

NTUEE DCLab

Sep. 06, 2022

# DCLab Workstation & Linux Basics

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DOSL

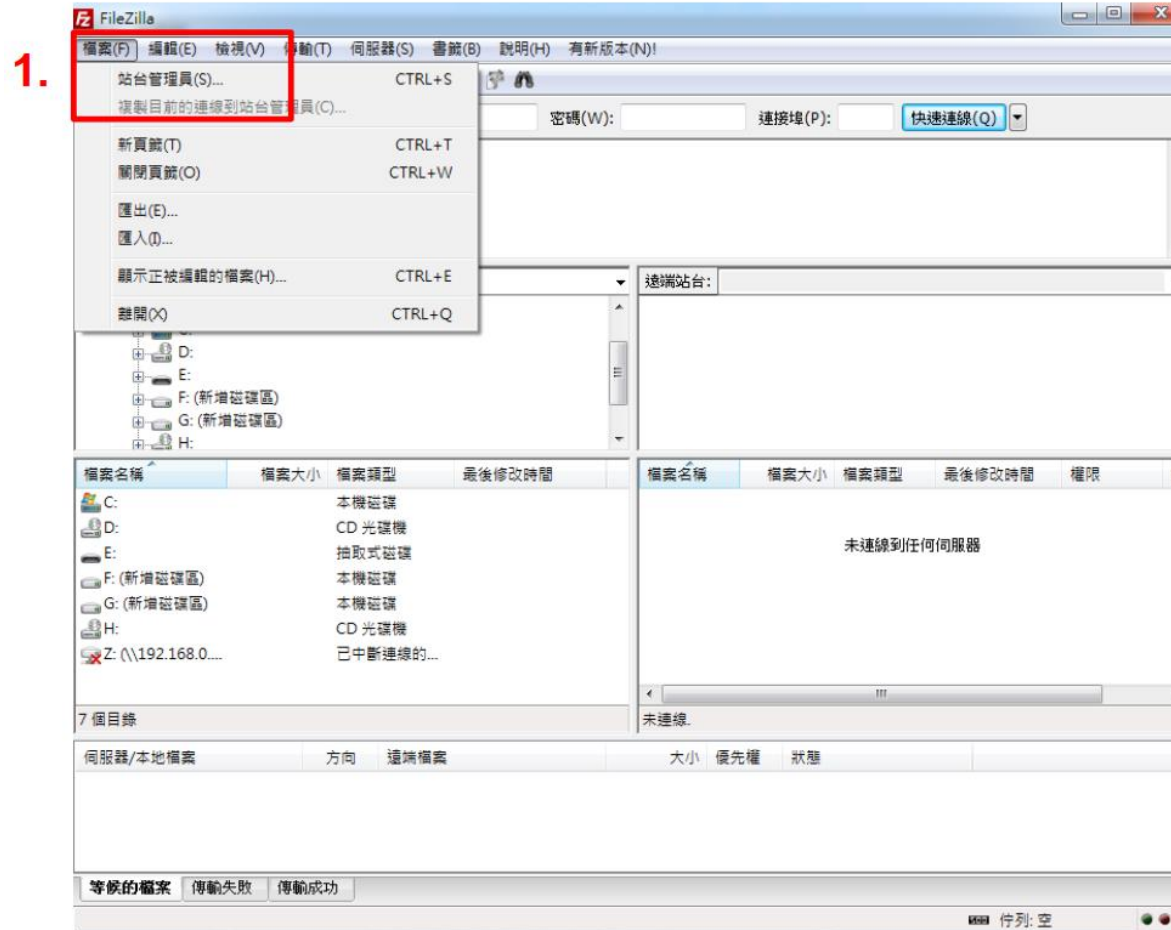
# Outline

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

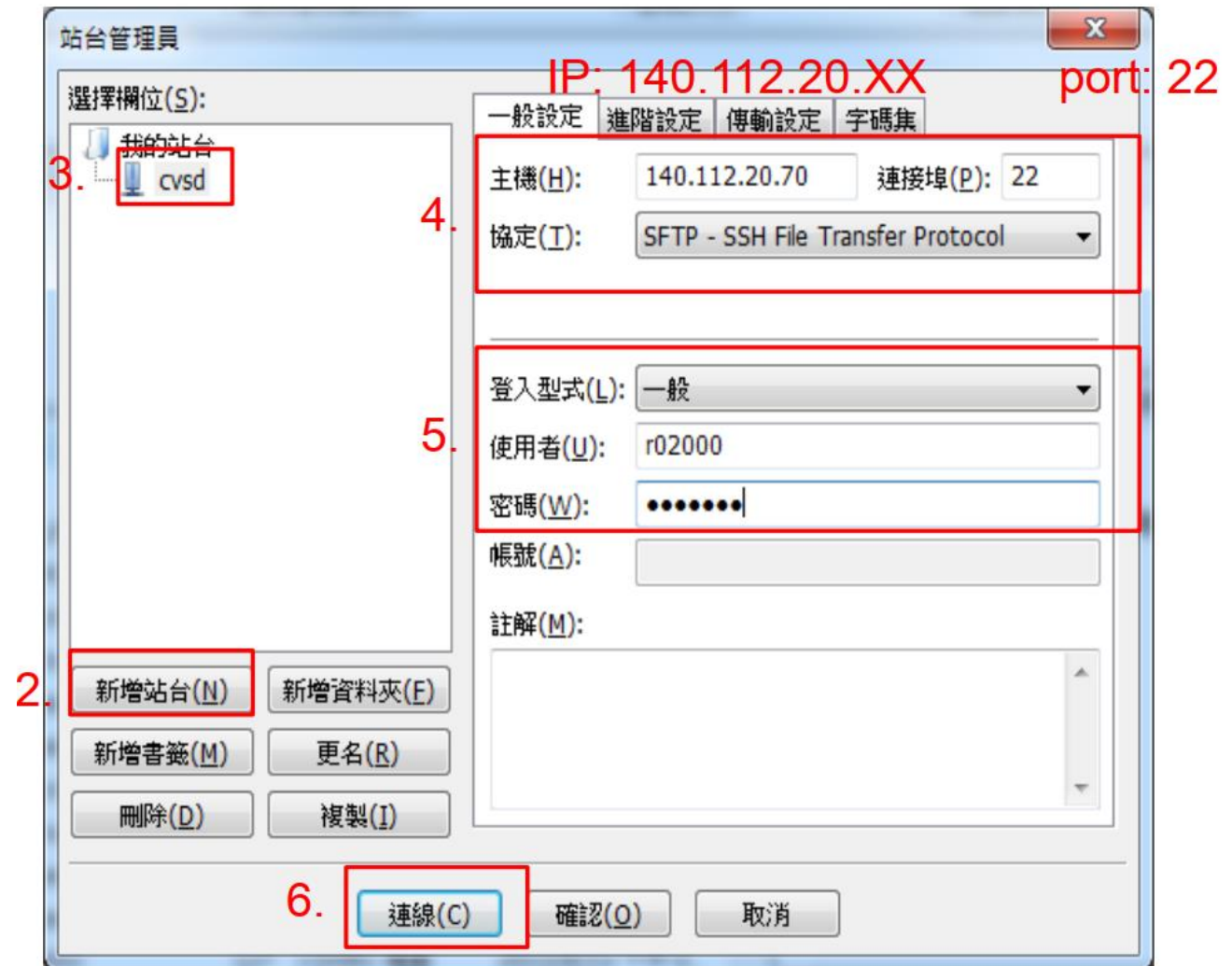
# FileZilla (1/3)

