# How to install NetBeans in Windows

(Updated Mar25, 2024)

Note: Don't run the NetBeans installer before both Java and Cygwin are installed on your system.

#### 1. Install Java SE 13 (JDK)

Although newer versions of the JDK are available, NetBeans requires a file included in versions 13 *and earlier* for the installation of the C/C++ plugin<sup>1</sup>.

a. Follow this link to download Java SE 13: https://www.oracle.com/java/technologies/javase/jdk13-archive-downloads.html

You can also search for 'java jdk 13' in a web browser, if the link above does not work.

b. Select the **Windows x64 Installer** option for JDK 13.0.2 (scroll down the page to reach this spot)<sup>2</sup>. Click the link on the right side of this option to download it.

O ŵ E	https://www.or	acle.com/java/te	echnologies/jav	ase/jdk13-archiv	e-downloa	ds.html		Ê	
RACLE	Products	Industries	Resources	Customers	Partner	s Developers	Events Company	_	
				م	0	View Accounts	고 Contact Sales		
ux Compressed Ar	chive	179.41	мв			* jdk-13.0.2	2_linux-x64_bin.tar.gz		
cOS Installer		173.3 M	ИB	" <b>⊥</b> , jdk-13			0.2_osx-x64_bin.dmg		
COS Compressed	Archive	173.7 N	ИB			° <b>⊥</b> jdk-13.0.2	2_osx-x64_bin.tar.gz		
ndows x64 Installe	r	159.83	MB			° <b>⊥</b> jdk-13.0.2	_windows-x64_bin.exe		
ndows x64 Compre	essed Archive	178.99	MB			* <b>±</b> jdk-13.0.2	_windows-x64_bin.zip		
ndows x64 Compre	essed Archive	178.99	MB			13.0.2 jdk-13.0.2	e_windows-x64_bin.	zip	

You may need to create an Oracle User account to download this software. If so, you can use your school email account and address when setting up your account:

Riverside City College 4800 Magnolia Avenue Riverside, CA 92506 (951) 222-8000

<sup>&</sup>lt;sup>1</sup> It *is* possible to get C/C++ working in NetBeans using a JDK version greater than 13, but extra work is required, and no features of these newer versions are needed for the C/C++ plugin to work.

If you are interested in getting JDK version 14 or greater working with NetBeans, a separate document called "*How to fix NetBeans and Java incompatibility*" shows a way to do this.

<sup>&</sup>lt;sup>2</sup> JDK versions 13.0.1 or lower should also work.

c. After downloading, double-click the downloaded file (likely in your **Downloads** folder) and follow the installation instructions<sup>3</sup>. Leave default settings from the installer as they are.

#### 2. Install Cygwin

- a. Open the web page: <u>https://www.cygwin.com/</u>.
- b. Scroll down the page to find the link to 'setup-x86\_64.exe'. Click it to download the installer.

Cygwin 3.3 is the last major version supporting
<ul> <li>Windows Vista</li> <li>Windows Server 2008</li> <li>32 bit Windows versions, including WOW64</li> </ul>
Installing Cygwin
Install Cygwin by running setup-x86 64.exe
Use the setup program to perform a fresh install or to update an existing installation.
Keep in mind that individual packages in the distribution are updated separately from the DLL so the Cygwin DLL version is not useful as a general Cygwin distribution release number.
Support for Cygwin
For all Cygwin-related questions, observations, suggestions and bug reports, please check the resources

c. Run 'setup-x86\_64.exe' to begin installing Cygwin<sup>4</sup>.

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. The pages that follow will guide you through the installation. Please note that we only install a base set of packages by default. Cygwin provides a large number of packages spanning a wide variety of purposes. You can always run this program at any time in the future to add, remove, or upgrade packages as necessary.							
	Setup version 2.919 (64 bit) Copyright 2000-2022 https://cyqwin.com							
	< Back Next > Cancel							

Press **Next** for the next few steps until you reach list of packages. Leave all default settings as they are:

<sup>&</sup>lt;sup>3</sup> If a window pops up asking if you want to allow Java to make changes to the device (computer), click the **Yes** button.

<sup>&</sup>lt;sup>4</sup> Again, there may be a popup window asking to allow Cygwin to make changes on your system, click **Yes**.

