

Using libcurl in Visual Studio

Version 1.0

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Revision History

Revision history

Rev.	Date	By	Comment
1.0	04/25/2002	Rosso Salmanzadeh	Initial version

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2 Introduction

Quoted from CURL WebPages (<http://curl.haxx.se/>):

“Curl is a tool for transferring files with URL syntax, supporting FTP, FTPS, HTTP, HTTPS, GOPHER, TELNET, DICT, FILE and LDAP. Curl supports HTTPS certificates, HTTP POST, HTTP PUT, FTP uploading, kerberos, HTTP form based upload, proxies, cookies, user+password authentication, file transfer resume, http proxy tunnelling and a busload of other useful tricks.”

Here in this document we explain how to use CURL as a dll library in your Visual Studio¹ C/C++ Project. There are many ways to use CURL but here we explain the simplest way with the minimum files needed from CURL. Once you build and run this simple application you can explore other features of CURL and add more functionalities to your project.

The document explains how to configure different parts which seems, by reading news groups, many people have similar problems with using dll files and configuration of Visual Studio and curl libs. So now that I have solution to those problems why not putting everything in a document so that other people don't put same amount of time to figure out solutions to those problems.

¹ Visual Studio Version 6.0 has been used in this document but any other versions should be the same.

3 Installation of libcurl

You need to download the latest CURL code and unzip it to get the libcurl source codes for building the dll and lib files.

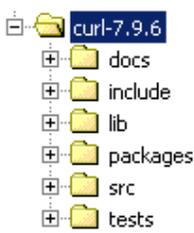
3.1 Download the right code

Download the latest version of CURL from the download page of CURL:

<http://curl.haxx.se/download.html>

For this document I have used the version curl-7.9.6.zip

Unzip the zip file to a temporary directory. It will give you following directory structure:



For our application as we want to use the dll file and on Windows (PC) then we are only interested in the directory called “lib”. You can look at other directories and files later once you build your first application. You will need the directory “include” too as all header files are inside this directory.

3.2 Compiling libcurl

Go to lib directory and double click on “curl.lib.dsw” which is the Visual Studio Project file for curl.lib. It will start the Visual Studio with correct configuration and settings. Of course you need to have Visual Studio installed on your machine.

Once the project is opened click on Build button to compile files and build the project:

Build



This will compile all files and build the libcurl.dll file for you:

-----Configuration: curl.lib - Win32 Debug-----

Compiling...

base64.c

connect.c

cookie.c

.....

Generating Code...

Linking...

Creating library Debug/libcurl.lib and object Debug/libcurl.exp

libcurl.dll - 0 error(s), 1 warning(s)

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Now if you look at the directory **curl-7.9.6\lib\Debug** you will find 2 created files, which we are interested in:

- libcurl.lib
- libcurl.dll

For creating our application the minimum we can use from CURL is these 2 files plus the include directory. So now you can close your Visual Studio Project and workspace as we are going later to create our own application

4 Using libcurl library (libcurl.dll) in your Visual Studio Project

You can create any file structure and choose any application name that you want. But if you choose the same structure as our example below it's easier to follow all examples here and compare our figures with what you get in case you get problem.

4.1 Preparing the file structure for this project

Create following file structure in your C drive:

C:\Project\libcurl

 include	File Folder
 lib	File Folder
 VisualStudio	File Folder

Where you create directory libcurl inside C:\Project and there you create 3 directories. Directory include is an exact copy of the include directory from **curl-7.9.6\include** so copy the directory include from the unzipped curl files to C:\Project\libcurl.

