

NTUEE DCLAB

DCLab Workstation & Linux Basics

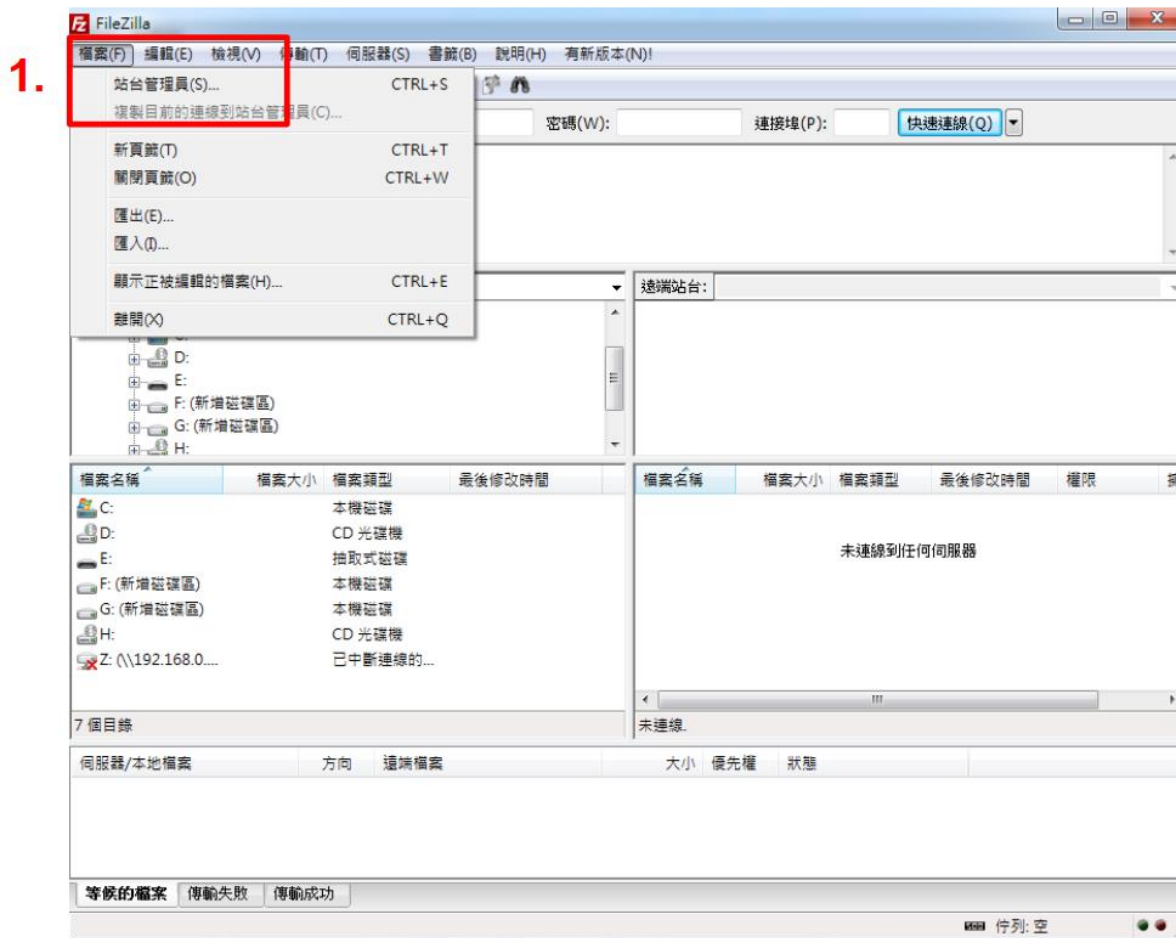
Graduate Institute of Electronics Engineering
National Taiwan University

Outline

- Connect to DCLab workstation
 - FileZilla
 - MobaXterm
- Basics commands in Unix/Linux
- File Editors

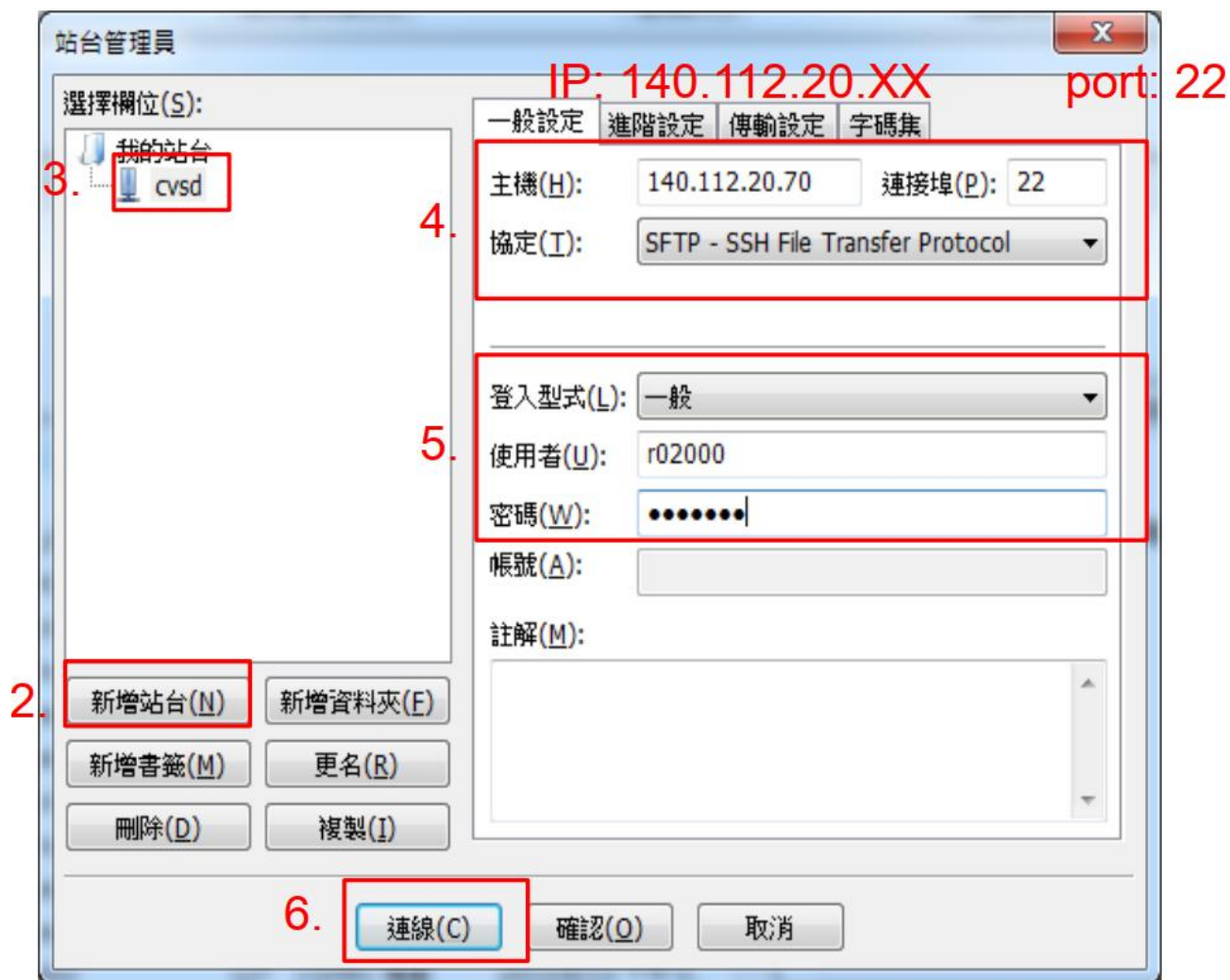
FileZilla (1/3)

- Download: <https://sourceforge.net/projects/filezilla/files/>
- Choose 檔案 → 站台管理員

