

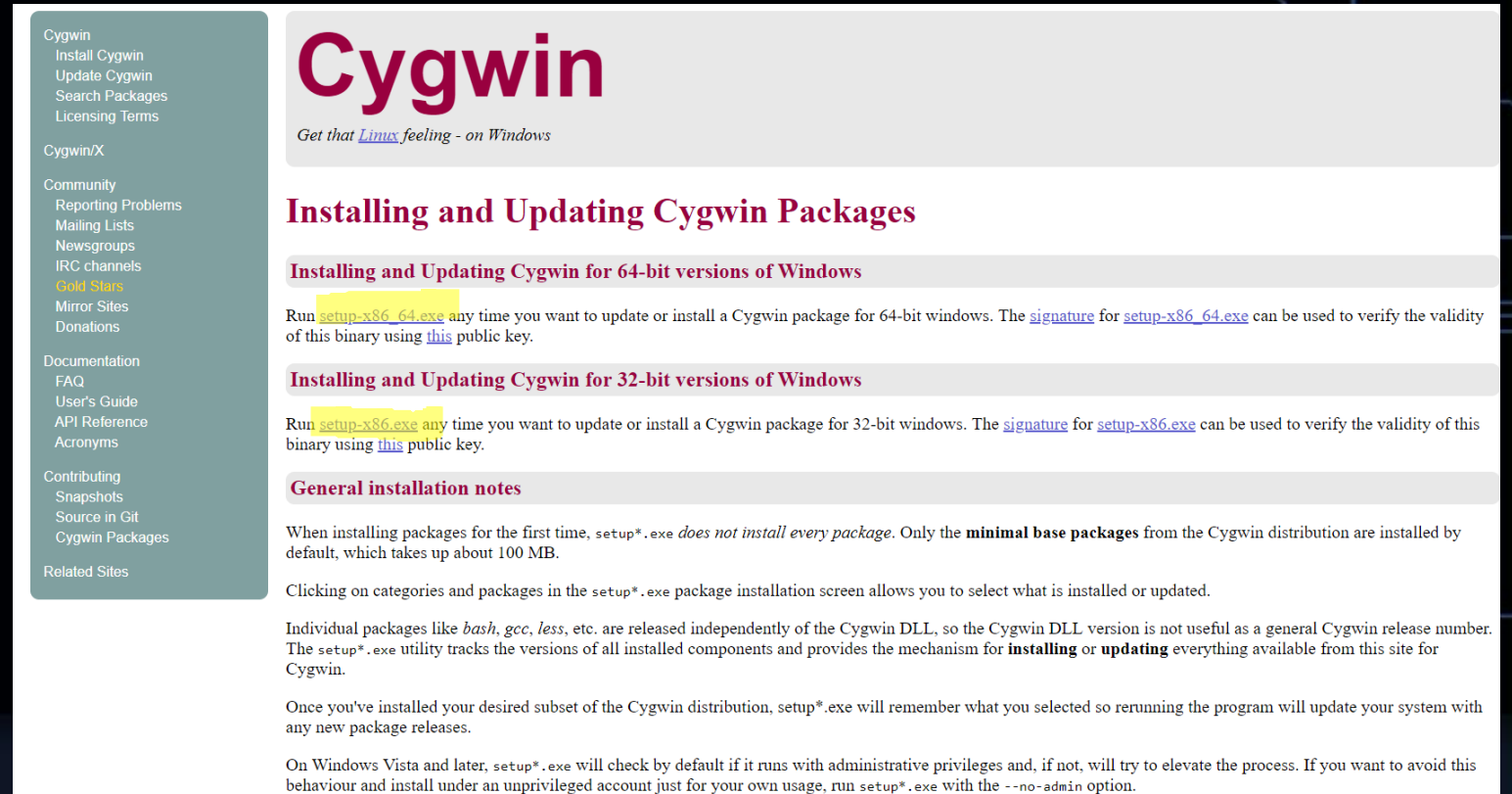
Environment Setup for Windows

CS 10A – GETTING STARTED: WINDOWS

Environment Setup – Windows (1/5)

Install Cygwin. Go to this [page](#) to get the download files.

