Computer-aided VLSI System Design Linux/Unix Tutorial

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ACCESS IC LAB

Outline

- ❖ Connect to workstation
- ❖ Basic commands in Unix/Linux
- ❖ Text editors

Outline

❖ Connect to workstation

  ❖ LAB 231 workstation list

  ❖ File transfer(FileZilla)

  ❖ Putty & Xmining

  ❖ MobaXterm

❖ Basic commands in Unix/Linux

❖ Text editors

LAB 231 Workstation List

❖ http://cad.ee.ntu.edu.tw

IC設計實驗室可供連線工作站一覽表
Apr. 18, 2013

IP	NAME	TYPE	CPU	CPU CLOCK	MEMORY	OS
140.112.20.59	cad16	IBM X3400	Intel Xeon 64	2.4 GHz * 16	100 G	RHEL 5
140.112.20.60	cad17	IBM X3550	Intel Xeon 64	2.4 GHz * 16	20 G	RHEL 5
140.112.20.61	cad18	SUN Blade 2500	UltraSPARC	1.28 GHz*2	8 G	Solaris 10
140.112.20.62	cad19	SUN Blade 2000	UltraSPARC	1.2 GHz * 2	8 G	Solaris 10
140.112.20.63	cad20	SUN Blade 2000	UltraSPARC	1.2 GHz * 2	8 G	Solaris 10
140.112.20.64	cad21	DELL R620	Intel Xeon 64	2 GHz * 32	48 G	CentOS 5
140.112.20.65	cad22	SUN Blade 2500	UltraSPARC	1.28 GHz * 2	8 G	Solaris 10
140.112.20.66	cad23	DELL R620	Intel Xeon 64	2 GHz * 16	96 G	CentOS 5
140.112.20.67	cad24	SUN Fire 280R	UltraSPARC	1.2 GHz * 2	4 G	Solaris 9
140.112.20.68	cad25	SUN Fire 280R	UltraSPARC	1.2 GHz * 2	4 G	Solaris 9
140.112.20.69	cad26	SUN Fire 280R	UltraSPARC	1.2 GHz * 2	4 G	Solaris 9
140.112.20.70	cad27	IBM x260	Intel Xeon 64	3.2 GHz * 4	8 G	RHEL 4
140.112.20.71	cad28	IBM x260	Intel Xeon 64	3.2 GHz * 4	8 G	RHEL 4
140.112.20.72	cad29	IBM e336	Intel Xeon 64	3.2 GHz	5 G	RHEL 4
140.112.20.73	Cad30	IBM X3650	Intel Xeon 64	2 GHz * 16	12 G	SUSE 11
140.112.20.74	cad31	SUN Blade 2000	UltraSPARC	1.015 GHz * 2	8 G	Solaris 10
140.112.20.75	cad32	SUN Blade 2000	UltraSPARC	1.015 GHz * 2	8 G	Solaris 8
140.112.20.76	cad33	IBM X3500	Intel Xeon 64	2 GHz * 16	20 G	RHEL 4
140.112.20.77	cad34	IBM X3650	Intel Xeon 64	2.4 GHz * 8	12 G	RHEL 5
140.112.20.78	cad35	SUN V20z	AMD Opteron	2.4 GHz * 2	4 G	RHEL 4
140.112.20.79	cad36	SUN V20z	AMD Opteron	2.4 GHz * 2	4 G	RHEL 4
140.112.20.80	cad37	SUN V20z	AMD Opteron	2.4 GHz * 2	4 G	RHEL 4
140.112.20.81	cad38	IBM X3650	Intel Xeon 64	2.4 GHz * 16	96 G	RHEL 5
140.112.20.82	cad39	IBM X3650	Intel Xeon 64	2 GHz * 24	40 G	CentOS 5
140.112.20.83	cad40	IBM X3550	Intel Xeon 64	2 GHz * 24	8 G	CentOS 5
140.112.20.84	cad41	Fujitsu RX300 S4	Intel Xeon 64	2 GHz * 8	10 G	RHEL 4
140.112.20.85	cad42	IBM X3500	Intel Xeon 64	2 GHz * 24	32 G	CentOS 5

