Lab Session 1
Workstation and SoC Lab Tutorial

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EE

LPHPLAB
VLSI Design LAB

Outline

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

Introduction of workstation

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

Outline

- Introduction of workstation
- Connect to the workstation in the computer classroom
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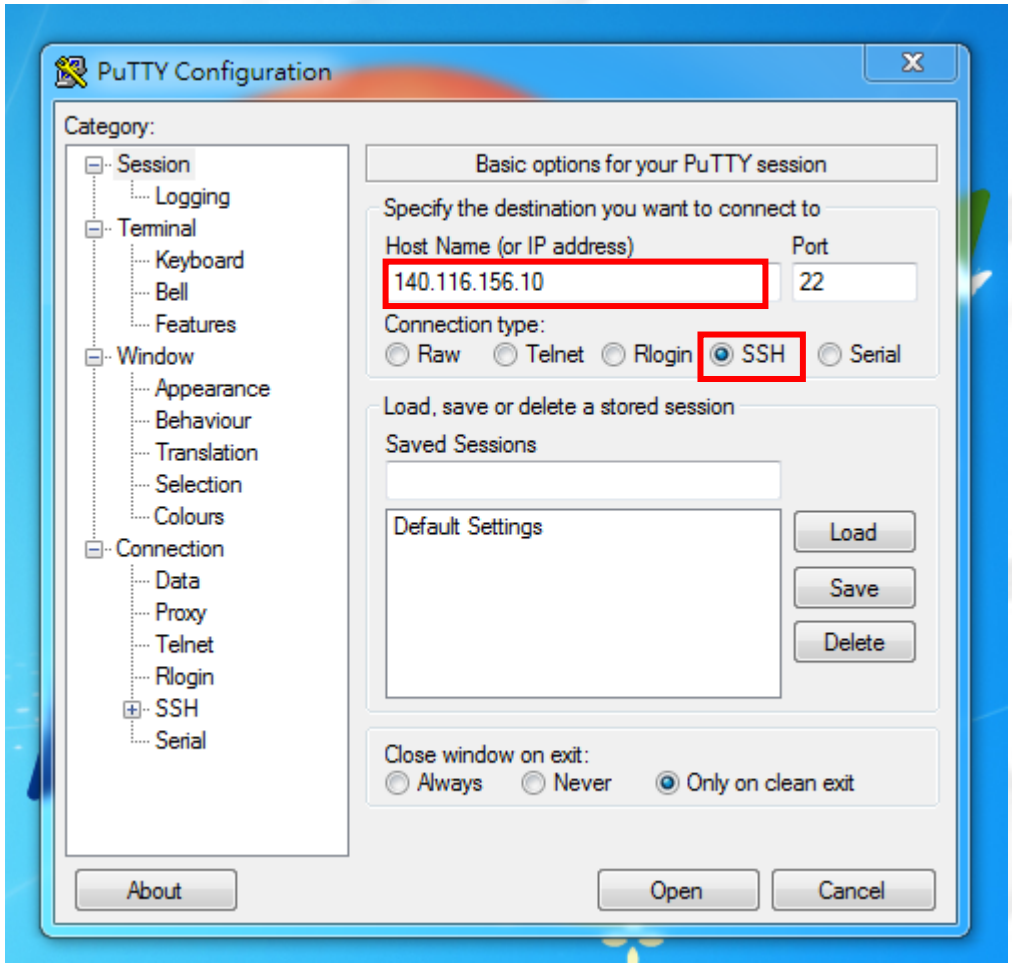
Xming

- Run Xming

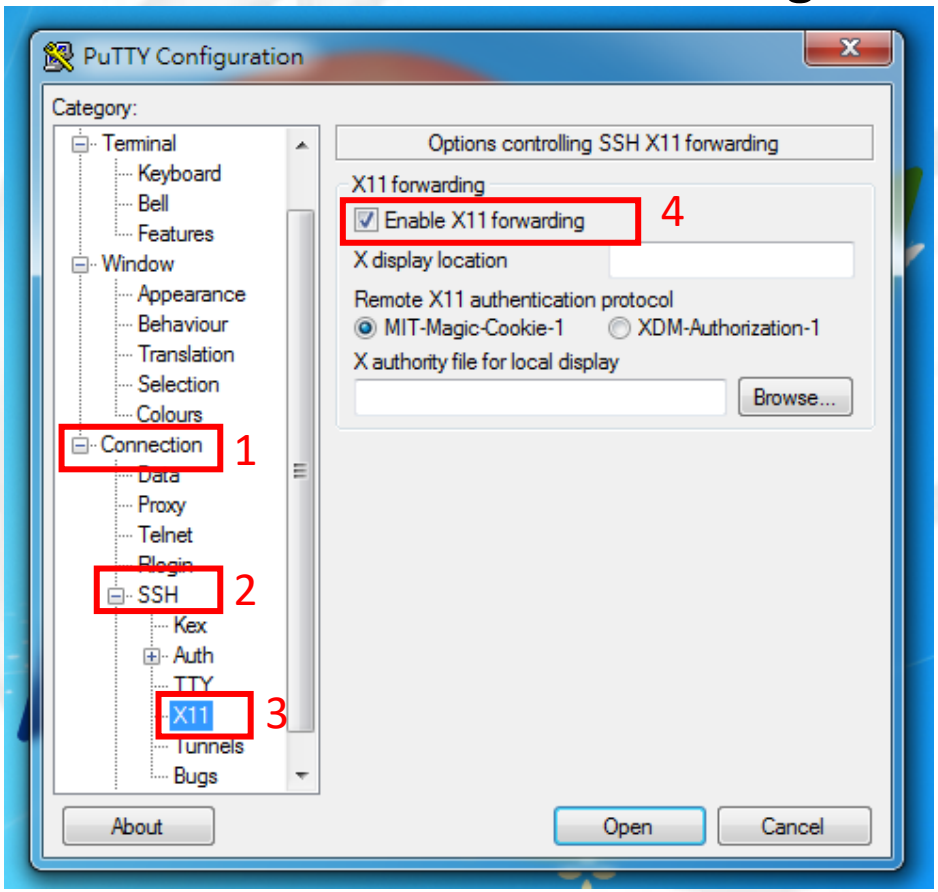
PuTTY Configuration (1)

