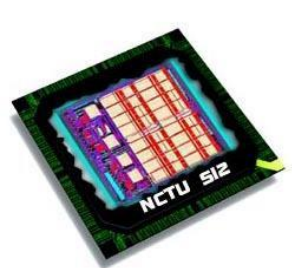


Development Environment

Lecturer : Eugene Lee



- ✓ **Login to the terminal & Change Password**
- ✓ **Upload/Download Files Through FTP**
- ✓ **Set DISPLAY Environment**
- ✓ **Basic Operations**
- ✓ **On-line Text Editor – VIM**
- ✓ **Text Editor – notepad++**
- ✓ **Discussion Board**



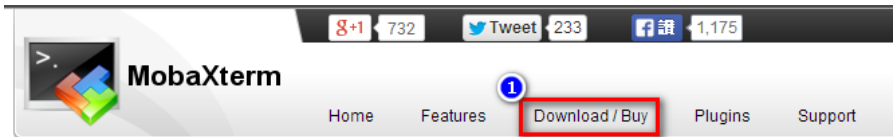
Login to the terminal

- ✓ **Download, PUTTY, PIETTY, or any other telnet software, MobaXterm: PCMAN, ...**
 - download MobaXterm [here](http://mobaxterm.mobatek.net/) (<http://mobaxterm.mobatek.net/>)
 - download PUTTY [here](http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html) (<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>)
 - download PIETTY [here](http://ntu.csie.org/~piaip/pietty/) (<http://ntu.csie.org/~piaip/pietty/>)
- ✓ **Open PUTTY (or PIETTY)**
 - >ee??.ee.nctu.edu.tw (number ?? may start from 01 to 05)
 - >linux??.ee.nctu.edu.tw (number ?? may start from 01 to 35)
- ✓ **For information security, it is necessary to change the password of your account ASAP!**
- ✓ **Use the command**
 - >passwd



Login to the terminal : MobaXterm

✓ <http://mobaxterm.mobatek.net/>



MobaXterm Home/Professional Editions features comparison

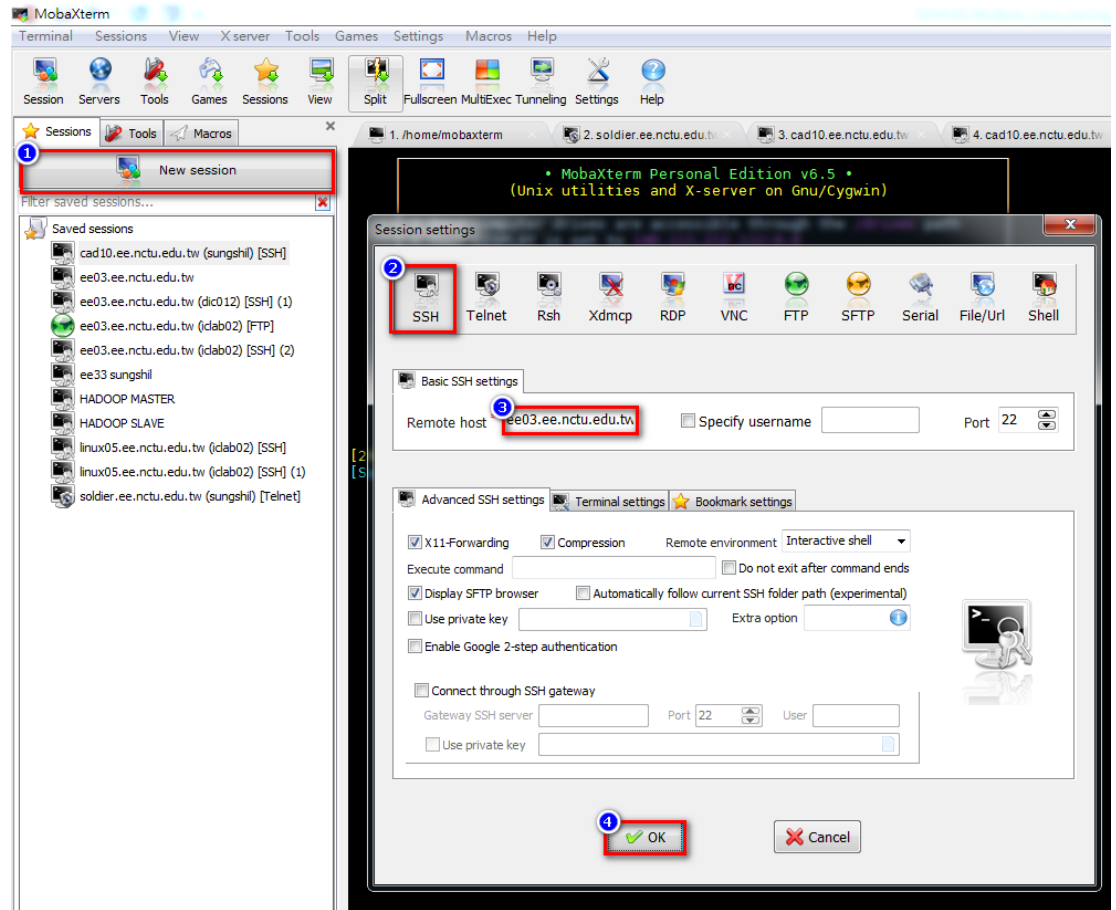
Features	Personal Edition	Professional Edition
Installation/Uninstallation support	✓	✓
X server support	✓	✓
Remote computing clients	✓	✓
Advanced options	✓	✓
Logo customization	-	✓
Start up message modification	-	✓
Profile script customization	-	✓
Default options modification	-	✓
Professional support	-	✓
Access to plugins development	-	✓
MSI installer creation	-	✓
Silent (unattended) deployment	-	✓
Maximum number of saved sessions	12	unlimited
Maximum number of saved SSH tunnels	2	unlimited
Maximum number of saved macros	4	unlimited
Maximum run-time for TFTP service	60s	unlimited
Maximum run-time for FTP service	60s	unlimited
Maximum run-time for HTTP service	60s	unlimited
Games removal	-	enabled
Screensaver removal	-	enabled
Lifetime right to use	✓	✓
<div> Free download</div>		<div>  Subscribe now</div>

