

# EE 323002

## Lab 1 - Part a: UNIX Setup and Cadence Basic

Version 1.0 (Sept 2023)

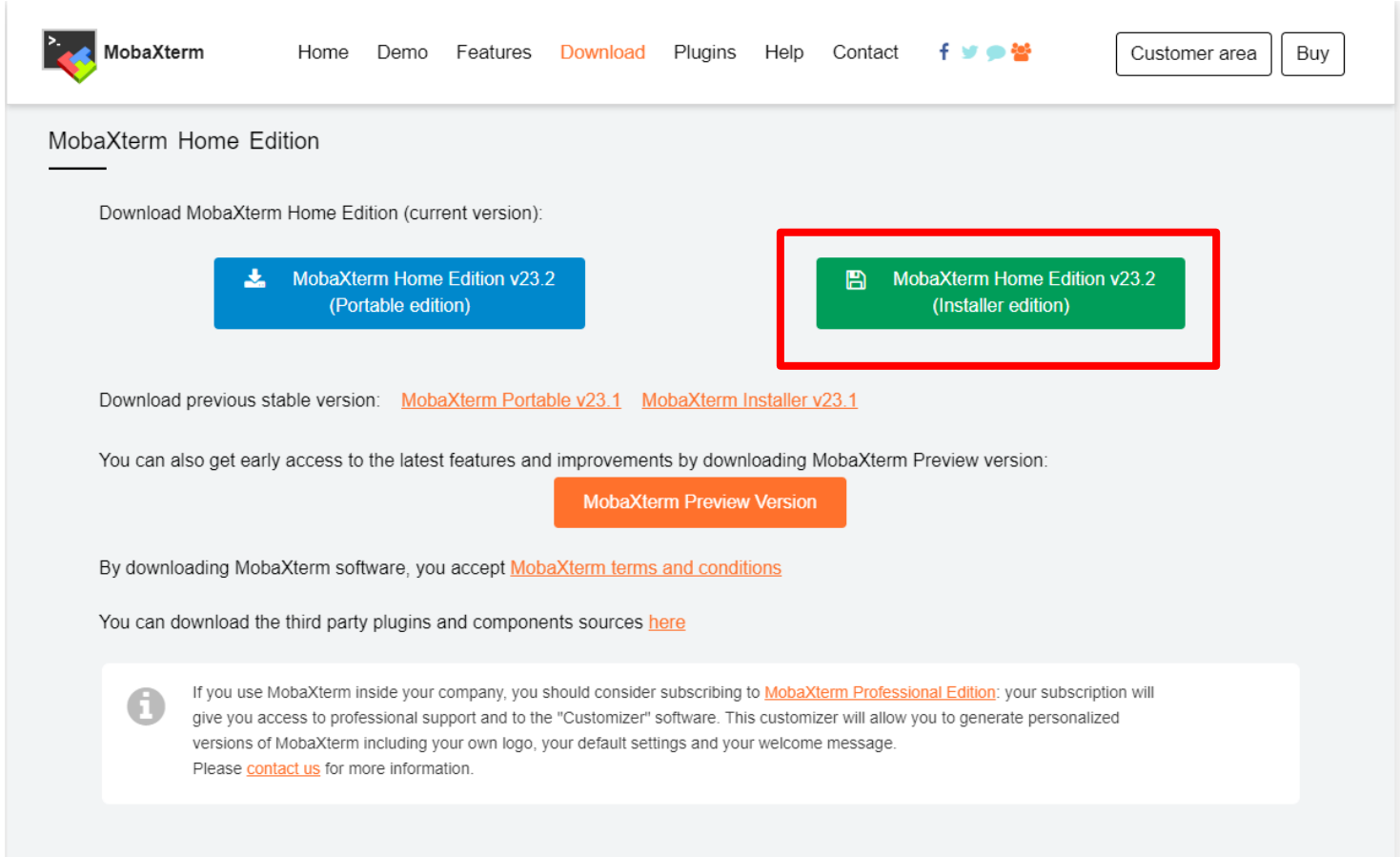
### Introduction

You will learn how to set up your PC (Window) or Mac to connect the campus servers remotely for running Cadence (a CAD tool for integrated circuit design).

### Environment setup

You first download and install the **MobaXterm** on your PC.

