



Introduction Server

Outline

- **Development environment**
 - Terminal , MobaXTerm
 - Linux instruction
 - Code edit, gedit / Notepad++ / vscode

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VPN

- Note that you can only login the servers through NYCU internet domain.
- 注意Server只能從交大網域連入(宿舍可以)
- 外宿或是使用手機網路的同學都必須用VPN跨到交大網域
- 下面連結是交大VPN的教學與下載
- <https://it.nycu.edu.tw/it-services/networks/ssl-vpn/>

Terminal

- **Download**
 - MobaXterm
- **Open MobaXterm**
 - >linux??.ee.nctu.edu.tw (number ?? may start from 02 to 33)
- **For information security, it is necessary to change the password of your account ASAP!**
- **Use the command**
 - >passwd

Terminal : MobaXterm

- <https://mobaxterm.mobatek.net/download-home-edition.html>
- Install:
 - Next → Next → ... → finish



MobaXterm

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MobaXterm Home Edition

Download MobaXterm Home Edition (current version):



MobaXterm Home Edition v21.5
(Portable edition)



MobaXterm Home Edition v21.5
(Installer edition)

Download previous stable version: [MobaXterm Portable v21.4](#) [MobaXterm Installer v21.4](#)

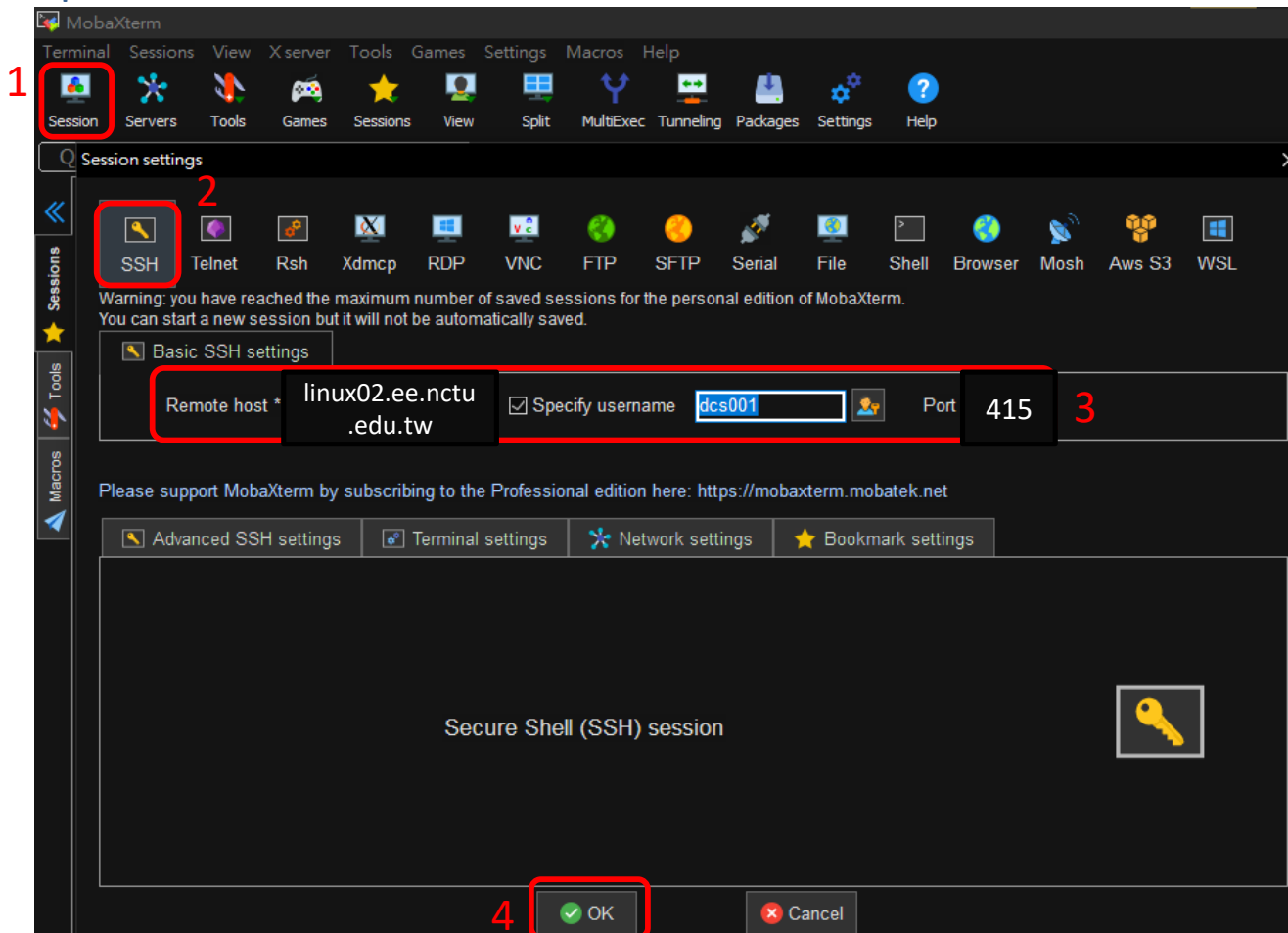
You can also get early access to the latest features and improvements by downloading MobaXterm Preview version:

[MobaXterm Preview Version](#)

Terminal : MobaXterm

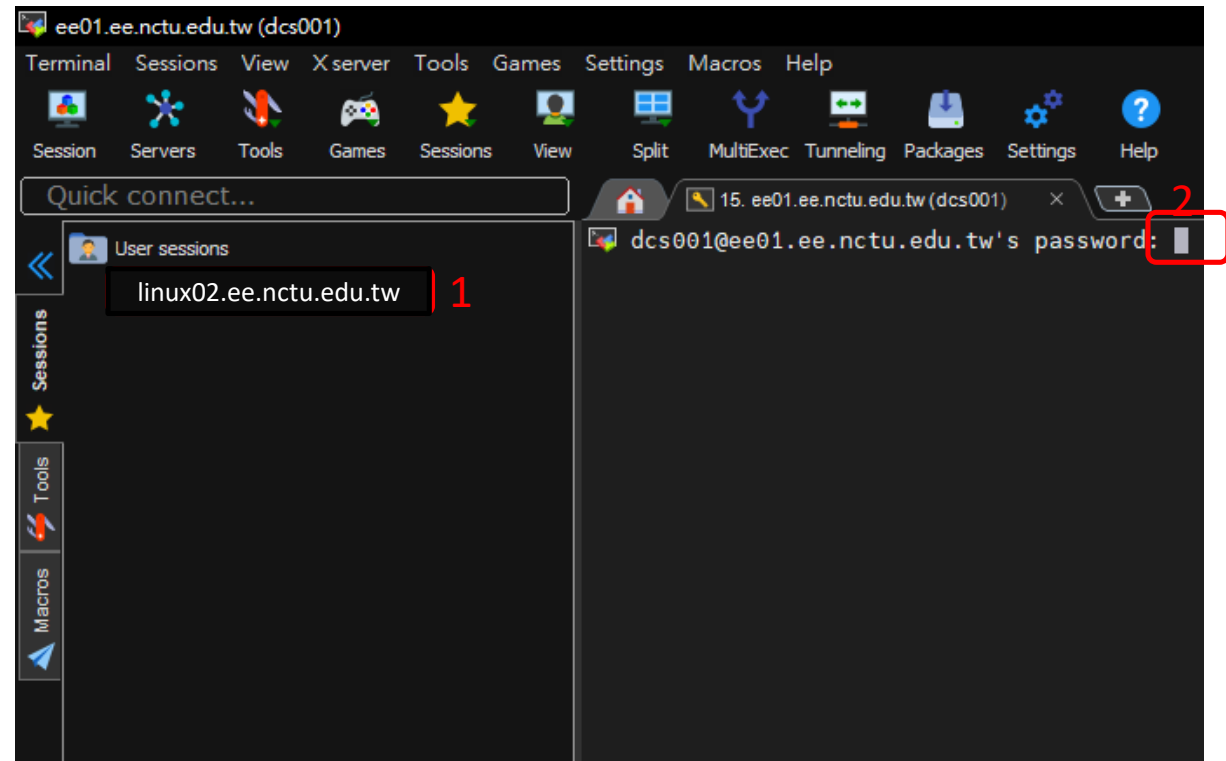
- Add terminal address

- Terminal address : linux02~linux33 (不一定連號) ,Port: 415
- Example : linux02.ee.nctu.edu.tw



Login to the terminal : MobaXterm

- Account : dcs001~dcs210
- Default password :
 - dcs



3 Press Enter

Change the password of your account

- For information security, it is necessary to change the password of your account ASAP!
- Change password:
 - passwd

```

• MobaXterm Professional v21.0 •
(SSH client, X server and network tools)

> SSH session to dcs001@ee01.ee.nctu.edu.tw
• Direct SSH : ✓
• SSH compression : ✓
• SSH-browser : ✓
• X11-forwarding : ✓ (remote display is forwarded through SSH)

> For more info, ctrl+click on help or visit our website.

Last login: Sun Feb 20 07:33:18 2022 from 42.73.188.204

*****
* CAD Tools available on this machine: *
*****
Cadence: INCISIV_13.10.005 MMSIM_15.10.801
Synopsys: DC_2015.06 PT_2013.12 hspice_2015.06
Novas: Verdi_2015.09 Laker_2015.03
Mentor: Calibre_2008.2_22.20
Cadence: Jasper Gold_2021.03
Synopsys: MetaWare Development Toolkit
Synopsys: Tetra Max
Cadence: Innovus_17.11
*****
ee01 [dcs/dcs001]% passwd 1
Changing NIS account information for dcs001 on raid.
Please enter old password: ← 2
Changing NIS password for dcs001 on raid.
Please enter new password: ← 3
Please retype new password: ← 4
  
```

ED415 工作站使用須知

• 一、違規行為：

※ED415的電腦請勿關機！

1. 任意重開或關閉電腦及工作站，未告知系統管理者。
2. 鎖住電腦螢幕後離開實驗室，妨礙他人使用主機Console。
3. 過量使用實驗室主機資源，影響其他人正常使用。
4. 將修課帳號借給他人使用，或借用他人帳號。
5. 使用本實驗室電腦設備用於非課程教學用途。
6. 破壞系統或實驗室設備，或任何影響系統運作的行為。
7. 入侵系統或盜取、盜用他人帳號。
8. 其他違規事宜，經個案討論認定違規者。

