

Setting up Ruby on Rails Development Environment

-- For Cygwin / Windows --

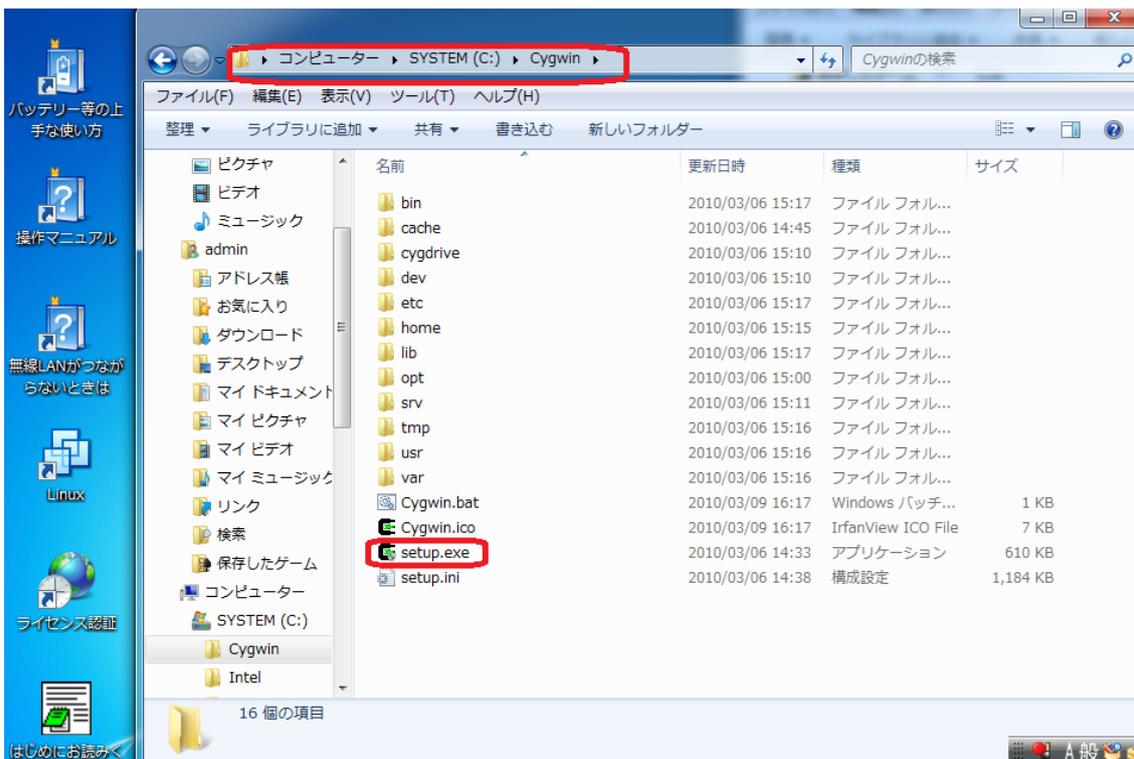
(Course Material for Object Oriented WEB Programming with Ruby)

How to setup Ruby On Rails on the Windows installed with Cygwin largely differs from Normal Windows 7 Environment.

In this booklet, the method to setup the environment is explained for PCs of Hosei University students with Cygwin. PCs for the graduate school students may differ from the PCs for under graduate students in some points, however, please guess and read this for your PCs.

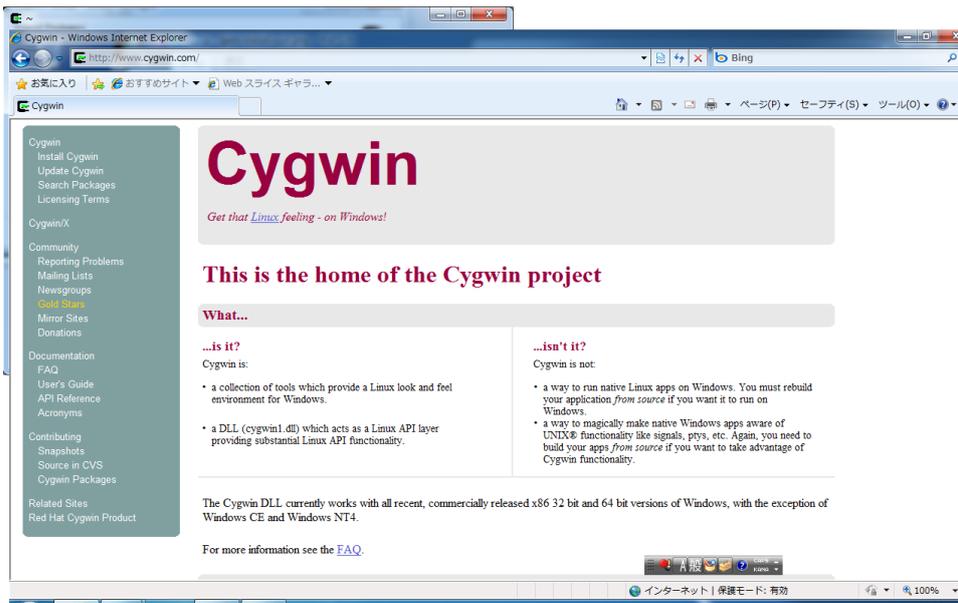
Step 1: Update Cygwin

Open the Cygwin directory. The directory is C:\Cygwin.

