#### **School of Computing and Information Systems**

# **MinGW Installation Guide**

This guide illustrates the installation of MinGW on a Windows 7 machine. Other Windows versions may differ.

#### **Download the MinGW Installer**

1. Navigate to https://osdn.net/projects/mingw/ and click "mingw-get-setup.exe":

IDN > Find Software > Software Dew MinGW - Minir ast Update: 2021-02-15 07:	entropy of the code Generators > MercW - Mercmutat CNJ for Windows > Summary malist GNU for Windows _ for ~ Tomoton .07				Category: Software	Gearch
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roject Description		Review this project	C Web Page	Developer Dashboard	Project Information	
This is	s the official download site for the latest packages originating from the MinGW.org Projects			Report Bugs	Last Update	
MinGV	W is a native Windows port of the GNU Compiler Collection (GCC), with freely distributable import libraries and header files for bu ations; includes extensions to the MSVC runtime to support C99 functionality. Although (currently) offering only a 32-bit compiler	uilding native Wind suite, all of MinGW	ows /'s	ħ Get RSS	2021-02-15 07:07	
softwa	are will execute on the 64bit Windows platforms.			Write How to Install	Registered 2008-11-28 19:42	
Image list MinGV	w sa tegistered useemark of somwale in the rubic interest inc. ey registration number 600 178569, this trademark has been re W org Project 6, and its use by any other project is unauthorized.	gistered on benair	orme	Write How to Use	Project Ranking Activeness Ranking: 2 (1164 Download Ranking: 1 (3172	44 point) 5)
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Windows mingw-get-	-setup.exe (Date: 2017-09-06, Size: 91.00 KB)				Software Map	
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2. Save the installer to the Desktop.

### Use the Installer to Download and Install the MinGW Shell and GCC Compiler

- 1. Run the the installer by locating it on the Desktop and double clicking it. You may need to say "yes, allow this program downloaded from the internet to execute".
- 2. Step through the dialog boxes:

MinGW Installation Manager Setup Tool
mingw-get version 0.6.2-beta-20131004-1
3
Written by Keith Marshall
Copyright © 2009-2013, MinGW.org Project
http://mingw.org
This is free software; see the product documentation or source code, for copying and redistribution conditions. There is NO WARRANTY; not even an implied WARRANTY OF MERCHANTABILITY, nor of FITNESS FOR ANY PARTICULAR PURPOSE.
This tool will guide you through the first time setup of the MinGW Installation Manager software (mingw-get) on your computer; additionally, it will offer you the opportunity to install some other common components of the MinGW software distribution.
After first time setup has been completed, you should invoke the MinGW Installation Manager directly, (either the CLI mingw-get.exe variant, or its GUI counterpart, according to your preference), when you wish to add or to remove components, or to upgrade your MinGW software installation.
View Licence Install Cancel

mingw-get version 0.6.2-beta-20131004-1
<b>1</b>
Step 1: Specify Installation Preferences Installation Directory
C:\MinGW Change
If you elect to change this, you are advised to avoid any choice of directory which includes white space within the absolute representation of its path name.
User Interface Options Both command line and graphical options are available. The command line interface is always supported; the alternative only if you choose the following option to also install support for the graphical user interface.
Program shortcuts for launching the graphical user interface should be installed ● just for me (the current user), or ○ for all users * ▼ in the start menu, and/or □ on the desktop. * selection of this option requires administrative privilege.
View Licence Continue Cancel
MinGW Installation Manager Setup Tool
mingw-get version 0.6.2-beta-20131004-1
mingw-get version 0.6.2-beta-20131004-1  Step 2: Download and Set Up MinGW Installation Manager  Download Progress Catalogue update completed; please check 'Details' pane for errors.  Processed 109 of 109 items : 100 % Details  Details  Details  Details  Details  Details  Details  Infow-get: *** INFO *** setup: unpacking mingw-get-setup-0.6.2-mingw32-beta-20  and the setup: setup: register mingw-get-0.6.2-mingw32-beta-20131004- 1-011.tar.xz mingw-get: *** INFO *** setup: register mingw-get-0.6.2-mingw32-beta-20131004-

3. When the full dialog box opens with a list of software components, right-click "msys-base-bin" and "mingw32-base-bin" and click "Mark for Installation".

