到 www.cygwin.com 下載 cygwin
選擇安裝方式

選擇這個從網路下載下來安裝
選擇安裝目錄
選擇下載下來的安裝目錄
直接指定

Cygwin Setup - Select Connection Type

Select Your Internet Connection
Setup needs to know how you want it to connect to the internet. Choose the appropriate settings below.

- Direct Connection
- Use IE5 Settings
- Use HTTP/FTP Proxy:
  - Proxy Host
  - Port: 80

< 上一步 | 下一步 > 取消
選擇下載的網址選擇成大網站ftp://ftp.ncku.edu.tw沒有也可以自己加
連到ftp的畫面
選擇安裝的目錄
先選全部安裝在取消不要的
選擇下列幾個安裝其他都取消

- Devel: 裡面有gcc,gdb,make功能
- Editor: 裡面有vi以及vim的功能
- Graphies: 都安裝
- Shells: bash sh-utils tcsh很重要是使用linux語言
- X11: x-win所需
## Select Packages

Select packages to install

<table>
<thead>
<tr>
<th>Category</th>
<th>New</th>
<th>B.</th>
<th>S.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doc</td>
<td></td>
<td></td>
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<td></td>
<td>Default</td>
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<tr>
<td>Editors</td>
<td></td>
<td></td>
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<td>Install</td>
</tr>
<tr>
<td>Games</td>
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<td>Default</td>
</tr>
<tr>
<td>Gnome</td>
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<td>Default</td>
</tr>
<tr>
<td>Graphics</td>
<td></td>
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<td>Install</td>
</tr>
<tr>
<td>Interpreters</td>
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<td>Default</td>
</tr>
<tr>
<td>KDE</td>
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<td></td>
<td></td>
<td>Default</td>
</tr>
</tbody>
</table>

- Hide obsolete packages
## Select Packages

Select packages to install

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<tr>
<td>KDE</td>
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<td>Default</td>
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<tr>
<td>Libo</td>
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<td>Default</td>
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<td>Mail</td>
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<td>Default</td>
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<td>Math</td>
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<td>Default</td>
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<tr>
<td>Mingw</td>
<td></td>
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<td>Default</td>
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<tr>
<td>Net</td>
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<td>Default</td>
</tr>
<tr>
<td>Perl</td>
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<td>Default</td>
</tr>
</tbody>
</table>

- Hide obsolete packages

Next: [Next Step ▶️](#)
### Select Packages

Select packages to install

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<tbody>
<tr>
<td>Publishing</td>
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<tr>
<td>Python</td>
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<td>Default</td>
</tr>
<tr>
<td>Scheme</td>
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<td>Security</td>
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<td>Shells</td>
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<td>Install</td>
</tr>
<tr>
<td>System</td>
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<td>Default</td>
</tr>
<tr>
<td>Text</td>
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<td>Default</td>
</tr>
<tr>
<td>Wall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Install</td>
</tr>
</tbody>
</table>

Hide obsolete packages
確定安裝內容
開始下載
Create Icons
Tell setup if you want it to create a few icons for convenient access to the Cygwin environment.

- Create icon on Desktop
- Add icon to Start Menu

Installation Status
Installation Complete
之後下載GCC-4.3安裝按下一步
License Agreement

Please read the following important information before continuing.

Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1983, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your

- [ ] I accept the agreement
- [ ] I do not accept the agreement

[Back] [Next] [Cancel]
選擇路徑
改成cygwin底下或者是cygwin/GNUARM
全部安裝
Select Start Menu Folder

Where should Setup place the program's shortcuts?

Setup will create the program's shortcuts in the following Start Menu folder.

To continue, click Next. If you would like to select a different folder, click Browse.

[Box for selecting folder: GNUARM]

Don't create a Start Menu folder

< Back  Next >  Cancel
不用安裝DLL

Select Additional Tasks
Which additional tasks should be performed?

Select the additional tasks you would like Setup to perform while installing GNUARM, then click Next.

Additional icons:
- [ ] Create a desktop icon

Cygwin options:
- [ ] Install Cygwin DLLs (ONLY in case you don't have or don't use Cygwin)
開始安裝

Ready to Install
Setup is now ready to begin installing GNUARM on your computer.

- Destination location: C:\cygwin\GNUARM
- Setup type: Full installation
- Selected components:
  - Little Endian
  - LE Libraries
  - ARM-THUMB Interworking
  - THUMB
  - THUMB Libraries
  - ARM-THUMB Interworking

[Install]
安裝畫面

Setup - GNUARM

Installing
Please wait while Setup installs GNUARM on your computer.

