

# Laboratory of the course

# Testing and fault tolerance

**01RKZOV**

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# Testinglab2019 Servers

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- **Two distinct servers**
  - **choose one..**
- **Commercial EDA tools available**
  - **logic synthesis (Design Compiler)**
  - **logic simulation (QuestaSim)**
  - **Fault simulation/ATPG (TetraMAX)**
- **Remote access**
  - **SSH/Putty.**



# Server @DET

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- **Open a terminal and execute:**

```
ssh -CX -p 10029 user@led-x3850-2.polito.it
```

- **User: s<studentID>**
  - e.g., s210506
- **Password: s<studentID>\_testing**
  - e.g., s210506\_testing
  - To be changed after first access.



# Server @DET

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- **Open a terminal and execute:**

```
ssh -CX -p 10029 user@led-x3850-2.polito.it
```

**Be careful: Copy from PDF not always works as expected!! Better to write it..**

- **passwords <studentID>\_testing**
  - **e.g., s210506\_testing**
  - **To be changed after first access.**



# Server @LabInf

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- **Open a terminal and execute:**

```
ssh -CX user@po.polito.it
```

- **User: s<studentID>**

- e.g., s210506

- **Password: s<studentID>\_testing**

- e.g., s210506\_testing

- To be changed after first access.

**Don't use  
"-p 10029"  
with this server**



# Example (step 1/5)

---

```
$ ssh -CX -p 10029 s210506@led-x3850-2.polito.it
The authenticity of host '[ led-x3850-2.polito.it ]
:10029 ([130.192.163.128]:10029)' can't be
established.
ECDSA key fingerprint is 0a:87:1f:0a:42:fe:
ac:dd:14:d4:ab:80:b6:2f:06:e5.
Are you sure you want to continue connectin
g (yes/no)? █
```

**yes**

# Example (step 2/5)

```
$ ssh -CX -p 10029 s210506@led-x3850-2.polito.it
The authenticity of host '[ led-x3850-2.polito.it ]
:10029 ([130.192.163.128]:10029)' can't be
established.
ECDSA key fingerprint is 0a:87:1f:0a:42:fe:
ac:dd:14:d4:ab:80:b6:2f:06:e5.
Are you sure you want to continue connectin
g (yes/no)? yes
Warning: Permanently added '[ led-x3850-2.polito.it
]:10029,[130.192.163.128]:10029' (ECDSA) t
o the list of known hosts.
Password: █
```

**s210506\_testing**

While writing the password, nothing will be shown here!!!





# Example (step 3/5)

---

```
$ ssh -CX -p 10029 s210506@led-x3850-2.polito.it
The authenticity of host '[ led-x3850-2.polito.it ]
:10029 ([130.192.163.128]:10029)' can't be
established.
ECDSA key fingerprint is 0a:87:1f:0a:42:fe:
ac:dd:14:d4:ab:80:b6:2f:06:e5.
Are you sure you want to continue connectin
g (yes/no)? yes
Warning: Permanently added '[ led-x3850-2.polito.it
]:10029,[130.192.163.128]:10029' (ECDSA) t
o the list of known hosts.
Password:
You are required to change your password im
mediately (root enforced)
Changing password for s210506.
(current) UNIX password:
```

**s210506\_testing  
(again)**



# Example (step 4/5)

---

```
$ ssh -CX -p 10029 s210506@led-x3850-2.polito.it
The authenticity of host '[ led-x3850-2.polito.it ]
:10029 ([130.192.163.128]:10029)' can't be
established.
ECDSA key fingerprint is 0a:87:1f:0a:42:fe:
ac:dd:14:d4:ab:80:b6:2f:06:e5.
Are you sure you want to continue connectin
g (yes/no)? yes
Warning: Permanently added '[ led-x3850-2.polito.it
]:10029,[130.192.163.128]:10029' (ECDSA) t
o the list of known hosts.
Password:
You are required to change your password im
mediately (root enforced)
Changing password for s210506.
(current) UNIX password:
New password:
```

**My new password**



# Example (step 5/5)

---

```
$ ssh -CX -p 10029 s210506@led-x3850-2.polito.it
The authenticity of host '[ led-x3850-2.polito.it ]
:10029 ([130.192.163.128]:10029)' can't be
established.
ECDSA key fingerprint is 0a:87:1f:0a:42:fe:
ac:dd:14:d4:ab:80:b6:2f:06:e5.
Are you sure you want to continue connectin
g (yes/no)? yes
Warning: Permanently added '[ led-x3850-2.polito.it
]:10029,[130.192.163.128]:10029' (ECDSA) t
o the list of known hosts.
Password:
You are required to change your password im
mediately (root enforced)
Changing password for s210506.
(current) UNIX password:
New password:
Retype new password: █
```

