
Has duplicate Ruby master - Feature #6793: easier ability to "run as the curr...		Feedback

History

#1 - 11/13/2010 08:11 AM - kstephens (Kurt Stephens)

```
=begin
bump. This would be very helpful in Rakefiles; rake mutates ARGV rather than making a copy.
=end
```

#2 - 11/15/2010 12:29 PM - mame (Yusuke Endoh)

```
=begin
Hi,
```

2010/11/12 Rocky Bernstein redmine@ruby-lang.org:

In a debugger often one gets to a state where one just wants to restart everything exactly the way the program was previously invoked.

`exec(3)` allows us to fake `argv[0]`.
Unfortunately, there is no truly reliable way to re-invoke process,
at least, in Unix.

```
$ cat test.rb
#
# test.rb
#
Dir.chdir RubyVM::OS_STARTUP_DIR
puts ""
puts "exec: %p" % RubyVM::OS_ARGV.join(" ")
puts ""
exec(*RubyVM::OS_ARGV)
```

<http://cr.yp.to/ucspi-tcp/argv0.html>

```
$ argv0 ./ruby cat test.rb
```

```
*** exec: "cat test.rb"
```

```
#
# test.rb
#
```

```
Dir.chdir RubyVM::OS_STARTUP_DIR
puts ""
puts "exec: %p" % RubyVM::OS_ARGV.join(" ")
puts "****"
exec(*RubyVM::OS_ARGV)
```

```
# You can do the same with perl, ruby, etc.
$ perl -e 'exec { "./ruby" } ("cat", "test.rb")'
$ ruby -e 'exec(["./ruby", "cat"], "test.rb")'
```

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Yusuke Endoh mame@tsg.ne.jp

=end

#3 - 11/15/2010 09:26 PM - rocky (Rocky Bernstein)

=begin
I am sorry if this duplicated on ruby-core. I wanted the redmine ticket updated. It also gives me an opportunity to correct some grammar.

This is a valid point and I now understand that this isn't 100% reliable. Just "most-of-the-time" reliable.

Furthermore cwd one can't fake. And the other argv values one can't fake. So as with other things in life, I propose we say, "yes there are exceptions, so programmer beware" and then try to be helpful. This is nicer than taking an approach that because we can't get it to work in all conditions, we're not going to do anything. Programmers will still have to solve their problems, and without this will do so even less reliably but with more effort.

I think that "faking" \$0 beforehand is more of the exceptional case than the normal case. And as you suggest, it can't be done on all operating systems.

But in my particular application, it doesn't really matter.

In the ruby debuggers I work on, you can see what the debugger has recorded to restart. That command is called "show args". So if you've run argv0, the programmer can change the settings presented with "set args". If it makes a difference.

I put this all in the context of a debugger to make things concrete. But one may imagine other situations in writing a large system where one may just want a simple way to restart the program or suggest how the program was invoked, keeping in mind argv[0] might be different.
=end

#4 - 03/18/2012 06:36 PM - naruse (Yui NARUSE)

- Description updated
- Status changed from Open to Feedback

argv[0] is not reliable on some environment.

see "#! - the Unix truth as far as I know it."
<http://homepages.cwi.nl/~aeb/std/hashexclam.html>

I tried to implement with vendor specific functions.
<https://gist.github.com/1129437>

I gave up it because I can't find the way on AIX.
Therefore I concluded people should use RbConfig.

#5 - 10/27/2012 05:52 AM - ko1 (Koichi Sasada)

- Target version changed from 2.0.0 to 2.6

I changed target to next minor because no feedback.

#6 - 12/25/2017 06:14 PM - naruse (Yui NARUSE)

- Target version deleted (2.6)

Files

OS_ARGV_and_STARTUP_DIR.patch	3.02 KB	11/12/2010	rocky (Rocky Bernstein)
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