

Setting Up Cygwin and the ADA Compiler

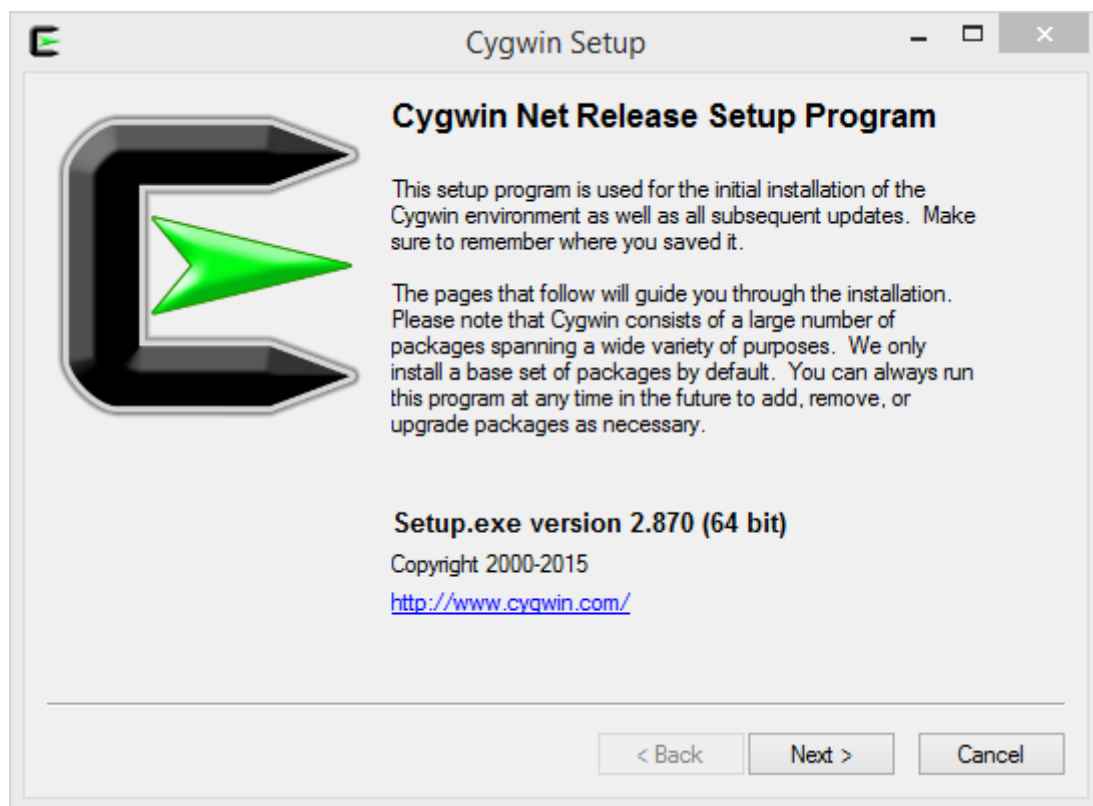
Installing

The first step is to download the Cygwin installer. This can be found at:

<https://cygwin.com/install.html>

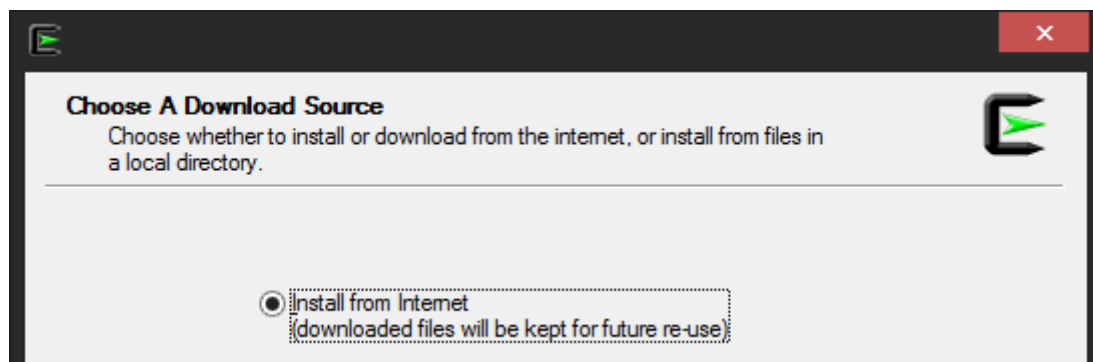
If you have a 64 bit OS you should download setup-x86_64.exe, and if you have a 32 bit OS you should download setup-x86.exe. If in doubt, use the 32 bit choice.