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

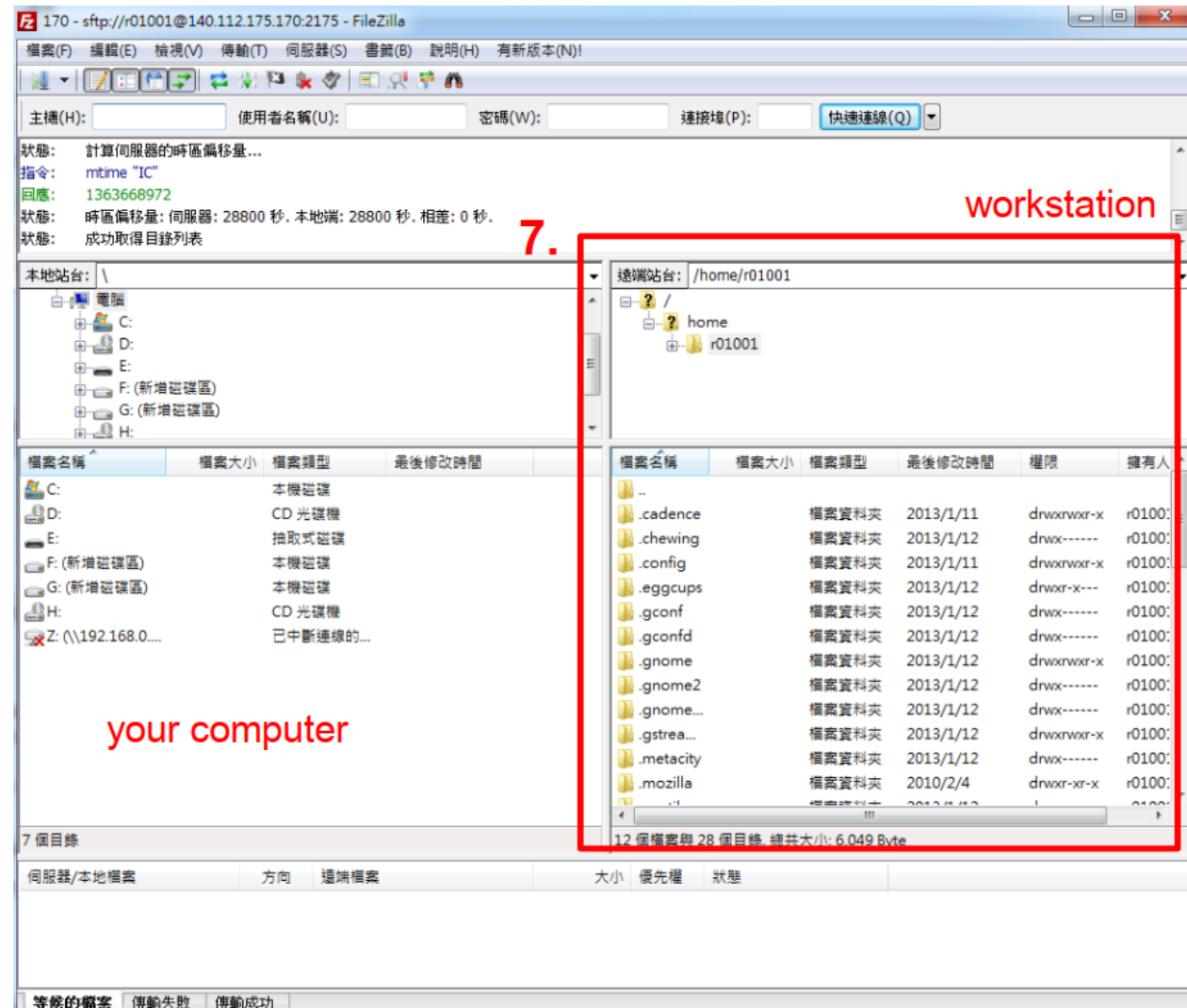


# FileZilla (2/3)

- 工作站 IP 與 port 請看 IC設計實驗室網頁（可連線主機一覽表）  
