

Running the tools (CMT, SubSeasonal Packages,...) developed by NOAA/CPC/International Desks:

Prerequisite Packages Installation for Windows Users

NOAA/CPC/International Desks

System Requirements

- **OS version:**
 - Windows (32 or 64 bit, Windows version 7.0 or above) + Cygwin
- **MEMORY:** 4GB or more (if possible)
- **Free DISK SPACE:** 10GB or more
- **Internet Connection**
- **A windows winzip or 7-zip utility to unpack a tar file**
- **SOFTWARE:**
 - GrADS (v2.0.2)
 - GNU FORTRAN Compiler,
 - GNU precision calculator (bc),
 - Notepad ++
 - wget
 - ImageMagick
 - GDAL (v2.1.2 or later)

Prerequisite Packages for Windows Users

- ❑ Cygwin
- ❑ GNU bc maths
- ❑ wget
- ❑ GDAL
- ❑ GNU Fortran
- ❑ ImageMagick
- ❑ notepad++
- ❑ openGrADS

Cygwin Installation(1/6)

(<https://cygwin.com/install.html>)

- Depending on your system type, click on either the 64-bit or 32-bit link to download the installation file (**setup-x86_64.exe** for 64-bit system or **setup-x86.exe** for 32-bit).

← → ↻ <https://cygwin.com/install.html>

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 - Update Cygwin
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Cygwin

Get that *Linux* feeling - on Windows.

Installing and Updating Cygwin Packages

Installing and Updating Cygwin for 64-bit versions of Windows

Run [setup-x86_64.exe](#) any time you want to update or install a Cygwin package for 64-bit windows. The [signature](#) for [setup-x86_64.exe](#) can be used to verify the validity of this binary using [this](#) public key.

Installing and Updating Cygwin for 32-bit versions of Windows

Run [setup-x86.exe](#) any time you want to update or install a Cygwin package for 32 bit windows. The [signature](#) for [setup-x86.exe](#) can be used to verify the validity of this binary using [this](#) public key.

General installation notes

When installing packages for the first time, `setup*.exe` *does not install every package*. Only the **minimal base packages** from the Cygwin distribution are installed by default, which takes up about 100 MB.


Clicking on categories and packages in the `setup*.exe` package installation screen allows you to select what is installed or updated.

Individual packages like `bash`, `gcc`, `less`, etc. are released independently of the Cygwin DLL, so the Cygwin DLL version is not useful as a general Cygwin release number. The `setup*.exe` utility tracks the versions of all installed components and provides the mechanism for **installing** or **updating** everything available from this site for Cygwin.

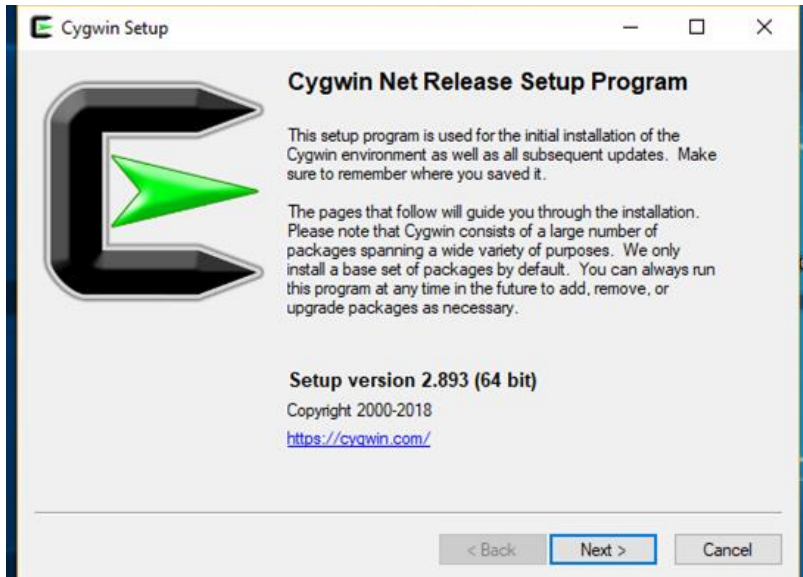
Once you've installed your desired subset of the Cygwin distribution, `setup*.exe` will remember what you selected so rerunning the program will update your system with any new package releases.

On Windows Vista and later, `setup*.exe` will check by default if it runs with administrative privileges and, if not, will try to elevate the process. If you want to avoid this behaviour and install under an unprivileged account just for your own usage, run `setup*.exe` with the `--no-admin` option.

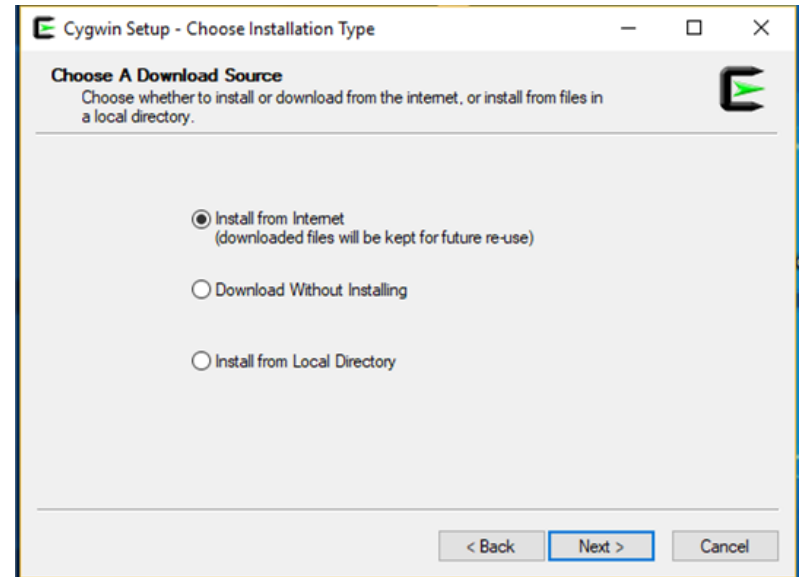
Cygwin Installation(2/6)