If you look at this include directory you will find some make files and one subdirectory called curl:



You can delete all make files and keep only header files if you want:

 curl.h	27 KB	C Header File
 easy.h	3 KB	C Header File
 mprintf.h	3 KB	C Header File
 multi.h	7 KB	C Header File
 stdcheaders.h	2 KB	C Header File
 types.h	2 KB	C Header File

Inside lib directory you need to copy those 2 files which you built in step 3 it means following files:

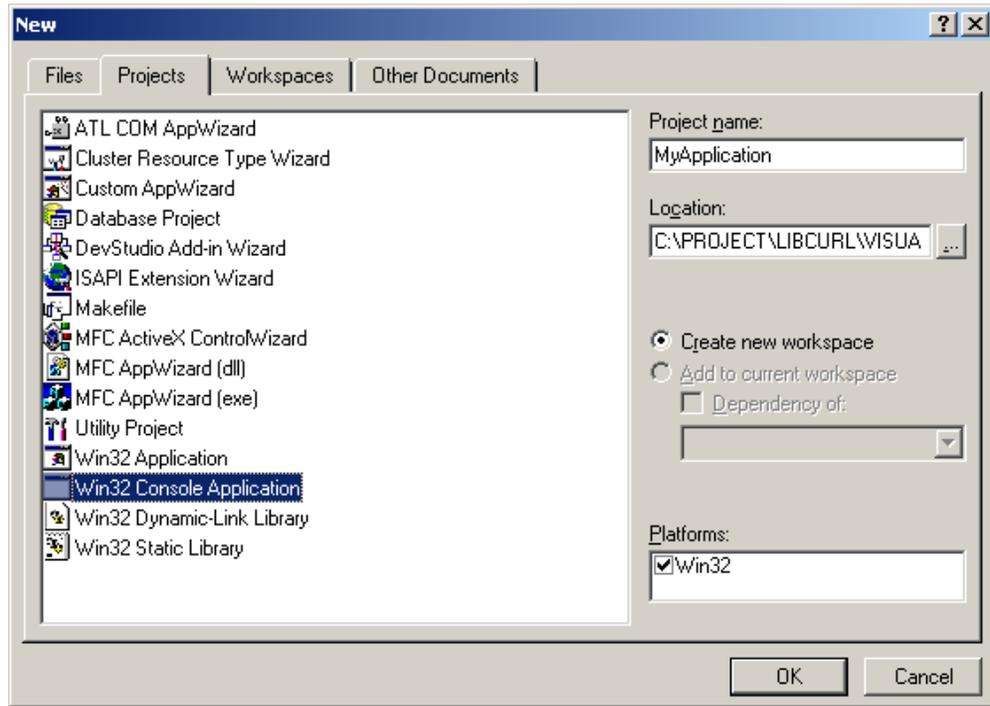
- libcurl.lib
- libcurl.dll

So now you have all header files in C:\Project\libcurl\include\curl and 2 files in C:\Project\libcurl\lib. That's all you need from CURL and now you can start building your application to use these files.

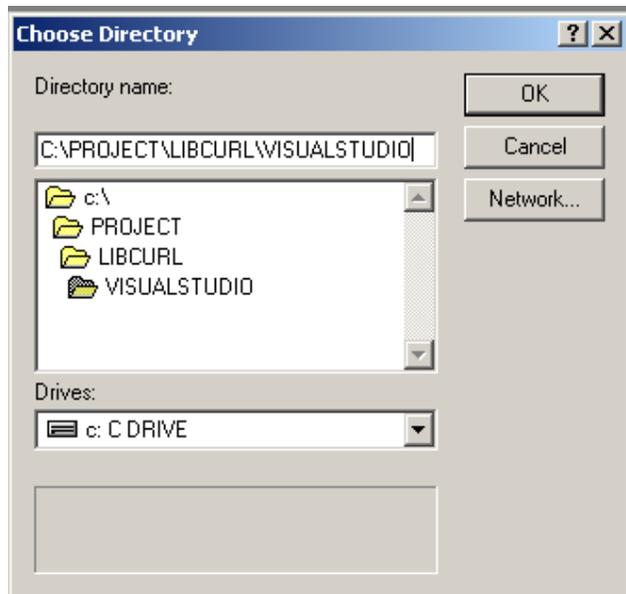
4.2 Creating a simple Hello World application

You can create any kind of application you want but here we create a simple one to show how to use libcurl.