• 二、罰則：

1. 如使用者有前項1,2,3 點的違規行為，初犯帳號停權兩星期，累犯取消課程帳號。
2. 如使用者有前項4,5,6,7 點的違規行為，使用者帳號立即取消，並登記使用者資料至黑名單內，違規的使用者不得再申請使用本實驗室電腦設備。
3. 其他違規事宜，個案討論認定其罰則。

• 三、注意事項：

1. 登入時，請先關閉螢幕鎖定設定。
2. 請勿攜帶食物進入教室以維持教室清潔。
3. 離開時，請記得先登出工作站。

工作站使用須知

- 由於這學期伺服器使用者眾多(包含其他課程)，其他課程會有不同的上機課、上機考時段，
未來會協調各課程的工作站禁用時間。
- 待禁用時間協調完成後會在NewE3及臉書社團通知同學，請同學避免在禁用時段使用工作站，
並且同學也要把握在非禁用時段將Lab及作業完成。

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Command

指令	英文	作用
ls	list	列舉資料夾中的檔案
cd	change directory	改變現在的資料夾路徑
mkdir	make directory	新增資料夾
rm	remove	移除檔案, 資料夾
cp	copy	複製檔案, 資料夾
mv	move	移動檔案, 資料夾
tar		壓縮/解壓縮
移除資料夾: rm 可以移除檔案, 無法移除資料夾。rm -f 兩個都能移除。 解壓縮: tar -xvf [來源壓縮檔] 移到上一層資料夾: cd .. 自動完成: tab鍵可以幫你少打一點字! 背景執行: 在指令後面加上 &, 能讓他背景執行!		

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Code editor

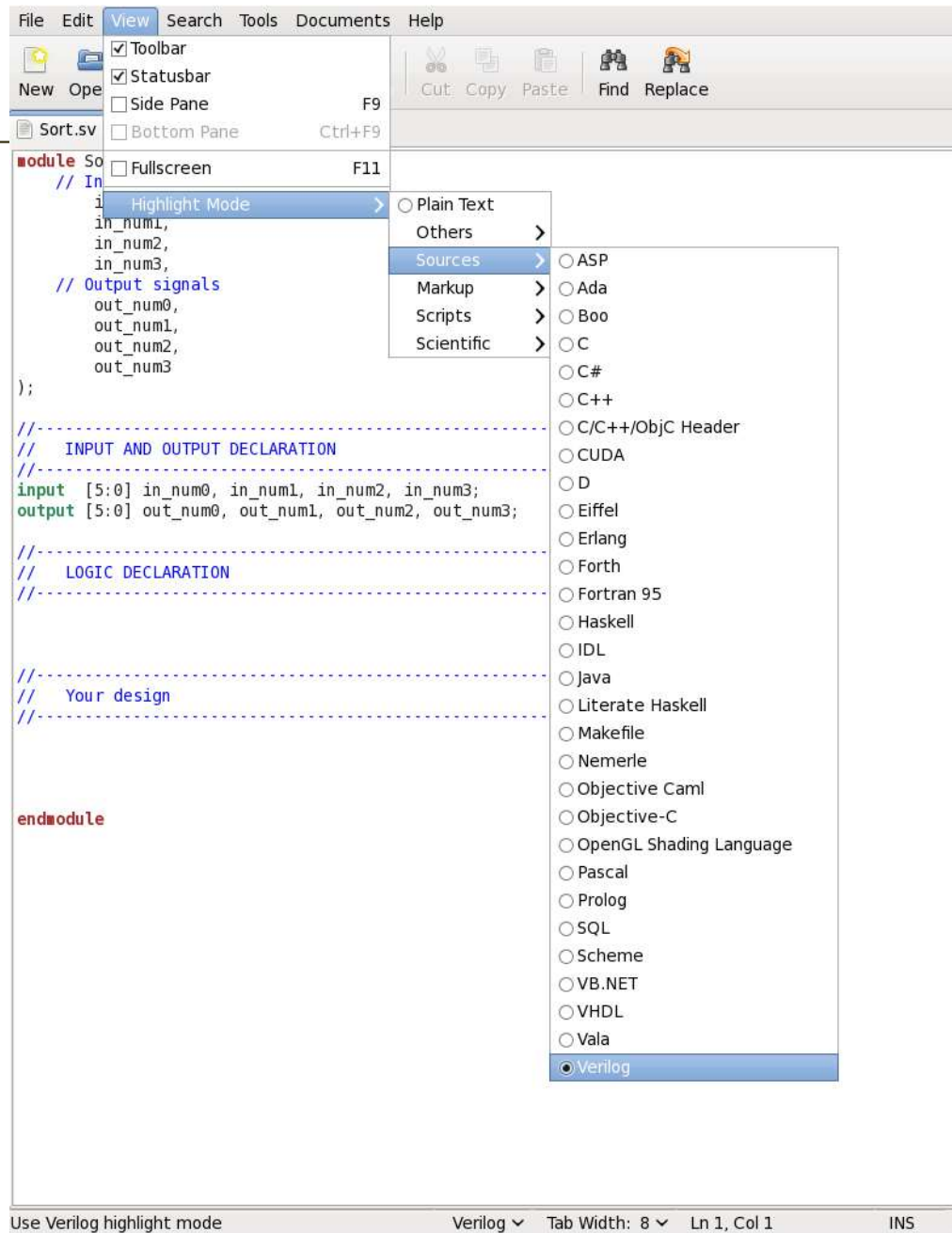
- You can use any editor to coding.
- There are recommended text editors:
 - vim (linux build-in)
 - gedit (linux build-in)
 - notepad++
 - Visual Studio Code (VS code)