<https://mobaxterm.mobatek.net/download-home-edition.html>



The screenshot shows the MobaXterm website's download page. The navigation bar includes links for Home, Demo, Features, Download (highlighted in orange), Plugins, Help, and Contact, along with social media icons and buttons for 'Customer area' and 'Buy'. The main content area is titled 'MobaXterm Home Edition'. It instructs users to download the current version and provides two buttons: a blue 'Portable edition' button and a green 'Installer edition' button, which is highlighted with a red rectangle. Below these, links for previous stable versions (v23.1) are provided. An orange button for the 'Preview Version' is also present. A note states that downloading the software implies acceptance of the terms and conditions. At the bottom, a white box with an information icon advises company users to consider the 'Professional Edition' for professional support and customization.


MobaXterm


Home Demo Features **Download** Plugins Help Contact

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### MobaXterm Home Edition

Download MobaXterm Home Edition (current version):

 MobaXterm Home Edition v23.2 (Portable edition)

 MobaXterm Home Edition v23.2 (Installer edition)

Download previous stable version: [MobaXterm Portable v23.1](#) [MobaXterm Installer v23.1](#)

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

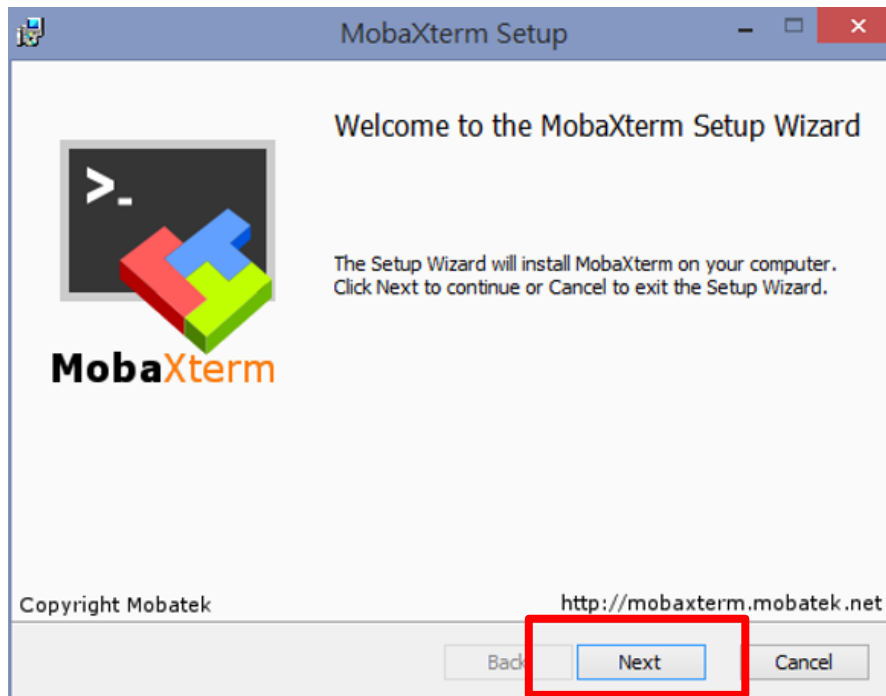
**MobaXterm Preview Version**

By downloading MobaXterm software, you accept [MobaXterm terms and conditions](#)