**My new password  
(again)**

# Windows (<10) users

## 1. Install Xming and Putty

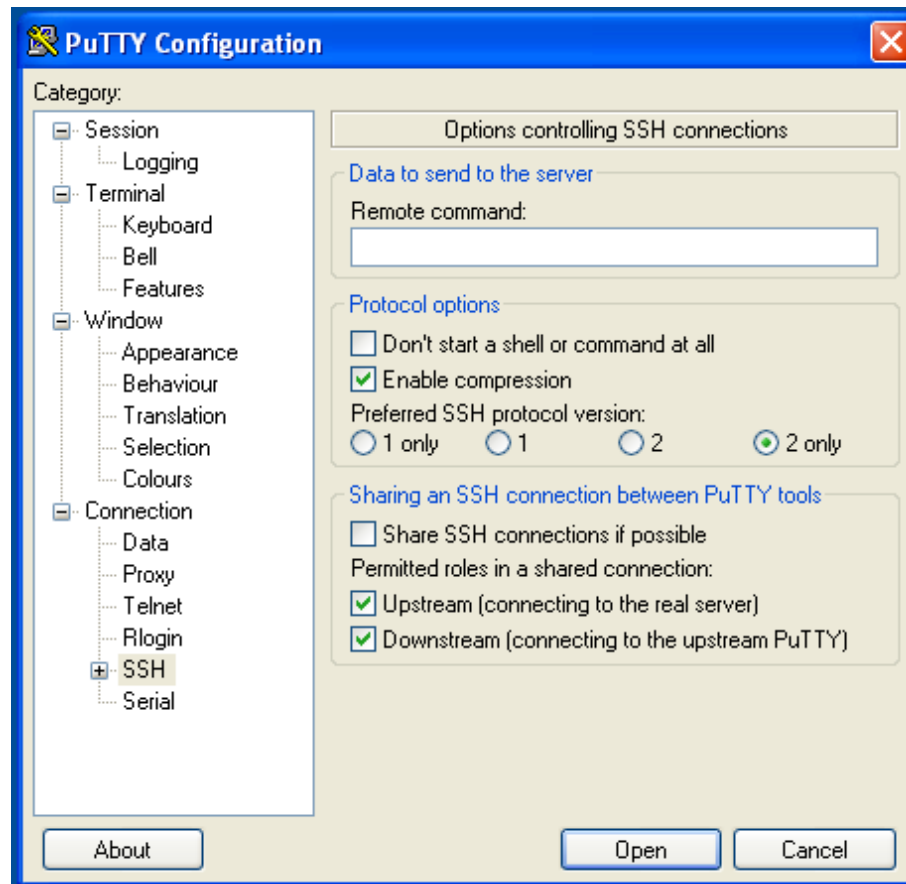


## 2. Run Xming



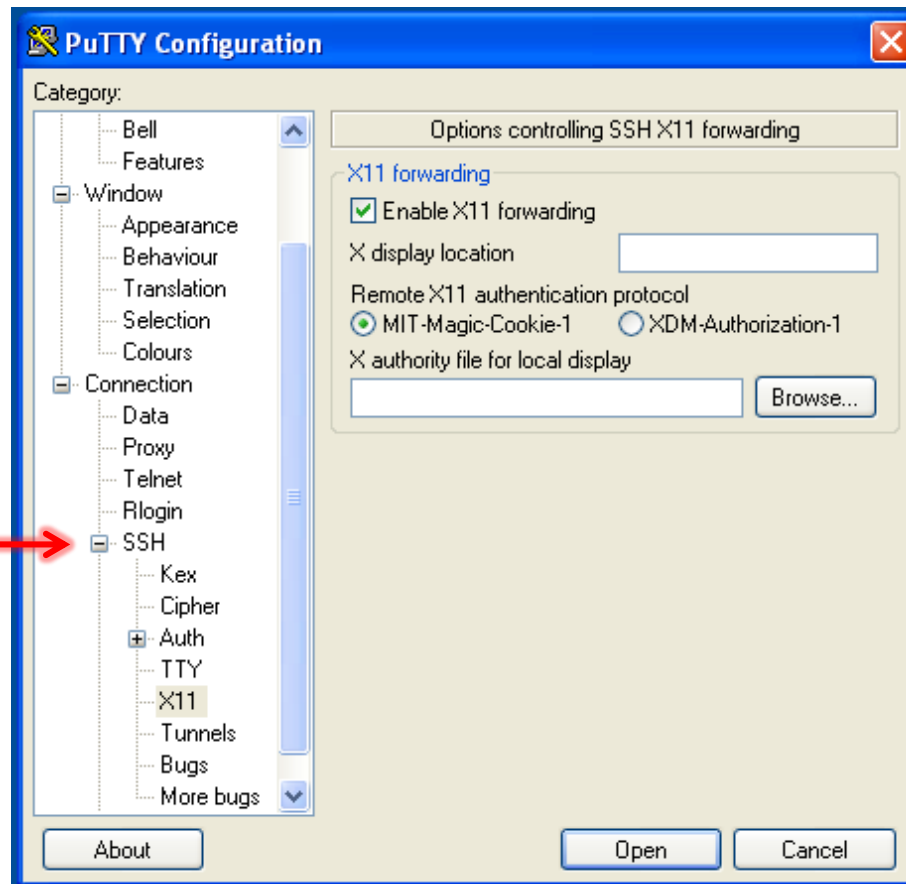
## 3. Run Putty

# Configure Putty (step 1/4)



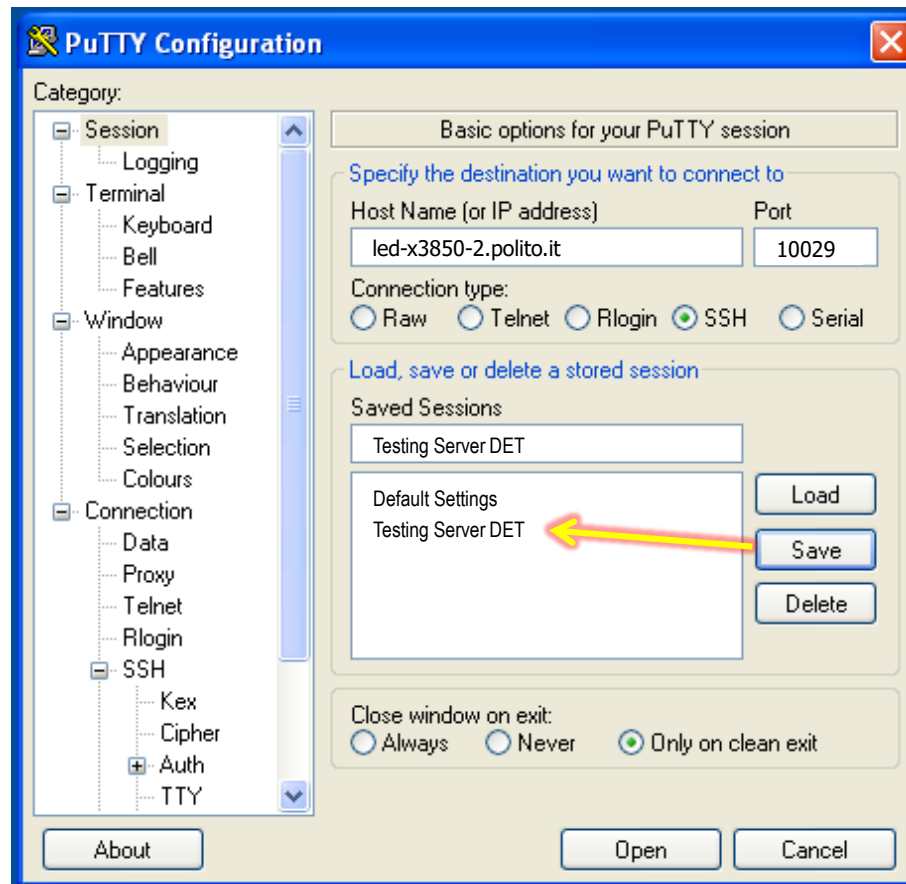
Enable SSH  
compression

# Configure Putty (step 2/4)



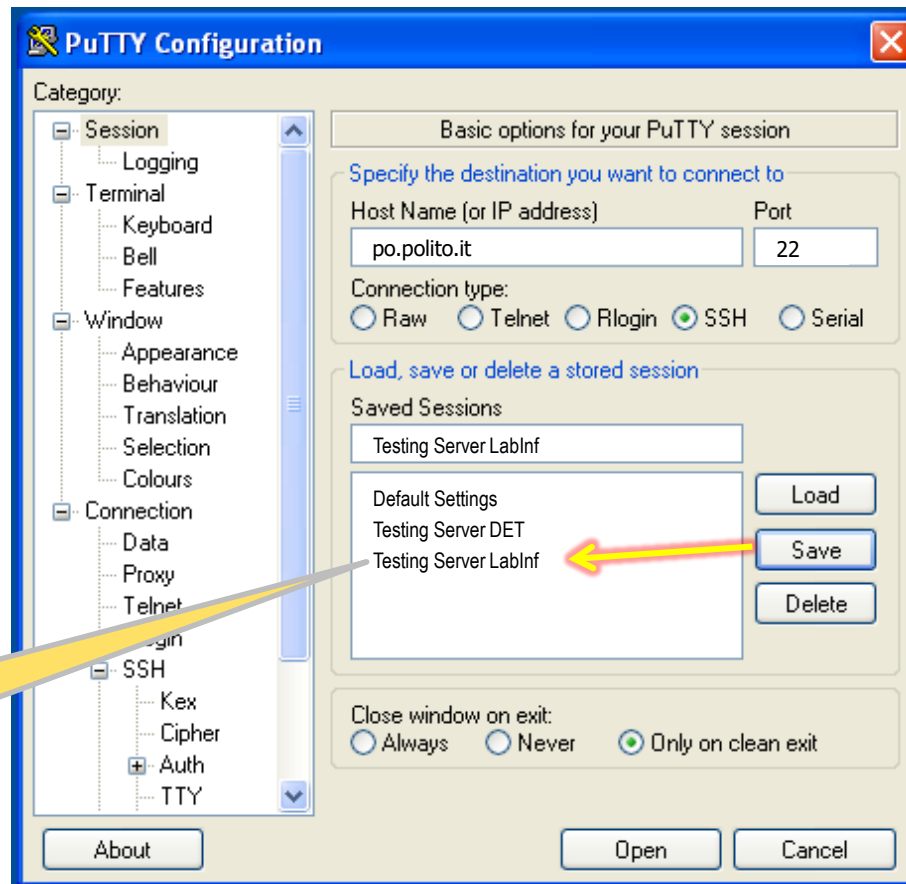
Enable X11 forwarding (requires Xming)

# Configure Putty (step 3/4)



Insert SSH server details and save

# Configure Putty (step 4/4)



After saving both server profiles, open a session

Double-click to open a session



# Run Putty

Follow the steps of the previous example

```
maira.polito.it - PuTTY
login as: s210506
Using keyboard-interactive authentication.
Password:
Using keyboard-interactive authentication.
You are required to change your password immediately (root en
Changing password for s210506.
(current) UNIX password:
Using keyboard-interactive authentication.