- Set IP address as 140.116.156.X
- X can be 6, 7, 8 or 10



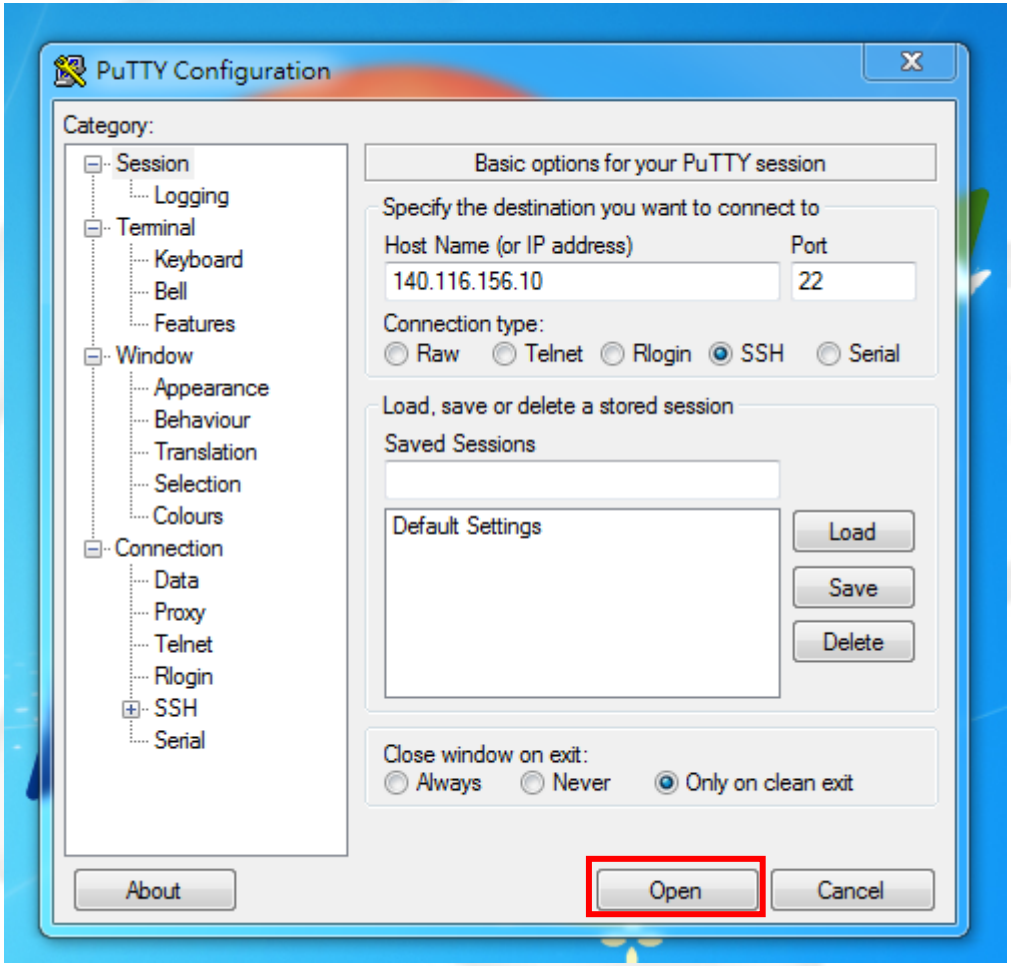
PuTTY Configuration (2)

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



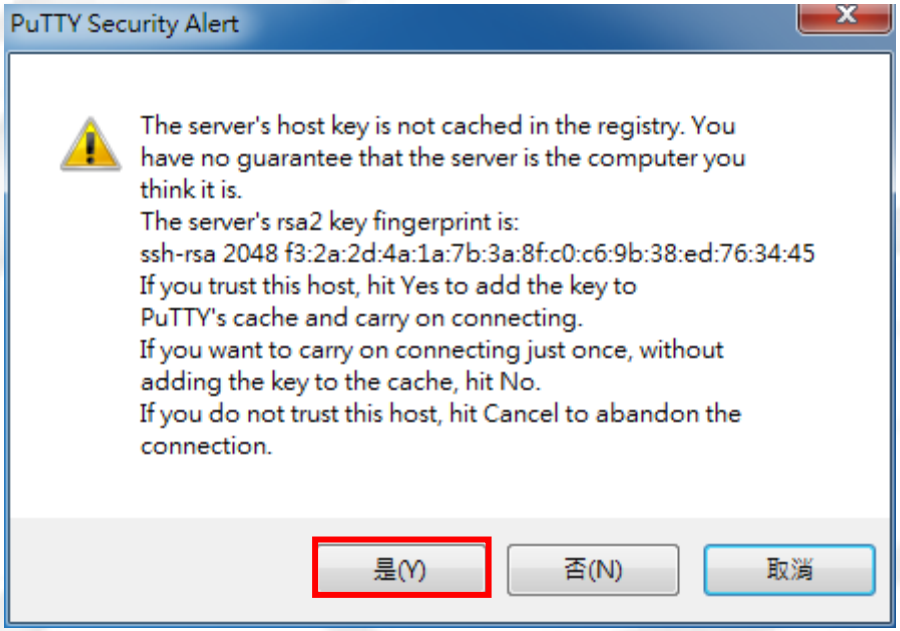
PuTTY Configuration (3)

