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Государственное автономное образовательное учреждение  
высшего образования города Москвы  
«Московский городской педагогический университет»  
Институт цифрового образования  
Департамент информатики, управления и технологий

ДИСЦИПЛИНА:  
«Распределенные системы»

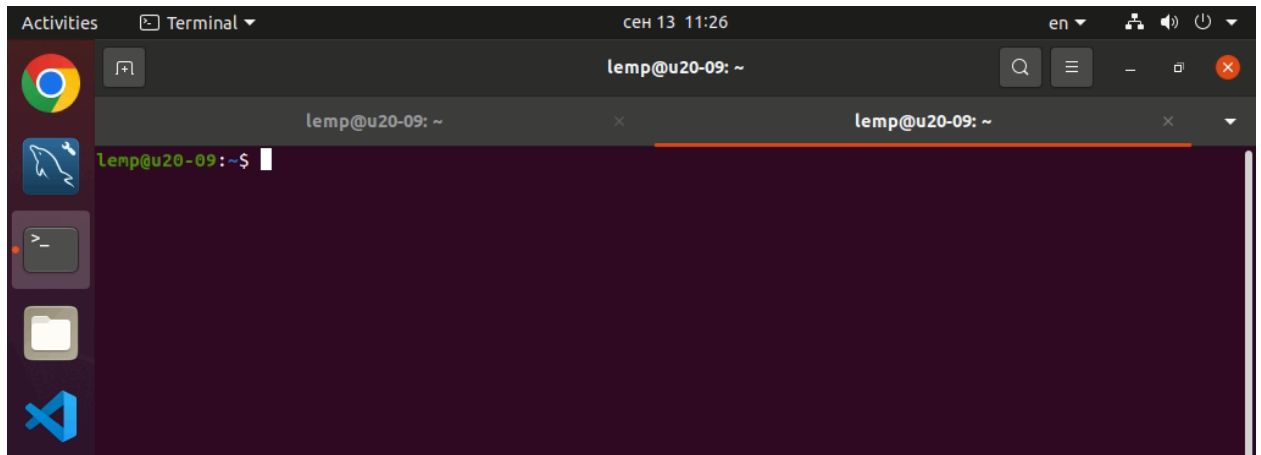
**Отчет по практической работе №1**

**Тема:**  
«HTTP»

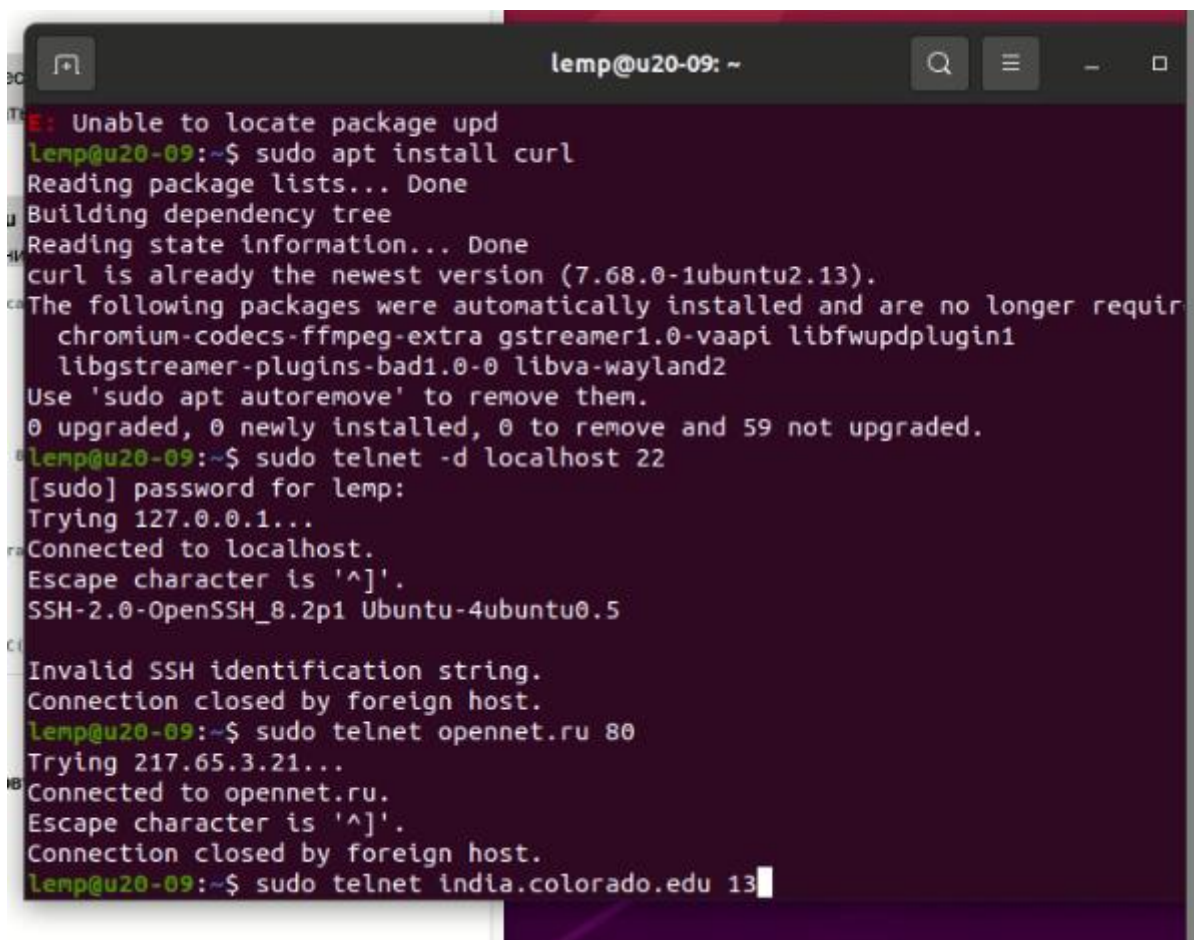
Выполнила:  
Овчинникова А.А.  
группа: ТП-191  
Преподаватель:  
Босенко Т.М.