2



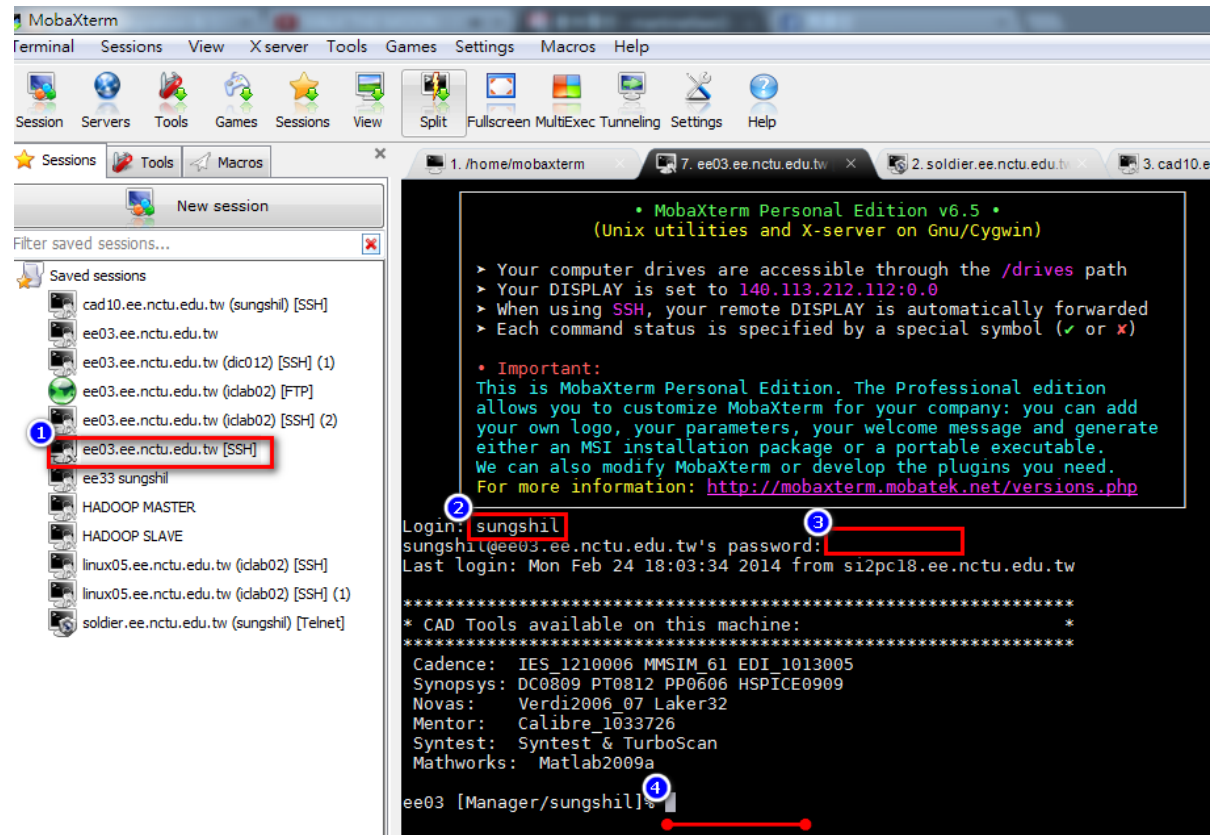
Login to the terminal : MobaXterm

- ✓ Remote Host location:
linux01~linux35, ee01 ~ ee05
e.g : ee05.ee.nctu.edu.tw



Login to the terminal : MobaXterm

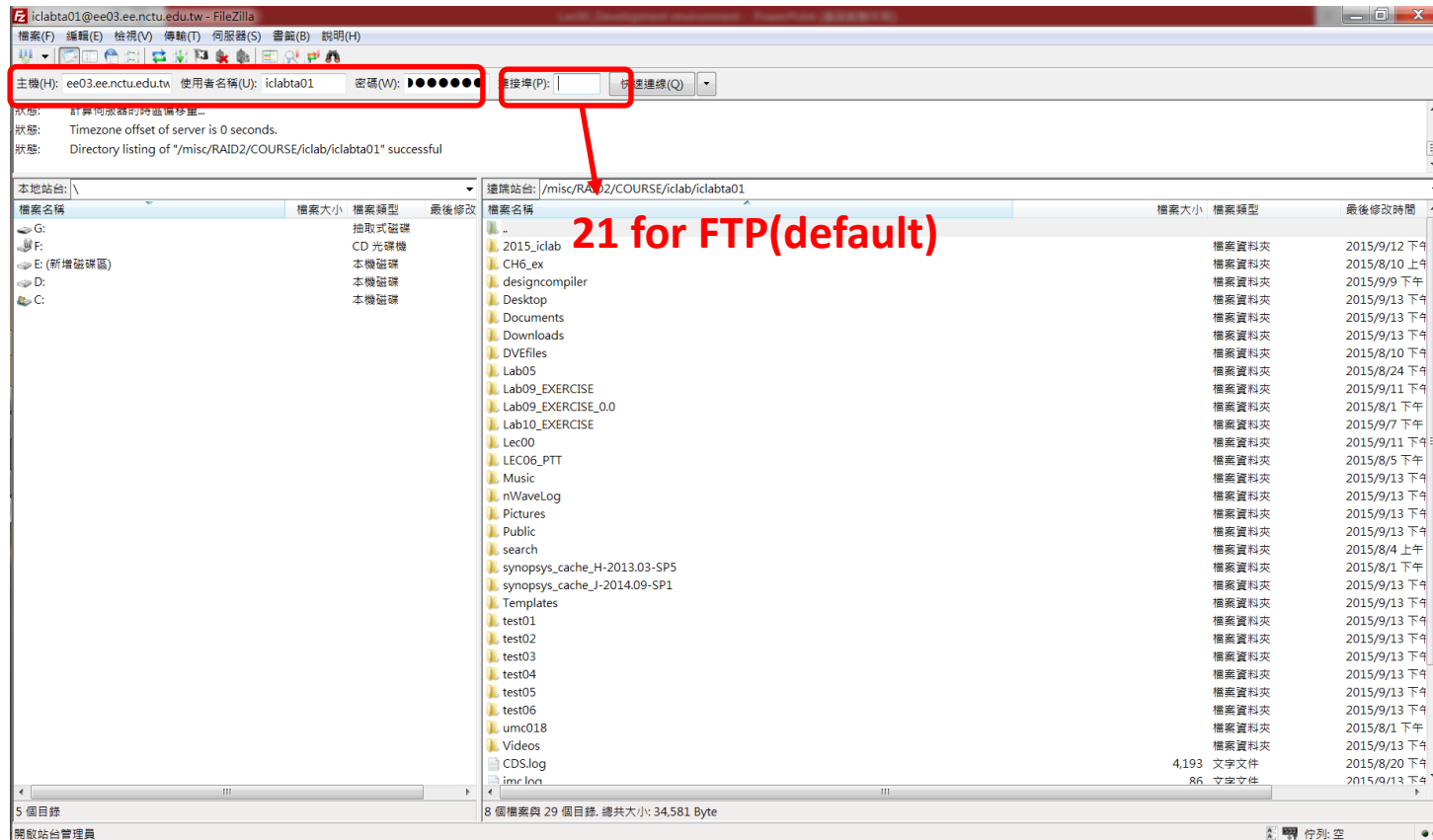
- ✓ Account: iclab01~70
- ✓ Default Password: iclab



Upload/Download Files: FileZilla

✓ With a FTP (File Transfer Protocol) software

- Login to *ee???.ee.nctu.edu.tw* - series workstations.
- Download / Upload files as usual.
- FileZilla