E Cygwin Setup - Choose Installation Type	-		$\times$
Choose A Download Source Choose whether to install or download from the internet, or install from files in a local directory.		1	E
<ul> <li>Install from Internet (downloaded files will be kept for future re-use)</li> <li>Download Without Installing</li> </ul>			
O Install from Local Directory			
< Back Next	>	Can	ncel

Select Root Install Directory Select the directory where you want to install Cyg installation parameters.	win. <mark>Also choose</mark> a fe	w	1	
Root Directory				
C:\cygwin64			Browse	
Install For				
All Users (RECOMMENDED)				
Cygwin will be available to all users of the system	n.			
◯ Just Me				
Cygwin will still be available to all users, but Des Installer information are only available to the cun Administrator privileges or if you have specific ne	ktop Icons, Cygwin Me rent user. Only select eeds.	enu Entries, a this if you lac	and importa k	ant
			_	

d. You may change the local package directory to another location to save the installation files to. If you change to a nonexistent directory, you will be asked if you want to create it.

E Cyg	win Setup - Select	Local Package	Directory		2		$\times$
Sele S d	ct Local Package elect a directory whe ownloads. The direc	Directory re you want Setup tory will be created	o to store the i d if it does no	nstallation file	esit t.	E	E
Loca	I Package Directory						
C:\	Users\IEUser\Cygwir	1				Browse	
				< Back	Next	Cance	el

e. Keep your internet connection as 'Use System Proxy Settings':

E Cygwin Setup - Select Connection Type	—		$\times$
Select Your Internet Connection Setup needs to know how you want it to connect to the internet. Choose the appropriate settings below.		(	E
<ul> <li>Use System Proxy Settings</li> <li>Direct Connection</li> <li>Use HTTP/FTP Proxy:</li> </ul>			
Proxy Host Port 80			
< Back Next	t>	Can	cel

f. Choose a download site. It does not matter which one.

Choose a si	te from this list, or add your own sites to the list.				2
	Available Download Sites:				
	https://cygwin.miror.constant.com https://polish-miror.evolution-host.com https://cygwin.mirors.hoobly.com https://mirors.huaweicloud.com https://mirors.theam-cymru.com https://mirors.clarkson.edu https://miror.clarkson.edu http://www.gtlib.gatech.edu https://mirors.rit.edu https://mirors.rit.edu https://miror.cs.vt.edu https://miror.hk.koddos.net https://miror-hk.koddos.net https://miror.mangohost.net	•			
User URL:			Add	I	

g. In the **Select Packages** window, change the **View** dropdown list in the upper left corner to **Full**. Then in the **Search** textbox, enter **gcc**.

The list of packages will be filtered to only show items with 'gcc' in their names.

Find the packages called **gcc-core** and **gcc-g++.** For each of these, click the dropdown arrow button under the **New** column and select the highest *non-test* version in the list.