The setup should look like this:

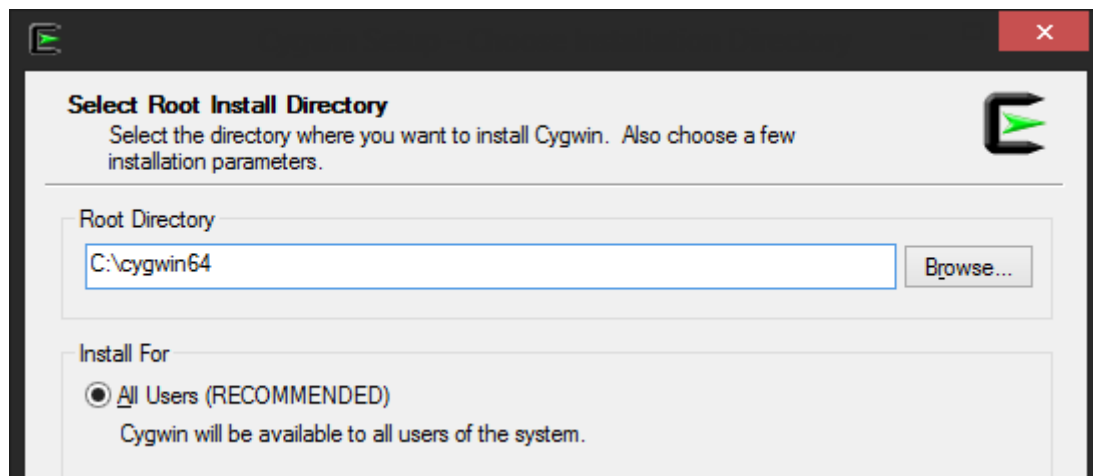


(The 64 bit version is used in this example, but the 32 bit version should look similar)

When prompted for an installation source, choose "Install from Internet" and click next.



