Cygwin: getting the setup tool

Free, almost complete UNIX environment emulation for computers running MS Windows. Very handy.

First, go to the Cygwin Site: <u>http://www.cygwin.org/cygwin/</u>

Download the setup utility (setup.exe); create a directory and save it there. For this discussion, I'll assume you're saving it in C:\cygtemp. Run setup:



Cygwin: preparing to download

Setting up Cygwin 2

Click Next and choose "Download without installing":

Cygwin Setup - Choose Installation Type	<u>- 0 ×</u>
Choose A Download Source Choose whether to install or download from the internet, or install from files in a local directory.	E
 Install from Internet (downloaded files will be kept for future re-use) Download Without Installing 	
C Install from Local Directory	
< Back Next >	Cancel

This is the best option because the download process can take some time and it occasionally fails to complete on the first try. The downloaded files are saved, in any case, so feel free to Install from Internet if you prefer.

Cygwin: preparing to download

Click Next and choose a root directory for the Cygwin repository:

Cygwin Setup - Select Lo	cal Package D	irectory		_0
Select Local Package Di Select a directory where y downloads. The directory	rectory iou want Setup to will be created if	store the installation it does not already	on files it exist.	E
r Logal Packar	na Directoru			
C:\cygtemp	je Directoly		Browse	
		< Back	Next >	Cancel

Note: this is <u>not</u> where you will actually install Cygwin.

Cygwin: preparing to download

Select your connection type (almost certainly Direct Connection):

the	appropriate settings below.	
	 Direct Connection 	
	C Use IE5 Settings	
	C Use HTTP/FTP Proxy:	
	Proxy Host	
	Port 80	

Click Next...

Cygwin: choosing the mirror



Cygwin: minimal installation

There are many packages, but for some purposes (such as obtaining a Windows version of grep for 2104 assignments), just taking the default install files will be sufficient.

If this is all you need, don't bother looking at the details of any of the various packages...

... just click Next and skip to slide 10.



Cygwin: full installation

There are many packages; you'll expand some of them and choose specific options.

You can get it all (about 1.4 GB), or be selective.

If you don't have any serious concerns about disk space or download time, my advice is to simply go through the packages one by one and choose every available feature.

That way, you can be sure that you will have everything you will need, plus lots of other interesting things...



Cygwin: choosing the build tools

If you don't do a full install, expand the Devel tree...

Be sure the GNU make tool is selected.

Cygwin Setup - Select Packages

Select Packages 5 Select packages to install C Keep C Prev C Curr C Exp View Category B.... S. Current New Size Package Category Skip Skip 2,162k libxerces-c-devel: (devel) A validating XML parser written in a portable subset of C++ nía nía 2.7.3.1 Keep nía nía 662k libxml2: XML C parser and toolkit (runtime and applications) Skip nía 112k libxml2-devel: XML C parser and toolkit (development) nía 350k make: The GNU version of the 'make' utility 3.81-2 Keep nía nía 1.0.1-1 Keep nía nía 22k makedepend: Xorg Makefile dependency tool Skip nía nía ? mercurial: Fast, lightweight distributed source control management system 3.17-1 Keep nía nía 331k mingw-runtime: MinGW Runtime Skip 24k minires-devel: Development tools to build programs using minires. nía nía • Skip 110k micscope: Lucent version of cscope for multiple languages (micscope) nía nía Hide obsolete packages

Cancel

< Back

Next >

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Cygwin: choosing the build tools

Note: gcc is the GNU Compiler Collection, which includes tools for a number of languages. All you need are the C/C++ tools.

The current release of Cygwin includes both gcc 3.3.4 and gcc 4.3.2.

I selected both, but at minimum you need the tools that are indicated below.

Once you've selected all of the tools you want to install, click Next...