Cygwin Setup - Select Packages								C
Select Packages Select packages to install.								
ew Full V Search gool	Clear						⊖ Keep	1
Package	Current	New		Src?	Categories	Size	Description	
colorgee		Skip	*		Devel, Perl	14k	Colorizer for GCC warning/error messages	
ygwin32-gcc-core		Skip	-		Devel, Unmaintained	16,464k	GCC for Cygwin 32bit toolchain (C, OpenMP)	
rgwin32-gcc-debuginfo		Skip	-		Debug, Unmaintained	127,029k	Debug info for cygwin32-gcc	
gwin32-gcc-fortran		Skip	-		Devel, Unmaintained	7.014k	GCC for Cygwin 32bit toolchain (Fortran)	
gwin32-gcc-g++		Skip	-		Devel, Unmaintained	10,456k	GCC for Cygwin 32bit toolchain (C++)	
pp-gcc-ada		Skip	-		Devel, Unmaintained	13,501k	GCC for DJGPP toolchain (Ada)	
pp-gcc-core		Skip	*		Devel, Unmaintained	7,926k	GCC for DJGPP toolchain (C)	
pp-gcc-debuginfo		Skip	-		Debug, Unmaintained	169,469k	Debug info for digpp-gcc	
pp-gcc-fortran		Skip	*		Devel, Unmaintained	6,296k	GCC for DJGPP toolchain (Fortran)	
pp-gcc-g++		Skip	-		Devel, Unmaintained	8,279k	GCC for DJGPP toolchain (C++)	
pp-gcc-objc		Skip			Devel, Unmaintained	5.087k	GCC for DJGPP toolchain (Objective-C)	
pp-gcc-objc++		Skip	V	11	Devel, Unmaintained	5.349k	GCC for DJGPP toolchain (Objective-C++)	
c-core		11.3.0-1	-		Devel	30,739k	GNU Compiler Collection (C, OpenMP)	
c-debuginfo		Skip			Debug	32,436k	Debug info for gcc	
c-fortran		Skip	-		Devel	10,726k	GNU Compiler Collection (Fortran)	
c-g++		11.3.0-1	*		Devel	18,042k	GNU Compiler Collection (C++)	
c-objc		Skip	*		Devei	7,867k	GNU Compiler Collection (Objective-C)	
c-objc++		Skip	-		Devel	8.371k	GNU Compiler Collection (Objective-C++)	
c-tools-epoch 1-autoconf		Skip	-		Devel, Unmaintained	425k	(gcc-special) automatic configure script builder	
c-tools-epoch 1-automake		Skip	*		Devel, Unmaintained	419k	(gcc-special) a tool for generating GNU-compliant Makefiles	
c-tools-epoch2-autoconf		Skip	*		Devel, Unmaintained	712k	(gcc-special) automatic configure script builder	
c-tools-epoch2-automake		Skip	*		Devel, Unmaintained	589k	(gcc-special) a tool for generating GNU-compliant Makefiles	5
omakedep		Skip	-		Devel, Unmaintained	6k	X Makefile dependency tool for GCC	
goc1		11.3.0-1	*		Libs	31k	GCC C runtime library	
gccjit0		Skip	•		Libs	9.628k	GCC JIT runtime library, header files and documentation	
gccpp1		Skip	*		Libs	3k	Boehm-Demers-Weiser garbage collector library	
ngw644686-gcc-core		Skip	•	Π	Devel	28,175k	GCC for Win32 (686-w64-mingw32) toolchain (C, OpenMP)	1
ingw644686-gcc-debuginfo		Skip	-		Debug	421,774k	Debug info for mingw64-686-gcc	
in an \$4 if \$5 and fast me		Skin	-		David	11 124	GCC for Win 22 (5295 w 54 minore 22) tooloh sin (Entron)	

h. Now in the same window, enter gdb in the Search textbox and find package name gdb.
 Click the dropdown arrow button in the New column for gdb and <u>select version 9.2-1</u>. Do not select a higher version<sup>5</sup>.



i. Still in the same window (Select Packages), enter make in the Search textbox. Find the make entry in the package list. Click the dropdown arrow button in the New column for make and select the highest non-test version.

ew Full V Search make	Clear					ОКеер	Best O Sy
Package	Current	New		Src?	Categories	Size	Description
lbpagemaker-tools		Skip	-		Graphics, Unmaintained	5k	MS Publisher file con
libpagemaker0.0-debuginfo		Skip	-		Debug, Unmaintained	591k	Debug info for libpag
libpagemaker0.0-devel		Skip	-		Libs, Unmaintained	2k	Adobe PageMaker in
libpagemaker0.0-doc		Skip	•	T	Libs, Unmaintained	109k	Adobe PageMaker in
libpagemaker0.0_0		Skip	-		Libs, Unmaintained	65k	Adobe PageMaker in
make	4.3-1	Кеер	*	Π	Devel	503k	The GNU version of
make-debuginfo		Skip	-		Debug	441k	Debug info for make
makedepend		Skip	-	Π	Devel	29k	X Makefile depende
makedepend-debuginfo		Skip	•	Ē	Debug	75k	Debug info for make
makepasswd		Skip	•	T	Perl, Utils	14k	Generate and encry
makeself		Skip	•	T	Archive	27k	Utility to generate se
mingw6446864ibpagemaker0.0		Skip	•		Libs, Unmaintained	76k	Adobe PageMaker i
mingw64-i686-gt4-gmake		Skip	•	T	Devel, Unmaintained	7,326k	Qt4 development to
mingw64-1686-gt4-gmake-debuginfo		Skip	-	F	Debug, Unmaintained	79,179k	Debug info for mingy
mingw64-x86_64-libpagemaker0.0		Skip	•	Ē	Libs, Unmaintained	74k	Adobe PageMaker in
mingw64-x86 64-gt4-gmake		Skip	•	Ē	Devel, Unmaintained	7,330k	Qt4 development to
mingw64-x86_64-gt4-gmake-debuginfo		Skip	-		Debug, Unmaintained	79,182k	Debug info for mingy
perl-Ext Utils-Make Maker		Skip	•	Ē	Perl	284k	Perl distribution Ext.
psl-make-dafsa		Skip	•	T	Devel	8k	Public Suffix List libra
vim-cmake		Skip	-	F	Editors	18k	Cross-platform make
psl-make-dafsa vim-cmake <		Skip Skip	•		Devel Editors	8k 18k	Public Suffix Lit Cross-platform

