Learn Programming Basics (C Language)

LAB #000
DOWNLOAD AND INSTALLATION

Introduction

- Not be using any IDE (Integrated Development Environment).
- Relying on IDE makes you lazy and more careless.
- Be known of your own mistake, learn through emotional pain.
- Use Google search to search for the different kinds of errors and understand what its means.
- Read the entire PowerPoint slide again if needed.

Download and INSTALL (notepad++):

- https://notepad-plus-plus.org/downloads/
- you can use notepad, but its too hardcore, not recommended

Download and INSTALL (meld):

- https://meldmerge.org/
- File comparison software

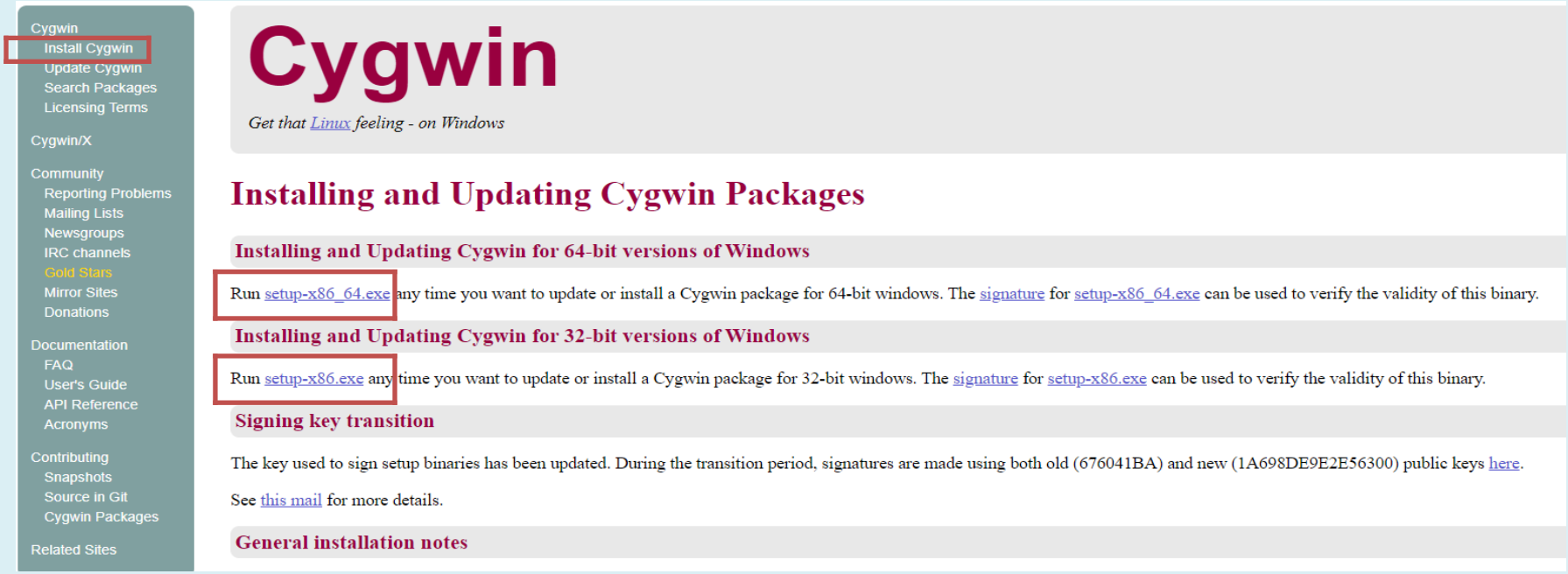
Download and INSTALL (cygwin):

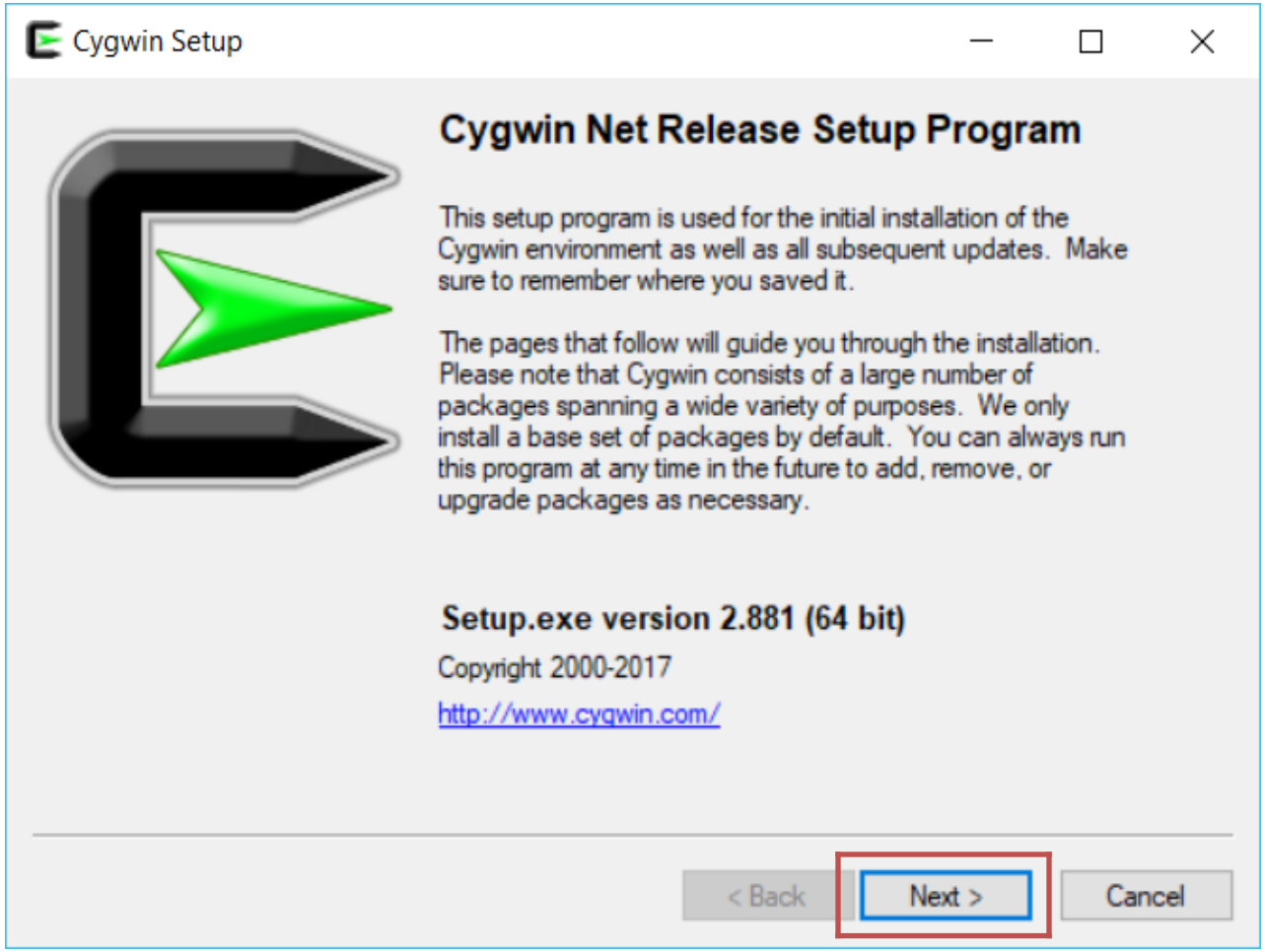
- https://cygwin.com/install.html:
- Cygwin is a Linux environment based command prompt