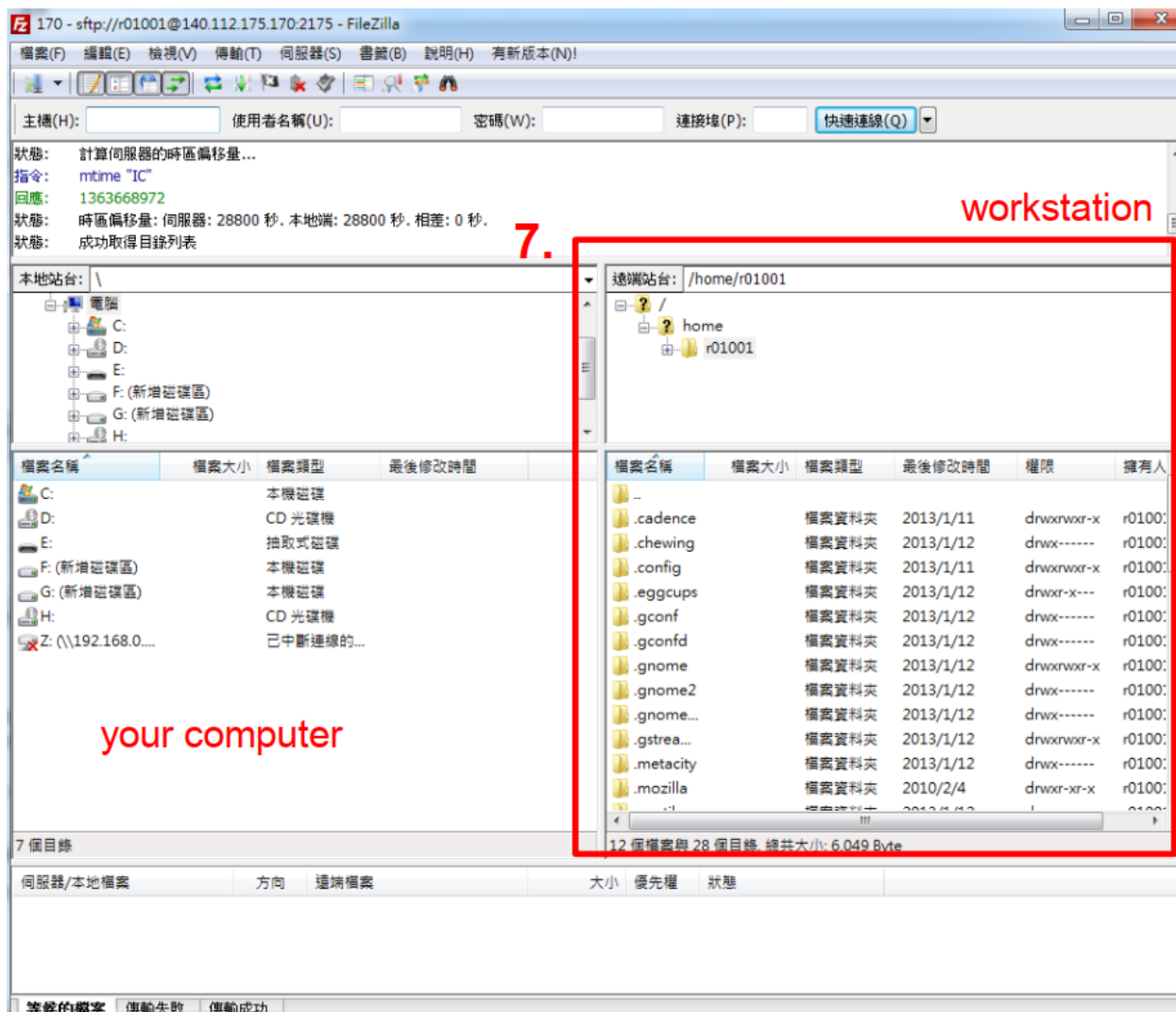


FileZilla (2/3)

- IP跟port要用數電工作站的

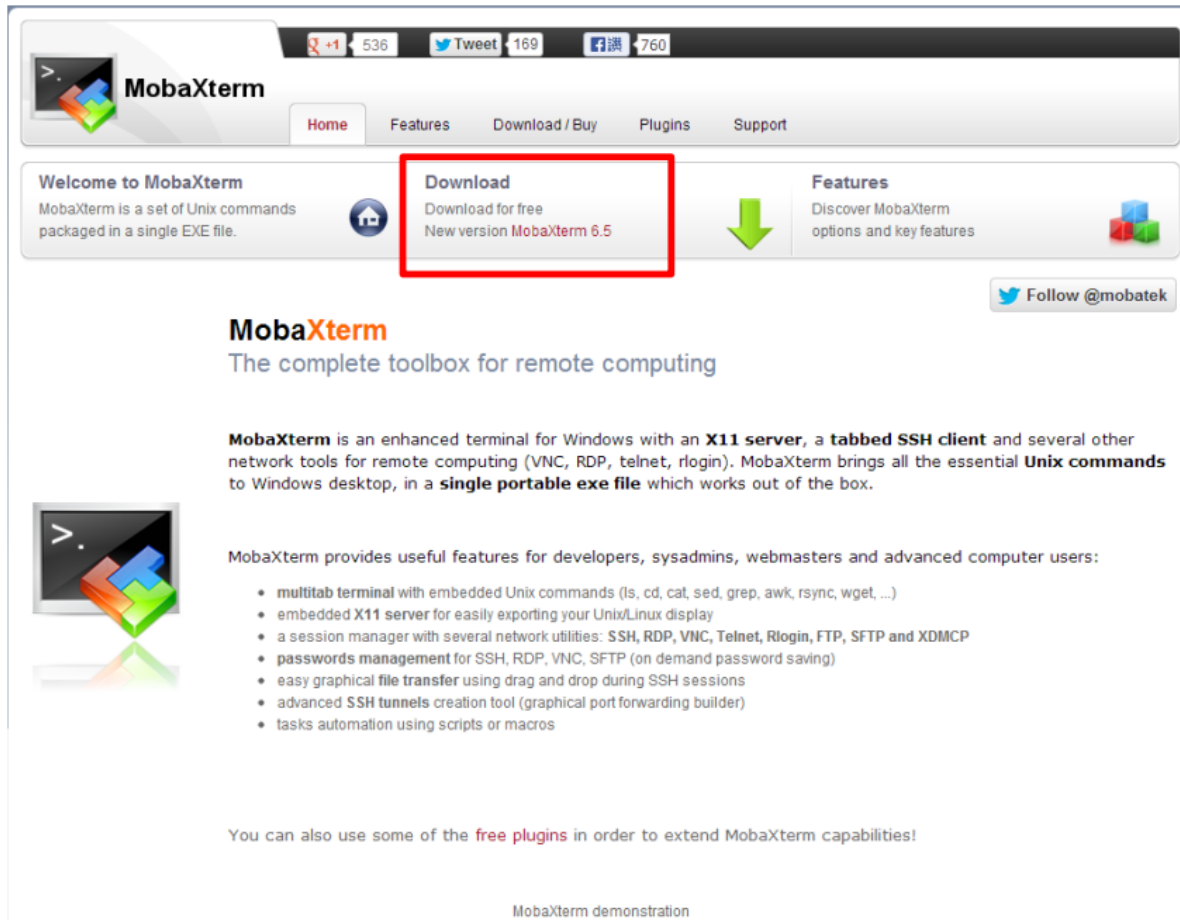


FileZilla (3/3)