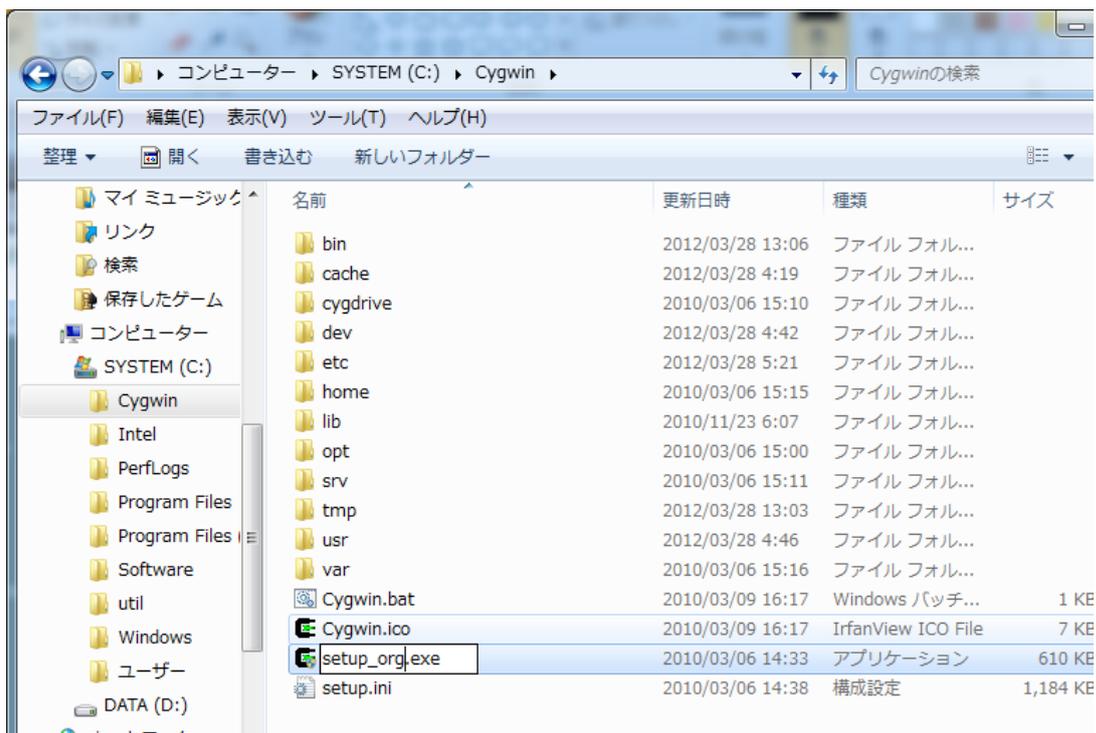


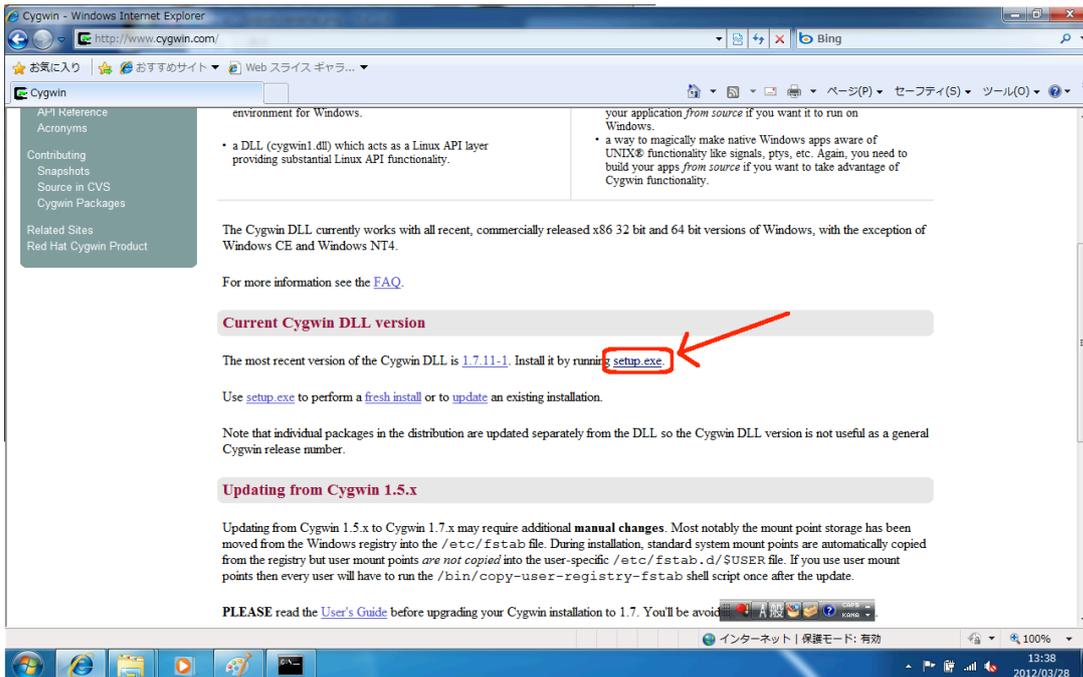
Preinstalled Cygwin had become obsolete, so download the latest Cygwin's setup.exe and run. The site is;

<http://www.cygwin.com/>



Before you download setup.exe from the Internet, (just to make sure) rename the pre-installed setup.exe to setup_org.exe and such.



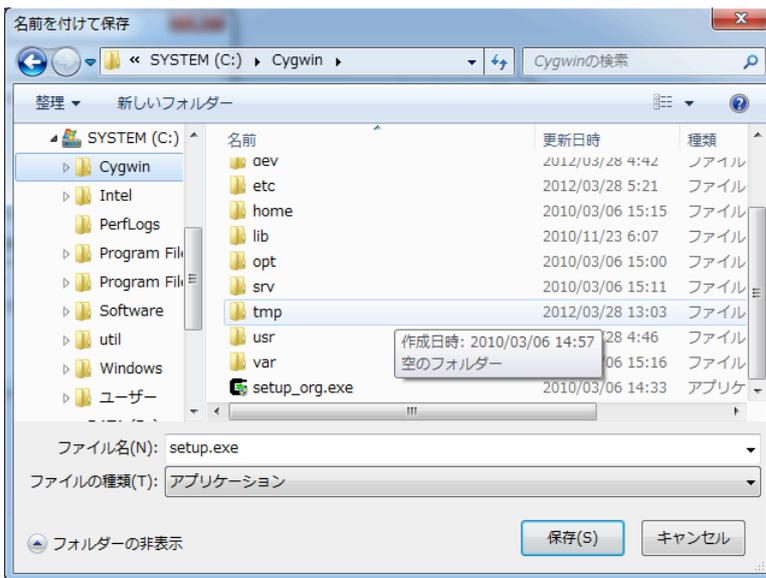


Click the above shown setup.exe.



Soon after you click the filename, download starts.

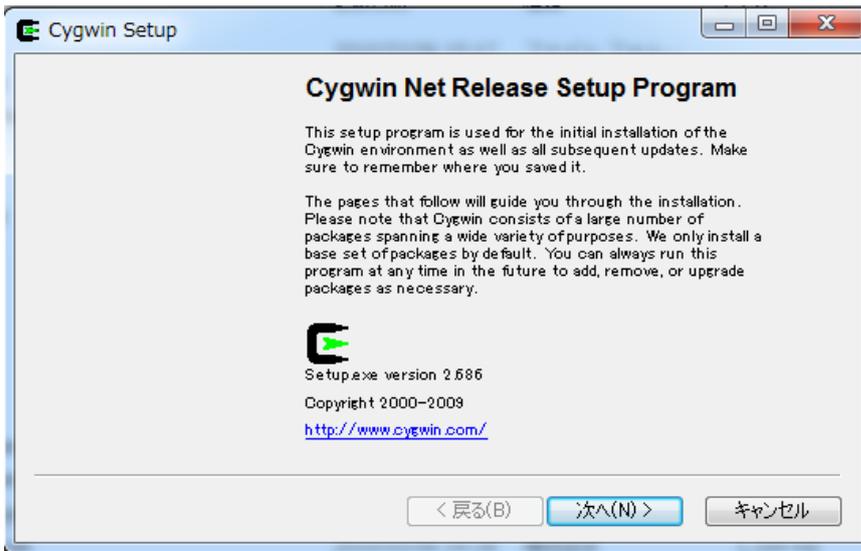
For security reason, confirmation message appears on the screen. Please treat the file as “reliable.”



Destination should be set to C:\Cygwin.

Keep the filename of ‘setup.exe,’ through the procedure of download.

