

Tutorial 1

- Connect to Lab231
- Basic commands in Unix/Linux
- File editors
- FTP
- HSPICE

Outline

- **Connect to Lab231**
- Basic commands in Unix/Linux
- File editors
- FTP
- HSPICE

Lab 231 workstation list

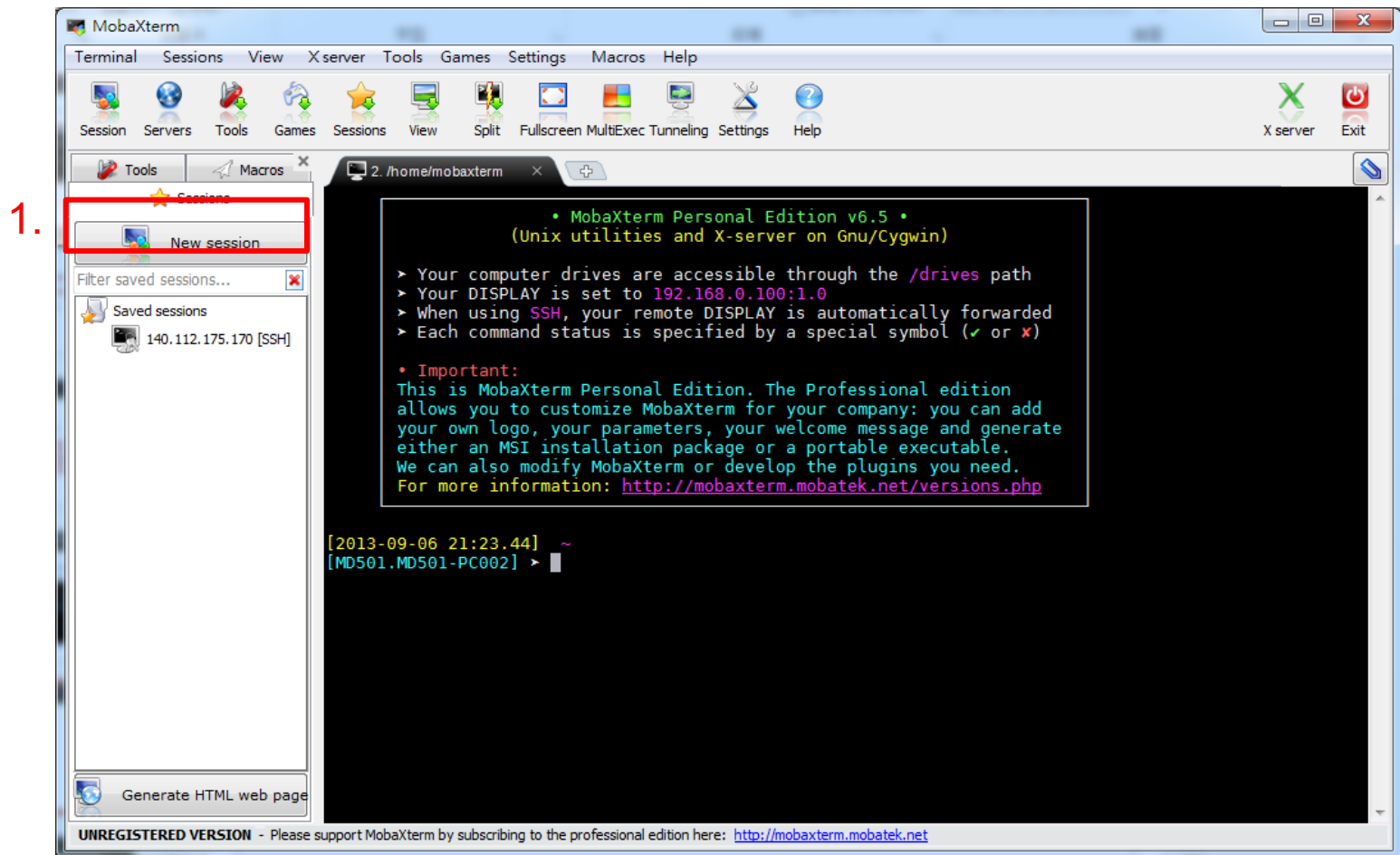
- <http://cad.ee.ntu.edu.tw>

* IP	Name	Type	CPU	CPU Clock	Memory	OS
59	cad16	IBM X3500	Intel Xeon 64	1.2 GHz * 24	40 GB	CentOS 6.10
60	cad17	IBM x260	Intel Xeon 64	1.2 GHz * 24	32 GB	CentOS 6.10
64	cad21	DELL R620	Intel Xeon 64	2 GHz * 32	48 GB	CentOS 6.9
66	cad23	DELL R620	Intel Xeon 64	2 GHz * 16	96 GB	CentOS 6.9
70	cad27	DELL R640	Intel Xeon Silver 4110	2.1 GHz * 32	128 GB	CentOS 6.10
71	cad28	IBM x336	Intel Xeon 64	3.2 GHz	5 GB	
72	cad29	Dell R730	Intel Xeon 64	2.3GHz * 40	336 GB	CentOS 6.10
73	cad30		Intel Xeon 64	1.6GHz * 16	12 GB	CentOS 6.9
74	cad31	DELL R620	Intel Xeon 64	2.2 GHz * 32	48 GB	CentOS 6.9
76	cad33	IBM X3400	Intel Xeon 64	2.4 GHz * 16	100 GB	CentOS 6.9
77	cad34	IBM X3650	Intel Xeon 64	1.6 GHz * 16	16 GB	CentOS 6.9