- Open



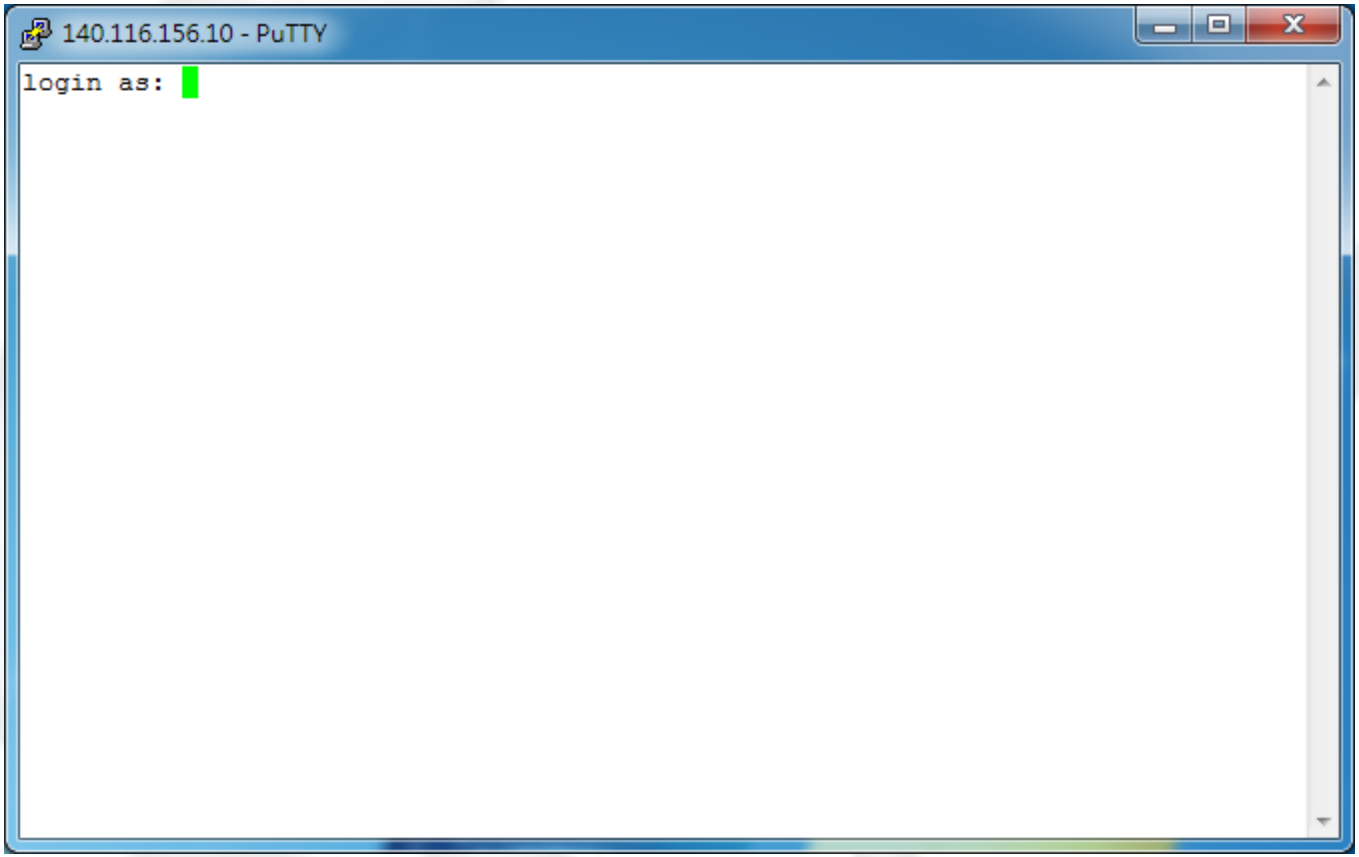
The Host Key

- If this window appear, choose “Y”.



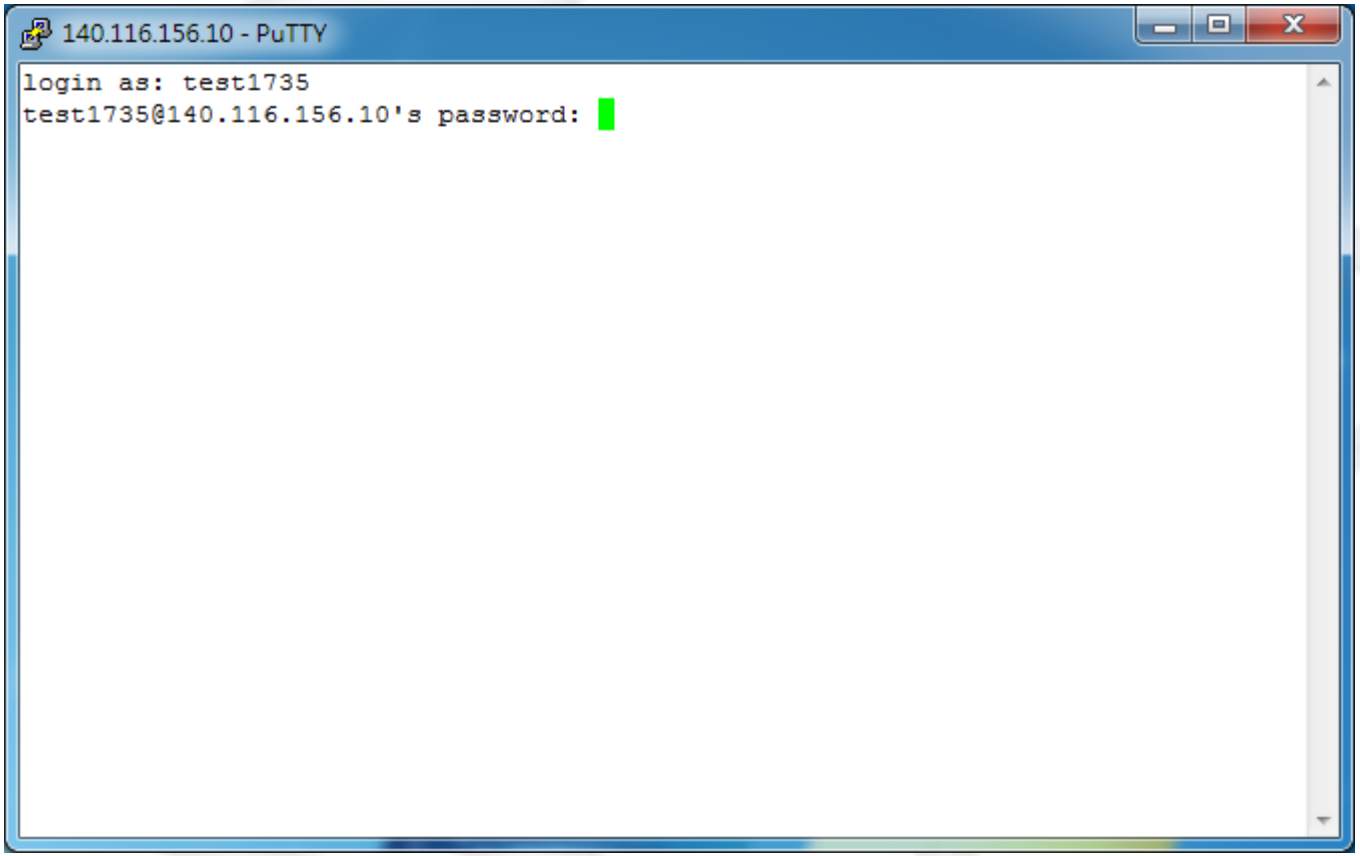
Login (1)

- Enter your username



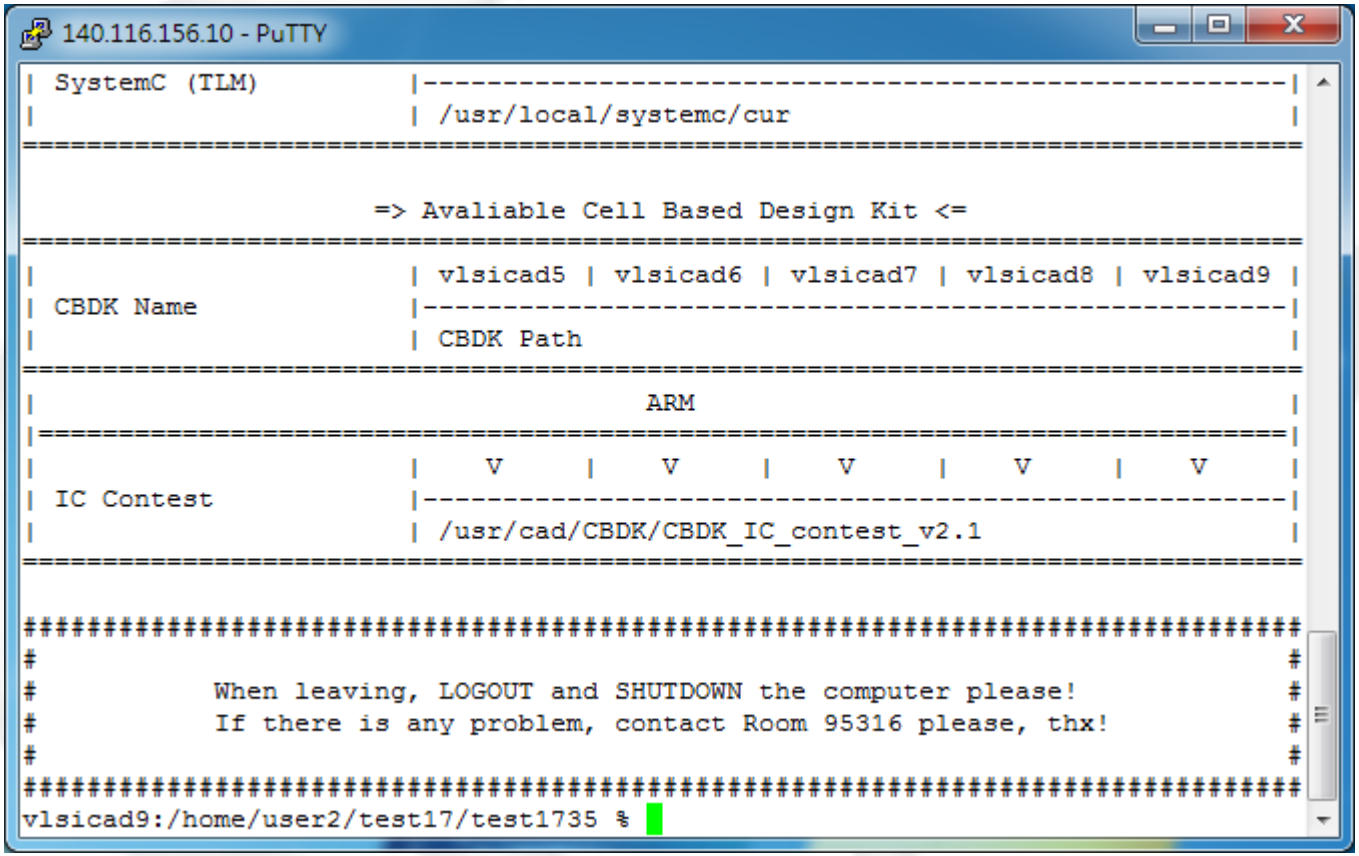
Login (2)