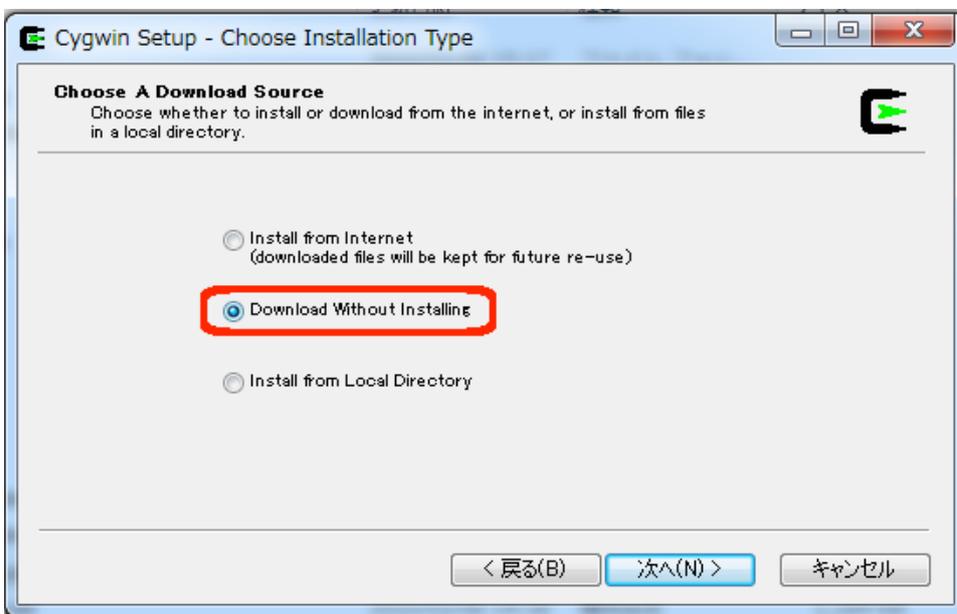
Then run the downloaded setup.exe.



Click next

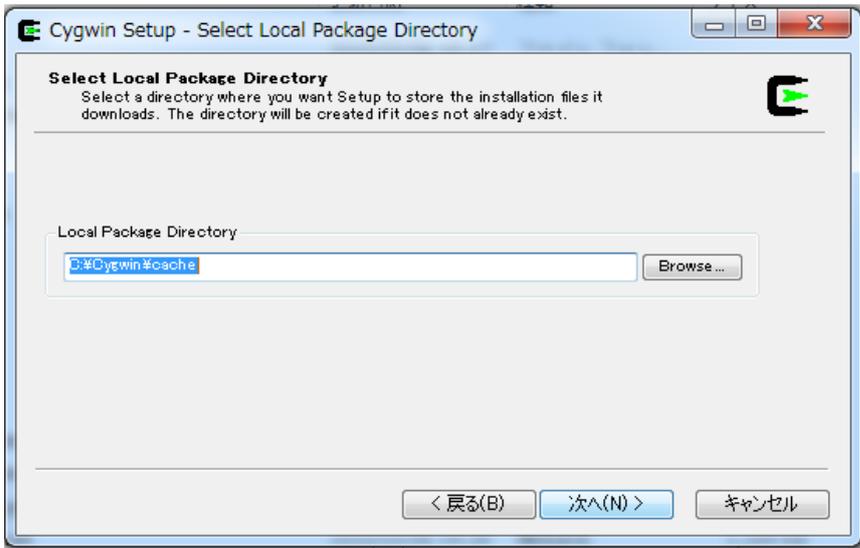
If you started the download on the stable environment, you can choose “Install from Internet.”

However it may take long time. Depending on the communication speed, it may take 3 to 4 hours. So, the explanation is written for the method to “Download without installing,” and “Install from Local Directory,” separately. If the procedure is interrupted, we may need to restart from the very beginning.

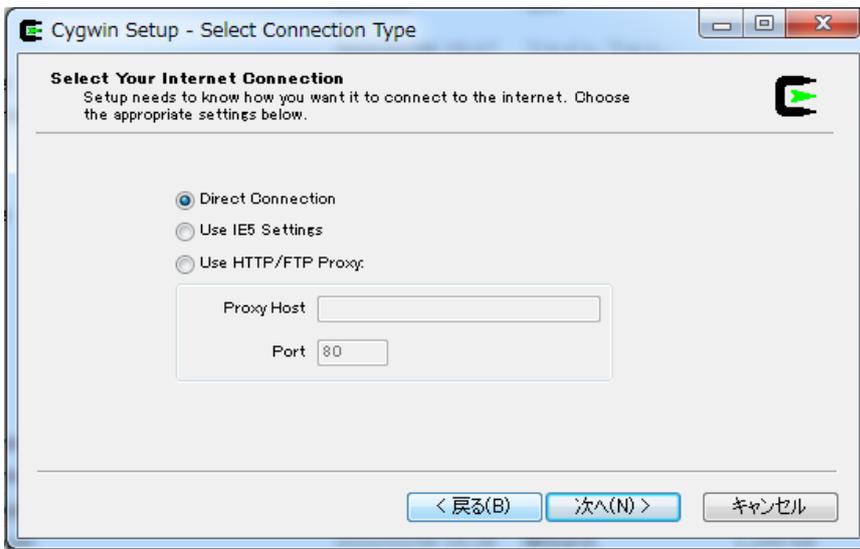


So, choose the faster method; “download without installing,”

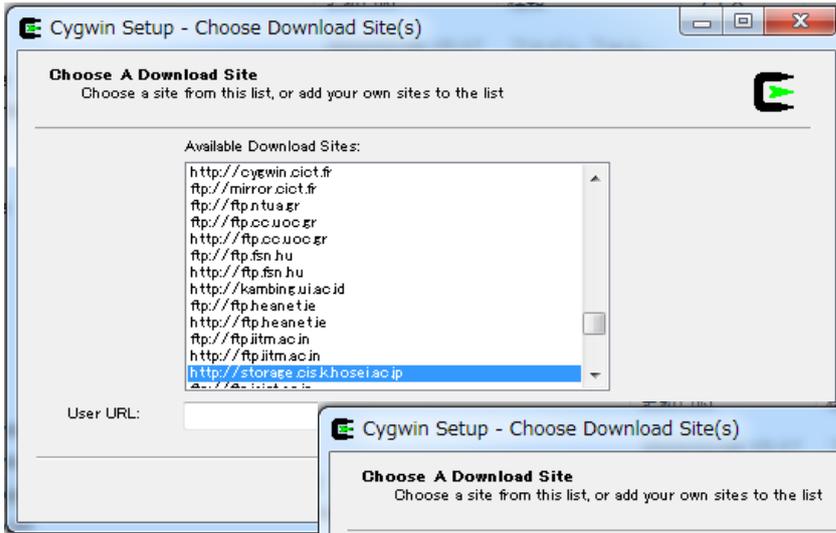
If you leave the computer in the stable environment, you can choose “install from Internet,” and make the update in one time. You can save 1 to 2 hours.



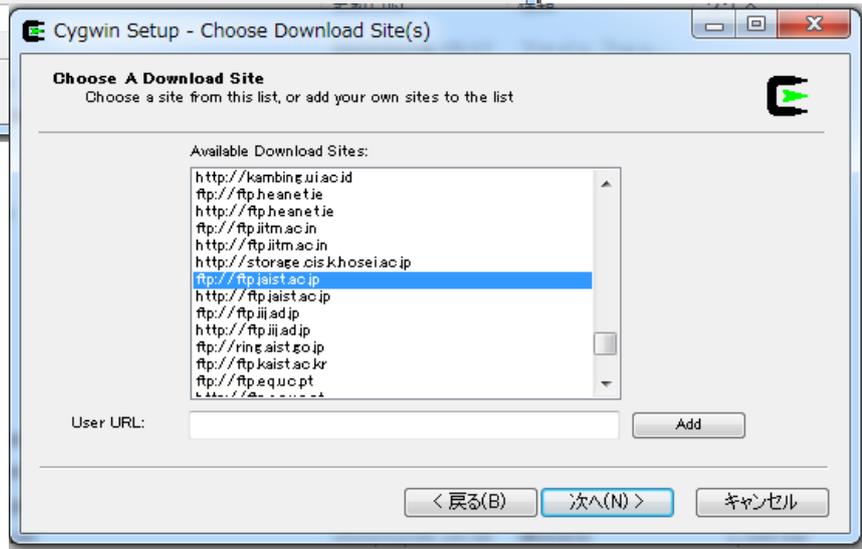
Choose the directory for saving downloaded files. Here you can leave the default file name “cache” as it is.