FileZilla (1/2) for File Transfer

FileZilla (2/2) for File Transfer

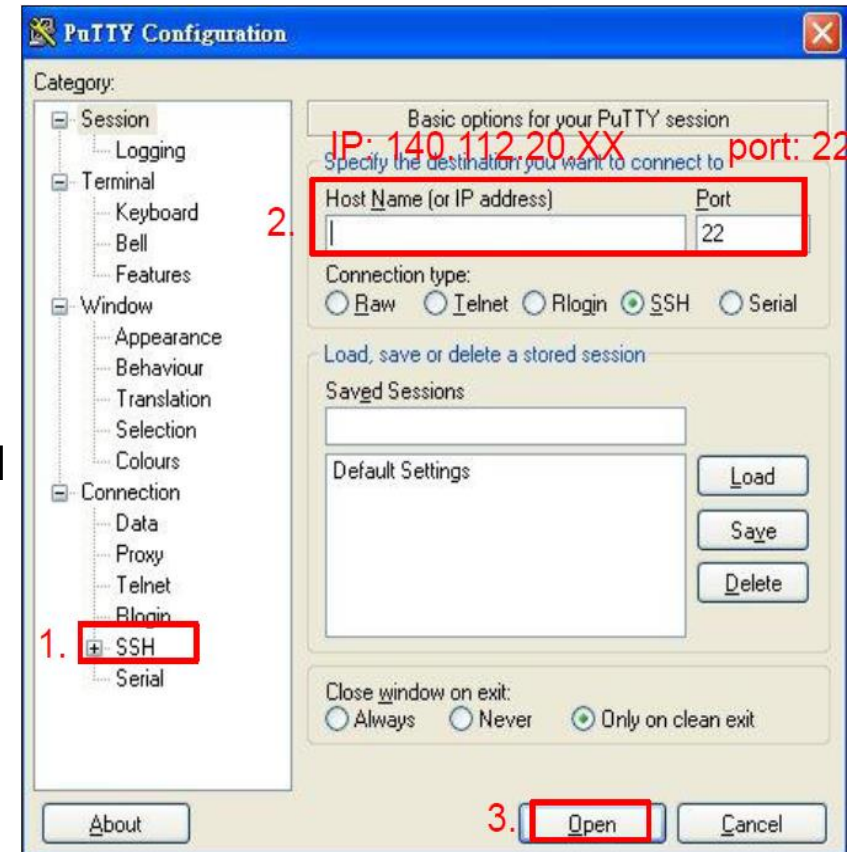❖ Download

❖ http://sourceforge.net/projects/filezilla/files/
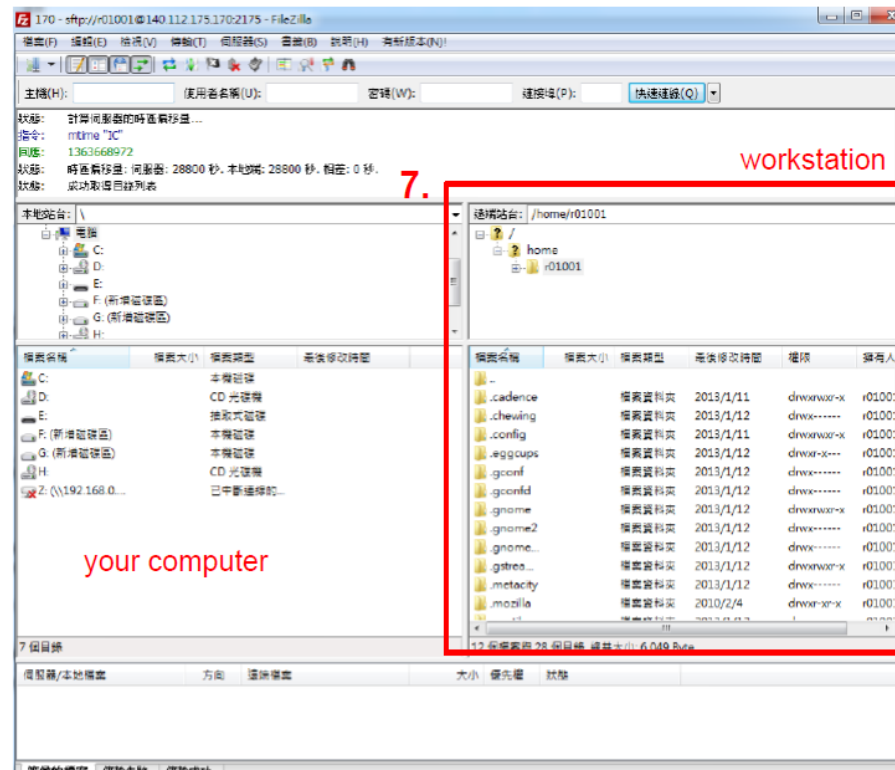
Putty (1/2)