- Enter your password



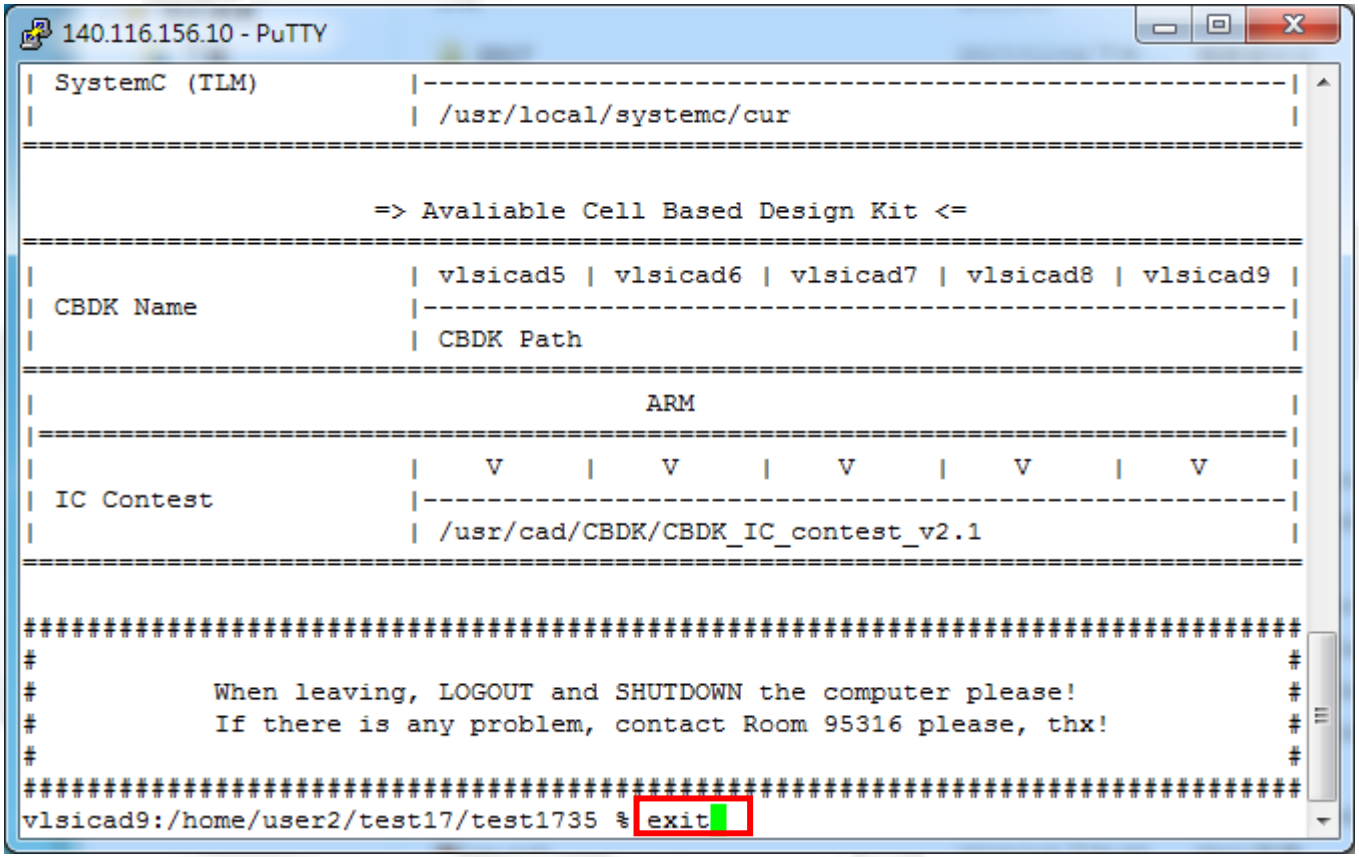
Login (3)