Upload/Download Files : Terminal

✓ With a terminal

- Use ***ftp ee??.ee.nctu.edu.tw*** to enter the main directory of your account.

```
1. /home/mobaxterm/ x
• MobaXterm Personal Edition v7.1 •
(Unix utilities and X-server on Gnu/Cygwin)

> Your computer drives are accessible through the /drives path
> Your DISPLAY is set to 140.113.225.160:0.0
> 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

[2015-09-13 19:52:24] ~
[DeAn.DeAn-PC] > ftp ee03.ee.nctu.edu.tw
Connected to ee03.ee.nctu.edu.tw.
220 (vsFTPd 2.2.2)
Name (ee03.ee.nctu.edu.tw:DeAn): iclabta01
331 Please specify the password.
Password:
230 Login successful

Remote system type is UNIX.
Using binary mode to transfer files.
ftp>
ftp>
ftp>
ftp>
ftp> ls
200 PORT command successful. Consider using PASV.
150 Here comes the directory listing.
drwxr-xr-x  3 484001  484      4096 Sep 12 11:28 2015_iclab
-rw-r--r--  1 484001  484      4193 Aug 20 12:37 CDS_log
drwxr-xr-x  5 484001  484      4096 Aug 10 02:38 CH6_ex
drwxr-xr-x  2 484001  484      4096 Aug 10 05:54 DVEfiles
drwxr-xr-x  2 484001  484      4096 Sep 13 04:14 Desktop
drwxr-xr-x  2 484001  484      4096 Sep 13 04:14 Documents
drwxr-xr-x  2 484001  484      4096 Sep 13 04:14 Downloads
-rw-r--r--  1 484001  484       366 Sep 11 05:25 INF.sv
drwxr-xr-x  3 484001  484      4096 Aug 05 07:36 LEC06_PTT
drwxr-xr-x  4 484001  484      4096 Aug 24 09:14 Lab05_
drwxr-xr-x  5 484001  484      4096 Sep 11 05:53 Lab09_EXERCISE

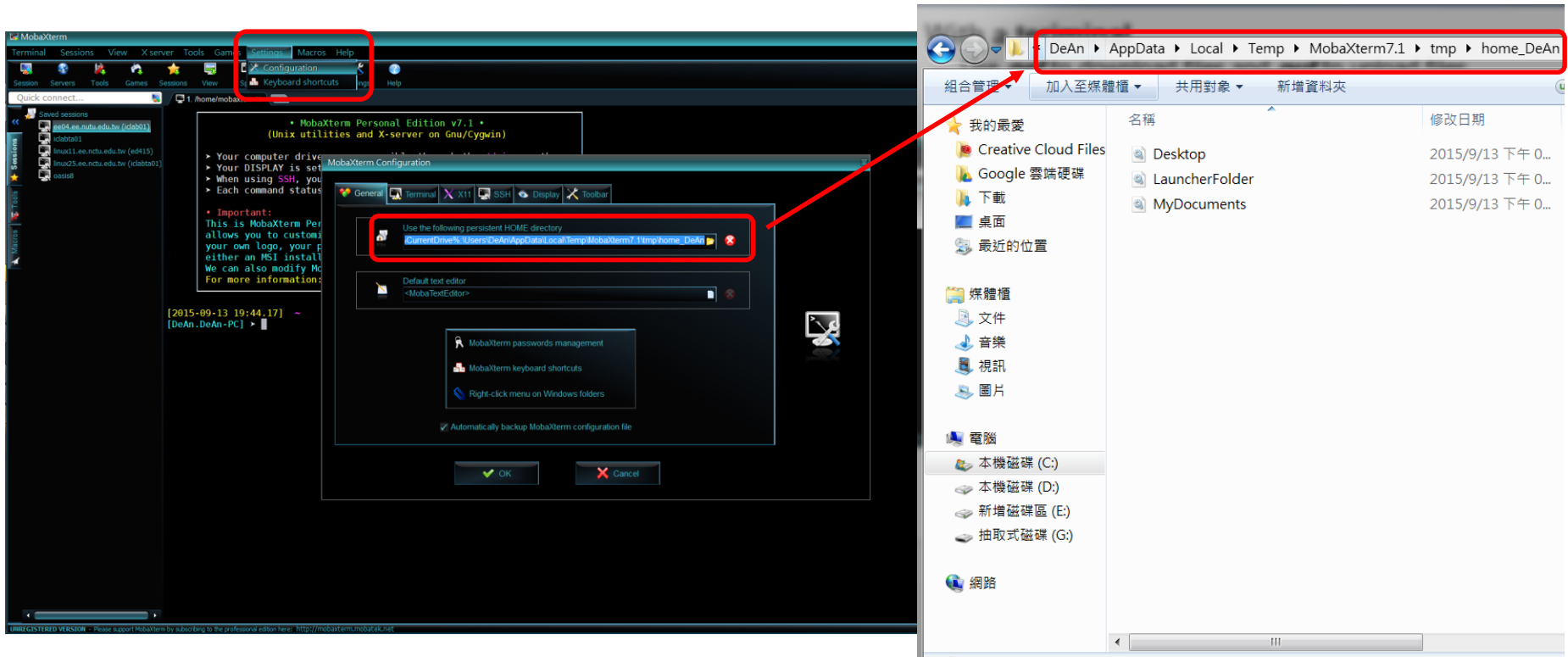
m by subscribing to the professional edition here: http://mobaxterm.mobatek.net
```