Sel	ect pack	ages to down	load
			C Keep C Prev Curr C Exp View Category
E	S	Size	Package
n/	a nía	691k	fltk-doc: Cross platform C++ GUI toolkit (documentation)
n/	• 🗆	1k	gcc: C compiler upgrade helper
n/	a nia	6,706k	gcc-ada: Ada compiler
n/	, D	3,630k	gcc-core: C compiler
n/	чЦ	7,829k	gcc·g++: U++ compiler
n/	a nía	1,976k	gcc-g//: Fortran compiler
n/	a nía	2,181k	gcc-gdc: D compiler
n/	a nía	2,426K	gcc-gpc: GNU Pascal compiler
n/	a nja	11,731k	gcc-java: Java compiler
n/	a nía	1K	gcc-mingw: Mingw32 GUU compiler upgrade helper
η Γ	a nja	4,257K	gcc-mingw-ada: Mingw32 support headers and libraries for GUL Ada
		53K	gcc-mingw-core: Mingw32 support headers and libraries for GUU
		1,634K	gcc-mingw-g++; Mingw32 support headers and libraries for GCC C++
10	a nju	04K	gcomingwight, Mingwsz support readers and ibrailes for door Portian
10	a nju	270K	geomingweget. Dicompiler
10	a nju	207K	geo-mingw-gpc. Mingw32 support headers and libraries for GCC Pascal
10	a 100	4,0446	gcomingw-java, Mingw32 support headers and libraries for CCC 0ava
10	a 11/4 5 15/6	1 5092	geochingwoold, mingwoz suppor headers and ibranes for decidible
	n n/o	1,0000	gootestaties GCC testauite sources
 DÍ	n nía	4274	geo tostaulo, dee testallo solices
DÍ	a nía	420k	gcc-tools-automake: (gcc-special) a tool for generating GNL-compliant Makefiles
ní		290k	acc4: GCC Belease series 4 compiler (C & C++ install beloer)
DÍ	n Ll	13 360k	goo4. doo halado conos 4 compilar (o d o 14 initiali hopor)
ní		9.341k	acc4-core: Core C compiler subpackage
ní	a nía	4.853k	occ4-fortran: Fortran subpackage
ณ์		5.339k	gcc4-g++: G++ subpackage
ณ์	a n/a	32.656k	gcc4-java: Java subpackage
N	a nía	6,781k	gcc4-objc: Objective C and Objective C++ subpackage
n/	γŪ	5k	gccmakedep: Xorg preprocessor dependency maker
n/	а П	4.420k	adb: The GNU Debugger
n/	a nía	4k	gdk-pixbuf2-wmf: Windows Metafile library - (GdkPixbuf loader)
n/		178k	gettext: GNU Internationalization library and core utilities (PLUS LINK LIBS)
,	o nío	2 01 4k	nettext-devel: GNI Linternationalization development utilities (but NOT LINK LIRS)

Cygwin: downloading

The download might take a considerable amount of time, especially if you've chosen a busy mirror.

It's possible to abort the download, then re-run the setup program and choose a different mirror.

The important thing is to be sure you download and install everything necessary.

Cygwin: choosing installation settings

Once the download is complete, start the setup tool again, and select Install from Local Directory.

Select Root Install Directory Select the directory where you want to insta installation parameters.	all Cygwin. Also choose a few
Root Directory	Browse
 Install For All Users (RECOMMENDED) Cygwin will be available to all users of the system. NOTE: This is required if you wish to run services like sshd, etc. Just Me Cygwin will only be available to the current user. Only select this if you lack Admin. privileges or you have specific needs. 	 Default Text File Type Onix / binary (RECOMMENDED) No line translation done; all files opened in binary mode. Files on disk will have LF line endings. DOS / text Line endings will be translated from unix (LF) to DOS (CR-LF) on write and vice versa on read. Read more about file modes
	< Back Next > Cancel

Choose the root directory for the Cygwin installation (different from the repository, but Eclipse seems to need for it to be in a root-level directory, like C:\cygwin).

I recommend sticking with Unix/binary as the default file type. Click Next...

Cygwin: choosing installation settings

Go through the package listing again and make sure that everything you need is still selected for installation:

Œ	Cygwin Set	up - Select Pac	kages				<u>- 0 ×</u>
	Select Pac Select pa	kages ackages to install					E
		0	Keep C F	Prev 🖲 C	urr C Exp	p View	Category
	Category	Current	New	B S	Size	Package	_
	🗉 All 🚯 De	efault					
	🕀 Admin	n 😌 Default					
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	🗄 Base -	😯 Default					_
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	Hide obse	olete and administra	ative package	es			
-							
				< B.	ack	Next >	Cancel

Click Next... wait until the installation completes...

Cygwin: setting the Windows environment

Cygwin doesn't add itself to the Windows path automatically. Go to Control Panel and run the System applet. Select the Advanced tab, and click on Environment Variables.