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	mingw32-gcc-fortran	bin		4.8.1-4	The GNU FORTRAN Compiler
	mingw32-gcc-g++	bin		4.8.1-4	The GNU C++ Compiler
	mingw32-gcc-objc	bin		4.8.1-4	The GNU Objective-C Compiler
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	Mark for Removal		nd line utilities, and	archiving/compression	on tools. It attempts to replicate, with certain judicious
		_	bls originally installed	d by the old MSYS mon	olithic installers.
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MinGW Installation Manager Installation Package Settings					
MinGW Installation Manager Installation Package Settings Basic Setup	Package	Class	Installed Version	Repository Version	Description
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4. Click "Installation" (top left corner) and then click "Apply Changes".

MinGW Installation	Manager					
Installation Package	Settings					Help
Update Catalogue	e	Package	Class	Installed Version	Repository Version	Description
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Apply Changes		mingw32-base	bin		2013072200	A Basic MinGW Installation
		mingw32-gcc-ada	bin		4.8.1-4	The GNU Ada Compiler
Quit	Alt+F4	mingw32-gcc-fortran	bin		4.8.1-4	The GNU FORTRAN Compiler
		mingw32-gcc-g++	bin		4.8.1-4	The GNU C++ Compiler
		mingw32-gcc-objc	bin		4.8.1-4	The GNU Objective-C Compiler
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		General Description Depe	endencies	s   Installed Files   Ve	ersions	
		The GNU Objective-C Cor	npiler			
		This package provides the M	1inGW im	plementation of the	GNU Objective-C langu	age compiler.
		This is an optional compor	nent of t	the MinGW Compile	r Suite; you require i	t only if you wish to compile programs written in the
		Objective-C language.				
		NOTE: As of the gcc-4.8.1 r	elease in	n order to install obj	c you need to install t	he gcc-objc-%-mingw32-dev package instead of the -bin
		package. This change was n	nade to t	be consistent with wh	iat -bin usually contains	s compared to -dev.

5. Click "Apply" and wait until installer prompts you with a message indicating completion.

MinGW Installation Manager					_ <b>D</b> X
Installation Package Settings	1	1			Help
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## Edit the PATH Variable (Windows 7, see below for Windows 10)

1. Open the Start Menu, right-click "Computer", and click "Properties"



2. Click "Advanced system settings" and click "Environment Variables"

		<b>— — X</b>
Control Panel 🕨	System and Security      System	👻 🍫 Search Control Panel 🔎
Control Panel Home Device Manager Remote settings System protection Advanced system settings	View basic information about your con Windows edition Windows 7 Professional Copyright © 2009 Microsoft Corporation. All ri Service Pack 1 Get more features with a new edition of Window Usual effects, processor scheduling, memory usage, and virtual memory Settings. User Profiles	
	System         Desktop settings related to your logon           Rating:         Dip Windows Ex           Processor:         Intel(R) Core(TM) it           Installed memory (RAM):         8.00 GB           System type:         64-bit Operating Sy           Pen and Touch:         No Pen or Touch In	
See also Action Center	Computer name, domain, and workgroup settings Computer name: MJ-Laptop Full computer name: MJ-Laptop Computer description: Workgroup: WORKGROUP Windows activation	Change settings
windows update Performance Information and Tools	Windows is activated Product ID: 55041-149-6118964-86381 Change product key	enuine ***. Senuine ***. Microsoft settman

3. Under "System variables" scroll down to the variable "PATH". Highlight (click) "PATH" and click "Edit"

Control Panel H	ntrol Panel >	System and Security > System	Vistem Properties 88	<ul> <li>✓ 4; Search Control Panel</li> <li>Ø</li> </ul>
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See also Action Center Windows Update Performance Inform Tools	nation and	Computer description: Workgroup: WORKGROUP Windows activation Windows is activated Product ID: 55041-149-6118964-86381 Cha	OK Cancel Apply	Superson and the second