<sup>&</sup>lt;sup>5</sup> Versions above 9.2-1 do not currently work with the NetBeans C/C++ plugin. **gdb** is the debugger for C/C++.

j. Click **Next**, now that all four packages are selected (**gcc-core**, **gcc-g++**, **gdb**, and **make**). The next window should list all packages that will be installed<sup>6</sup>. After viewing the list, click **Next** and download should start. This may take a few minutes.

, sygnin setup increasing commit changes		-		×
Review and confirm changes			1	
Install _autorebase 001091-1 Install alternatives 1.3.30c-10 Install base-cygwin 3.8-1 Install base-files 4.3-3 Install bash 4.4.12-3 Install binutils 2.39-1 (automatically added) Install bzip2 1.0.8-1 Install ca-certificates 2022.2.54-3 Install coreutils 9.0-1				^
Install crypto-policies 20190218-1 Install cygutils 1.4.17-1 Install cygwin 3.3.6-1			>	~

k. After installation is complete, click **Finish** to exit the installer.

## 3. Install NetBeans

a. Open the web page <u>https://netbeans.apache.org/download/</u>.

Go to the **NetBeans** download page by clicking one of the **Download** buttons<sup>7</sup>:



<sup>&</sup>lt;sup>6</sup> If this is the first time Cygwin is being installed and configured on the system, several more packages will be installed besides the four specifically selected. These include the base Cygwin system.

<sup>&</sup>lt;sup>7</sup> As of this writing, NetBeans 21 is available. A recent NetBeans version should work fine – but NetBeans 15 has been more extensively tested with the setup described in this document. If needed, you can download past versions by clicking the button under "Older releases" on the page.

b. In the next page, make sure to download the Windows 64-bit version of NetBeans:



c. Now go to your **Downloads** folder (or wherever you had NetBeans downloaded to) and double-click the NetBeans installer file to run it (e.g. **Apache-NetBeans-15-bin-windows-x64.exe**)<sup>8</sup>. Click the **Next** button on the NetBeans installer window.

🗘 Apache NetBeans IDE Ins	taller	_		×
	Welcome to the Apache NetBeans I	IDE 15 Inst	aller	
	The installer will install the NetBeans IDE with the fi Click Customize to select the packs and runtimes to	ollowing packs ar install.	nd runtimes	s.
	Base IDE Java SE Java EE HTML5/JavaScript PHP			
Apache NetBeans IDE	Customize	Installation	n Size: 791	. 4 MB
		Next >	Cano	cel

<sup>&</sup>lt;sup>8</sup> Once again, if a window pops up saying NetBeans wants to make changes to your computer, click the **Yes** button to allow it.

d. In the License Agreement window, click the checkbox to accept the terms. Then click **Next**.

			×
icense Agreement	A A	ache	IDE
Please read the following license agreement carefully.		etbeans	IDE
APACHE NETBEANS IDE DEVELOPMENT VERSION ("Product") LICENSE AGREEMENT			^
PLEASE READ THE FOLLOWING LICENSE AGREEMENT TERMS AND CONDITIONS CAREFULLY, INCLUDING WITHOUT LIMITATION THOSE DISPLAYED ELSEWHERE (AS INDICATED BY LINKS LISTED BELOW), BEFORE USING THE SOFTWARE. THESE TERMS AND CONDITIONS CONSTITUTE A LEGAL AGREEMENT BETWEEN YOU, OR THE ENTITY FOR WHICH YOU ARE AN AUTHORIZED REPRESENTATIVE WITH FULL AUTHORITY TO ENTER INTO THIS AGREEMENT, AND APACHE. BY CLICKING "ACCEPT" OR THE EQUIVALENT YOU AGREE TO ALL OF THE TERMS AND CONDITIONS OF THIS LICENSE AGREEMENT. IF YOU DO NOT AGREE TO THIS LICENSE DO NOT CLICK "ACCEPT" OR THE EQUIVALENT AND DO NOT INSTALL OR USE THIS SOFTWARE.			
Apache License Version 2.0, January 2004 http://www.apache.org/licenses/			
TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION			~
✓ I accept the terms in the license agreement			

e. In the next window, under **JDK for the Apache NetBeans IDE**, make sure that *the location of the correct JDK has been chosen*. You may have multiple versions of JDK on your computer. The version you installed in Step 1 should be specified here (change to the right one, if it says different).

