

Setup NGINX webserver

Q1 a

installing nginx

```
student@student-VirtualBox:~$ sudo apt install nginx
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream nginx-common nginx-core
Suggested packages:
  fcgiwrap nginx-doc
The following NEW packages will be installed:
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream nginx nginx-common nginx-core
0 to upgrade, 7 to newly install, 0 to remove and 721 not to upgrade.
Need to get 605 kB of archives.
After this operation, 2,141 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://gb.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx-common
all 1.18.0-0ubuntu1.4 [37.7 kB]
Get:2 http://gb.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod
-http-image-filter amd64 1.18.0-0ubuntu1.4 [14.8 kB]
Get:3 http://gb.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod
-http-xslt-filter amd64 1.18.0-0ubuntu1.4 [13.0 kB]
Get:4 http://gb.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod
-mail amd64 1.18.0-0ubuntu1.4 [42.9 kB]
Get:5 http://gb.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod
-stream amd64 1.18.0-0ubuntu1.4 [67.4 kB]
Get:6 http://gb.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx-core
amd64 1.18.0-0ubuntu1.4 [11.1 kB]
Get:7 http://gb.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx
amd64 1.18.0-0ubuntu1.4 [11.1 kB]
Fetched 605 kB in 1s (585 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
[1/7] Setting up nginx-common (1.18.0-0ubuntu1.4) ...
[2/7] Setting up libnginx-mod-http-image-filter:amd64 (1.18.0-0ubuntu1.4) ...
[3/7] Setting up libnginx-mod-http-xslt-filter:amd64 (1.18.0-0ubuntu1.4) ...
[4/7] Setting up libnginx-mod-mail:amd64 (1.18.0-0ubuntu1.4) ...
[5/7] Setting up libnginx-mod-stream:amd64 (1.18.0-0ubuntu1.4) ...
[6/7] Setting up nginx-core:amd64 (1.18.0-0ubuntu1.4) ...
[7/7] Setting up nginx (1.18.0-0ubuntu1.4) ...
invoke-rc.d: could not determine current runlevel
invoke-rc.d: policy-rc.d denied execution of start.
Processing triggers for libc-bin (2.31-0ubuntu1) ...

student@student-VirtualBox:/$ cd /var/www
student@student-VirtualBox:/var/www$ sudo mkdir w21007692
student@student-VirtualBox:/var/www$ cd w21007692/
student@student-VirtualBox:/var/www/w21007692$ sudo nano index.html
```

```
student@student-VirtualBox: /var/www/w21007692
GNU nano 4.8 index.html
<!doctype html>
<html>
  <meta charset="utf-8">
  <title>Student number is w21007692</title>
</head>
<body>
  <h1>Hello, w21007692</h1>
  <p>i am currently doing my assignment for advanced operating system</p>
</body>
</html>

[ Wrote 10 lines ]
^G Get Help      ^O Write Out     ^W Where Is      ^K Cut Text      ^J Justify
^X Exit          ^R Read File     ^\ Replace       ^U Paste Text    ^T To Spell
```

```
student@student-VirtualBox:/etc/nginx/sites-enabled$ sudo nano w21007692
student@student-VirtualBox:/etc/nginx/sites-enabled$ sudo service nginx restart
```

To save the progress I used the nginx restart command after modifying the content of w21007692