New password:
Using keyboard-interactive authentication.
Retype new password: 
```

**s210506\_testing**

**My new password**



# Remote Linux shell

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- **Learn the basic commands to navigate directory, view files ...**
- **Editors: vim, nano ...**
- **Tons of material available online**
- <https://www.liquidweb.com/kb/new-user-tutorial-basic-shell-commands/>
- [https://www-xray.ast.cam.ac.uk/~jss/lecture/computing/notes/out/commands\\_basic/](https://www-xray.ast.cam.ac.uk/~jss/lecture/computing/notes/out/commands_basic/)
- <https://coderwall.com/p/adv71w/basic-vim-commands-for-getting-started>
- ...



# Lab organization

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- Both servers can be accessed from every PC in the LabInf as well as from any other PC connected to the internet.
- You will find the needed files in your HOME area at every laboratory session.
- Your HOME area is not mirrored on the two servers.



# Resources usage

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- **There is a limited number of licenses, shared among the two servers.**
- **It is fair to use only 1 instance of the used tool at a time.**
- **Consider the possibility to switch to the other server in case one is overloaded.**



# Resources usage

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- **There is a limited number of resources shared among the two servers.**
- **It is fair to use only 1 instance of the used tool at a time.**
- **Consider the possibility to switch to the other server in case one is overloaded.**

**We will monitor the license usage and take actions against those violating these rules.**



# LabInf

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- **To use the LabInf PCs you need your own account.**
- **Please contact the LabInf personnel to activate it.**