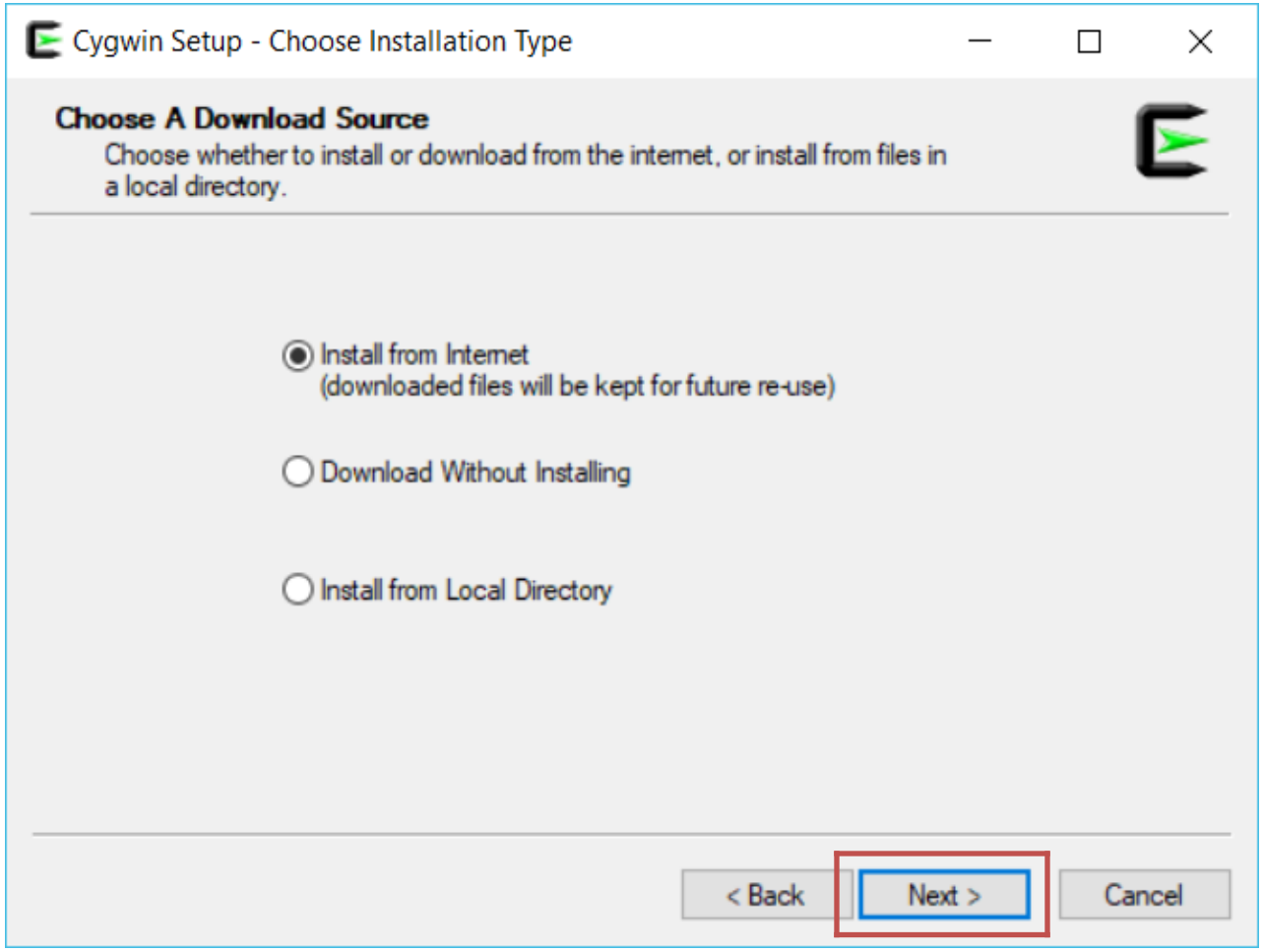
Download Cygwin

Download at https://cygwin.com/install.html:

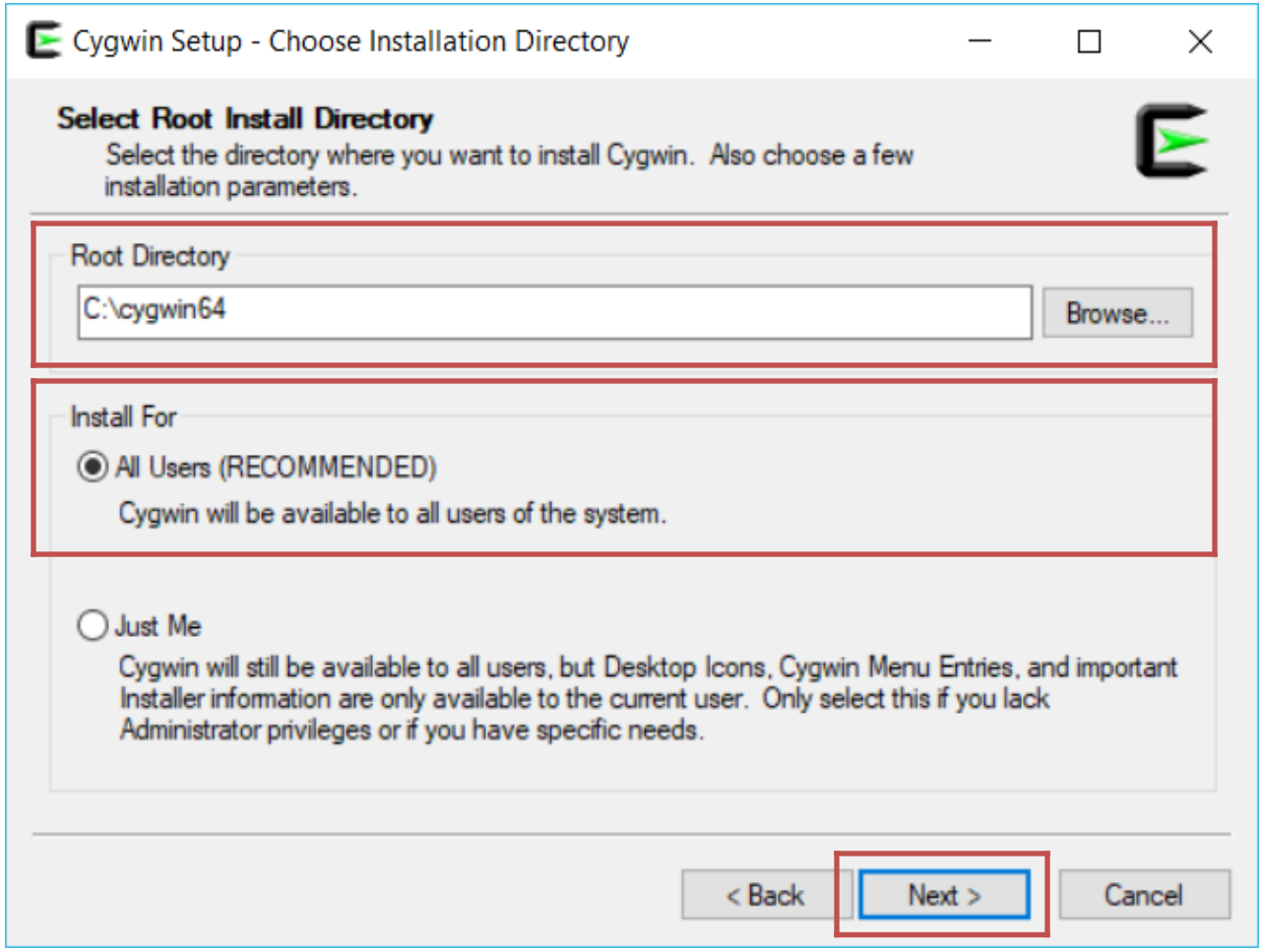
- Click install Cygwin
- Download the setup file
  - setup-x86_64.exe for 64-bit computer
  - setup-x86.exe for 32-bit computer



