



Tutorial 1

Workstation and SoC Lab Tutorial

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Outline

- Introduction of workstation
- Connect to the workstation in the computer classroom
- Connect to the workstation in SoC Lab
- Change your password

Introduction of workstation

- ❑ What is workstation ?
 - ➔ A powerful PC
- ❑ Why do we use workstation ?
 - ➔ Powerful computational ability
 - ➔ Support multi-user & multi-tasking

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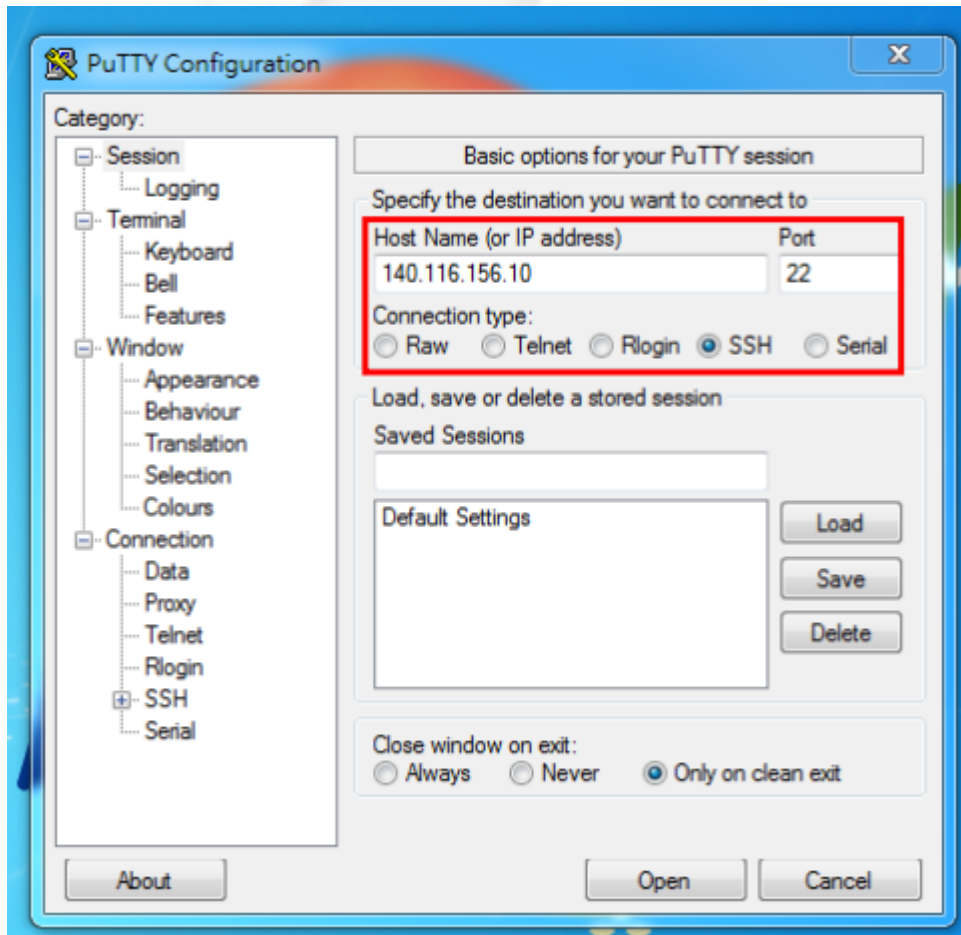
Xming

- ❑ Xming allows graphical programs running on remote Linux servers to be displayed on Windows systems.
- ❑ Run Xming



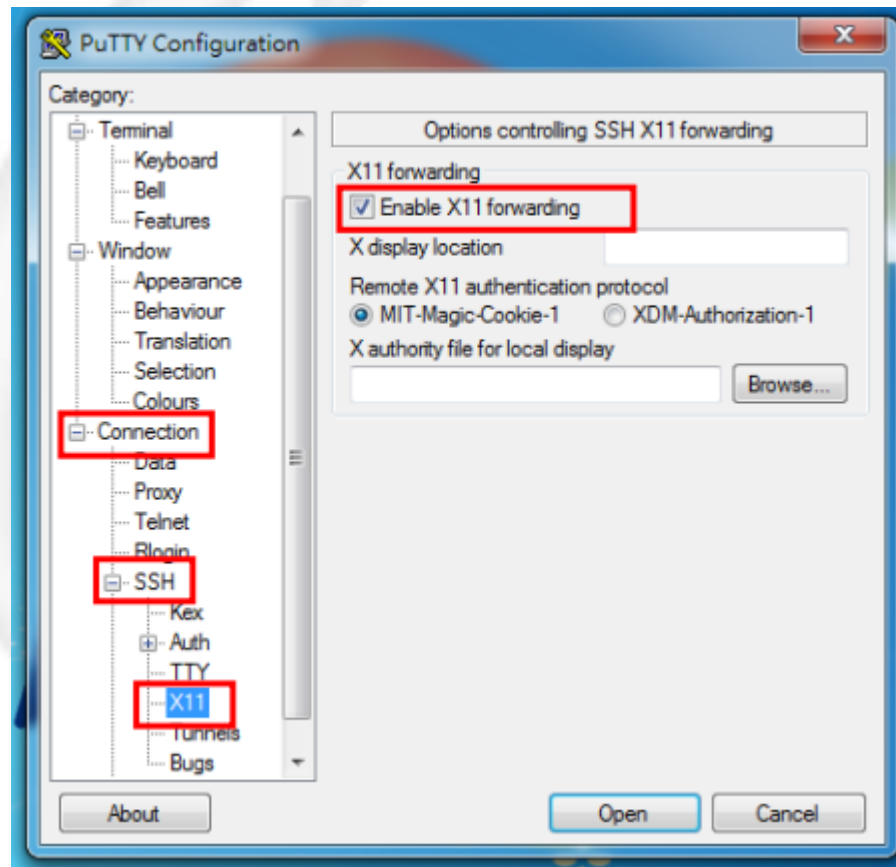
PuTTY Configuration (1)