Q Apache NetBeans IDE Installer	-		<
Apache NetBeans IDE 15 Installation Choose the installation folder and JDK™.		tBeans IDE	6
Install the Apache NetBeans IDE to:			
C:\Program Files\WetBeans-15		Browse	
JDK™ for the Apache NetBeans IDE:			
C:\Program Files\Java\jdk-13.0.2	~	Browse	
<	Back Next >	Cancel	

f. Click Install in the next window:



Installation may take a few minutes. After it's done, click the Finish button.

#### 4. Modify NetBeans to build C/C++ projects

The NetBeans IDE<sup>9</sup> is not set up to use with C/C++ projects by default. Follow the next steps to add this capability.

a. Start NetBeans (e.g., go to the Windows Start Button, look for "Apache NetBeans IDE...", and click on it).

<ul> <li>File V</li> <li>P</li> <li>P</li> <li>P</li> </ul>	View Debug	Profile	Team	Tools	Window	Help	Apache N	letBeans IDE 15	🔍 Search (Ctrl+I)
Start Page	×								
Q	Apache NetBe	ans	IDE			Learn	& Discover	My NetBeans	What's New
L	earn &	Disc	ovei	-					
т	ake a Tour							Demos 8	Tutorials
T	ry a Sample P	roject						Java SE Appli	cations
v	Vhat's New							PHP and HTM	IL5 Applications
C	Community Cor	mer						All Online Do	ocumentation >>

In the NetBeans main window, go to the **Tools** menu, then **Plugins**.

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<sup>&</sup>lt;sup>9</sup> IDE = Integrated Development Environment.

b. In the Plugins window, click on the **Settings** tab and make sure that **NetBeans 8.2 Plugin Portal** is *Active* (it's checkbox should be checked).

Configuration of Update Centers: Active Name VetBeans 8.2 Plugin Portal Votation NetBeans Distribution VetBeans Distribution VetBeans Plugin Portal Last Check: never URL: http://updates.netbeans.org/netbeans/upr	Edates/8.2/uc/final/dist	fit Remove
Active     Name       Image: Constraint of the system of the syste	Et	dit Remove
Image: Constraint of the second se	dates/8.2/uc/final/dist	ribution/catalog.xml.g
Automatically Check for Updates Check Interval: Every Week Advanced Plugin Install Location: Default	~	Add Proxy Settings

If the **NetBeans 8.2 Plugin Portal** is not available, click the **Add** button and the Update Center Customizer window will appear.

Enter "NetBeans 8.2 Plugin Portal" for the Name field, and use the URL:

http://updates.netbeans.org/netbeans/updates/8.2/uc/final/distribution/catalog.xml.gz for the repository.

🚺 Up	date Center Customizer X
Name:	NetBeans 8.2 Plugin Portal
	Check for updates automatically
URL:	http://updates.netbeans.org/netbeans/updates/8.2/uc/final/distribution/catalog.xml.gz
	Trust update center fully and allow automatic installations
	OK Cancel

c. Now click on the **Available Plugins** tab. If you don't see "**C/C++**" in the list of options, click the **Check for Newest** button.

Check	for Newest			Search:
nstall	Name	Category	Source	CIC++
~	C/C++	C/C++	¢	
	BinEd - Binary/Hexadecimal Editor	Editing	-	Q Certified Plugin
	Java Card™	Java Card™	0	
	Oberthur Java Card Platform	Java Card™	0	Version: 1.30.6.1 Date: 5/19/17
	Java Card Runtime Bundle	Java Card™	0	Source: NetBeans 8.2 Plugin Portal
	Java ME Keystore Management	Java ME	0	Homepage: http://www.netbeans.org/
	Java ME Common Ant Tasks	Java ME	0	
	Java ME Core	Java ME	0	Plugin Description
	Java ME Project	Java ME	0	C/C++ support including editing projects GDB debugger and make There is a ba
	Oracle JET Support	JavaScript	0	support for Fortran and Assembler (x86/64, SPARC)
	Hibernate	Java SE	0	
	JavaFX Implementation for Wind	Libraries	0	
	GUI Popup & Inspect	Swing	60	
	Explore Location in OS	Utilities	-	
	XPathUtil	XML	-	

d. Click **Next** in the next window.