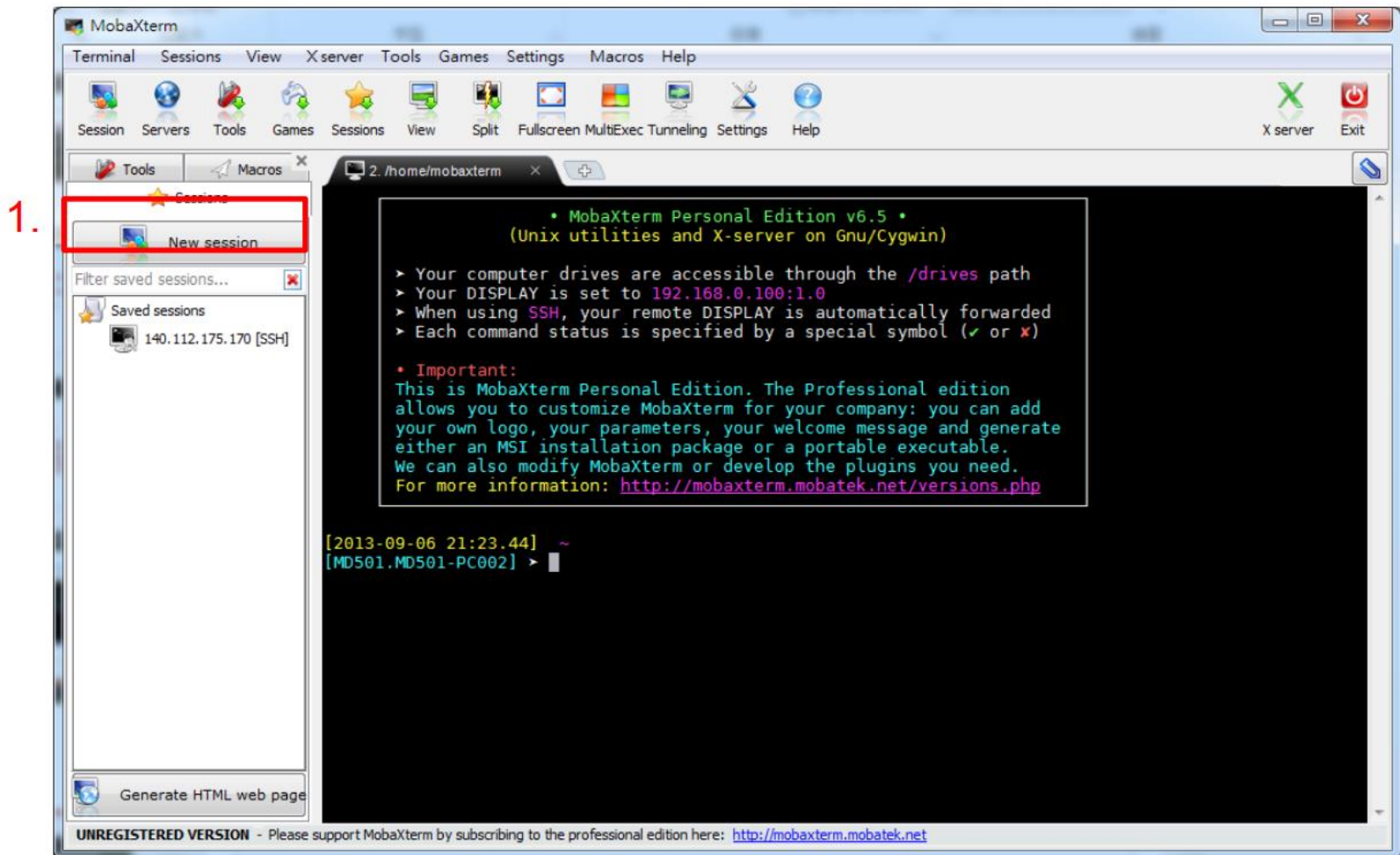
MobaXterm (1/4)

- MobaXterm = SFTP + SSH + X-Server
- Download: <https://mobaxterm.mobatek.net/>

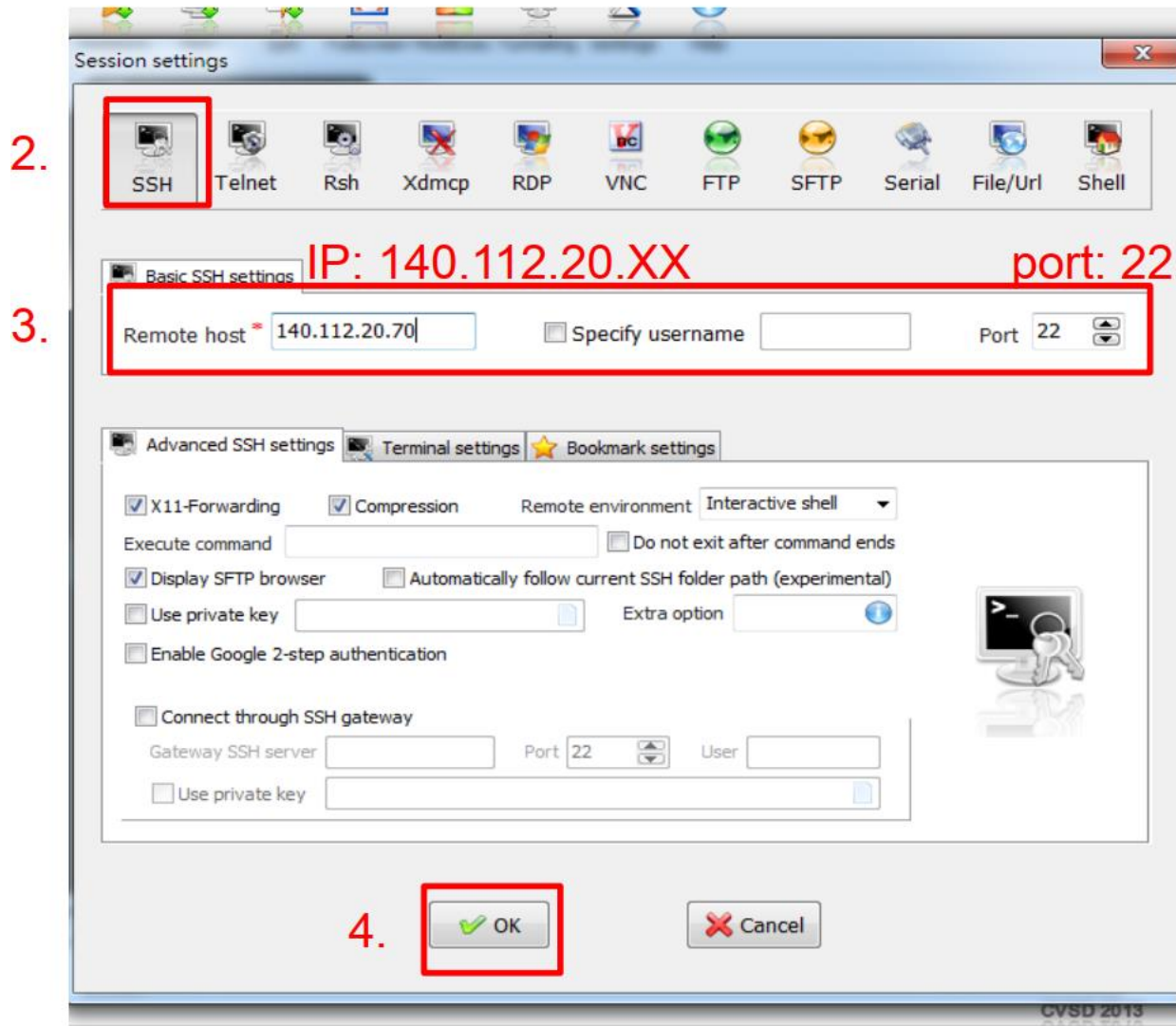


MobaXterm (2/4)