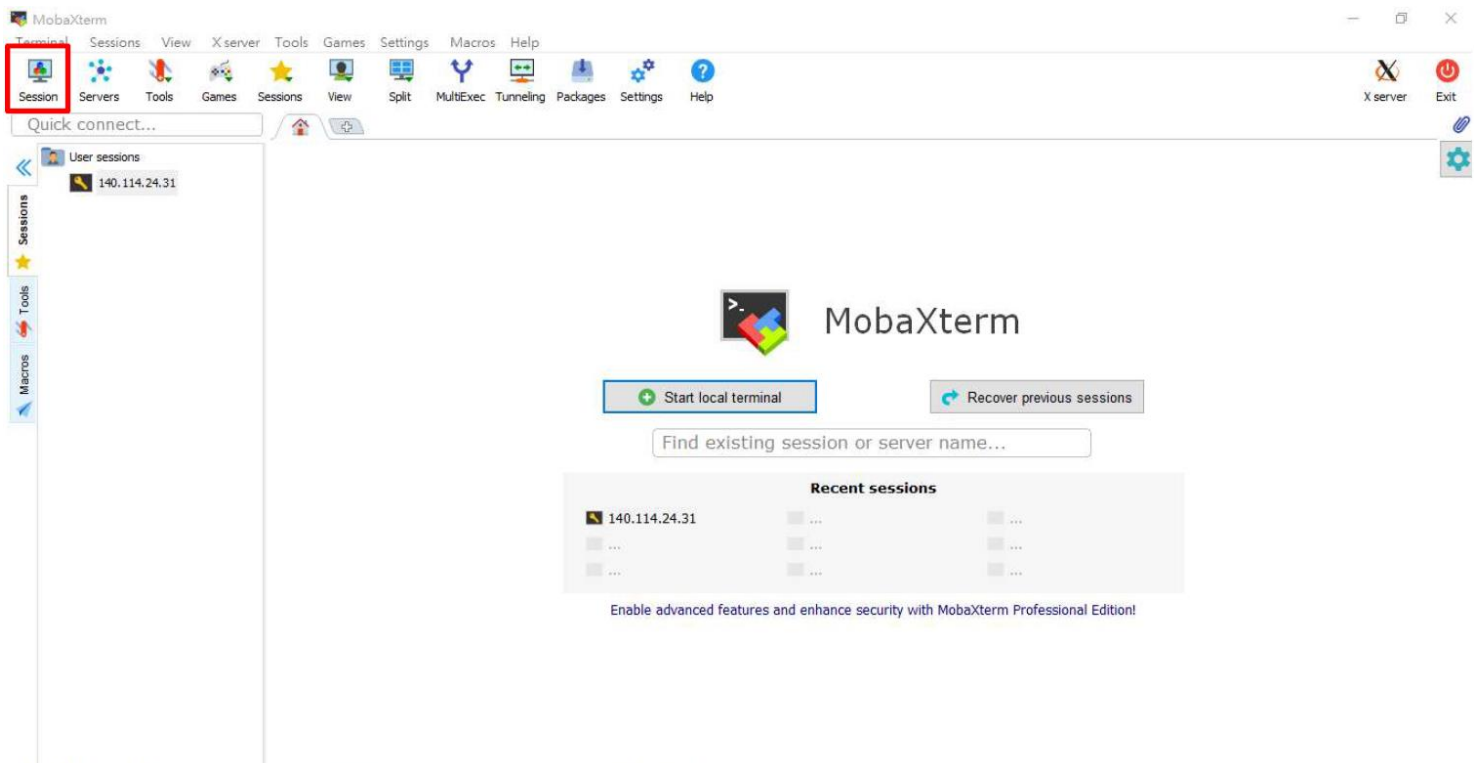
You can download the third party plugins and components sources [here](#)

**i** If you use MobaXterm inside your company, you should consider subscribing to [MobaXterm Professional Edition](#): your subscription will give you access to professional support and to the "Customizer" software. This customizer will allow you to generate personalized versions of MobaXterm including your own logo, your default settings and your welcome message. Please [contact us](#) for more information.

Click Next



Click Session



## Build new session

Session settings

✕

(1)

SSH Telnet Rsh Xdmcp RDP VNC FTP SFTP Serial File Shell Browser Mosh Aws S3 WSL

Basic SSH settings

Remote host \* 140.114.24.31 ☐ Specify username  Port 22

(3)

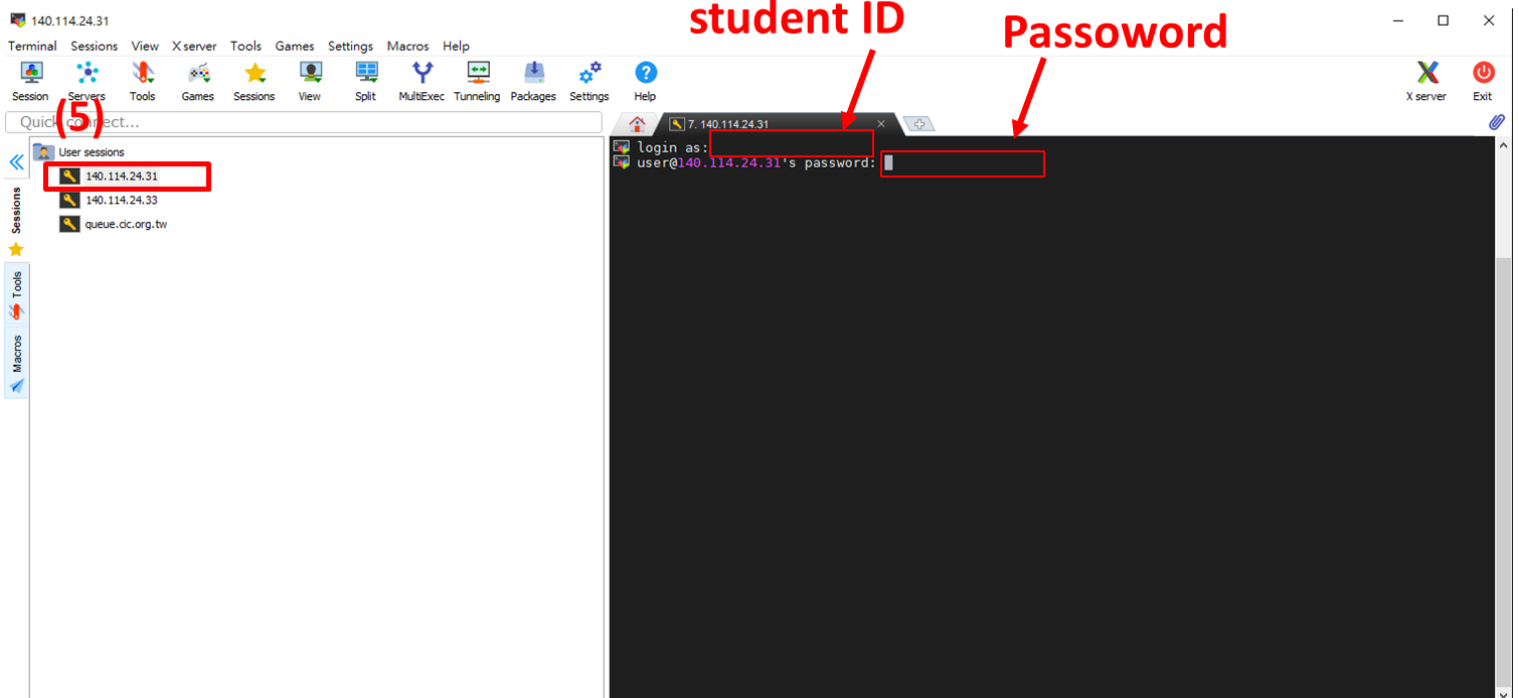
Advanced SSH settings Terminal settings Network settings Bookmark settings