- ❑ Set IP address as 140.116.156.X
- ❑ X can be 6 or 10



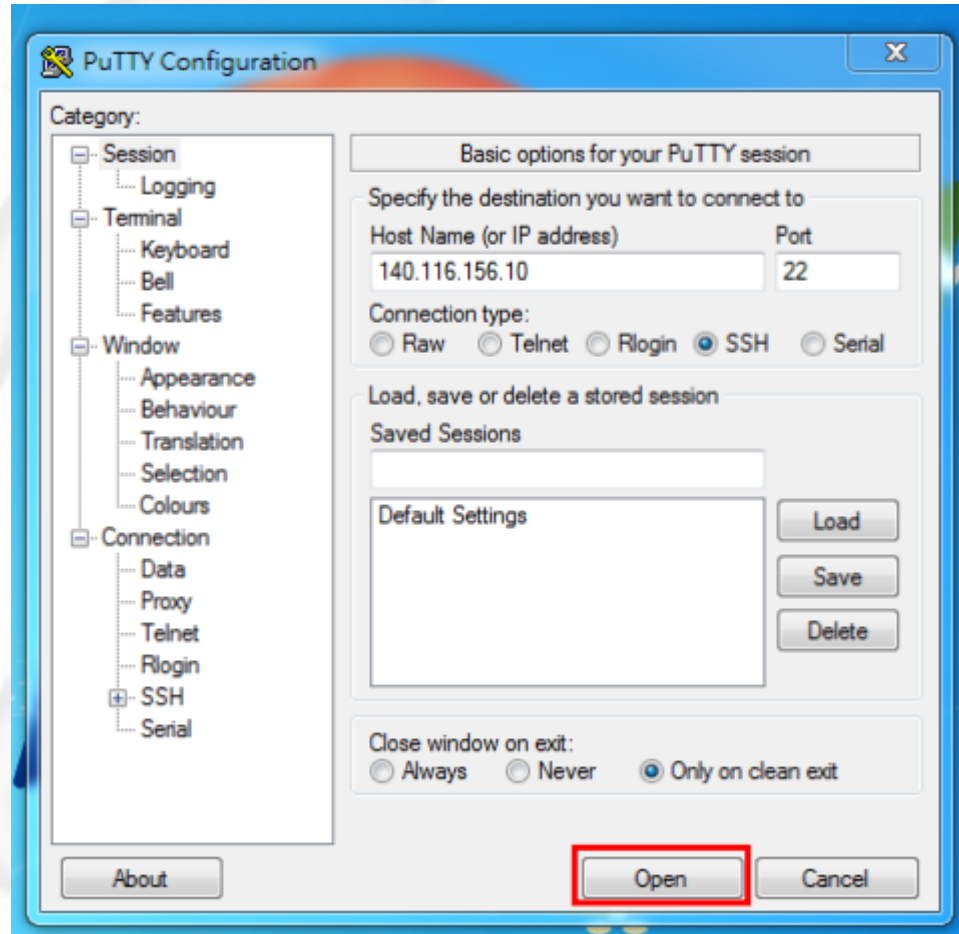
PuTTY Configuration (2)

- ❑ Make sure Xming is running.
- ❑ Connection >> SSH >> X11
 - ➔ Choose “Enable X11 forwarding”



PuTTY Configuration (3)