Москва  
2022

## 1. Начало работы:



## 2. Установка curl



### 3. Тестирование веб-ресурсов с помощью «telnet»

```
lemp@u20-09: ~  
lemp@u20-09:~$ sudo telnet -d localhost 22  
[sudo] password for lemp:  
Trying 127.0.0.1...  
Connected to localhost.  
Escape character is '^]'.  
SSH-2.0-OpenSSH_8.2p1 Ubuntu-4ubuntu0.5  
  
Invalid SSH identification string.  
Connection closed by foreign host.  
lemp@u20-09:~$ sudo telnet opennet.ru 80  
Trying 217.65.3.21...  
Connected to opennet.ru.  
Escape character is '^]'.  
Connection closed by foreign host.  
lemp@u20-09:~$ sudo telnet india.colorado.edu 13  
Trying 128.138.140.44...  
Connected to india.colorado.edu.  
Escape character is '^]'.  
  
59835 22-09-13 07:58:38 50 0 0 925.4 UTC(NIST) *  
Connection closed by foreign host.  
lemp@u20-09:~$ sudo telnet -d mgpu.ru 80  
Trying 37.230.157.233...  
Connected to mgpu.ru.  
Escape character is '^]'.  
█
```

### 4. Тестирование mgpu.ru

```
udencheskij-konkurs-ustnogo-perevoda-2/">Международный студенческий конкурс устного перевода</a></h2>  
  
        <div class="headline-left">  
            <h4 class="headline-brd">0 мероприятия</h4>  
        </div>  
        <div class="mb_30">  
            <p><a href="https://www.mgpu.ru/obrazovanie/inst  
itutes/liya/chairs/kafedra-yazykoznaniya-i-perevodovedeniya/">Кафедра языкознания и переводоведения</a>  
ИИЯ МГПУ приглашает принять участие в Международном студенческом конкурсе устного перевода, приуроченном  
к Международному дню переводчика и Дню рождения Института иностранных языков Московского городского уни  
верситета, который пройдет 27 сентября в онлайн-формате.</p>  
<p>Цель конкурса: формирование и развитие творческих и профессионально значимых навыков и умений студент  
ов.</p>  
<p>Процедура проведения конкурса в максимальной степени имитирует реальные условия работы устных перевод  
чиков.</p>  
<p>Для перевода предлагается небольшое видео с выступлением на общественно значимую тему на русском язык  
е. Конкурсанты прослушивают выступление с использованием переводческой скорописи и осуществляют последов  
ательный перевод, записывая его на видео. Видеозаписи переводов должны поступить на почту жюри конкурса  
(konkurs-1979@mail.ru) в течение 30 минут после окончания воспроизведения конкурсного задания. Конкурсан  
ты должны продемонстрировать навыки последовательного перевода с применением переводческой скорописи и с  
оответствующее ситуации коммуникативное поведение. Жюри оценивает переводы и определяет победителей в те  
чение 3 дней после проведения конкурса.</p>  
<p>Для участия в конкурсе необходимо в срок <strong>до 18 сентября</strong> заполнить заявку, размещенну  
ю по следующей <a href="https://docs.google.com/forms/d/e/1FAIpQLSc5eGShYey2in2pMgSVjLt4Vg0q-_lsumHNF0ks  
6x_pdvJxkQ/viewform?usp=sf_link">ссылке</a>.</p>  
<p>Адрес электронной почты оргкомитета конкурса: konkurs-1979@mail.ru</p>  
        </div>  
  
        </div>  
  
        <div class="event-modal-sidebar">  
  
        <a href="https://www.mgpu
```

