Second semester 2022/2023
Cloud computing
Homework Assignment # 1
ETA: 25 Feb midnight.

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The objective of this assignment is to practice software deployment using apache. In this assignment, you need to do the following:

1. Install ubuntu on a hypervisor such virtual box. Check this link:
   https://ubuntu.com/tutorials/how-to-run-ubuntu-desktop-on-a-virtual-machine-using-virtualbox#1-overview

2. Install apache2 on that server. Check this link:
   https://ubuntu.com/tutorials/install-and-configure-apache#1-overview

3. Make sure the ubuntu that is installed on your VM is reachable on your laptop:
   a. Check the current IP for your web server. hint: **ifconfig** command
   b. On your laptop, execute the **ping** command to make sure it is reachable.
   c. On your laptop, open the default page of apache by typing in the web server IP address for the web server.

4. Next step you need to set up your server to host a static website which is attached. The website is very simple and contains four pages:
   a. Index page: default page for your application
   b. Home page: under the home folder, this is an index page for it
   c. About page: same as the home page
   d. Contact page : same as the home page

5. In order to make your web server reachable using its domain name, your need to do it manually
   a. Go to /etc/hosts
   b. Add the following records:

```
yourWebServerIpAddress  www.[yourDoaminName].com
```

For example:
```
192.168.64.5  www.example.com
```

    c. Please note that in my example, my domain name is www.example.com, however, in your case, your domain name is your first name and last name like www.mustafaassaf.com

6. You need to rename you hostname of your web server using your domain name.
7. In addition to the index page, you need to create three subdomains in addition to the default domain. Which are:
    a. www.about.[yourDoaminName].com
    b. www.home.example.[yourDoaminName].com
    c. [www.contact.example.[yourDoaminName].com](www.contact.example.[yourDoaminName].com)
8. Again, to make subdomains reachable to need to map them in your /etc/hosts on your laptop
Like this:

```
yourWebServerIpAddress  www.about.[yourDoaminName].com
yourWebServerIpAddress  www.home.[yourDoaminName].com
yourWebServerIpAddress  www.contact..[yourDoaminName].com
```

9. For default, index, home, and about, the DocumentRoot which points to the directory of your site files, is under /var/www/html
    a. /var/www/html
    b. /var/www/html/home
    c. /var/www/html/about
10. The contact subdomain file should be located under "**~/contact**" directory.
    a. For the contact subdomain, you should make sure you grant apache2 the required permission.
    b. To grant permission first you need to make sure to contact.conf is configured to have an access to directly
    c. You need to make sure the apache user, which is "www-data", has the required permission to the folder. Hint check **chmod** and **chown** commands

Deliverable

- A short video showing that your site is working
- A list of all commands used in your assignment with a small description
- A list of all apache configurations you made with a small description.