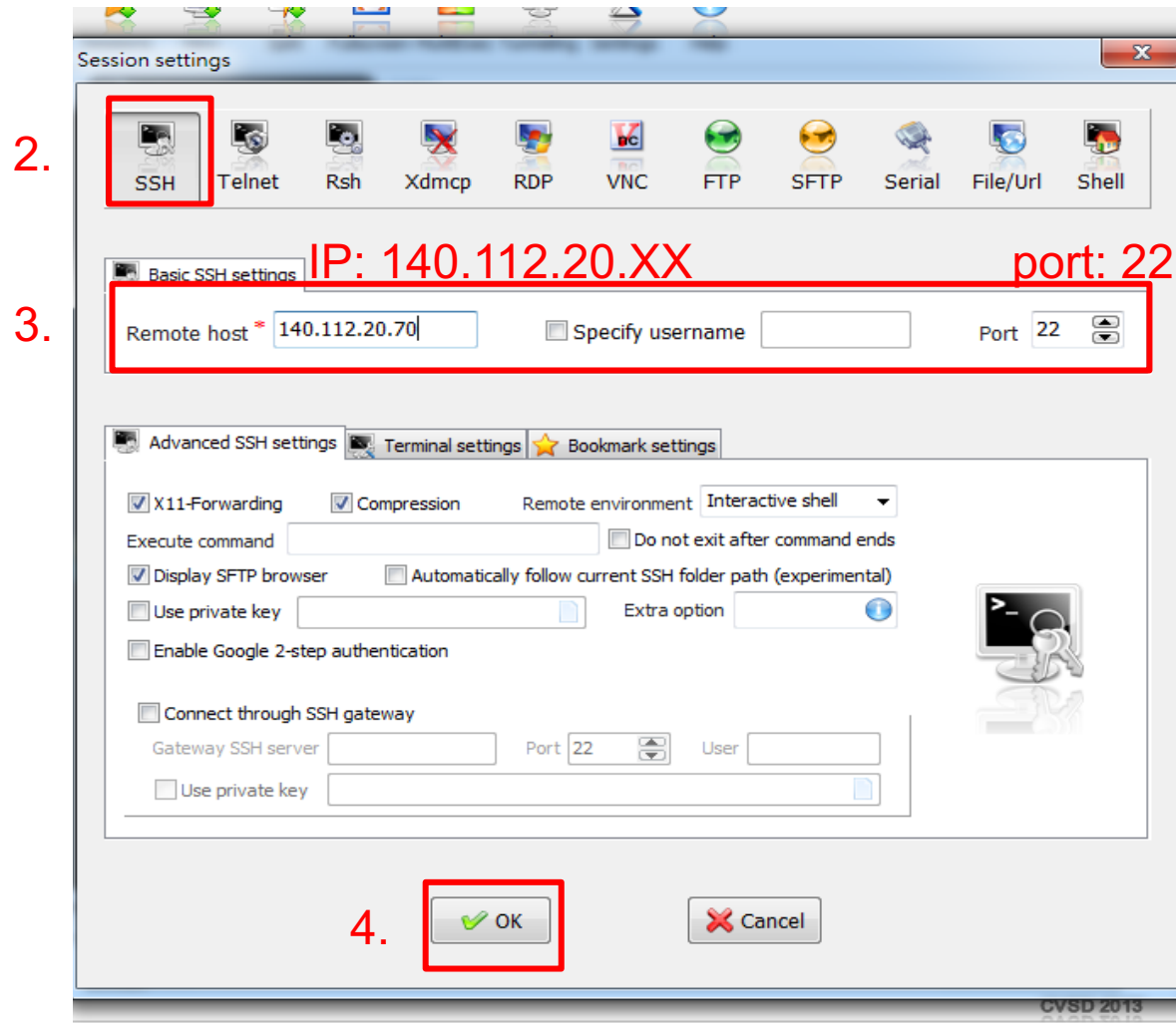
81	cad38	IBM X3650	Intel Xeon 64	2.4 GHz * 16	96 GB	RHEL 5
82	cad39	IBM X3650	Intel Xeon 64	1.2 GHz * 24	40 GB	CentOS 6.9
83	cad40	IBM X3550	Intel Xeon 64	2 GHz * 24	132 GB	CentOS 6.9
84	cad41	IBM X3550	Intel Xeon 64	2.1 GHz * 24	132 GB	CentOS 6
85	cad42	IBM X3500	Intel Xeon 64	2 GHz * 24	32 GB	CentOS 7
86	cad43	IBM X3550	Intel Xeon 64	2.6GHz * 32	148 GB	CentOS 5.11

MobaXterm (1/4)