vim / gedit

- vim XXX.sv
 - If you are a noob linux user, vim is not recommended for you.
- gedit XXX.sv &
 - view → Highlight Mode → Sources → Verilog
 - If you use Windows/MacOS, you can use **Notepad++**, or any editors you are used to using.

```
linux01 [Lab01/01_RTL]% gedit SOC.sv &
```


gedit



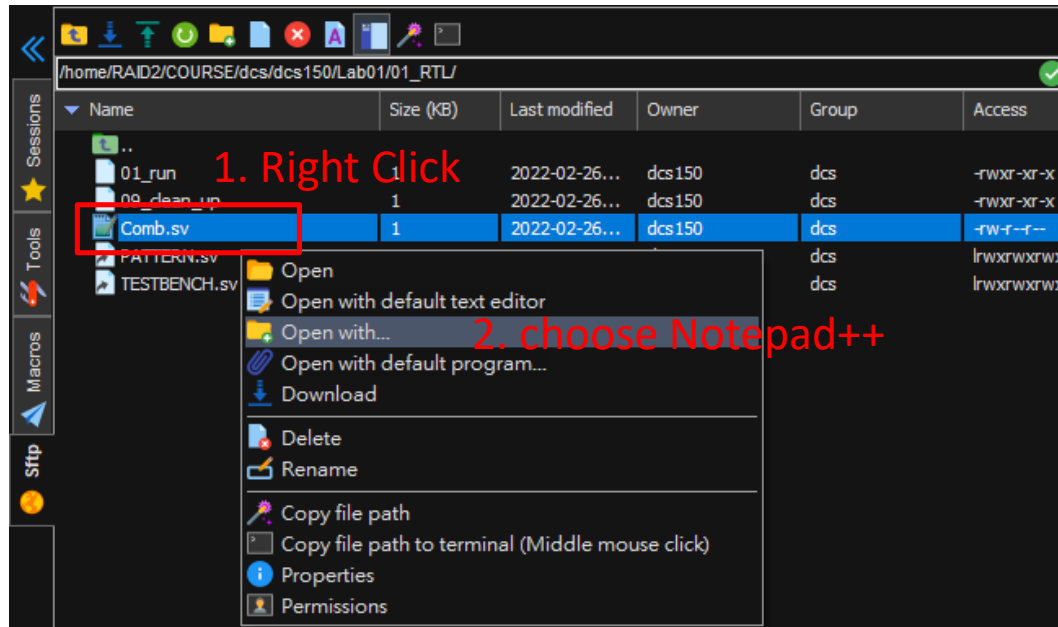
Notepad++

- Easier to edit
- Support many plug-in

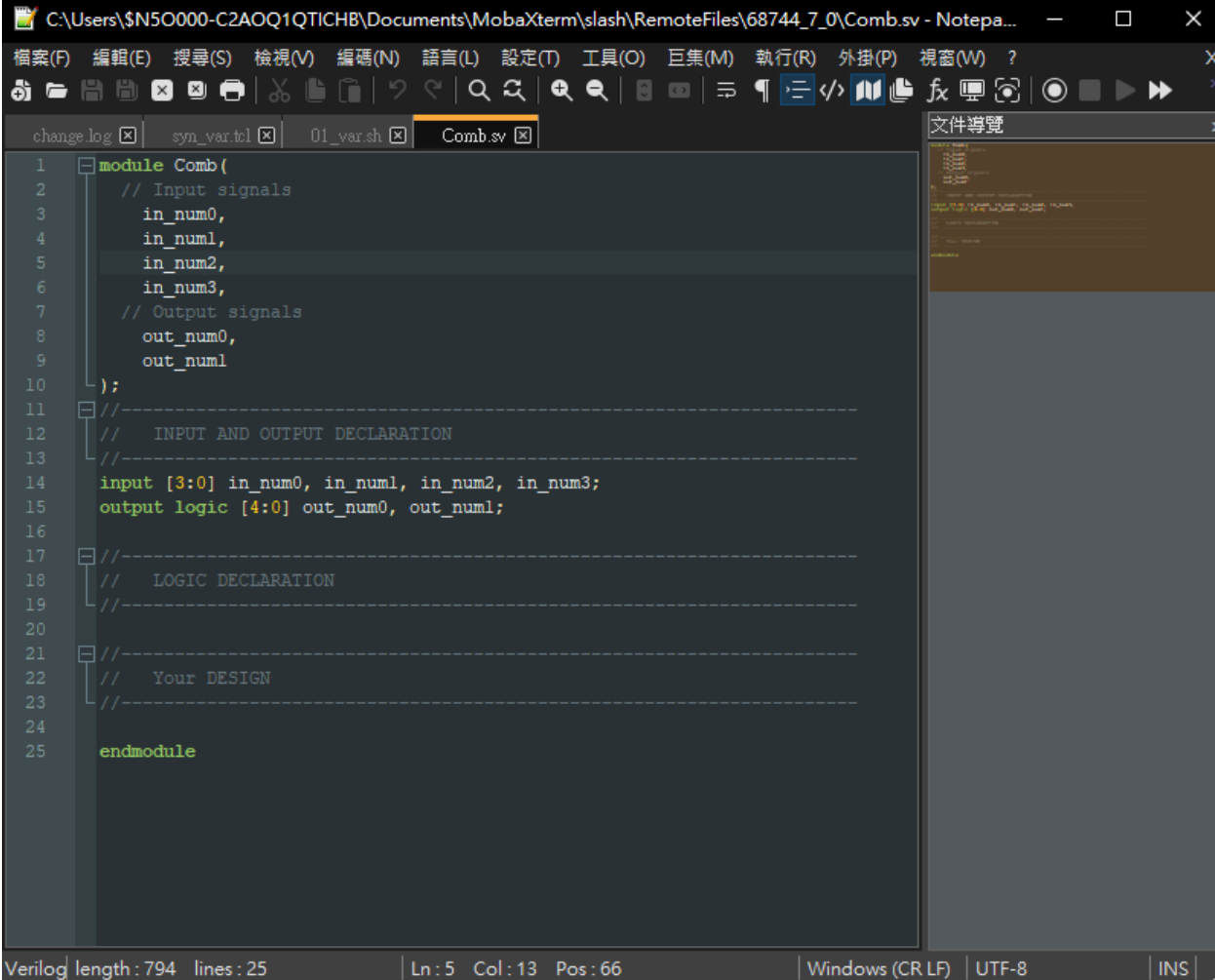


Notepad++

- You can directly open the file with Notepad++ through MobaXterm.



Notepad++



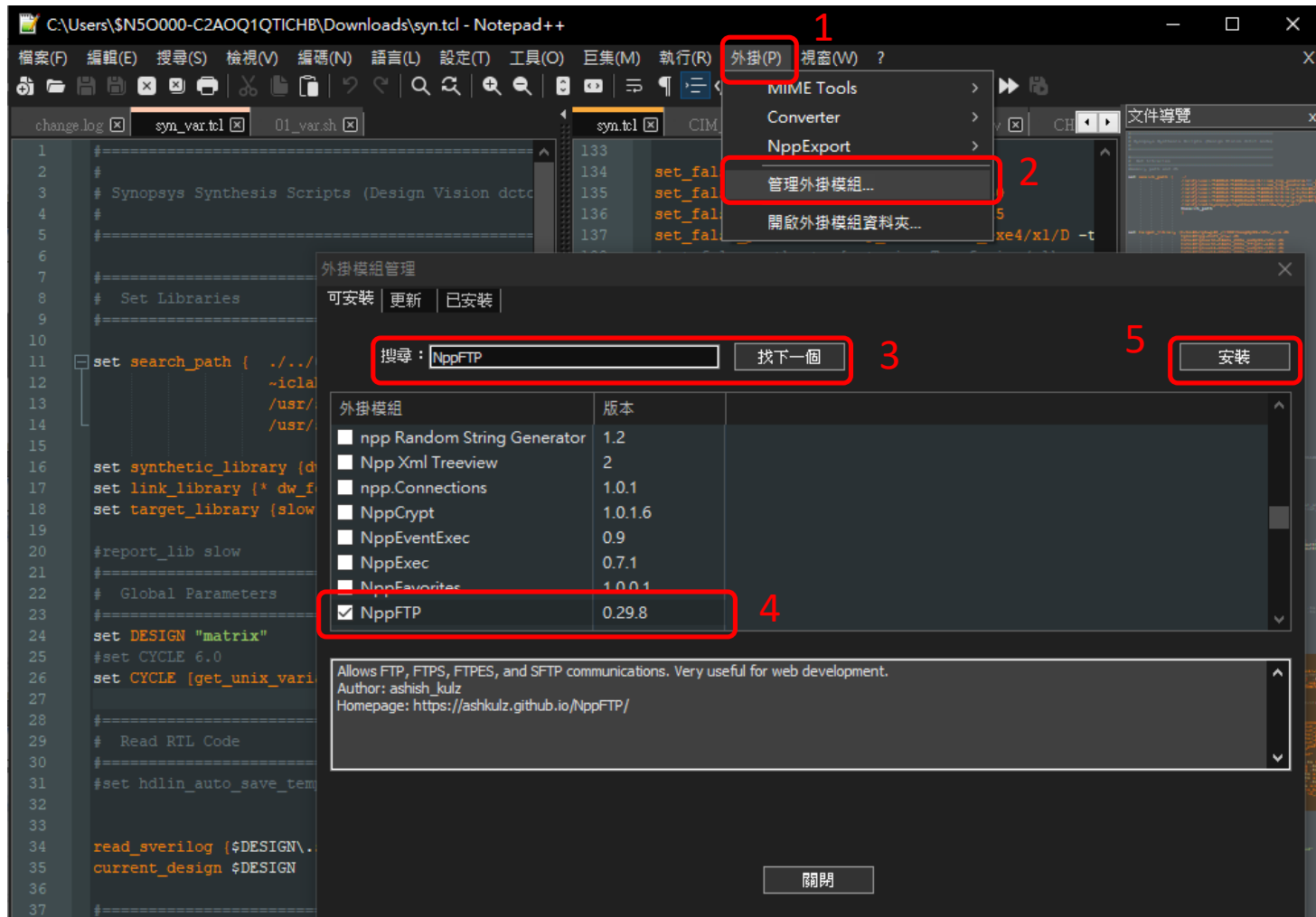
The screenshot shows the Notepad++ text editor with a Verilog module named 'Comb'. The code is as follows:

```
1 module Comb(  
2     // Input signals  
3     in_num0,  
4     in_num1,  
5     in_num2,  
6     in_num3,  
7     // Output signals  
8     out_num0,  
9     out_num1  
10 );  
11 //-----  
12 //  INPUT AND OUTPUT DECLARATION  
13 //-----  
14 input [3:0] in_num0, in_num1, in_num2, in_num3;  
15 output logic [4:0] out_num0, out_num1;  
16  
17 //-----  
18 //  LOGIC DECLARATION  
19 //-----  
20  
21 //-----  
22 //  Your DESIGN  
23 //-----  
24  
25 endmodule
```