- Look for the setup file in your download folder, and double click on it to initiate the cygwin installation:  `setup-x86_64`

Click on next to go to the next step

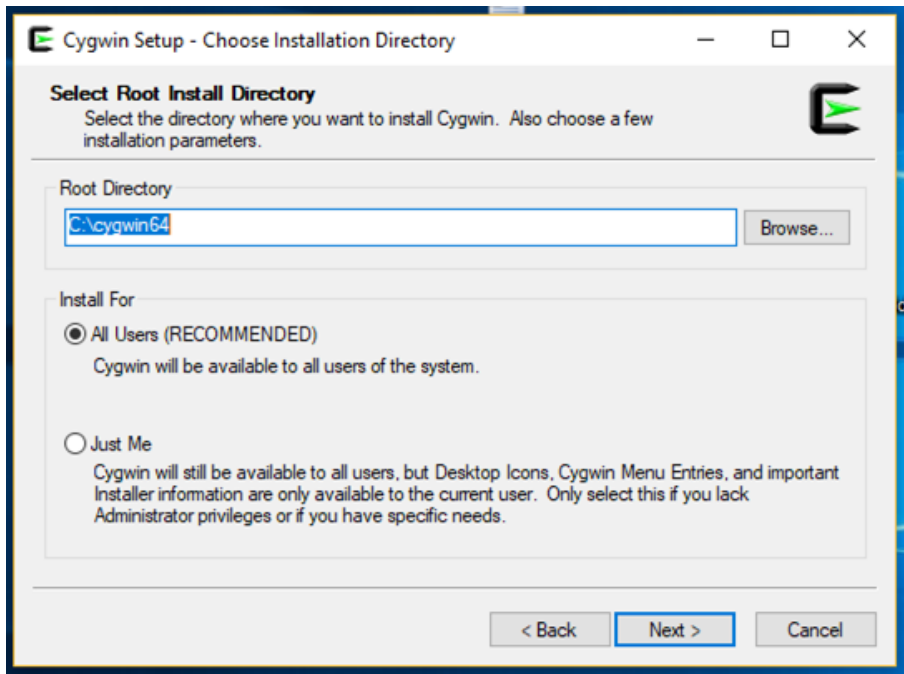


Click on next to install from internet

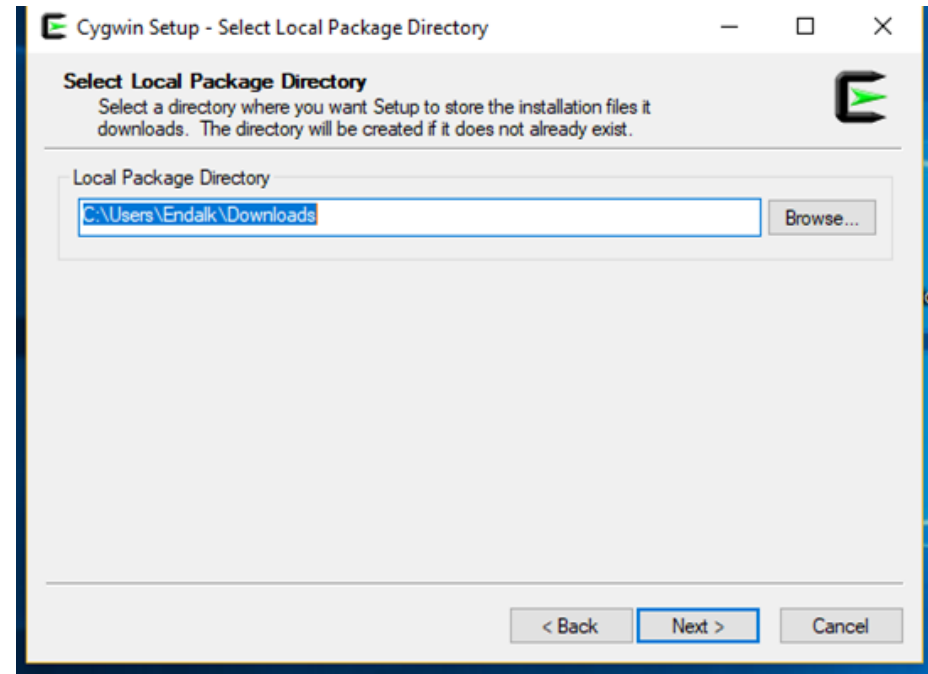


Cygwin Installation(3/6)