- Login successfully



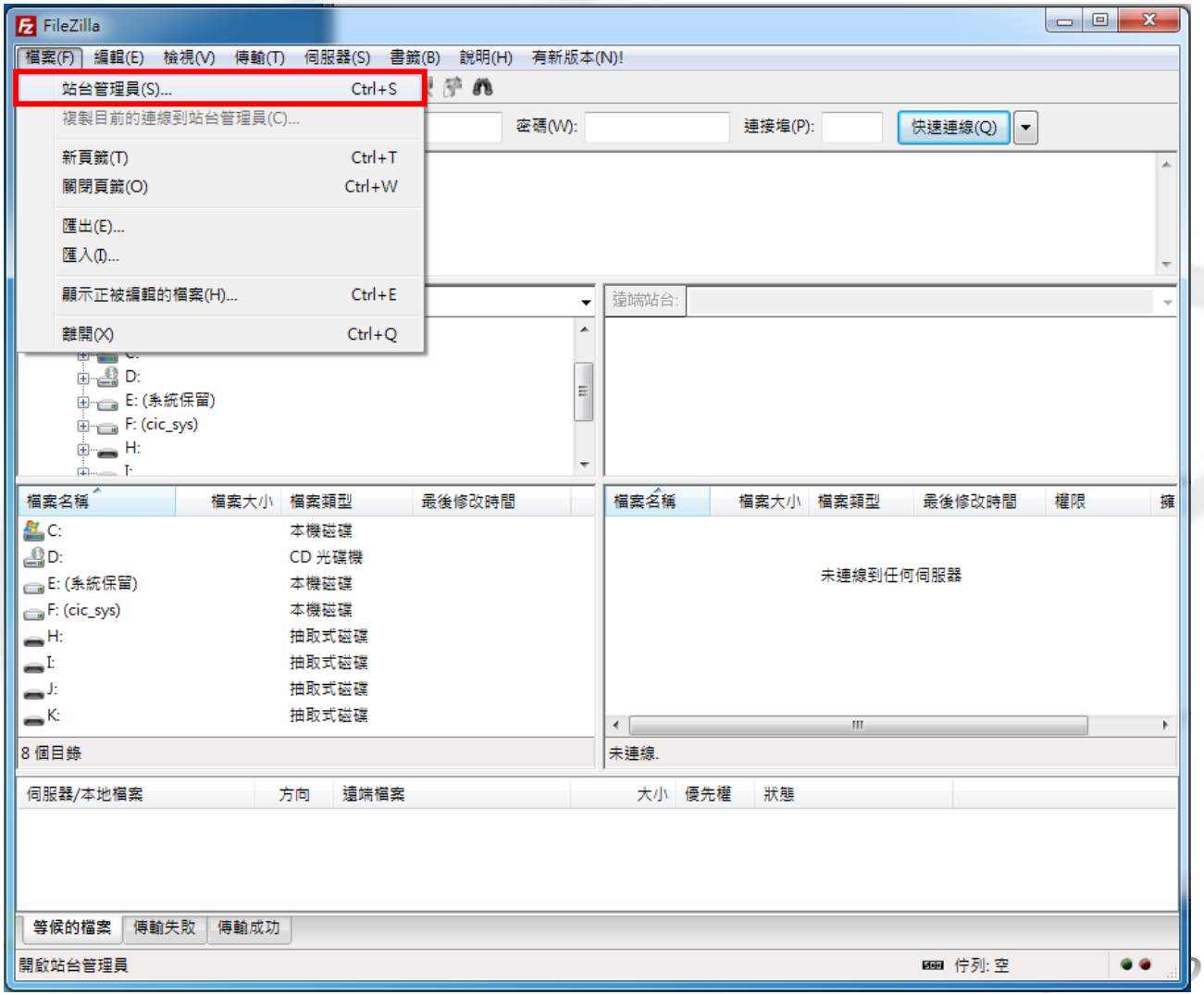
Logout

- enter “exit”



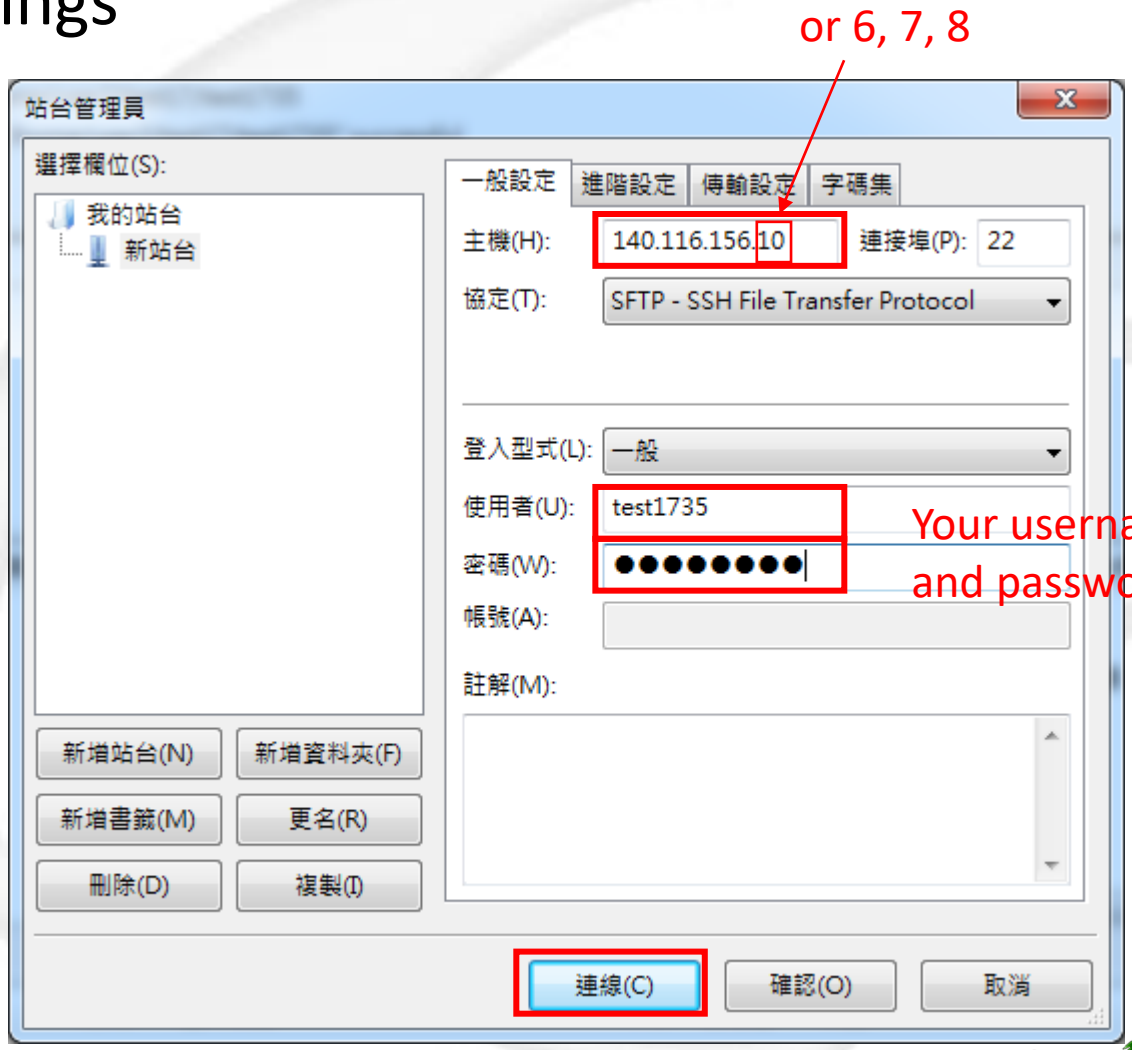
Transmit Files (1)

- Open FileZilla.