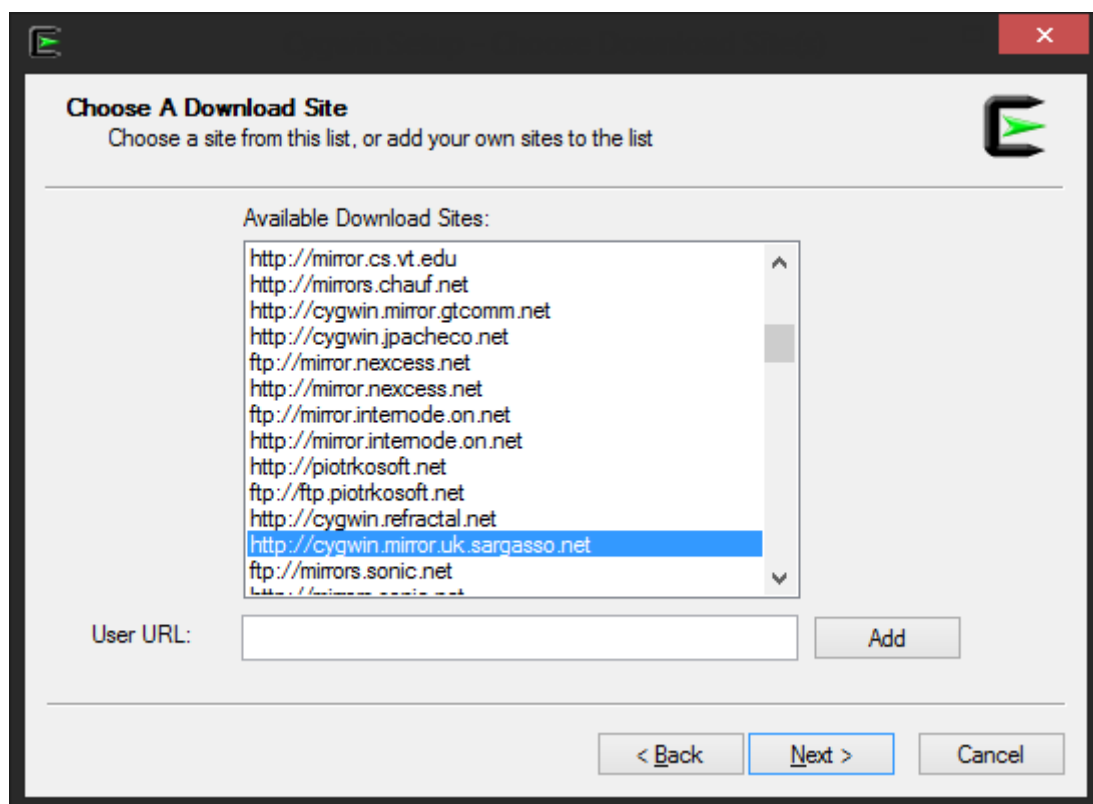
Next you will be prompted for a root install directory. If you chose the 64 bit version, this will default to C:\cygwin64\ and if you chose the 32 bit version it will default to C:\cygwin\. Do not change these; the location of Cygwin is important. Make sure it is installed for all users on the system, also.



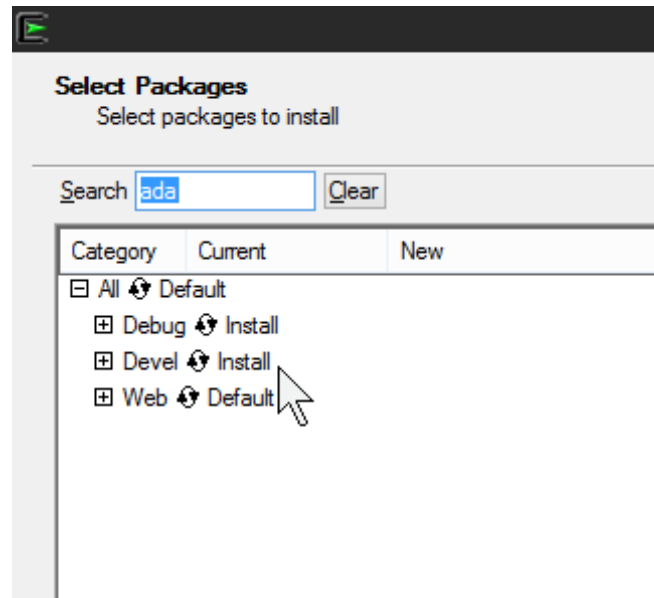
The next screen will ask where you want downloaded packages to be downloaded to. This does not matter, but you may want to remember the location of this so you can clean up downloaded files later.

On the next screen, choose direct connection unless you are sure you know what you are doing.