Select Path under System variables and add the path to the bin subdirectory of your Cygwin installation. You can see mine listed as the second entry in the Path at right. Path entries are separated by semicolons and are not case-sensitive.

To check your installation (in a very minimal way), open a Windows command shell and see if gcc is recognized:

Variable	Value
PATH	D:\jdk1.6.0_02\bin;C:\cygwin\bin;C:\Pro
TEMP	C:\Documents and Settings\williammcqua
TMP	C:\Documents and Settings\williammcqua
WXWIN	d:/wxWindows-2.4.2/
	New Edit Delete
	And the second sec
ystem variables — Variable	Value
ystem variables – Variable ComSpec	Value C:\WINDOW5\system32\cmd.exe
ystem variables – Variable ComSpec FP_NO_HOST_C	Value C:\WINDOWS\system32\cmd.exe NO
ystem variables – Variable ComSpec FP_NO_HOST_C NUMBER_OF_P	Value C:\WINDOWS\system32\cmd.exe NO 1
ystem variables Variable ComSpec FP_NO_HOST_C NUMBER_OF_P OS	Value C:\WINDOWS\system32\cmd.exe I Windows_NT
ystem variables – Variable ComSpec FP_NO_HOST_C NUMBER_OF_P OS Path	Value C:\WINDOWS\system32\cmd.exe NO Vindows_NT C:\Python24\.;D:\cygwin\bin;C:\Perl\bin
ystem variables – Variable ComSpec FP_NO_HOST_C NUMBER_OF_P OS Path	Value C:\WINDOW5\system32\cmd.exe NO 1 Windows_NT C:\Python24\.;D:\cygwin\bin;C:\Perl\bin



Cygwin: setting the Win 7 environment

Setting up Cygwin 14

This looks slightly different with the default Windows 7 theme:

- 0 23 ✓ 4 Search Control Panel G ▼ I Control Panel ► All Control Panel Items ► System 2 0 **Control Panel Home** View basic information about your computer Bevice Manager Windows edition Remote settings Windows 7 Enterprise System protection Copyright © 2009 Microsoft Corporation. All rights reserved. 🚱 Advanced system settings Select Advanced System system settings... Rating: 4,3 Windows Experience Index Intel(R) Core(TM)2 Duo CPU T9400 @ 2.53GHz 2.54 GHz Processor: Installed memory (RAM): 2.00 GB 64-bit Operating System System type: Pen and Touch: No Pen or Touch Input is available for this Display Computer name, domain, and workgroup settings Change settings Computer name: skye2 Full computer name: skye2 Computer description: Workgroup: WORKGROUP Windows activation See also Windows is activated genuine Action Center Product ID: 55041-049-8493211-86618 Change product key Microsoft Windows Update Learn more online. Performance Information and Tools

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Cygwin: setting the Win 7 environment

	computer Name Hardware Advanced System Protection Remote
	You must be logged on as an Administrator to make most of these changes.
	Performance
	Visual effects, processor scheduling, memory usage, and virtual memory
	Settings
	User Profiles
	Desktop settings related to your logon
	Settings
	Startup and Recovery System startup, system failure, and debugging information
	Settings
	Environment Variables
	OK Cancel Apply
1	

onment Variab	les 🗾
ser variables for	WilliamMcQuain
Variable	Value
PATH	C:\Program Files (x86)\SSH Communicat
TEMP	%USERPROFILE%\AppData\Local\Temp
TMP	%USERPROFILE%\AppData\Local\Temp
	New Edit Delete
ystem variables	
Variable	Value
	.;C:\Program Files (x86)\QuickTime\QTS
CLASSPATH	Culture development and and
ComSpec	C: \windows\system32\cma.exe
ComSpec FP_NO_HOST_(C: (windows/system32/cma.exe
ComSpec FP_NO_HOST_(NUMBER_OF_P	C: (windows (system 32)cmd.exe
ComSpec FP_NO_HOST_(NUMBER_OF_P	New Edit Delete

Cygwin: setting the Win 7 environment

Select Path under System variables and add the path to the bin subdirectory of your Cygwin installation. If you installed Cygwin in the directory c:\cygwin, which is the default, you'd add the string "c:\cygwin\bin;" (without the quotes) to the beginning of the Path string.

Path entries are separated by semicolons and are not case-sensitive.

To check your installation (in a very minimal way), open a Windows command shell and see if gcc is recognized (or try typing "grep –help" to test that):