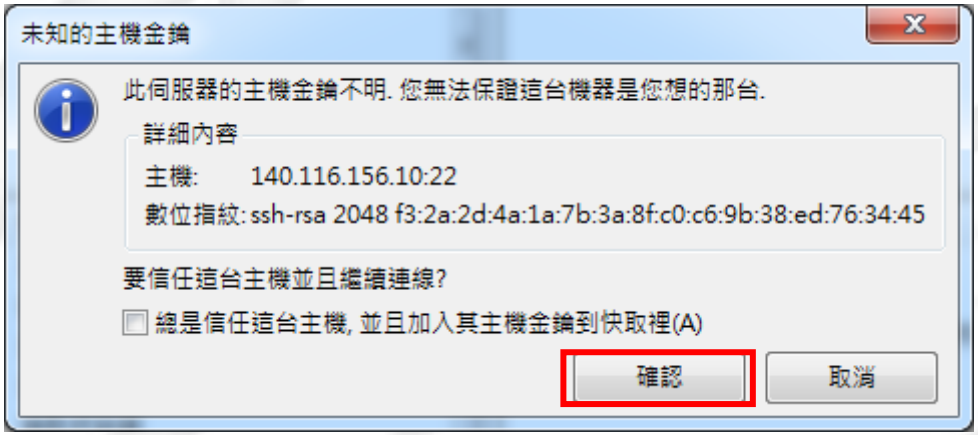
Transmit Files (2)

- Settings



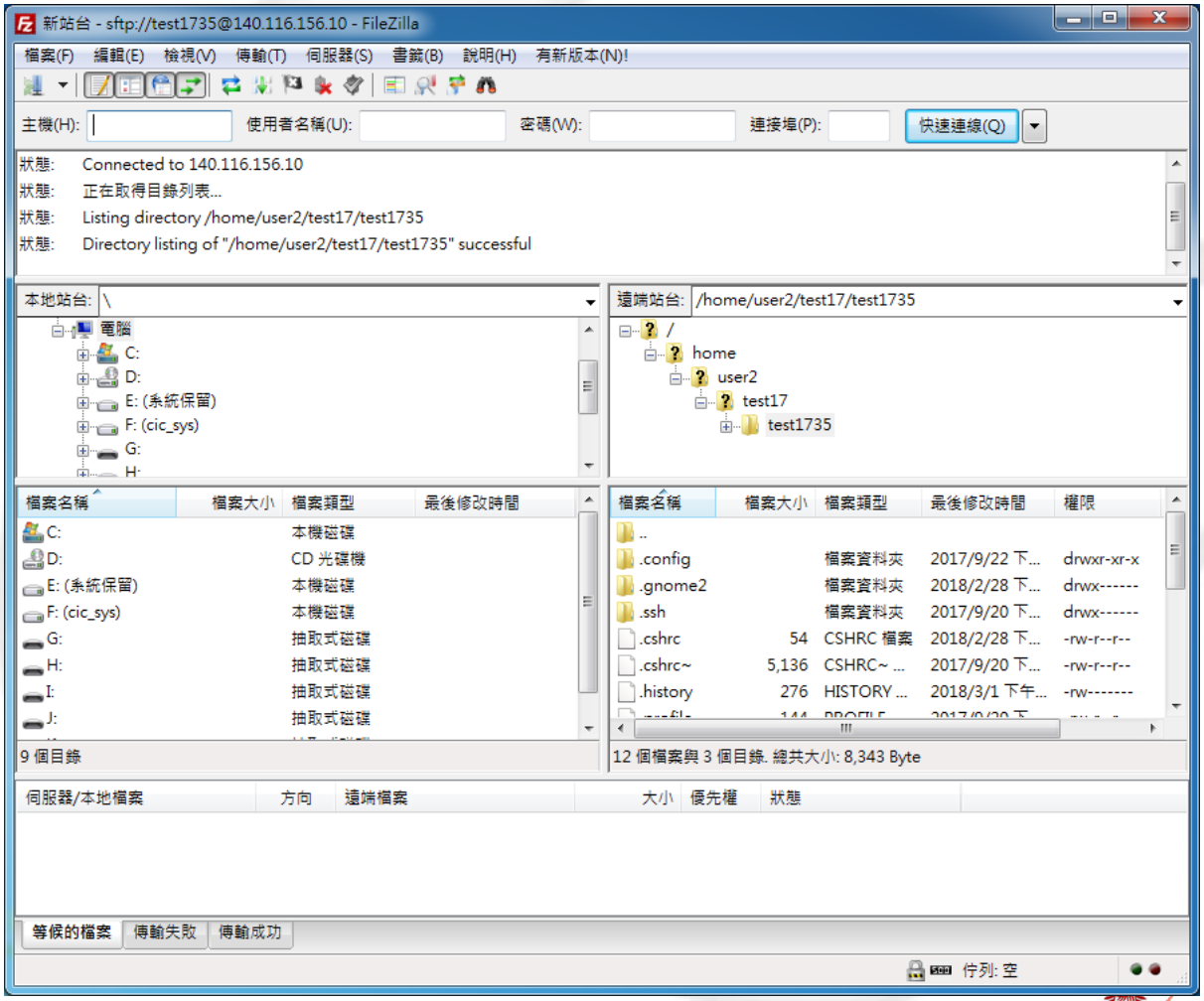
Transmit Files (3)

- If this window appear, choose “確認”.



Transmit Files (4)

- Connect successfully.