□ Open



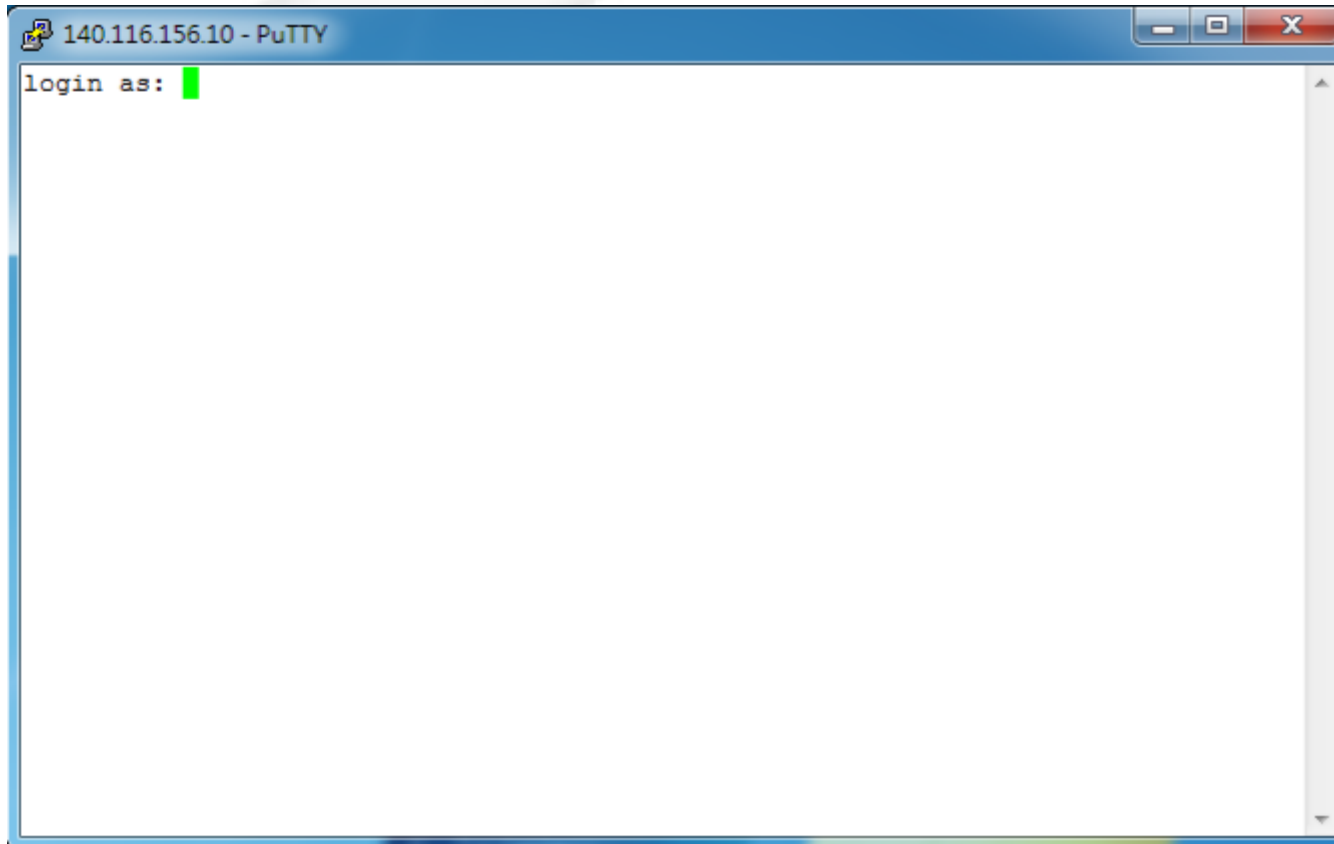
The Host Key

- ❑ If this window appear, choose “Y”



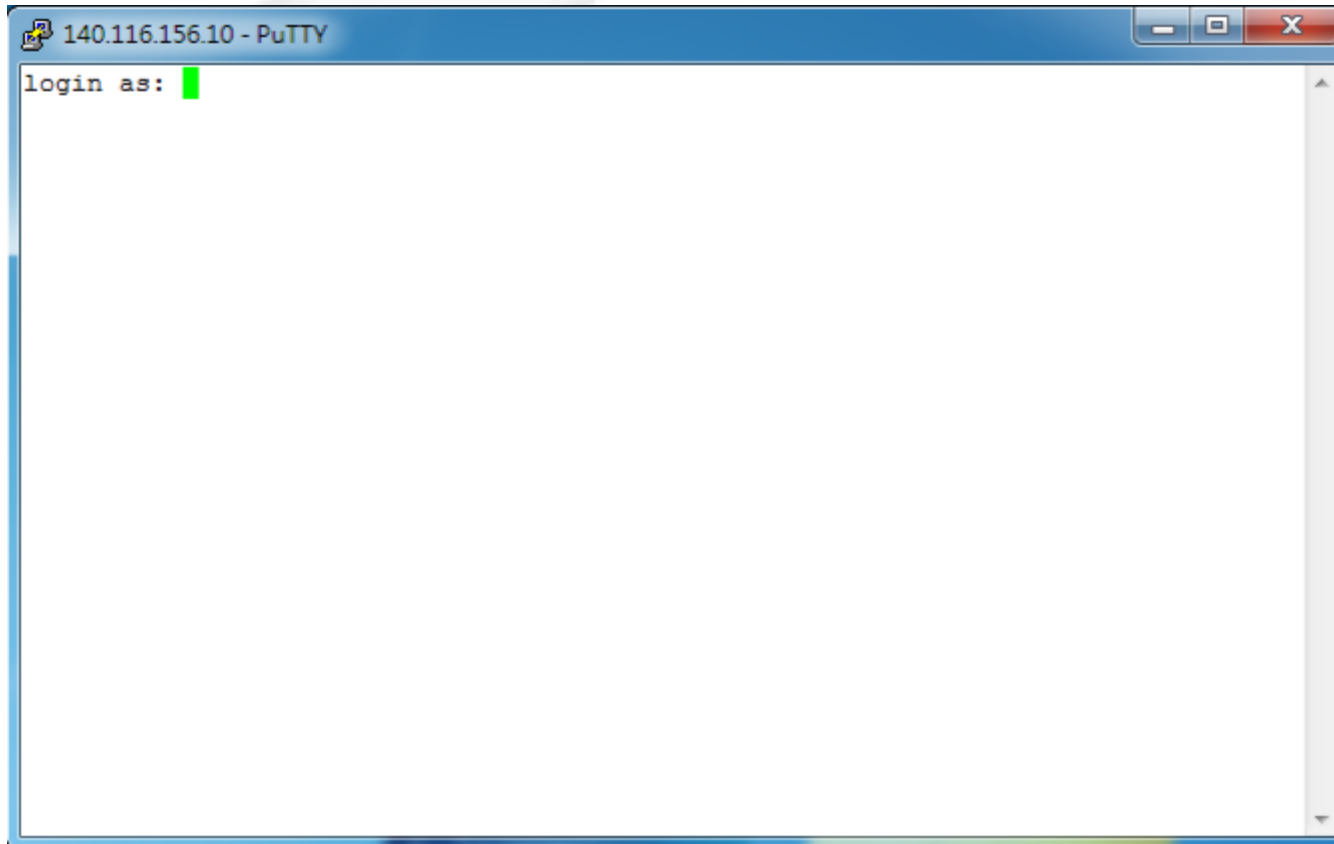
Login (1)

- ❑ Enter your username



Login (2)