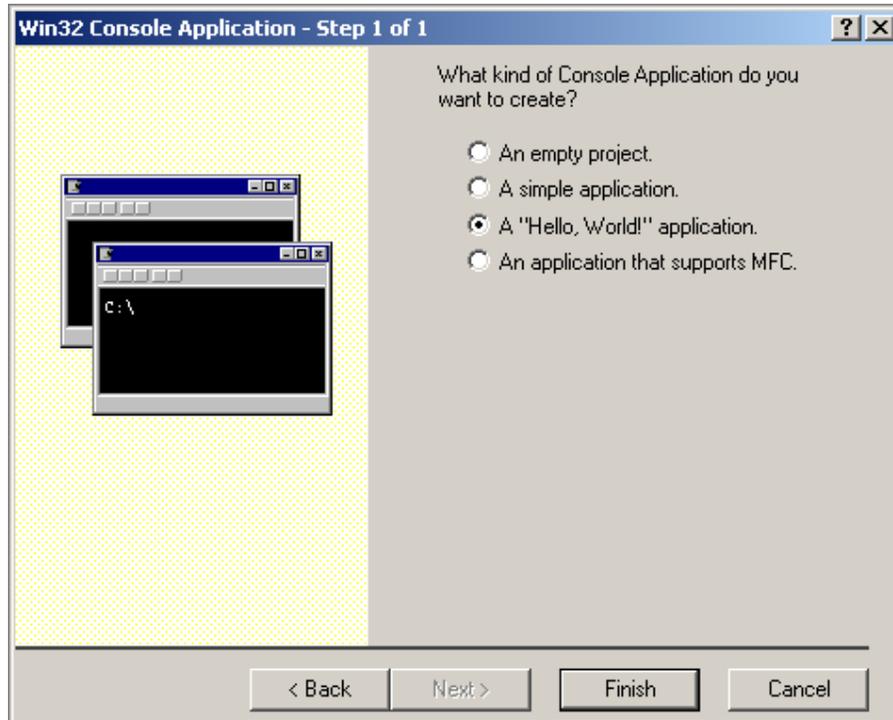
In Visual Studio go to File -> New -> Projects and choose “Win32 Console Application”:



For Project name choose “MyApplication” and for location choose the C:\Project\libcurl\VisualStudio:

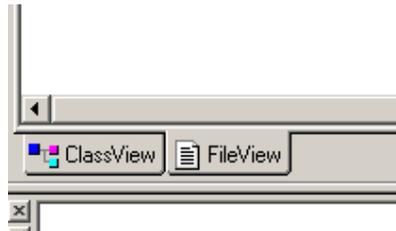


Click OK and when it comes to next window choose “A Hello World Application” part:

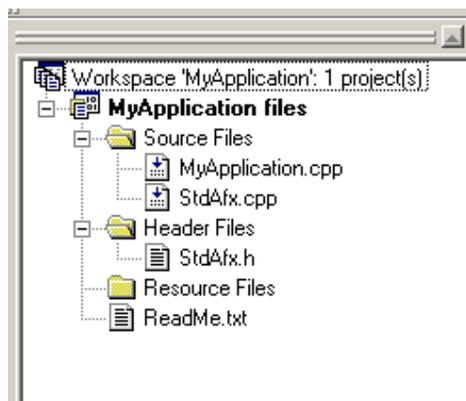


Press “Finish”, it will create all needed files for you and create a directory called “MyApplication” under C:\Project\libcurl\VisualStudio.

Once it is done, you can click on the left panel on “FileView”:

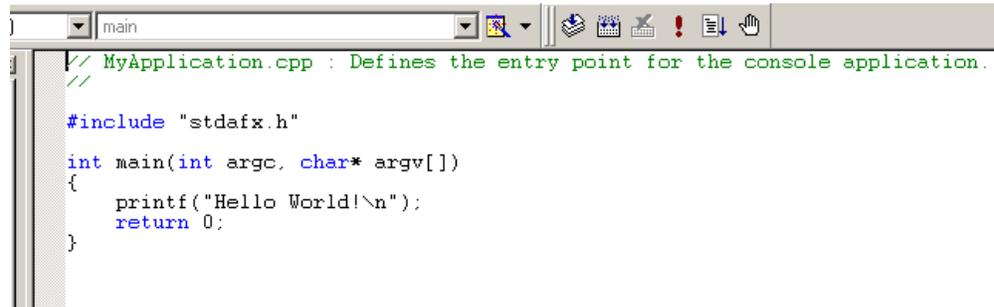


To see your main application called MyApplication.cpp:



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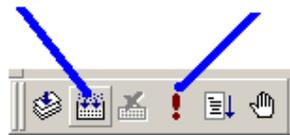
Double click on MyApplication.cpp it will open the source code for your “Hello World” application:



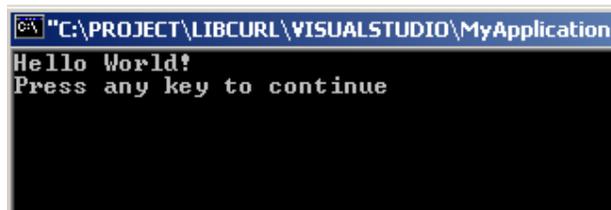
```
// MyApplication.cpp : Defines the entry point for the console application.
//
#include "stdafx.h"
int main(int argc, char* argv[])
{
    printf("Hello World!\n");
    return 0;
}
```

Click on “Build” button to compile and build all files.

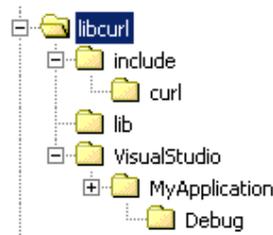
Build **Run**



Then click on “Run” to run this application:



You will see a debug directory is created:



Where the EXE file of your application (MyApplication.exe) exist:

MyApplication.exe	169 KB	Application
MyApplication.ilk	168 KB	Intermediate file
MyApplication.obj	3 KB	Coff Object File
MyApplication.pch	209 KB	Precompiled Header
MyApplication.pdb	337 KB	Intermediate file
StdAfx.obj	3 KB	Coff Object File
vc60.idb	33 KB	Intermediate file
vc60.pdb	52 KB	Intermediate file

4.3 Adding libcurl to your project

Now that our environment is set up we can add libcurl to our application. The easiest way is to replace the “Hello World” code with a simple CURL client code from following site:

<http://curl.haxx.se/libcurl/c/example.shtml>

We choose one simple one it means the simple.c:

<http://curl.haxx.se/lxr/source/docs/examples/simple.c>

We copy and paste following lines and replace the Hello World code with this code. Note that we need to keep #include “stdafx.h” here and for testing we put the URL of www.cnn.com for our request:

```
#include "stdafx.h"
#include <stdio.h>
#include <curl/curl.h>

int main(void)
{
    CURL *curl;
    CURLcode res;

    curl = curl_easy_init();
    if(curl) {
        curl_easy_setopt(curl, CURLOPT_URL, "http://www.cnn.com/");
        res = curl_easy_perform(curl);

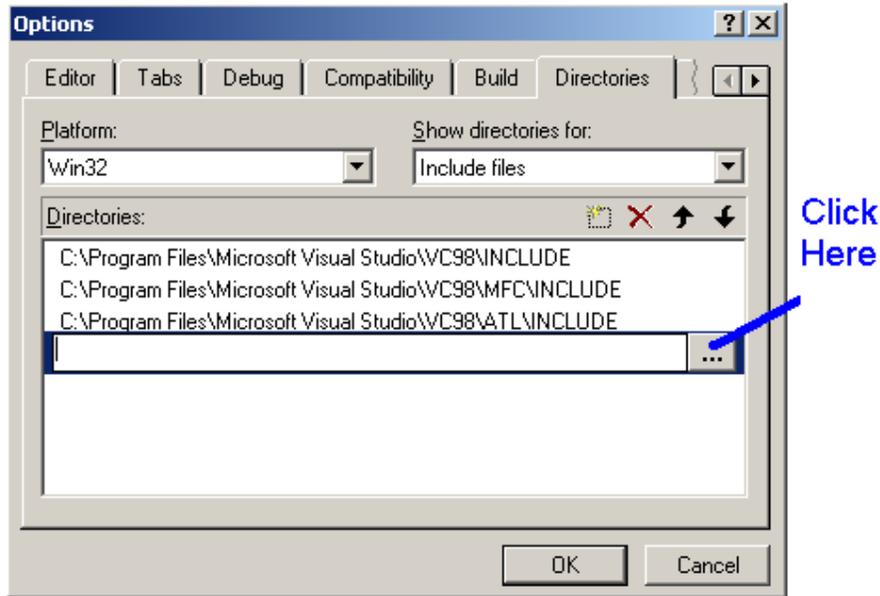
        /* always cleanup */
        curl_easy_cleanup(curl);
    }
    return 0;
}
```