<http://cad.ee.ntu.edu.tw/>

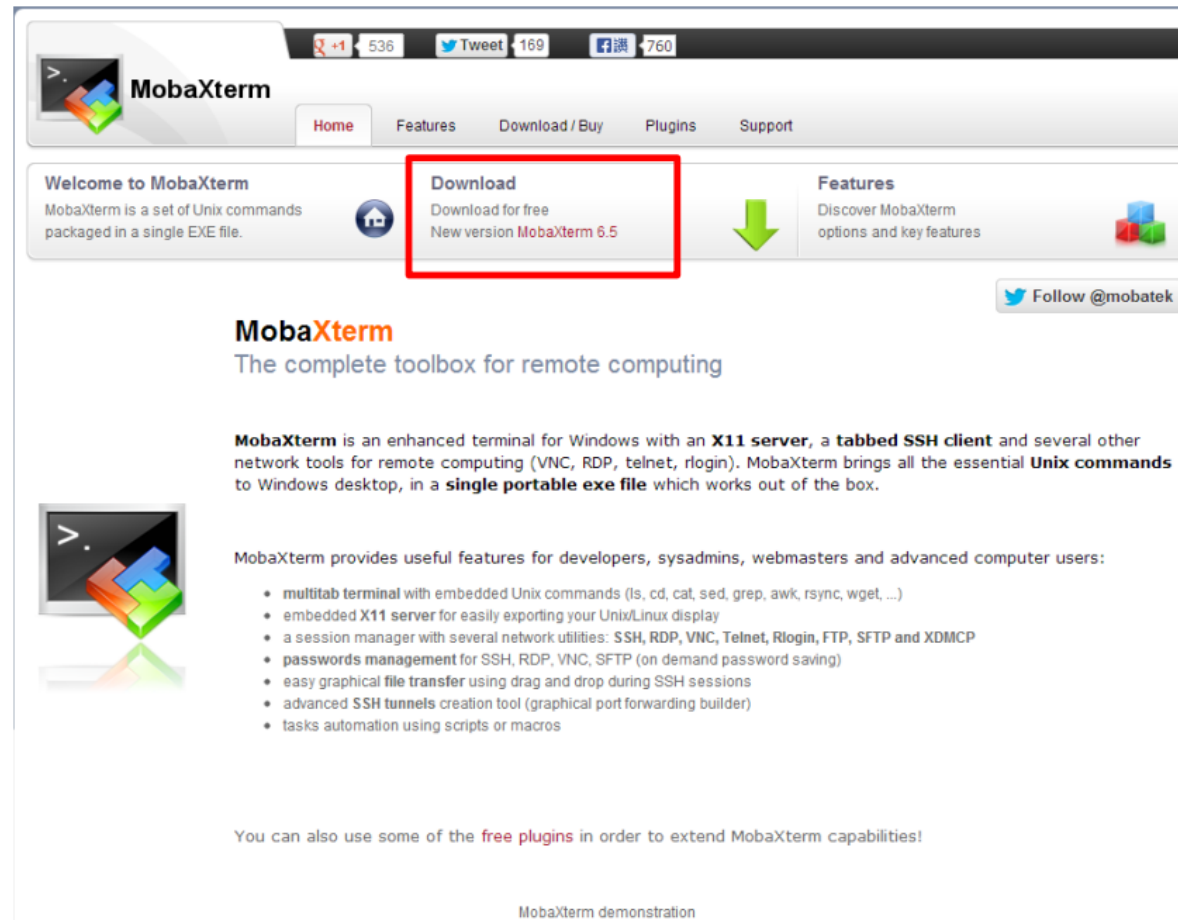


# FileZilla (3/3)



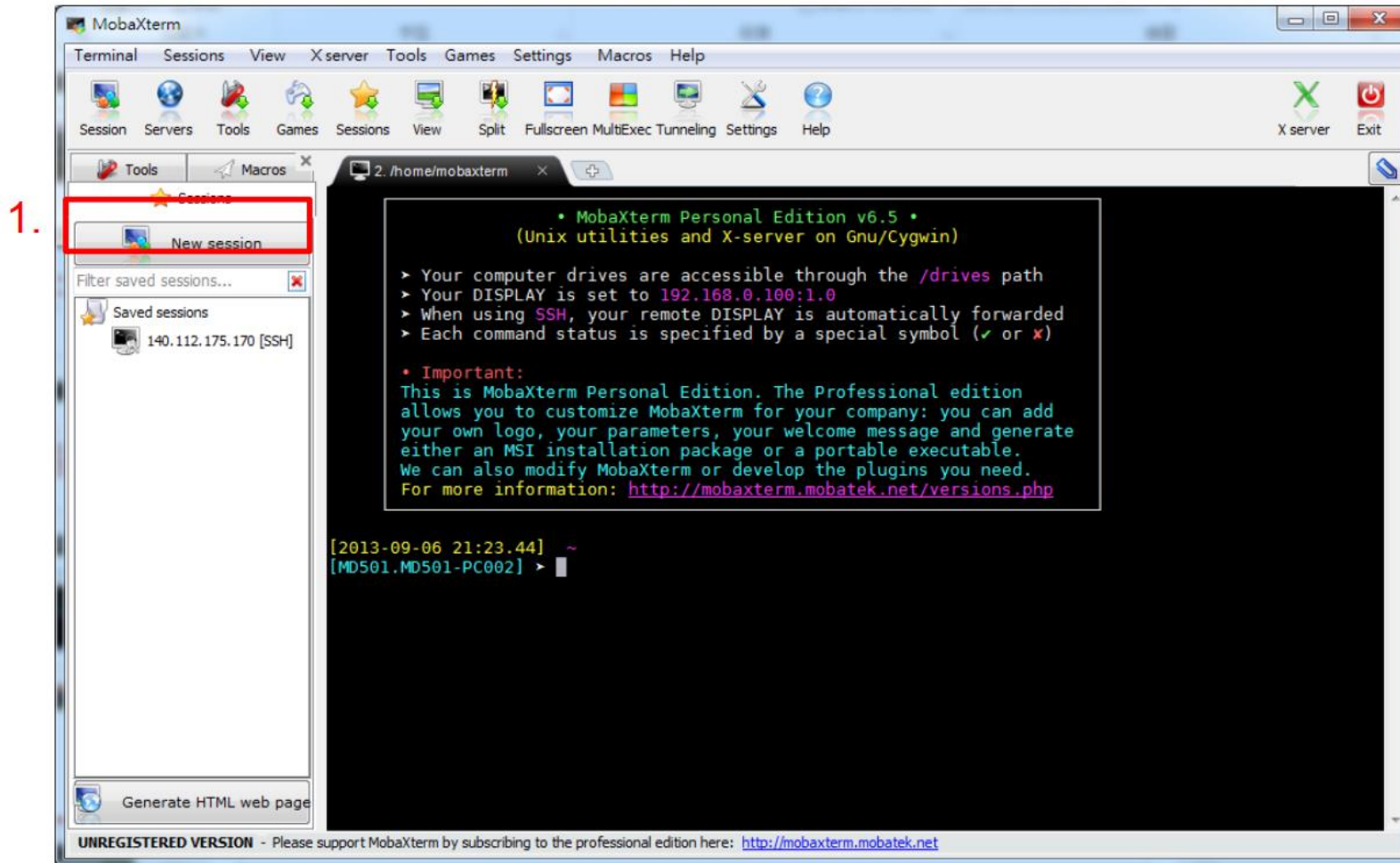
# MobaXterm (1/4)