- Enter your password



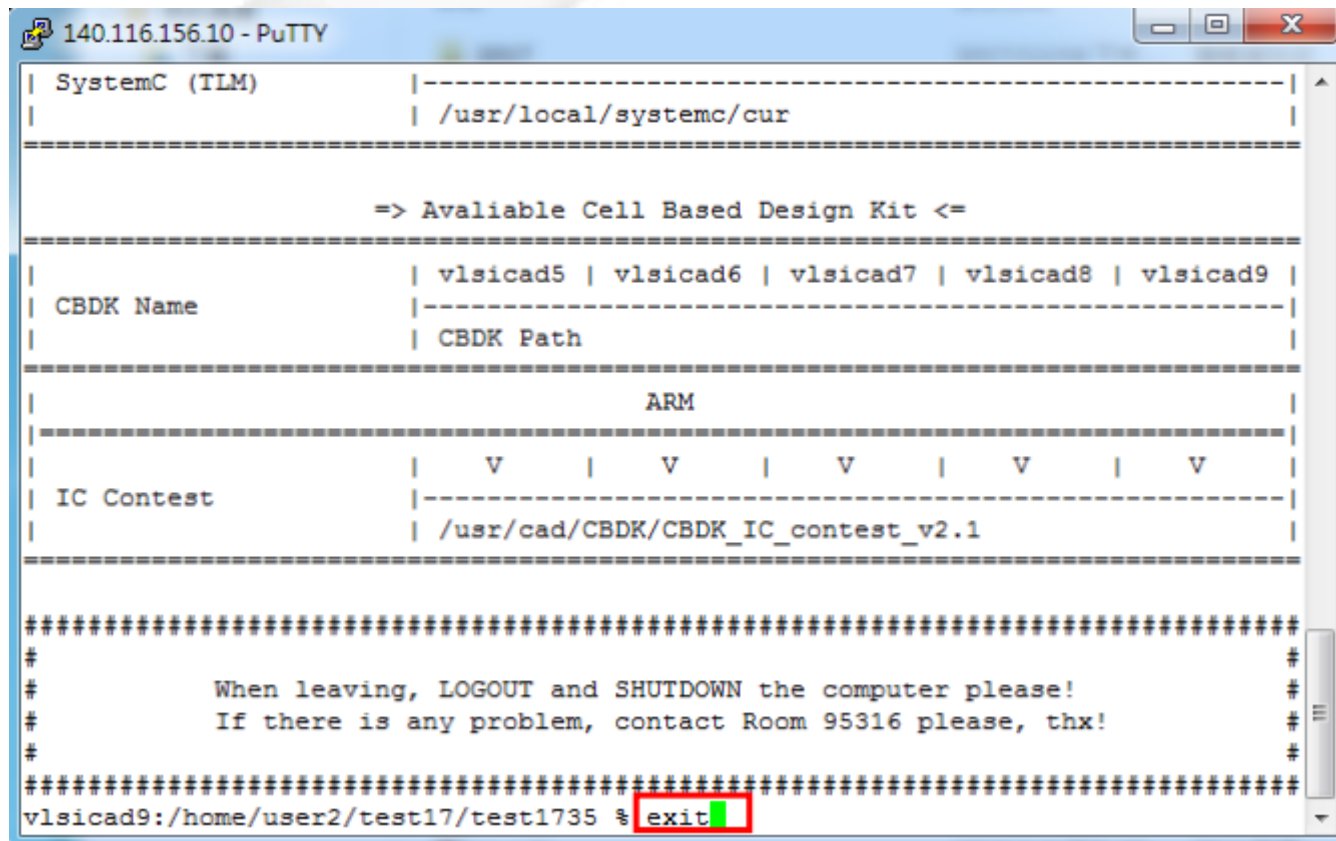
Login (3)

- Login successfully

```
140.116.156.10 - PuTTY
| SystemC (TLM) |-----|
| | /usr/local/systemc/cur |
|-----|
|
|=> Available Cell Based Design Kit <=
|-----|
| CBDK Name | vlsicad5 | vlsicad6 | vlsicad7 | vlsicad8 | vlsicad9 |
|-----|
| | CBDK Path |
|-----|
|
| ARM
|-----|
| IC Contest | V | V | V | V | V |
|-----|
| | /usr/cad/CBDK/CBDK_IC_contest_v2.1 |
|-----|
|
|#####|
|#|
|# When leaving, LOGOUT and SHUTDOWN the computer please!|#
|# If there is any problem, contact Room 95316 please, thx!|#
|#|
|#####|
vlsicad9:/home/user2/test17/test1735 %
```