## 5. Тестирование hse.ru

```
Activities Terminal 13:11:17 en
lemp@u20-09: ~
lemp@u20-09: ~
lemp@u20-09: ~
* SSL certificate verify ok.
* Using HTTP2, server supports multi-use
* Connection state changed (HTTP/2 confirmed)
* Copying HTTP/2 data in stream buffer to connection buffer after upgrade: len=0
* Using Stream ID: 1 (easy handle 0x55c44b9552f0)
> GET / HTTP/2
> Host: www.hse.ru
> user-agent: curl/7.68.0
> accept: */*
>
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* old SSL session ID is stale, removing
* Connection state changed (MAX_CONCURRENT_STREAMS == 16)!
< HTTP/2 302
< server: QRATOR
< date: Tue, 13 Sep 2022 08:15:38 GMT
< content-type: text/html
< content-length: 138
< location: https://www.hse.ru/en/
< expires: Tue, 13 Sep 2022 08:15:38 GMT
< cache-control: max-age=0
< strict-transport-security: max-age=15552000
< x-xss-protection: 1; mode=block; report=https://www.hse.ru/n/api/xss/report
< set-cookie: tracking=ZEsUBGMgPCpMB8E0RoE+Ag==; expires=Thu, 31-Dec-37 23:55:55 GMT; domain=.hse.ru; path=/
<
<html>
<head><title>302 Found</title></head>
<body>
<center><h1>302 Found</h1></center>
<hr><center>nginx</center>
</body>
</html>
* Connection #0 to host www.hse.ru left intact
lemp@u20-09:~$
```

```
Activities Terminal 13:11:20 en
lemp@u20-09: ~
lemp@u20-09: ~
lemp@u20-09: ~
* Connection #0 to host www.hse.ru left intact
lemp@u20-09:~$ sudo curl -v https://www.hse.ru/en/
* Trying 178.248.234.104:443...
* TCP_NODELAY set
* Connected to www.hse.ru (178.248.234.104) port 443 (#0)
* ALPN, offering h2
* ALPN, offering http/1.1
* successfully set certificate verify locations:
* CAfile: /etc/ssl/certs/ca-certificates.crt
* CAPath: /etc/ssl/certs
* TLSv1.3 (OUT), TLS handshake, Client hello (1):
* TLSv1.3 (IN), TLS handshake, Server hello (2):
* TLSv1.3 (IN), TLS handshake, Encrypted Extensions (8):
* TLSv1.3 (IN), TLS handshake, Certificate (11):
* TLSv1.3 (IN), TLS handshake, CERT verify (15):
* TLSv1.3 (IN), TLS handshake, Finished (20):
* TLSv1.3 (OUT), TLS change cipher, Change cipher spec (1):
* TLSv1.3 (OUT), TLS handshake, Finished (20):
* SSL connection using TLSv1.3 / TLS_AES_128_GCM_SHA256
* ALPN, server accepted to use h2
* Server certificate:
* subject: CN=*.hse.ru
* start date: Jan 21 00:00:00 2022 GMT
* expire date: Feb 21 23:59:59 2023 GMT
* subjectAltName: host "www.hse.ru" matched cert's "*.hse.ru"
* issuer: C=GB; ST=Greater Manchester; L=Salford; O=Sectigo Limited; CN=Sectigo RSA Domain Validation Secure Server CA
* SSL certificate verify ok.
* Using HTTP2, server supports multi-use
* Connection state changed (HTTP/2 confirmed)
* Copying HTTP/2 data in stream buffer to connection buffer after upgrade: len=0
* Using Stream ID: 1 (easy handle 0x564ffe4032f0)
> GET /en/ HTTP/2
> Host: www.hse.ru
> user-agent: curl/7.68.0
> accept: */*
```



## 6. Установка nginx

```
lemp@u20-09:~$ sudo apt update && sudo apt install -y nginx
Hit:1 http://ru.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://ru.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://ru.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://deb.anydesk.com all InRelease
Hit:5 https://dl.google.com/linux/chrome/deb stable InRelease
Get:6 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:7 http://ppa.launchpad.net/serge-rider/dbeaver-ce/ubuntu focal InRelease
Hit:8 https://download.docker.com/linux/ubuntu focal InRelease
Fetched 114 kB in 1s (122 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
59 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  chromium-codecs-ffmpeg-extra gstreamer1.0-vaapi libfwupdplugin1 libgstreamer-plugins-bad1.0-0
  libva-wayland2
Use 'sudo apt autoremove' to remove them.
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 upgraded, 7 newly installed, 0 to remove and 59 not upgraded.
Need to get 605 kB of archives.
After this operation, 2 134 kB of additional disk space will be used.
Get:1 http://ru.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx-common all 1.18.0-0ubuntu1.3 [3
  7,7 kB]
Get:2 http://ru.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-http-image-filter amd64
  1.18.0-0ubuntu1.3 [14,8 kB]
```

