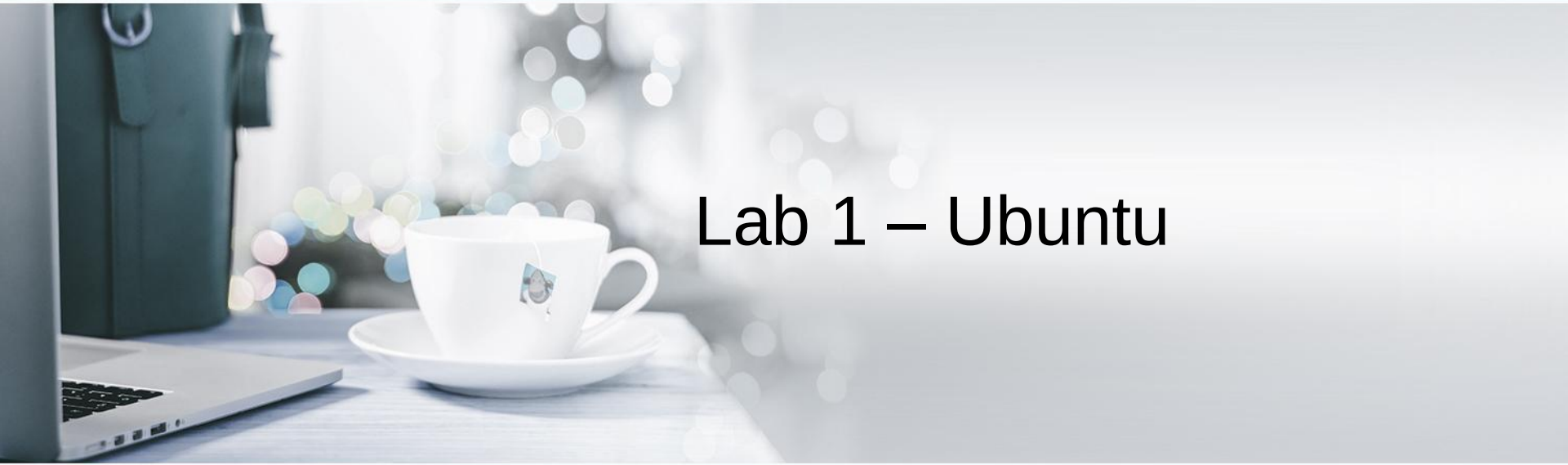
Open Source Software Development

Ung Văn Giàu
Email: giau.ung@eiu.edu.vn



Lab 1 – Ubuntu

Contents

How to submit the report?

- Submit a report to the Moodle
- Report format: pdf
- Report name: Lab x – Full Name – Student ID

- Assignment 1: capture the final screen.
- Assignment 2, 3: write the commands that you used.

1. Ubuntu 24.04 Server

Install the **Ubuntu 24.04 server** OS on VMware.

Use the installer and follow the quick guide:

- Choose your language
- Update the installer (if offered)
- Select your keyboard layout
- **Do not configure networking** (the installer attempts to configure wired network interfaces via DHCP, but you can continue without networking if this fails)
- **Do not configure a proxy** or custom mirror unless you have to in your network
- For storage, leave “**use an entire disk**” checked, and choose a disk to install to, then select “Done” on the configuration screen and confirm the install
- Enter a username (ubuntu), hostname (ubuntu) and password (ubuntu)
- Just select Done on the SSH and snap screens
- You will now see log messages as the install is completed
- Select restart when this is complete, and log in using the username and password provided

2. Command line and Shell script

1. Create a directory “**Your name**” in “**/var/www**”
2. Create a file **firstcode.html** in “**Your name**” directory
3. Insert the following texts to **firstcode.html** (use nano or vi editor)

```
<!DOCTYPE html>
<html>
<head>
    <title>Test</title>
    <meta charset="utf-8">
</head>
<body>
    My name is ... This is my first code.
</body>
</html>
```

2. Command line and Shell script

4. Create a directory **Project** inside “**Your name**” directory
5. Move the **firstcode.html** to **Project**
6. Rename the **firstcode.html** to **index.html**
7. Create a directory **Test** inside “**Your name**” directory
8. Create a symbolic link from **Project** to **Test**
9. Copy **index.html** to **Test**

2. Command line and Shell script

10. Edit the content of **index.html** in **Test** as below:

```
<!DOCTYPE html>
<html>
<head>
    <title>Test</title>
    <meta charset="utf-8">
</head>
<body>
    <h1>This is a Title</h1>
    My name is ... This is my first code.
</body>
</html>
```

11. Copy all contents of **index.html** in **Test** to **index.html** in **Project** (use Read File command of nano)

2. Command line and Shell script

12. Delete the **Test** directory
13. Create a new file **firstproject.conf** in **Project** and edit with **nano** Editor

```
server {
        listen 80;
        listen [::]:80;

        root /var/www/example.com/html;
        index index.html index.htm index.nginx-debian.html;

        server_name example.com www.example.com;

        location / {
                try_files $uri $uri/ =404;
        }
}
```

SSH and OpenSSH

- The SSH protocol (Secure Shell) is a method for secure remote login from one computer to another. It provides several alternative options for strong authentication, and it protects the communications security and integrity with strong encryption.

- OpenSSH is a freely available version of the SSH protocol family of tools for remotely controlling, or transferring files between, computers.

3. Remoting server by OpenSSH and PuTTY

- Install PuTTY on your laptop (Windows OS) and connect to the server
- If you cannot connect, you have to install OpenSSH Server (**openssh-server**) application on you server

3. Remoting server by OpenSSH and PuTTY

Configure OpenSSH using another port and SSH Keys

- Backup **/etc/ssh/sshd_config** file
- Change port
  - Open the **/etc/ssh/sshd_config** file and **change port (2222)**
  - Check the configuration (**sudo sshd -t -f /etc/ssh/sshd_config)**
  - Restart the sshd server application (**sudo systemctl restart sshd.service**)
- (*) SSH key authentication uses a private key and a public key to authenticate between two hosts without the need of a password
  - Generate the keys using the RSA Algorithm
  - Copy and import the public key to the remote host
  - Use SSH client to connect to the remote host with the private key