Make sure you install the correct one based on your system type (32 or 64 bits)



The screenshot shows the Cygwin website. On the left is a navigation menu with links like 'Cygwin', 'Install Cygwin', 'Update Cygwin', 'Search Packages', 'Licensing Terms', 'Cygwin/X', 'Community', 'Reporting Problems', 'Mailing Lists', 'Newsgroups', 'IRC channels', 'Gold Stars', 'Mirror Sites', 'Donations', 'Documentation', 'FAQ', 'User's Guide', 'API Reference', 'Acronyms', 'Contributing', 'Snapshots', 'Source in Git', 'Cygwin Packages', and 'Related Sites'. The main content area has the 'Cygwin' logo and the tagline 'Get that [Linux](#) feeling - on Windows'. Below this is the section 'Installing and Updating Cygwin Packages'. It contains three sub-sections: 'Installing and Updating Cygwin for 64-bit versions of Windows', 'Installing and Updating Cygwin for 32-bit versions of Windows', and 'General installation notes'. The 64-bit section says to run `setup-x86_64.exe` and mentions a signature for `setup-x86_64.exe`. The 32-bit section says to run `setup-x86.exe` and mentions a signature for `setup-x86.exe`. The general notes section explains that `setup*.exe` does not install every package by default, that clicking on categories and packages in the installation screen allows selection, that individual packages are released independently of the Cygwin DLL, and that `setup*.exe` tracks versions of installed components. It also mentions that `setup*.exe` will remember what was selected and update the system with new releases, and that on Windows Vista and later, it will check for administrative privileges and try to elevate the process if not.

Cygwin
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Documentation
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User's Guide
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Contributing
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Source in Git
Cygwin Packages

Related Sites

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.

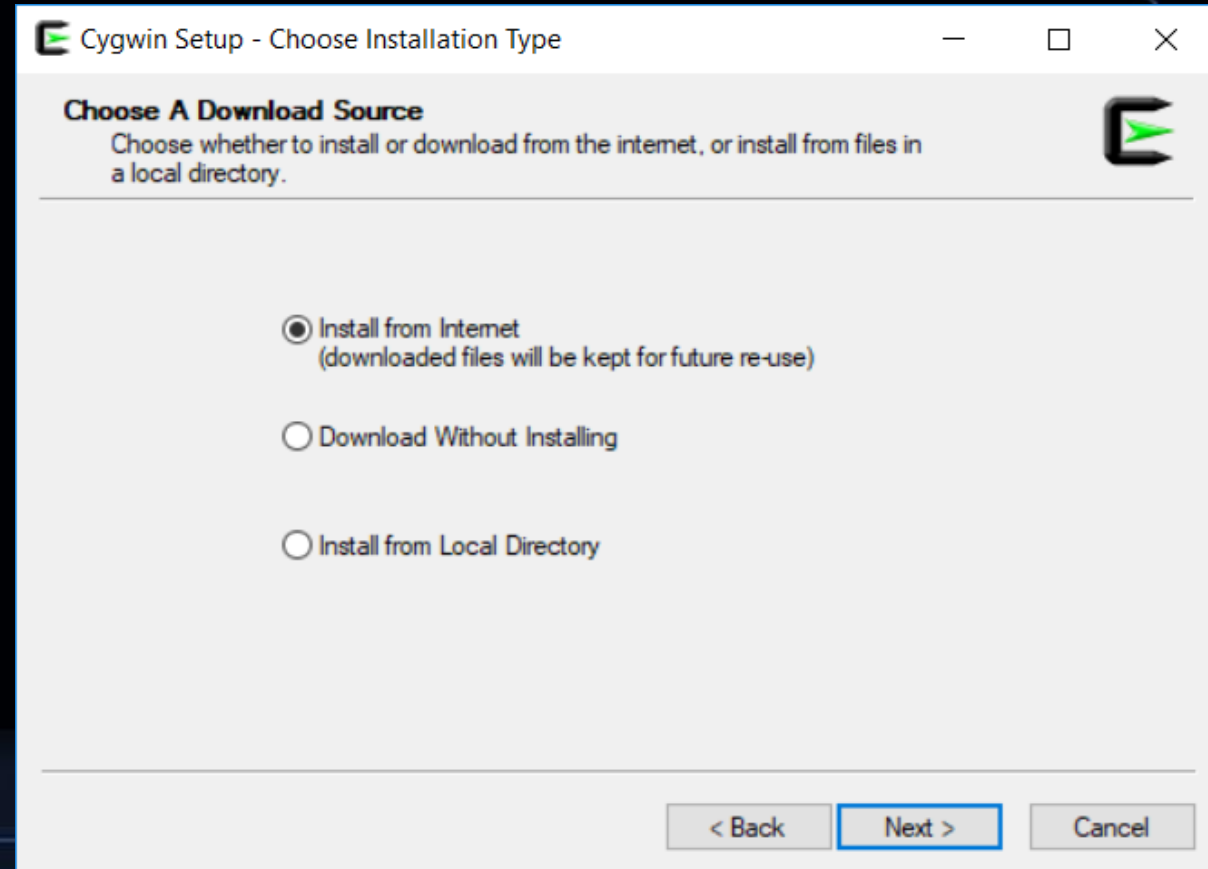
Once you've installed your desired subset of the Cygwin distribution, `setup*.exe` will remember what you selected so rerunning the program will update your system with any new package releases.