- MobaXterm = SFTP + SSH + X-server
- New Session

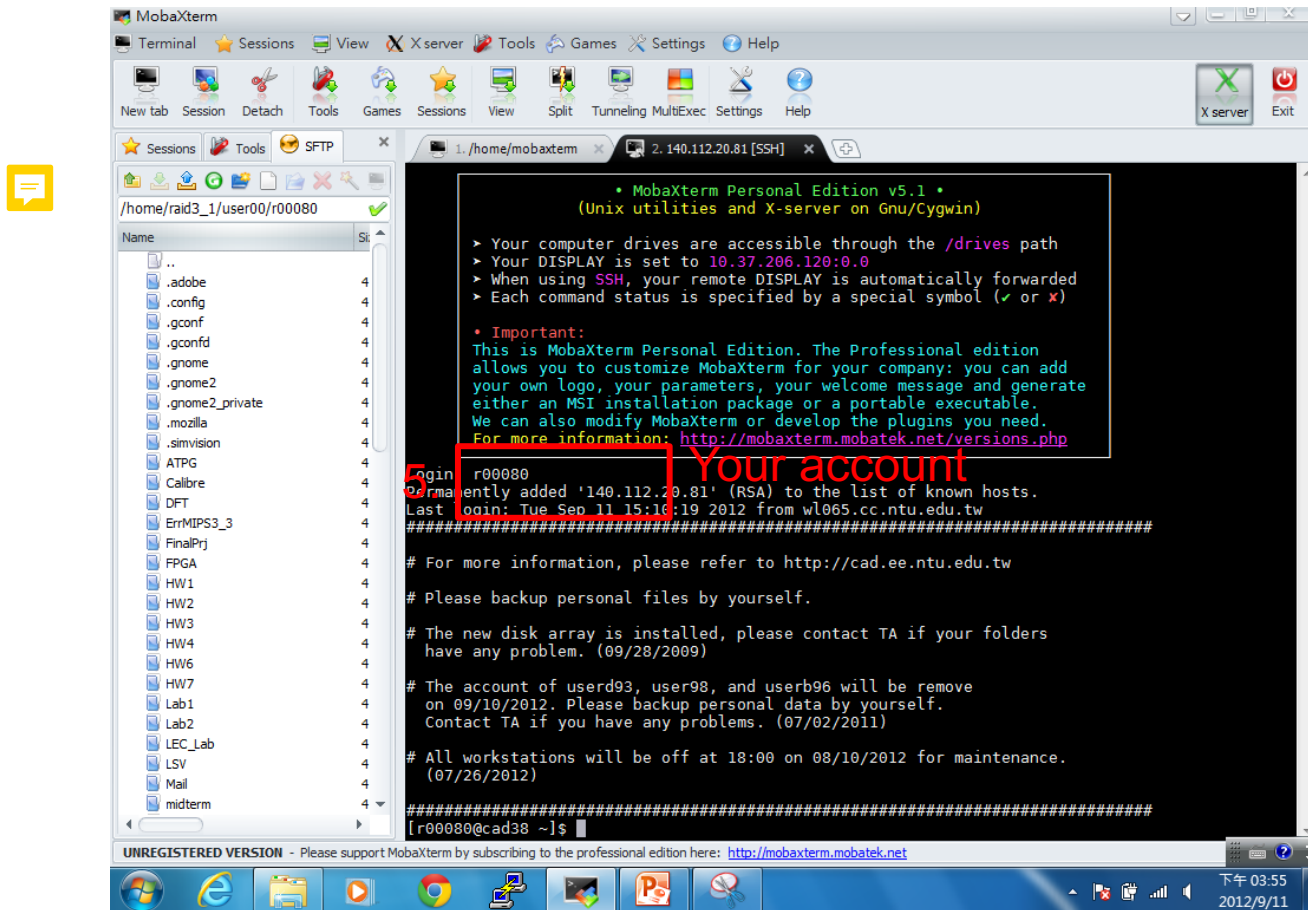


MobaXterm (2/4)



MobaXterm (3/4)

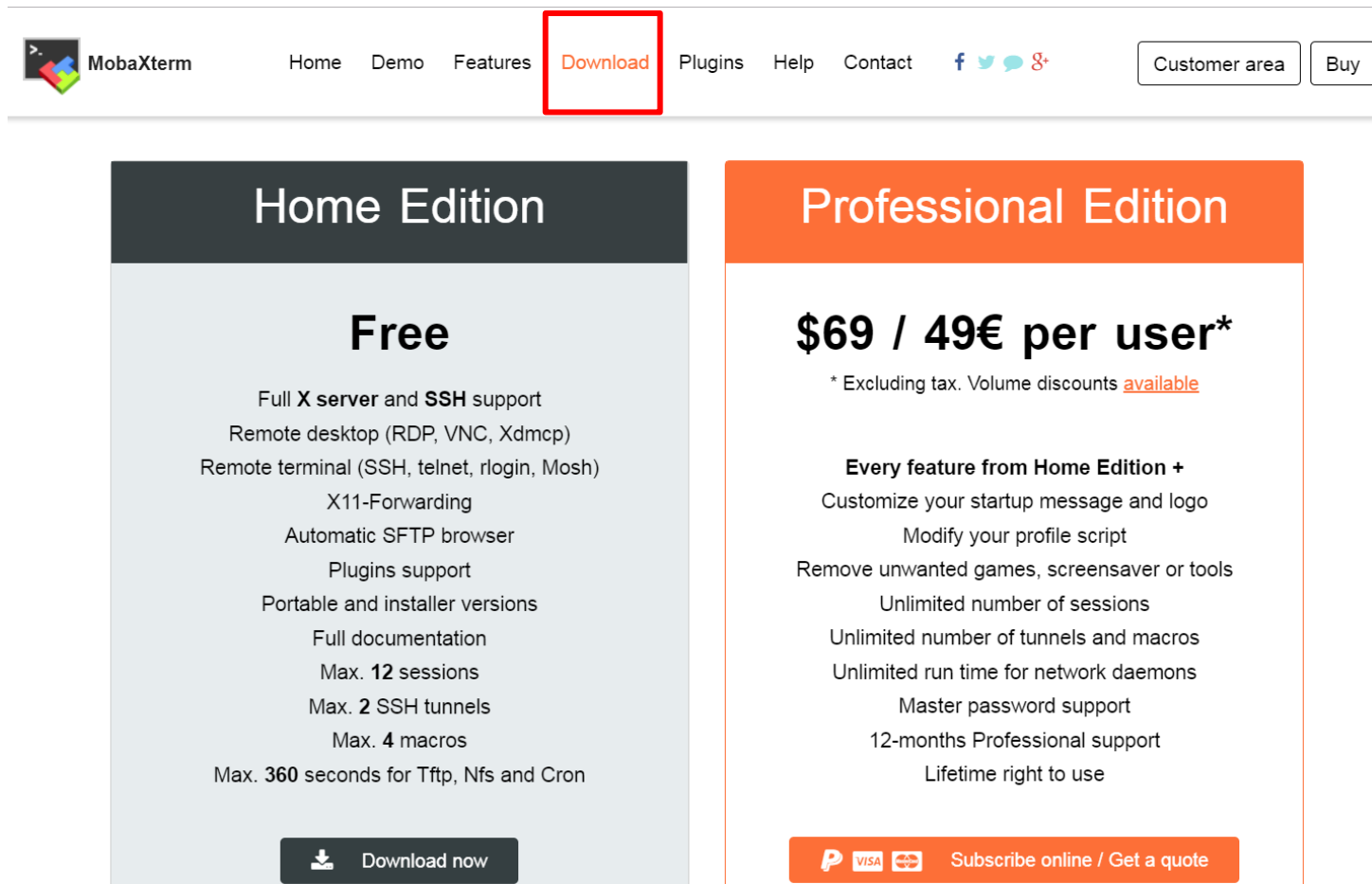
- or enter “ `ssh b02000@140.112.20.70` ” to connect



MobaXterm (4/4)

■ Download :