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



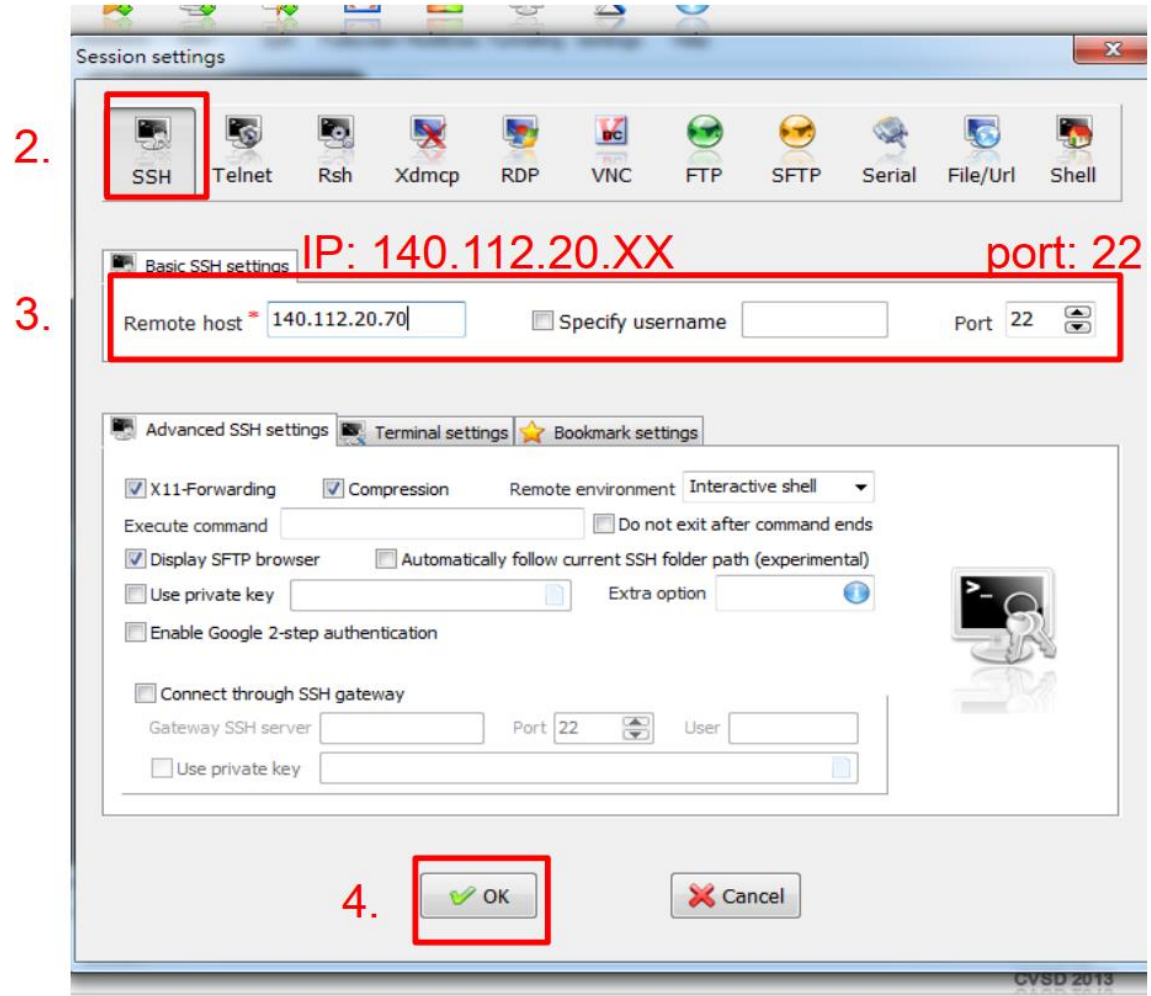
# MobaXterm (2/4)

- New Session



# MobaXterm (3/4)

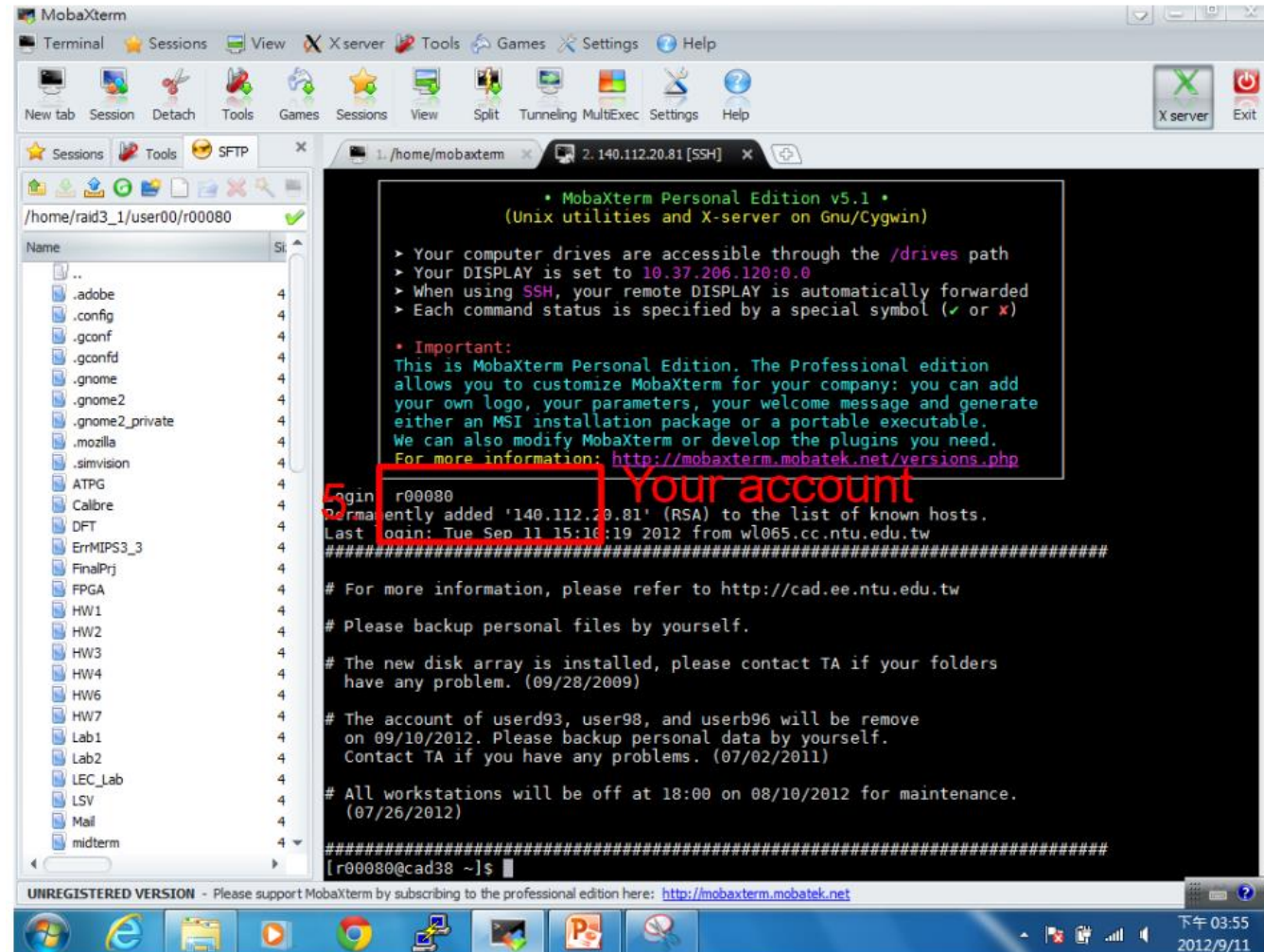
- 工作站 IP 與 port 請看 IC設計實驗室網頁（可連線主機一覽表）  
<http://cad.ee.ntu.edu.tw/>