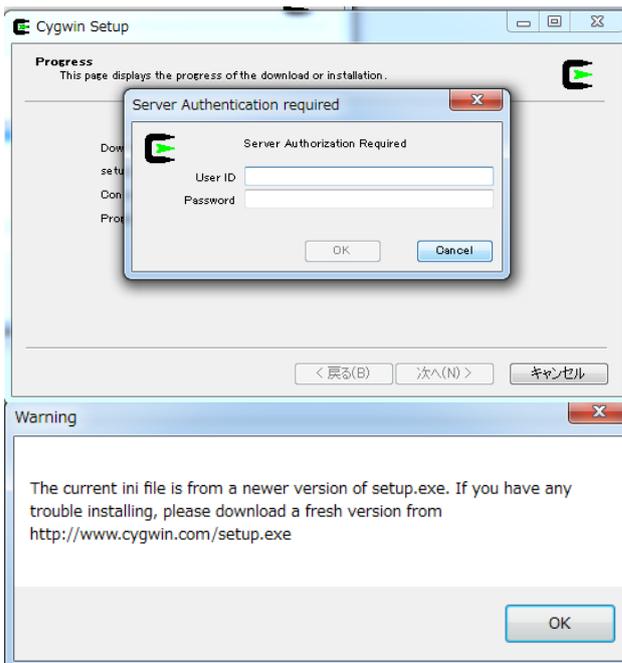
If you set your PC up in the university, you can choose “Direct Connection”. Then simply type “Next”.



In the university campus, you can choose CIS storage. When mirrored, you can use the latest version in the university.



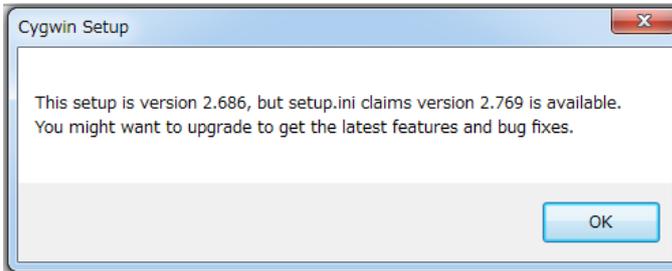
When you set up your PC outside the university (ex. in your home), select jaist.ac.jp and such.



If you connect to Hosei's server, authentication is requested.

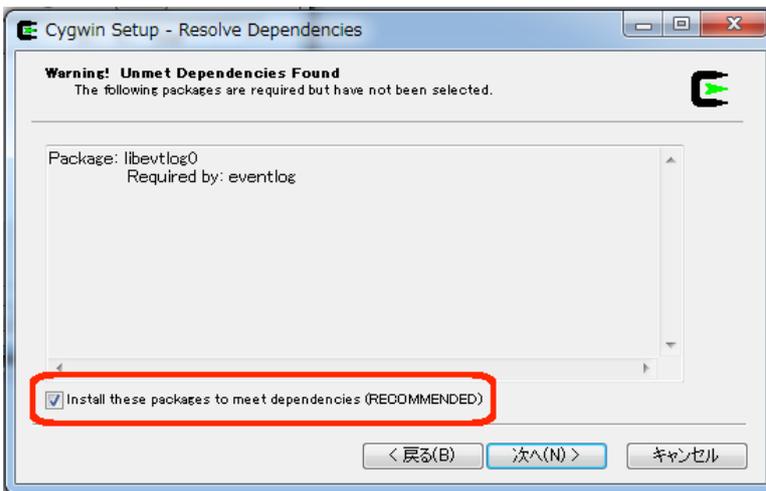
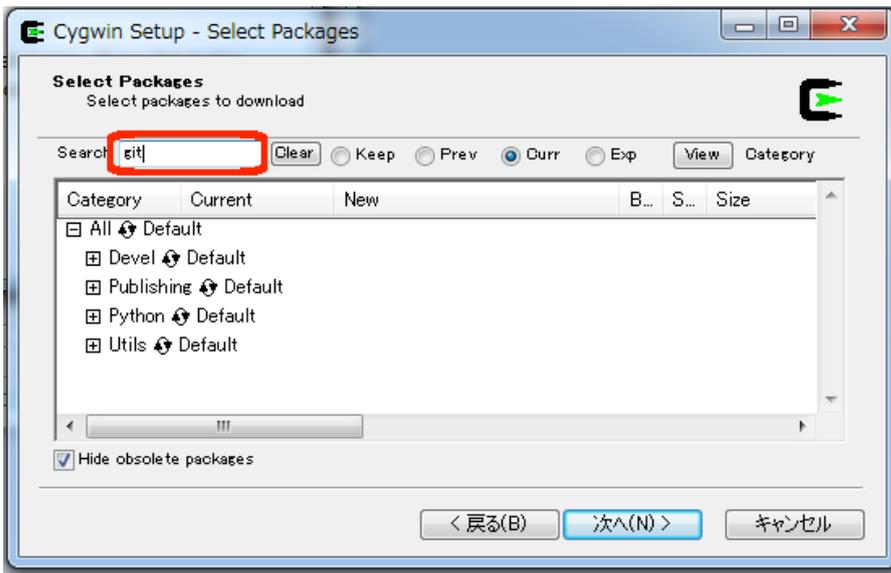
If you do not use the latest version, an window shown in the left may be popped up. You can just ignore the message, but it is

strongly recommended to use the latest version, for the consistency reason.

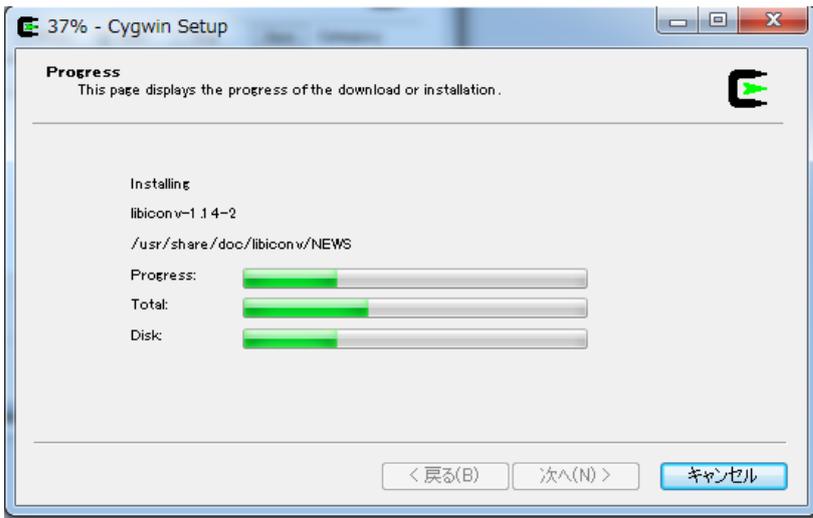


The popup message with the version numbers shown in the left may be displayed. It is the same recommendation.