- ◆ <http://mobaxterm.mobatek.net/>

 MobaXterm

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Remote terminal (SSH, telnet, rlogin, Mosh)
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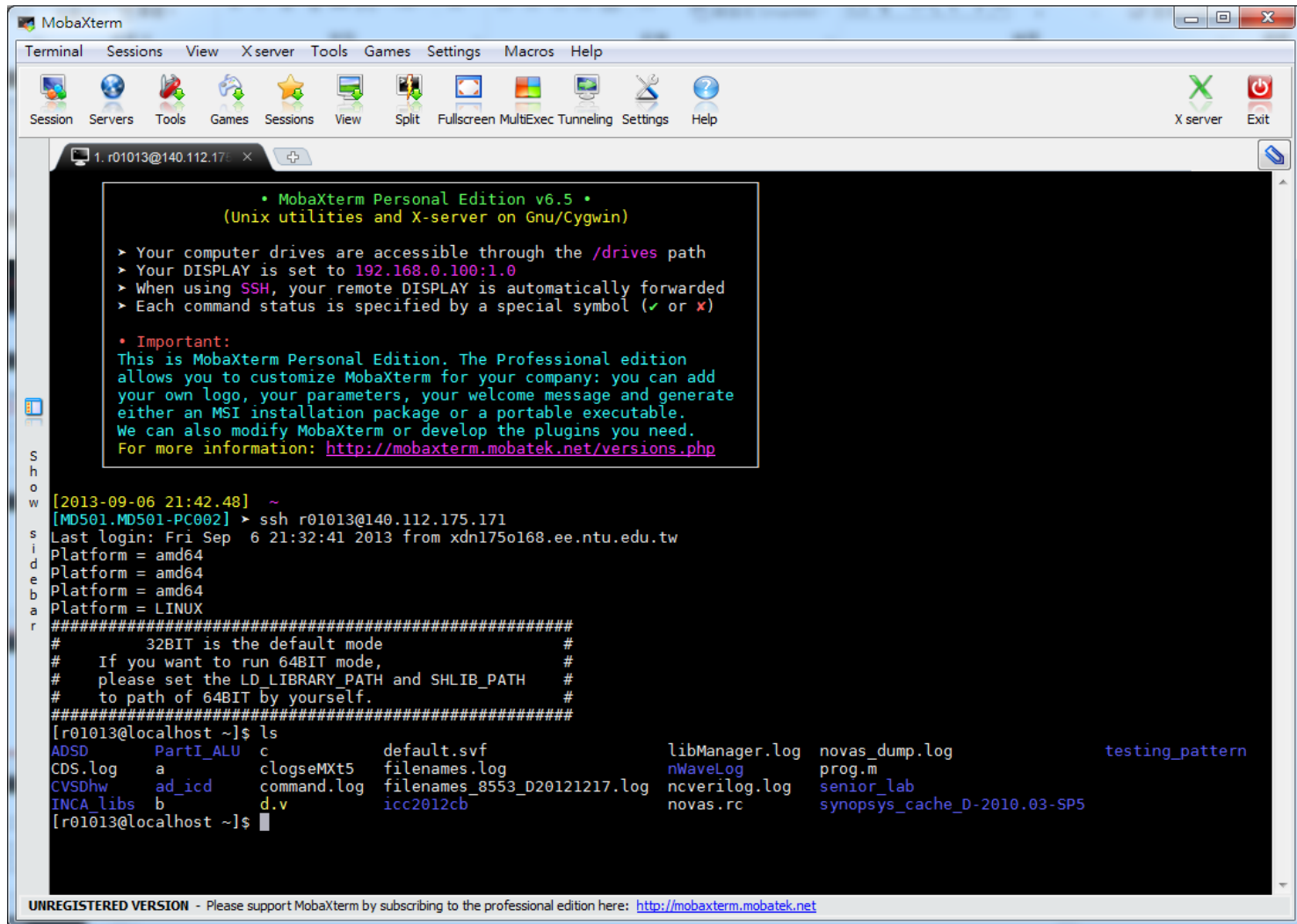
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- File editors
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Environment



The screenshot shows the MobaXterm Personal Edition v6.5 interface. 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
```

Below the welcome message, the terminal shows the output of the 'show' command:

```
[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
```

Then, the 'ls' command is executed, showing a directory listing:

```
[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          senior_lab
CVSDhw    ad_icd    command.log filenames_8553_D20121217.log ncverilog.log  synopsys_cache_D-2010.03-SP5
INCA_libs b         d.v         icc2012cb       novas.rc
```

The terminal prompt is now [r01013@localhost ~]\$.

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

Basic commands (1/5)

■ Files

- ◆ `ls` : lists your files
- ◆ `ls -l` : lists your files in long format
- ◆ `ls -a` : lists all files, including the ones whose filename beginning in a dot
- ◆ `cp src-filename dest-filename` : copy files
- ◆ `mv src-filename dest-filename` : move/rename files
- ◆ `rm filename` : delete this file
- ◆ `more filename` : show the content of the file
- ◆ `less filename` : show the content of the file

Basic commands (2/5)

■ Directories

- ◆ `mkdir dirname` : make a new directory
- ◆ `cd dirname` : change directory
- ◆ `cd ..` : go up one 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 (3/5)

■ Compress

- ◆ `tar cvf filename.tar filename/dirname`
- ◆ `tar czvf filename.tar.gz filename/dirname`



■ Decompress

- ◆ `tar xvf filename.tar`
- ◆ `tar xzvf filename.tar.gz`

Basic commands (4/5)

■ Processes

- ◆ `ctrl +c` : kill foreground process
- ◆ `ps` : report processes and their pid numbers
- ◆ `kill pid#`: kill the process with the *pid#*

■ Logout

- ◆ `exit`

■ More options about command

- ◆ `man command-name`: display on-line manual pages



Basic commands (5/5)

■ Reference

◆ Chinese

- 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>
- <http://www.computerhope.com/unix/overview.htm>

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- HSPICE

Recommend editors

- Notepad ++
- VS coder
- Vim

Vim (1/5)

- 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