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.

Environment Setup – Windows (2/5)

Run the EXE file.
Click Next until you
hit the following
screen.

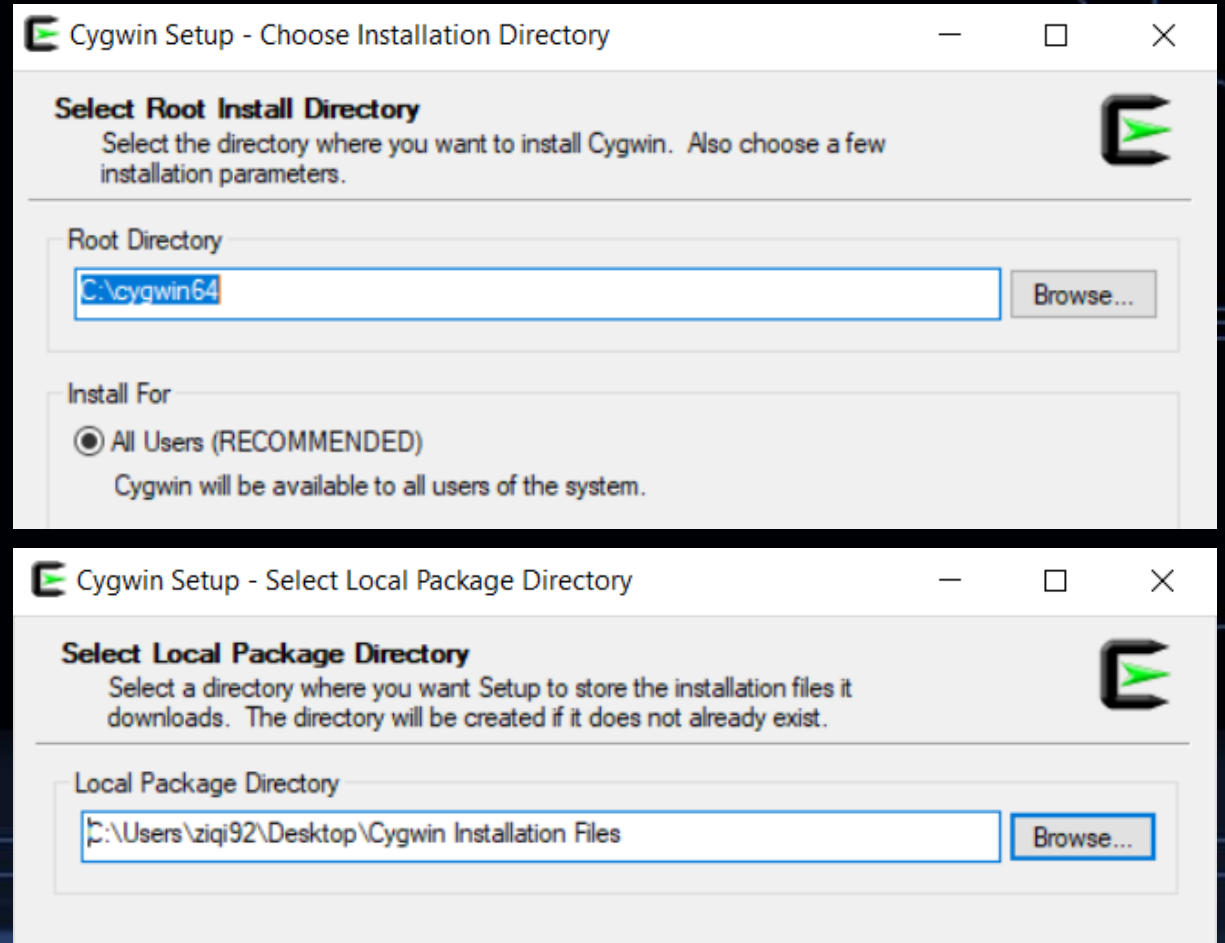
Select Install from
Internet and click
Next.



