



**ELECTRICAL ENGINEERING AND
COMPUTER SCIENCE DEPARTMENT**

University of Toledo College of Engineering

Installing an IDE

A practical guide to installing NetBeans
for Java and C/C++

EECS 1500
EECS 1510

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FOREWORD

Choosing and installing an Integrated Development Environment can be a challenge especially for a student new to programming, computer science or electrical engineering. An IDE is a suite of programs that make the task of programming, debugging, and packaging easier by providing a robust set of tools. Along with the IDE, a compiler toolchain is needed. A compiler toolchain is what will transform your hand-written code into an executable of machine instructions, or a library that can be reused. For the EECS 1500 course the MinGW Toolchain will be utilized, and for the EECS 1510 course the standard Oracle JDK (Java Development Kit) will be utilized.

Notes

IDE: An Integrated Development Environment

Compiler Toolchain: A set of tools which will transform source code into machine code.

REVISION HISTORY

Rev.	Date	Name	Comment
1	1/22/2015	Thomas Royko	Document created, first draft
2	1/27/2015	Thomas Royko	Adding IDE procedures
3	1/27/2015	Michael Herman	Spelling and Grammar Corrections
4	1/28/2015	Thomas Royko	Changing the Path section to fix Windows 8 issues
5	1/10/2016	Thomas Royko	Updating to match new course requirements
6	1/12/2016	Thomas Royko	Finished bringing document up to date

DOCUMENT VERSION

Version Number	1.0.5
Version Status	Release

NETBEANS

Picking an IDE can be a tough decision, in part because typically most provide the same basic level of functionality: editing, compiling, and debugging. However, some IDE's might have added functionality beyond that, have a better designed interface, or have a smaller memory footprint.

Eclipse and NetBeans are both popular IDEs. Eclipse beyond just the basic functionality provides the ability to install a multitude of plugins. Due to its capabilities as a universal IDE, it is quite bulky. NetBeans on the other hand, provides the foundational functionality in a simple interface with a smaller memory footprint and has plugins (not as many as eclipse).

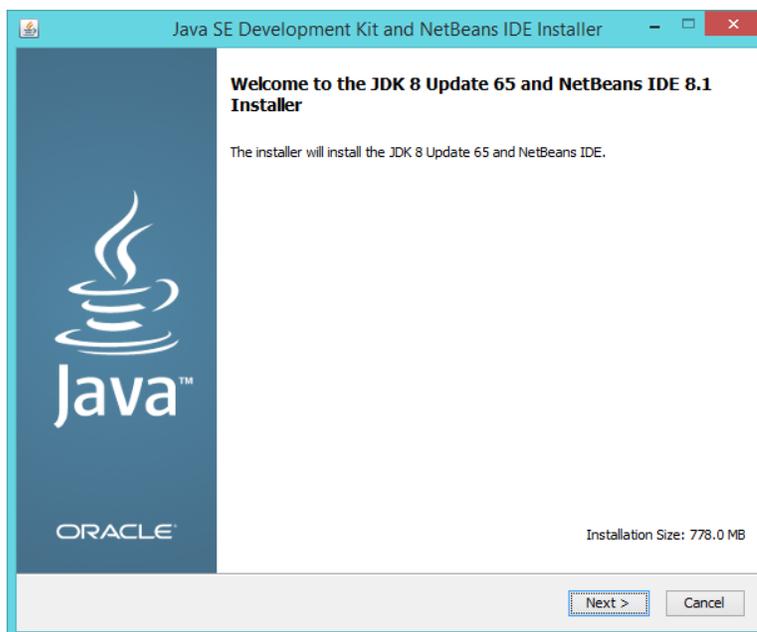
For the **Introduction to Programming (EECS 1500)** and **Introduction to Object Oriented Programming (EECS 1510)** courses you will be using the **NetBeans IDE**.