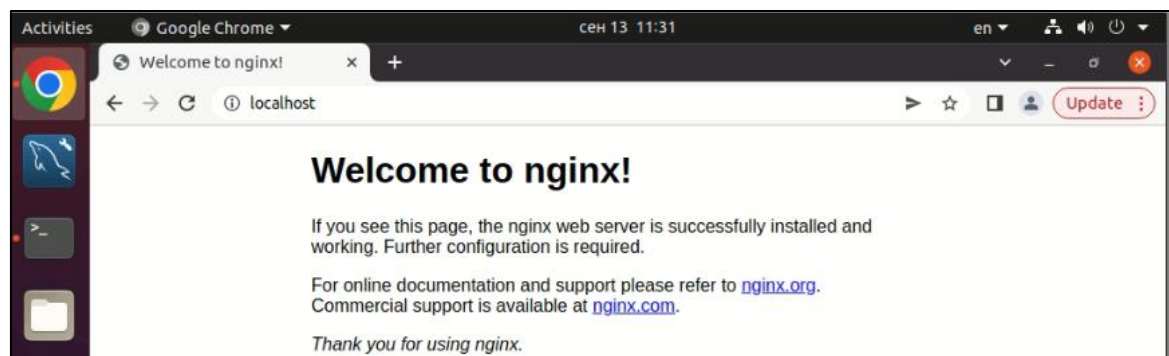
## 7. Включение конфигураций `sites-available` и `sites-enabled`

```
Processing triggers for ufw (0.36-0ubuntu1) ...
lemp@u20-09:~$ ls -l /etc/nginx/sites-enabled/
total 0
lrwxrwxrwx 1 root root 34 сен 13 11:27 default -> /etc/nginx/sites-available/default
lemp@u20-09:~$
```

## 8. Удаление `default` из `sites-enabled`

```
Processing triggers for ufw (0.36-0ubuntu1) ...
lemp@u20-09:~$ ls -l /etc/nginx/sites-enabled/
total 0
lrwxrwxrwx 1 root root 34 сен 13 11:27 default -> /etc/nginx/sites-available/default
lemp@u20-09:~$ ls -l /etc/nginx/sites-available/
total 4
-rw-r--r-- 1 root root 2416 map 26 2020 default
lemp@u20-09:~$
```