❖ Host name :
   - ❖ EX 140.112.20.70
❖ Port : 22

❖ Login as:
   - ❖ Your account(ex: r04XXX)
❖ r04XXX@140.112.20.70's password

Putty (2/2)

❖ Download

  ❖ http://the.earth.li/~sgtatham/putty/latest/x86/putty.exe

❖ Official website

  ❖ http://www.chiark.greenend.org.uk/~sgtatham/putty/

❖ Tutorial

  ❖ http://www.ascc.sinica.edu.tw/putty

X Server – Xming (1/3)

❖ Xming is a standalone open source X Server for Windows

❖ Programs that use a graphical user interface like **nWave** require an X server on your home computer

❖ Setup Putty before connecting (SSH→X11)

  ❖ Enable X11 forwarding
  ❖ Selecting display location
    ➢ Enter "localhost: 0"
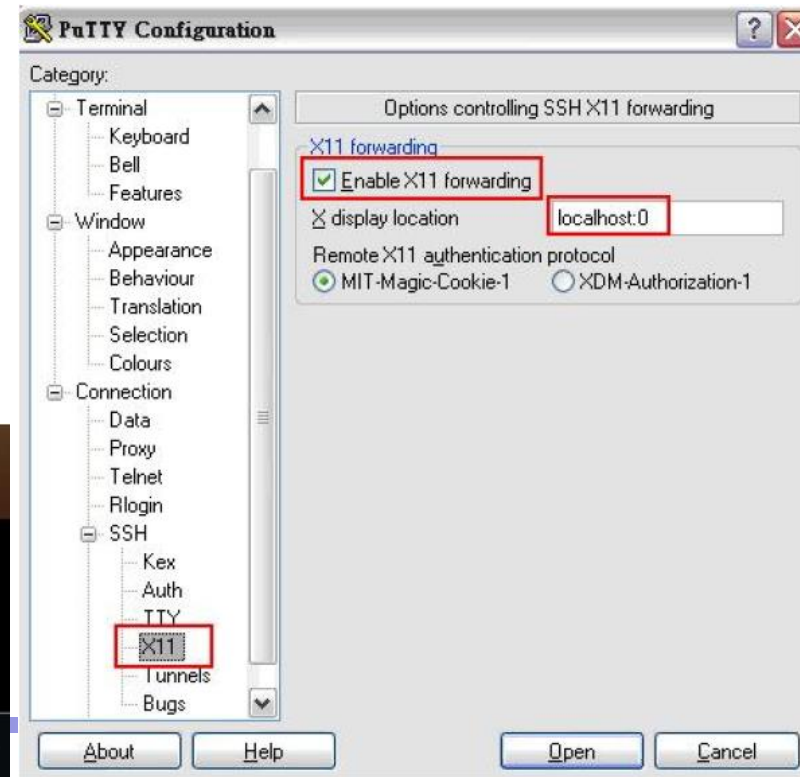
X Server – Xming (2/3)