Extracting files...
C:\cygwin\GNUARM\arm-eabi\bin\objcopy.exe
Completing the GNUARM Setup Wizard

Setup has finished installing GNUARM on your computer. The application may be launched by selecting the installed icons.

Click Finish to exit Setup.

- Add the executables directory to the PATH variable

Finish
轉檔

• 用`cd`切到`home/user/LAB1`裡面有`test`檔
• 然後打`arm-elf-gcc –S test.c`
• 就可以轉成`.S`檔了
利用`arm-elf-gcc -S test.c`是看看是否可以轉檔
在cygwin查看轉換的版本

```
.file  "test1.c"
.text
.align 2
.global main
.type  main, %function
main:
    @ args = 0, pretend = 0, frame = 8
    @ frame_needed = 1, uses_anonymous_args = 0
    mov    ip, sp
    strfd   sp!, {fp, ip, lr, pc}
    sub    fp, ip, #4
    sub    sp, sp, #8
    str    x0, [fp, #16]
    str    x1, [fp, #20]
    mov    x3, #0
    mov    x0, x3
    sub    sp, fp, #12
    ldmdfd sp, {fp, sp, pc}
.size  main, -main
ident  "GCC: (GNU) 4.3.2"
```
Make 是否可以執行

```
$ ls
LAB2  test1.c  test1.s  test2.c

$ cd LAB2/

$ ls
LAB1  LAB2  LAB3  LAB4  LAB5

$ cd LAB1

$ ls
LAB2_1  Makefile  .doc  Makefile  a.c  a.o  abc.h  b.c  b.o  c.c  c.o  progl.c

$ make
gcc -g -Wall -c -o progl.o progl.c
gcc -g -Wall -c -o progl.o progl.c

$ ls
```

Make 是否可以執行
Gcc 測試

```
$ cd ..
Administrator@jinny-771ef14b2 /home/user
$ ls
LAB2_1  Lab1

Administrator@jinny-771ef14b2 /home/user
$ cd LAB2_1/

Administrator@jinny-771ef14b2 /home/user/LAB2_1
$ ls
LAB2_1  Makefile  .doc  Makefile  a.c  abc.h  b.c  c.c  progl.c

Administrator@jinny-771ef14b2 /home/user/LAB2_1
$ gcc -o a.c
 gcc: no input files

Administrator@jinny-771ef14b2 /home/user/LAB2_1
$ gcc a.c
/usr/lib/gcc/i686-pc-cygwin/3.4.4/.../libcygwin.a(libcmain.o):.text+0x6a): undefined reference to `_WinMain@16'
collect2: ld returned 1 exit status
```
可執行就會產生這兩個檔案
若不是的話到用 `cd /` 切換到最前面

```
$ cd etc
user@ksut-df4fe7362e /etc
$ ls
DIR_COLORS  csh.cshrc  gtk-2.0  networks  setup
WindowMaker  csh.login  hosts    pango      skel
X11         cygport.conf  hosts.allow  passwd   termcap
alternatives  defaults  hosts.deny  postinstall  terminfo
apache2     emacs      imlib     preremove  xgetrc
asciidoc    fonts      joe       profile    xml
bash.bashrc  gconf      libtextcat.conf  profile.d  xpdfrc
bash_completion  ggi      lynx.cfg  protocols  zprofile
bash_completion.d  group  manweb.conf  qt3
colordc      gtk        nas       services
$ cd /
user@ksut-df4fe7362e /
$ ls
Cygwin.bat  GNUARM  cygdrive etc  lib  proc  srv  usr
Cygwin.ico  bin  dev  home  opt  sbin  tmp  var
```
利用cd切換到etc
vim

VIM – Vi IMproved
version 7.2
by Bram Moolenaar et al.
Vim is open source and freely distributable

Help poor children in Uganda!
type :help iccf<Enter> for information
type :q<Enter> to exit
type :help<Enter> or <F1> for on-line help
type :help version?<Enter> for version info