- New Session

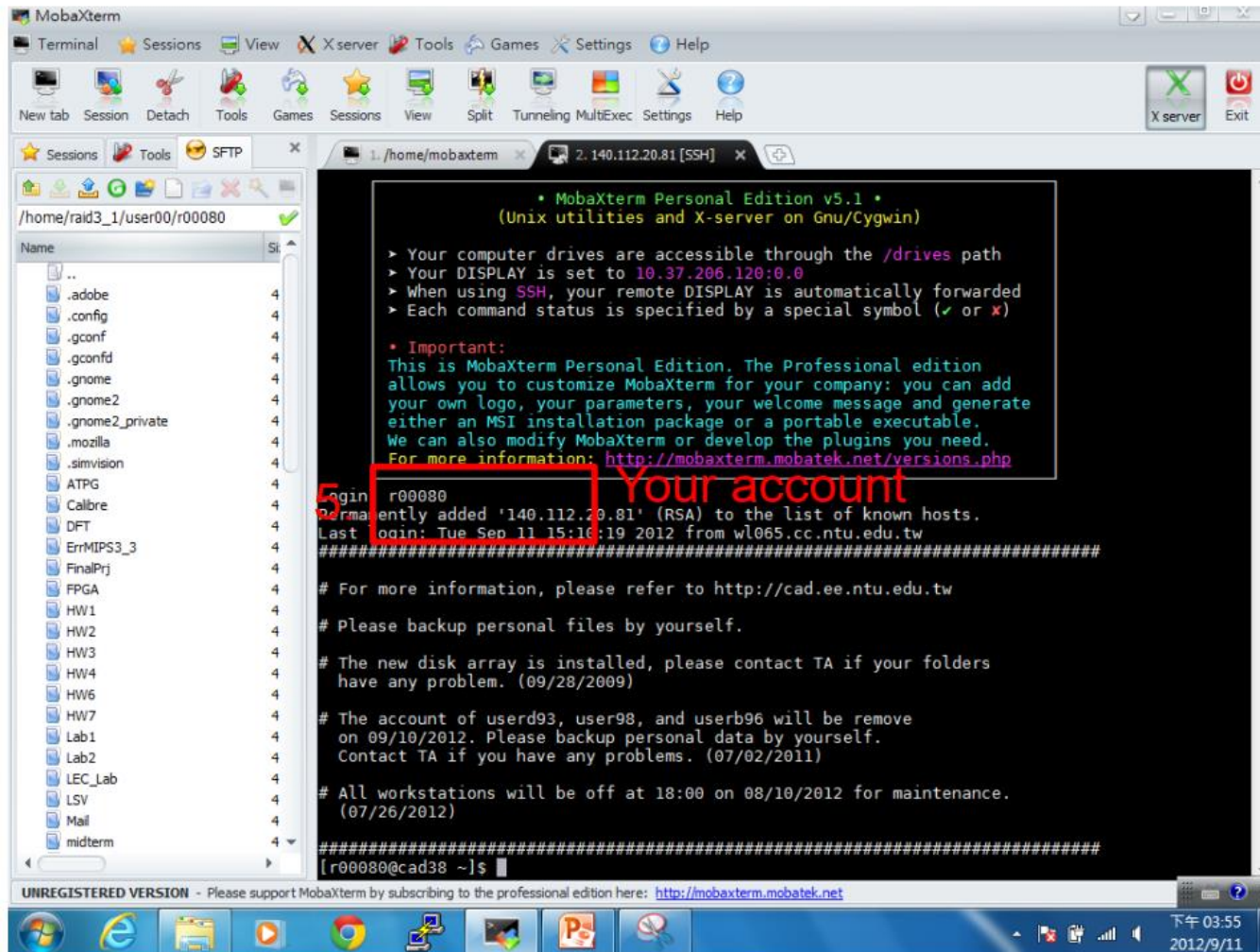


MobaXterm (3/4)



MobaXterm (4/4)

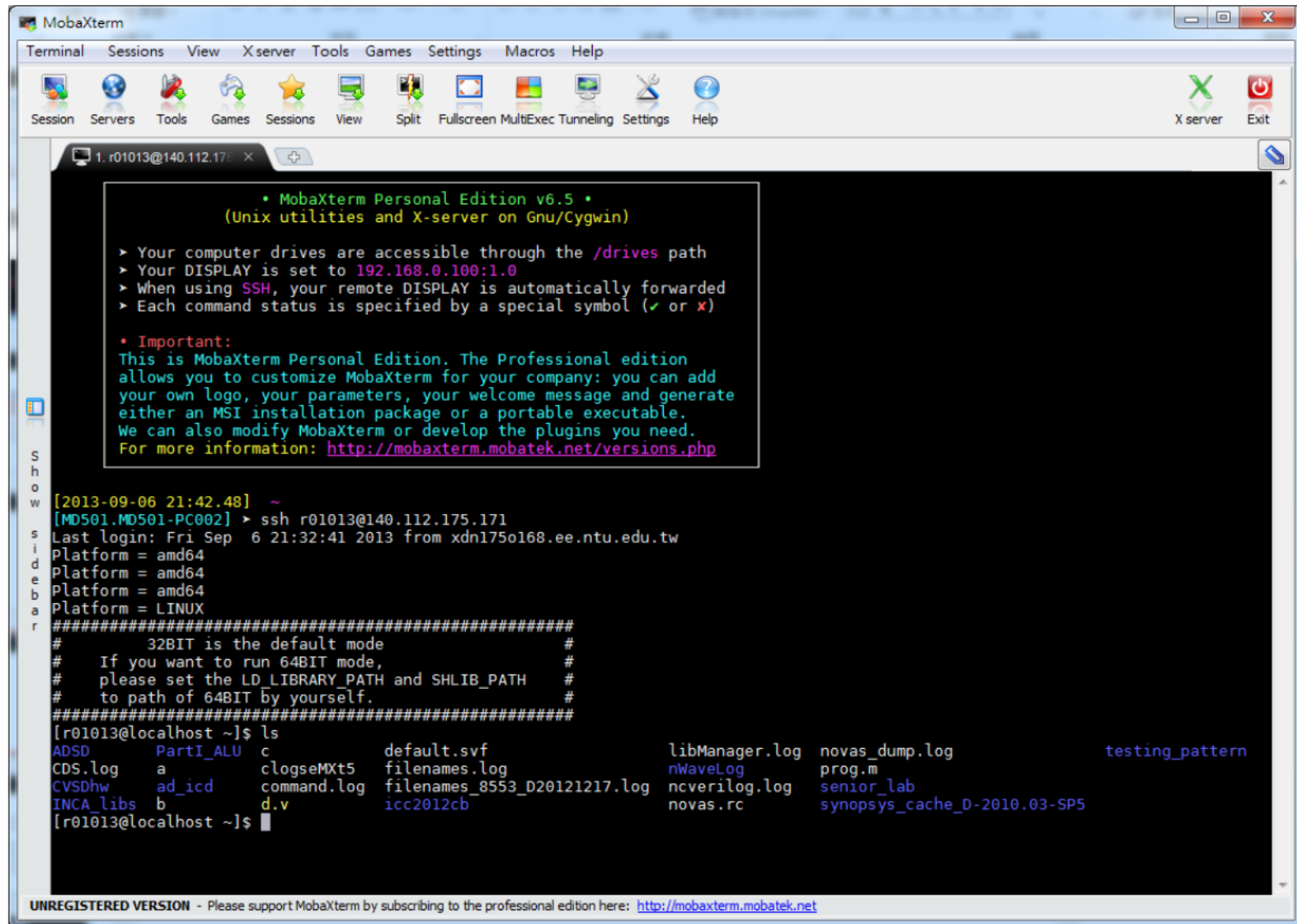
- Or type “ssh teamxx@<workstation IP> -p <port>”