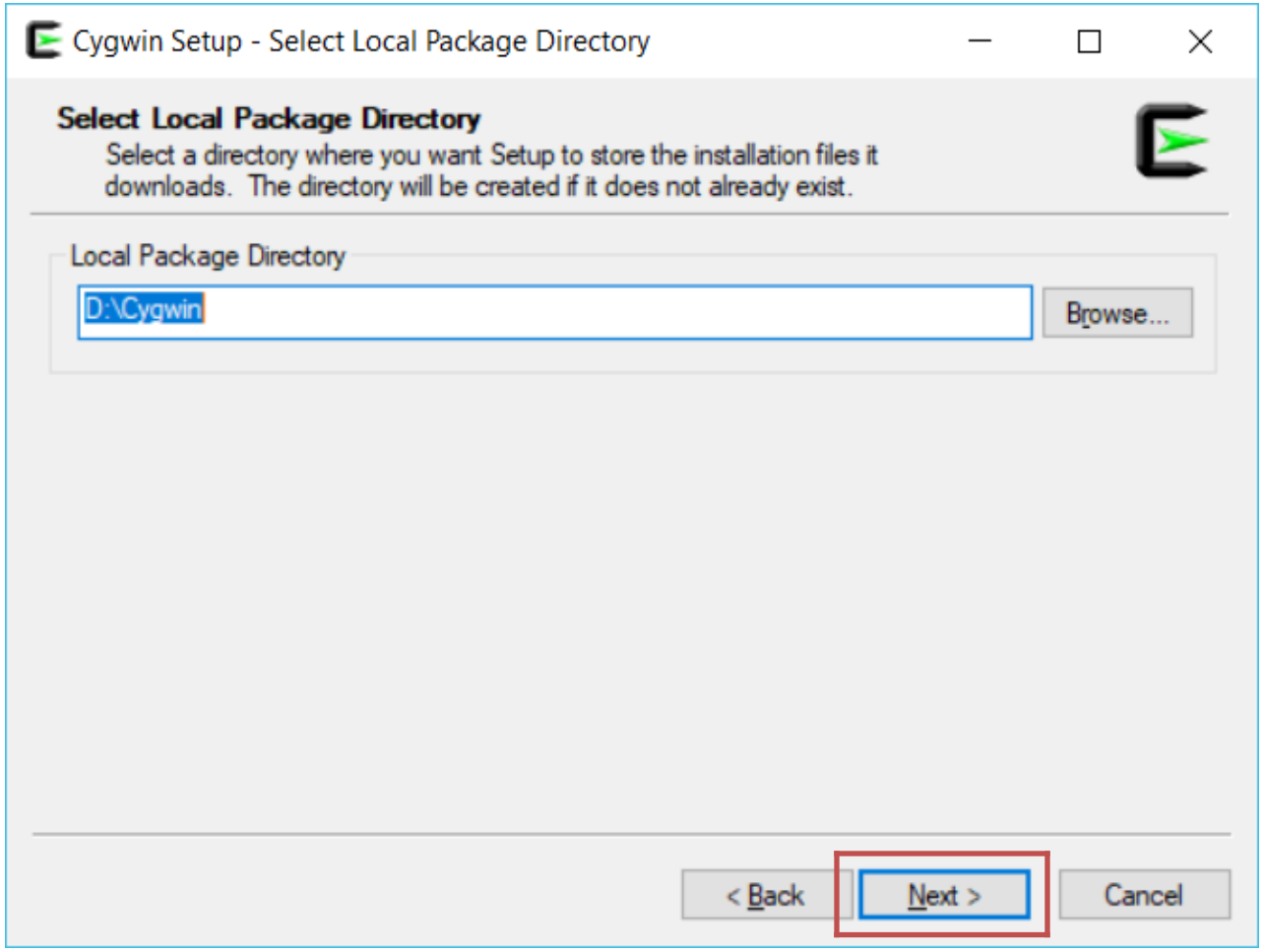

Cygwin Setup
Cygwin Net Release Setup Program
This setup program is used for the initial installation of the Cygwin environment as well as all subsequent updates. Make sure to remember where you saved it.
The pages that follow will guide you through the installation. Please note that Cygwin consists of a large number of packages spanning a wide variety of purposes. We only install a base set of packages by default. You can always run this program at any time in the future to add, remove, or upgrade packages as necessary.
Setup.exe version 2.881 (64 bit)
Copyright 2000-2017
http://www.cygwin.com/
< Back
Next >
Cancel


Cygwin Setup - Choose Installation Type
Choose A Download Source
Choose whether to install or download from the internet, or install from files in a local directory.
Install from Internet
(downloaded files will be kept for future re-use)
Download Without Installing
Install from Local Directory
< Back
Next >
Cancel

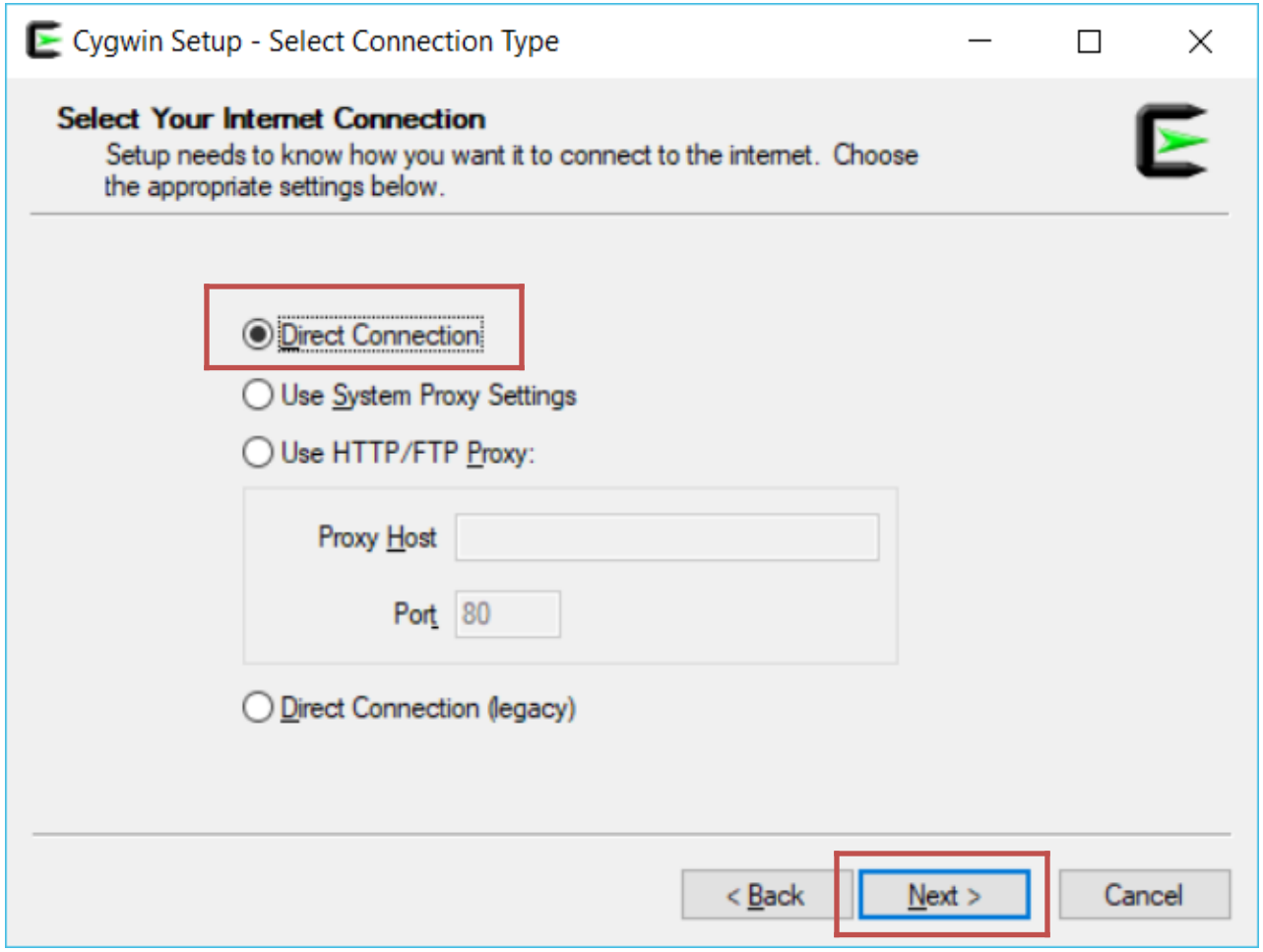
Use default root directory (recommended)



Local Package Directory can be installed anywhere, for example in D:\Cygwin



Select Direct Connection



Find your respective region and download mirror site (Optional)

- https://cygwin.com/install.html

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
Related Sites

Cygwin

Get that Linux feeling - on Windows

Mirror Sites

The following sites have generously agreed to mirror our main Cygwin ftp site. To save on download time, please choose a mirror site near you when selecting a mirror when using setup to install or update Cygwin.