Here in the window shown below, type in the package name to install. We want to update “bash”, “git”, “curl”, and “ruby.” Split the installation into 3 to 4 stages, the total time would be almost the same with the time of “installing all at once.” So, if you could take time for installing all, doing at once would be better. If you cannot do at once, then split the installation into 4 times, for bash, git, ruby, and curl.

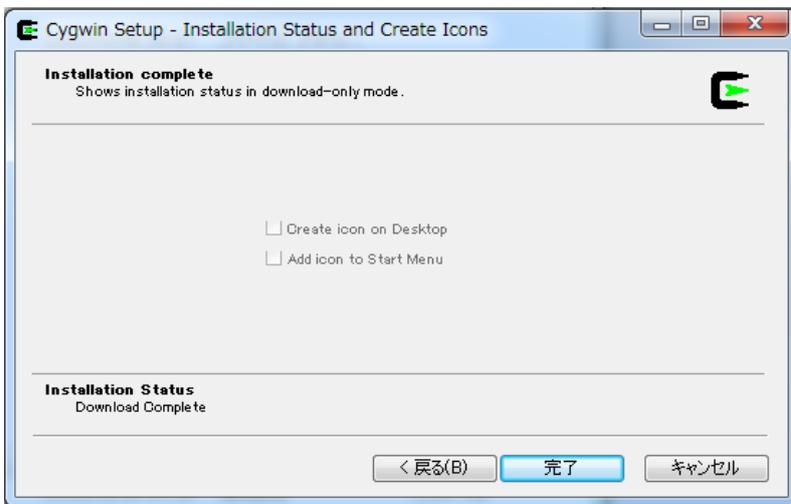


In order to avoid the version mis-matching, check the mark at the dependencies.



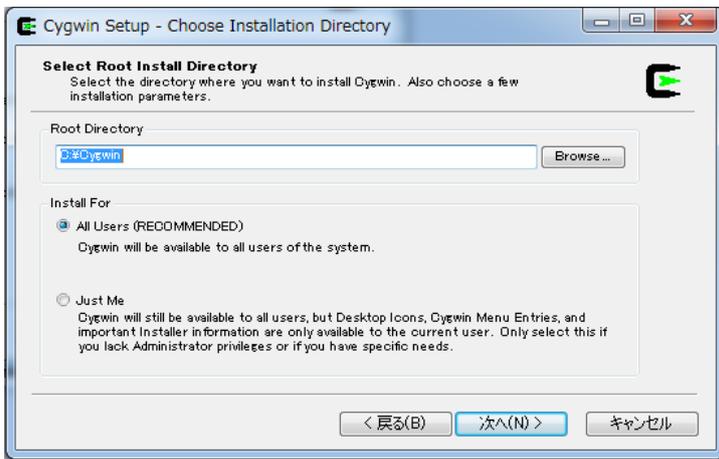
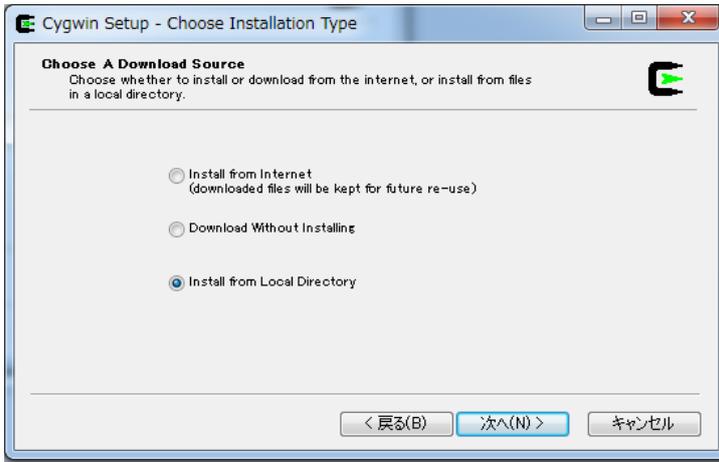
During the installation, the screen shown in the above is displayed. If you cancel the installation, then, you may need to re-download all from the very beginning. So, please wait patiently.

If completed, the pop up shown below would be displayed.

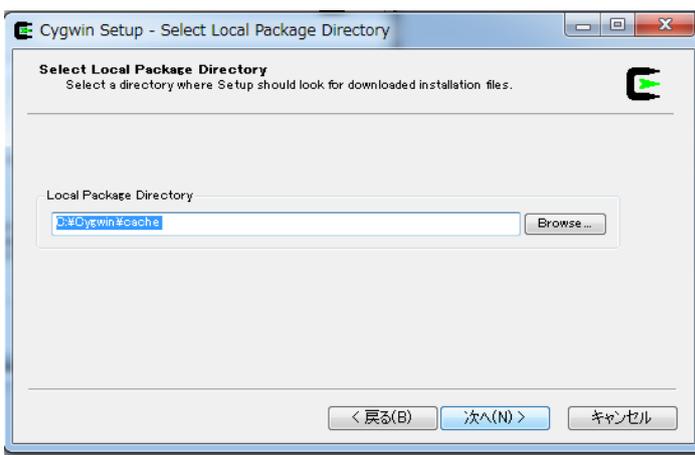


If you started with the option “Install from Internet”, then go for “installing curl”.

If you started with the option “download without Internet”, then you need to setup with the option “Install from Local Directory.”

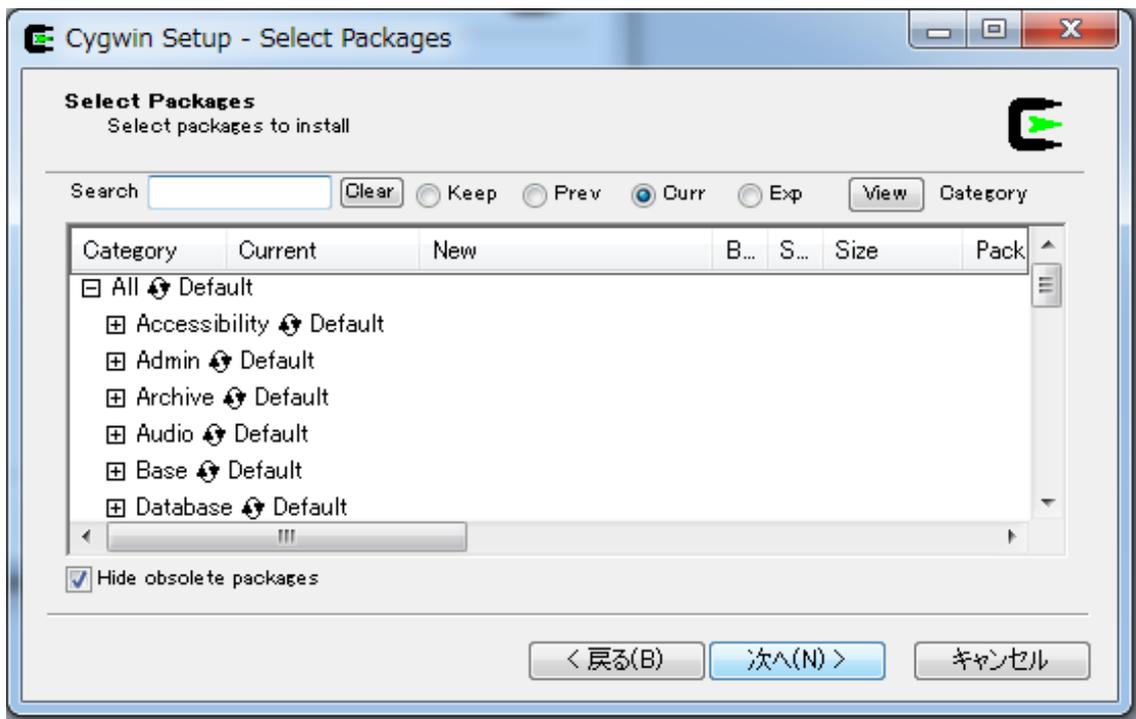


With Hoesi version PCs are preinstalled with Cygwin. So update those preinstalled Cygwin. Click “Next” with the default name.