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Environment



The screenshot shows the MobaXterm application window. The title bar reads "MobaXterm". The menu bar includes "Terminal", "Sessions", "View", "Xserver", "Tools", "Games", "Settings", "Macros", and "Help". The toolbar contains icons for Session, Servers, Tools, Games, Sessions, View, Split, Fullscreen, MultiExec, Tunneling, Settings, Help, X server, and Exit. The terminal window shows a session with the host "1. r01013@140.112.171". A welcome message box is displayed, stating "MobaXterm Personal Edition v6.5" and providing information about drives, DISPLAY, SSH, and command status. Below the message, the terminal shows the user logging in via SSH from "xdn175o168.ee.ntu.edu.tw". The system identifies the platform as "amd64" and "LINUX". A directory listing is shown for the user's home directory, displaying files like "ADSD", "CDS.log", "CVSDhw", "INCA_libs", "PartI_ALU", "ad_ica", "clogseMXt5", "command.log", "d.v", "default.svf", "filenames.log", "filenames_8553_D20121217.log", "icc2012cb", "libManager.log", "nWaveLog", "ncverilog.log", "novas.rc", "novas_dump.log", "prog.m", "senior_lab", and "synopsys_cache_D-2010.03-SP5". The terminal ends with the prompt "[r01013@localhost ~]\$". At the bottom, a message states "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <http://mobaxterm.mobatek.net>".

```
MobaXterm
Terminal Sessions View Xserver Tools Games Settings Macros Help

Session Servers Tools Games Sessions View Split Fullscreen MultiExec Tunneling Settings Help

1. r01013@140.112.171: X

• MobaXterm Personal Edition v6.5 •
(Unix utilities and X-server on Gnu/Cygwin)

> Your computer drives are accessible through the /drives path
> Your DISPLAY is set to 192.168.0.100:1.0
> When using SSH, your remote DISPLAY is automatically forwarded
> Each command status is specified by a special symbol (✓ or ✗)

• Important:
This is MobaXterm Personal Edition. The Professional edition
allows you to customize MobaXterm for your company: you can add
your own logo, your parameters, your welcome message and generate
either an MSI installation package or a portable executable.
We can also modify MobaXterm or develop the plugins you need.
For more information: http://mobaxterm.mobatek.net/versions.php

[2013-09-06 21:42:48] ~
[MD501.MD501-PC002] > ssh r01013@140.112.175.171
Last login: Fri Sep 6 21:32:41 2013 from xdn175o168.ee.ntu.edu.tw
Platform = amd64
Platform = amd64
Platform = amd64
Platform = LINUX
#####
# 32BIT is the default mode #
# If you want to run 64BIT mode, #
# please set the LD_LIBRARY_PATH and SHLIB_PATH #
# to path of 64BIT by yourself. #
#####
[r01013@localhost ~]$ ls
ADSD      PartI_ALU  c          default.svf  libManager.log  novas_dump.log  testing_pattern
CDS.log   a          clogseMXt5  filenames.log  nWaveLog        prog.m
CVSDhw    ad_ica     command.log  filenames_8553_D20121217.log  ncverilog.log  senior_lab
INCA_libs b          d.v         icc2012cb     novas.rc         synopsys_cache_D-2010.03-SP5
[r01013@localhost ~]$

UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: http://mobaxterm.mobatek.net
```

Basic Commands (1/4)

- Files

ls

Lists your files

ls -l

Lists your files in long format

ls -a

Lists all files, including those with filename beginning in a dot

cp <src-filename> <dest-filename>

Copy files

mv <src-filename> <dest-filename>

Move/remove files

rm <filename>

Delete this file

more <filename>

Show the content of the file

less <filename>

Show the content of the file

Basic Commands (2/4)

- 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

mv <src-dirname> <dest-dirname>

Move/rename directories

Basic Commands (3/4)

- Compress
 - *tar cvf <filename.tar> <dirname/filename>*
 - *tar czvf <filename.tar.gz> <dirname/filename>*
- Decompress
 - *tar xvf <filename.tar>*
 - *tar xzvf <filename.tar.gz>*

Basic Commands (4/4)

- Process

ctrl + c

Kill foreground process

ps

Report process and their pid#

kill <pid#>

Kill the process with the pid#

- Logout

– *exit*

- More options about command

man <command-name>

Display online manual pages

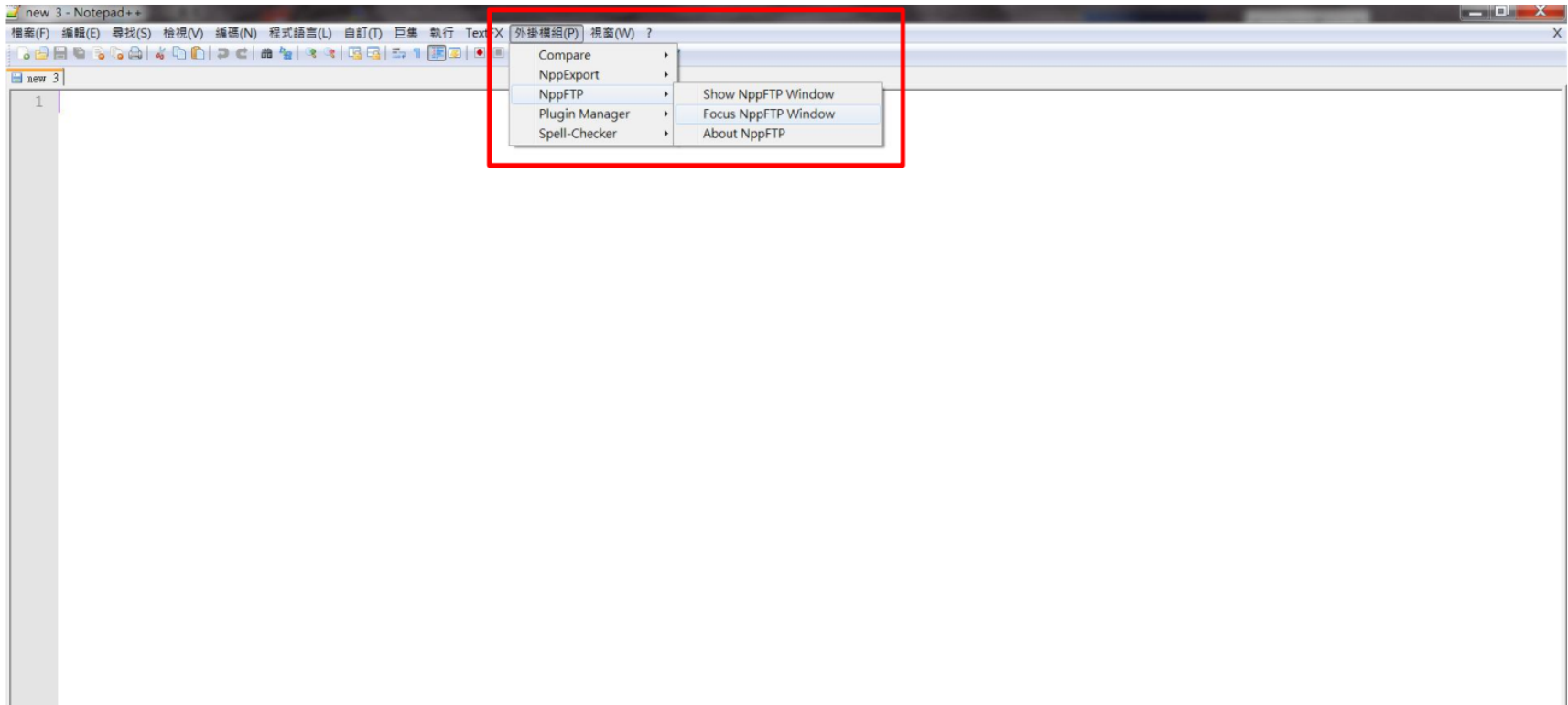
References

- Some resources on Unix/Linux commands
- Chinese
 - http://boson4.phys.tku.edu.tw/UNIX/Unix%20Command/index_basic.htm
 - <http://www.lib.cgu.edu.tw/instruction/basiccmd.html>
- English
 - <http://mally.stanford.edu/~sr/computing/basic-unix.html>
 - <http://www.math.utah.edu/lab/unix/unix-commands.html>
 - <https://www.computerhope.com/unix/overview.htm>