Secure Shell (SSH) session

(2)

(4)

OK Cancel



Enter ssh -X ws 42, and then enter password

```

Last login: Thu Sep 21 13:34:03 2023 from res84-008.ee.nthu.edu.tw
*****
1. ws25-39 (General use)
   User can free use(run program),
   but the procedure can't preserve exceed in 4 days,
   if you need to reserve the procedure exceed in 4 days,
   please Email to opr@ee.nthu.edu.tw.
2. ws40-47 (Teaching use)
   If user influence to teach quality, Administrator will kill user's procedure.
3. Curriculum Time
4. Each tool needs to load the environment variable file by yourself.
   CAD tool List: http://web.ee.nthu.edu.tw/p/405-1175-169285,c4918.php?Lang=zh-tw

-- EE NEWS (http://web.ee.nthu.edu.tw/ in detail) --
. How to login EE Workstations:
  http://web.ee.nthu.edu.tw/var/file/175/1175/img/1191/1030310-LoginWS.pdf
. For system loading concern, the following servers cannot run cadtools anymore:
  daisy, sb1, bigbird (140.114.24.31-33) server (CentOS, ssh, sftp)
. please use the following linux servers instead:

```

Host	Processor	Freq/Core	Memory	OS
ws25~27,31,32	Xeon(R) E5-2620 v4*2	2.10GHz/8C16T	112G	CentOS 6.10
ws29~30	Xeon Silver 4110*2	2.10GHz/8C16T	80G	CentOS 6.10
ws33,41	Xeon(R) E5-2620 v3*2	2.40GHz/6C12T	94G	CentOS 7.9
ws35~37,45~47	Xeon(R) E5530*2	2.40GHz/4C8T	32G/78G	CentOS 7.9
ws39	Xeon(R) E5620*2	2.40GHz/4C8T	32G	CentOS 5.7
ws40,43	Xeon(R) 4208*2	2.10GHz/4C8T	160G/64G	CentOS 7.9
ws42,44	Xeon(R) E5620*2	2.40GHz/4C8T	80G	CentOS 7.9
ws26,28,34	Xeon(R) 4310*2	2.10GHz/12C24T	96G/64G	CentOS 7.9
ws24	Xeon(R) 6326*2	2.90GHz/16C32T	128G	CentOS 7.9

```

-----users-----load average-----
daisy 28 0.20, 0.13, 0.14
sb1 is down
bigbird 17 0.01, 0.07, 0.12
ws24 1 6.00, 6.01, 6.03
ws25 1 4.01, 4.09, 4.05
ws26 0 4.89, 4.81, 4.80
ws27 4 3.00, 3.00, 3.00
ws28 2 1.00, 1.01, 1.05
ws29 1 3.27, 3.33, 3.21
ws30 0 1.04, 1.19, 1.16
ws31 1 1.01, 1.10, 1.08
ws32 2 2.43, 2.30, 2.12
ws33 3 6.11, 5.31, 5.61
ws34 1 0.00, 0.01, 0.05

ws35 7 0.00, 0.01, 0.05
ws37 2 0.00, 0.02, 0.05
ws39 1 0.00, 0.00, 0.00
ws40 5 1.20, 0.26, 0.13
ws41 0 0.00, 0.01, 0.05
ws42 3 0.00, 0.02, 0.05
ws43 1 0.06, 0.14, 0.34
ws44 8 0.30, 0.09, 0.07
ws45 4 1.62, 1.21, 1.15
ws47 4 1.12, 1.06, 1.06

/usr/cadtool/user_setup/03-confmrl.csh: No such file or directory.
@bigbird ~]# ssh -X ws42