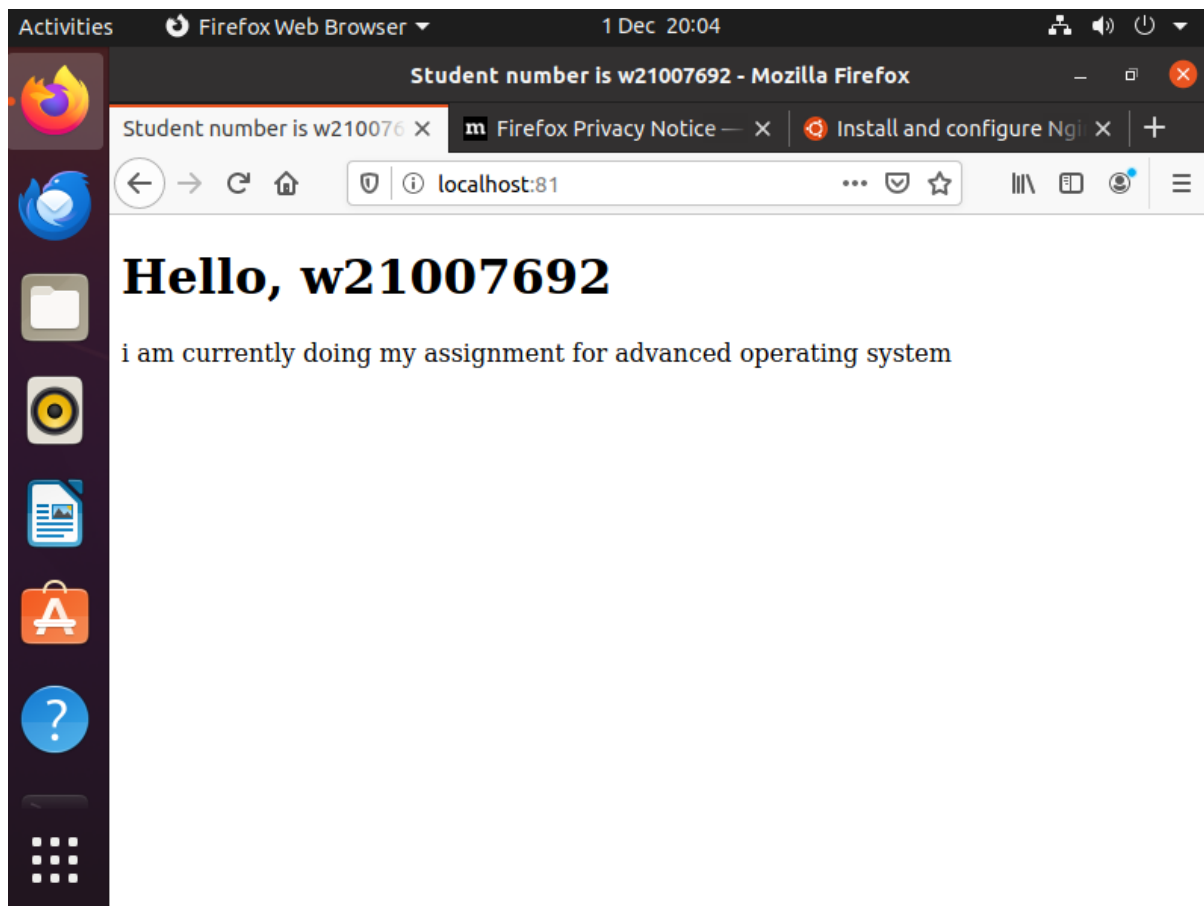
```
GNU nano 4.8                                w21007692
server {
    listen 81;
    listen [::]:81;

    server_name greater.com;

    root /var/www/w21007692;
    index index.html;

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

[ Read 13 lines ]
^G Get Help      ^O Write Out    ^W Where Is     ^K Cut Text     ^J Justify
^X Exit          ^R Read File    ^\ Replace      ^U Paste Text   ^T To Spell
```



The advantages of nginx are that it follows an event driven approach unlike Apache (which follows a process-driven approach), this advantage enables nginx to handle multiple requests with one thread, unlike Apache which has to create new threads for each request. Also, nginx has higher performance and better memory management compared to Apache so it is very suitable for environments with limited resources.

Nginx is faster at loading static content compared to Apache because it doesn't use PHP. Nginx is more secure compared to Apache and can be used as a reverse proxy server unlike Apache and finally nginx is easier to understand.

The disadvantages of nginx are that it doesn't support all Unix-like OS and partially supports Windows. Apache allows additional configuration on a per-directory basis via .htaccess files but nginx doesn't allow further configurations. Nginx uses 3rd Party core modules, unlike Apache which has 60 official dynamically loadable modules.