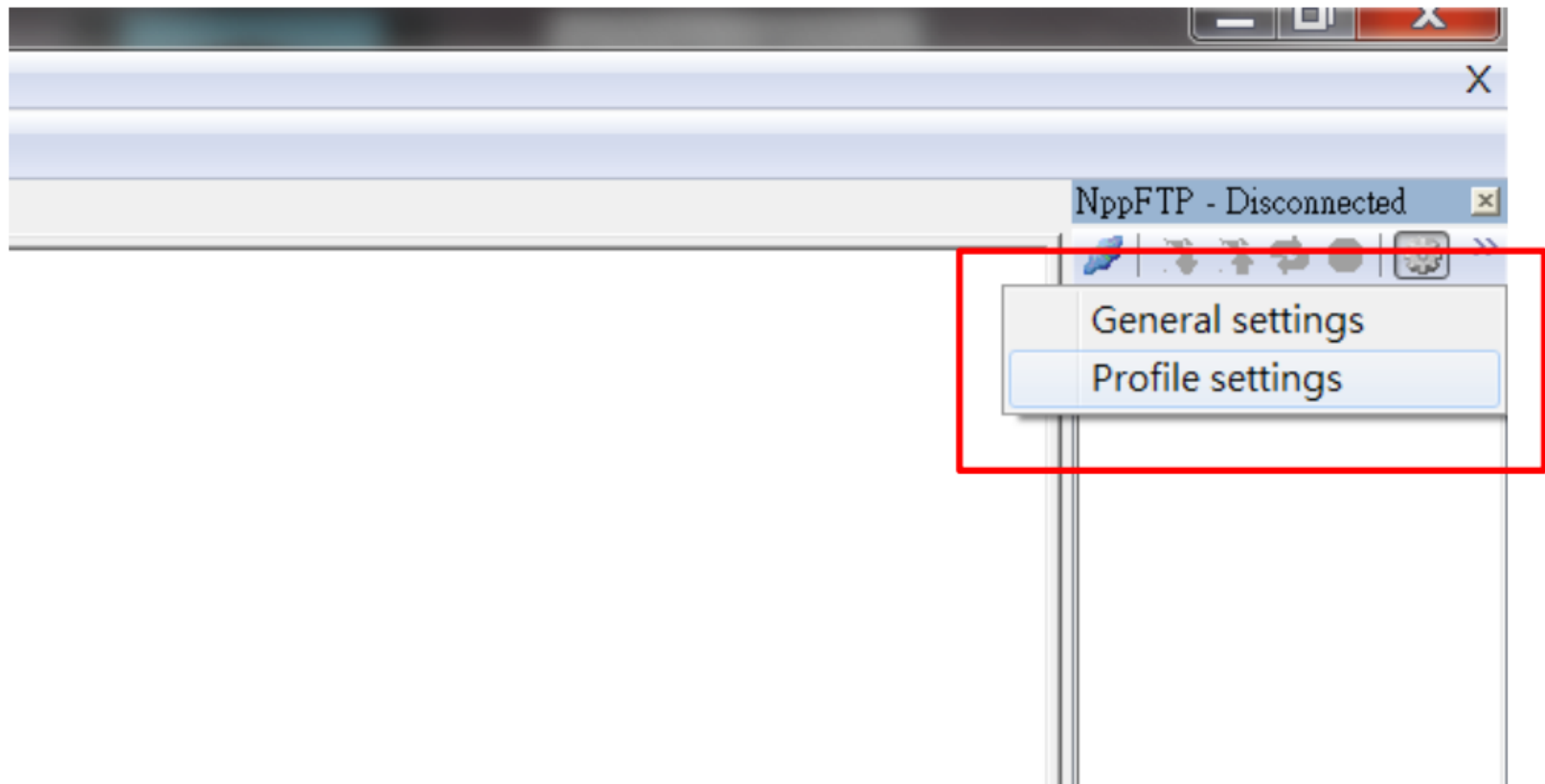
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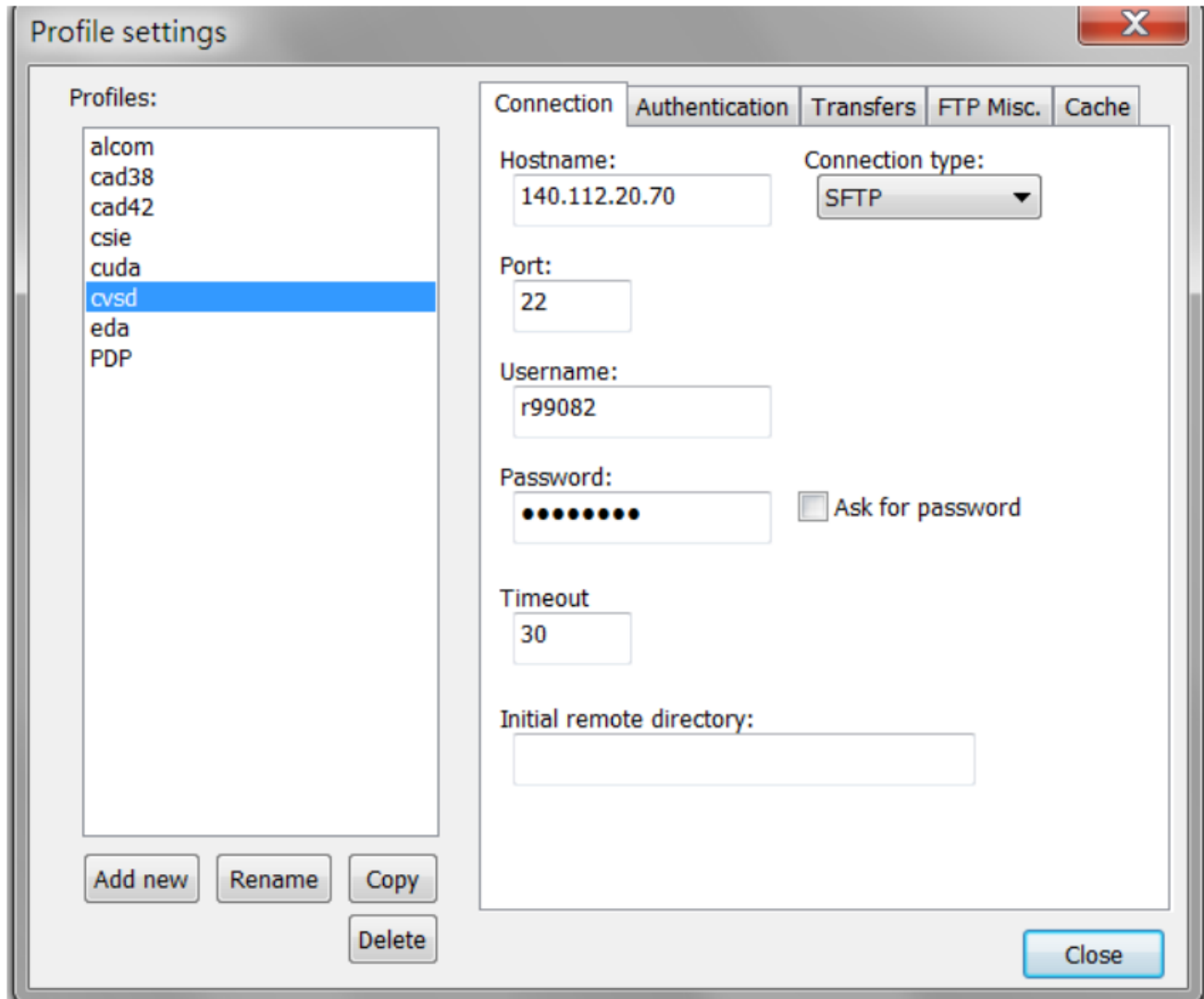
Notepad++ (1/4)