❖ Open programs with GUI

   ❖ EX: dsign_vision & (for *synthesis* or *insert scan chain)*

   ❖ *EX: nWave & (*for *debugging)*
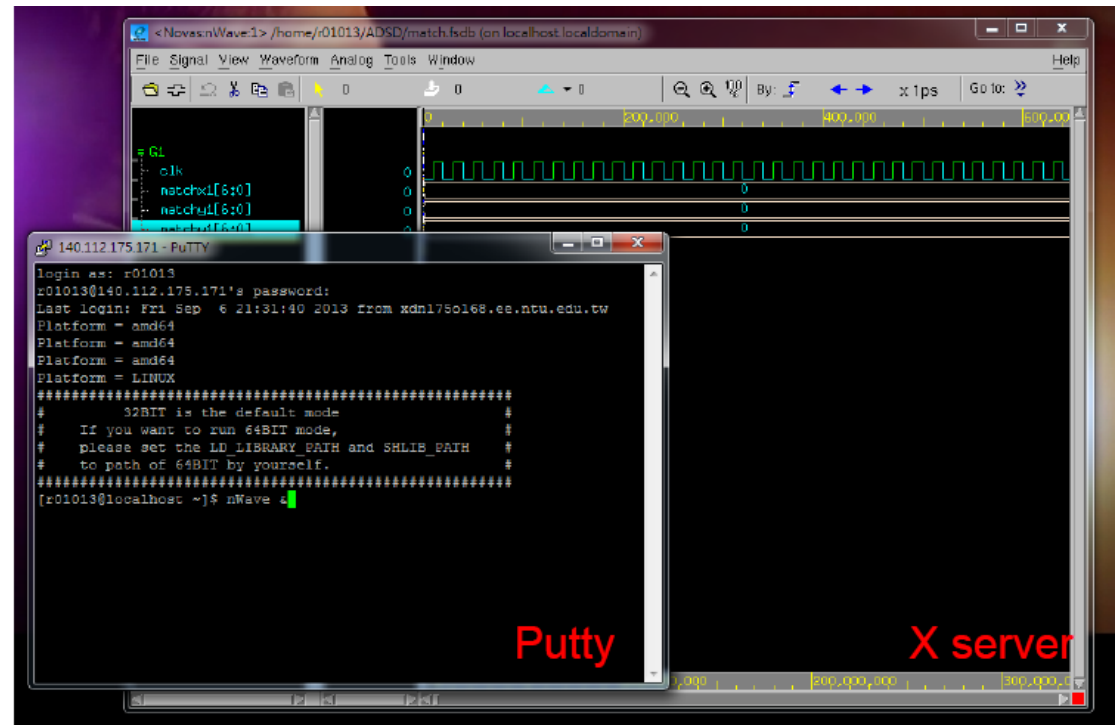
X Server – Xming (3/3)

❖ Download

   ❖ http://sourceforge.net/projects/xming/

❖ Tutorial

   ❖ http://blog.jangmt.com/2009/11/xming.html

   ❖ http://1337-tux.blogspot.com/2005/03/xming.html

   ❖ https://sites.google.com/site/ykcycuee/tutorial/remote-access/xming

   ❖ http://qiu.bioweb.hunter.cuny.edu/index.php?option=com_content&view=article&id=110

MobaXterm (1/2)