The status bar at the bottom indicates: Verilog length: 794 lines: 25 | Ln: 5 Col: 13 Pos: 66 | Windows (CR LF) | UTF-8 | INS

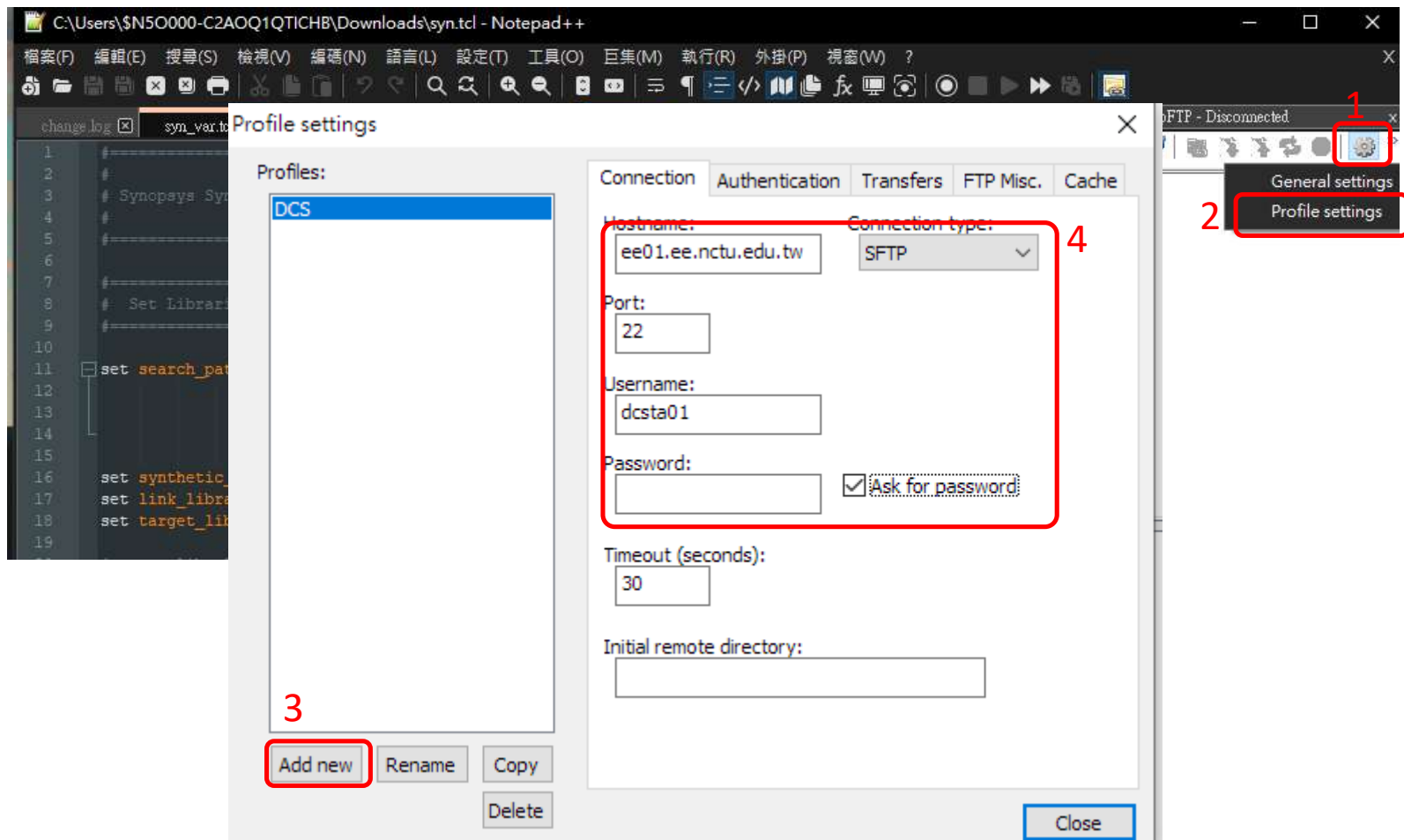
NppFTP

- Or, you can also connect server on Notepad++ using NppFTP plug-in.
 - Without log in MobaXterm.