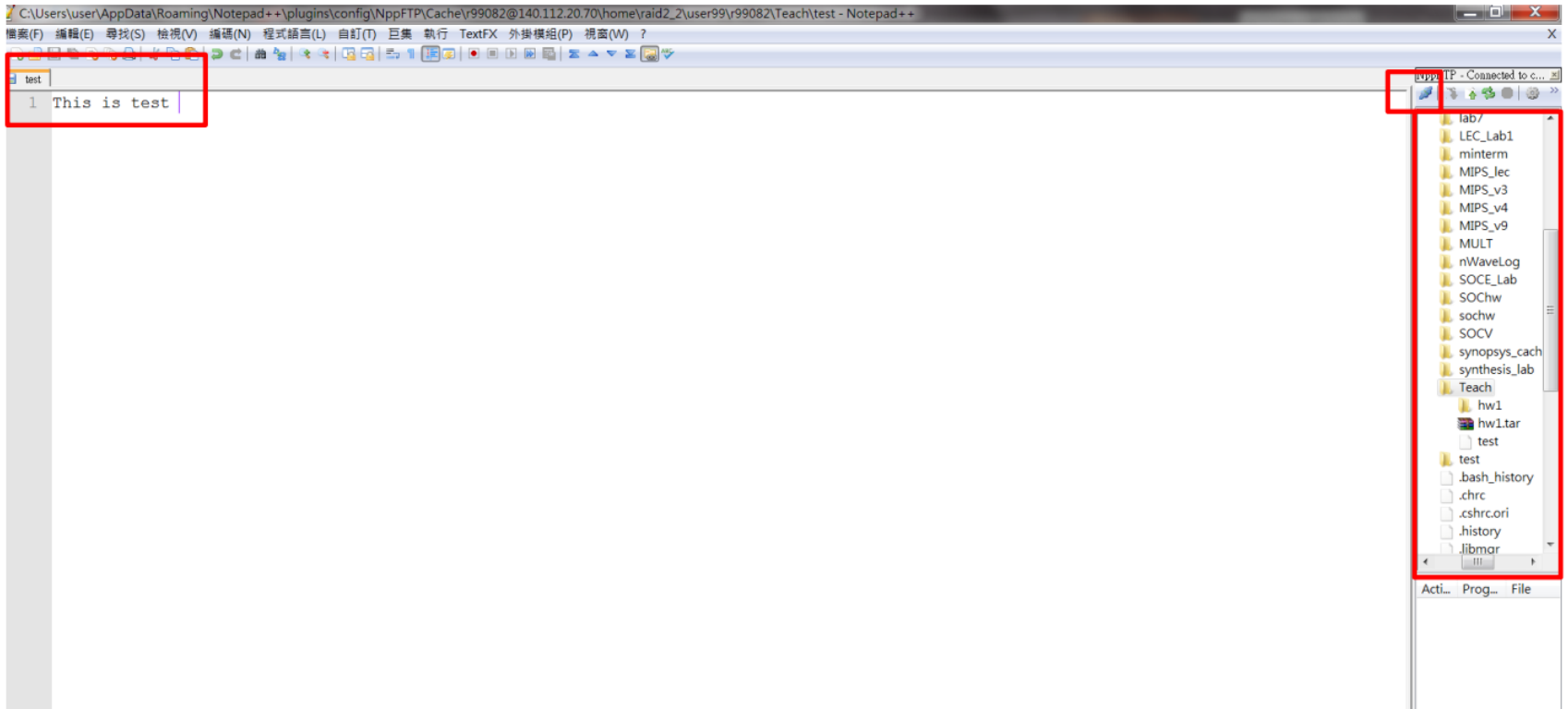
Nodepad++ (2/4)



Nodepad++ (3/4)



Notepad++ (4/4)



Vim (1/5)

- Vim (Vi IMproved)
 - An extended version of vi editor
 - Additional features designed to be helpful in editing program source code
 - Free and open source software

Vim (2/5)

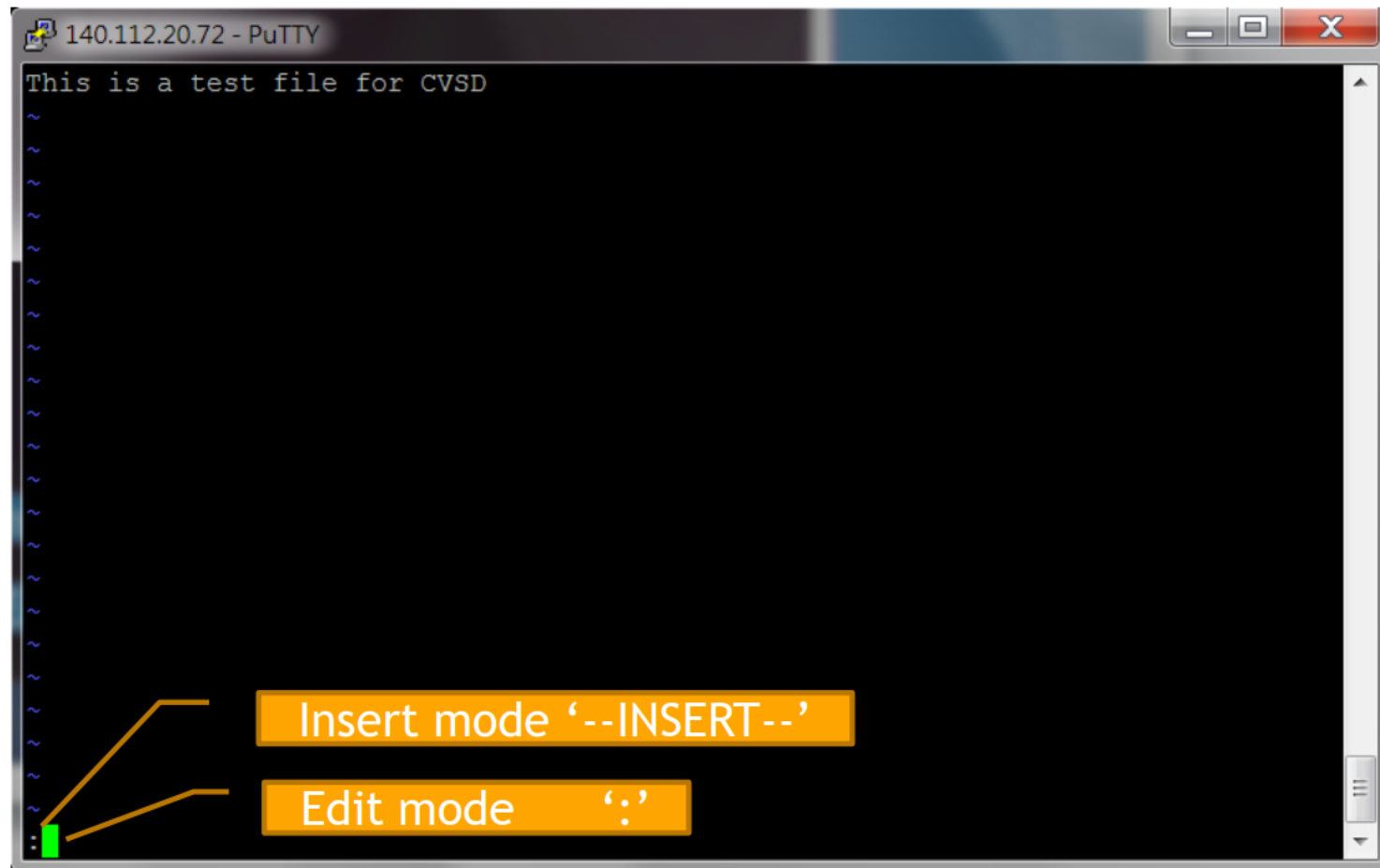
- Three major modes
 - Common mode (c-mode)
 - Insert mode (i-mode)
 - Edit mode (e-mode)
- Changing modes
 - i-mode <----- c-mode -----> e-mode