Logout

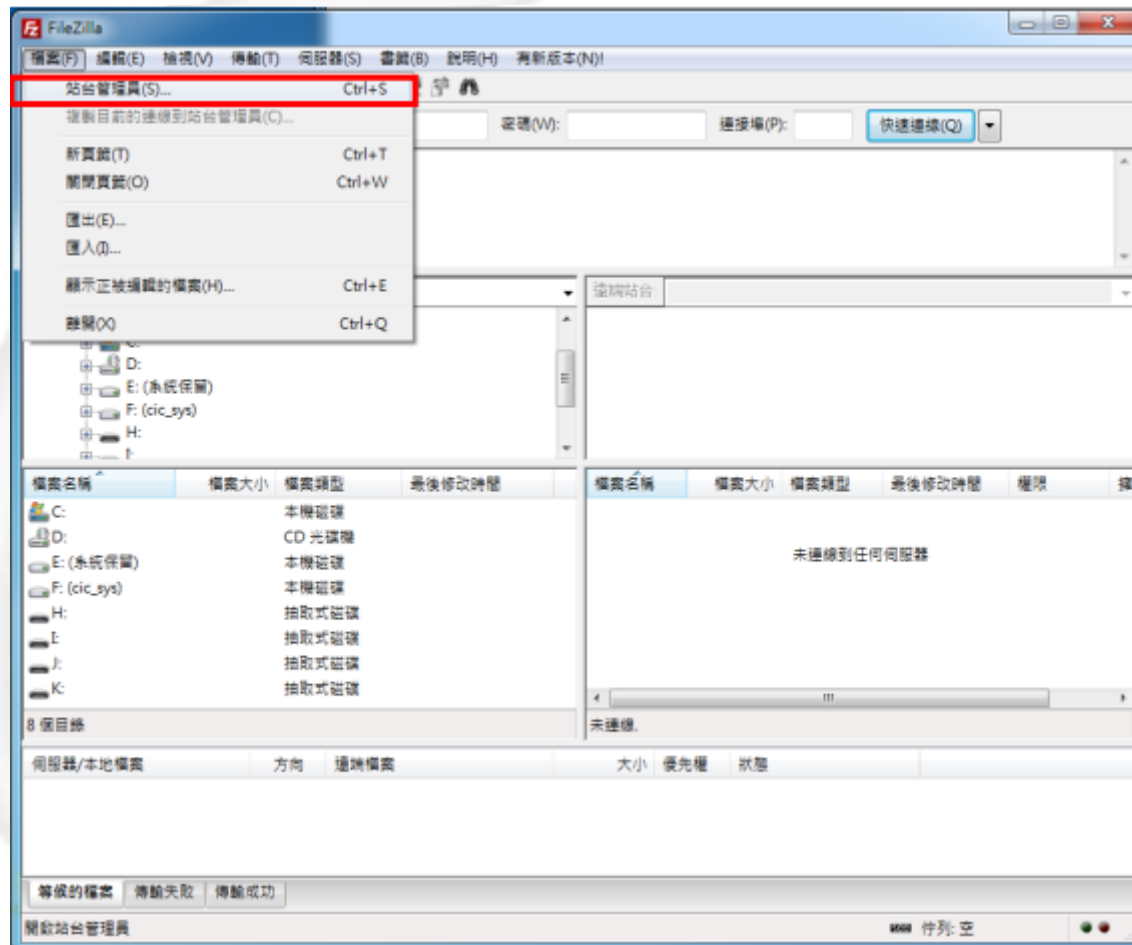
- Enter “exit”



```
140.116.156.10 - PuTTY
| SystemC (TLM) | ----- |
|               | /usr/local/systemc/cur |
|-----|
|               |
|=> Available Cell Based Design Kit <=
|-----|
| vlsicad5 | vlsicad6 | vlsicad7 | vlsicad8 | vlsicad9 |
| CBDK Name | ----- |
|           | CBDK Path |
|-----|
|               |
|               | ARM | | | |
|---|---|---|---|---|
| V | V | V | V | V |
| IC Contest | ----- |
|           | /usr/cad/CBDK/CBDK_IC_contest_v2.1 |
|-----|
|
|#####|
|#                |#####|
|#                |#####|
|#      When leaving, LOGOUT and SHUTDOWN the computer please!      |#####|
|#      If there is any problem, contact Room 95316 please, thx!      |#####|
|#                |#####|
|#####|
vlsicad9:/home/user2/test17/test1735 % exit
```

Transmit Files (1)

□ Open FileZilla.



Transmit Files (2)

Settings

6 or 9

Your username and password

站台管理員

選擇機位(S):

- 我的站台
- 新站台

新增站台(N) 新增資料夾(F)

新增書籤(M) 更名(R)

刪除(D) 複製(I)

一般設定 進階設定 傳輸設定 字碼集

主機(H): 140.116.156.10 連接埠(P): 22

協定(T): SFTP - SSH File Transfer Protocol

登入型式(L): 一般

使用者(U): test1735

密碼(W): ●●●●●●●●

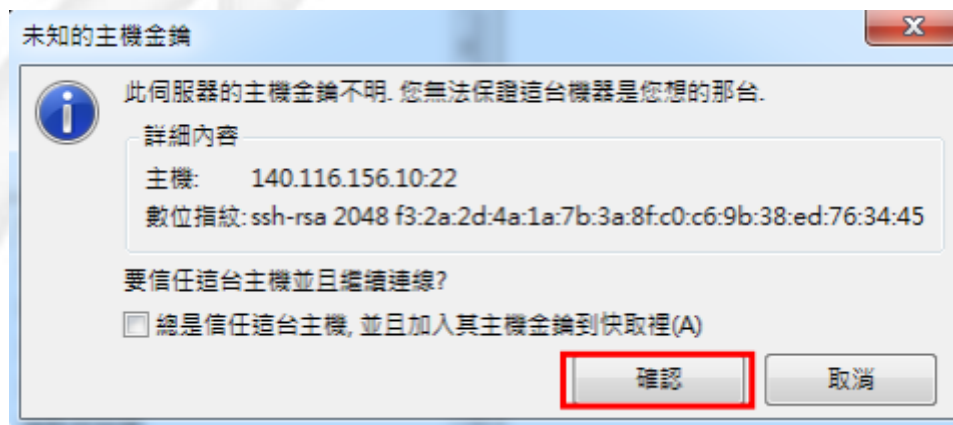
帳號(A):

註解(M):