Environment Setup – Windows (3/5)

Leave the default settings when you select the Root Install Directory

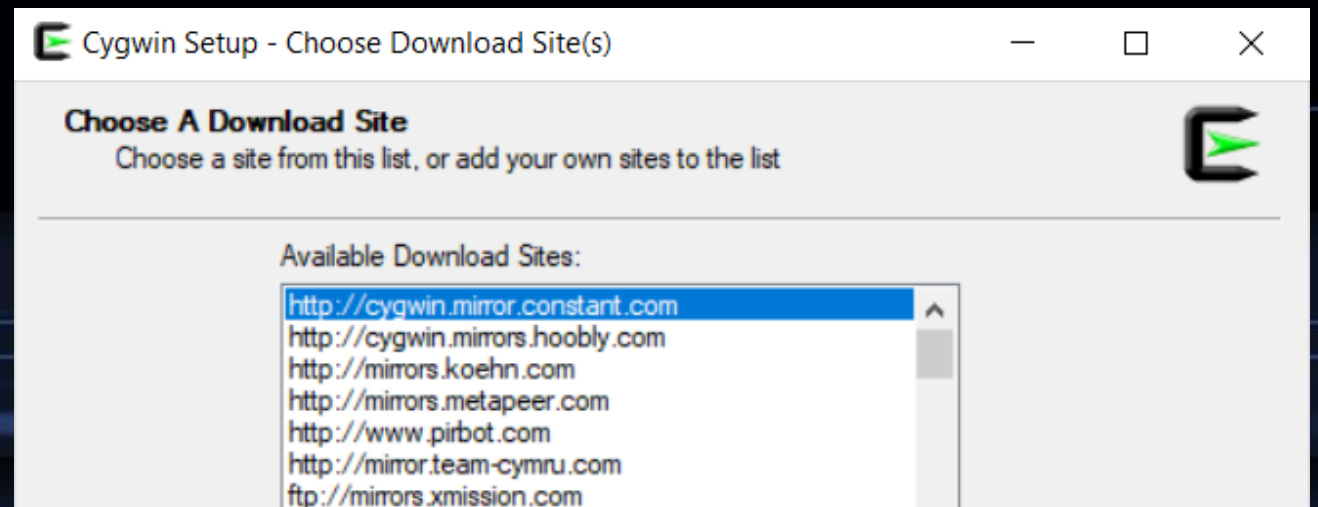
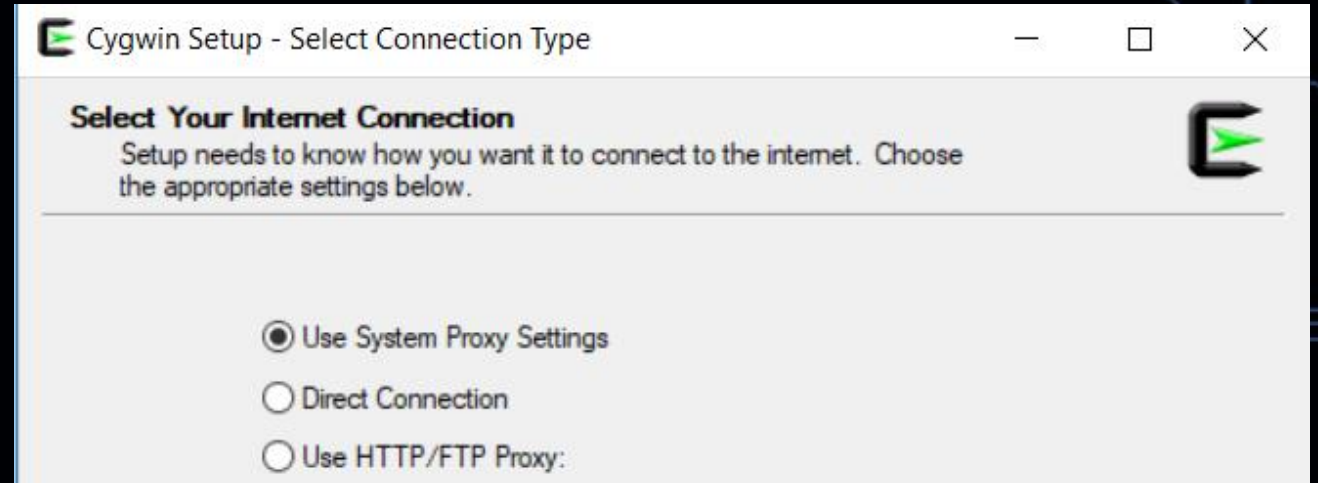
Create a folder anywhere on your PC to store your Cygwin features installation files.