## 9. Localhost

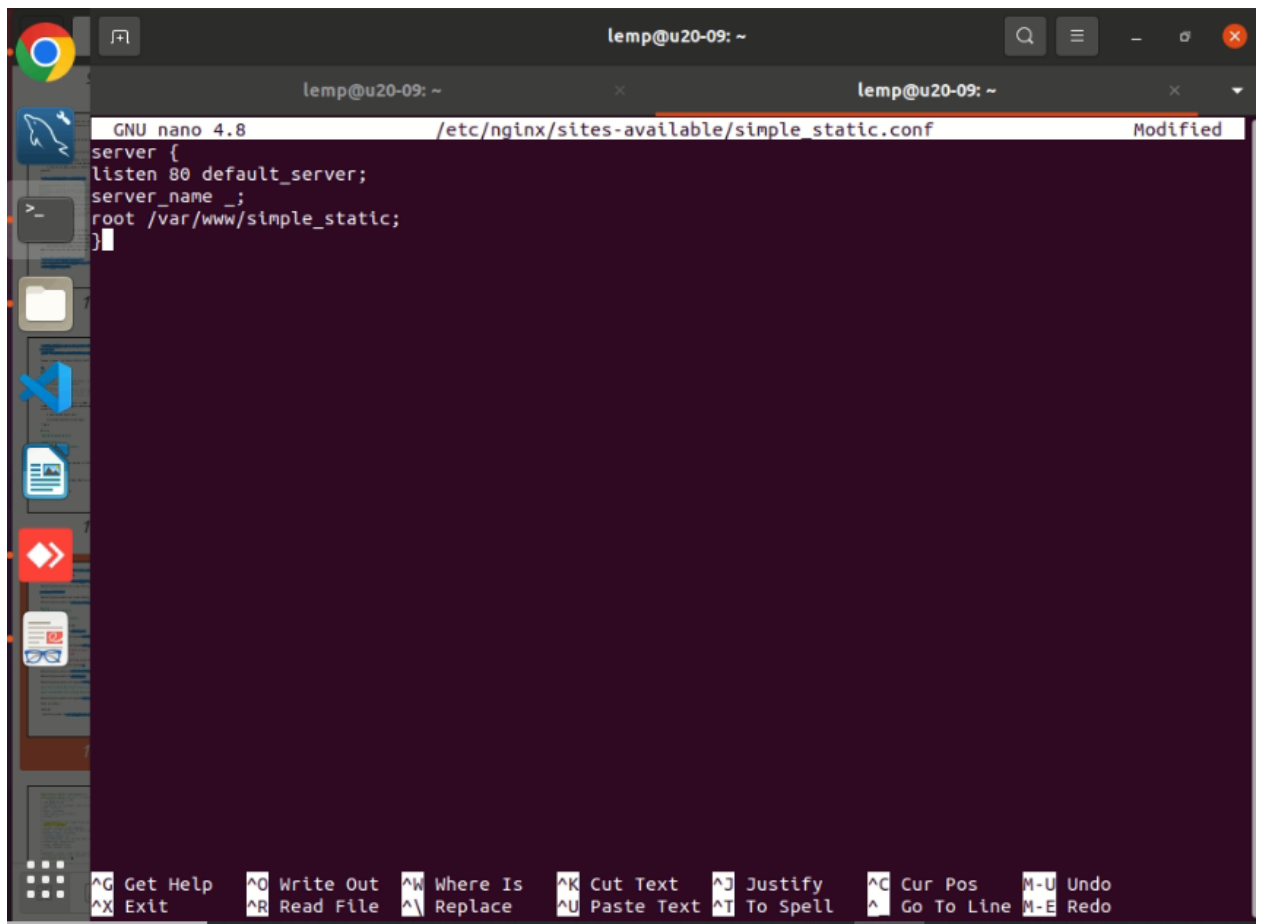


## 10. Создадим простую статику, которую можно будет раздать — html файл и картинку

```
Setting up libnginx-mod-http-image-filter (1.18.0-0ubuntu1.3) ...
Setting up libnginx-mod-stream (1.18.0-0ubuntu1.3) ...
Setting up nginx-core (1.18.0-0ubuntu1.3) ...
Setting up nginx (1.18.0-0ubuntu1.3) ...
Processing triggers for systemd (245.4-4ubuntu3.17) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for ufw (0.36-6ubuntu1) ...
lemp@u20-09:~$ ls -l /etc/nginx/sites-enabled/
total 0
lrwxrwxrwx 1 root root 34 сен 13 11:27 default -> /etc/nginx/sites-available/default
lemp@u20-09:~$ ls -l /etc/nginx/sites-available/
total 4
-rw-r--r-- 1 root root 2416 Map 26 2020 default
lemp@u20-09:~$ sudo rm /etc/nginx/sites-enabled/default
lemp@u20-09:~$ sudo mkdir -p /var/www/simple_static
lemp@u20-09:~$ sudo chown lemp /var/www/simple_static
lemp@u20-09:~$ cd /var/www/simple_static
lemp@u20-09:/var/www/simple_static$
```

```
lemp@u20-09: /var/www/simple_static
lemp@u20-09: ~
lemp@u20-09: /var/www/simple_static

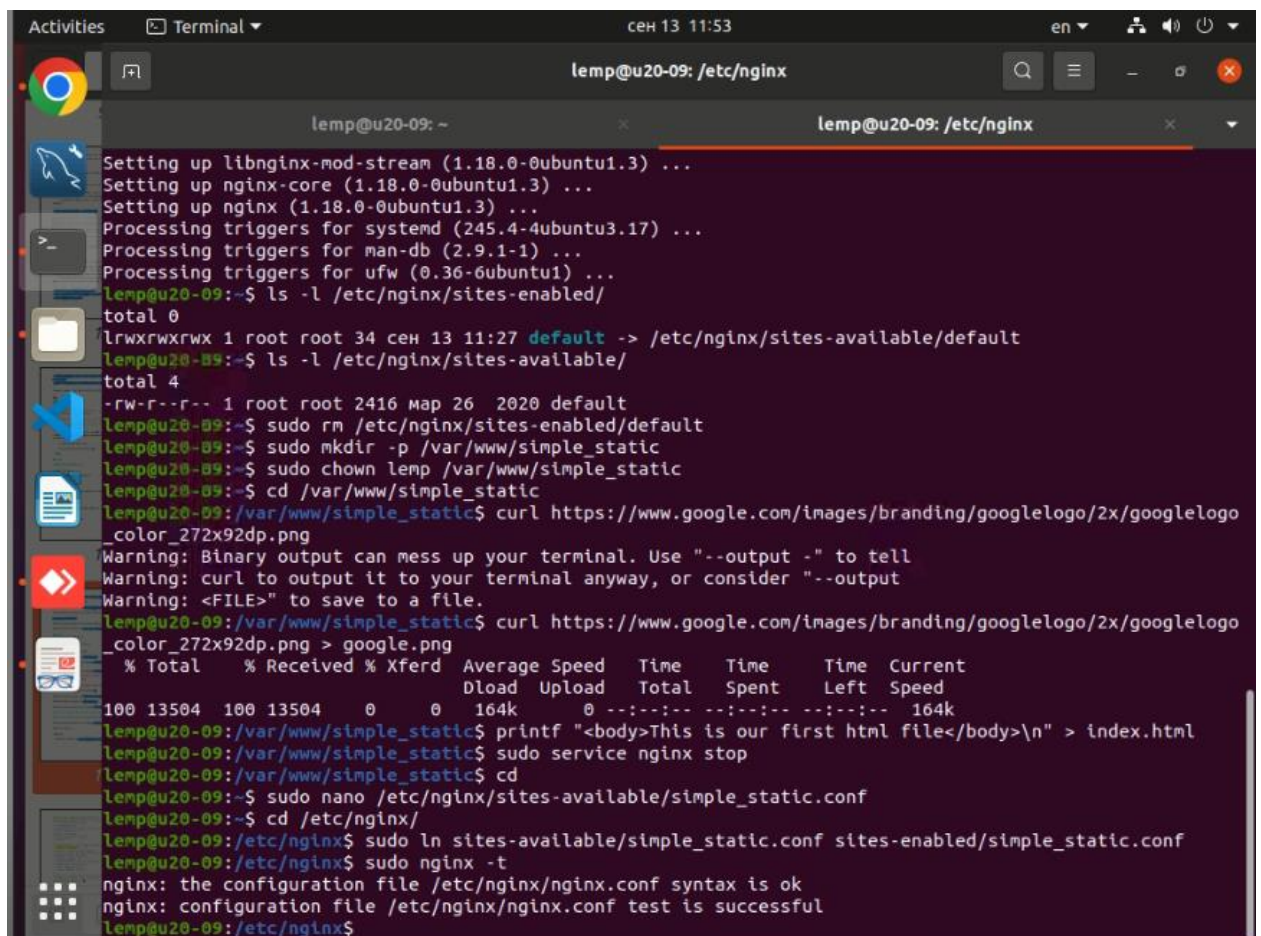
Selecting previously unselected package nginx.
Preparing to unpack .../6-nginx_1.18.0-0ubuntu1.3_all.deb ...
Unpacking nginx (1.18.0-0ubuntu1.3) ...
Setting up nginx-common (1.18.0-0ubuntu1.3) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service -> /lib/systemd/system/nginx.service.
Setting up libnginx-mod-http-xslt-filter (1.18.0-0ubuntu1.3) ...