Note: We *automatically* poll these mirrors on a regular basis to ensure that mirrors have the latest Cygwin packages available. The list of mirrors below reflects all of the mirrors who appear to have up-to-date copies of the Cygwin release area.

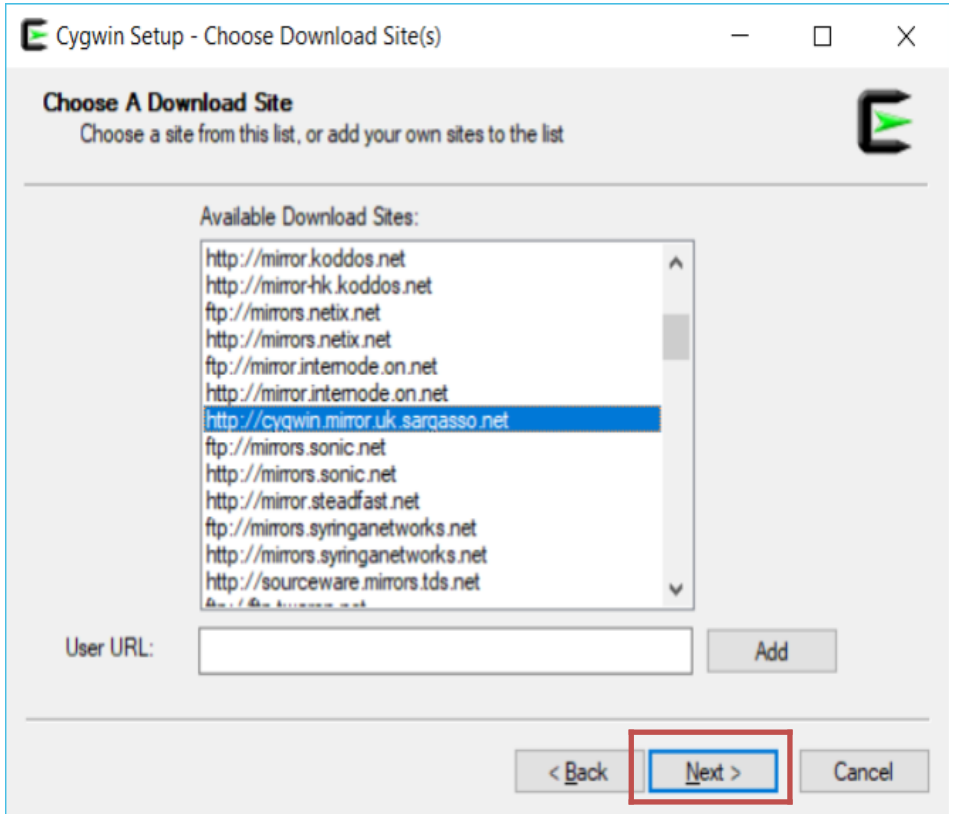
There is more information for Mirror Administrators.

Mirror site list

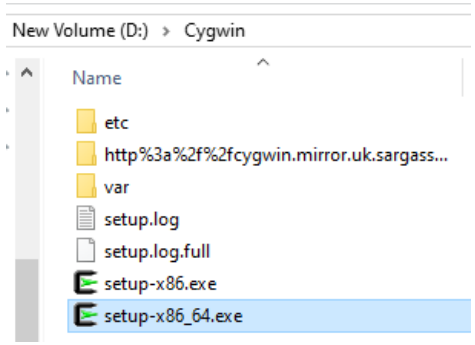
- Africa:
  - South Africa: ftp.is.co.za(ftp)
- Asia:
  - China: mirrors.163.com(http), mirrors.neusoft.edu.cn(http), mirrors.ustc.edu.cn(http), mirrors.163.com(https), mirrors.aliyun.com(https), mirrors.neusoft.edu.cn(https), mirrors.sjtug.sjtu.edu.cn(https), mirrors.ustc.edu.cn(https)
  - Hong Kong: mirror-hk.koddos.net(http), mirror-hk.koddos.net(https), mirror-hk.koddos.net(rsync)
  - Israel: mirror.isoc.org.il(http), mirror.isoc.org.il(https)
  - Japan: ftp.iij.ad.jp(ftp), ftp.jaist.ac.jp(ftp), ftp.yz.yamagata-u.ac.jp(ftp), ftp.iij.ad.jp(http), ftp.jaist.ac.jp(http), ftp.yz.yamagata-u.ac.jp(http), ftp.iij.ad.jp(https), ftp.jaist.ac.jp(https), ftp.yz.yamagata-u.ac.jp(https)
  - Korea: ftp.kaist.ac.kr(ftp), ftp.kr.freebsd.org(ftp), ftp.kaist.ac.kr(rsync)
  - Philippines: mirror.rise.ph(ftp), mirror.rise.ph(http)
  - Singapore: download.nus.edu.sg(http), download.nus.edu.sg(https)
  - Taiwan: ftp.ntu.edu.tw(ftp), ftp.ntu.edu.tw(ftp), ftp.twaren.net(ftp), ftp.ntu.edu.tw(http)
- Australasia:
  - Australia: mirror.internode.on.net(ftp), mirror.aarnet.edu.au(http), mirror.internode.on.net(http), mirror.aarnet.edu.au(https)
  - New Caledonia: mirror.lagoon.nc(ftp), mirror.lagoon.nc(http), mirror.lagoon.nc(rsync)
  - New Zealand: ucmirror.canterbury.ac.nz(ftp), ucmirror.canterbury.ac.nz(http)
- Canada:
  - Alberta: mirror.cpsc.ucalgary.ca(http), mirror.cpsc.ucalgary.ca(https)
  - Manitoba: ftp.muug.ca(ftp), muug.ca(http), muug.ca(https)
  - Ontario: cygwin.mirror.rafal.ca(ftp), mirror.csclub.uwaterloo.ca(ftp), cygwin.mirror.rafal.ca(http), mirror.csclub.uwaterloo.ca(http), mirror.csclub.uwaterloo.ca(https)
  - Quebec: cygwin.mirror.globo.tech(http)