# MobaXterm (4/4)

- Or type “ssh <your\_account>@<workstation IP> -p <port>”

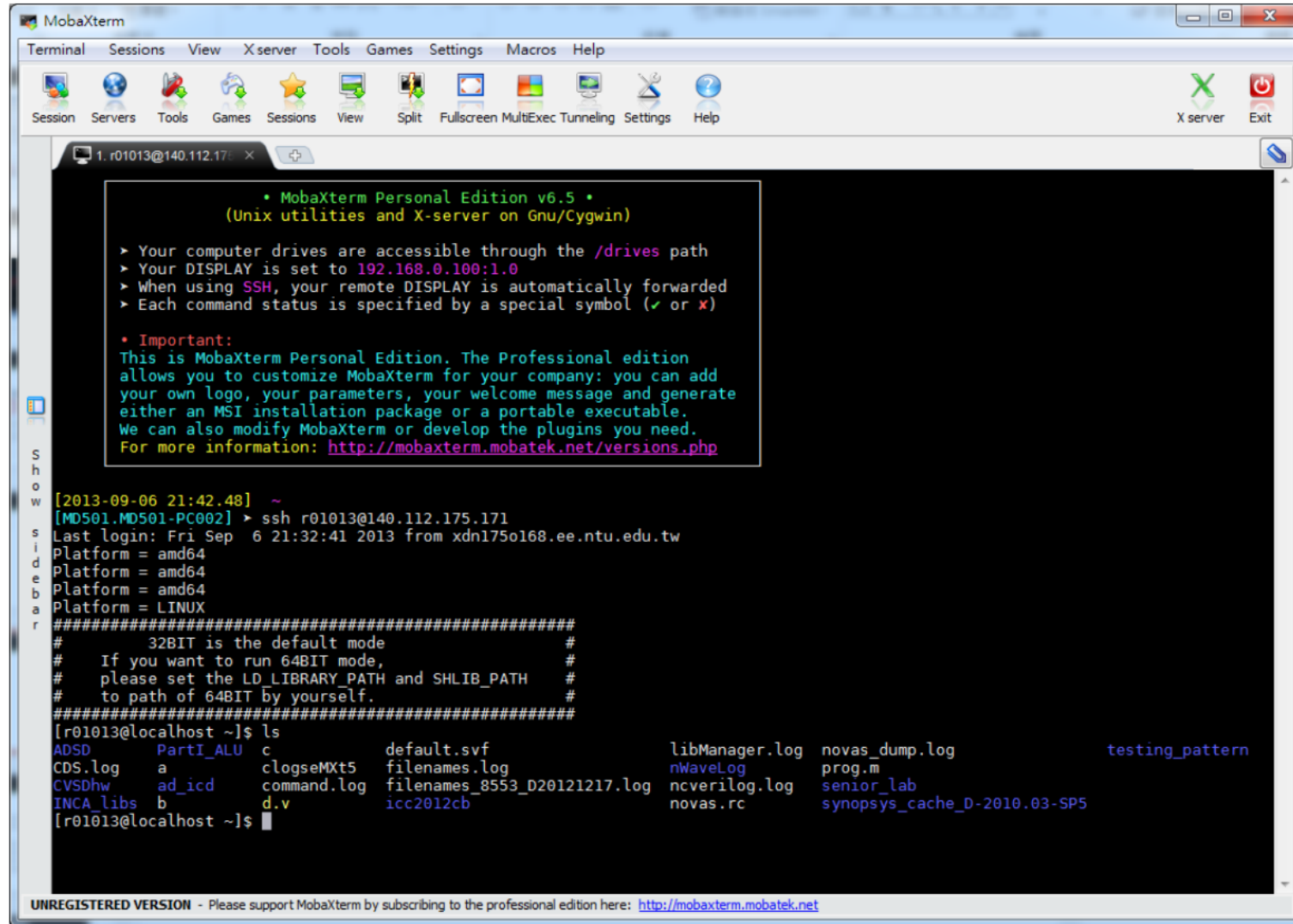


# Outline

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

# Environment



The screenshot shows the MobaXterm Personal Edition v6.5 interface. The window has a menu bar (Terminal, Sessions, View, Xserver, Tools, Games, Settings, Macros, Help) and a toolbar with icons for Session, Servers, Tools, Games, Sessions, View, Split, Fullscreen, MultiExec, Tunneling, Settings, Help, X server, and Exit. The terminal window displays the following content:

```
• 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_icd     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 ~]$
```

At the bottom of the window, it says: UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <http://mobaxterm.mobatek.net>

# Basic Commands (1/4)

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- Files

*ls*

Lists your files

*ls -l*

Lists yours 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)

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- 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)

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- 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

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- Some resources on Unix/Linux commands
- Chinese
  - [http://boson4.phys.tku.edu.tw/UNIX/Unix%20Command/index\\_basic.htm](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>