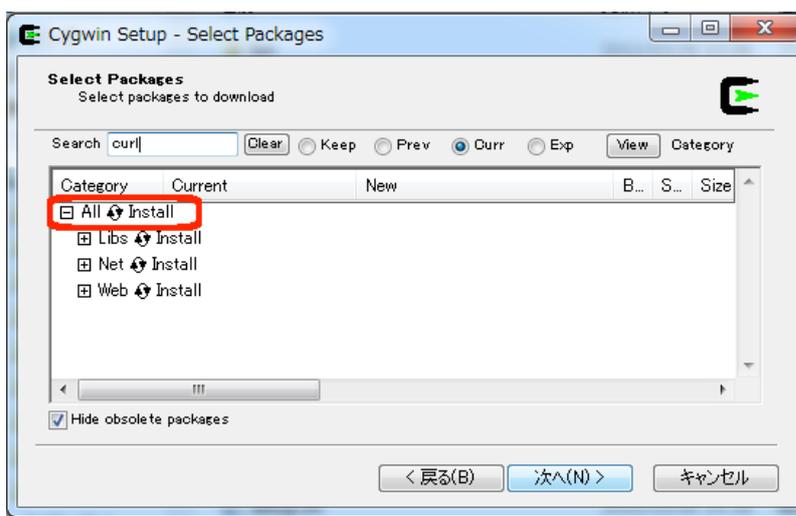
Specify the directory where you downloaded the files from the Internet. Click “Next.”

Install all the files which you downloaded from the Internet.



You can leave the default action as “Default” as it is shown on the screen. Click “Next.”

Installing curl is required together with bash, ruby, and git. Start setup.exe again.



Only installing curl would not take longer time if you had finished the installation of bash, ruby and git. So you can choose “Install from Internet,” to shorten the period to shorten the period. Also, please switch the operation from “Default” to “Install”

When you see the message “completed”, the update of Cygwin is finished.

Step 2: Installing Rubygems

Next step is to install RubyGems. Here we download the source codes, and then compile and assemble to make the executable.

Start Cygwin.

```
admin@ADMIN-501MOKPBO ~  
$ cd /usr/local  
admin@ADMIN-501MOKPBO /usr/local  
$ mkdir rubygems_src
```

Move to /usr/local directory, and then make the directory with the name of “rubygems_src”.

Type,

```
cd /usr/local
```

to move the current directory, then type

```
mkdir rubygems_src
```

to make the directory for source codes of rubygems.

Then type

```
cd rubygems_src
```

to move to the source code directory.

Type

```
wget http://rubyforge.org/frs/download.php/75952/rubygems-1.8.21.tgz
```

to download the file.

```
admin@ADMIN-501MOKPBO /usr/local/rubygems_src  
$ wget http://rubyforge.org/frs/download.php/75952/rubygems-1.8.21.tgz
```

When the download is completed, the command to unpack the file is;

```
tar xvzf rubygems-1.8.21.tgz
```

```
admin@ADMIN-501MOKPBO /usr/local/rubygems_src
$ ls
rubygems-1.8.21.tgz

admin@ADMIN-501MOKPBO /usr/local/rubygems_src
$ tar xvzf rubygems-1.8.21.tgz
```

The list of files in the compressed file is displayed.

```
$ tar xvzf rubygems-1.8.21.tgz
rubygems-1.8.21/
rubygems-1.8.21/.autotest
rubygems-1.8.21/.document
rubygems-1.8.21/.gemtest
rubygems-1.8.21/bin/
:
rubygems-1.8.21/lib/rubygems/commands/update_command.rb
rubygems-1.8.21/lib/rubygems/commands/which_command.rb
rubygems-1.8.21/lib/rbconfig/datadir.rb
rubygems-1.8.21/hide_lib_for_update/note.txt
rubygems-1.8.21/bin/gem
rubygems-1.8.21/bin/update_rubygems
```

When source code development is completed, then start setup. Type

```
ruby --version
```

to check the version. Make sure that ruby 1.8.7 is installed. Also, type

```
curl --version
```

to check if the curl command respond to the command.

(If it failed to get the version number of both files, then run setup.exe of Cygwin again, to reinstall ruby and/or curl. Reinstall command would be better.)

Type

```
cd rubygems-1.8.21
```

to move the directory, and then run setup by typing the following command:

```
ruby setup.rb
```

```
admin@ADMIN-501MOKPBO /usr/local/rubygems_src
$ ruby --version
ruby 1.8.7 (2012-02-08 patchlevel 358) [i386-cygwin]

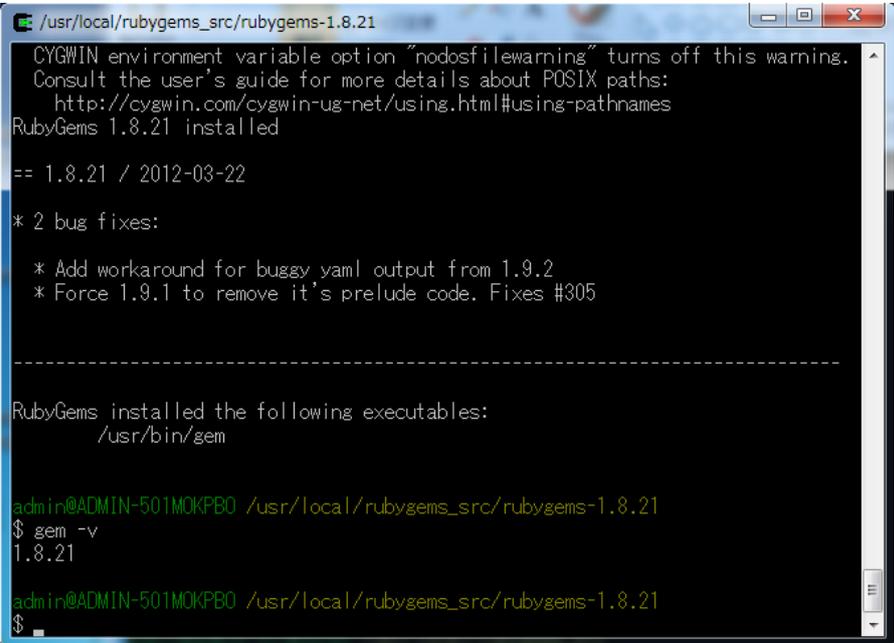
admin@ADMIN-501MOKPBO /usr/local/rubygems_src
$ ls
rubygems-1.8.21  rubygems-1.8.21.tgz

admin@ADMIN-501MOKPBO /usr/local/rubygems_src
$ cd rubygems-1.8.21

admin@ADMIN-501MOKPBO /usr/local/rubygems_src/rubygems-1.8.21
$ ruby setup.rb
```

When setup is completed, the following screen is displayed. Type

`gem -v`
to get the gem version displayed.



```
/usr/local/rubygems_src/rubygems-1.8.21
CYGWIN environment variable option "nodosfilewarning" turns off this warning.
Consult the user's guide for more details about POSIX paths:
http://cygwin.com/cygwin-ug-net/using.html#using-pathnames
RubyGems 1.8.21 installed

== 1.8.21 / 2012-03-22

* 2 bug fixes:

* Add workaround for buggy yaml output from 1.9.2
* Force 1.9.1 to remove it's prelude code. Fixes #305

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RubyGems installed the following executables:
  /usr/bin/gem

admin@ADMIN-501MOKPBO /usr/local/rubygems_src/rubygems-1.8.21
$ gem -v
1.8.21

admin@ADMIN-501MOKPBO /usr/local/rubygems_src/rubygems-1.8.21
$
```

Step 3: Install rake

Rake is a command execution control tool for ruby.
Install rake with gem.