Running in Vi compatible mode
type :set nocp<Enter> for Vim defaults
type :help cp-default<Enter> for info on this
利用 vim 檢視 profile

```
# /etc/bash.bashrc

# If you wish all future users to have some default setup, it is recommended you
# edit /etc/skel/.bashrc

# If you wish to change the path on a user by user basis, it is recommended you
# edit ~/.bashrc

PATH=/usr/local/bin:/usr/bin:/bin:/usr/X11R6/bin:$PATH
export PATH

MANPATH=/usr/local/man:/usr/share/man:/usr/man:$MANPATH
export MANPATH

INFOPATH=/usr/local/info:/usr/share/info:/usr/info:$INFOPATH
export INFOPATH

# Set the user id
USER=""id -un"
export USER

# Here is how HOME is set, in order of priority, when starting from Windows
# 1) From existing HOME in the Windows environment, translated to a Posix path
# 2) from /etc/passwd, if there is an entry with a non empty directory field
```
離開
在這裡加入 path C:\cygwin\GNUARM\bin

```plaintext
# http://www.ibb.net/~anne/keyboard.html
# The Linux Documentation Project: http://www.tldp.org/
# The Linux Cookbook: http://www.tldp.org/LDP/linuxcookbook/html/

# Setup some default paths. Note that this order will allow user installed
# software to override 'system' software

# If you wish to change the path for all users, it is recommended you edit
# /etc/bash.bashrc

# If you wish all future users to have some default setup, it is recommended
# you
# edit /etc/skel/.bashrc

# If you wish to change the path on a user by user basis, it is recommended
# you
# edit ~/.bashrc

PATH=/usr/local/bin:/usr/bin:/bin:/usr/X11R6/bin:$PATH
export PATH

MANPATH=/usr/local/man:/usr/share/man:/usr/man:$MANPATH
export MANPATH

INFOPATH=/usr/local/info:/usr/share/info:/usr/info:$INFOPATH
export INFOPATH

# Set the user id
USER="`id -u`"
export USER
```
利用環境變數加入 path
Cygwin刪除

因爲cygwin沒有反安裝程式所以要手動刪除cygwin
只要到安裝目錄底下直接刪除cygwin就可以了
如果還要重新安裝只要案setup就可以了
ADS解説

Welcome to the InstallShield Wizard for ARM Developer Suite

The InstallShield Wizard will install ARM Developer Suite on your computer. To continue, click Next.
Choose Destination Location

Select folder where Setup will install files.

Setup will install ARM Developer Suite in the following folder.

To install to this folder, click Next. To install to a different folder, click Browse and select another folder.

Destination Folder

C:\Program Files\ARM\ADSv1_2

Browse...
**Setup Type**

Choose the setup type that best suits your needs.

<table>
<thead>
<tr>
<th>Setup Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compact</td>
<td></td>
</tr>
<tr>
<td>Custom</td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td></td>
</tr>
<tr>
<td>Typical</td>
<td>The standard ADS product, including online documentation and examples.</td>
</tr>
</tbody>
</table>
Start Copying Files

Review settings before copying files.

Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.

Current Settings:

Target directory:
C:\Program Files\ARM\ADS v1.2

Program folder name:
ARM Developer Suite v1.2

Components selected:
Program Files\Executables
Program Files\C libraries, big endian
Program Files\C libraries, little endian

InstallShield
Installing:
C:\VARM\ADSV1_2\Bin\MWCRL60.DLL

33%

Cancel
CRC error: The file C:\Program Files\ARM\ADSv1_2\Examples\sort\sorts.mcp doesn't match the file in the setup's .cab file. The medium from which you are running the setup may be corrupted; contact your software vendor.

中止(A)  重試(R)  略過(U)
Choose Action
This page allows you to choose which license wizard task you want to perform.

Please select the action you want to perform.
Then click Next to continue.

Action
- Install License
- Create License Request Form
Install License

This page allows you to specify the license that you want to install.

Please enter either a license code, or the location of the license file that you want installed. Then click Next to continue.

License codes are normally printed on a label which is stuck on the box containing your product. The license code will start with the text 'armlid-'.

Temporary License Code

Code: 

License File To Be Installed

Location: 

Browse...
License File Installation
This page allows you to specify where your updated license file will be written on disk.

The wizard has found the following files specified in your licensing environment, which it can update. Please select which file you wish your new license added to, or enter a new filename if you wish the license created in a separate file.

Click Next to continue, once you have selected a file.

License File List

C:\Program Files\ARM\ADSv1_2\license\license.dat
C:\Program Files\ARM\ADSv1_2\license\license.dat

Browse...
Your new license file has now been installed.

If the license that you have just installed was a temporary one then you should now request your permanent license.

Pressing the request button below will restart the wizard at the correct place for requesting your permanent license.

Otherwise simply press Finish to exit the wizard.

Request Full License...