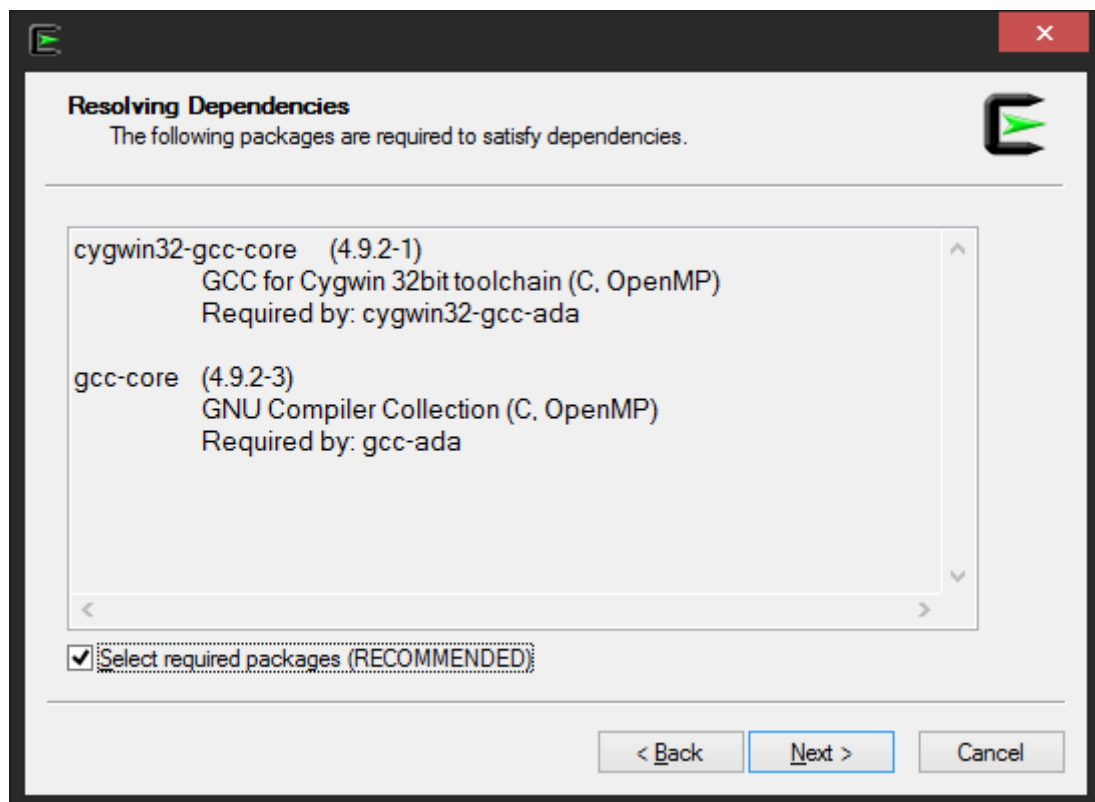
The installer will then ask for a download site. From the list, choose <http://cygwin.mirror.uk.sargasso.net>



The installer will then download some small files and open the package manager. This is where we tell the Cygwin installer that we want to install the ADA compiler. To do this, type “ada” (without quotes) into the search box, then click the word “Default” next to “Debug” and “Devel” until they say “Install”. Then click next.



The installer will then tell us that we need to install some extra packages for things to work. These packages should be named “cygwin32-gcc-core” and “gcc-core”. Make sure the “Select required packages” box is ticked, and then click next.



The Cygwin installer will then proceed to download and install the files we told it to. After this is done you can set shortcuts how you like.

Testing

To make sure that everything works as it should, open a text editor like Notepad or Notepad++ (NOT MICROSOFT WORD) and enter the following code:

```
with Ada.Text_IO; use
Ada.Text_IO;

procedure Hello is
c: character;
begin
    Put_Line ("Hello,
world!");

    get(c);
end Hello;
```

Save the file as hello.adb and open Cygwin.