4. At the start of "Variable value" text-box add "C:\MinGW\bin;" Then agree to the changes by clicking the "OK"s

🕞 💬 🖷 🕨 Control Panel I	<ul> <li>System and Security          <ul> <li>System</li> </ul> </li> </ul>		X
Control Panel Hr Device Manage Remote setting Advanced system Variable System var Variable Nofer OS PATH PATHEXT	Variables	ystem Properties  Statup and Recovery  System failure, and debugging information  Settings  OK Cancel Acpty	e for the settings of the sett
See also Action Center Windows Update Performance Information and Tools	Workgroup: WORKGROUP Windows activation Windows is activated Product ID: 55041-149-6118964-86381 Char	nge product key	genuine X. Microsoft

5. Close all windows and restart your computer

## Edit the PATH Variable (Windows 10)

- 1. If you have any Command Prompt windows open, close them.
- 2. Click in the Cortana search box.

	6 6		
Type here to search	Q (	) e	

3. Type "environment variable", and in the list of results, click "Edit the system environment variables".



4. Click "Environment Variables..."

System Propertie	S				×
Computer Name	Hardware	Advanced	System Protection	Remote	
You must be lo	gged on as	an Administr	ator to make most of	fthese changes.	
Performance					
Visual effects	, processor	scheduling, r	nemory usage, and	virtual memory	
				<u>S</u> ettings	
-User Profiles					
Desktop setti	ngs related	to your sign-i	n		
				S <u>e</u> ttings	
Startup and Re	ecovery				
System startu	p. system fa	ilure, and de	bugging information		
				Se <u>t</u> tings	
			Envir	o <u>n</u> ment Variables	
		(	OK Can	cel <u>A</u> pply	

5. Under "System variables", select "Path" and click "Edit..."

Variable	Value
OneDrive	C:\Users\Alan\OneDrive
Path	C:\users\alan\documents\programming\xampp\php;C:\Users\
TEMP	C:\Users\Alan\AppData\Local\Temp
тмр	C:\Users\Alan\AppData\Local\Temp
	New Edit Delete
stem variables	
/stem variables Variable	Value
vstem variables Variable NUMBER_OF_PROCESSORS	Value 4
vstem variables Variable NUMBER_OF_PROCESSORS	Value 4 Windows_NT
vstem variables Variable NUMBER_OF_PROCESSORS OS Path	Value 4 Windows_NT C\Program Files\Intel\iCLS Client\;C\Program Files\Intel
vstem variables Variable NUMBER_OF_PROCESSORS OS Path PATHEAT	Value 4 Windows_NT C\Program Files\/htel\/CLS Client\/C\\Program Files\/htel .COM;.EXE;.BAT;.CMD;.VBS;.VBE;JS;JSE;.WSF;.WSF;.MSC
vstem variables Variable NUMBER_OF_PROCESSORS OS Path PATHEXT PROCESSOR_ARCHITECTU	Value 4 Windows_NT C\Program Files (x86)\Intel\ICLS Client\C\Program Files\Intel COM;:EXE;:BAT;:CMD;:VBS;:VBE;JS;JSE;:WSF;:WSH;:MSC AMD64
vstem variables Variable NUMBER_OF_PROCESSORS OS Path PATHEXT PROCESSOR_ARCHITECTU PROCESSOR_JDENTIFIER	Value 4 Windows_NT <u>C\Program Files (x86)\Intel\iCLS Client\\C\Program Files\Intel.</u> .COM;.EXE;.BAT;.CMD;.VBS;.VBE;JS;JSE;.WSF;.WSH;.MSC AMD64 Intel64 Family 6 Model 69 Stepping 1, GenuineIntel
vstem variables Variable NUMBER_OF_PROCESSORS Path PATHEX PROCESSOR_ARCHITECTU PROCESSOR_JDENTIFIER PROCESSOR_JDENTIFIER PROCESSOR_LEVEL	Value 4 Windows_NT C_\Program Files (x86)\Intel\CLS Client\C_Program Files\Intel. .COM:EXE;BAT; CMD;\VBS;VBE;JS;JSE;WSF;WSH;MSC AMD64 Intel64 Family 6 Model 69 Stepping 1, GenuineIntel 6
vstem variables Variable NUMBER_OF_PROCESSORS OS Path PATHEX PROCESSOR_ARCHITECTU PROCESSOR_LEVEL PROCESSOR_LEVEL	Value 4 Windows_NT C\Program Files (x86)\Intel\\CLS Client\\C\Program Files\Intel .COM;:EXE::BAT;:CMD;:VBS;:VBE;JS;JSE;WSF;WSH;:MSC AMD64 Intel64 Family 6 Model 69 Stepping 1, GenuineIntel 6 