INSTALLATION EECS 1510 (JAVA)

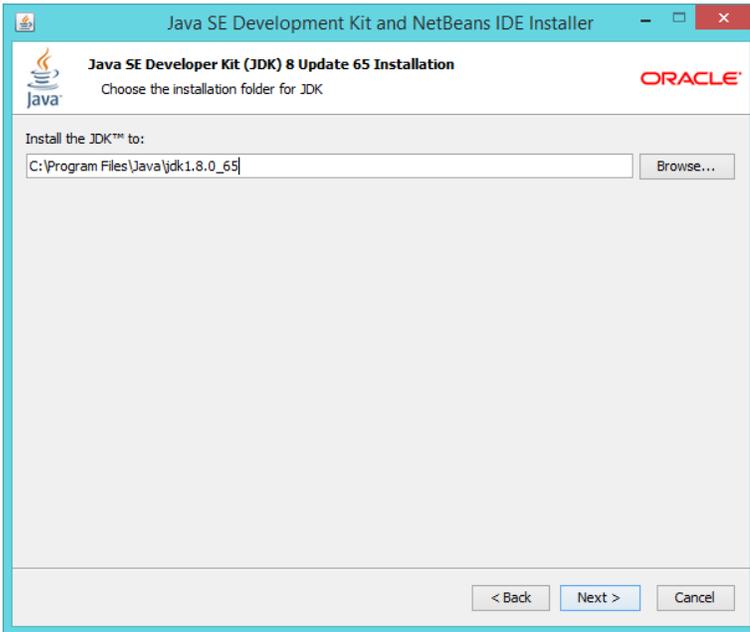
1. Goto the following address, the download will begin automatically:

http://download.oracle.com/otn-pub/java/jdk-nb/8u65-8.1/jdk-8u65-nb-8_1-windows-x64.exe

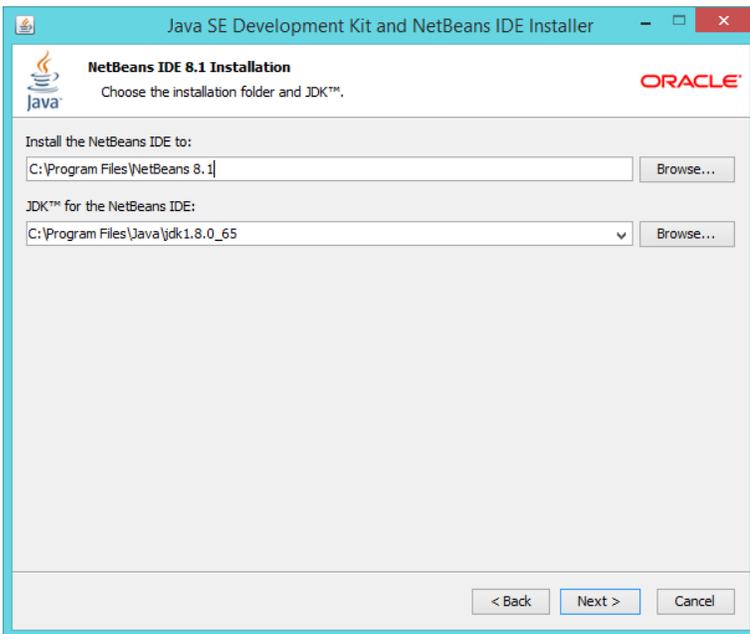
2. Run the downloaded installer. In the following steps use all the defaults.
3. Click "Next"



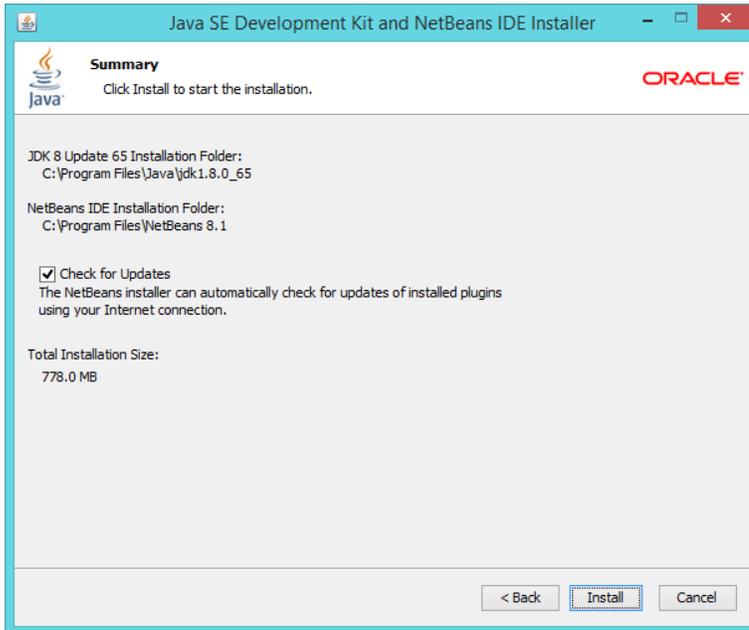
4. Click "Next"