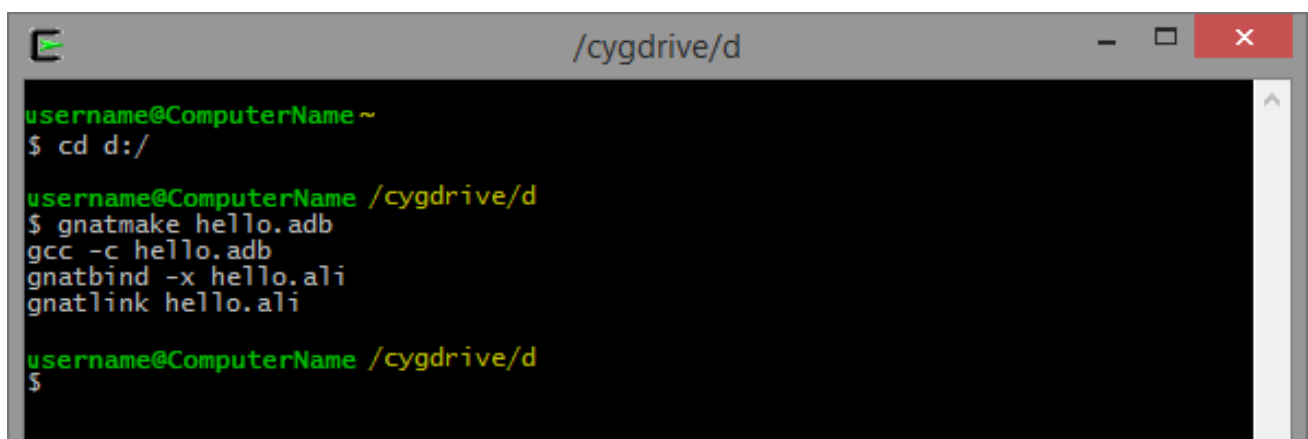
Use the command “cd” followed by a space to navigate to the location of hello.adb. For example:

```
cd d:\
```

Then use the gnatmake command to compile the program.

```
gnatmake hello.adb
```

If the compilation succeeded, you should see an output similar to this:

A screenshot of a Cygwin terminal window. The title bar shows the Cygwin icon and the path /cygdrive/d. The terminal content shows a user navigating to the d: drive and running gnatmake on hello.adb. The output shows the compilation steps: gcc -c hello.adb, gnatbind -x hello.ali, and gnatlink hello.ali. The prompt returns to the user.

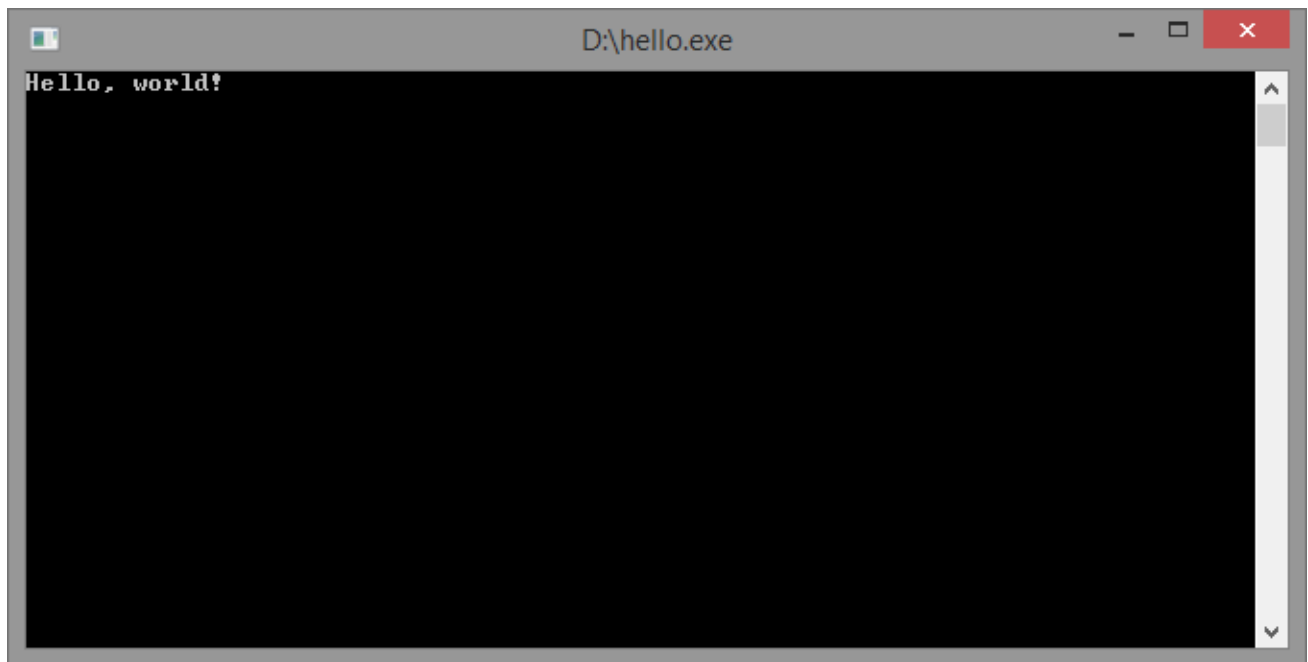
```
username@ComputerName ~
$ cd d:/

username@ComputerName /cygdrive/d
$ gnatmake hello.adb
gcc -c hello.adb
gnatbind -x hello.ali
gnatlink hello.ali

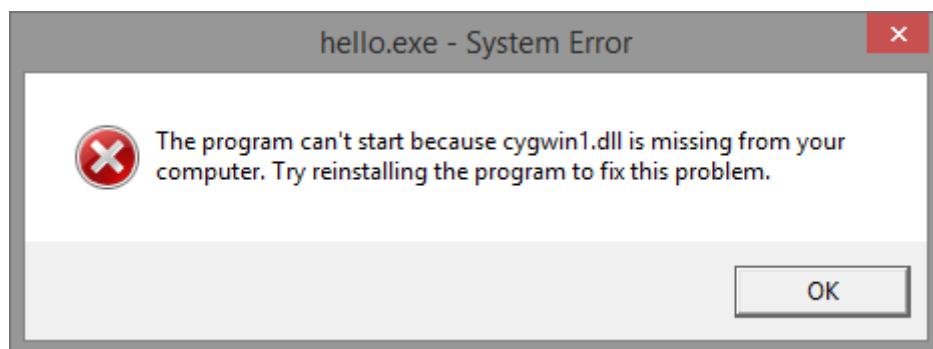
username@ComputerName /cygdrive/d
$
```