6. In the window that appears, click "New"

it environment variable	>
C) Program Files (v96) Intel\iCLS Client\	New
C:\Program Files\Intel\iCLS Client\	New
%SystemBoot%\system32	
%SystemRoot%	Edit
%SystemRoot%\System32\Wbem	Durante
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\	Browse
C:\Program Files\Intel\Intel(R) Management Engine Components	Dalata
C:\Program Files\Intel\Intel(R) Management Engine Components	Delete
C:\Program Files (x86)\Intel\Intel(R) Management Engine Comp	
C:\Program Files (x86)\Intel\Intel(R) Management Engine Comp	
C:\Program Files\Intel\WiFi\bin\	Move Up
C:\Program Files\Common Files\Intel\WirelessCommon\	
C:\ProgramData\Lenovo\ReadyApps	Move Down
C:\Program Files (x86)\Windows Live\Shared	
C:\Program Files\Microsoft\Web Platform Installer\	
C:\Program Files (x86)\Skype\Phone\	Edit text
C:\Program Files\MATLAB\R2016a\bin	
D:\VagrantApp\bin	
C:\Program Files\Git\cmd	
	Canad
OK	Cancel

7. Type "C:\MinGW\bin" into the box. Then agree to the changes by clicking "OK" in all windows.

ser variables	C:\Program Files (x86)\Intel\iCLS Client\	New			
Variable	C:\Program Files\Intel\iCLS Client\		and I would I		
OneDrive	%SystemRoot%\system32	Edit	1 5 4 6 9 5 4		
Path	%SystemRoot%		ies		
TEMP	%SystemRoot%\System32\Wbem	Browse	103		
TMP	%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\		e Hardware Advanced System Protection Remote		
	C:\Program Files\Intel\Intel(R) Management Engine Components	Delete			
	C:\Program Files\Intel\Intel(R) Management Engine Components	Delete	logged on as an Administrator to make most of these changes.		
	C:\Program Files (x86)\Intel\Intel(R) Management Engine Comp		2		
	C:\Program Files (x86)\Intel\Intel(R) Management Engine Comp	Move Up	ts, processor scheduling, memory usage, and virtual memory		
	C:\Program Files\Intel\WiFi\bin\				
	C:\Program Files\Common Files\Intel\WirelessCommon\	Move Down	<u>S</u> ettings		
	C:\ProgramData\Lenovo\ReadyApps				
stem variabl	C:\Program Files (x86)\Windows Live\Shared				
	C:\Program Files\Microsoft\Web Platform Installer\		ttings related to your sign-in		
Variable	C:\Program Files (x86)\Skype\Phone\	Edit text	Cations		
NUMBER_OF	C:\Program Files\MATLAB\R2016a\bin		<u>Seungs</u>		
OS	D:\VagrantApp\bin		Becovery		
Path	C\Program Files\Git\cmd		tup system failure and debugging information		
PATHEXT	C:\MinGW\bin				
PROCESSOR			Settings		
PROCESSOR					
PROCESSOR			EnvironmentVerichles		
BBOCCCOD.	OK	Cancel	Environment variables		
			OK Cancel Apply		

8. Close all windows and restart your computer

## Create a MinGW Shell Shortcut

1. Navigate to the "msys.bat" file (located inside the MinGW folder).

Compute	er ▶ Local Disk (C:) ▶ MinGW	▶ msys ▶ 1.0 ▶	🗸 🍫 Sea	rch 1.0	Q
Organize 👻 Include in	n library 👻 Share with 💌	Burn New folder			
🔆 Favorites	Name	Date modified	Туре	Size	
🧮 Desktop	퉬 bin	13/03/2014 6:44 PM	File folder		
🐌 Downloads	🌗 etc	1/08/2013 6:55 PM	File folder		
💝 Dropbox	퉬 postinstall	1/08/2013 6:55 PM	File folder		
📃 Recent Places	퉬 sbin	1/08/2013 6:55 PM	File folder		
	퉬 share	13/03/2014 6:44 PM	File folder		
🥃 Libraries	👰 m.ico	12/07/2009 4:34 AM	Icon	3 KB	
Documents	🚳 msys.bat	13/11/2012 10:12	Windows Batch File	8 KB	
🎝 Music	👭 msys.ico	12/07/2009 4:34 AM	Icon	37 KB	
Pictures					
Videos 🗧					
🔞 Homegroup					
🖳 Computer					
🏭 Local Disk (C:)					
두 Network					
8 items					