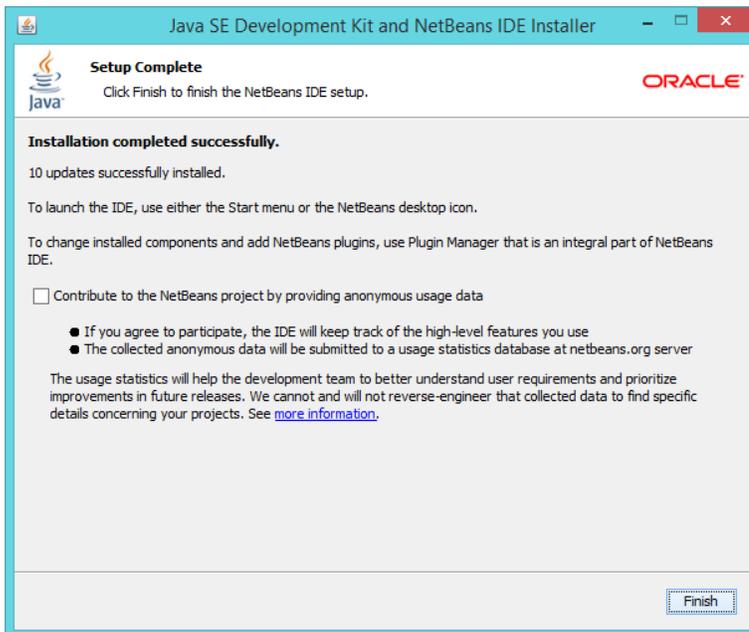
5. Click "Next"



6. Click "Install"



7. Click "Finish"

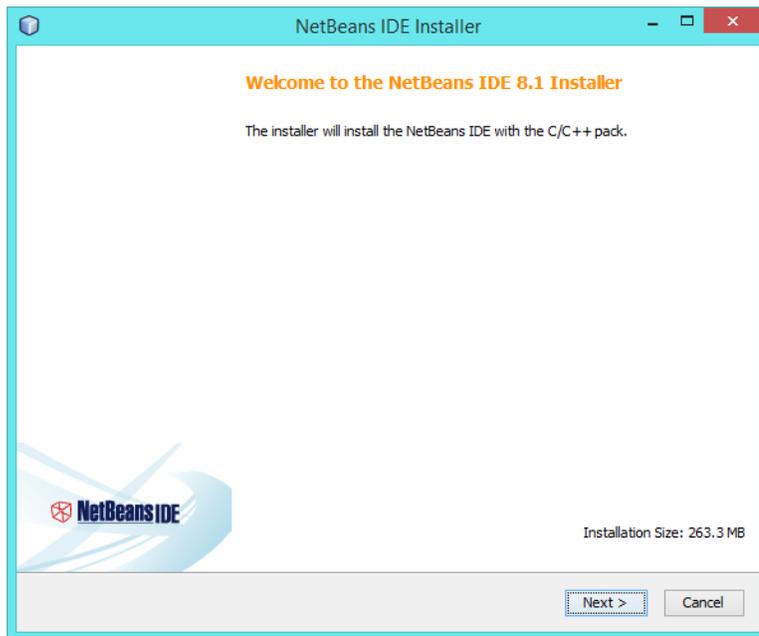


INSTALLATION EECS 1500 (C++)