Upload/Download Files : Terminal

✓ With a terminal

- Use ***get*** to download files and ***put*** to upload files.
- Use ***bye*** to logout.



If not using MobaXterm: Set DISPLAY Environment

- ✓ When using GUI tools such as nWave, nLint, IC Compiler,..., it's necessary to transmit the GUI windows from the workstation to your PC.
- ✓ If you're using MobaXterm, then execute the tool directly
- ✓ Open Xming
 - download Xming [here](#)
- ✓ **>setenv DISPLAY 140.113.xxx.xxx:0**
- ✓ Open the GUI tool



Linux : Basic Operations

- ✓ **>man COMMAND** //format and display the on-line manual pages
 - ex: man ln
- ✓ **>mkdir DIRECTORY** //make directory
 - e.g. mkdir -p /home/test
- ✓ **>cd DESTINATION** //change current directory
 - e.g. cd ../iclab08/Lab01/
 - e.g. cd (change to home directory)
- ✓ **>cp SOURCE DESTINATION** //copy files
 - e.g. cp ABC.v DEF.v
 - e.g. cp -rf Lab01/ Lab02/
- ✓ **>mv SOURCE DESTINATION** //move or rename files
 - e.g. mv ABC.v ../ABC.v
 - e.g. mv ABC.v DEF.v



Linux : Basic Operations

- ✓ **>rm FILE_NAME** //remove (delete) files
 - e.g. rm ABC.v
 - e.g. rm –rf Lab01/
- ✓ **>ls** //list directory contents
 - e.g. ls –l
 - or you can use *dir* as well.
- ✓ **>ln TARGET LINK_NAME** //make links between files
 - e.g. ln –s ~iclabt01/LIB/slow.db slow.db
- ✓ **>quota** //display disk usage and limits
 - e.g. quota