2. Create a shortcut for the "msys.bat" file and rename the shortcut to "MinGW Shell"



3. (Optional) Add an icon to the "MinGW Shell" shortcut Right click on the icon =¿ properties, and select "Change Icon" from the "Shortcut" tab.

1000	Security	Details	Previo	us Versions
General	Shortcut	Options	Font	Layou
i an	sys - Shortcut			
Target type:	Windows Bate	h File		
Target location:	1.0			
Target	C:\MinGW\ms	ys\1.0\msys.bat		
<u></u>				
Start in:	C:\MinGW\ms	ys\1.0		
Shortcut key:	None			
Rup:	Normalwindo	NA/		~
<u>L</u> un:	Tronnar winde			-
Comment	_			
Open <u>File</u> L	ocation	<u>Change Icon</u>	Advand	ed

From the icon menu, select "Browse" and navigate to the installation folder (this is usually  $C:MinGW\msys\1.0$ ) and select one of the two provided icons.

T

🔝 Change Icon								x	
← → • ↑ 📕 ›	Th	is PC	> Local Disk (C:) > MinGW > msys > 1.0	~ Ū	Search 1.0			٩	
Organise 👻 New f	olde	r				•		?	
🔎 Lectures	^	Na	me	Date modified	Туре		Size		
la OneDrive			bin	28/07/2016 5:36 PM	File folder				
This DC			etc	28/07/2016 5:36 PM	File folder				
S This PC		1	home	5/03/2018 12:25 PM	File folder				
🏂 3D Objects			include	28/07/2016 5:36 PM	File folder				
💼 Desktop			lib	28/07/2016 5:36 PM	File folder				
Documents			postinstall	28/07/2016 5:36 PM	File folder				
🔈 Downloads			sbin	28/07/2016 5:36 PM	File folder				
b Music	=		share	28/07/2016 5:36 PM	File folder				
Pictures			var	28/07/2016 5:35 PM	File folder				
F Videos		12	m	12/07/2009 4:34 A	Icon			3 KE	3
Local Disk (C)		Ag	msys	12/07/2009 4:34 A	Icon			37 KE	;
Local Disk (C.)	~	<		III					>
File	nar	ne: m	sys	~	Icon files			~	
					<u>O</u> pen	<b>-</b>	Cancel		
									đ

4. Open the start menu, right click "All Programs" and click "Open"



5. Create a new folder in the "Programs Folder" called "MinGW"



6. Paste the "MinGW Shell" shortcut inside the folder.

	Missaaft	Mindows >	Start Mary		same MinGW		County Mi			x
Koaming .	► IVIICIOSOTE	Windows	Start Went	u 🕨 Prog	rams 🕨 iviing w	• • ?	Search Mi	nGW	_	Q
Organize 🔻 Include in	library 🔻	Share with 🔻	Burn	New fo	lder					•
🚖 Favorites	Name	<u> </u>			Date modified	Туре	Size			
E Desktop Downloads Dropbox Recent Places	🔊 MinGW	Shell			13/03/2014 7:20 PM	Shortcut		2 KB		
<ul> <li>□ Libraries</li> <li>□ Documents</li> <li>□ Music</li> <li>□ Pictures</li> <li>□ Videos</li> <li>₩ Homegroup</li> </ul>										
I Computer										
🙀 Network										
1 item										

You can now enjoy access to the MinGW Shell from the Start menu.

This is an alternative shell for interacting with Windows computers in a terminal window. Using the MinGW shell (rather than cmd) has the benefit of providing Unix-like commands such as 1s and more and so on, rather than the equivalent DOS commands. You'll then be in a better position to mimic what you see on the screen in lectures, and also be more prepared for using the Unix servers to submit your assignments.

Try it!

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