連線(C) 確認(O) 取消

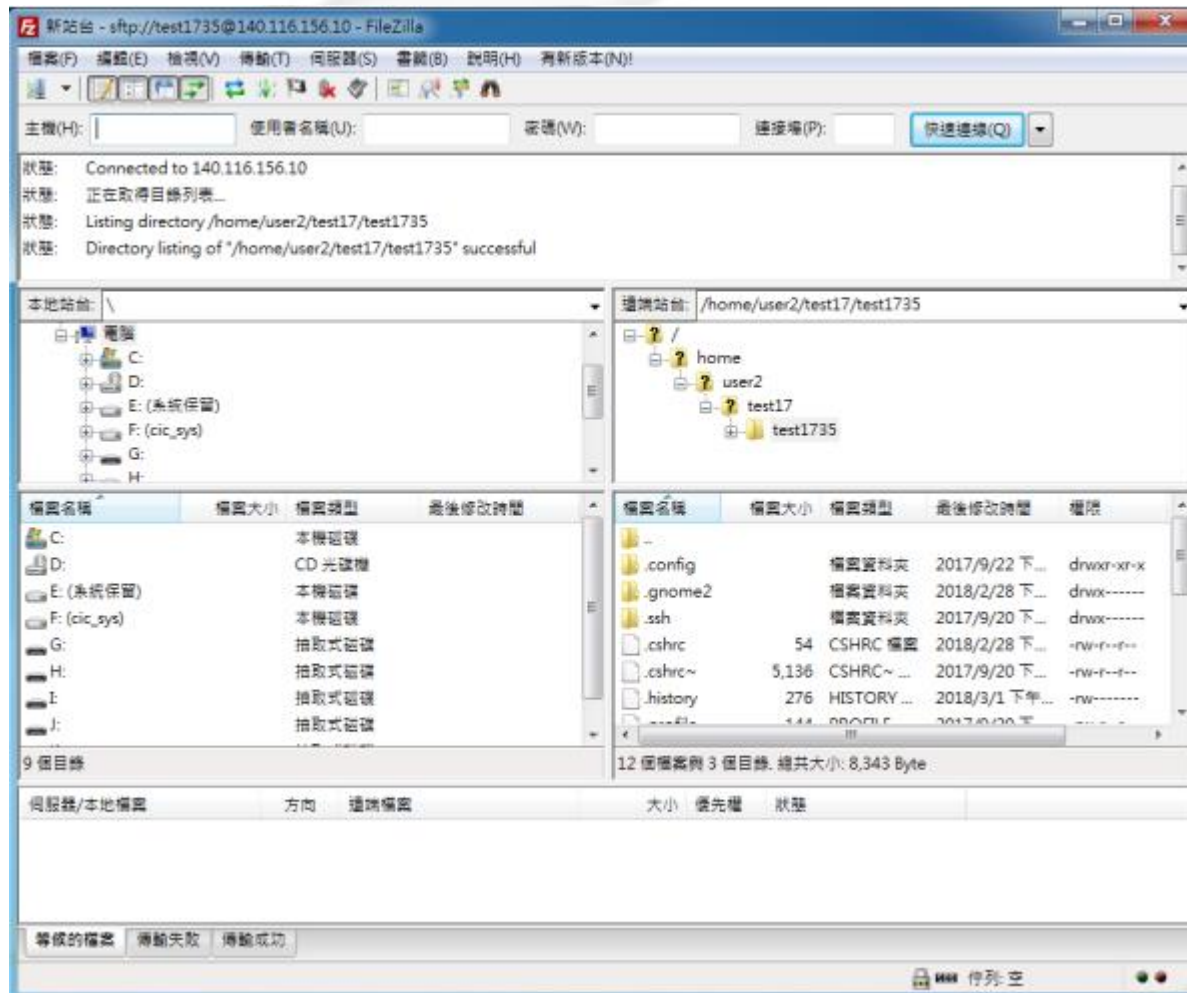
Transmit Files (3)

- If this window appear, choose “確認”.



Transmit Files (4)

Connect successfully



Outline

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- Change your password

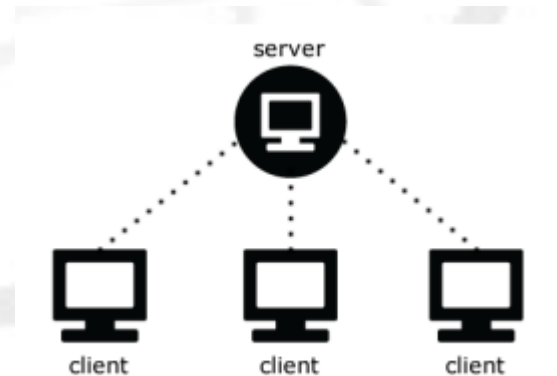
Guide

□ Personal computer (client)

- ➔ Linux CentOS
- ➔ Username and password are the same as that in the workstation