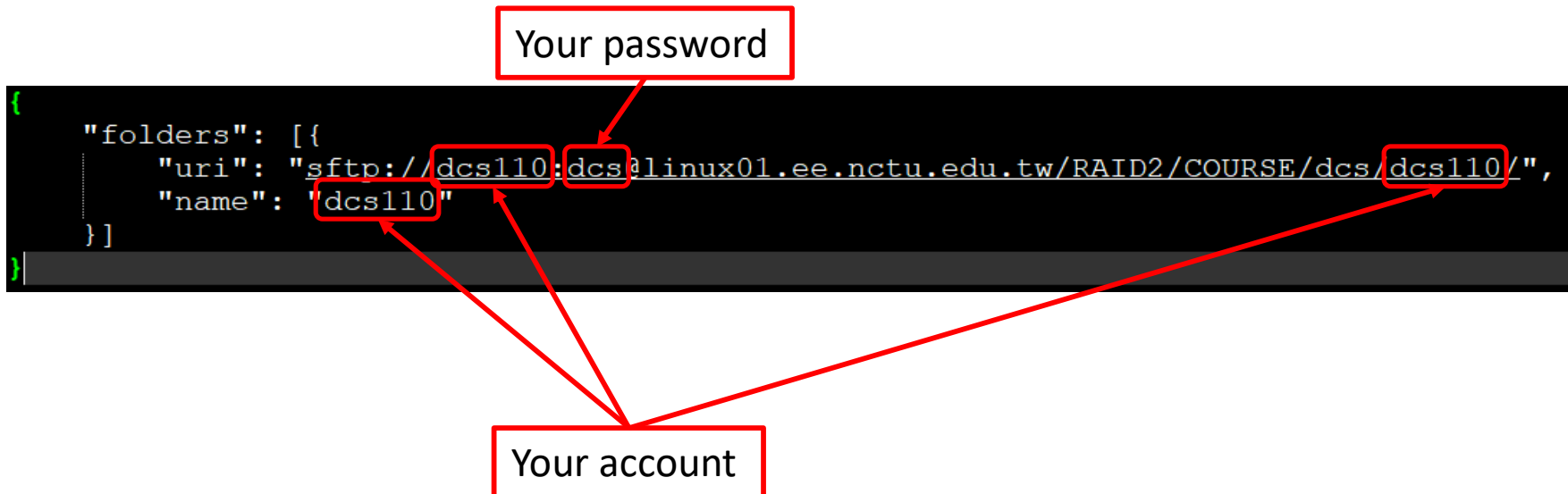
NppFTP

- 外掛 → NppFTP → Show NppFTP window
 - The same as edit on the terminal



Visual Studio Code

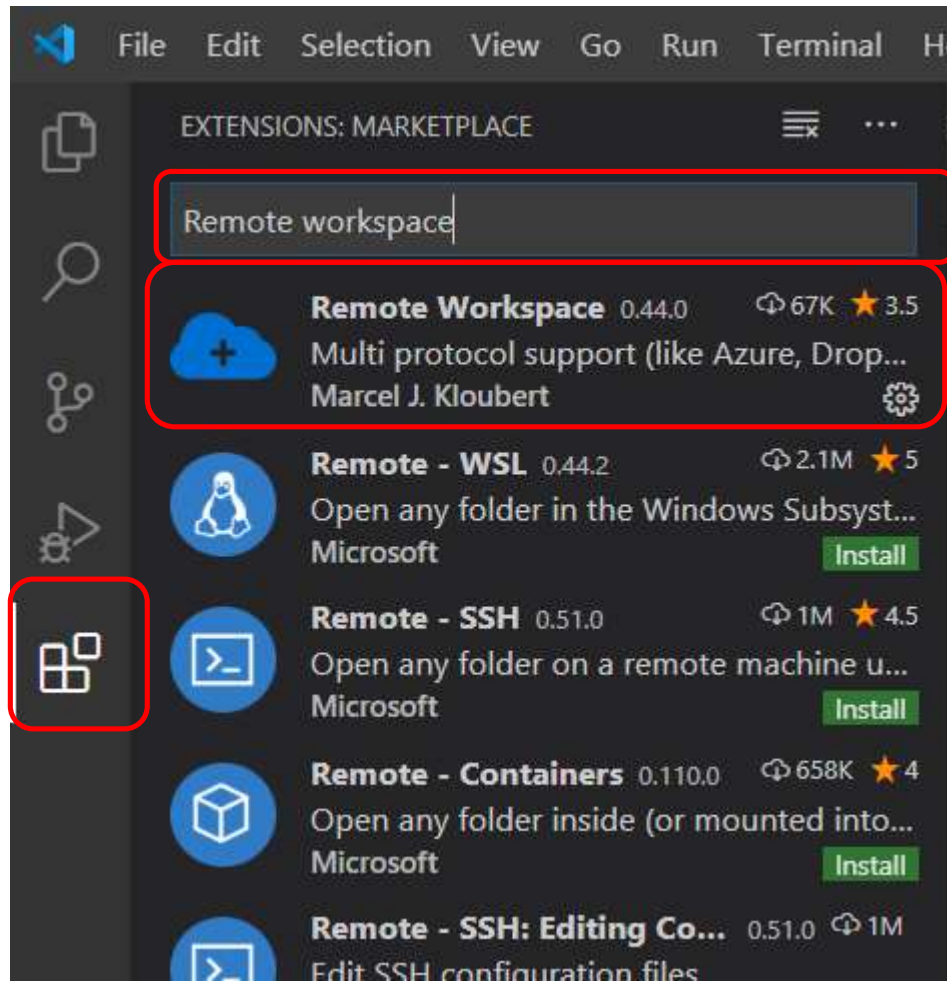
- Download the workspace sample code
 - https://drive.google.com/file/d/1CPRHTbrgR9X-IWGDnC_CQsmAqgSaxuhd/view?usp=sharing
- Change the account and password in the workspace code.