Setting up libnginx-mod-mail (1.18.0-0ubuntu1.3) ...
Setting up libnginx-mod-http-image-filter (1.18.0-0ubuntu1.3) ...
Setting up libnginx-mod-stream (1.18.0-0ubuntu1.3) ...
Setting up nginx-core (1.18.0-0ubuntu1.3) ...
Setting up nginx (1.18.0-0ubuntu1.3) ...
Processing triggers for systemd (245.4-4ubuntu3.17) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for ufw (0.36-6ubuntu1) ...
lemp@u20-09:~$ ls -l /etc/nginx/sites-enabled/
total 0
lrwxrwxrwx 1 root root 34 сен 13 11:27 default -> /etc/nginx/sites-available/default
lemp@u20-09:~$ ls -l /etc/nginx/sites-available/
total 4
-rw-r--r-- 1 root root 2416 Map 26 2020 default
lemp@u20-09:~$ sudo rm /etc/nginx/sites-enabled/default
lemp@u20-09:~$ sudo mkdir -p /var/www/simple_static
lemp@u20-09:~$ sudo chown lemp /var/www/simple_static
lemp@u20-09:~$ cd /var/www/simple_static
lemp@u20-09:/var/www/simple_static$ curl https://www.google.com/images/branding/googlelogo/2x/googlelogo_color_272x92dp.png
Warning: Binary output can mess up your terminal. Use "--output -" to tell
Warning: curl to output it to your terminal anyway, or consider "--output
Warning: <FILE>" to save to a file.
lemp@u20-09:/var/www/simple_static$ curl https://www.google.com/images/branding/googlelogo/2x/googlelogo_color_272x92dp.png > google.png
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left   Speed
100 13504  100 13504    0     0  164k    0 --:--:-- --:--:-- --:--:-- 164k
lemp@u20-09:/var/www/simple_static$
```