Click on next to proceed with the recommended selection

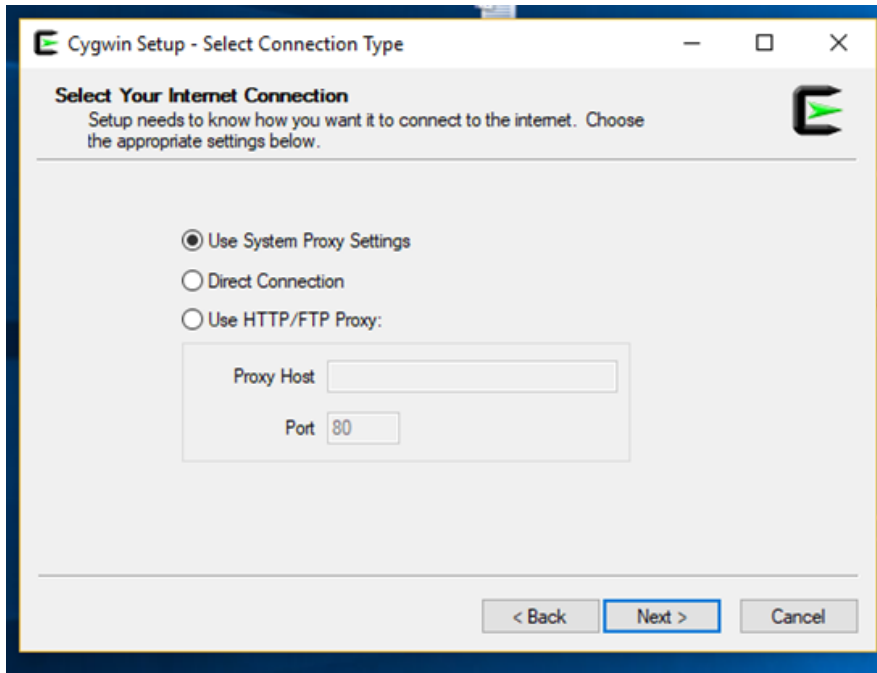


Click on next to proceed with the default installation location

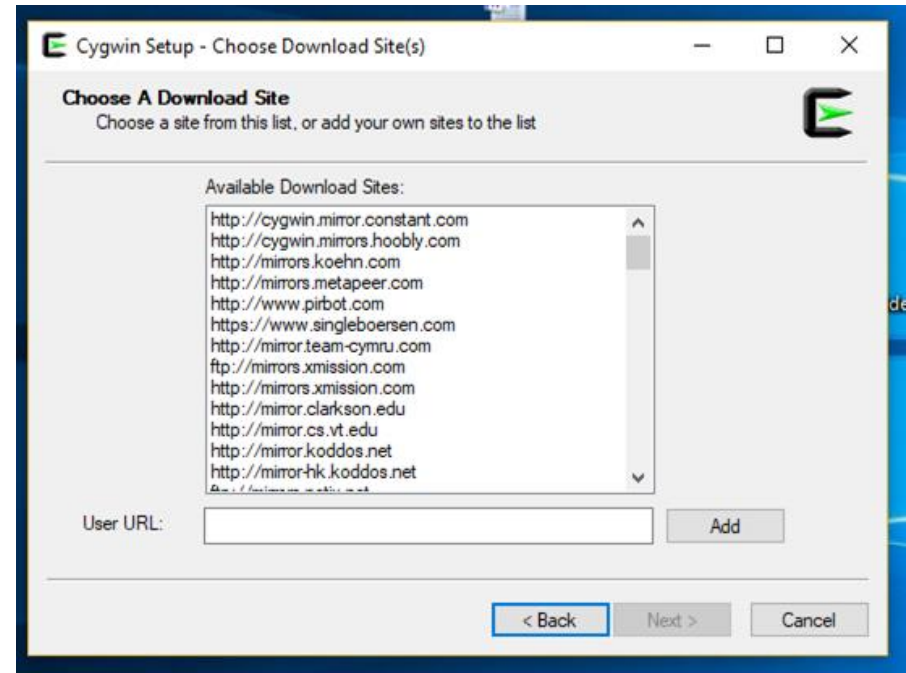


Cygwin Installation (4/6)

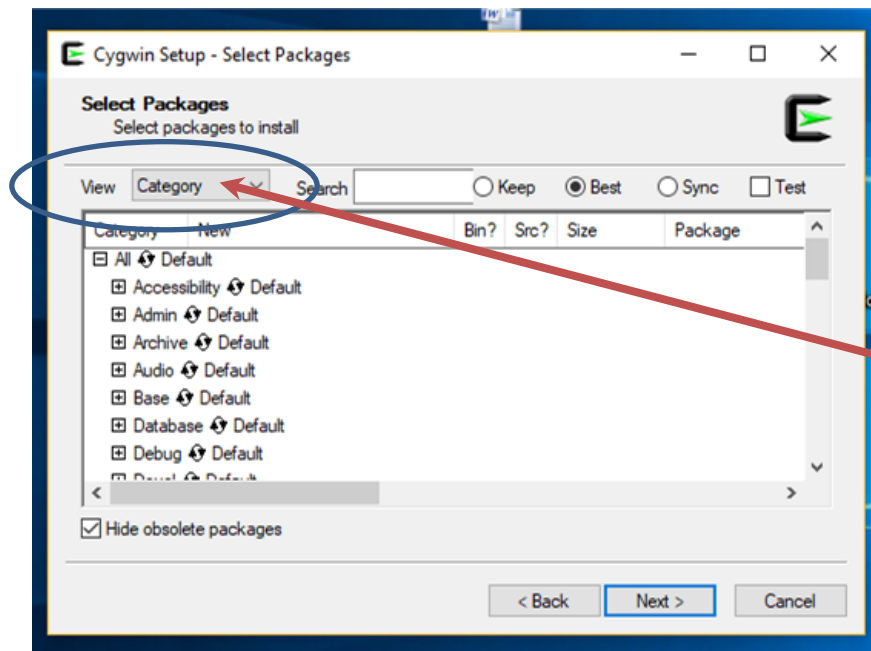
Click on next to proceed with the default installation location



