

Ruby master - Bug #16680

Symlink folder in \$LOAD_PATH does not work with autoload

03/07/2020 06:31 PM - zw963 (Wei Zheng)

Status:	Open	
Priority:	Normal	
Assignee:		
Target version:		
ruby -v:	2.7.0	Backport: 2.5: UNKNOWN, 2.6: UNKNOWN, 2.7: UNKNOWN

Description

The following is a full reproducible process. I will use a gem named 'looksee' to reproduce this.

1. Do gem install looksee
2. Go to gem folder and copy lib content into /tmp/test_looksee so that we have a folder like this:

```
└─ $ tree /tmp/test_looksee
/tmp/test_looksee
├─ lib
│   ├── looksee
│   │   ├── adapter
│   │   │   ├── base.rb
│   │   │   └─ rubinius.rb
│   │   ├── adapter.rb
│   │   ├── clean.rb
│   │   ├── columnizer.rb
│   │   ├── core_ext.rb
│   │   ├── editor.rb
│   │   ├── help.rb
│   │   ├── inspector.rb
│   │   ├── lookup_path.rb
│   │   ├── mri.so
│   │   └─ version.rb
│   └─ looksee.rb
```

3. Create a new symlink to this folder.

```
└─ $ ln -s /tmp/test_looksee /tmp/test_looksee1

└─ $ ls -alhd /tmp/test_looksee*
drwxr-xr-x 3 zw963 zw963 60 2020-03-08 01:39 /tmp/test_looksee/
lrwxrwxrwx 1 zw963 zw963 13 2020-03-08 02:08 /tmp/test_looksee1 ->
test_looksee//
```

4. Run the following command to reproduce this issue.

```
└─ $ ruby -I/tmp/test_looksee1/lib/ -rlooksee -e 'puts 100'
Traceback (most recent call last):
 10: from /home/zw963/others/.rvm/rubies/ruby-2.7.0/lib/ruby/2.7.0/rubygems/core_ext/kernel_require.rb:72:in `require'
   9: from /home/zw963/others/.rvm/rubies/ruby-2.7.0/lib/ruby/2.7.0/rubygems/core_ext/kernel_require.rb:72:in `require'
   8: from /tmp/test_looksee1/lib/looksee.rb:1:in `<top (required)>'
   7: from /home/zw963/others/.rvm/rubies/ruby-2.7.0/lib/ruby/2.7.0/rubygems/core_ext/kernel_require.rb:72:in `require'
   6: from /home/zw963/others/.rvm/rubies/ruby-2.7.0/lib/ruby/2.7.0/rubygems/core_ext/kernel_require.rb:72:in `require'
   5: from /tmp/test_looksee1/lib/looksee/clean.rb:4:in `<top (required)>'
   4: from /tmp/test_looksee1/lib/looksee/clean.rb:171:in `<module:Looksee>'
   3: from /home/zw963/others/.rvm/rubies/ruby-2.7.0/lib/ruby/2.7.0/rubygems/core_ext/kernel_require.rb:72:in `require'
```

```
2: from /home/zw963/others/.rvm/rubies/ruby-2.7.0/lib/ruby/2.7.0/rubygems/core_ext/kernel_
_require.rb:72:in `require'
1: from /tmp/test_looksee1/lib/looksee/adapter.rb:1:in `'
/tmp/test_looksee1/lib/looksee/adapter.rb:2:in `
```

You may want to ask why use symlinks folder in \$LOAD_PATH. I think this is a quite common case; many ruby developers have a local gem not managed by Rubygems or Bundler. They just use \$LOAD_PATH to require/load it, and it is hard to ensure everyone's folder is not a symlink.

I think this is a breaking change. All those codes worked quite well before 2.7 because old codes always follow symlinks. The following is an example from ruby 2.6.3, which works.

```
└─ $ ruby -I/tmp/test_looksee1/lib/ -rlooksee -e 'puts 100'
Traceback (most recent call last):
 8: from /home/zw963/others/.rvm/rubies/ruby-2.6.3/lib/ruby/2.6.0/rubygems/core_ext/kernel_
_require.rb:54:in `require'
 7: from /home/zw963/others/.rvm/rubies/ruby-2.6.3/lib/ruby/2.6.0/rubygems/core_ext/kernel_
_require.rb:54:in `require'
 6: from /tmp/test_looksee/lib/looksee.rb:1:in `'
 5: from /home/zw963/others/.rvm/rubies/ruby-2.6.3/lib/ruby/2.6.0/rubygems/core_ext/kernel_
_require.rb:54:in `require'
 4: from /home/zw963/others/.rvm/rubies/ruby-2.6.3/lib/ruby/2.6.0/rubygems/core_ext/kernel_
_require.rb:54:in `require'
 3: from /tmp/test_looksee/lib/looksee/clean.rb:4:in `'
 2: from /tmp/test_looksee/lib/looksee/clean.rb:171:in `
```

As we can see, those breaking codes come from autoload :Adapter, 'looksee/adapter'. I suspect maybe this is caused by nested autoload. But this is only a guess, please check. Thank you.

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Related issues:

Related to Ruby master - Bug #16462: Ruby 2.7 autoload not working with \$RUBY...