The screenshot shows a terminal window with the title bar "lemp@u20-09: ~". The terminal is running the GNU nano 4.8 editor, editing the file "/etc/nginx/sites-available/simple\_static.conf". The file content is as follows:

```
server {
listen 80 default_server;
server_name _;
root /var/www/simple_static;
}
```

The terminal window has a sidebar on the left with icons for various applications. At the bottom, there is a status bar with keyboard shortcuts: ^G Get Help, ^O Write Out, ^W Where Is, ^K Cut Text, ^J Justify, ^C Cur Pos, M-U Undo, ^X Exit, ^R Read File, ^\_ Replace, ^V Paste Text, ^T To Spell, ^\_ Go To Line, M-E Redo.



The screenshot shows a terminal window with the title bar "lemp@u20-09: /etc/nginx". The terminal is running the following commands and output:

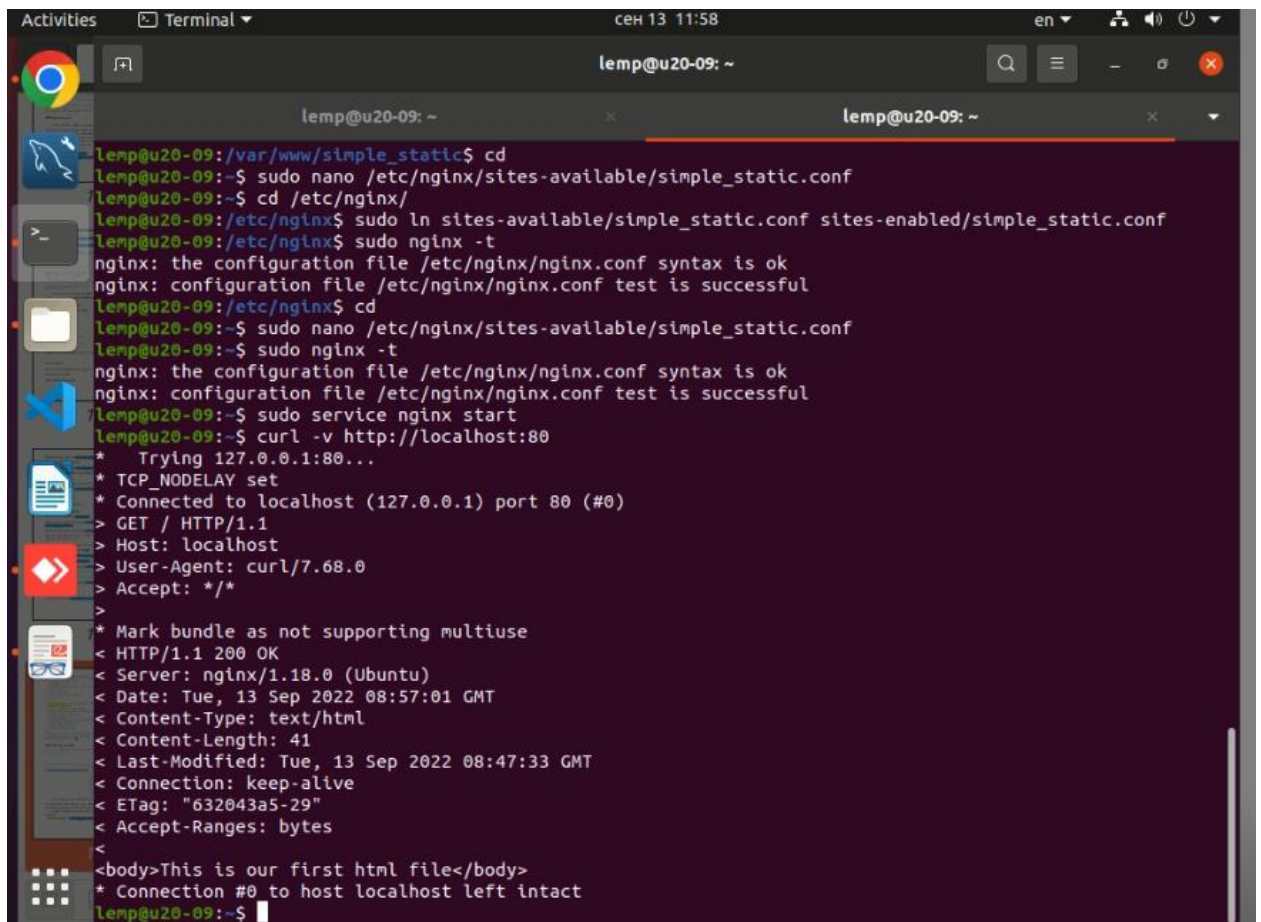
```
Setting up libnginx-mod-stream (1.18.0-0ubuntu1.3) ...
Setting up nginx-core (1.18.0-0ubuntu1.3) ...
Setting up nginx (1.18.0-0ubuntu1.3) ...
Processing triggers for systemd (245.4-4ubuntu3.17) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for ufw (0.36-6ubuntu1) ...
lemp@u20-09:~$ ls -l /etc/nginx/sites-enabled/
total 0
lrwxrwxrwx 1 root root 34 ce13 11:27 default -> /etc/nginx/sites-available/default
lemp@u20-09:~$ ls -l /etc/nginx/sites-available/
total 4
-rw-r--r-- 1 root root 2416 map 26 2020 default
lemp@u20-09:~$ sudo rm /etc/nginx/sites-enabled/default
lemp@u20-09:~$ sudo mkdir -p /var/www/simple_static
lemp@u20-09:~$ sudo chown lemp /var/www/simple_static
lemp@u20-09:~$ cd /var/www/simple_static
lemp@u20-09:/var/www/simple_static$ curl https://www.google.com/images/branding/googlelogo/2x/googlelogo_color_272x92dp.png
Warning: Binary output can mess up your terminal. Use "--output -" to tell
Warning: curl to output it to your terminal anyway, or consider "--output
Warning: <FILE>" to save to a file.
lemp@u20-09:/var/www/simple_static$ curl https://www.google.com/images/branding/googlelogo/2x/googlelogo_color_272x92dp.png > google.png
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 13504  100 13504    0     0  164k    0  0:00:01  0:00:01  0:00:00  164k
lemp@u20-09:/var/www/simple_static$ printf "<body>This is our first html file</body>\n" > index.html
lemp@u20-09:/var/www/simple_static$ sudo service nginx stop
lemp@u20-09:/var/www/simple_static$ cd
lemp@u20-09:~$ sudo nano /etc/nginx/sites-available/simple_static.conf
lemp@u20-09:~$ cd /etc/nginx/
lemp@u20-09:/etc/nginx$ sudo ln sites-available/simple_static.conf sites-enabled/simple_static.conf
lemp@u20-09:/etc/nginx$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
lemp@u20-09:/etc/nginx$
```



```

100 13504 100 13504 0 0 164k 0 --:--:-- --:--:-- --:--:-- 164k
lemp@u20-09:/var/www/simple_static$ printf "<body>This is our first html file</body>\n" > index.html
lemp@u20-09:/var/www/simple_static$ sudo service nginx stop
lemp@u20-09:/var/www/simple_static$ cd
lemp@u20-09:~$ sudo nano /etc/nginx/sites-available/simple_static.conf
lemp@u20-09:~$ cd /etc/nginx/
lemp@u20-09:/etc/nginx$ sudo ln sites-available/simple_static.conf sites-enabled/simple_static.conf
lemp@u20-09:/etc/nginx$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
lemp@u20-09:/etc/nginx$ cd
lemp@u20-09:~$ sudo nano /etc/nginx/sites-available/simple_static.conf
lemp@u20-09:~$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
lemp@u20-09:~$