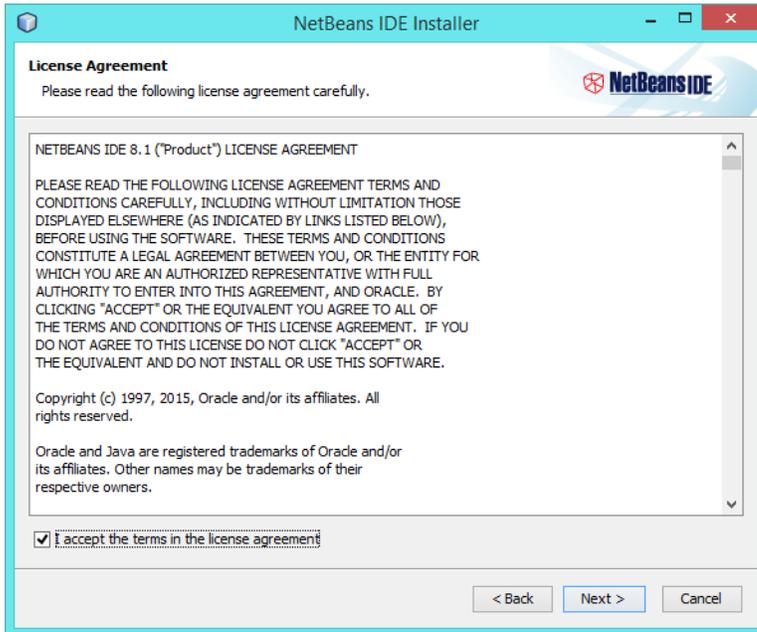
1. Goto the following address, the download will begin automatically:

<https://netbeans.org/downloads/start.html?platform=windows&lang=en&option=cpp&bits=x64>

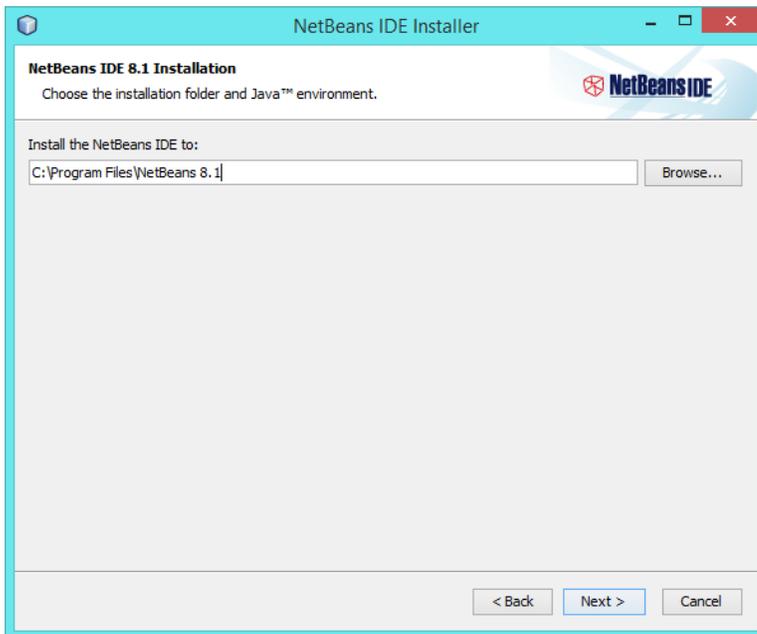
2. Run the downloaded installer. In the following steps use all the defaults.
3. Click "Next"



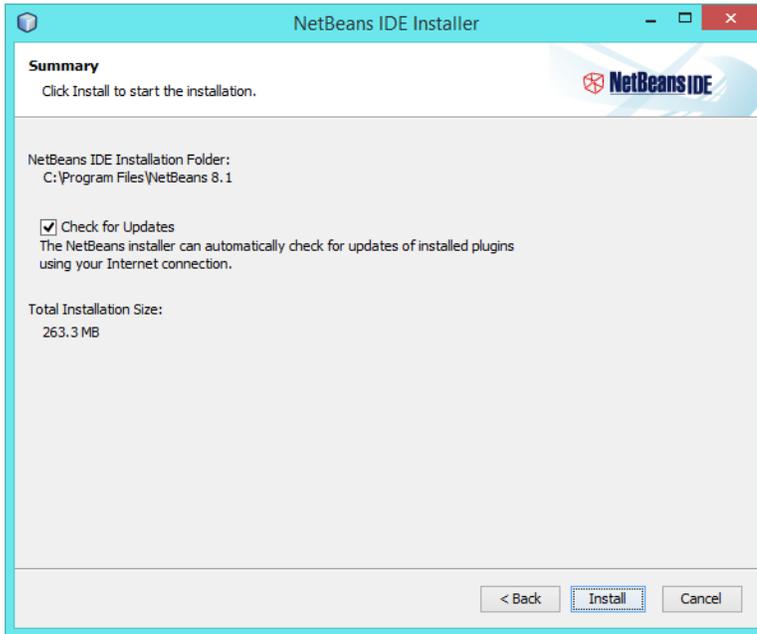
4. Accept the licensing agreement and click "Next"