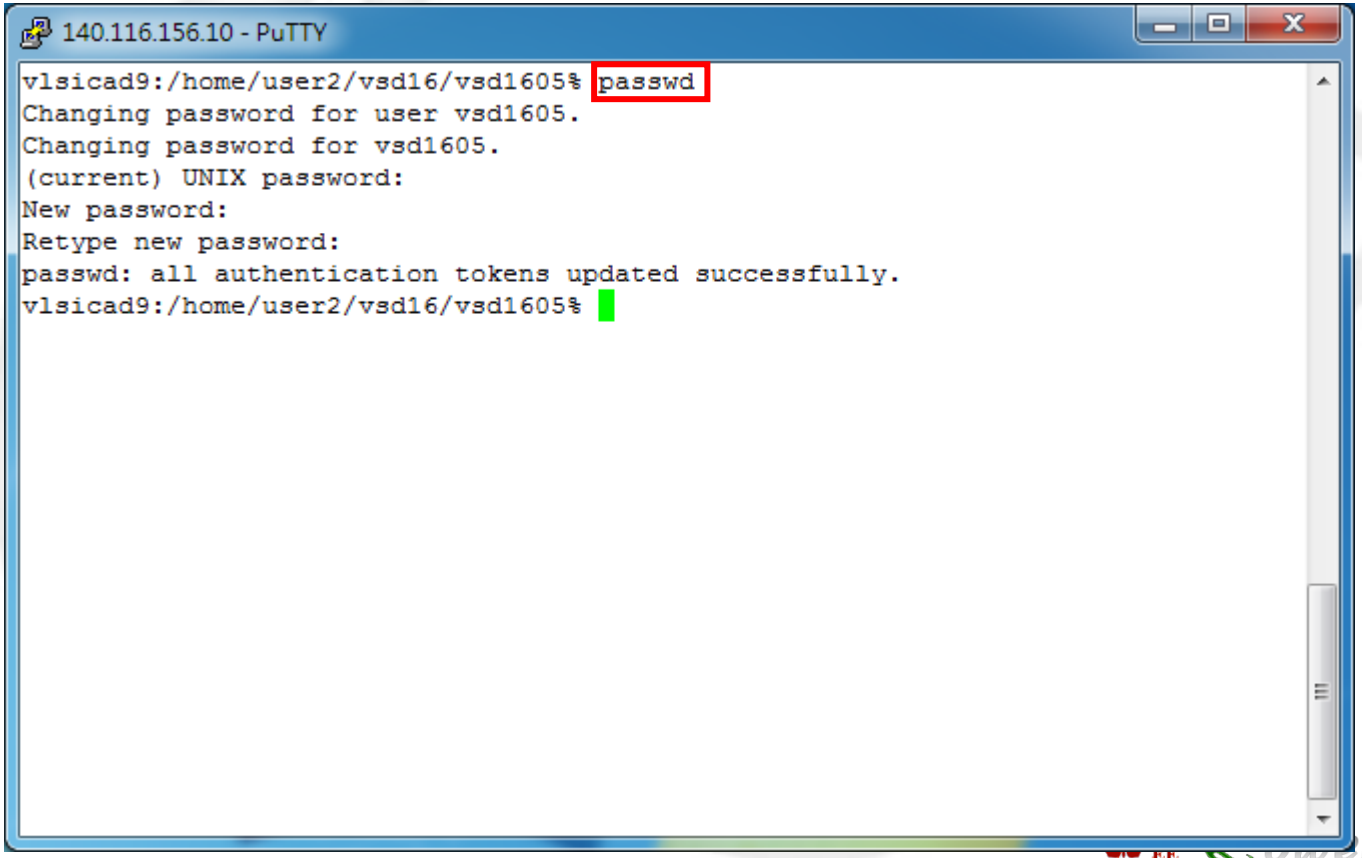


Outline

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

Change your password

- Enter “passwd”, and follow the instructions.
- Please bear your password in mind.



Outline

- Introduction of workstation
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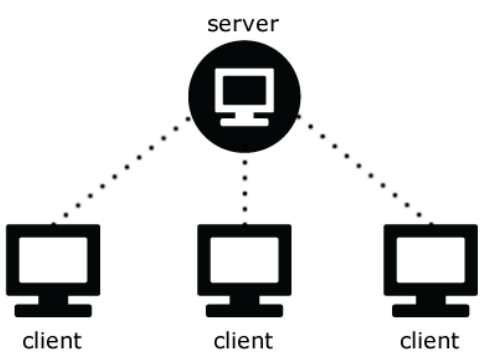
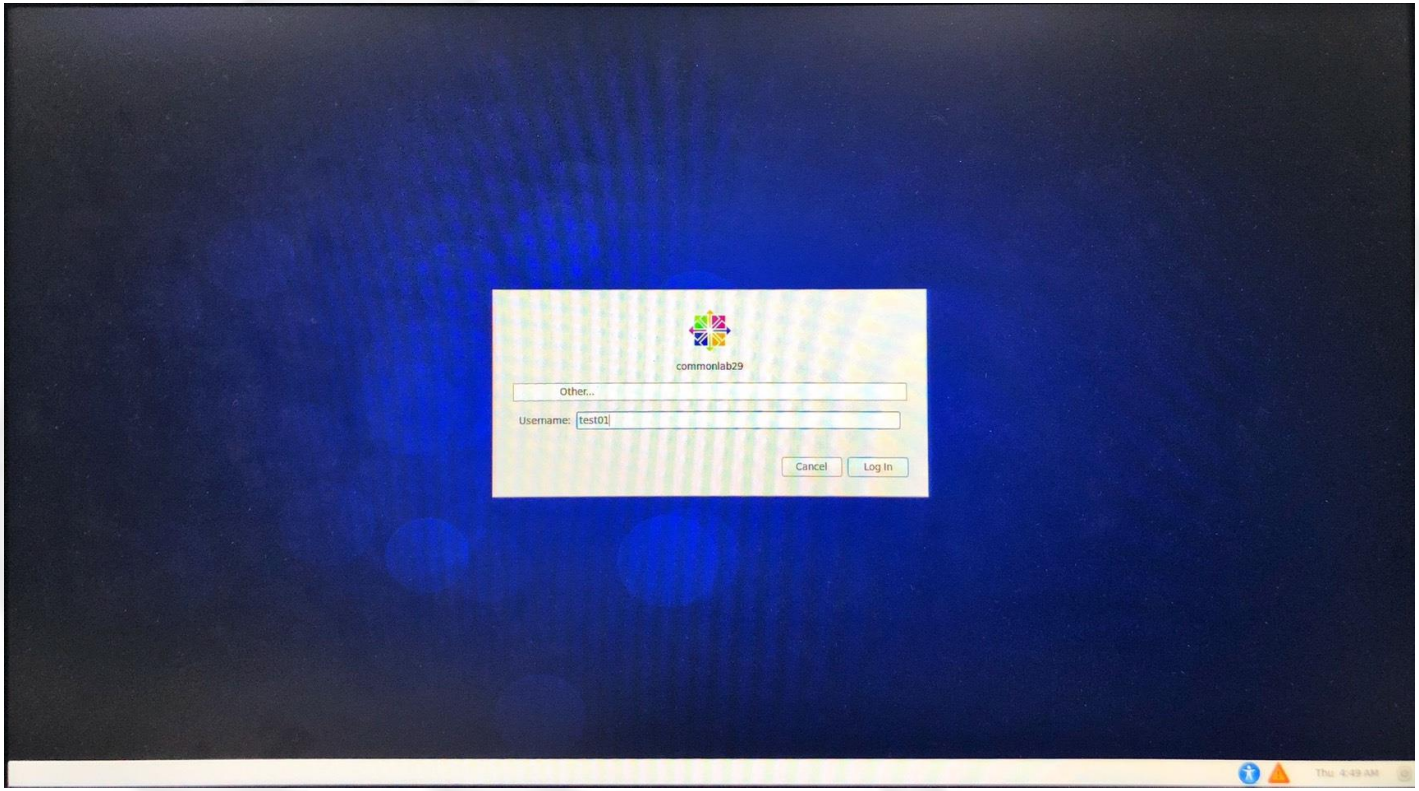
Guide

- Personal computer(client)
  - Linux CentOS
  - Username and password are the same as that in the workstation
- Available workstation(server)
  - vlsicad6
  - vlsicad7
  - vlsicad8
  - vlsicad9