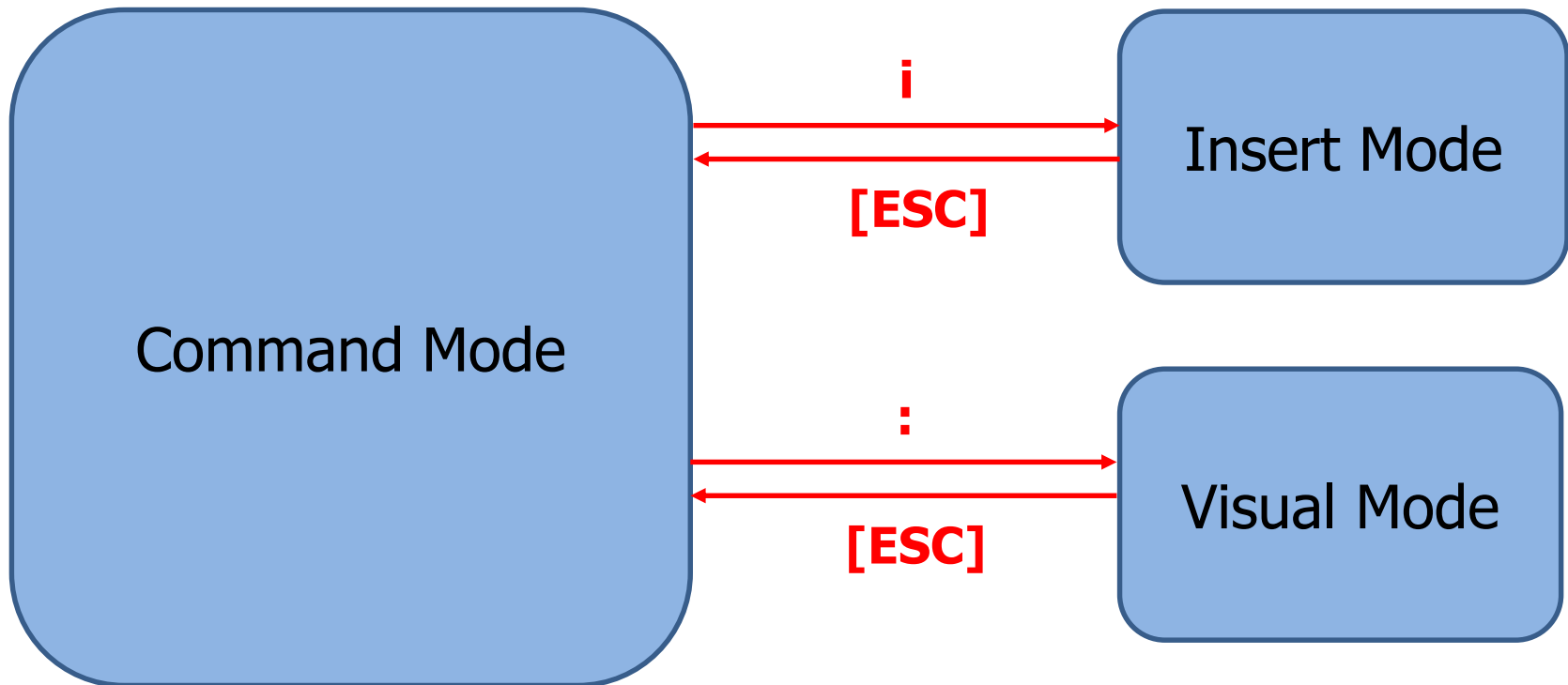


On-line Text Editor – VIM

✓ **>vi filename** //create a file

— e.g. vi test.v

— e.g. vim test.v



On-line Text Editor – VIM

✓ Command mode

- Move cursor:
 - [Page Down], [Page Up]
 - [Home], [End]
 - $\uparrow\downarrow\leftarrow\rightarrow$: move cursor
 - G: cursor moves to last column
 - nG: “n” is number. cursor moves to “n”th column
 - gg: cursor moves to the first column. (=1G)
 - n<Enter>: “n” is number. cursor moves down n columns.
- Search & Replace:
 - /word: search for “word”
 - n: search the next
 - N: search the previous



On-line Text Editor – VIM

- Delete & Copy & Paste:
 - [delete] or x: delete the character under the cursor.
 - X: delete the character before the cursor.
 - dd: delete a column where the cursor located at.
 - ndd: “n” is number. delete “n” columns.
 - yy: copy a column where the cursor located at.
 - nyy: “n” is number. copy “n” columns.
 - u: recover.
 - . : repeat the previous action.
 - [Shift]+v : select the column where the cursor located at.
 - [Ctrl]+v+[Shift]+I : edit multi-line.



On-line Text Editor – VIM

✓ Insert mode:

- i : switch to insert mode before the current position.
- [Esc]: switch from the insert mode to the command mode

✓ Visual mode:

- :w : write the current buffer to disk.
- :q : closes current window.
- :wq : write the current buffer to disk and closes current window.
- :q! : closes current window forcibly.
- :set nu : display the column number.



Text Editor – notepad++

✓ <https://notepad-plus-plus.org/>

The screenshot displays the Notepad++ website. On the left, a vertical navigation menu includes links for home, download, news, features, resources, contribute, donate, community, contributors, and links. A 'download' button is also present, indicating the current version is 6.8.3. The 'News' section, highlighted with a red box, lists recent releases, with the top entry being 'Notepad++ 6.8.3 released' on September 04, 2015. The 'About' section describes Notepad++ as a free source code editor and Notepad replacement, written in C++ using the Scintilla component. Below the text, a code editor window shows a snippet of C++ code for 'notepad4ever.cpp'. The footer contains social media icons, copyright information for Don Ho 2015, and a note that the website is kindly donated by ecreate.

News

- Notepad++ 6.8.3 released
Sep 04 2015
- Notepad++ 6.8.2 released
Aug 20 2015
- Notepad++ 6.8.1 released
Aug 04 2015
- Notepad++ 6.8 released
Jul 21 2015
- Notepad++ Community
Jun 27 2015
- Notepad++ 6.7.9.2 released
Jun 23 2015
- Notepad++ 6.7.9.1 released
Jun 21 2015
- Notepad++ leaves
SourceForge
Jun 14 2015
- Notepad++ 6.7.9 released
Jun 12 2015
- Notepad++ 6.7.8.2 released
May 23 2015

[more news »](#)

About

Notepad++ is a free (as in "free speech" and also as in "free beer") source code editor and Notepad replacement that supports several languages. Running in the MS Windows environment, its use is governed by [GPL License](#).