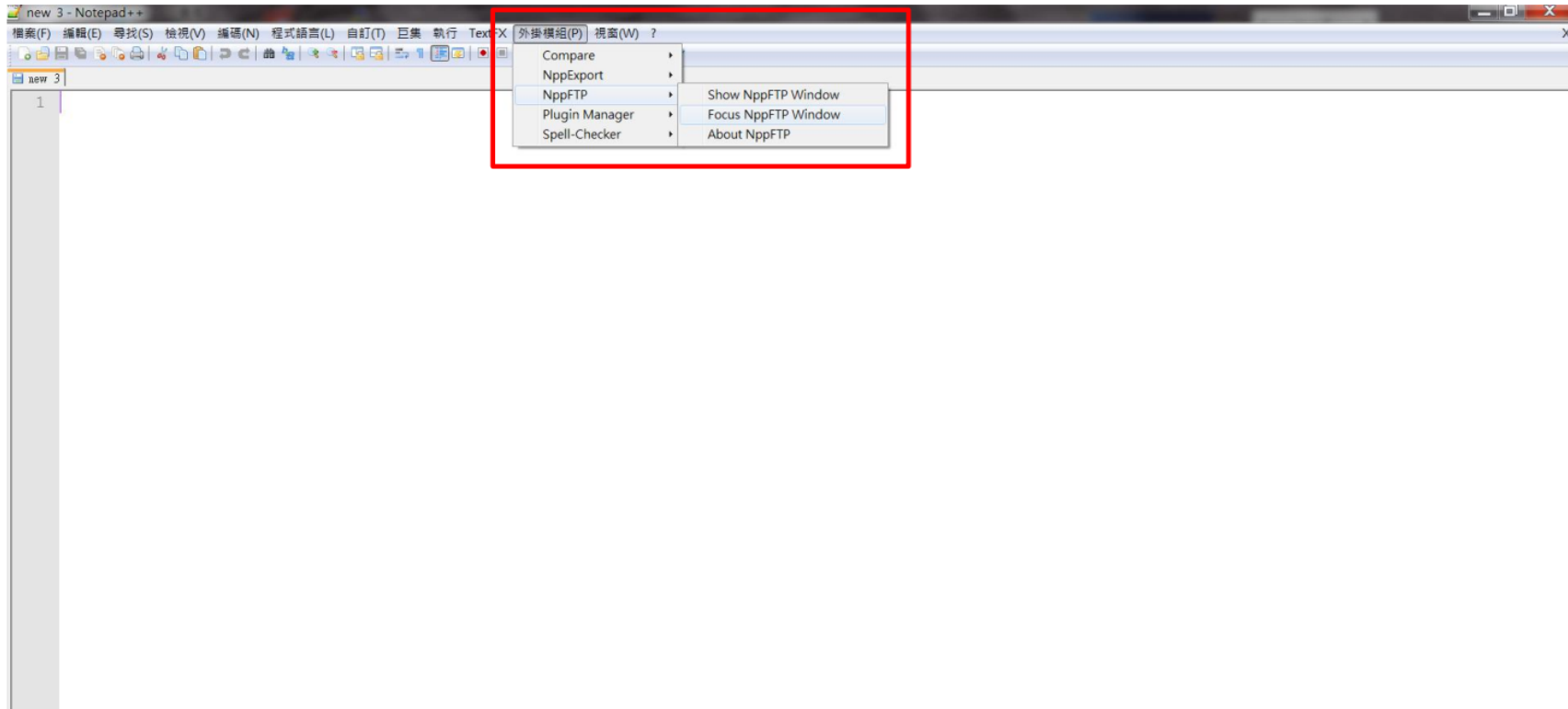


# Outline

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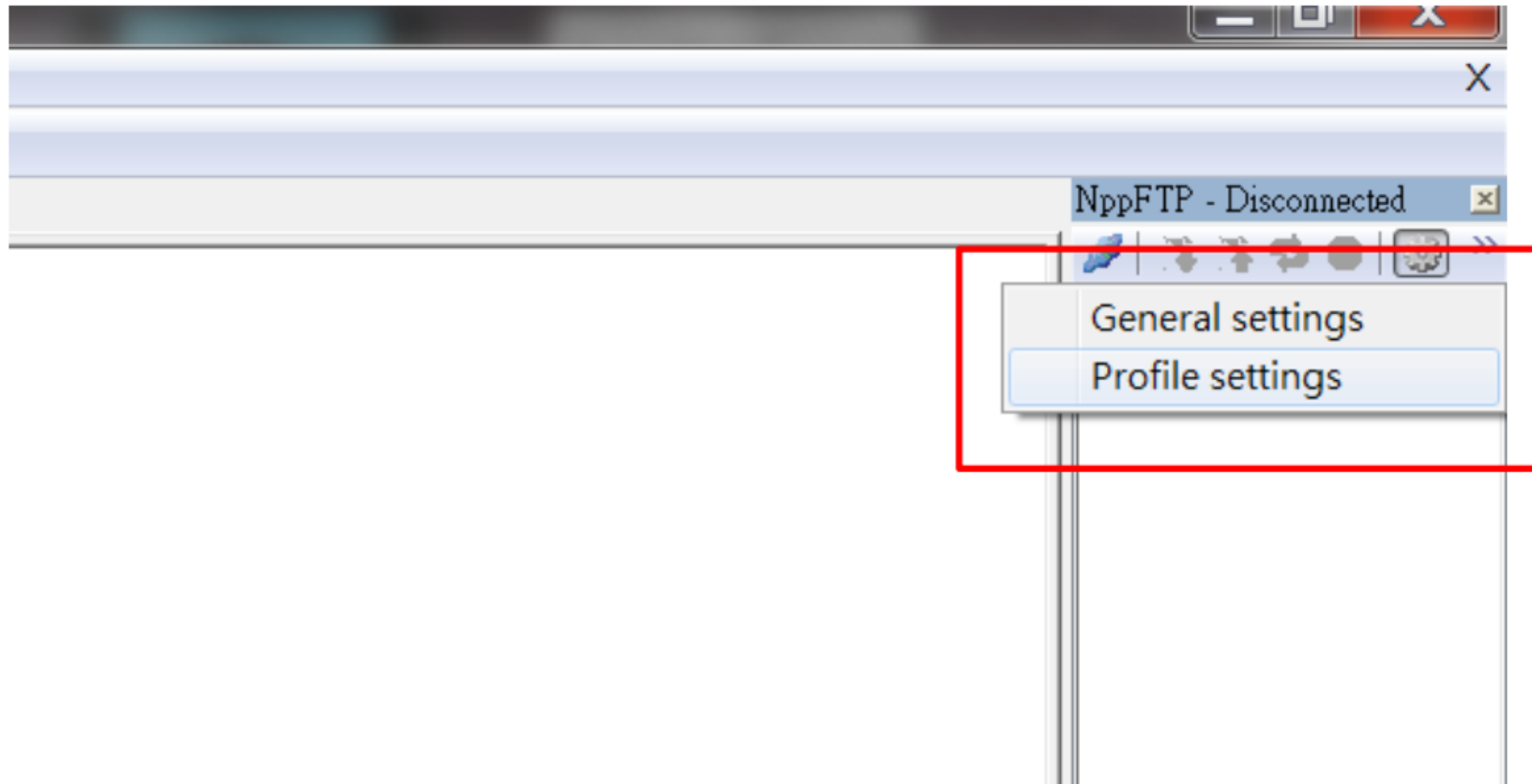
- Connect to DCLab workstation
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- Basics commands in Unix/Linux
- **File Editors**