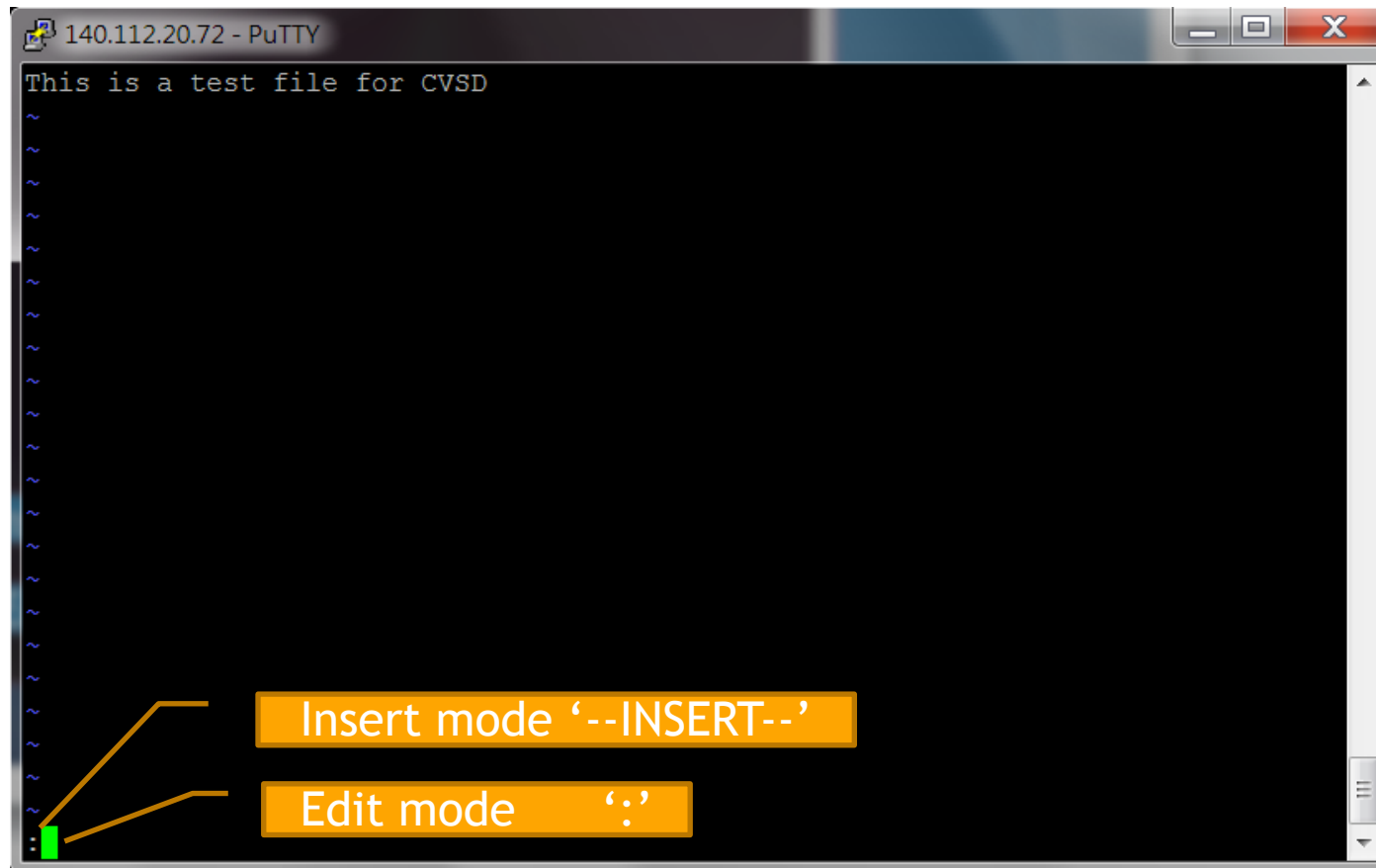
Vim (2/5)

- Three major modes
 - ◆ common mode (c-mode)
 - ◆ Insert mode (i-mode)
 - ◆ Edit mode (e-mode)

- Change modes
 - ◆ i-mode <----- c-mode -----> e-mode
(key: 'i') (key: ':')
 - ◆ i-mode -----> c-mode <----- e-mode
(key: esc) (key: esc)

Vim (3/5)

■ vim test.txt



Vim (4/5)

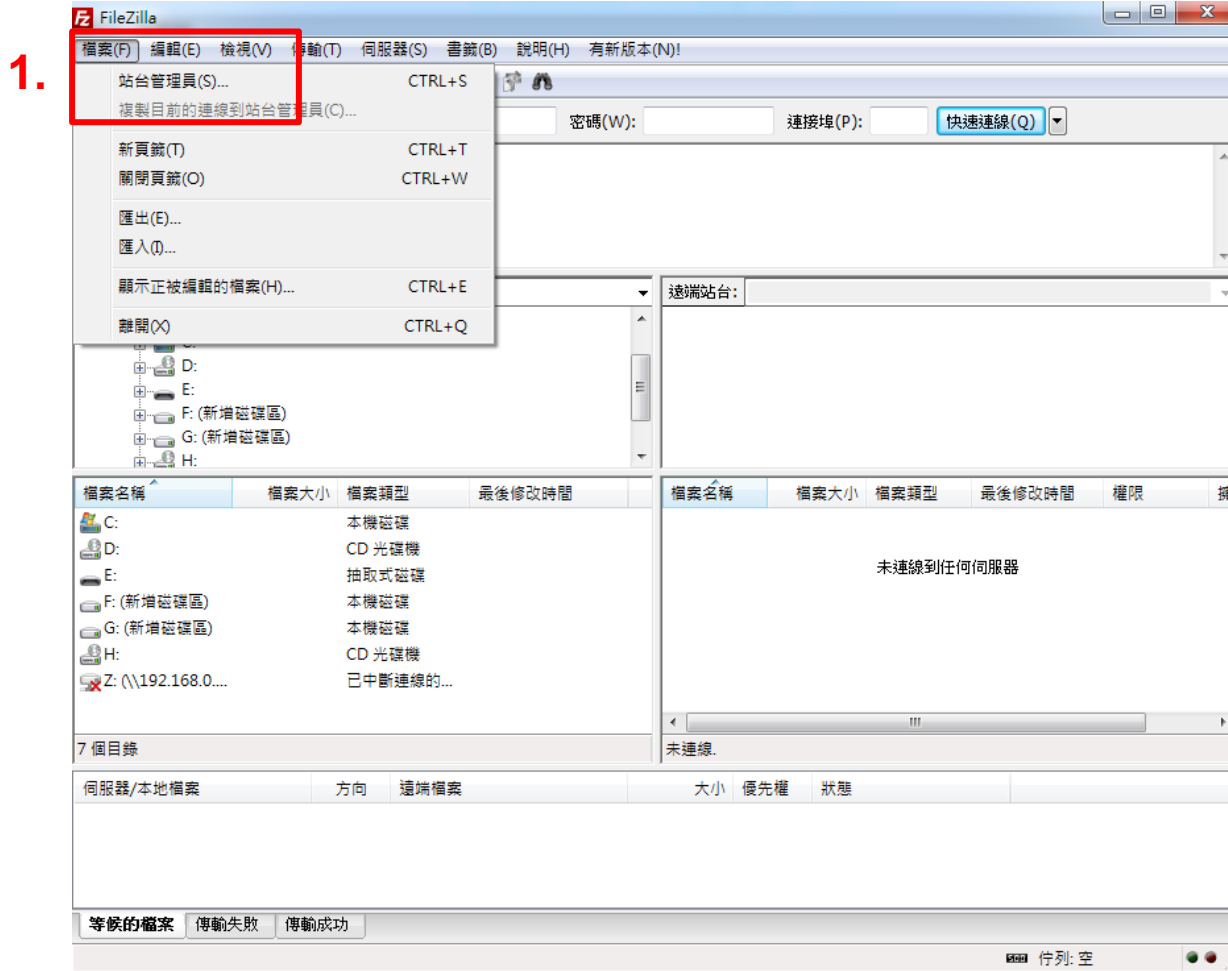
- Basic command in c-mode
 - ◆ Key 'dd' : delete the whole line
 - ◆ Key 'u' : undo
 - ◆ Key 'i' : enter insert-mode
 - ◆ Key ':w' + enter : save a document
 - ◆ Key ':q' + enter : quit without saving
 - ◆ Key ':wq' + enter : save and quit at the same time
 - ◆ Key ':q!' + enter : discard changes and quit
 - ◆ Key ':w *new_filename*' + enter : save as new-filename

Outline

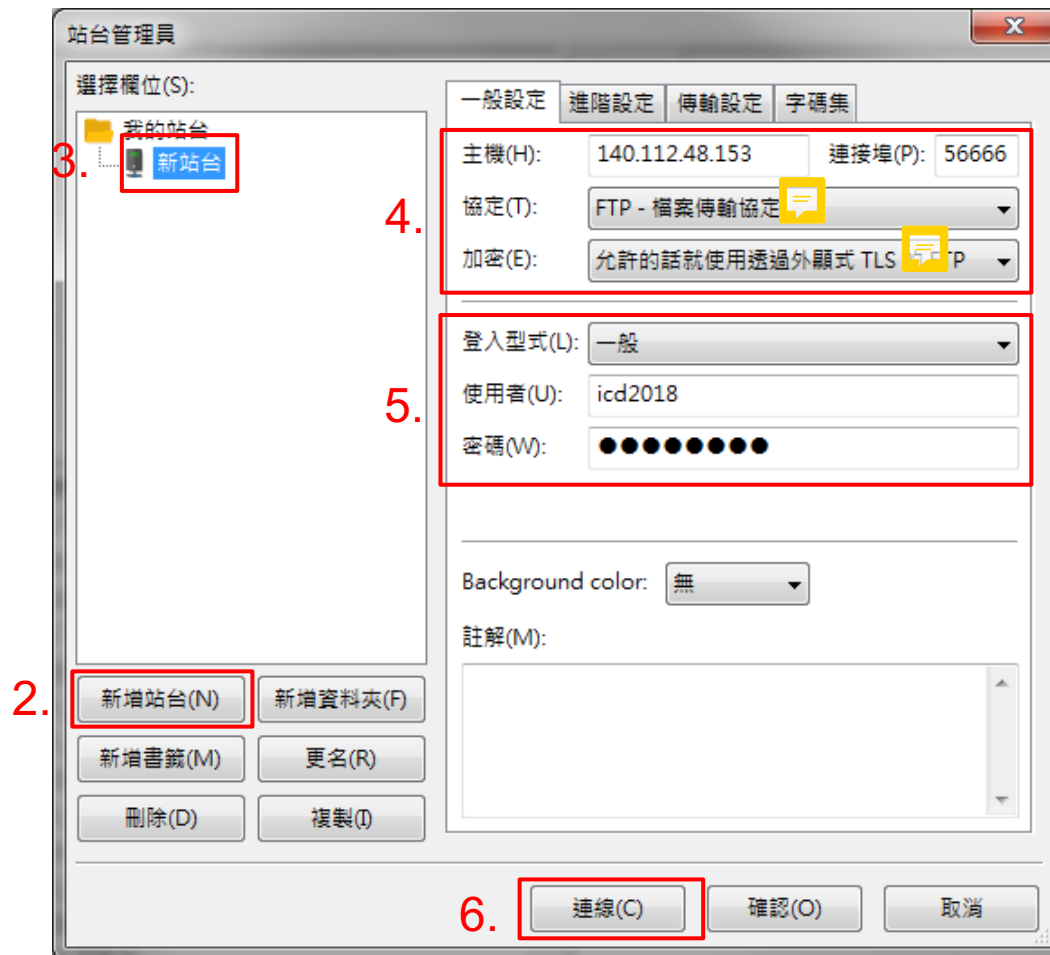
- Connect to Lab231
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- File editors