Environment Setup – Windows (4/5)

On the following page, select “Use System Proxy Settings” and click Next.

Select any one of the websites to download from. They’re all the same.



Environment Setup – Windows (5/5)

Click Next and after a few seconds, you should see the following screen. Click on the + next to “All” to see the full drop down list.

To select a feature to install, click on the New column for a given item and change “Skip” to a version number. Install the bin files of the following:

Devel > gcc-core [latest version]

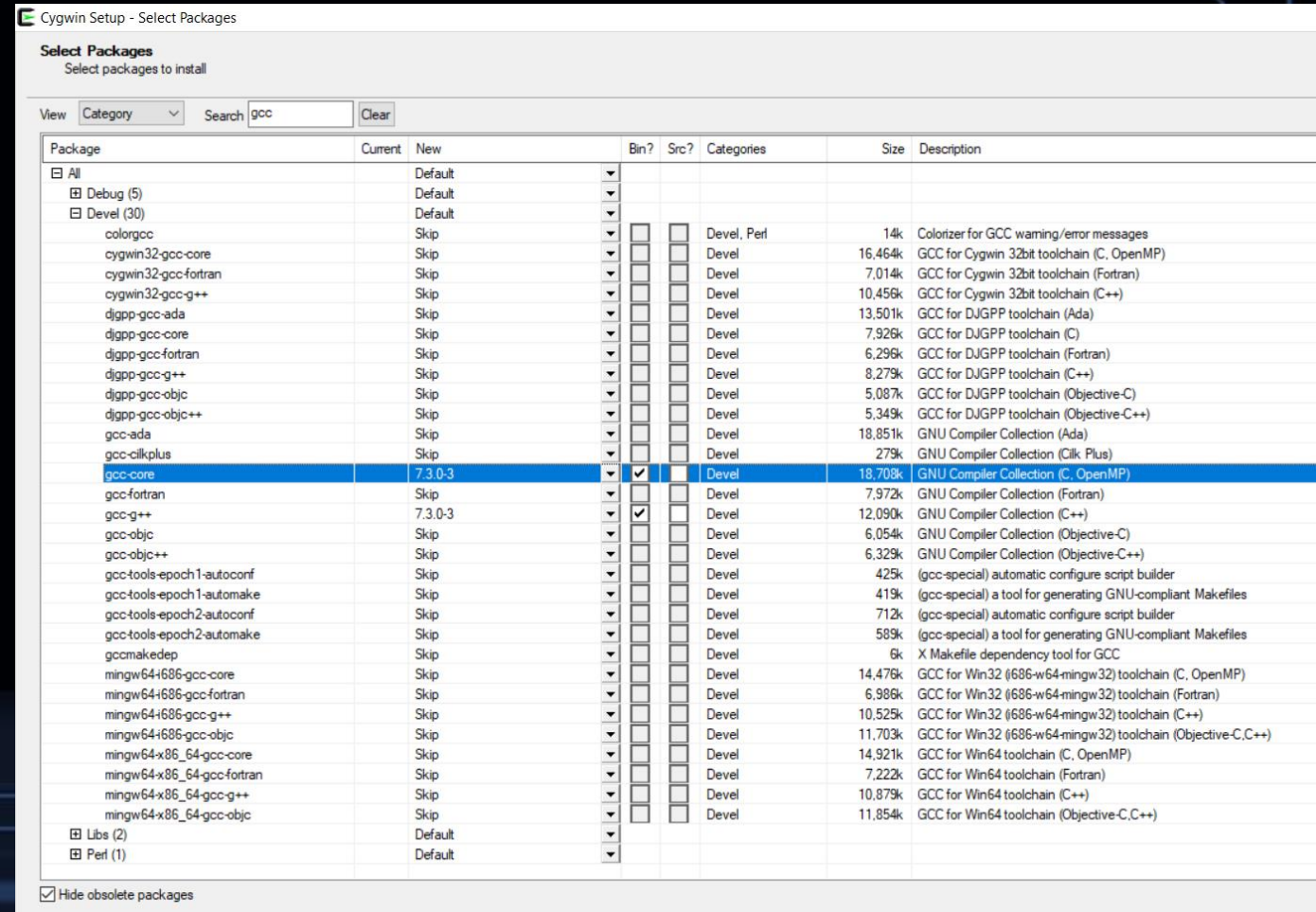
Devel > gcc-g++ [latest version]

Editors > gvim [latest version]

Editors > vim [latest version]

Editors > vim-clang-format [latest version]

Additional bin files will be selected by default. Leave those as is.