# Notepad++ (1/4)



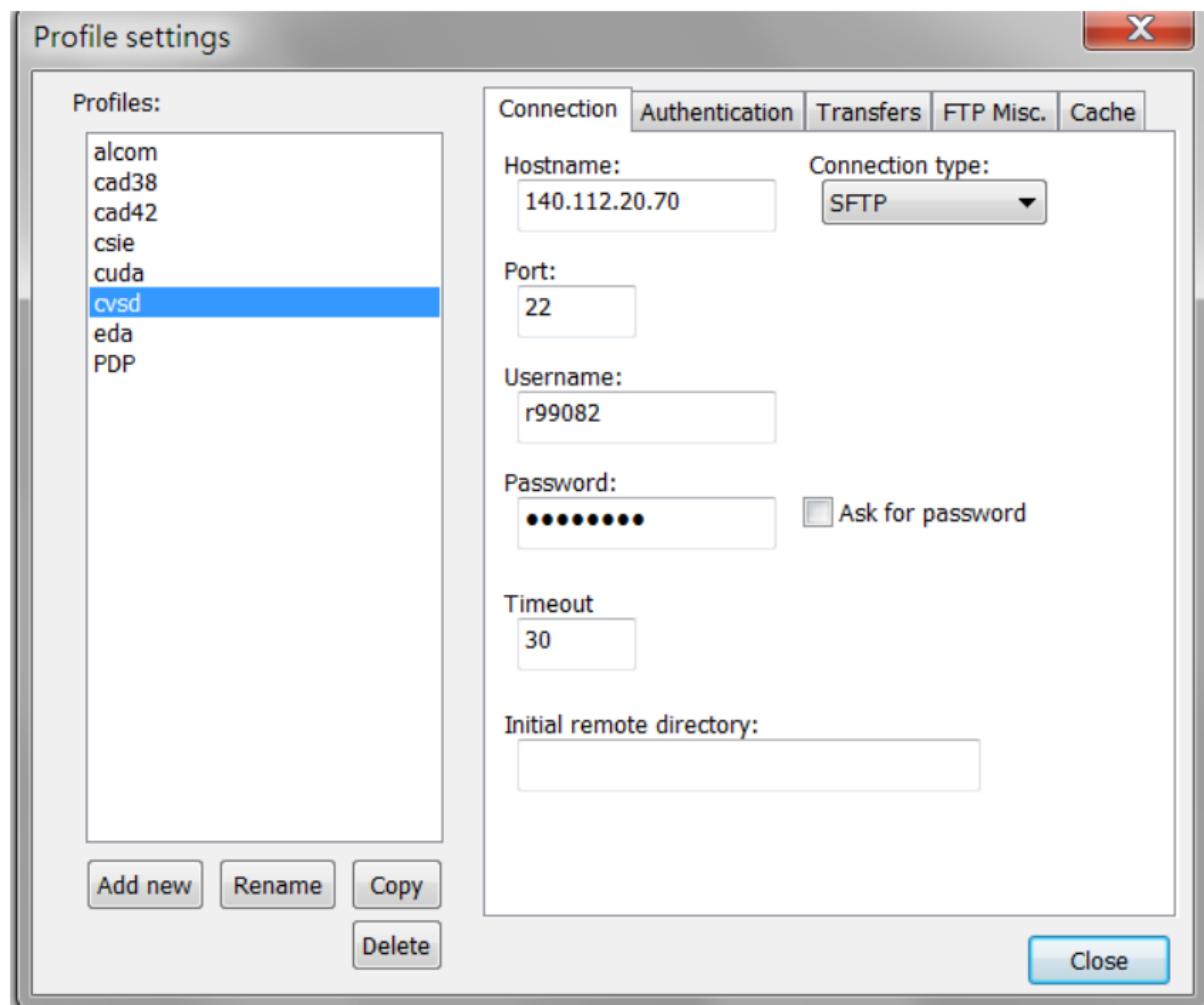
# Nodepad++ (2/4)

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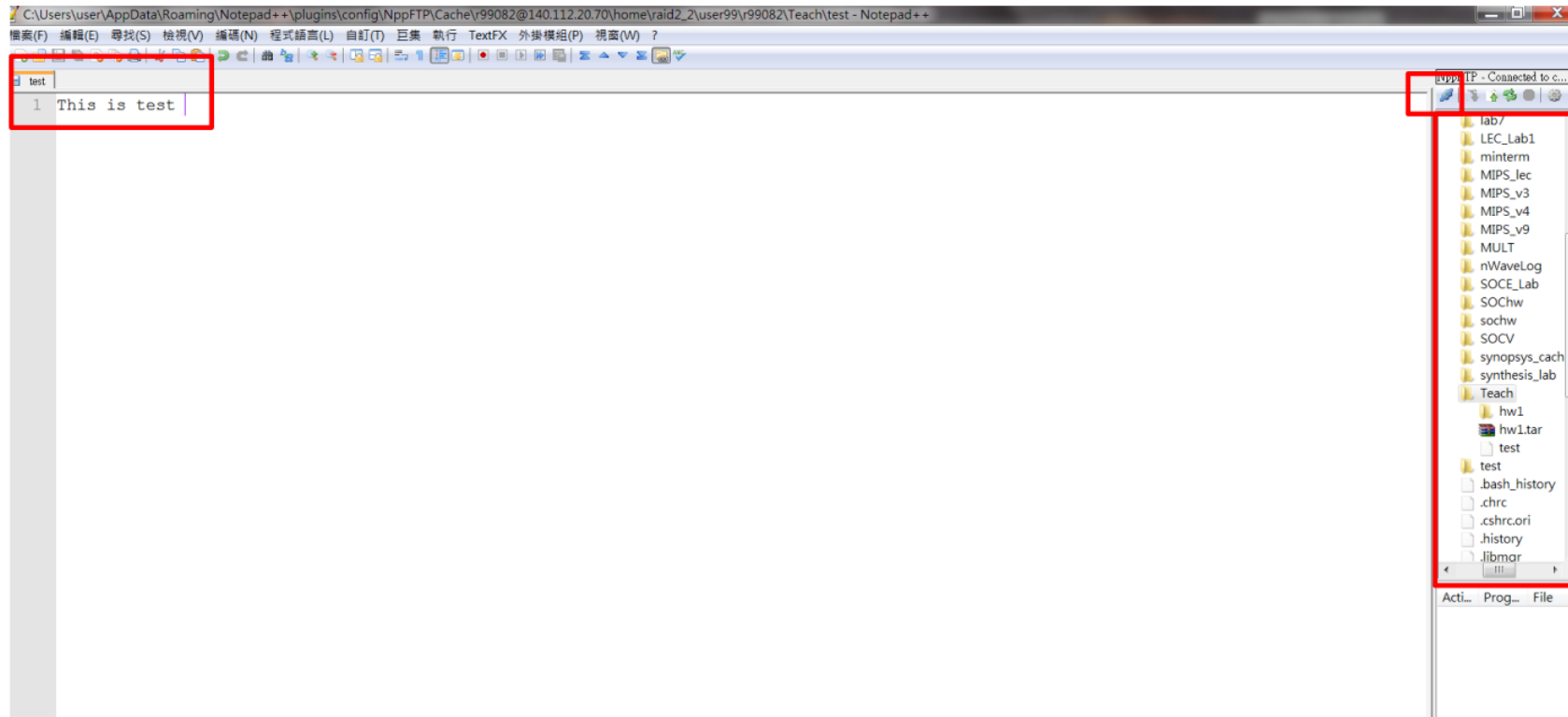