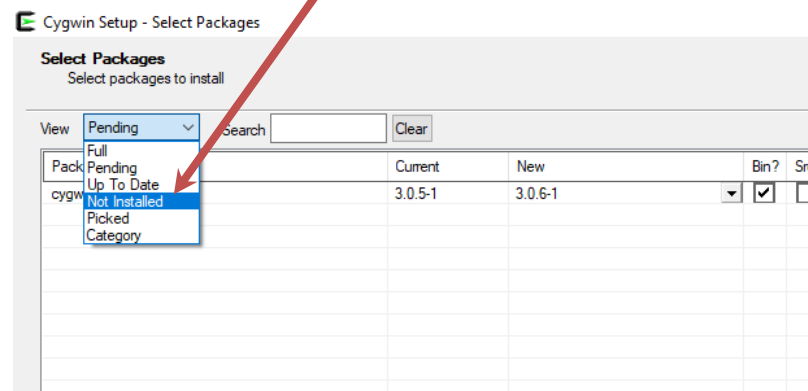
Select one of the download sites, click on next to initiate cygwin download



Cygwin Installation (5/6) : *adding complementary packages*

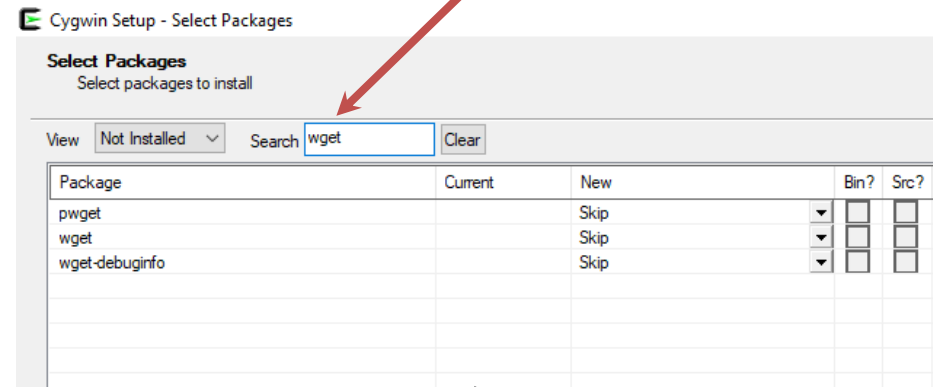
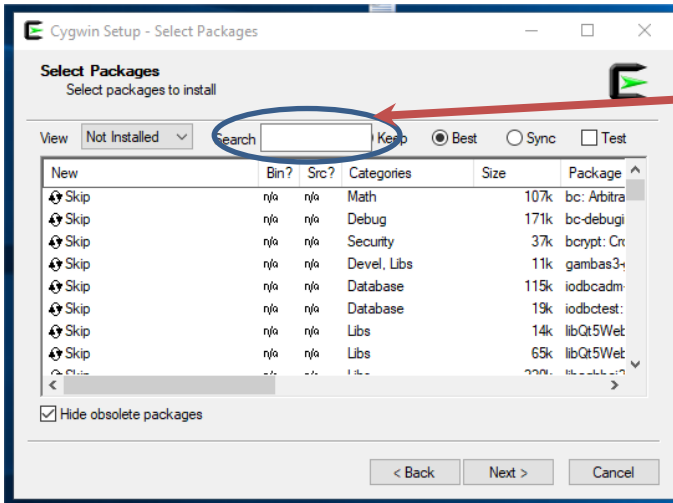