NetBeans IDE Installer	×		
Welcome to the NetBeans IDE Plugin Installer The installer will download, verify and then install the selected plugins.			
The following plugins will be installed:			
<b>C/C++</b> [1.30.6.1]			
< Back Next > Ca	Help		

e. In the next window, click the checkbox to accept the license agreement, then click **Install**.

		×
License Please re	Agreement ad all of the following license agreements carefully.	
In order associat	to continue with the installation, you need to agree with all of the license agreeme ed with the particular plugins.	nts
Plugins:	Remote Git [1.2.11.1.1]	~
LICENS (CDDL)	E: The Common Development and Distribution License Version 1.0 or the GNU General Public License	
(GPL) w NetBear addition by othe	ith "CLASSPATH" EXCEPTION govern your use of: ns software. NetBeans software also makes use of nal libraries made available for use and distribution r parties, including open-source projects.	

f. In the Verify Certificate window, click **Continue**.

<ul> <li>Signed and Valid (0)</li> <li>Self signed (67)</li> <li>Unsigned (0)</li> <li>Modified/Damaged (0)</li> </ul>	

g. On the final window of the plugin installer, click **Finish**<sup>10</sup>.

Then restart NetBeans.

pdates	(1) Available Plug	NetBeans IDE Installer ×	
Check	for Newest	Installation completed successfully	Search:
nstall	Name	Click Finish to quit the NetBeans IDE installer.	
	C/C++		-
	BinEd - Binary/Hexa	The NetBeans IDE Installer has successfully installed the following plugins:	
	Java Card™	C/C++	
	Oberthur Java Card		
	Java Card Runtime B		
	Java ME Keystore Ma		
	Java ME Common A		
	Java ME Core		
	Java ME Project		er and make. There is a has
	Oracle JET Support		is and maker mere is a bas
	Hibernate		
	JavaFX Implementat		
	GUI Popup & Inspec		
	Explore Location in C		
	XPathUtil		
Instal	I 1 plugin selecte	Finish Help	Clara Hala

## 5. Test C/C++ in NetBeans

Finally, after restarting NetBeans, try creating a new project. The method described here is likely the one you will be using for creating a new NetBeans C/C++ project throughout the course.

a. Do one of the following to start a new project: a) click the gold/yellow "New Project" icon in the upper left of the NetBeans window; b) go to the File menu and then New Project...; or c) use the <Ctrl>-<Shift>-N key combination.



<sup>&</sup>lt;sup>10</sup> In this final window, if the message says "Installation completed <u>un</u>successfully", proceed with the final steps anyways. This message occasionally occurs but often the C/C++ plugin still gets installed. If it looks like the plugin did not get installed correctly, get help from a lab aide or instructor.

b. The New Project window should open. You should see a **C/C++** option under Categories in this window. Click on it.

teps	Choose Project					
Choose Project	🤍 Filter:					
	Categories:	Projects:				
	Java with Maven	C/C++ Project with Existing Sources				
	Java with Gradle	C/C++ Project from Binary Files				
	Java with Ant	C/C++ Dynamic Library				
	PHP	C/C++ Static Library				
	C/C++	C/C++ Qt Application				
	> 🖿 Samples	C/C++ Qt Static Library				
	Description:					
	Creates a new application project. It uses an IDE-generated makefile to build your project.					

Under **Projects**, there should be several C/C++ entries.

If you only see "Lightweight C/C++ Project" in this section, the C/C++ configuration was *not* set up properly. In this case, go back to Step 4: Modify NetBeans to build C/C++ projects, and check those steps to see if something was missed.

If instead, you see all the C/C++ choices under **Projects**, select **C/C++ Application** and click **Next**.