Before being able to compile you need to take some steps which are to include header files to your project and include the dll file to your project

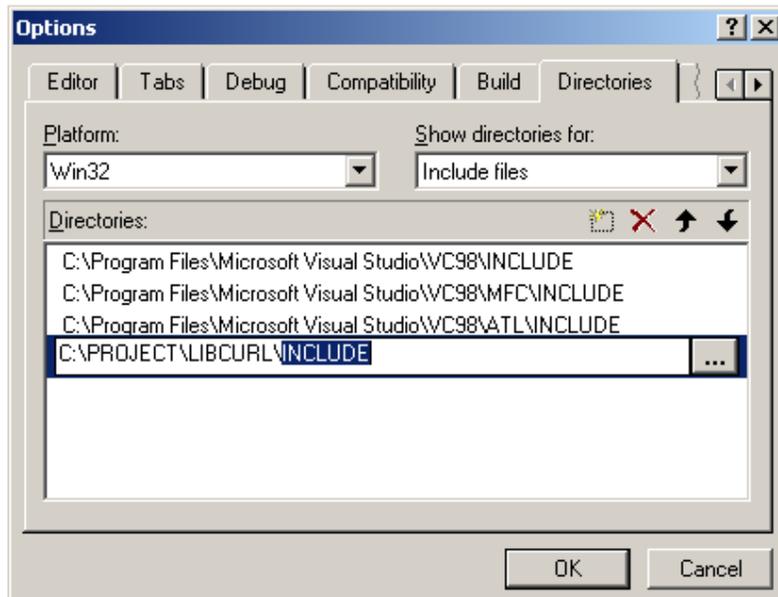
These steps are explained below.

4.3.1 Adding *.h files to include path

Go to Tools -> Options -> Directories -> Show directories for Include Files:

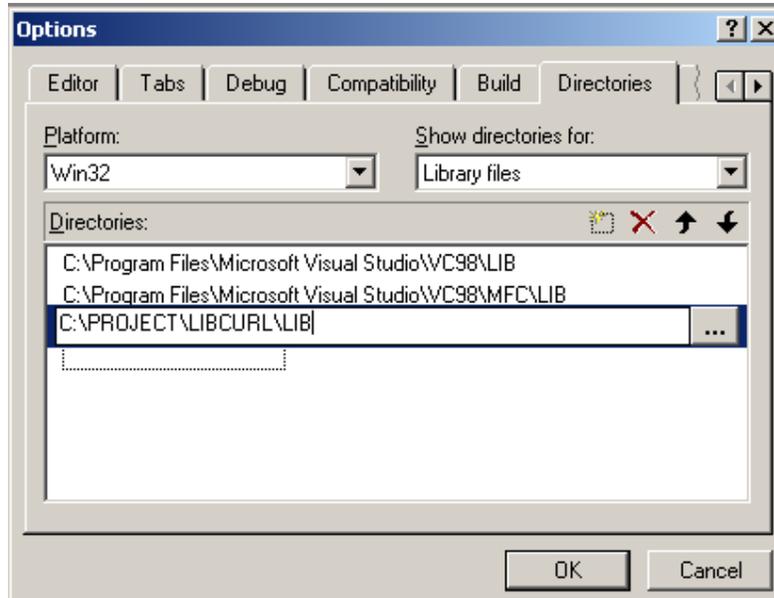


Click at the end of list to open the dialog window and choose the directory C:\Project\libcurl\include. Note that you shouldn't choose C:\Project\libcurl\include\curl where all header files exist but the C:\Project\libcurl\include because many CURL files are using something like "#include <curl/curl.h>" with prefix curl/ so you need to choose the parent directory for your include to work:



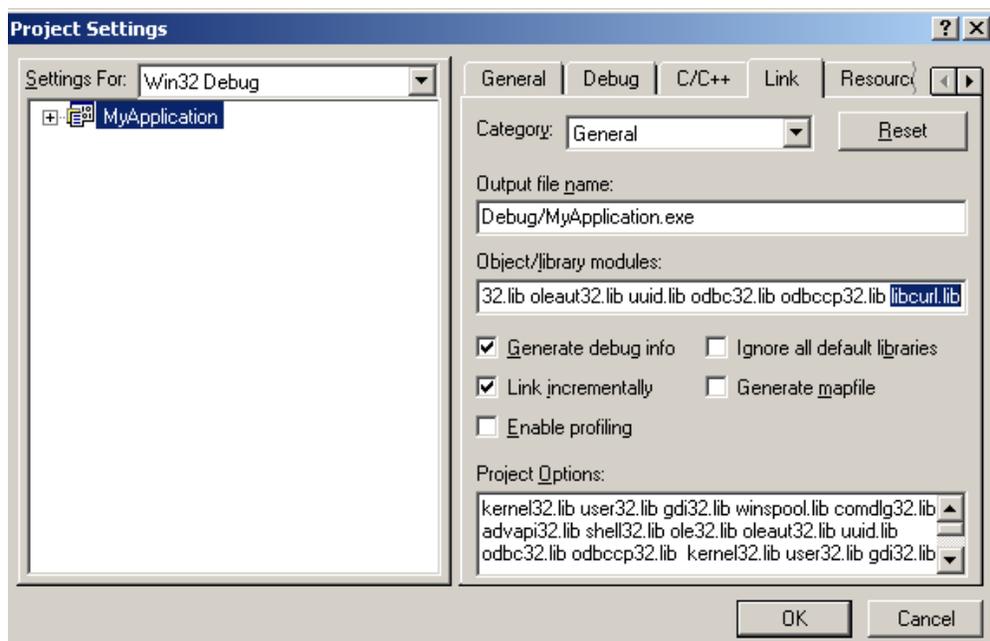
4.3.2 Adding libcurl.lib to library path

Change “Show Directories for:” from “Include files” to “Library files” and add even the path to the library file (it means to libcurl.lib):



4.3.3 Adding libcurl.lib to list of libraries

Now you need to tell Visual Studio to link your program with the libcurl.lib. You do it by going to Project -> Settings -> Link -> Category (General) and adding libcurl.lib at the end of list of lib files in the “Object/library modules” part separated with white space:



4.3.4 Compiling the program

Now you should be able to compile and build your application. Click on Build button to build your application and link it with libcurl.lib:

Build



You should see that the application compiles and MyApplication.exe file is created.