Simply type
`gem install rake`

```
admin@ADMIN-501MOKPBO /usr/local/rubygems_src/rubygems-1.8.21
$ gem install rake
Fetching: rake-0.9.2.2.gem (100%)
Successfully installed rake-0.9.2.2
1 gem installed
Installing ri documentation for rake-0.9.2.2...
Installing RDoc documentation for rake-0.9.2.2...

admin@ADMIN-501MOKPBO /usr/local/rubygems_src/rubygems-1.8.21
↑
```

When completed, type the following command to get the version number.

```
rake --version
```

Step 4: Install rvm

Now install rvm (Ruby Version Manager) using git.

Move the directory by typing

```
cd /usr/local
```

Installation command of rvm is;

```
git clone --depth 1 git://github.com/wayneeseguin/rvm.git
```

```
admin@ADMIN-501MOKPBO /usr/local
$ git clone --depth 1 git://github.com/wayneeseguin/rvm.git
Cloning into 'rvm'...
remote: Counting objects: 5901, done.
remote: Compressing objects: 100% (3031/3031), done.
Receiving objects: remote: Total 5901 (delta 3926), reused 3953 (delta 2202)98
(5783/5901)
Receiving objects: 100% (5901/5901), 2.02 MiB | 272 KiB/s, done.
Resolving deltas: 100% (3926/3926), done.

admin@ADMIN-501MOKPBO /usr/local
↑
```

When downloading is completed, start installation. Move to sub-directory “rvm” created under /usr/local.

```
cd rvm
```

Then type the command;

```
./install
```

```

admin@ADMIN-501MOKPBO /usr/local
$ cd rvm

admin@ADMIN-501MOKPBO /usr/local/rvm
$ ./install

Installing RVM to /home/admin/.rvm/
  Adding rvm PATH line to /home/admin/.bashrc /home/admin/.zshrc.
  Adding rvm loading line to /home/admin/.bash_login /home/admin/.zlogin.

# RVM: Shell scripts enabling management of multiple ruby environments.
# RTFM: https://rvm.beginrescueend.com/
# HELP: http://webchat.freenode.net/?channels=rvm (#rvm on irc.freenode.net)
# Cheatsheet: http://cheat.errtheblog.com/s/rvm/
# Screencast: http://screencasts.org/episodes/how-to-use-rvm

# In case of any issues read output of 'rvm requirements' and/or 'rvm notes'

```

```

* To start using RVM you need to run `source /home/admin/.rvm/scripts/rvm`
  in all your open shell windows, in rare cases you need to reopen all shell w
indows.

* Optionally you can run `rvm tools rvm-env ruby bash` which will generate
  shebang wrappers for easier selecting ruby in scripts.

# admin,
#
# Thank you for using RVM!
# I sincerely hope that RVM helps to make your life easier and more enjoyable!
!!
#
# ~Wayne

admin@ADMIN-501MOKPBO /usr/local/rvm
$

```

Then, make rvm installation effective, edit the file

`.bashrc`

which is located in the home(login) directory. You can use vi or emacs.

Add the following line at the last of `.bashrc` file.

```
[[ -s $HOME/.rvm/scripts/rvm ]] && source "$HOME/.rvm/scripts/rvm"
```

Editing with vi, type “o” to switch from “command mode” to “add new line at the next line.” Finished typing the complete line, then press [ESC] to exit from “editing mode” to “command mode.” In the command mode, type [:w] to overwrite file, and [:q] to quit. The WEB page below shows how to use vi.

<http://www.jitaku-server.net/vi.html>

Editing with emacs, you can type directly, and press [Ctrl-x],[Ctrl-s] to overwrite file, and [Ctrl-x][Ctrl-c] to quit. There is no mode change between “input mode” and “command mode.”

Please refer the following page to see how to use emacs;

<http://oku.edu.mie-u.ac.jp/~okumura/lectures/emacs.html>

Type “pwd(print working directory)” to see what is the current directory.

Type “cat” command to see the contents the .bashrc file.

```
admin@ADMIN-501MOKPBO
$ pwd
/home/admin

admin@ADMIN-501MOKPBO ~
$ cat .bashrc

PATH=$PATH:$HOME/.rvm/bin # Add RVM to PATH for scripting
[[ -s $HOME/.rvm/scripts/rvm ]] && source "$HOME/.rvm/scripts/rvm"

admin@ADMIN-501MOKPBO ~
$ source ~/.bashrc
```

To reflect the modification to the system environment, type source command.

source ~/.bashrc

When you finished modifying .bashrc, then fix .bash_profile file also.

Add the following one line in .bash_profile.

export LIBRARY_PATH=/usr/lib/w32api:\$LD_LIBRARY_PATH

```
admin@ADMIN-501MOKPBO ~
$ cat .bash_profile

export LIBRARY_PATH=/usr/lib/w32api:$LD_LIBRARY_PATH
[[ -s $HOME/.rvm/scripts/rvm ]] && source "$HOME/.rvm/scripts/rvm"
PATH=$PATH:$HOME/.rvm/bin # Add RVM to PATH for scripting
```

(In this example, the same modification with .bashrc is added to the .bash_profile, just to make sure the line is executed.)

If you once exit Cygwin, and then restart Cygwin, then “rvm file” has become available. Type the following command to show version of “rvm.”

rvm --version

Step 5: ruby 1.9.2 のインストール

Make ruby from source code.

First, make “ruby_src” directory in /usr/local directory.