*i**:*
 - i-mode -----> c-mode <----- e-mode

*esc**esc*

Vim (3/5)

- vim test.txt



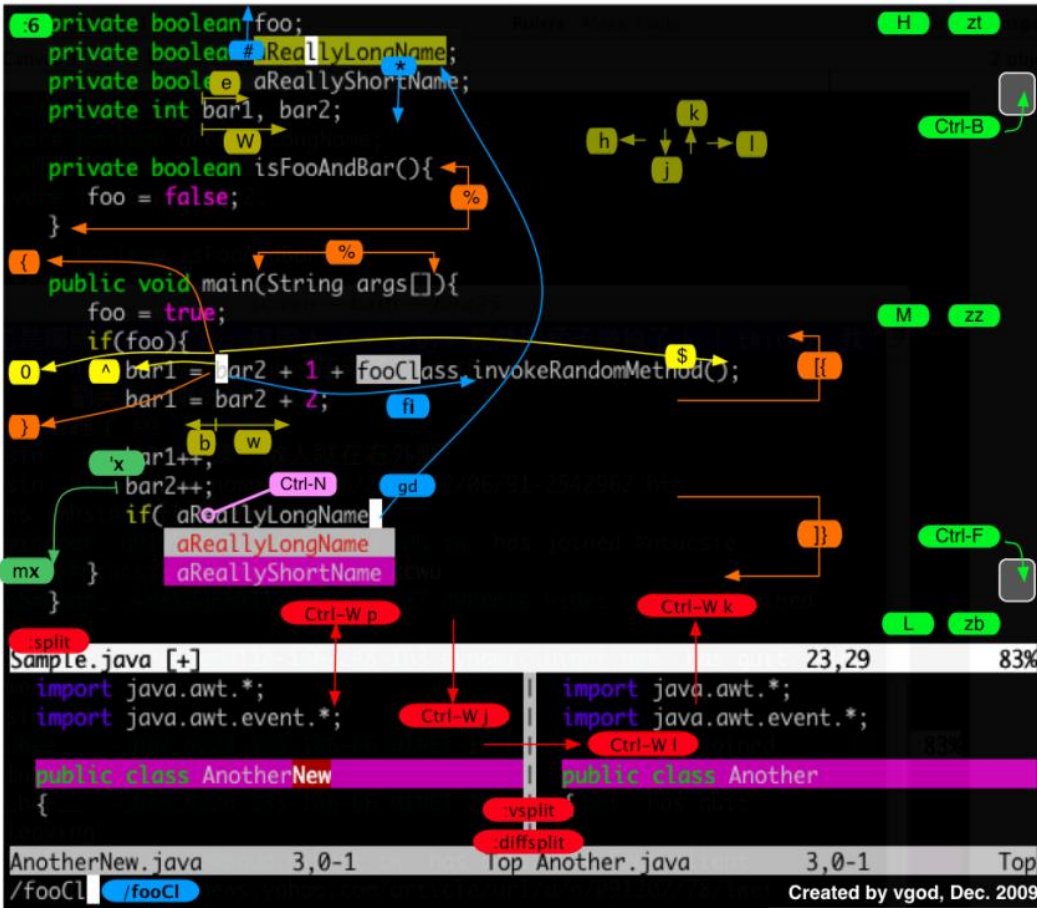
Vim (4/5)

- Some basic commands in c-mode

| | |
|--|--------------------------------|
| <i>dd</i> | Delete the whole line |
| <i>u</i> | Undo |
| <i>i</i> | Enter insert-mode |
| <i>:w + enter</i> | Save a document |
| <i>:q + enter</i> | Quit without saving |
| <i>:wq + enter</i> | Save and quit at the same time |
| <i>:q!</i> | Discard changes and quit |
| <i>:w <new-filename> + enter</i> | Save as <new-filename> |

Vim (5/5)

vim命令圖解



| 游標移動/範圍單位 | |
|-------------------------|---------------------|
| 字元(character) | |
| h | ← |
| j | ↓ |
| k | ↑ |
| l | → |
| 單字(word) | |
| w | 前/後個單字 |
| b | 前/後個單字(跳過符號) |
| W | 前/後個單字(跳過符號) |
| B | 前/後個單字(跳過符號) |
| e | 單字尾端 |
| 行(line) | |
| 0 | 行頭 |
| ^ | 行頭(非空白字元) |
| \$ | 行尾 |
| 段落(paragraph)、區塊(block) | |
| { | 上一段 |
| } | 下一段 |
| [| 區塊頭 |
|] | 區塊尾 |
| % | 對應括號 |
| 螢幕(screen)、檔案(file) | |
| H | 螢幕頂端 |
| M | 螢幕中間 |
| L | 螢幕底部 |
| C-B | 上一頁 |
| C-F | 下一頁 |
| gg | 檔頭 |
| G | 檔尾 |
| mx | 標記x |
| 'x | 跳至標記x |
| 搜尋(search) | |
| * | 向後/向前搜尋目前單字 |
| # | 向後/向前搜尋目前單字 |
| fx | 向後搜尋字元x |
| gd | 跳至目前單字的定義位置 |
| /xxx | 搜尋xxx |
| n | 下/上一個搜尋結果 |
| N | 下/上一個搜尋結果 |
| 模式切換指令 | |
| ESC | 進入normal mode |
| v | 進入visual mode |
| V | 進入visual line mode |
| C-v | 進入visual block mode |
| i | 進入insert mode |
| R | 進入replace mode |
| a | 在游標後附加 |
| A | 在行末附加 |
| 動作指令 | |
| y | 複製(範圍) |
| d | 刪除/剪下(範圍) |
| c | 修改(範圍) |
| x | 刪除/剪下(字元) |
| D | 刪除至行末 |
| C | 修改至行末 |
| P | 貼上 |
| J | 和下一行合併 |
| r | 替換(字元) |
| > | 縮排 |
| < | 反縮排 |
| . | 重複上一命令 |
| u | 回復上一命令 |
| EX指令 | |
| :w | 儲存(:wq 儲存並退出) |
| :q | 退出(:q! 強制退出) |
| :e x | 編輯檔案x |
| :n | 開新文件 |
| :h | 呼叫vim help |
| :xx | 跳至xx行 |
| 自動補齊 [insert mode] | |
| C-N | 自動補齊下/上個可能字 |
| C-P | 自動補齊下/上個可能字 |
| C-X | 自動補齊可能檔名 |
| C-F | 自動補齊可能檔名 |
| 分割視窗(split window) | |
| :vsp | 垂直/水平分割視窗 |
| :sp | 垂直/水平分割視窗 |
| :diffs | 分割視窗並比較(diff)檔案 |
| C-W p | (來回)跳至前一個分割視窗 |
| C-W w | 跳至下個分割視窗 |

<http://blog.vgod.tw/2009/12/08/vim-cheat-sheet-for-programmers/>