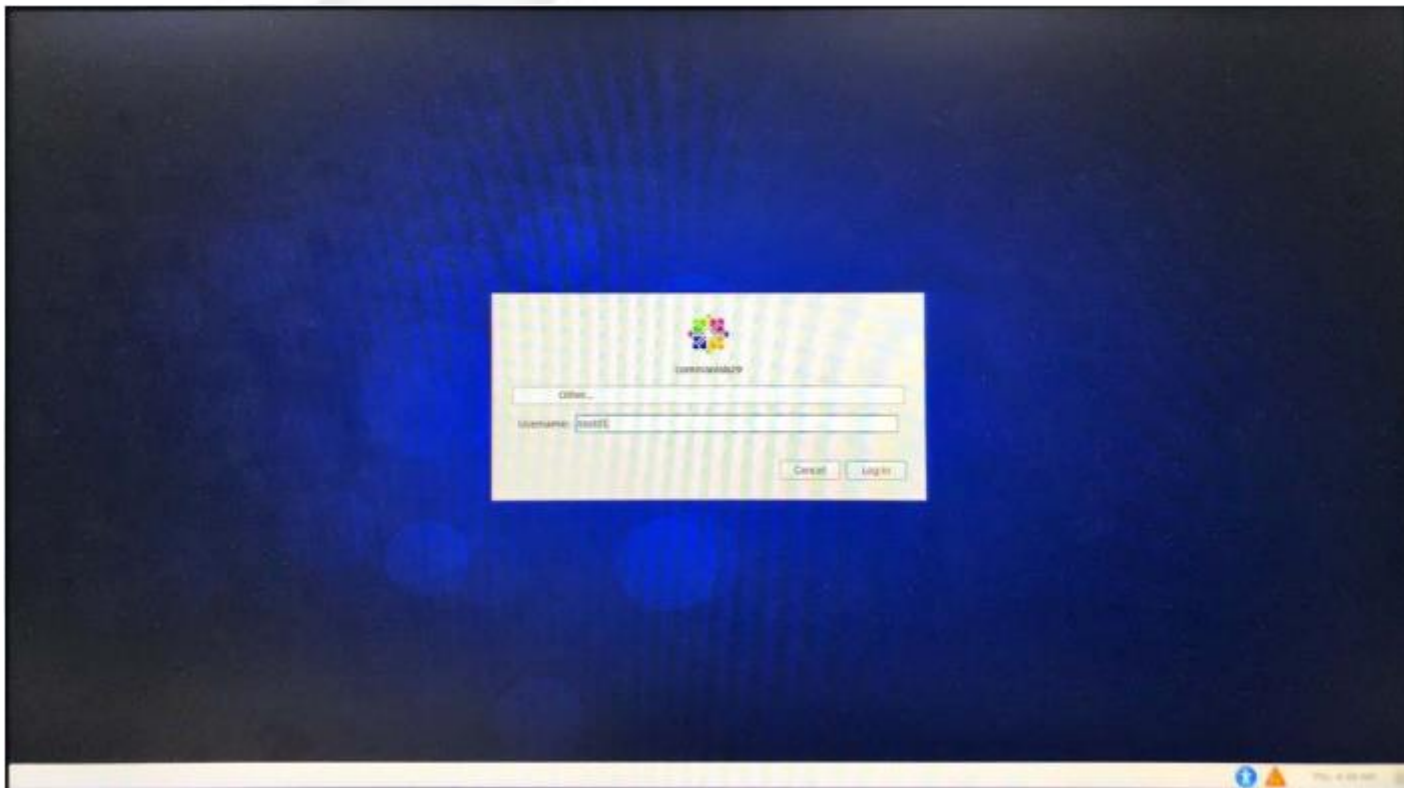
□ Available workstation (server)

- ➔ vlsicad6
- ➔ vlsicad9



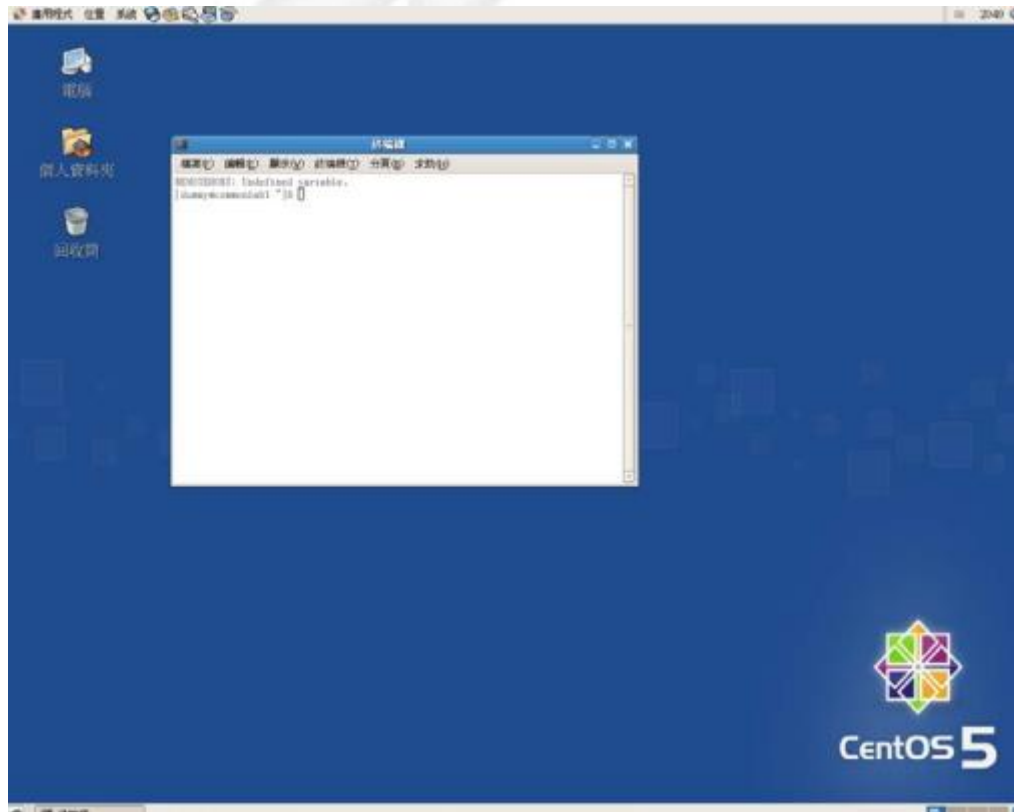
Login in CentOS

- Username and password are the same as what you use in the computer classroom



Login Workstation (1/5)

