

《操作系统》实验环境简单配置

This BKM (best known method) is to provide a very simple development environment setup on Windows for THU Operating System MOOC without installing virtual box and linux VM. If you follow this BKM (8 steps in total) correctly, you should have the same simple os development environment as me without complicated environment setup issue.

1. TDM/MinGW Setup (TDM-GCC-4.8.1 32bit)

- Use the installer found baidu pan: <http://pan.baidu.com/s/1bn90RsN> or <http://sourceforge.net/projects/tdm-gcc/files/TDM-GCC%20Installer/>
- Through the install wizard:
 - Disable "Check for updated files on the TDM-GCC server"
 - Select "Create"
 - Install to C:\MinGW
 - Keep default settings

2. Msys Steup

- mkdir msys in C:\MinGW
- Use the MSys package found at <http://pan.baidu.com/s/1qWuhs52> or <http://people.videolan.org/~jb/msys/msys.7z>
- Un-7zip it to C:\MinGW\msys\.

- Create a desktop shortcut for C:\MinGW\msys\msys.bat which is to open terminal. (right click C:\MinGW\msys\msys.bat to select Create Shortcut)

3. i386-jos-elf toolchain & qemu setup

- get i386-jos-elf toolchain & qemu from <http://pan.baidu.com/s/1hq25c36>
- unzip it to C:\MinGW

4. Make a change C:\MinGW\msys\etc\fstab

- Change mapping as: C:\MinGW\ /usr/local

5. Create .bash_profile in ~/

- Click C:\MinGW\msys\msys.bat
- vim ~/.bash_profile
- to add this line: export PATH=/usr/local/:\$PATH
- save & exit

6. git Setup [Optional]

- if you have os mooc source code already, you can skip this step.
- use the installer found <http://git-scm.com/download/win>
- install with default settings.
- open git-bash & get the mooc-os code using git clone.
 - git clone https://github.com/chyyuu/mooc_os_lab.git

7. Apply patches to enable mingw build & debug environment

- Download patch to your mooc-os code directory from:
<http://pan.baidu.com/s/1mg5n5tY>
- Open git bash and cd to your mooc-os code directory and use git am to apply patch
 - git am 0001-Makefile-change-for-mingw-dev-environment.patch

8. To build, run and debug your lab

- Click C:\MinGW\msys\msys.bat
- cd to labX (X is 1~8) in your mooc-os code directory in step 7
 - to build: make
 - to run: make qemu-mingw
 - to debug: make debug-mingw

Congratulations, if you are able to get here, you have the windows based os development environment without installing virtual box and linux virtual machine.

You can complete your lab freely now.

One more thing need to mention is that gdb has no tui mode, if you really want it, you can use Cygwin-based gdb which can support tui mode. I want leave this as your homework.

If you have further question or issue, freely let me know, just drop an email to xlzhang76@gmail.com.