# Nodepad++ (3/4)

- 工作站 IP 與 port 請看 IC設計實驗室網頁



# Notepad++ (4/4)



# Vim (1/5)

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- 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)

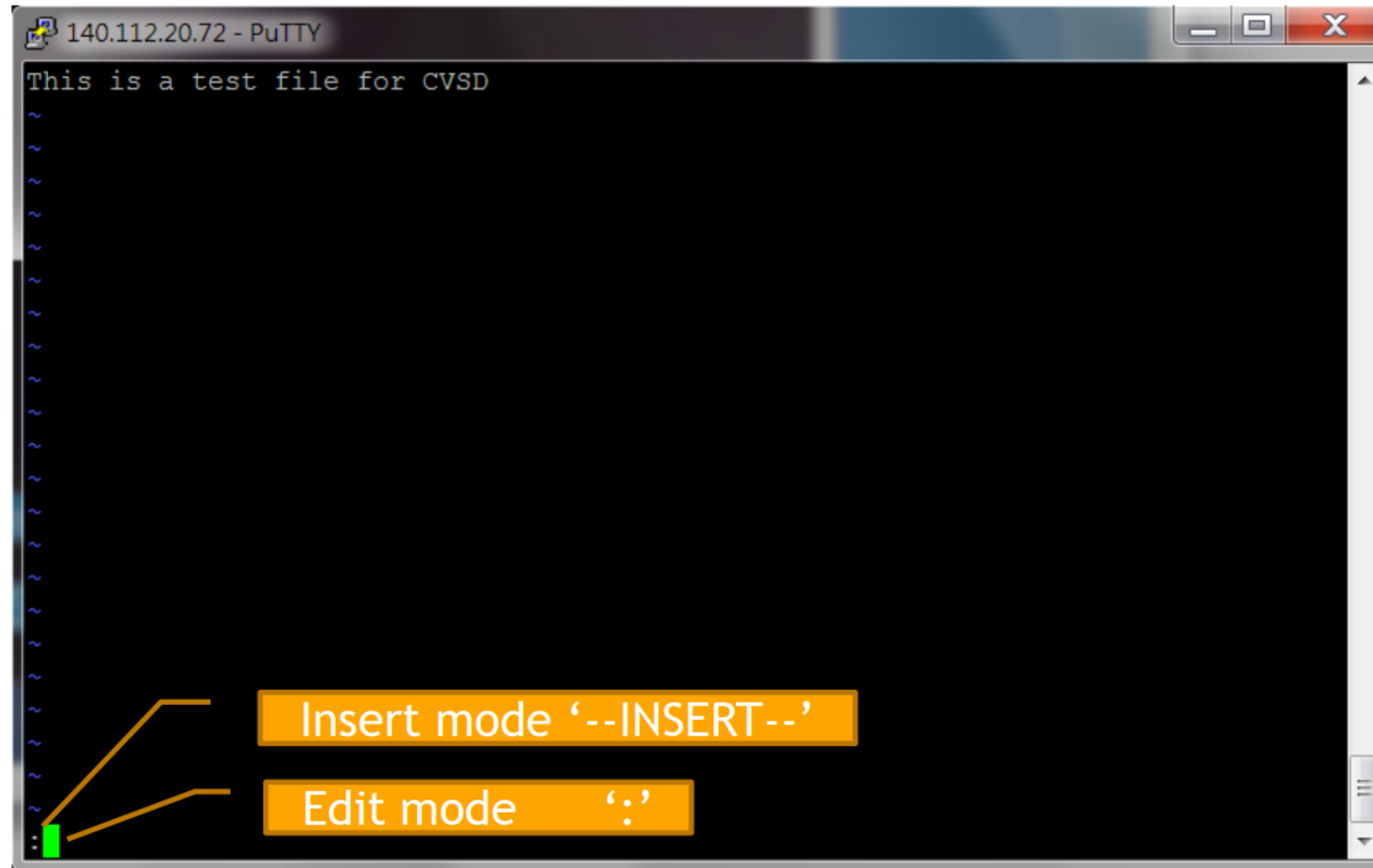
- Three major modes
  - Common mode (c-mode)
  - Insert mode (i-mode)
  - Edit mode (e-mode)
- Changing modes
  - i-mode <----- c-mode -----> e-mode  

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

*esc**esc*

# Vim (3/5)

- vim test.txt





# Vim (4/5)

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- Some basic commands in c-mode

*dd*

Delete the whole line

*u*

Undo

*i*

Enter insert-mode

*:w + enter*

Save a document

*:q + enter*

Quit without saving

*:wq + enter*

Save and quit at the same time

*:q!*

Discard changes and quit

*:w <new-filename> + enter*

Save as <new-filename>

# Vim (5/5)

vim命令圖解

vim命令圖解

游標移動/範圍單位

字元(character)

h j k l

單字(word)

w b 前/後個單字

W B 前/後個單字(跳過符號)

e 單字尾端

行(line)

0 行頭 \$ 行尾

^ 行頭(非空白字元)

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 zt 捲至頂端

M 螢幕中間 zz 捲至中間

L 螢幕底部 zb 捲至底部

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

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 N 下/上一個搜尋結果

模式切換指令

ESC C-[] 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 C-P 自動補齊下/上個可能字

C-X C-F 自動補齊可能檔名

分割視窗(split window)

:vsp :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/>