1. Using the dropdown menu, choose Not installed

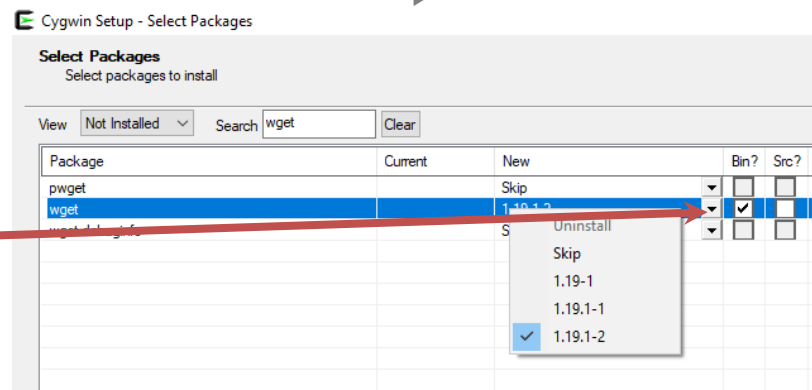


Cygwin Installation (5/6) : *adding wget package*

1. Type wget next to search



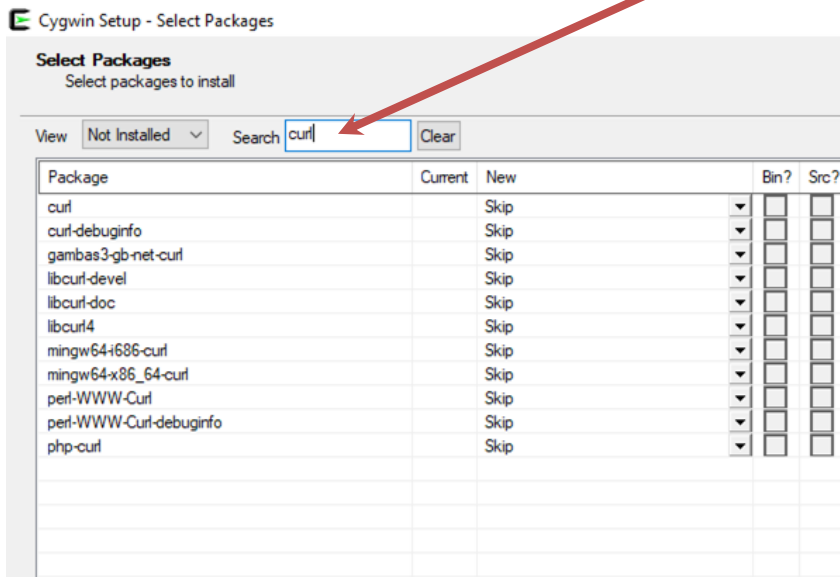
2. Click on the skip next to wget, and choose the latest version(1.19.1-2)



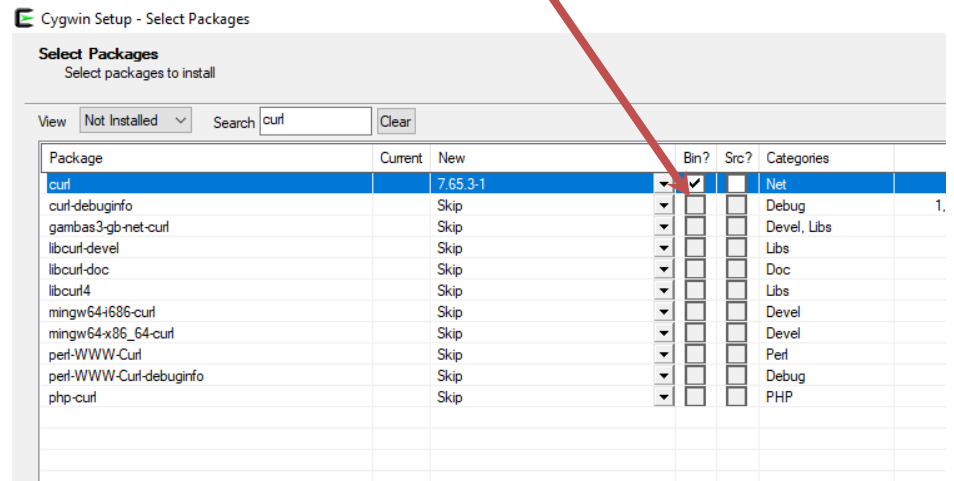
Cygwin Installation (5/6) :

adding curl package

1. Type curl next to search



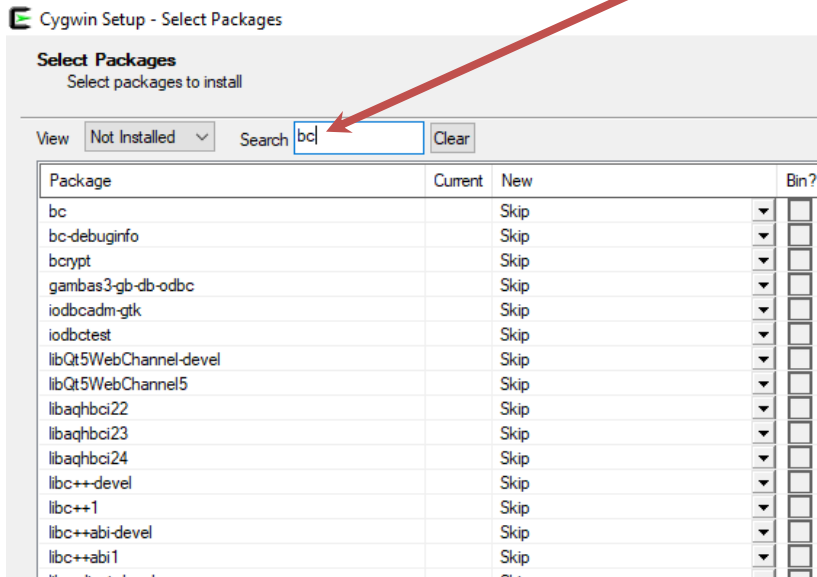
2. Click on the skip next to curl, and choose the latest version(7.65.3-1)