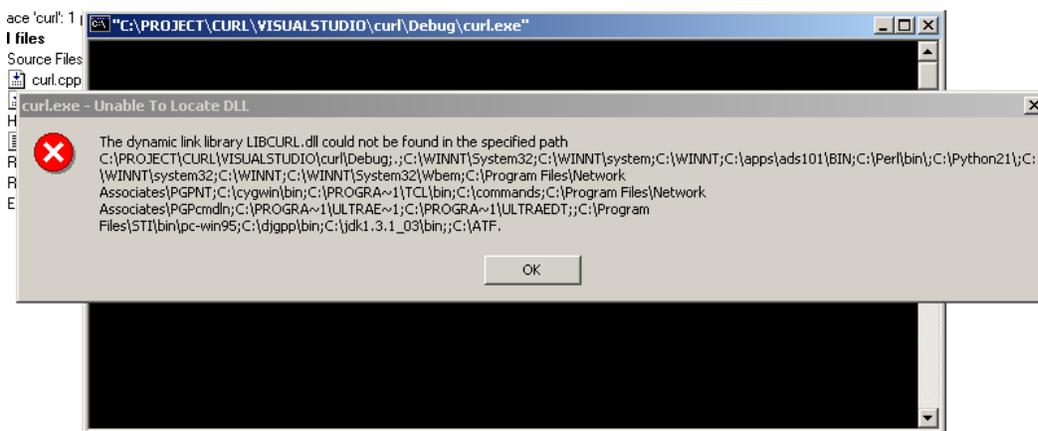
4.3.5 Running the program

If you try to run the application by clicking on “Run” button:

Run



You will see an error page:



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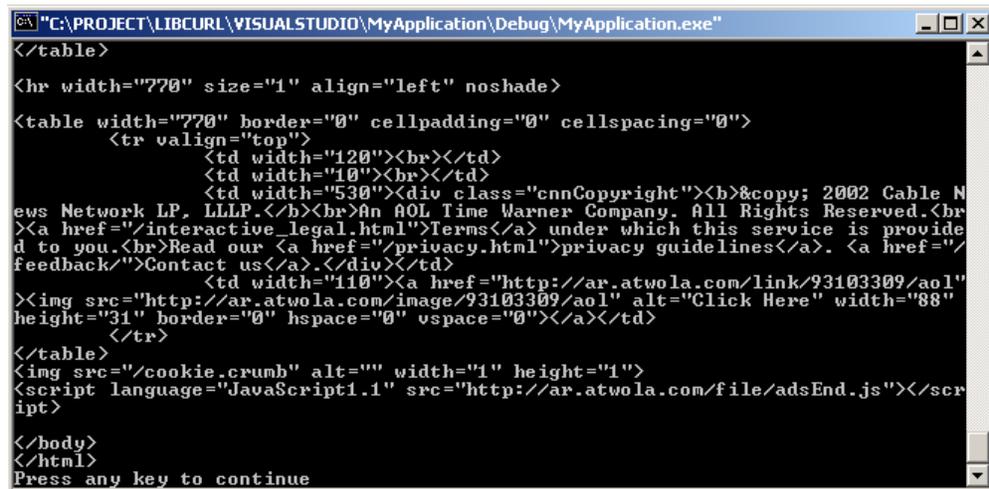
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Which says that the libcurl.dll could not be found in the search path. For fixing this problem you need to put the libcurl.dll file somewhere that the application can find it. You can either put it in C:\WINNT\System32 or C:\WINNT etc or if you don't want to mix it with other dll files on your system you can put it there the EXE file of you application exist it means in :

C:\Project\libcurl\VisualStudio\MyApplication\Debug

Once you copied the dll file to one of these directories you can try again to run the application and voila, it connects to www.cnn.com and does a GET on that site which means it reads the whole page and print out on screen:



```
"C:\PROJECT\LIBCURL\VISUALSTUDIO\MyApplication\Debug\MyApplication.exe"
</table>
<hr width="770" size="1" align="left" noshade>
<table width="770" border="0" cellpadding="0" cellspacing="0">
  <tr valign="top">
    <td width="120"><br></td>
    <td width="10"><br></td>
    <td width="530"><div class="cnnCopyright"><b>&copy; 2002 Cable N
ews Network LP, LLLP.</b><br>&An AOL Time Warner Company. All Rights Reserved.<br>
<a href="/interactive_legal.html">Terms</a> under which this service is provide
d to you.<br>Read our <a href="/privacy.html">privacy guidelines</a>. <a href="/
feedback/">Contact us</a>.</div></td>
    <td width="110"><a href="http://ar.atwola.com/link/93103309/aol"
></a></td>
  </tr>
</table>

<script language="JavaScript1.1" src="http://ar.atwola.com/file/adsEnd.js"></scr
ipt>
</body>
</html>
Press any key to continue
```

Congratulation you made your first CURL client application. Now you can add more functionalities and explorer CULR more with other examples.