Based on the powerful editing component [Scintilla](#), Notepad++ is written in C++ and uses pure Win32 API and STL which ensures a higher execution speed and smaller program size. By optimizing as many routines as possible without losing user friendliness, Notepad++ is trying to reduce the world carbon dioxide emissions. When using less CPU power, the PC can throttle down and reduce power consumption, resulting in a greener environment.

```
*D:\source\notepad4ever.cpp - Notepad++
1  #include <GPL.h>
2  #include <free_software.h>
3
4  void notepad4ever()
5  {
6      while (true)
7      {
8          Notepad++;
9      }
10 }
11
```

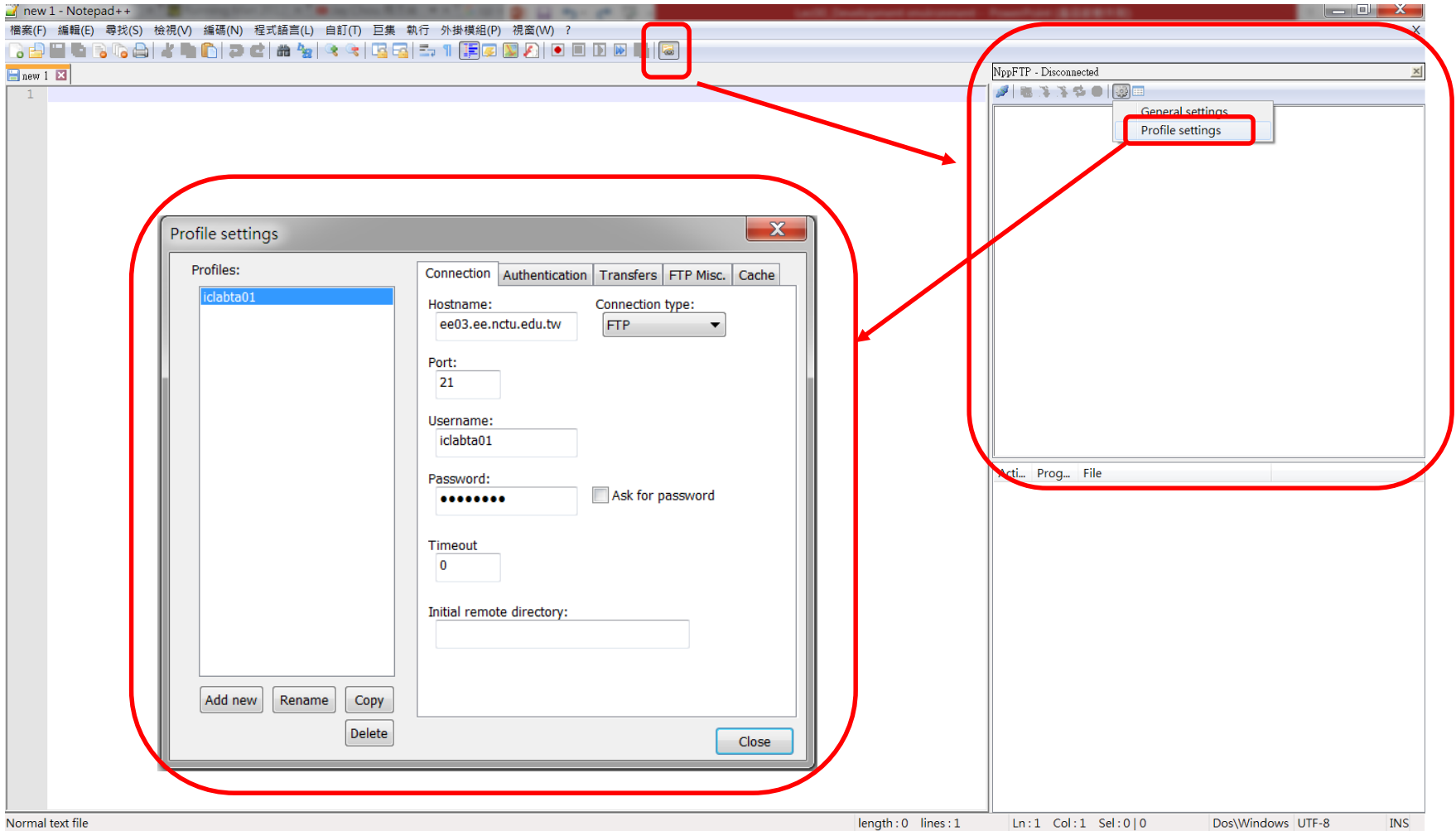
You're encouraged to [translate Notepad++](#) into your native language if there's not already a translation present in the [Binary Translations](#) page.

I hope you enjoy Notepad++ as much as I enjoy coding it.

Copyright © Don Ho 2015
HTML • CSS

Website kindly donated by [ecreate](#)

Text Editor – notepad++



Text Editor – notepad++

The screenshot displays the Notepad++ text editor with a Verilog file named `INF.sv` open. The code defines an `interface INF` and a `modport DESIGN`. A red box highlights the `modport DESIGN` block, with a red arrow pointing to the text "Edit multi line: Alt + left mouse button".