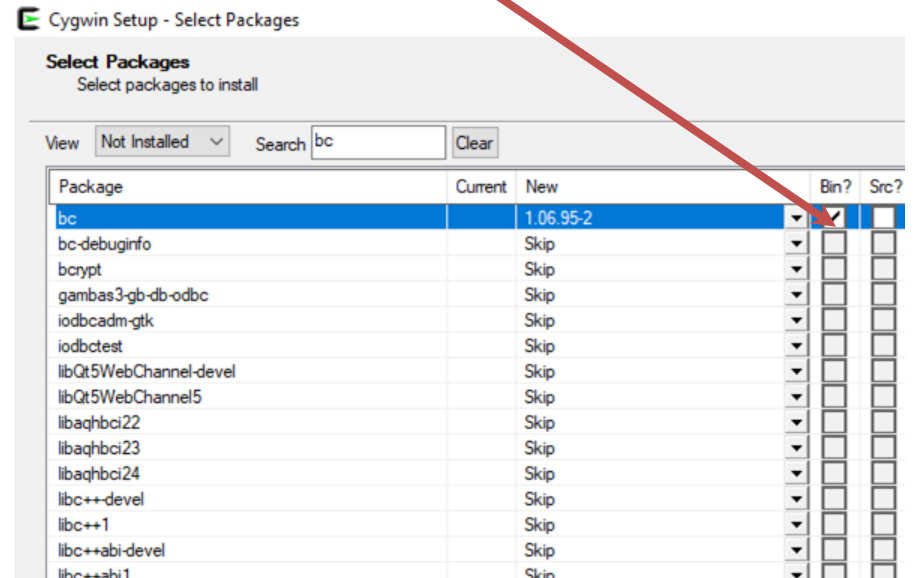
Cygwin Installation (5/6) :

adding bc package

1. Type bc next to search



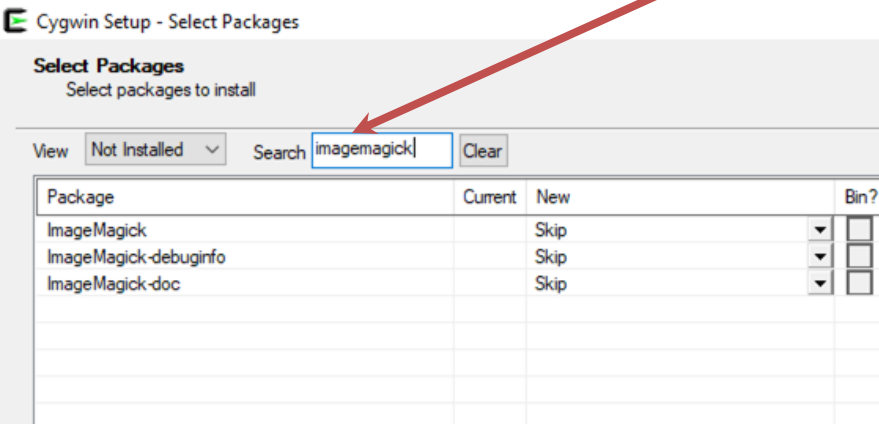
2. Click on the skip next to bc, and choose the latest version(1.06.95-2)



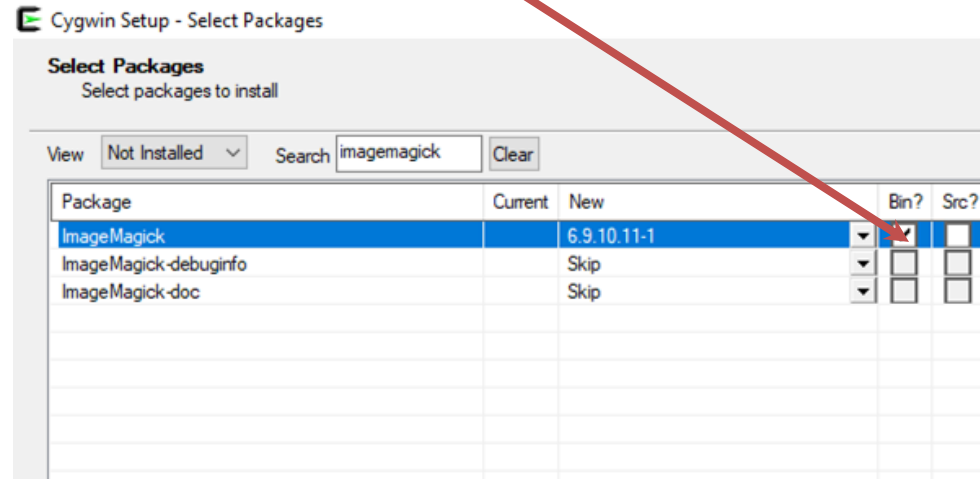
Cygwin Installation (5/6) :

adding ImageMagick package

1. Type imagemagick next to search



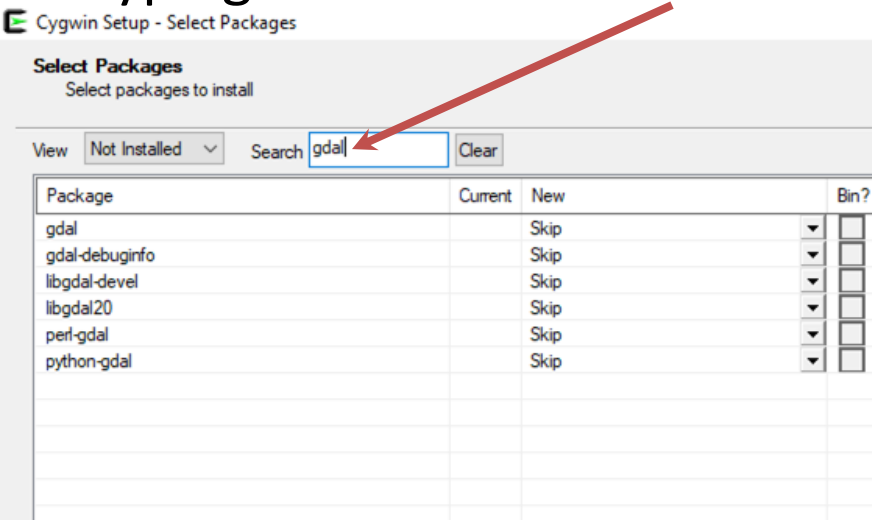
2. Click on the skip next to imagemagick, and choose the latest version(6.9.10.11-1)