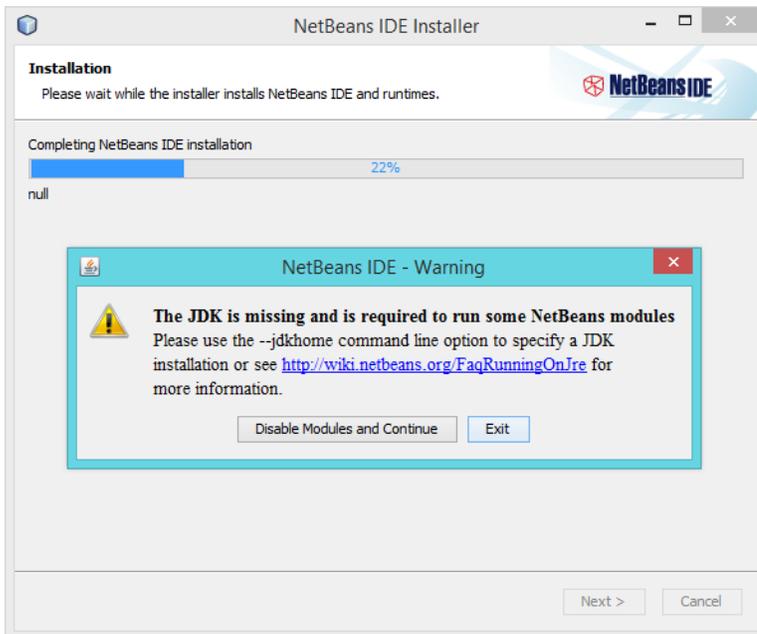
5. Click "Next"



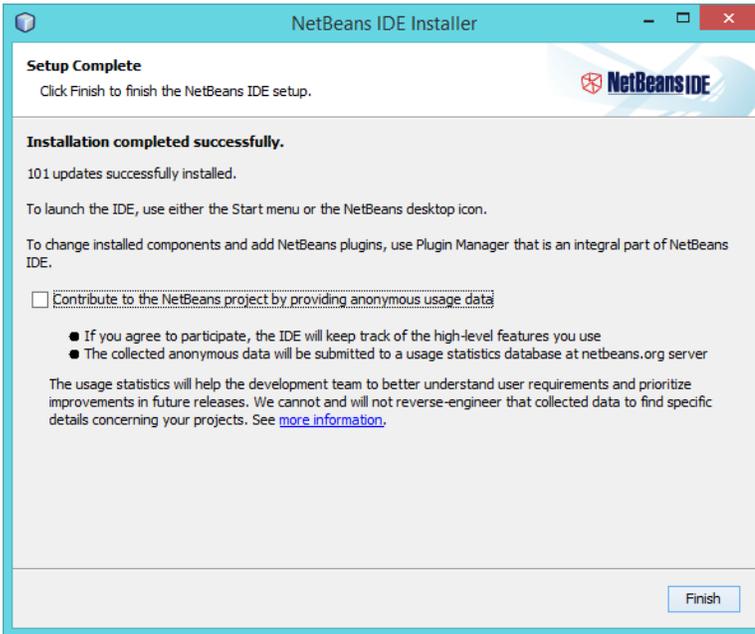
6. Click "Install"



7. Click "Disable Modules and Continue"



8. Click "Finish"



MinGW (Minimalistic GNU for Windows) and Cygwin are two implementations of the GNU Compiler Collection, popularly known as GCC. Each toolchain has its advantages and disadvantages. Some consideration should be given as to which toolchain you wish to use, as this may impact the way you write code. For beginners, the difference doesn't really matter; however, the installation for Cygwin is much more complex. As such, this guide will only focus on installing MinGW, as this is the toolchain we will be using in EECS 1500. For reference, a comparison is provided below:

MinGW

- Small/Minimalistic – Your programs have less baggage, typically not many extra files needed alongside executable
- Faster programs than Cygwin
- Uses some Windows conventions (Not full POSIX)

Cygwin

- A full POSIX (Unix) environment
- Code written on Linux (or other 'nix) more likely to compile.
- One large DLL packaged with your executable

We will be using the **MinGW toolchain** for **EECS 1500**, therefore this guide will only cover the process of installing MinGW.