❖ MobaXterm = SFTP + SSH + X-server

❖ New Session
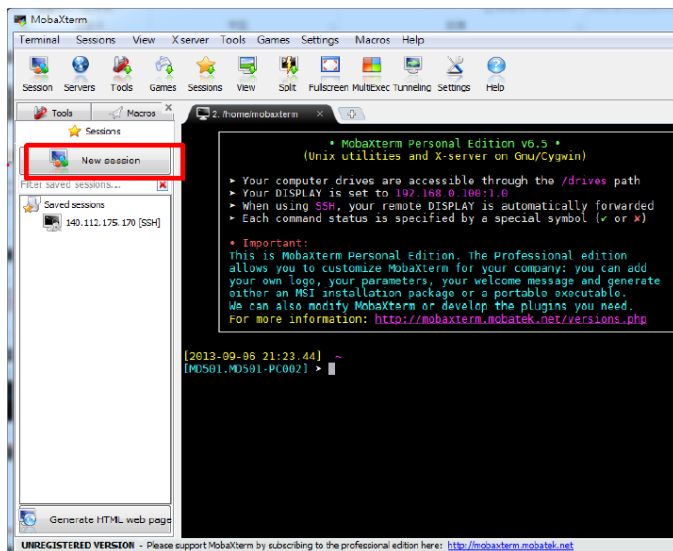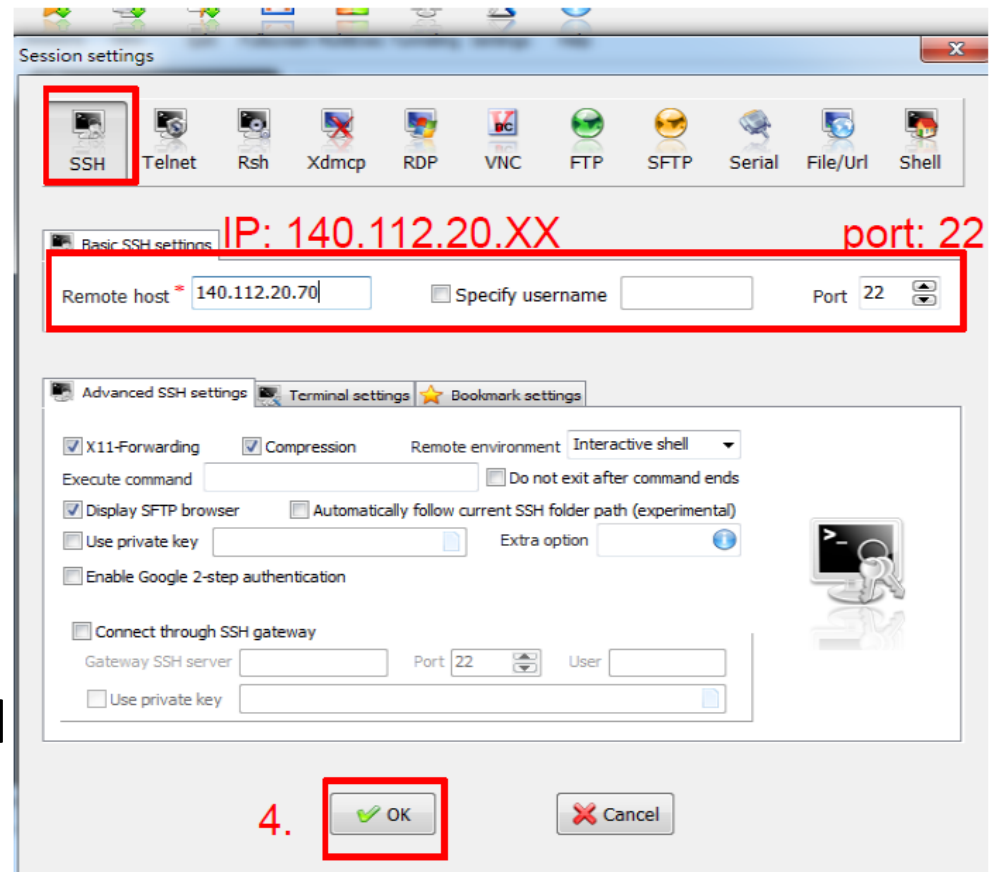
❖ Or directly enter command
to connect

  ❖ ssh r04XXX@140.112.20.70

MobaXterm (2/2)

❖ Download:

   ❖ http://mobaxterm.mobatek.net/
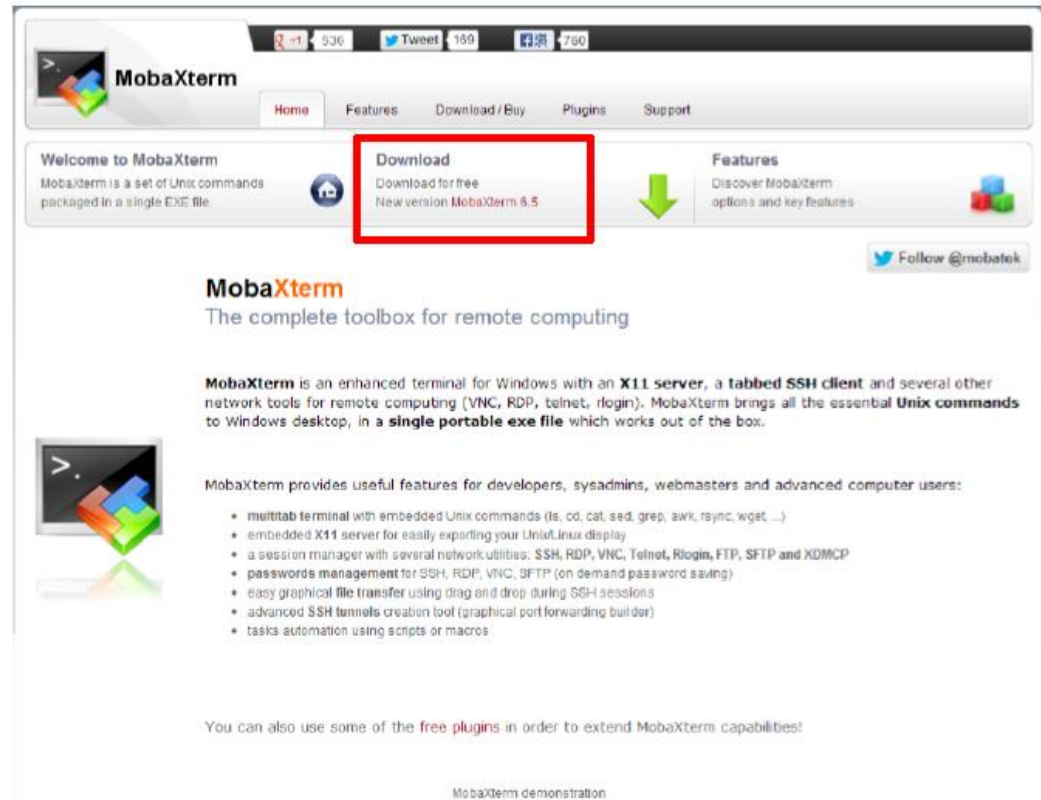
Outline

❖ Connect to workstation

❖ Basic commands in Unix/Linux

❖ Text editors

Environment

Basic commands (1/5)

❖ Files

- ❖ ls   : lists files
- ❖ ls –l : lists files in long format
- ❖ ls –a: lists all files, including the ones whose filename beginning in a dot

- ❖ cp *src-filename dest-filename* : copy files
- ❖ mv *src-filename dest-filename* : move files
- ❖ rm *filename*   : delete the file
- ❖ more *filename*   : show the content of the file

Basic commands (2/5)

❖ Directories

    ❖ mkdir *dirname* : make a new directory

    ❖ cd *dirname*   : change directory

    ❖ cd..   : go up on directory level from here

    ❖ cd~   : go to user's home directory

    ❖ rm –rf *dirname* : remove a directory

Basic commands (3/5)

❖ Compress and decompress files

   ❖ Compress

   ➢ tar –cvf *filename.tar filename*

   ➢ gzip *.tar

   ■ * stand for all files whose filename extension are .tar

   ❖ Decompress

   ➢ gzip –d *filename.tar.gz*

   ➢ tar –xvf *filename.tar*

Basic commands (4/5)

❖ Processes
  ❖ ctrl + c   : kill foreground process
  ❖ ps   : report processes and their pid numbers
  ❖ Kill pid# : kill the process with the pid#