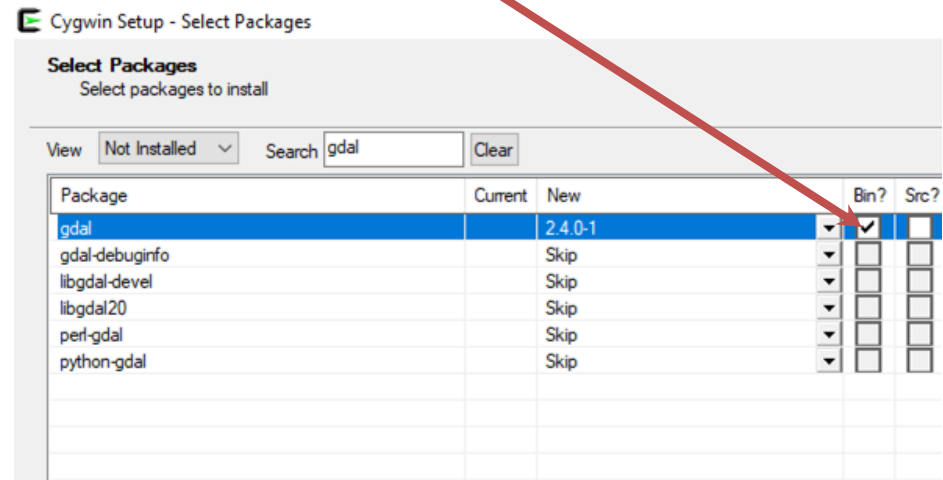
Cygwin Installation (5/6) :

adding GDAL package

1. Type gdal next to search



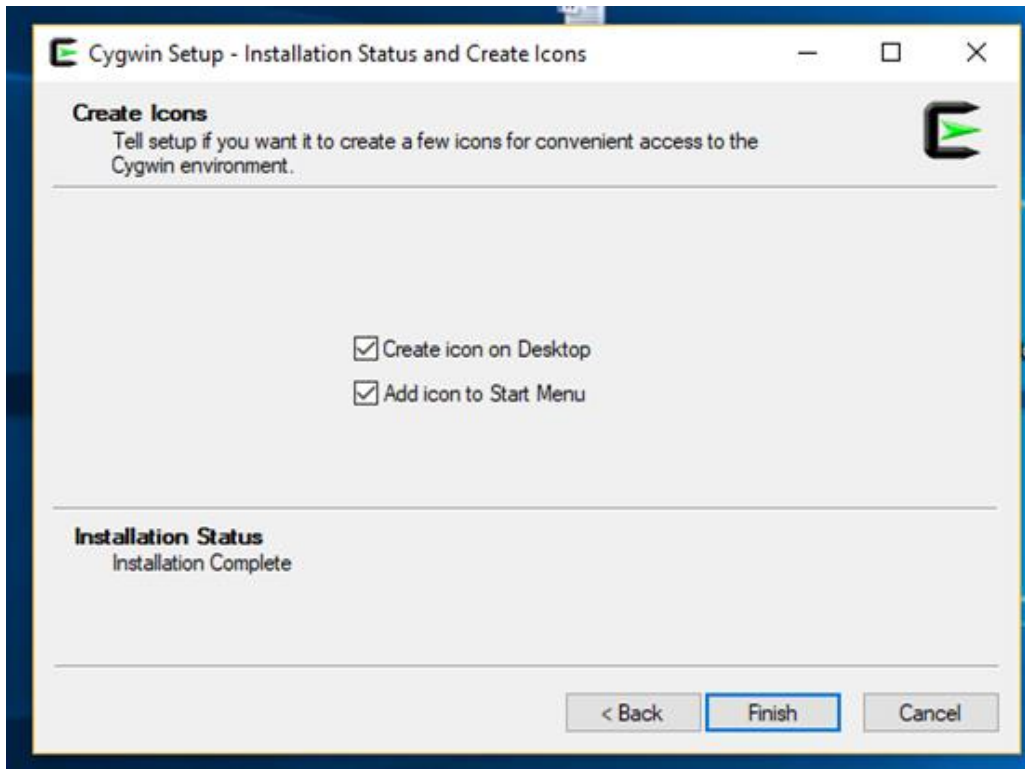
2. Click on the skip next to gdal, and choose the latest version(2.4.0-1)



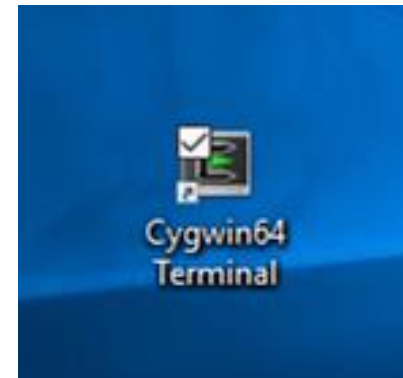
3. Click on next several times to finalize your installation