- **FTP**

FileZilla (1/5)

- Choose 檔案 → 站台管理員



FileZilla (2/5)

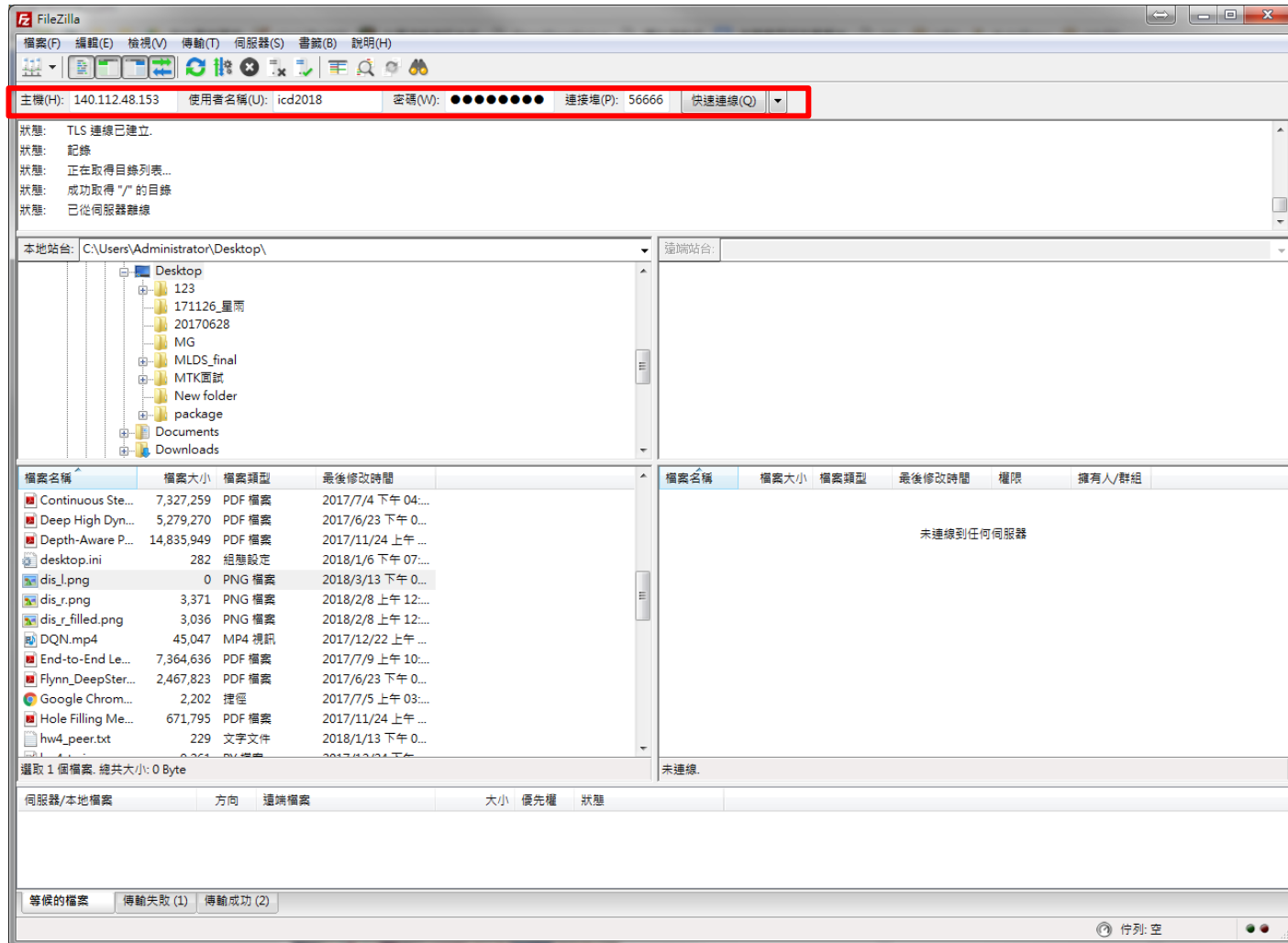


IP
port: 22 (for lab 231)

User name
password

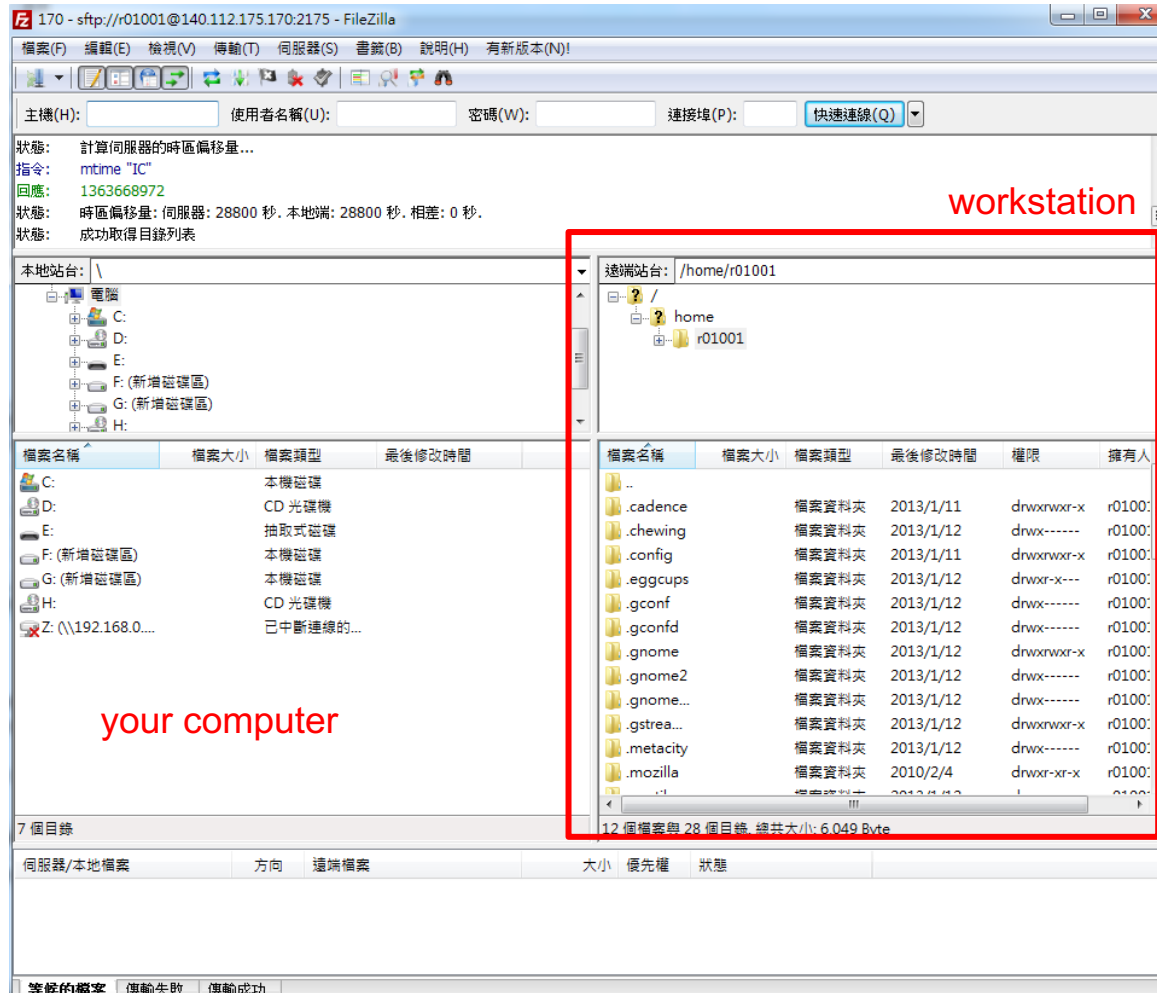
FileZilla (3/5)

Fast login



FileZilla (4/5)

- You will see your file in the window



FileZilla (5/5)

- Download :

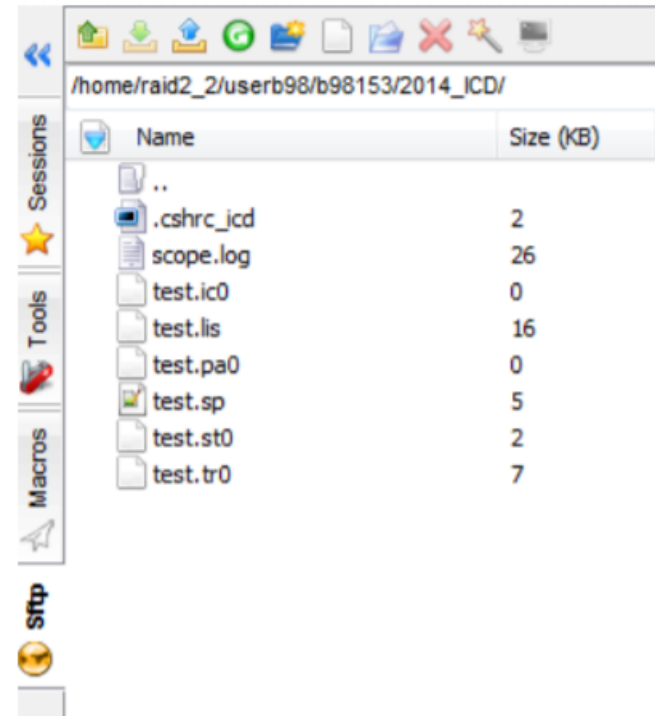
<http://sourceforge.net/projects/filezilla/files/>

Outline

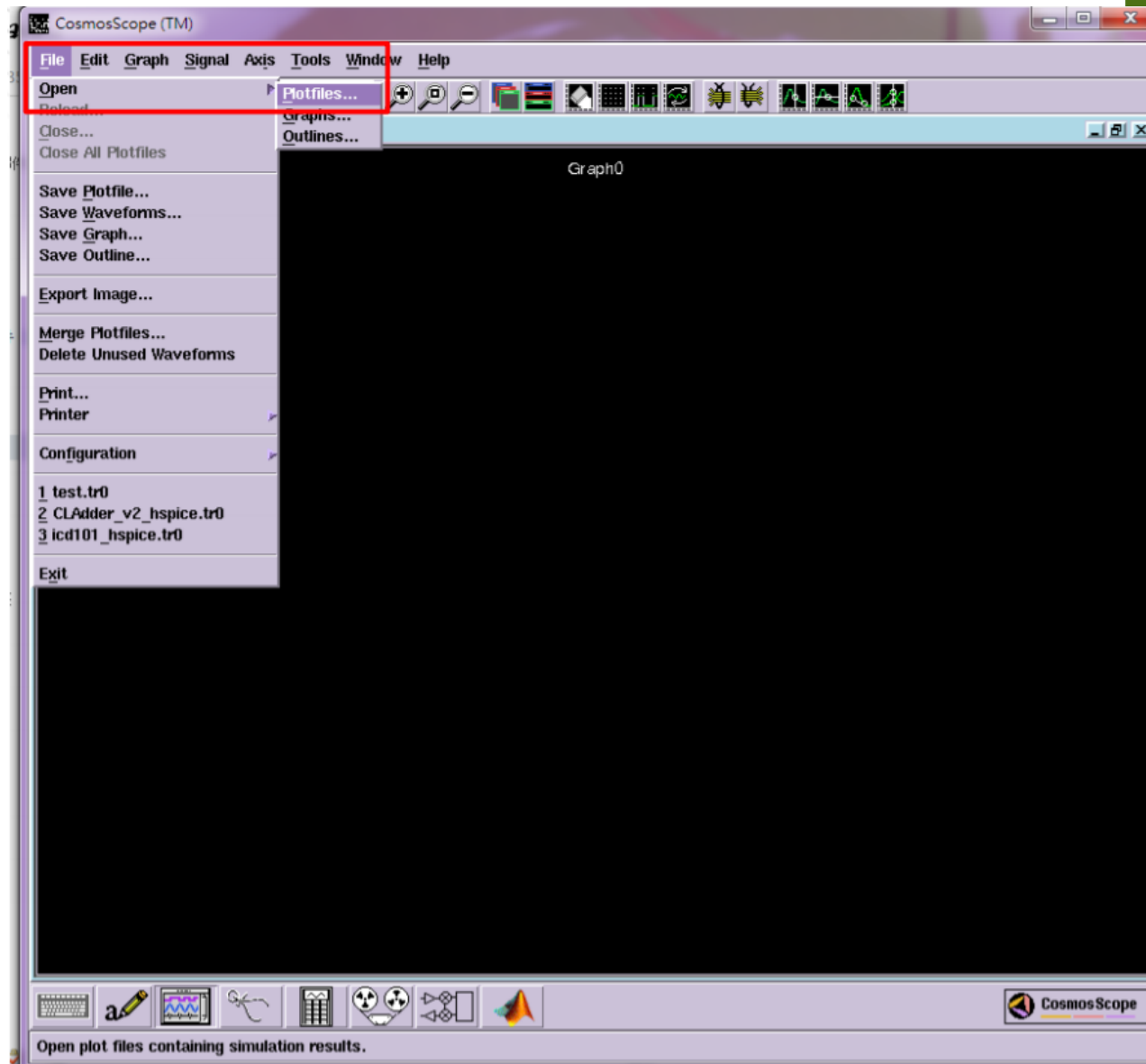
- Connect to Lab231
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- **HSPICE**

Basic operation

- Prepare an input file (netlist + model)
 - test.sp
- Source HSPICE and COSMOS scope
 - source /usr/cad/synopsys/CIC/hspice.cshrc
 - source /usr/cad/synopsys/CIC/cosmos_scope.cshrc
- Run HSPICE
 - hspice -i test.sp -o
 - -i : input file -o: output result
- Open COSMOS scope
 - scope &



Cosmos Scope (1)



Cosmos Scope (2)