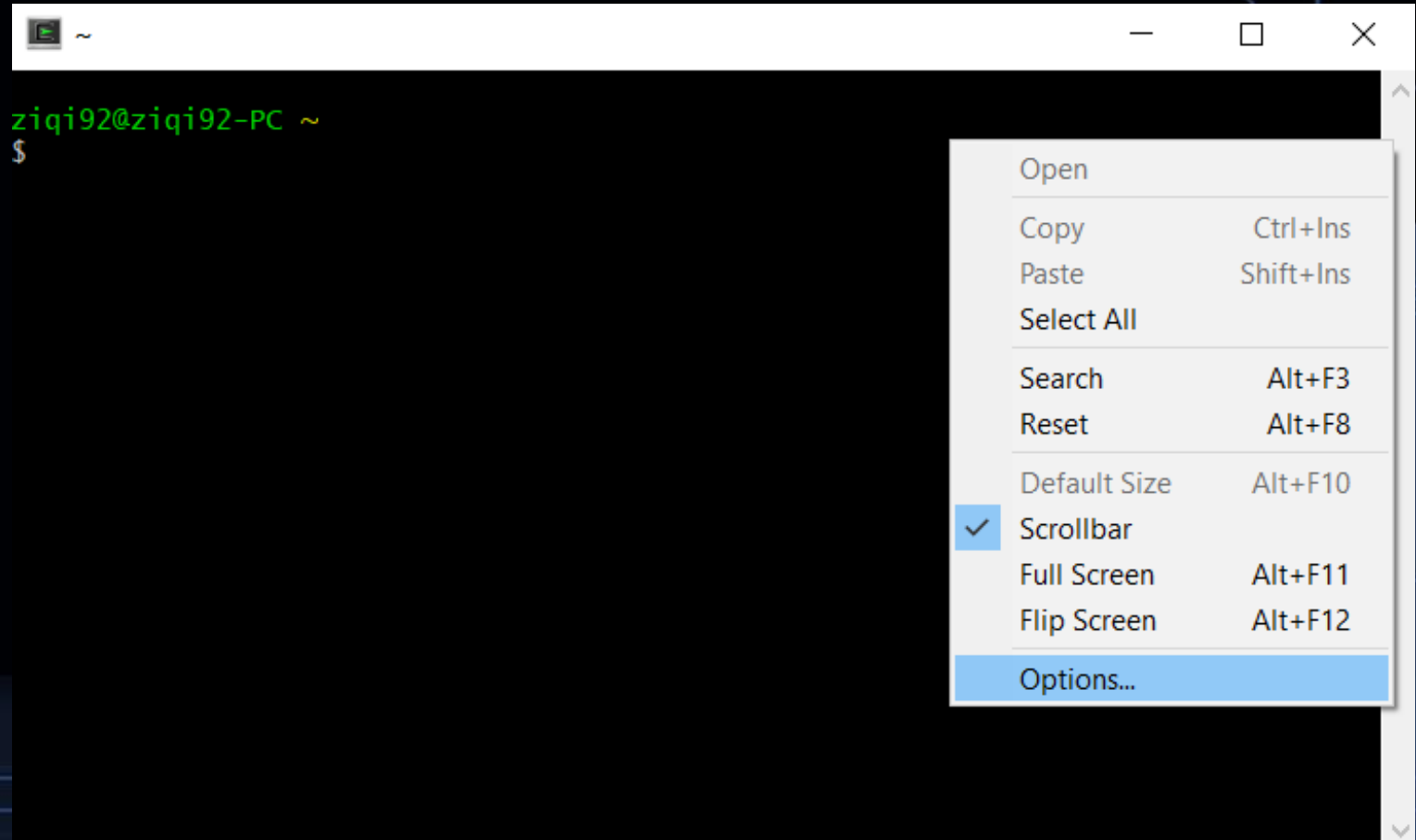


Adjusting Cygwin Display Preferences

Cygwin is a Linux Terminal shell for Windows. It's meant to mimic the Terminal application you'd find on a MacOS computer. It's an old way of navigating computers and their files.

Open the program by clicking on the Cygwin Terminal icon and you'll get a window similar to what's shown on the right.

Right click anywhere > Options for custom display options. Though I recommend the default, play around with it and see what best suits you.