Below the code editor, a file explorer window shows the directory structure. A red box highlights the "connect" button in the toolbar, with a red arrow pointing to it. Another red box highlights the "upload/download" buttons, with a red arrow pointing to them. A third red box highlights the "Verilog" option in the "File" menu, with a red arrow pointing to it.

The code in the editor is as follows:

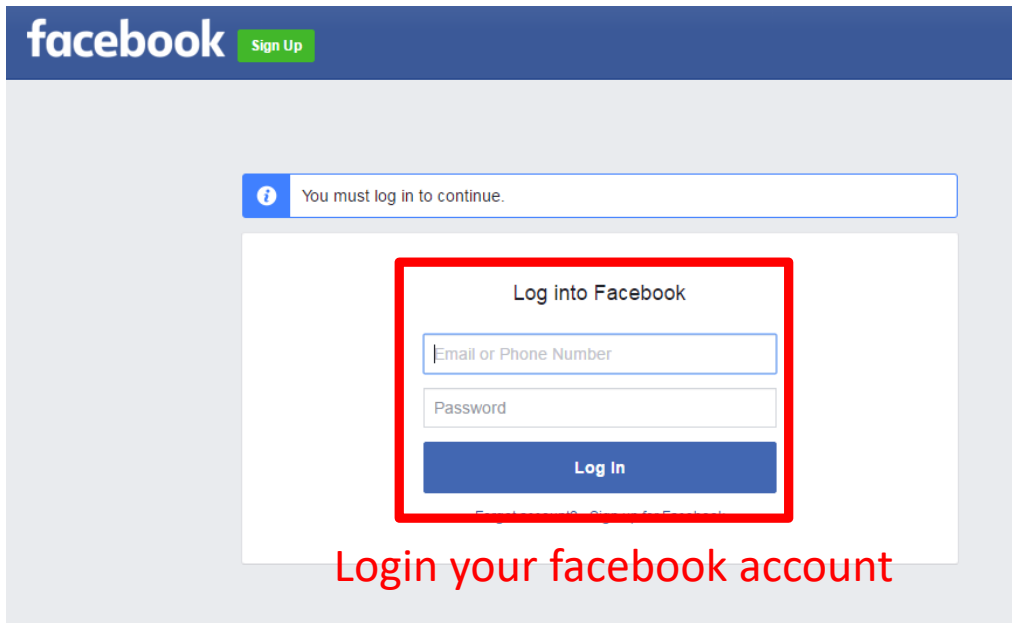
```
1 interface INF(input bit clk);
2   logic rst_n;
3   logic x1;
4   logic x2;
5   logic [1:0] Sum1;
6   logic [1:0] Sum2;
7   logic [1:0] Sum3;
8
9
10 modport PATTERN(
11   output rst_n,
12   output x1,
13   output x2,
14
15   input Sum1,
16   input Sum2,
17   input Sum3
18 );
19
20 modport DESIGN(
21   input rst_n,
22   input x1,
23   input x2,
24
25   output Sum1,
26   output Sum2,
27   output Sum3
28 );
29
30 endinterface
31
```

Edit multi line: Alt + left mouse button

Discussion board

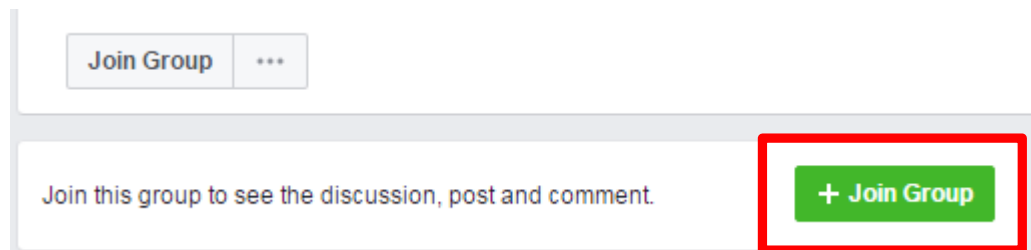
- <https://www.facebook.com/groups/547755475584158/>

①



The image shows the Facebook login interface. At the top, there is a blue header with the Facebook logo and a green 'Sign Up' button. Below the header, a white box contains a message: 'You must log in to continue.' Below this message is a 'Log into Facebook' section. This section contains two input fields: 'Email or Phone Number' and 'Password'. Below these fields is a blue 'Log In' button. A red rectangle highlights the 'Log into Facebook' section. Below the red rectangle, the text 'Login your facebook account' is written in red.

②



The image shows the Facebook group join interface. At the top, there is a 'Join Group' button and a three-dot menu icon. Below this, a white box contains the text: 'Join this group to see the discussion, post and comment.' To the right of this text is a green '+ Join Group' button. A red rectangle highlights the '+ Join Group' button.