If the compilation fails, you need to reinstall Cygwin and the compiler.

The next step is to run the program. Go to where hello.adb is located and open hello.exe, if all is correct, you should see this:



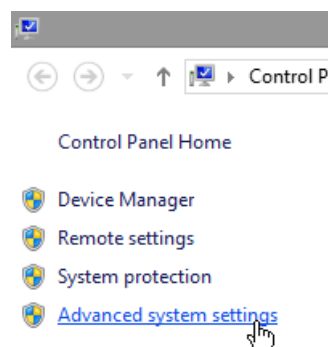
If you do not see this, and instead see an error like this:



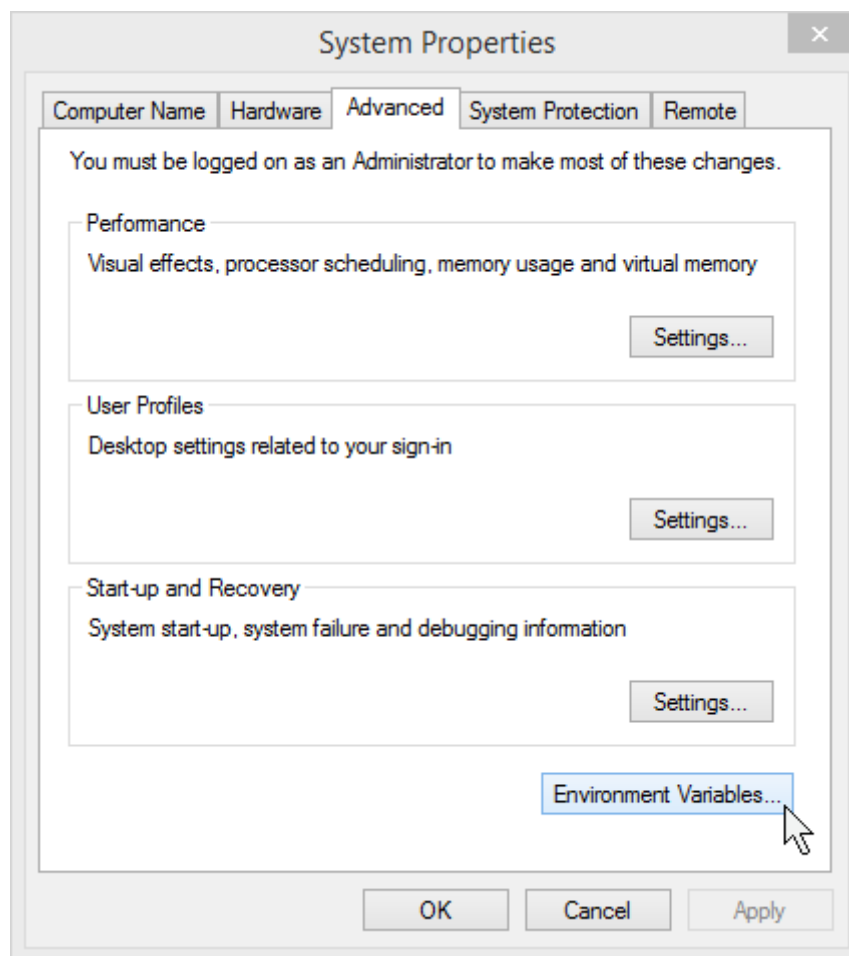
You need to set up your system environment variables.