Choosing download site

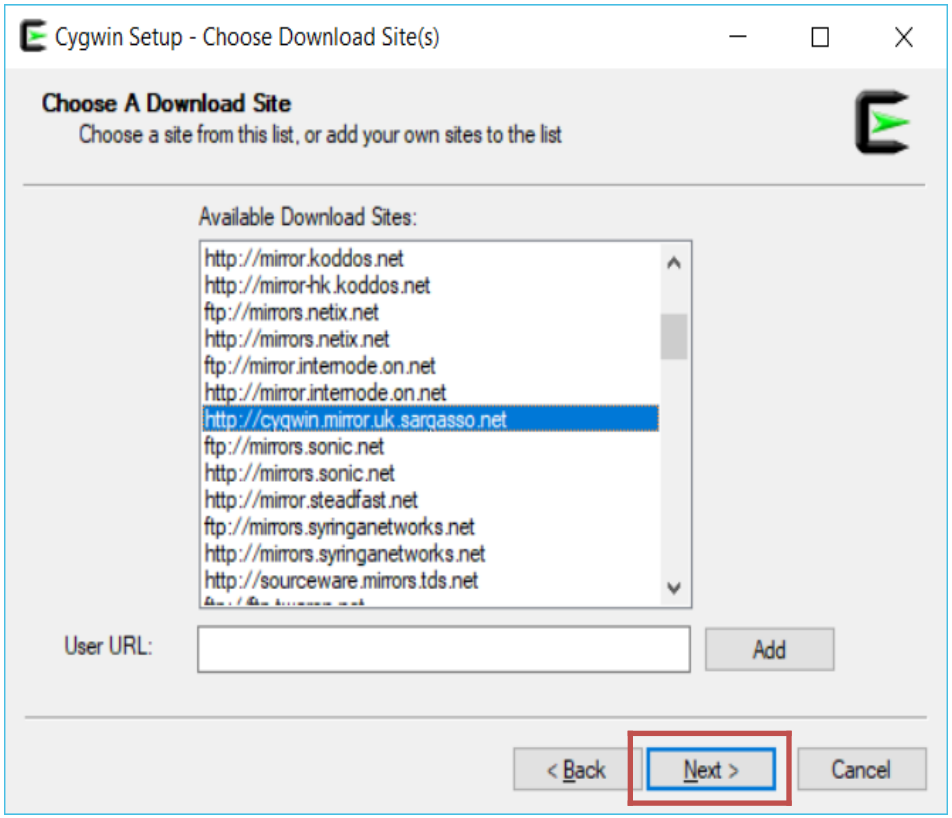
- Choose a https website.
- Choosing a download site is tricky it's a trial and error of choosing which download site.
- In this case the highlighted website is chosen;
- then Click Next and wait for setup to complete.



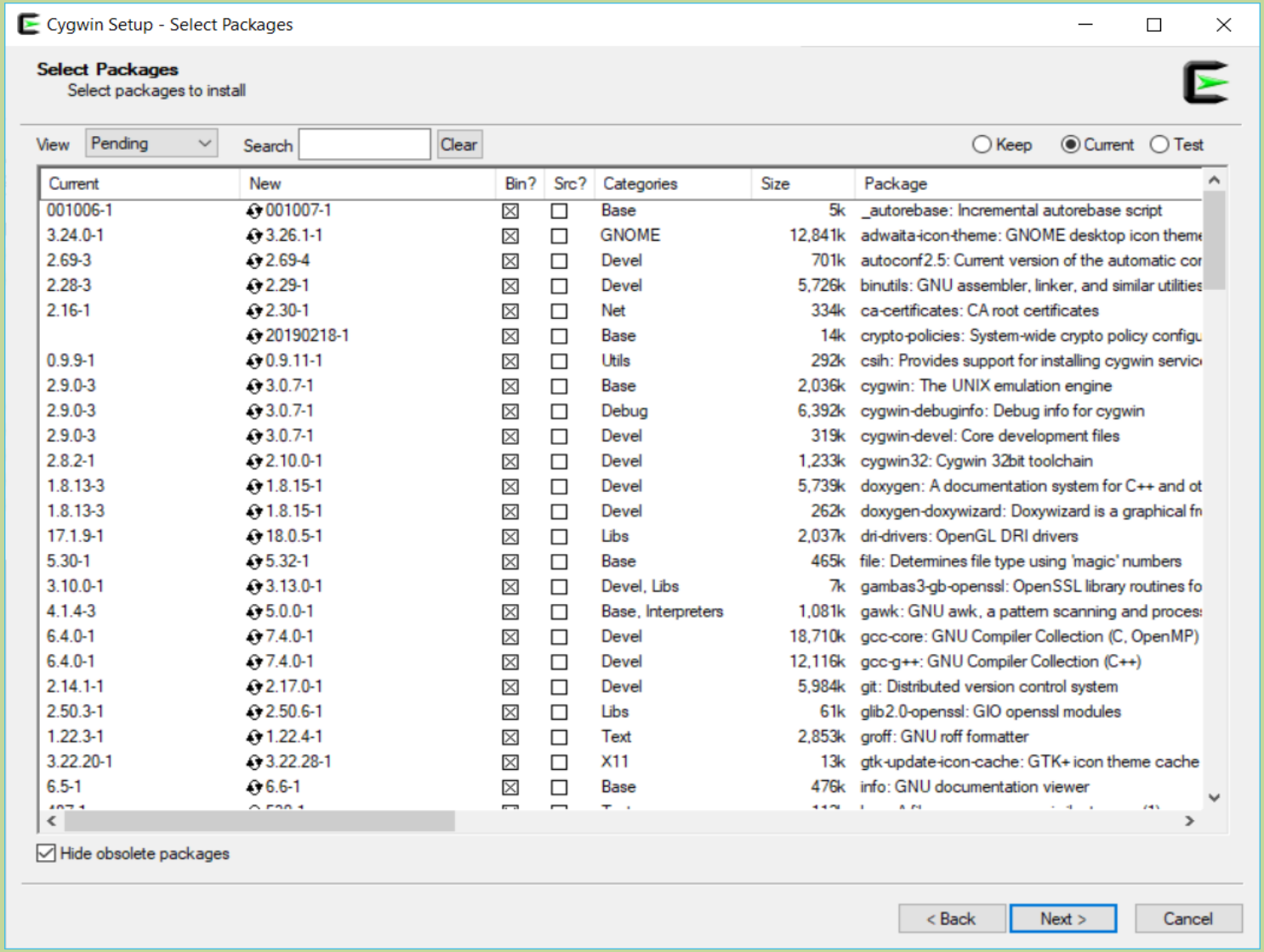
If the installation got stuck, close the setup and restart