Cygwin Installation (6/6)

Click on two check boxes, and finish the installation



- If everything goes well, you should see the cygwin shortcut icon on your desktop:



GNU GFORTRAN Installation (1/1)

ftp://ftp.cpc.ncep.noaa.gov/International/usrcc/training/2019/day1/requisite_packages/gfortran-windows.zip

- Download the package ***gfortran-windows.zip containing GFORTRAN compiler executable file***
- In your download folder,
 - Unpack the package ***gfortran-windows.zip and move into the folder gfortran-windows***
 - double click on ***gfortran-windows-20140629.exe to initiate the GFORTRAN compiler installation.***
 - Click on “ I agree” and next, click on close to finish the installation
- Open the cygwin window, and type gfortran to verify your gfortran installation

- The message that looks like the screenshot on the right verifies successful installation of GFORTRAN

```
$ gfortran
gfortran.exe: fatal error: no input files
compilation terminated.

Endalk@Endalk_LT_01d ~
$ |
```

Notepad++ Installation (1/2)

<https://notepad-plus-plus.org/download/v7.6.3.html>

- Click on the appropriate link to download the installation files

Notepad++ Installer 32-bit x86: Take this one if you have no idea which one you should take.

- **Notepad++ zip package 32-bit x86:** Don't want to use installer? Check this one (zip format).
- **Notepad++ 7z package 32-bit x86:** Don't want to use installer? 7z format.
- **Notepad++ minimalist package 32-bit x86:** No theme, no plugin, no updater, quick download and play directly. 7z format.
- **SHA-256/SHA-1/MD5 digests for binary packages:** Check it if you're paranoid.

Download 64-bit x64

- **Notepad++ Installer 64-bit x64:** Take this one if you have no idea which one you should take.
- **Notepad++ zip package 64-bit x64:** Don't want to use installer? Check this one (zip format).
- **Notepad++ 7z package 64-bit x64:** Don't want to use installer? 7z format.
- **Notepad++ minimalist package 64-bit x64:** No theme, no plugin, no updater, quick download and play directly. 7z format.
- **SHA-256/SHA-1/MD5 digests for binary packages:** Check it if you're paranoid.

Download **Notepad++ source code** of current version and/or check **sha-256/sha1/md5 digests** for binary packages on GitHub

- In your download folder, double click on **npp.7.6.3.Installer.x64.exe** to initiate notepad++ installation.
- Accept the agreement, and click next several times to agree with the default setup.

Notepad++ Installation (2/2)

<https://notepad-plus-plus.org/download/v7.6.3.html>

- You need to set alias and environment variable to have access notepad++ from your cygwin terminal
- Go to you cygwin home folder (C:\cygwin64\home\your user name)
- Open **.bashrc** using your favorite text editor
- Scroll down to the end and add the following two lines, and save and exit:

```
188 # [[ ${x2:0:1} == '~' ]] && x2="${HOME}${x2:1}"
189 # if [[ "${x2}" == "${the_new_dir}" ]]; then
190 #     popd -n +$cnt 2>/dev/null 1>/dev/null
191 #     cnt=cnt-1
192 #     fi
193 # done
194 #
195 # return 0
196 # }
197 #
198 # alias cd=cd_func
199
200 export EDITOR="/cygdrive/C/Program\ Files/Notepad++/Notepad++.exe"
201 alias npp="/cygdrive/C/Program\ Files/Notepad++/Notepad++.exe"
202
```

```
export EDITOR="/cygdrive/C/Program\ Files/Notepad++/Notepad++.exe"
alias npp="/cygdrive/C/Program\ Files/Notepad++/Notepad++.exe"
```

- This allows you to run notepad++ from your cygwin window (typing npp)

Installation of OpenGrADS

- Download opengrads installation file from:

https://sourceforge.net/projects/opengrads/files/grads2/2.0.2.oga.2/Windows/grads-2.0.2.oga.2-win32_superpack.exe

- In your download folder,
 - Double click [grads-2.0.2.oga.2-win32_superpack.exe](#) to initiate the GrADS installation.
 - Click on English, next, and select I agree and click on next.
 - Click on next several times to initiate the installation.
- If your installation is successful, you should see GrADS shortcut icon on your desktop.
- Open the cygwin window and type **grads -p** to verify installation of GrADS.
- If the GrADS display window opens, it confirms successful installation of GrADS.

Packages Installation Check

- On your Cygwin/Linux terminal, you can use the “which” command to locate the prerequisite executable files:

Packages	Checking command line – type the below commands line and press enter to check if the related packages is installed	Check your terminal or screen for the following responses
wget	<code>which wget</code>	<code>/usr/bin/wget</code>
curl	<code>which curl</code>	<code>/usr/bin/curl</code>
bc	<code>which bc</code>	<code>/usr/bin/bc</code>
ImageMagick	<code>which convert</code>	<code>/usr/bin/convert</code>
gdal	<code>which gdal_rasterize</code>	<code>/usr/bin/gdal_rasterize</code>
gfortran	<code>which gfortran</code>	<code>/usr/bin/gfortran</code>
Notepad++	<code>npp &</code>	The notepad will pop up on your screen
grads	<code>grads -l</code>	If the GrADS display window opens, it confirms successful installation of GrADS.