Setting Up System Environment Variables

Open My Computer, right click a blank space, and click properties. In the system properties, choose "Advanced System Settings" on the left side.

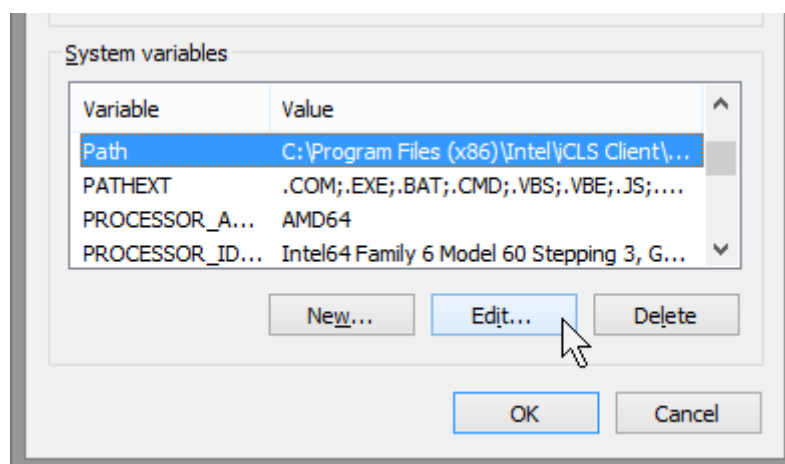


Under the “Advanced” tab, click “Environment Variables”.



!!! --- Be Careful While Making These Changes ---!!!

Under “System variables”, click “Path” and click “Edit”.



At the end, add a ; if there isnt one already, then enter the path to the bin folder of your Cygwin install. Assuming you left them as default, the paths should be:

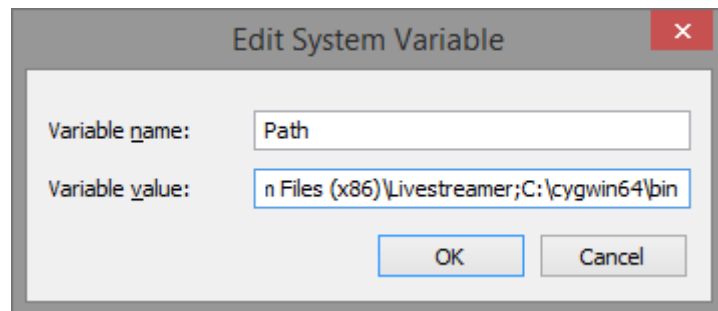
For 64 bit:

C:\cygwin64\bin\

For 32 bit:

C:\cygwin\bin\

Again, in this case the 64 bit version was used.



When this is done, click OK, OK again, Apply, and OK. Your programs should no longer produce the cygwin1.dll error.