Important!

Before installing, check if your computer is 32-bit (x86) or 64-bit (x86_64).

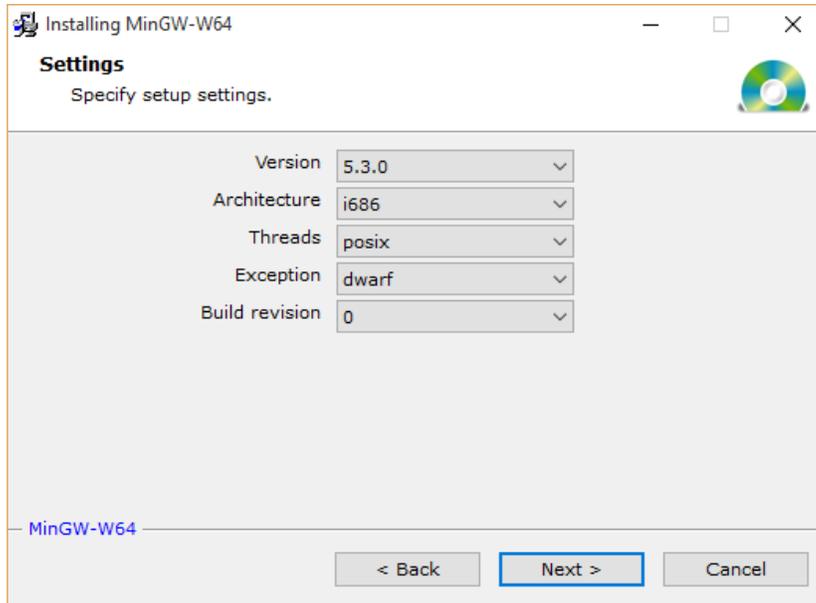
You can verify this by right clicking on **My Computer** and going to **Properties**.

It should say whether the computer is 32 or 64 bit.

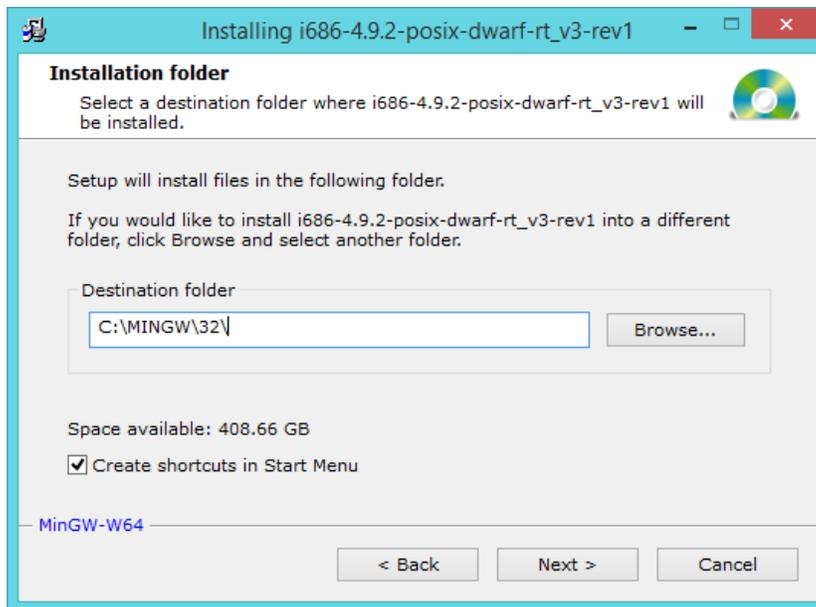
INSTALLING MINGW

1. Create a folder on your C:\ drive, name it MINGW.
2. In C:\MINGW create a folder named 32. (C:\MINGW\32\)
3. Download MinGW from <http://sourceforge.net/projects/mingw-w64/>
4. Run the installer; on the first page of options select all the defaults.

Note: You must be connected to the internet for this step, as the installer is an online one.



5. On the next page, change the destination to "C:\MINGW\32\", and click next:



6. Mingw will be installed. Click Finish at the end.
7. Download the latest version of MYSYS from:
<http://sourceforge.net/projects/mingw-w64/files/External%20binary%20packages%20%28Win64%20hosted%29/MSYS%20%2832-bit%29/MSYS-20111123.zip/download>
8. Open the zip file, and copy the msys folder to C:\MINGW\32\mingw32\
9. Under C:\MINGW\32\mingw32\msys\ create a new folder called "1.0", and drag and drop all the other files and folders to that new directory you created.