Find and choose the next download site



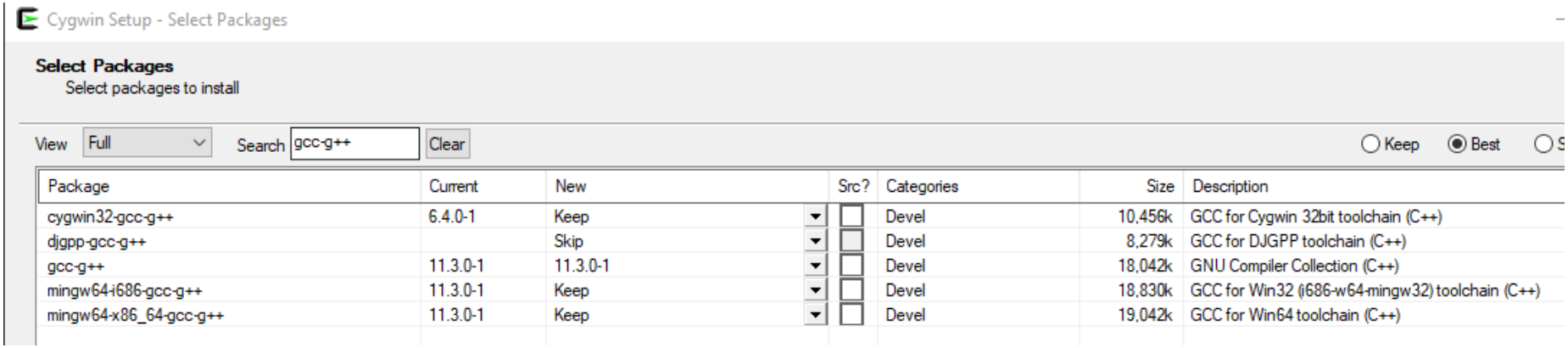
Download success, should see something this



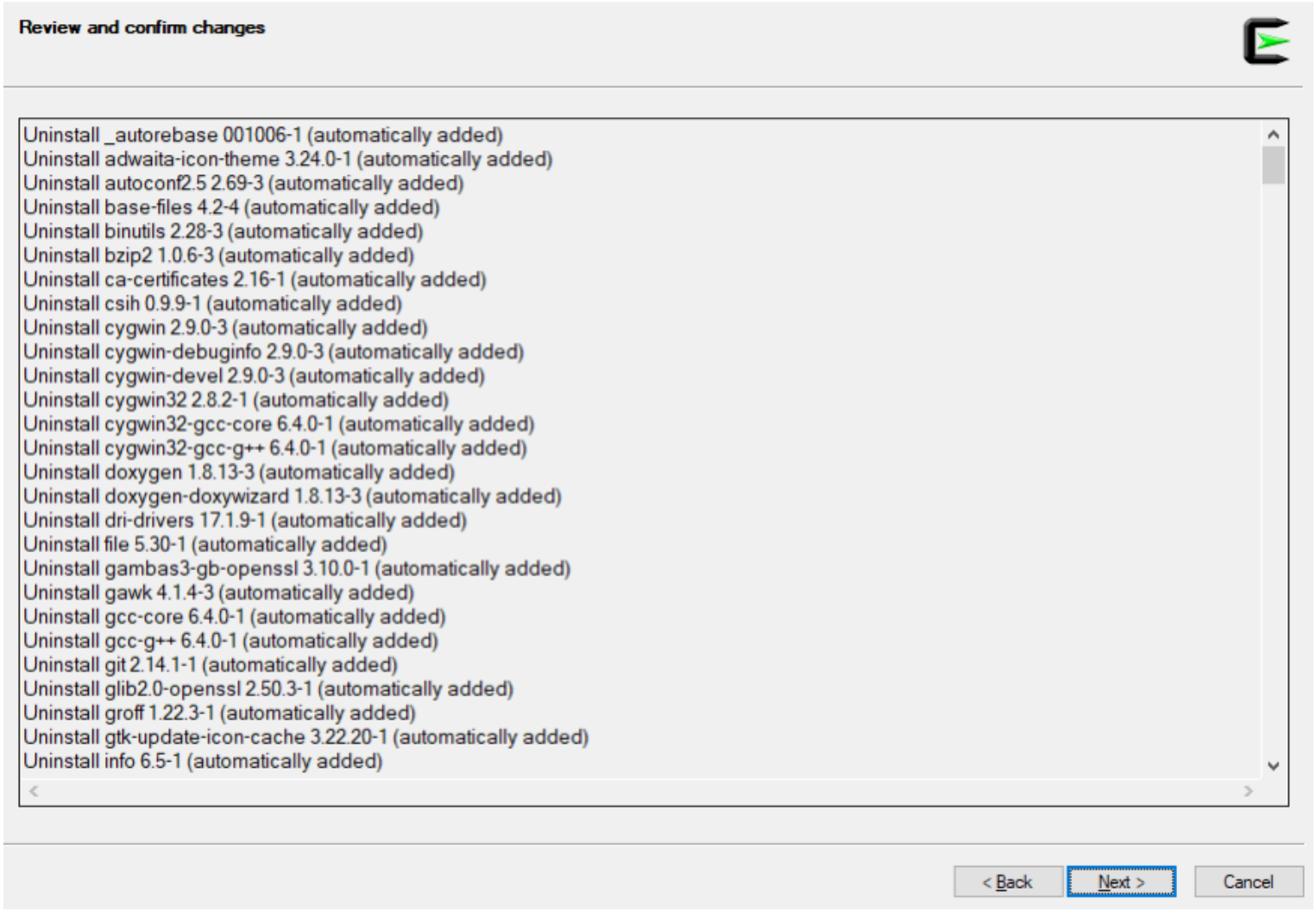
Package to download:

- cygwin32-gcc-core
- cygwin32-gcc-g++
- gcc-g++
- make
- mingw64-i686-gcc-g++
- mingw64-x86_64-gcc-g++

Example image:

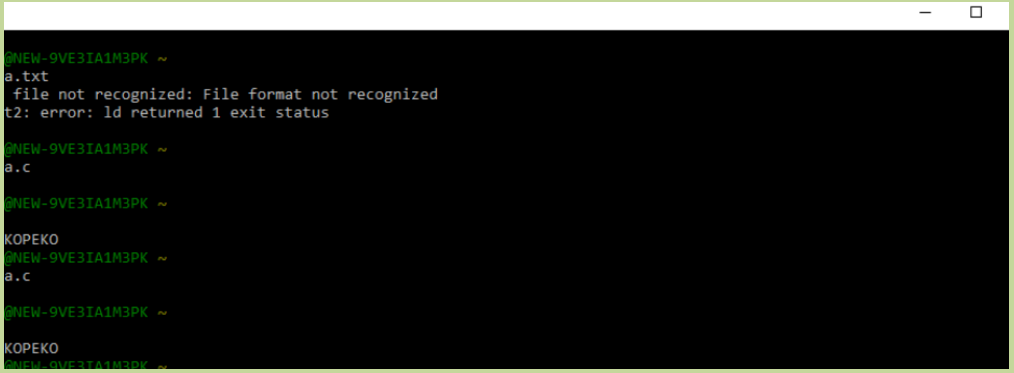


Click next and next and install all package

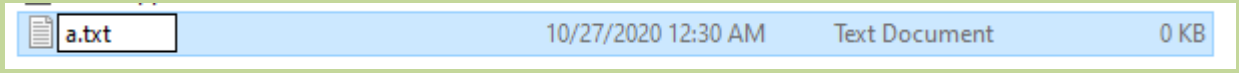


After installation, you should see Cygwin on your desktop

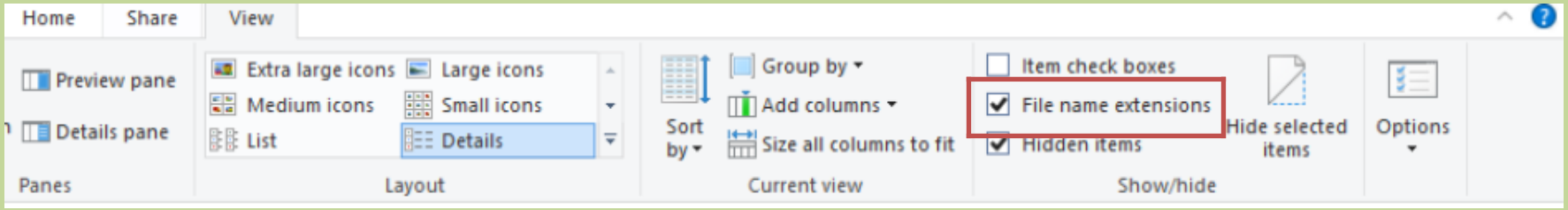
- Double click it and a command prompt should be opened
- Must open the command prompt first, as it will create a folder in your root



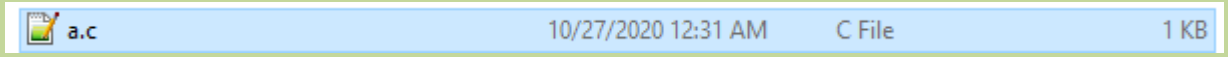
- Open your folder to
- "This pc > windows (C:) cygwin64 > home > ${your PC's username}"



- Make sure you **turn on file name extensions view**

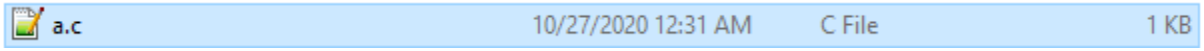


- Create a txt file and rename your file to "a.c"

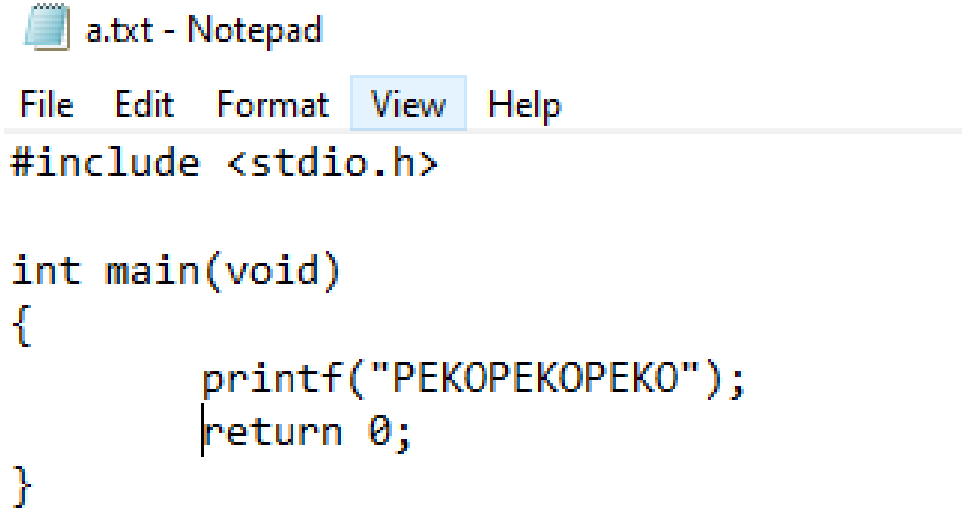


Test Cygwin by writing your first programming text file

- Open your file using notepad++



- Copy this exact code into your a.c file



Test Cygwin by Compiling your first program

- Enter the command: "**gcc a.c**"
- a.exe file should be generated in the same directory as the file

```
$ gcc a.c
```

Run your .exe file

- Enter the command: "./a.exe" OR "./a" to execute the file
- It should print out these:

```
$ ./a
PEKOPEKOPEKO
```