1.       Choose Project         2.       Project Name and Location         Project Name and Location       C:\Users\shptac1001c\Documents\WetBeansProjects         Project Folder:       sc1001c\Documents\WetBeansProjects\CppApplication_1         Project Makefile Name:       Makefile         Create Main File       C++         Build Host:       localhost         Tool Collection:       Default (Cygwin (GNU Cygwin))	Ste	ps	Project Name and Lo	ocation		
2. Project Name and Location       Project Location:       C:\Users\shpctac1001c\Documents\WetBeansProjects\       Browse         Project Folder:       ac1001c\Documents\WetBeansProjects\CppApplication_1       Project Makefile       C++         Project Makefile       main       C++       C++         Build Host:       localhost       v         Tool Collection:       Default (Cygwin (GNU Cygwin))       v	1.	Choose Project	Project Name:	ConApplication 1		
Project Folder:       ac100 1c/pocuments/NetBeansProjects/CppApplication_1         Project Makefile Name:       Makefile         Image: Create Main File       main         Build Host:       localhost         Tool Collection:       Default (Cygwin (GNU Cygwin))	2.	Project Name and Location	Project Location:	C:\  kers\choctac1001c\Documents\\\etBeansProjects	Browse	
Project Makefile Name:       Makefile         Image: Create Main File       main         Build Host:       localhost         Tool Collection:       Default (Cygwin (GNU Cygwin))			Designet Coldens		bronsen	
Project Maketile Name: Maketile  Create Main File  Build Host: Iocalhost  Tool Collection: Default (Cygwin (GNU Cygwin))			Project Folder:	sc 100 IC (Documents (NetBeansProjects (CppApplication_1		
Create Main File     main     C++       Build Host:     localhost        Tool Collection:     Default (Cygwin (GNU Cygwin))			Project Makefile Name:	Makefile		
Build Host:     localhost        Tool Collection:     Default (Cygwin (GNU Cygwin))			Create Main File	main	C++	~
Tool Collection: Default (Cygwin (GNU Cygwin)) ~			Build Host:	localhost $\checkmark$		
			Tool Collection:	Default (Cygwin (GNU Cygwin)) ~		
				<back next=""> Finish Car</back>	ncel He	þ

c. The New C/C++ Application window appears.

You can leave the Project Name as the default ("CppApplication\_...") or change it to a more meaningful name.

#### **IMPORTANT!**

Make sure that the **Tool Collection** dropdown field is set to "**Cygwin (GNU Cygwin)**" or "**Default** (**Cygwin (GNU Cygwin))**". If it is set to something else (e.g. "**MinGW (GNU MinGW)**"), change it to a Cygwin entry. *Some of the code you will be writing may not work properly under a tool collection other than Cygwin*.

If you want to set Cygwin as the default tool collection (so the **Tool Collection** dropdown would not need to be changed for every new project), see the **Appendix**.

d. Click the **Finish** button in the New C/C++ Application window. The window will close.

In the main NetBeans window, a new C/C++ application project folder 'tree' will appear in the **Projects** tab.



In the new project tree, click the "+" next to "Source Files" to open that section up. Then *double-click* on "**main.cpp**"<sup>11</sup>.

e. The main.cpp file will open with some default text in it:



<sup>&</sup>lt;sup>11</sup> You may have renamed this file from "main" in the New C/C++ Application window (**Step 5c**). If so, double-click on whatever the new name of the file is here.

f. Replace this text with the following:

```
#include <iostream>
using namespace std;
int main(int argc, char** argv) {
    cout << "Hello world" << endl;
    return 0;
}</pre>
```

This very simple "Hello World" program will help determine if NetBeans is able to run your code.

g. After entering the program, click the triangular green "Run Project" button in the toolbar:

CppApplication_1 - Apache NetBeans IDE 12.0					
File Edit View Navigate Source Refacto	or Run Debug Profile Team Tools Window Help				
🖺 🛅 🔡 🌗 🏓 🌔 Debug	🔜 🕒 - 🚡 📆 🕑 - 🚮 - 181.2/619.0MB 📿				
Pro × Files Servic Classes – Start Page × @ main.cpp ×					
CppApplication_1  Header Files	Source History   🚱 🕞 - 👼 - 🗖 - 🖓 - 🖓 - 🖓 - 😓				

This button will attempt to compile, link and run your program.

h. If everything works right, you should see the text "Hello world" in the output panel in the lower part of the window:

CppApplication_1 - Apache NetBeans IDE	-		×			
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Header Files     Resource Files	1 #include <iostream></iostream>					
Source Files	2 3 using namespace std:					
main.cpp	4					
Important Files	5 - int main(int argc, char** argv) {					
	8 return 0;					
	10			-		
	- <u>eee &gt; @ main &gt;</u>			×		
main(int argc, char** argv) - Navig × –	Output ×			-		
	CppApplication_1 (Build, Run) × CppApplication_1 (Run) ×			_		
	W Hello world			^		
	RUN SUCCESSFUL (total time: 157ms)					
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L	Q	10:1 IN	s			

If you got this working, it's time to take a break and celebrate!