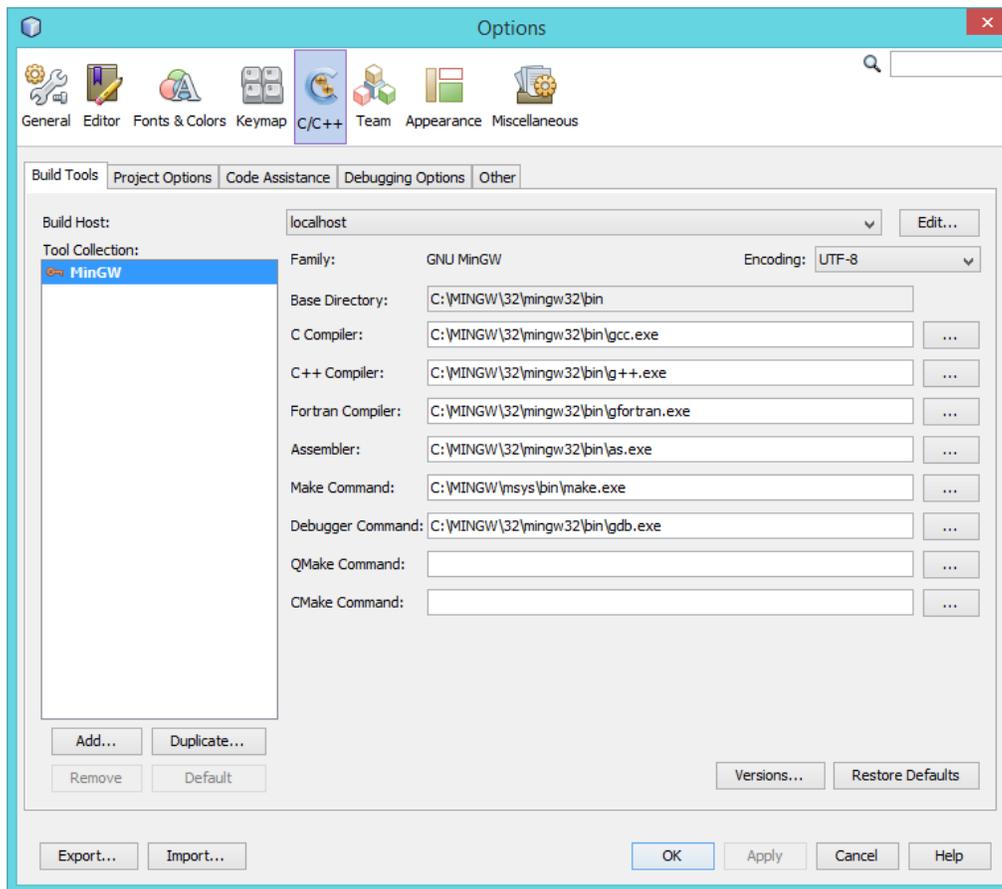
ADDING MINGW TO THE PATH

The following directions are required for an installation of eclipse. Only Msys is required to be in the path for NetBeans.

1. Right Click on "My Computer", choose "Properties".
2. Click on "Advanced system settings"
3. Click the "Environment Variables..." button.
4. Add a new user variable called "PATH" and use the following as its value:
C:\MINGW\32\mingw32\bin

CONFIGURING NETBEANS (EECS 1500)

1. Open NetBeans.
2. Then on the menu: Tools → Options. The Options menu will display.
3. Click on the C/C++ (tab). If you added MinGW to the path, the compiler will be automatically added.



IF MINGW OR MAKE IS NOT DETECTED

If MinGW was detected but MAKE was not please skip to step 3.

1. If the compiler was not automatically found: Click "Add" and then browse to the bin folder of your MinGW installation. (C:\MINGW\32\mingw32\bin)
2. NetBeans will detect MinGW; Click OK.
3. The make command will not be specified. Click on the "... " button next to the corresponding text field.
4. Navigate to and select "Make.exe" under C:\MINGW\32\mingw32\msys\1.0\bin and click "open".
5. Click "Apply" and then "OK".