Then, move to the directory, and obtain ruby source code with the following command;

wget ftp://ftp.ruby-lang.org/pub/ruby/1.9/ruby-1.9.2-p318.tar.gz

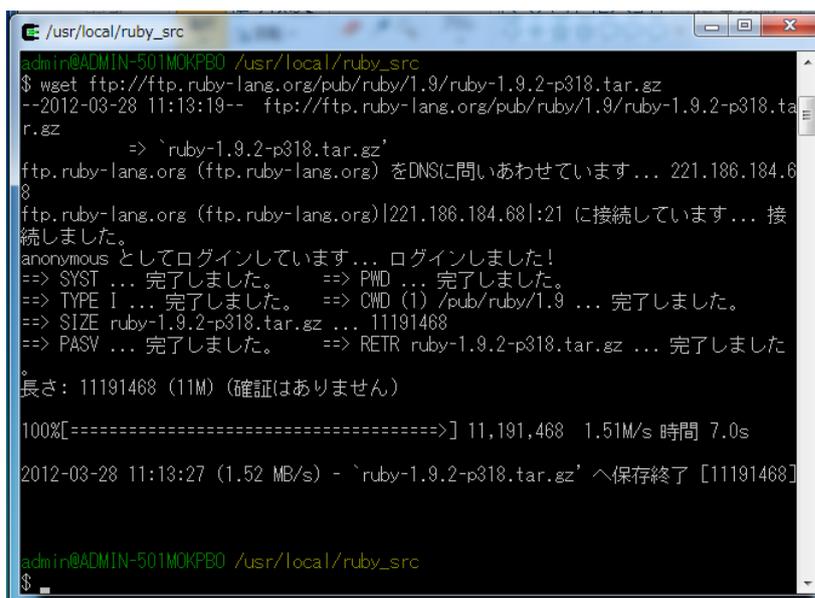
```
admin@ADMIN-501MOKPBO ~
$ cd /usr/local

admin@ADMIN-501MOKPBO /usr/local
$ ls
bin  etc  lib

admin@ADMIN-501MOKPBO /usr/local
$ mkdir ruby_src

admin@ADMIN-501MOKPBO /usr/local
$ cd ruby_src

admin@ADMIN-501MOKPBO /usr/local/ruby_src
$ wget ftp://ftp.ruby-lang.org/pub/ruby/1.9/ruby-1.9.2-p318.tar.gz
```



```
/usr/local/ruby_src
admin@ADMIN-501MOKPBO /usr/local/ruby_src
$ wget ftp://ftp.ruby-lang.org/pub/ruby/1.9/ruby-1.9.2-p318.tar.gz
--2012-03-28 11:13:19-- ftp://ftp.ruby-lang.org/pub/ruby/1.9/ruby-1.9.2-p318.ta
r.gz
      => `ruby-1.9.2-p318.tar.gz'
ftp.ruby-lang.org (ftp.ruby-lang.org) をDNSに問いあわせています... 221.186.184.6
8
ftp.ruby-lang.org (ftp.ruby-lang.org)|221.186.184.68|:21 に接続しています... 接
続しました。
anonymous としてログインしています... ログインしました!
==> SYST ... 完了しました。      ==> PWD ... 完了しました。
==> TYPE I ... 完了しました。    ==> CWD (1) /pub/ruby/1.9 ... 完了しました。
==> SIZE ruby-1.9.2-p318.tar.gz ... 11191468
==> PASV ... 完了しました。     ==> RETR ruby-1.9.2-p318.tar.gz ... 完了しました
。
長さ: 11191468 (11M) (確認はありません)

100%[=====] 11,191,468  1.51M/s 時間 7.0s
2012-03-28 11:13:27 (1.52 MB/s) - `ruby-1.9.2-p318.tar.gz' へ保存終了 [11191468]

admin@ADMIN-501MOKPBO /usr/local/ruby_src
$
```

When download is completed, then expand the file. The command is
tar zxvf ruby-1.9.2-p318.tar.gz

```
admin@ADMIN-501MOKPBO /usr/local/ruby_src
$ tar zxvf ruby-1.9.2-p318.tar.gz
```

```
ruby-1.9.2-p318/win32/ifchange.bat
ruby-1.9.2-p318/win32/Makefile.sub
ruby-1.9.2-p318/win32/mkexports.rb
ruby-1.9.2-p318/win32/README.win32
ruby-1.9.2-p318/win32/resource.rb
ruby-1.9.2-p318/win32/rm.bat
ruby-1.9.2-p318/win32/rmdir.bat
ruby-1.9.2-p318/win32/setup.mak
ruby-1.9.2-p318/win32/win32.c
ruby-1.9.2-p318/win32/winmain.c
```

```
admin@ADMIN-501MOKPBO /usr/local/ruby_src
```

When file unpack is completed, then move to ruby source directory.

```
admin@ADMIN-501MOKPBO /usr/local/ruby_src
$ cd ruby-1.9.2-p318

admin@ADMIN-501MOKPBO /usr/local/ruby_src/ruby-1.9.2-p318
$
```

The next step is to make “makefile”. The command is “./configure”
Add `--enable-shared` switch, and run configure, as the following sample.
`./configure --enable-shared`

```
admin@ADMIN-501MOKPBO /usr/local/ruby_src/ruby-1.9.2-p318
$ ./configure --enable-shared
```

When command prompt is displayed, then type make
make

Once again, when command prompt is displayed, then type “make test.”
make test

Lastly, when command prompt is displayed, then type “make install.”
make install

When “Compile Error” occurred:

```
win32ole.o:/usr/local/ruby_src/ruby-1.9.2-p318/ext/win32ole/win32ole.c:3488: mor
e undefined references to `_GUID_NULL' follow
win32ole.o: In function `load_conv_function51932':
/usr/local/ruby_src/ruby-1.9.2-p318/ext/win32ole/win32ole.c:934: undefined refer
ence to `_CLSID_CMultiLanguage'
collect2: ld はステータス 1 で終了しました
Makefile:205: recipe for target `../../.ext/i386-cygwin/win32ole.so' failed
make[1]: *** [../../.ext/i386-cygwin/win32ole.so] Error 1
make[1]: ディレクトリ `/usr/local/ruby_src/ruby-1.9.2-p318/ext/win32ole' から出
ます
uncommon.mk:137: recipe for target `mkmain.sh' failed
make: *** [mkmain.sh] Error 1
```

`curl --version`

で、バージョン番号が表示されるか再度確認して下さい。

`curl` が実行できなかつたら、`cygwin` の `setup.exe` で、`curl` を指定して `Uninstall` し、再度 `curl` を指定して `Install` し直して下さい。

コンパイルが完了したら、

`rvm use 1.9.2`

と入力して下さい。

Using `/home/admin/.rvm.gems/ruby-1.9.2-p318`

と表示されたら OK です。

エラーが表示されたら、

`rvm install ruby-1.9.2-p318`

のコマンドを試してみてください。

`ruby --version`

で、`ruby 1.9.2p318` のバージョン番号が表示されたら OK です。

Step 6: rails のインストール

`gem install rails`

と入力して下さい。

```
admin@ADMIN-501MOKPBO ~  
$ gem install rails
```

インストール完了後

```
rails --version
```

で、バージョン番号が表示されたら OK です。

Step 7: バージョンの確認

一連のインストールで、バージョン番号は以下のように表示されるはずですが、

```
admin@ADMIN-501MOKPBO ~  
$ rails --version  
Rails 3.2.2  
  
admin@ADMIN-501MOKPBO ~  
$ gem -v  
1.8.21  
  
admin@ADMIN-501MOKPBO ~  
$ rvm --version  
  
rvm 1.11.3 () by Wayne E. Seguin <wayneesequin@gmail.com>, Michal Papis <mpapis@gmail.com> [https://rvm.beginrescueend.com/]  
  
admin@ADMIN-501MOKPBO ~  
$ git --version  
git version 1.7.9  
  
admin@ADMIN-501MOKPBO ~  
$ rake --version  
rake, version 0.9.2.2  
  
admin@ADMIN-501MOKPBO ~  
$ ruby --version  
ruby 1.9.2p318 (2012-02-14 revision 34678) [i386-cygwin]  
  
admin@ADMIN-501MOKPBO ~  
$
```

(これより新しいバージョン番号であっても構いません。資料の作成日から若干日が経っているため、更新されている可能性があります。)

cygwin 環境で、これらのバージョンが確認できたら、cygwin のセットアップは完了です。