- ❑ Right click on Desktop and select “Open in Terminal”
- ❑ Or click “Applications >> System Tools >> Terminal”



Login Workstation (2/5)

- ❑ Type “ssh -X vlsicad^Y” in terminal to connect ^Yth workstation
- ❑ *-X must be uppercase*
- ❑ ^Y can be 6 or 9

Login Workstation (3/5)

- Enter “yes” to accept host key

```
vlsicad1:/home/user2/ms105/johnc% ssh -X vlsicad5  
The authenticity of host 'vlsicad5 (192.168.100.5)' can't be established.  
RSA key fingerprint is f0:b2:42:f8:35:d9:76:54:1a:6b:5f:2d:8b:42:5e:70.  
Are you sure you want to continue connecting (yes/no)? yes
```

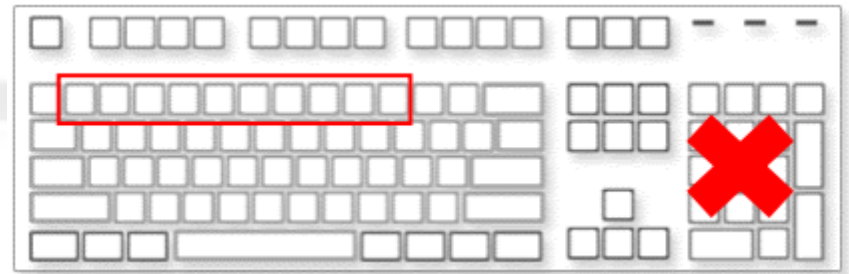
- Enter “rm ~/.ssh/known_hosts” when this message appears.

```
RSA host key for vlsicad5 has changed and you have requested strict checking.  
Host key verification failed.
```

Login Workstation (4/5)

- ❑ Enter the password
- ❑ The default setting of the number keyboard is closed, please don't use it

```
vlsicad1:/home/user2/ms105/johnc% ssh -X vlsicad5  
johnc@vlsicad5's password: █
```



Login Workstation (5/5)

□ Login successfully

```
#####
#           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.                                   #
#####
Platform = amd64
#####
# Welcome to SoCLab-I !                                             #
# Available Workstations(Solaris): vlsicad1, vlsicad2, vlsicad3     #
# Tools: HSPICE, Laker, Verdi, SOCE, ModelSim, verilogXL, Calibre, #
#       DesignVision                                              #
# Available Workstations(Linux): vlsicad5, vlsicad6, vlsicad9      #
# Tools: MathLab, ColWare2005, verilogXL, gcc/g++                 #
#                                                                    #
# Quota: 100 MB for each account!                                  #
# When leaving, LOGOUT and SHUTDOWN the computer please!         #
# If there r any problem, contact Room 95316 please, thx!         #
# Email: soclab01@lpvlsi.ee.ncku.edu.tw                           #
#####
vlsicad5:/home/user2/ms105/johnc% █
```

Logout Workstation

- Enter “exit” twice to logout workstation and close Terminal

```
#####
#       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.                               #
#####
Platform = amd64
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# Available Workstations(Solaris): vlsicad1, vlsicad2, vlsicad3  #
# Tools: HSPICE, Laker, Verdi, SOCE, ModelSim, verilogXL, Calibre, #
#       DesignVision                                           #
# Available Workstations(Linux): vlsicad5, vlsicad6, vlsicad9   #
# Tools: MathLab, ColWare2005, verilogXL, gcc/g++              #
#                                                                #
# Quota: 100 MB for each account!                               #
# When leaving, LOGOUT and SHUTDOWN the computer please!      #
# If there r any problem, contact Room 95316 please, thx!      #
# Email: soclab01@lpvlsi.ee.ncku.edu.tw                         #
#####
vlsicad5:/home/user2/ms105/johnc% exit
logout
Connection to vlsicad5 closed.
vlsicad1:/home/user2/ms105/johnc% exit
```

Turn off the computer

- ❑ System -> Shut Down -> yes



Common mistakes in SoC Lab

❑ % ssh -X vlsicadY(6,9)

➔ If you key the lowercase **x**, you can still login to the server, but you will have trouble opening the tools (gedit, Verdi, nWave...)

```
Novas Release 2010.10 (Linux x86_64/64bit) 10/01/2010  
Copyright (C) 2009 - 2010 by SpringSoft, Inc.  
rcfile = /usr/cad/spring_soft/verdi/cur/etc/novas.rc  
*WARN* Can't find the environmental XKeysymDB file, use default!  
invalidDisplay::xtInitialize::XtToolkitError::Can't open display:
```

❑ Snapshot using **Alt +**



➔ Allow you to snapshot the current window

❑ SoC Lab's firewall only allows you to connect to Moodle by typing moodle.ncku.edu.tw !!!

❑ After you modify your code, you need to re-simulate and reload your waveform.

❑ Please follow the Lab tutorial, so you won't waste your time.

SoC Lab Regulation (1)

- ❑ Please keep your username and password firmly in min
- ❑ No food or drink in SoC Lab
- ❑ Logout after each use
 - ➔ If you disobey this regulation, we'll notice you at first time.
 - ➔ If you, do it again, we'll lock your account for 7 days, and 14 days at the second violation, and so on.

SoC Lab Regulation (2)

- ❑ Remember to turn off air conditioner in SoC Lab, when nobody is in the room.
- ❑ Don't lock the door when leaving SoC Lab, just close it, please.
- ❑ If you want to leave SoC Lab but the door is closed, please press the button next to the door first.



First Time Login

- ❑ Change your password after first time login
- ❑ If you fail to change your password, logout and login again
- ❑ Please bear your password in mind



Thanks for your participation and attendance !