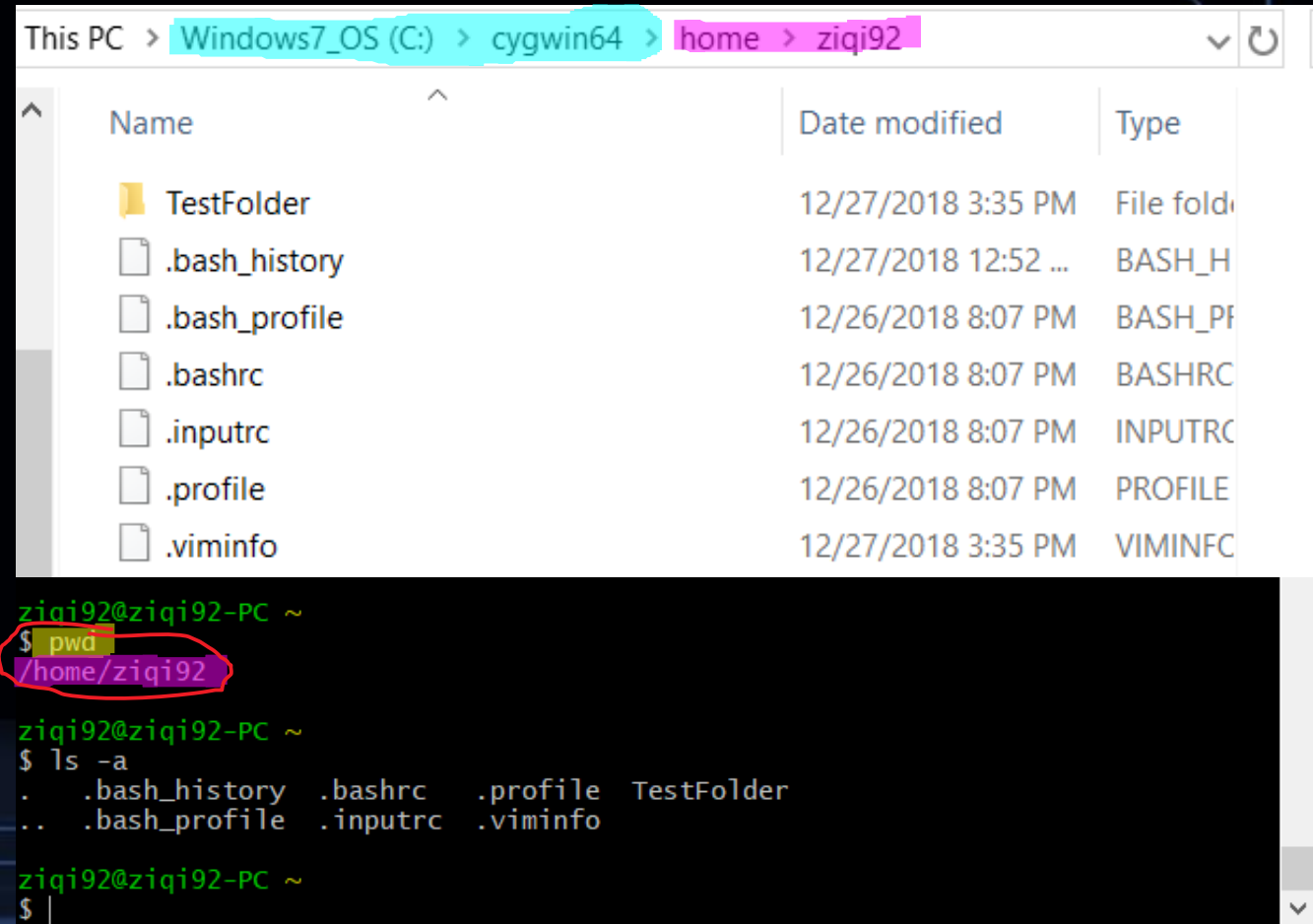
Accessing Cygwin Files through Windows File Explorer

After everything is installed, Cygwin will automatically create a home directory where the root install is stored. You can identify the location (to some extent) with the `pwd` command.

If you stuck with the default root install directory, then all of your Cygwin files will be stored within something like

`C:\cygwin64\home\username`

It is recommended that you create a shortcut to this folder for easy access. (Right click on folder > Create Shortcut)



The image shows a Windows File Explorer window and a Cygwin terminal window. The File Explorer window displays the contents of the `home` directory for the user `ziqu92` in the `cygwin64` folder of the `Windows7_OS (C:)` drive. The terminal window shows the user running the `pwd` and `ls -a` commands to verify the current directory and list files.

Windows File Explorer Path: This PC > Windows7_OS (C:) > cygwin64 > home > ziqu92

Name	Date modified	Type
TestFolder	12/27/2018 3:35 PM	File folder
.bash_history	12/27/2018 12:52 ...	BASH_H
.bash_profile	12/26/2018 8:07 PM	BASH_PF
.bashrc	12/26/2018 8:07 PM	BASHRC
.inputrc	12/26/2018 8:07 PM	INPUTRC
.profile	12/26/2018 8:07 PM	PROFILE
.viminfo	12/27/2018 3:35 PM	VIMINFO

Cygwin Terminal Output:

```
ziqu92@ziqu92-PC ~  
$ pwd  
/home/ziqu92  
ziqu92@ziqu92-PC ~  
$ ls -a  
. .bash_history .bashrc .profile TestFolder  
.. .bash_profile .inputrc .viminfo  
ziqu92@ziqu92-PC ~  
$ |
```