**Configuration of Apache Server on Linux**

**Introduction:**

Apache is an open source web server software developed by the Apache Software Foundation. It has been among the most preferred web server software since 1996. It has a great role in the development of the World Wide Web. According to the research conducted by Netcraft in 2008, almost 50% of the websites use Apache.

For this project, we need to configure the Apache server that provides web content over the internet. Using Linux as the operating system that runs the processes of the application.

**Steps:**

**.** Download Ubuntu-Desktop on Ubuntu official website

**.** Create a virtual machine

**.** Run Ubuntu, and install files

**.** Write “sudo apt purge apache2 apache2-bin apache2-data apache2-utils”, “sudo rm -fr /etc/apache2” and “sudo rm -fr /var/www” for remove the packages

**.**Write “sudo apt update” to update and write “sudo apt install apache2” to install apache

**.** Write “127.0.0.1” it should appear a page saying, “It works”, if not says do the step 5 and 6 again

**.** Write “sudo apt install net-tools” to install network configurations

**.** Write “ifconfig” and copy the ip-address “inet x.x.x.x” and paste on the browser URL for confirmation, it should say “It works”

**.** Write “sudo gedit /etc/apache2/sites-enabled/000-default.conf”

**.** Make a copy of the original file as a backup

**.** In the same section <VirtualHost:80>

Alias /grades "/var/www/student/comp\_net/grades/quiz"

**.**Write “sudo -i” to have root previlige

**.** Write “mkdir -p /var/www/student/comp\_net/grades/quiz” to create the folders and the index.html file

**.**Write “nano mkdir -p /var/www/student/comp\_net/grades/quiz/index,hmtl” to access the html file and edit the file creating the page you want example:

<!DOCTYPE html>

<html>

<header>

<title> Example </title>

</header>

<body>

<h1> MY EXAMPLE </h1>

<p> This is an example </p>

</body>

</html>

**.** Write “nano /etc/apache2/sites-available/student.conf” to create the virtual host

**.** Write this in the file:

“<VirtualHost \*:80>  
 ServerName student.mygrades.com

ServerAdmin [admin@admin.com](mailto:admin@admin.com)

DocumentRoot /var/www/student

ErrorLog ${APACHE\_LOG\_DIR}/error-student.log

CustomLog ${APACHE\_LOG\_DIR}/acces-student.log combined

</VirtualHost>”

Save and exit

**.** Write “a2ensite student.conf” to enable the student site

**.** Write “systemctl reload apache2” to reload apache

**.**Open the browser and write in this URL <http://127.0.0.1/student/comp_net/grades/quiz>

**.** Write in the configuration file

“<Directory "/var/www/private">  
AuthType Basic  
AuthName "Enter correct password"  
AuthUserFile "/var/www/private/password.tx  
Require user erasmus  
</Directory>”

Save and Exit

**.** Write “mkdir /var/www/private” to create the folder

**.** Write “htpasswd -c /var/www/password.txt erasmus” to create the password, if you add another user don’t use the “-c” option

**.** Write in the configuration file (put the IPAddress – XXX)

“<Directory "/var/www/protected">  
order deny,allow  
Allow from 127.0.0.1 10.64.104.XXX  
Deny from all  
</Directory>”

Save and Exit

**.** Write “mkdir /var/www/protected” to create the folder

**.** In the configuration file comment the <Directory “/var/www/private” </Directory>

**.** Move the contents of the configuration file to "/var/www/private/.htaccess" directory.

**.** Verify is set “AllowOverride All”

**.** Edit the student account:

cd /var/www/student

mkdir public\_html

chmod 755 public\_html

echo "Student HomePage" > cd /var/www/student/public\_html/index.html

chmod o+x /home/student

**.** Add to the configuration file:

<VirtualHost A.B.C.D:80>

ServerName servername.pl

DocumentRoot /var/www/srv1

ErrorDocument 404 /error.html

ErrorDocument 403 /error.html

<Directory /var/www/srv1>

Options Indexes FollowSymLinks MultiViews

AllowOverride All

Order allow,deny

allow from all

</Directory>

ErrorLog /var/log/apache2/srv1\_error.log

CustomLog permanent /var/log/apache2/srv1\_access.log

</VirtualHost>

**.** Add the same section as in the case of ip-based and in the file “/etc/ hosts” add a mapping from IP address to name (name specified by the ServerName parameter), example:

192.168.10.20 www.abc.pl

192.168.10.20 www.cba.pl

**Final Part:**

I configured the Apache Server after researching about it. Steps were understandable on cez2 system and I followed them. Now I can clearly understanding Apache Servers and I know how to create an Apache Server and how to configure it.

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