The diagram illustrates the process of updating the workspace code. A red box labeled "Your password" has an arrow pointing to the password field in the JSON code. Another red box labeled "Your account" has three arrows pointing to the account field, the username part of the URI, and the directory part of the URI. The code is as follows:

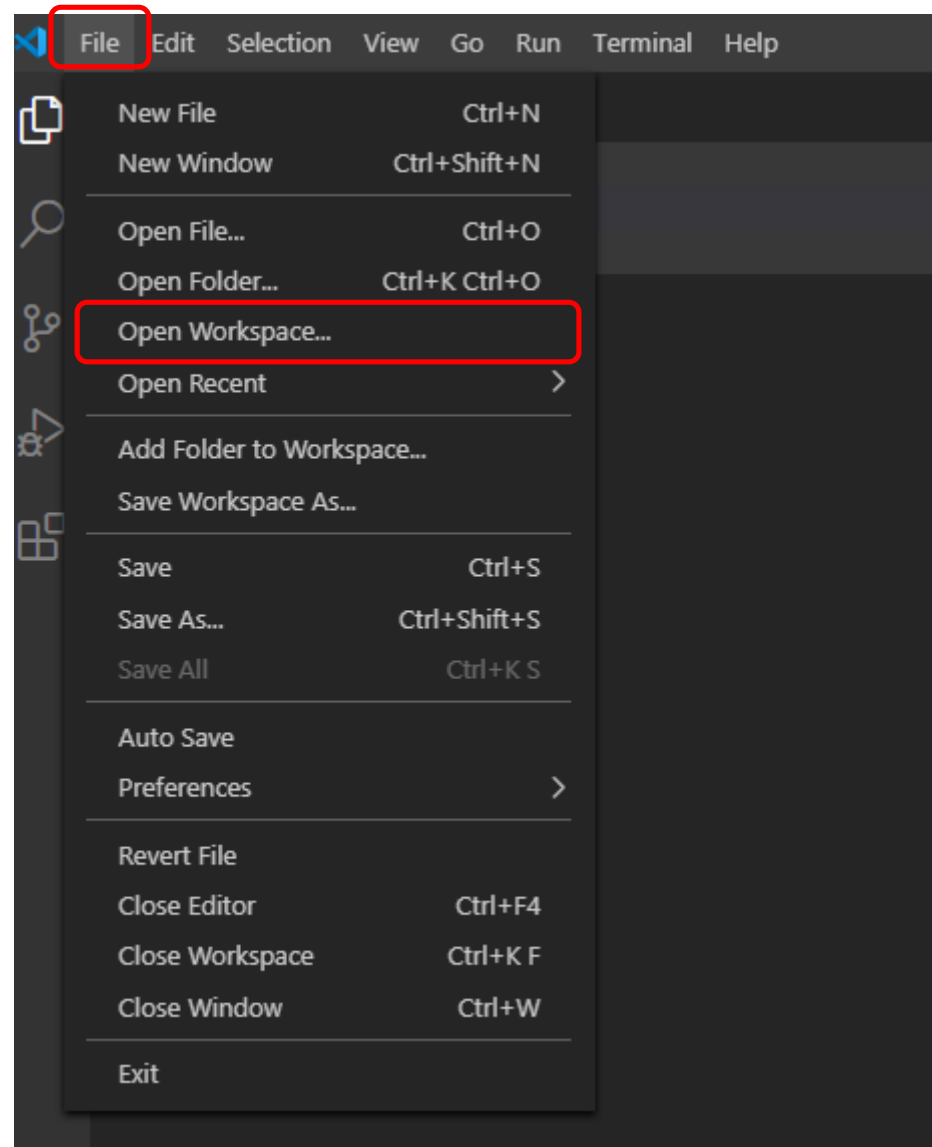
```
{  
  "folders": [{  
    "uri": "sftp://dcs110:dcs110@linux01.ee.nctu.edu.tw/RAID2/COURSE/dcs/dcs110/",  
    "name": "dcs110"  
  }]  
}
```

Install Remote Workspace



Visual Studio Code

- Open Workspace
 - Open your workspace file



Visual Studio Code

- 開啟信任工作區，第一次連線會比較久。