```

Successfully Log into ws42

```

daisy 29 0.09, 0.15, 0.13
sb1 is down
bigbird 14 0.13, 0.07, 0.05
ws24 1 6.00, 6.01, 6.05
ws25 1 4.00, 4.00, 4.00
ws26 0 4.70, 4.82, 4.81
ws27 4 3.00, 3.00, 3.00
ws28 2 0.00, 0.01, 0.05
ws29 1 3.02, 3.07, 3.08
ws30 0 1.00, 1.00, 1.00
ws31 1 1.00, 1.00, 1.00
ws32 2 2.11, 2.04, 2.01
ws33 3 6.11, 5.31, 5.61
ws34 1 0.00, 0.01, 0.05

ws35 7 0.00, 0.01, 0.05
ws37 2 0.00, 0.01, 0.05
ws39 1 0.00, 0.00, 0.00
ws40 6 0.01, 0.04, 0.05
ws41 0 0.00, 0.01, 0.05
ws42 2 0.04, 0.04, 0.09
ws43 2 0.00, 0.03, 0.12
ws44 7 0.01, 0.02, 0.05
ws45 3 0.01, 0.15, 0.32
ws47 4 1.12, 1.06, 1.06

set CONFRML version: CONFRML_20.10.100 (default)
set INNOVUS version: INNOVUS_20.10.000 (default)
set INCISIV version: INCISIVE_15.20.084 (default)
set GENUS version: GENUS_20.10.000 (default)
Platform = amd64
Platform = amd64
Platform = amd64
set veeva version: 2022.06 (default)
set SPECTRE version: SPECTRE_19.10.428 (default)
@ws42 ~]#

```

## Basic UNIX Commands

Now you are using the EE workstation which is running under **Unix system**. The most common UNIX commands are listed below. You should try them out and be familiar with them. If you need help, the *UNIXhelp for Users* (<http://www.ust.hk/itsc/unix/UNIXhelp1.3/Pages/>) is useful to you. Or you can use the 'man' command to look at the details of each command, e.g. in the command prompt, type in 'man cp' (command 'cp' is used for copying files), the manual of using 'cp' command will then be displayed.

To ... UNIX command

**display user's account quota** **fs lq**

**display the path / directory using** **pwd**

**display all files (including the hidden files)** **ls -al**

display directory/files under the path **ls**

display the command manual, e.g. to use 'ls' e.g. **man ls**

stop any running job **ctrl-z**

display the jobs running in the workstation **top**

display the content of the file **cat**

display files with pauses **more**

copy files **cp**

rename files **mv**

delete files **rm**

delete directories **rmdir**

create directories **mkdir**

change the working directory **cd**

print a file **lpr**

display the print queue **lpq**

remove the print job **lprm**

4.1: To activate a text editor, called "**gedit**" (similar to vi or pico but more easy to use), in the command prompt, type in,

### **gedit &**

If the display environment is set up properly, the window of the text editor will pop up, if not, re-do step 1.3, at the same time, you should check whether you are using the correct IP address (feel free to ask TAs to help if necessary).

## Setting up the environment for Running Cadence

Write the following commands in .tcshrc file for executing CAD tools.

For virtuoso tool:

```
source /usr/cadtool/user_setup/03-ic.csh
```

For Virtuoso Multi-Mode Simulation:

```
source /usr/cadtool/user_setup/03-spectre.csh
```

For HSPICE simulation:

```
source /usr/cadtool/user_setup/08-hspice.csh
```

```
source /usr/cadtool/cad/synopsys/CIC/hspice-2020.03-sp2-2.cshrc
```

For waveview:

```
source /usr/cadtool/user_setup/08-customexplorer.csh
```

For Calibre:

```
source /usr/cadtool/user_setup/05-calibre.csh
```

## The End of Lab1 Part a