

# HalOS Knowledge Base Article

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## Building HalOS using Cygwin under Windows.

Using the emulation tool Cygwin, you can run all of the development tools need under Windows. The bintools included with Cygwin can only produce the binary file format PE. Linux uses the ELF binary file format.

Currently the only way to build under both environments is to comment/uncomment out the appropriate code. The following are the changes required to compile and run HalOS under cygwin.

**In the file /HalOS/Makefile find the following code**

```
#LDFLAGS = -Ttext 0x3000 -oformat=pe-i386 --file-alignment 0x1000 -Llib,lib/halos --  
section-alignment 0x1000 -entry _dllmain #--strip-all  
LDFLAGS = -dN -Ttext 0x2080 --oformat elf32-i386 -Llib,lib/halos -entry start #--strip-  
all
```

Uncomment out the top LDFLAGS and comment out the bottom one.

**In the file /HalOS/boot/i386loader.s, find the following code.**

```
;; to make this loader work for multiple object formats  
;; jump to the following location  
;; 0x2000 : flat binary  
;; 0x2080 : elf, this skips head straight to .text  
;; 0x3000 : PE format if you aligned sections and  
header to 0x1000  
;; jmp 0x08:0x3000 ; jump using GDT code segment  
as base  
jmp 0x08:0x2080
```

Change the jmp statement to the one with the offset of 0x3000.

**Now you are ready to compile and run under cygwin!**