```



```

lemp@u20-09:~$ cd
lemp@u20-09:/var/www/simple_static$ sudo nano /etc/nginx/sites-available/simple_static.conf
lemp@u20-09:~$ cd /etc/nginx/
lemp@u20-09:/etc/nginx$ sudo ln sites-available/simple_static.conf sites-enabled/simple_static.conf
lemp@u20-09:/etc/nginx$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
lemp@u20-09:/etc/nginx$ cd
lemp@u20-09:~$ sudo nano /etc/nginx/sites-available/simple_static.conf
lemp@u20-09:~$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
lemp@u20-09:~$ sudo service nginx start
lemp@u20-09:~$ curl -v http://localhost:80
* Trying 127.0.0.1:80...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 80 (#0)
> GET / HTTP/1.1
> Host: localhost
> User-Agent: curl/7.68.0
> Accept: */*
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.18.0 (Ubuntu)
< Date: Tue, 13 Sep 2022 08:57:01 GMT
< Content-Type: text/html
< Content-Length: 41
< Last-Modified: Tue, 13 Sep 2022 08:47:33 GMT
< Connection: keep-alive
< ETag: "632043a5-29"
< Accept-Ranges: bytes
<
<body>This is our first html file</body>
* Connection #0 to host localhost left intact
lemp@u20-09:~$

```