# <u>Appendix –</u> <u>How to set Cygwin as your default tool collection</u>

I. In **the** main NetBeans window, go to **Tools->Options**. The Options window opens. Then click on the **C/C++** tab.

If you do *not* see the **C/C++** tab in the Options window, the C/C++ plugin was not installed. In this case, go back to Step 4: **Modify NetBeans to build C/C++ projects** above and repeat it.

Options			×
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General Editor Fonts & Colors Keyma	o Java HTML/JS	PHP C/C++ Team Appearance Miscellaneous	
Build Tools Project Options Code As	sistance Debugging C	Options Other	
Build Host:	localhost	~	Edit
Tool Collection:	Family:	GNU MinGW Encoding: UTF-8	~
	Base Directory:	C:\MinGW\bin	\$PATH
	C Compiler:	C:\MinGW\bin\gcc.exe	
	C++ Compiler:	C:\MinGW\bin\g++.exe	
	Fortran Compiler:		
	Assembler:	C:\/linGW\/bin\as.exe	
	Make Command:	C:\/MinGW\msys\1.0\bin\make.exe	
	Debugger Command:	C: \MinGW\bin\gdb.exe	
	QMake Command:		
	CMake Command:		
Add Duplicate			
Remove Default		Versions Resto	re Defaults
Export Import		OK Apply Cancel	Help

II. If "Cygwin" is an option under Tool Collection, skip over this step.

Otherwise, if you do not see "Cygwin" here, click the Add button below the Tool Collection section.

The Add New Tool Collection window appears.

Use the **Browse** button, or type "C:\cygwin64\bin" in the **Base Directory** text box<sup>12</sup>. Then set the **Tool Collection Family** to "GNU Cygwin". The **Tool Collection Name** field should automatically populate with "Cygwin".

<sup>&</sup>lt;sup>12</sup> Cygwin likely has been installed in "C:\cygwin64\bin" or a similar directory on your computer. If you cannot find Cygwin on the computer, it may not have been installed. Go back and repeat Step 2: Install Cygwin in this case.

🟮 Add New Tool Col	lection		$\times$
Enter the base directory	$\prime$ , the family, and the name of the new tool collection.		
Base Directory:	C:\cygwin64\bin		Browse
Tool Collection Family:	GNU Cygwin		$\sim$
Tool Collection Name:	Cygwin		
		OK	Cancel

If everything looks okay in the Add New Tool Collection window, click the **OK** button.

III. In the Options window, in the C/C++ tab, select "Cygwin" under Tool Collection, if it is not already selected.

Options			$\times$
Seneral Editor Fonts & Colors Keyma	p Java HTML/JS	PHP CC+++ Team Appearance Miscellaneous	Q Filter (Ctrl+F)
Build Tools Project Options Code As	sistance Debugging O	options Other	
Build Host:	localhost		✓ Edit
Tool Collection: Cygwin	Family:	GNU Cygwin Encoding: UTF-8	$\sim$
MinGW	Base Directory:	C:\cygwin64\bin	\$PATH
	C Compiler:	C:\cygwin64\bin\gcc.exe	
	C++ Compiler:	C:\cygwin64\bin\g++.exe	
	Fortran Compiler:		
	Assembler:	C:\cygwin64\bin\as.exe	
	Make Command:	C:\cygwin64\bin\make.exe	
	Debugger Command:	C:\cygwin64\bin\gdb.exe	
	QMake Command:		
	CMake Command:		
Add Duplicate Remove Default	_	Versions R	estore Defaults
Export Import		OK Apply Can	el Help

<u>Now click the **Default** button</u>. You must do this do this to set Cygwin as the default tool collection – even if it is selected under **Tool Collection** in this window.

Click the **OK** button to close the Options window.

Your tool collection should now default to Cygwin when you create new C/C++ projects.