

Using BLITZ under Windows

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Introduction

BLITZ can be used under the Windows operating system and this document describes how.

To run under Windows, you'll have to use a third-party package called **Cygwin**. Cygwin makes it possible to run most Linux / Unix programs under Windows. This document includes information about installing Cygwin and then installing BLITZ.

This has been tested for Windows XP using the current version of Cygwin (1.5.25-15) on March 25, 2009.

Step 1: Download and Install Cygwin

Download and install Cygwin from

<http://www.cygwin.com>

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Cygwin is a UNIX emulator that runs on Windows. When you download and install it from the Cygwin website, you can select all the default settings, except that BLITZ will require additional libraries that are not part of the default installation. You must individually select these additional libraries during the Cygwin installation or BLITZ will not run correctly.

When you get to the “Select Packages” screen, add the following packages:

- Devel - gcc-g++: C++ compiler
- Devel - gcc4-g++: G++ subpackage
- Devel - make

When you select the above options, several other dependent components will automatically be selected. Do not change any of these. Let Cygwin automatically include related components.

Note that the installation does not include any text editors by default. You’ll need to edit files; you can either edit the files through Windows or you can also install Unix editors like “vi” and “emacs” with Cygwin. The Unix editors can be found in the “Editors” section of the Cygwin installation list.

- Editors - VI (vim)
- Editors - EMACs

Step 2: Create “BlitzSrc” Folder

Create a folder in your home area in Cygwin called “BlitzSrc”. You can either do this via the Windows host (using something like Explorer) or directly in the Cygwin shell, with the following Unix command:

```
mkdir ~/BlitzSrc
```

You may also want to take a minute to edit your “.bashrc” file at this point, to customize your aliases, etc., if this is something that you are familiar with.

Step 3: Download BLITZ Source Files

Download all the files from the BLITZ web site and place them in your new BlitzSrc directory. The files can be found at:

<http://www.cs.pdx.edu/~harry/Blitz/BlitzSrc>

You can use the FTP program to transfer the files from the BLITZ website (the “remote”) to your

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computer (the “local”). First, get into your new directory and start up FTP:

```
cd ~/BlitzSrc
ftp ftp.cs.pdx.edu
```

FTP will require you to log in; use the name

```
anonymous
```

You'll be asked to provide your email address as a password.

Then, within FTP at the “ftp>” prompt, change directory on the remote:

```
cd /pub/users/harry/Blitz/BlitzSrc
```

To list all the files in the remote directory, type:

```
ls
```

FTP tends to assume that files contain ASCII text and will automatically translate the end-of-line characters from NL to CR-NL. This will create a problem, so switch from ASCII mode to BINARY mode with the command:

```
binary
```

To copy all files from the remote directory into the current directory on your local machine, type

```
mget *
```

Note that the file “makefile-Solaris” is not required, but it won't hurt.

To suppress verbose interaction, answer “a” to the “mget filename [anpqy?]?” prompt, if it appears.

Other useful FTP commands are

```
get <filename>, help, quit, pwd
```

For further info on FTP, google the web with:

```
man ftp
```

If you are using a Windows browser to download the files, the browser may try to save the “makefile” file as “makefile.txt”. If this happens, use the “mv” command in the Cygwin shell to rename the file to just “makefile” with no extension. You must do this from the Cygwin shell:

```
mv makefile.txt makefile
```

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This is important, because as you download other files without extensions, you will need to rename them for use with BLITZ.

You should have these files:

```
asm.c
ast.cc
ast.h
blitz.c
check.c
check.cc
diskUtil.c
dumpObj.c
endian.c
gen.cc
hexdump.c
ir.cc
ir.h
lddd.c
lexer.cc
main.cc
main.h
makefile
makefile-Solaris    (this file is not needed)
mapping.cc
parser.cc
printAst.cc
```

Step 4: Compile the BLITZ Source

Compile the downloaded files by running the Unix “make” utility:

```
cd ~/BlitzSrc
make
```

Make will generate several lines of output, but you should not see any errors. If you do see errors go back and verify that all the required Cygwin libraries were downloaded and that all the required BLITZ files were downloaded and placed in the BlitzSrc directory.

You should now have the following new files in this directory:

```
asm.exe
ast.o
```

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```
blitz.exe  
check.exe  
check.o  
diskUtil.exe  
dumpObj.exe  
endian.exe  
gen.o  
hexdump.exe  
ir.o  
kpl.exe  
lddd.exe  
lexer.o  
main.o  
mapping.o  
parser.o  
printAst.o
```

You can remove the “.o” files with this command:

```
rm *.o
```

Step 5: Create “BlitzTools” Directory & Move Executables

Create a new directory called “BlitzTools” in your home area and move the executables into it. You can use either the Windows host or the following commands in the Cygwin shell:

```
mkdir ~/BlitzTools  
mv ~/BlitzSrc/*.exe ~/BlitzTools
```

You should now see the following files with the “ls” command:

```
ls ~/BlitzTools  
asm.exe      check.exe    dumpObj.exe  hexdump.exe  lddd.exe  
blitz.exe    diskUtil.exe  endian.exe   kpl.exe
```

Step 6: Set the PATH Environment

Setup the shell’s PATH environment variable so that you can use the BLITZ tools.

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By default Cygwin only installs the Bash shell, so you'll need to use the "export" command to change the PATH variable. However, simply running the "export" command in your Cygwin shell will only set the path temporarily. Unfortunately, it will be reset every time you restart the Cygwin shell.

To make the change permanent, edit the file

```
.bashrc
```

in your home directory. If you know the "vi" editor, type:

```
vi ~/.bashrc
```

and add the following line to the end of the file:

```
export PATH=${HOME}/BlitzTools:${PATH}
```

Step 7: Make Sure Everything Works

Next, verify that the BLITZ tools are working and usable. Type the following command:

```
kpl
```

You should see:

```
***** ERROR: Missing package name on command line
***** 1 error detected! *****
```

If you see this message, Cygwin is configured correctly to run BLITZ.

If you see ANYTHING else, BLITZ is NOT setup correctly and you need to go back and review each step.

You are now ready for the first BLITZ project!