Closed

History

#1 - 03/07/2020 11:01 PM - hsbt (Hiroshi SHIBATA)

- Related to Bug #16462: Ruby 2.7 autoload not working with \$RUBYLIB (maybe circular dependency error) added

#2 - 05/09/2020 10:47 AM - zw963 (Wei Zheng)

Sorry, any update on this?

#3 - 05/09/2020 11:51 AM - Eregon (Benoit Daloze)

Maybe a solution is to always resolve symlinks in the cache of \$LOAD_PATH?
One issue is that \$LOAD_PATH entries might not necessarily exist.

#4 - 05/17/2020 08:59 AM - zw963 (Wei Zheng)

Eregon (Benoit Daloze) wrote in [#note-3](#):

One issue is that \$LOAD_PATH entries might not necessarily exist.

Sorry, not really understood what your means about reference comment.

I think maybe it acceptable for only support non-symlink \$LOAD_PATH when update to ruby 2.7.
but, it should be mentions on release change log and mention why we change this behavior
before ruby 2.7 release.

#5 - 06/13/2020 11:02 PM - nobu (Nobuyoshi Nakada)

I can't reproduce it with the master.

```
$ ruby -v
ruby 2.8.0dev (2020-06-13T14:33:40Z master 2496bdb28f) [x86_64-linux]
```

First, copied looksee/lib directory to /tmp/test_looksee, and linked it to /tmp/test_looksee1, correct?

```
$ ls -lRA /tmp/test_looksee*
lrwxrwxrwx 1 ubuntu ubuntu 17 Jun 14 07:49 /tmp/test_looksee1 -> /tmp/test_looksee/

/tmp/test_looksee:
total 4
drwxr-xr-x 3 ubuntu ubuntu 4096 Jun 14 07:55 lib/

/tmp/test_looksee/lib:
total 8
drwxr-xr-x 3 ubuntu ubuntu 4096 Jun 14 07:42 looksee/
-rw-r--r-- 1 ubuntu ubuntu 51 Jun 14 07:42 looksee.rb

/tmp/test_looksee/lib/looksee:
total 44
drwxr-xr-x 2 ubuntu ubuntu 4096 Jun 14 07:42 adapter/
-rw-r--r-- 1 ubuntu ubuntu 246 Jun 14 07:42 adapter.rb
-rw-r--r-- 1 ubuntu ubuntu 5276 Jun 14 07:42 clean.rb
-rw-r--r-- 1 ubuntu ubuntu 2107 Jun 14 07:42 columnizer.rb
-rw-r--r-- 1 ubuntu ubuntu 732 Jun 14 07:42 core_ext.rb
-rw-r--r-- 1 ubuntu ubuntu 1522 Jun 14 07:42 editor.rb
-rw-r--r-- 1 ubuntu ubuntu 1875 Jun 14 07:42 help.rb
-rw-r--r-- 1 ubuntu ubuntu 2046 Jun 14 07:42 inspector.rb
-rw-r--r-- 1 ubuntu ubuntu 2292 Jun 14 07:42 lookup_path.rb
-rw-r--r-- 1 ubuntu ubuntu 128 Jun 14 07:42 version.rb

/tmp/test_looksee/lib/looksee/adapter:
total 8
-rw-r--r-- 1 ubuntu ubuntu 2018 Jun 14 07:42 base.rb
-rw-r--r-- 1 ubuntu ubuntu 629 Jun 14 07:42 rubinius.rb
```

Second, run with the real path, and got a LoadError on mri.so as expected.

```
$ ruby -I/tmp/test_looksee/lib/ -rlooksee -e 'puts 100'
/home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:in `
require': cannot load such file -- looksee/mri.so (LoadError)
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
  from /tmp/test_looksee/lib/looksee/clean.rb:171:in `'
  from /tmp/test_looksee/lib/looksee/clean.rb:4:in `'
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
  from /tmp/test_looksee/lib/looksee.rb:1:in `'
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
bash: exit 1
```

Then, tried the symlink path, got the same error.

```
$ ruby -I/tmp/test_looksee1/lib/ -rlooksee -e 'puts 100'
/home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:in `
require': cannot load such file -- looksee/mri.so (LoadError)
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
  from /tmp/test_looksee/lib/looksee/clean.rb:171:in `'
  from /tmp/test_looksee/lib/looksee/clean.rb:4:in `'
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
  from /tmp/test_looksee/lib/looksee.rb:1:in `'
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
  from /home/ubuntu/.rbenv/versions/master-2020-06-13/lib/ruby/2.8.0/rubygems/core_ext/kernel_require.rb:83:
in `require'
bash: exit 1
```

#6 - 06/13/2020 11:26 PM - nobu (Nobuyoshi Nakada)

I could reproduce it with 2.7.1 and 2.7 head.

#7 - 08/20/2020 03:21 AM - zw963 (Wei Zheng)

nobu (Nobuyoshi Nakada) wrote in [#note-6](#):

I can't reproduce it with the master.

I could reproduce it with 2.7.1 and 2.7 head.

Cool, good news, so, it was fixed on our master, right?

#8 - 08/20/2020 04:39 AM - sawa (Tsuyoshi Sawada)

- *Description updated*

- *Subject changed from [Breaking Change] Ruby 2.7 not support symlinks folder in \$LOAD_PATH to work with autoload. to Symlink folder in \$LOAD_PATH does not work with autoload*

Files

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