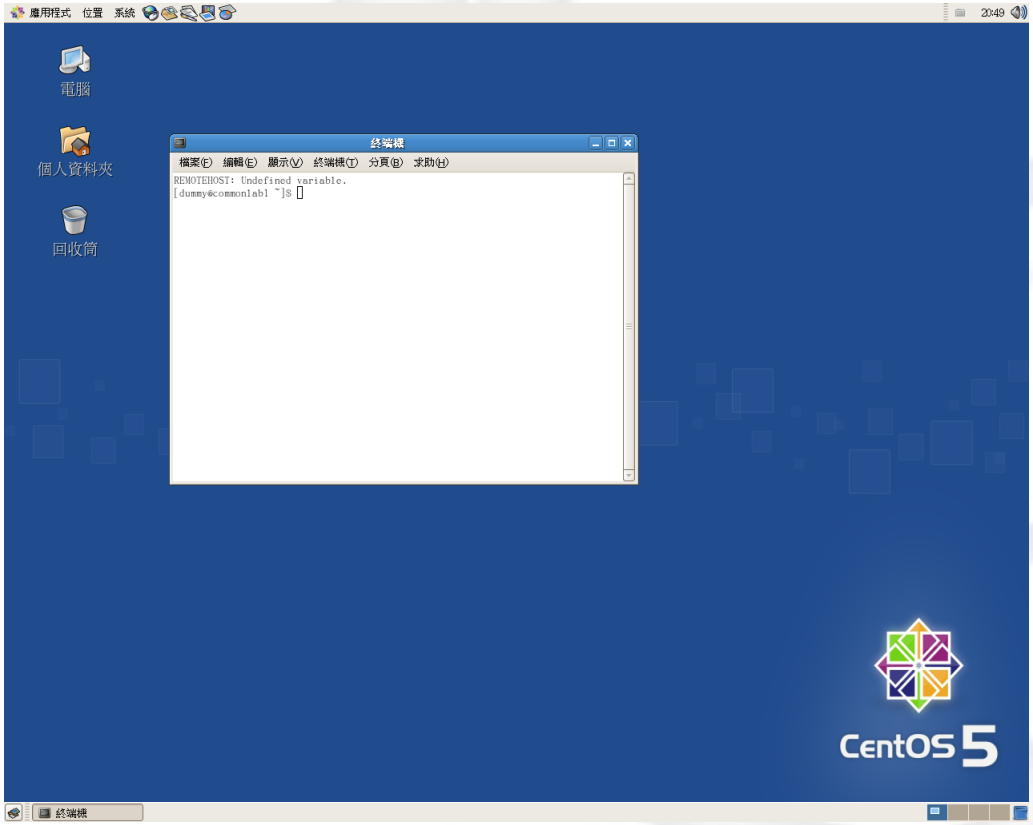
Login in CentOS

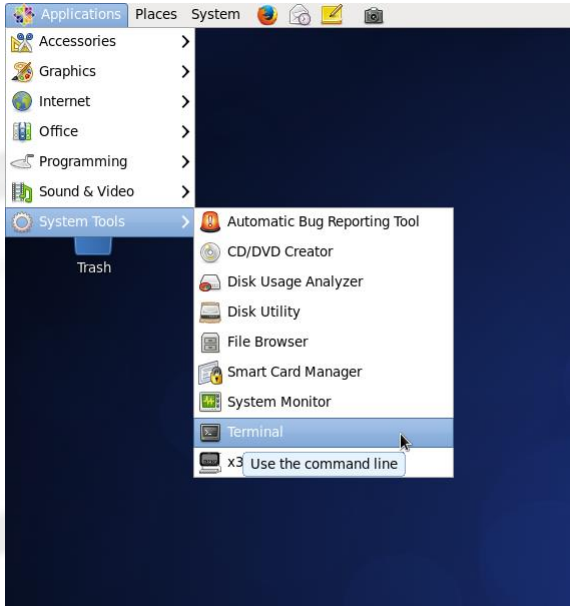
- Username and password are the same as what you use in the computer classroom



Login Workstation (1/5)

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





Login Workstation (2/5)

- Enter "ssh -X vlsicadY " to connect Yth workstation
- -X must be uppercase

```
##########################################################################
# 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, CoWare2005, 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                                  #
##########################################################################
vlsicad1:/home/user2/ms105/johnc% ssh -X vlsicad5
```

- Y can be 6, 7, 8 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
```

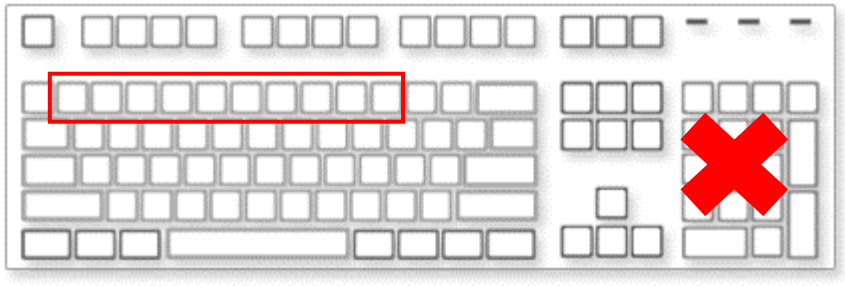
- enter “rm ~/.ssh/known_hosts” when this message appears.

```
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, CoWare2005, 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
#############################################################################
# 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, CoWare2005, verilogXL, gcc/g++                            #
#                                                                           #
# Quota: 100 MB for each account!                                           #
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# 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
```
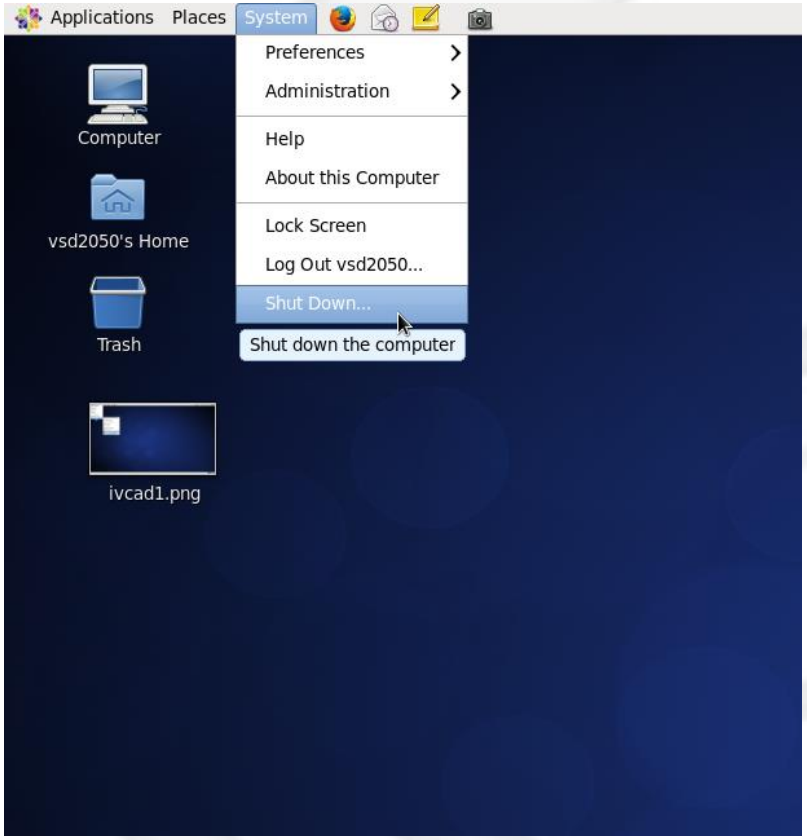

Turn off the computer

- System -> Shut Down-> Yes



Common mistakes in SoC Lab

uppercase X !!!

- % ssh -X vlsicadY(6,7,8,9)
  - ➔ If you key 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 + Print Screen SysRq
  - ➔ 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 resimulate 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 mind
- 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)

- Don’t turn off air conditioner in SoC Lab
- 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.

Thanks for your participation and attendance !