❖ Logout
  ❖ exit

❖ More options about command
  ❖ man *command-name* : display on-line manual pages

Basic commands (5/5)

❖ Reference

  ❖ Chinese

    ➤ http://linux.vbird.org/linux_basic/redhat6.1/linux_06command.php

    ➤ http://boson4.phys.tku.edu.tw/UNIX/Unix Command/index_basic.htm

    ➤ http://www.lib.cgu.edu.tw/instruction/basiccmd.html

    ➤ http://larc.ee.nthu.edu.tw/~lmdenq/Unix.htm#%A4E%A1B%BF%E9%A5X%A4J%C2%E0%A6V

  ❖ English

    ➤ http://mally.stanford.edu/~sr/computing/basic-unix.html

    ➤ http://www.math.utah.edu/lab/unix/unix-commands.html

    ➤ http://www.computerhope.com/unix/overview.htm

Outline

❖ Connect to workstation

❖ Basic commands in Unix/Linux

❖ Text editors

  ❖ Vim

  ❖ Notepad++

  ❖ Sublime Text

Vim (1/4)

❖ Vim (Vi Improved)

    ❖ An extended version of the vi editor

    ❖ Additional features designed to be helpful in editing program source code

    ❖ Free and open source software

Vim (2/4)

❖ Three major modes

    ❖ Common mode (*c-mode*)

        ➢ All keystrokes are interpreted as commands

    ❖ Insert mode (*i-mode*)

        ➢ Most keystrokes are inserted as text

    ❖ Edit mode (*e-mode*)

        ➢ Open/new/save file and quit vim

❖ Change modes

    ❖ i-mode ← c-mode → e-mode

        Key: "i"   Key: ":"

    ❖ i-mode → c-mode ← e-mode

        Key: "esc"   Key: "esc"
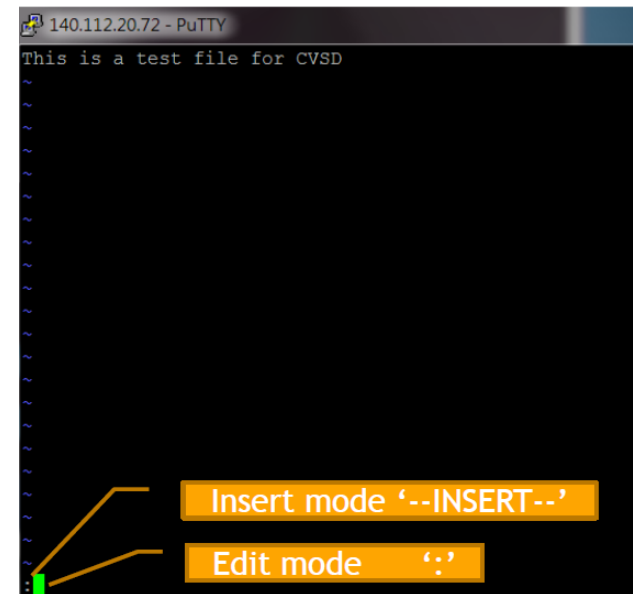
Vim (3/4)

❖ Basic command in c-mode

  ❖ Key **dd**   : delete the whole line

  ❖ Key **u**   : undo

  ❖ Key **I**   : enter insert-mode

  ❖ Key :**w + enter**   : save a document

  ❖ Key **:q + enter**   : quit without saving

  ❖ Key :**wq + enter**   : save and quit at the same time

  ❖ Key **:q! + enter**   : discard changes and quit

  ❖ Key **:w** *new_filename* **+ enter** : save as new-filename

Vim (4/4)

Notepad++

❖ http://notepad-plus-plus.org/download/v6.6.9.html

　　❖ alt

Sublime Text

❖ http://www.sublimetext.com/2

❖ A cross between a text editor and an IDE

❖ Easy to extend via packages (package manger)

❖ http://filipminev.com/post/14262857223/9-reasons-you-must-install-sublime-text-2-code