```
lemp@u20-13:~$ sudo apt install upd
[sudo] password for lemp:
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package upd
lemp@u20-13:~$ sudo apt install curl
Reading package lists... Done
Building dependency tree
Reading state information... Done
curl is already the newest version (7.68.0-1ubuntu2.13).
The following packages were automatically installed and are no longer required:
  chromium-codecs-ffmpeg-extra gstreamer1.0-vaapi libfwupdplugin1
  libgstreamer-plugins-bad1.0-0 libminizip1 libva-wayland2
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 43 not upgraded.
lemp@u20-13:~$ sudo telnet -d localhost 22
[sudo] password for lemp:
Trying 127.0.0.1...
telnet: Unable to connect to remote host: Connection refused
lemp@u20-13:~$ sudo telnet opennet.ru 80
Trying 217.65.3.21...
Connected to opennet.ru.
Escape character is '^]'.


^CConnection closed by foreign host.
lemp@u20-13:~$ sudo telnet india.colorado.edu 13
Trying 128.138.140.44...
Connected to india.colorado.edu.
Escape character is '^]'.
Connection closed by foreign host.
lemp@u20-13:~$
```

```
Trying 217.65.3.21...
Connected to opennet.ru.
Escape character is '^]'.


^CConnection closed by foreign host.
lemp@u20-13:~$ sudo telnet india.colorado.edu 13
Trying 128.138.140.44...
Connected to india.colorado.edu.
Escape character is '^]'.
Connection closed by foreign host.
lemp@u20-13:~$ sudo telnet -d mgpu.ru 80
Trying 37.230.157.233...
Connected to mgpu.ru.
Escape character is '^]'.


^CConnection closed by foreign host.
lemp@u20-13:~$
```

```
lemp@u20-13:~$ sudo curl -v http://mgpu.ru
*   Trying 37.230.157.233:80...
* TCP_NODELAY set
* Connected to mgpu.ru (37.230.157.233) port 80 (#0)
> GET / HTTP/1.1
> Host: mgpu.ru
> User-Agent: curl/7.68.0
> Accept: */*
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 301 Moved Permanently
< Content-length: 0
< Location: https://mgpu.ru/
<
* Connection #0 to host mgpu.ru left intact
lemp@u20-13:~$
```

```
lemp@u20-13:/etc/nginx$ cd
lemp@u20-13:~$ cd /etc/nginx/
lemp@u20-13:/etc/nginx$ sudo ln sites-available/simple_static.conf sites-enabled
/simple_static.conf
ln: failed to create hard link 'sites-enabled/simple_static.conf': File exists
lemp@u20-13:/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@u20-13:/etc/nginx$ cd
lemp@u20-13:~$ sudo nano /etc/nginx/sites-available/simple_static.conf
lemp@u20-13:~$ cd /etc/nginx/
lemp@u20-13:/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@u20-13:/etc/nginx$ sudo service nginx start
lemp@u20-13:/etc/nginx$ 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: */*
>
```

```
lemp@u20-13:~$ sudo curl -v https://mgpu.ru
*   Trying 37.230.157.233:443...
* TCP_NODELAY set
* Connected to mgpu.ru (37.230.157.233) 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_256_GCM_SHA384
* ALPN, server did not agree to a protocol
* Server certificate:
*  subject: CN=*.mgpu.ru
*  start date: Mar 29 11:44:41 2022 GMT
*  expire date: Apr 30 11:44:40 2023 GMT
*  subjectAltName: host "mgpu.ru" matched cert's "mgpu.ru"
*  issuer: C=BE; O=GlobalSign nv-sa; CN=AlphaSSL CA - SHA256 - G2
*  SSL certificate verify ok.
> GET / HTTP/1.1
> Host: mgpu.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
* Mark bundle as not supporting multiuse
< HTTP/1.1 301 Moved Permanently
< Content-length: 0
< Location: https://www.mgpu.ru/
<
* Connection #0 to host mgpu.ru left intact
lemp@u20-13:~$
```

```
lemp@u20-13:~$ sudo curl -v https://www.mgpu.ru
*   Trying 37.230.157.233:443...
* TCP_NODELAY set
* Connected to www.mgpu.ru (37.230.157.233) 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_256_GCM_SHA384
* ALPN, server did not agree to a protocol
* Server certificate:
*  subject: CN=*.mgpu.ru
*  start date: Mar 29 11:44:41 2022 GMT
*  expire date: Apr 30 11:44:40 2023 GMT
*  subjectAltName: host "www.mgpu.ru" matched cert's "*.mgpu.ru"
*  issuer: C=BE; O=GlobalSign nv-sa; CN=AlphaSSL CA - SHA256 - G2
*  SSL certificate verify ok.
> GET / HTTP/1.1
> Host: www.mgpu.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
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.18.0 (Ubuntu)
< Date: Tue, 13 Sep 2022 08:08:56 GMT
< Content-Type: text/html; charset=UTF-8
< Transfer-Encoding: chunked
< Vary: Accept-Encoding
```

```
lemp@u20-13:~$ sudo curl -v http://www.hse.ru
*   Trying 178.248.234.104:80...
* TCP_NODELAY set
* Connected to www.hse.ru (178.248.234.104) port 80 (#0)
> GET / HTTP/1.1
> Host: www.hse.ru
> User-Agent: curl/7.68.0
> Accept: */*
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 301 Moved Permanently
< Server: QRATOR
< Date: Tue, 13 Sep 2022 08:15:36 GMT
< Content-Type: text/html
< Content-Length: 162
< Connection: keep-alive
< Keep-Alive: timeout=15
< Location: https://www.hse.ru/
< Strict-Transport-Security: max-age=15552000
< X-XSS-Protection: 1; mode=block; report=https://www.hse.ru/n/api/xss/report
<
<html>
<head><title>301 Moved Permanently</title></head>
<body>
<center><h1>301 Moved Permanently</h1></center>
<hr><center>nginx</center>
</body>
</html>
* Connection #0 to host www.hse.ru left intact
lemp@u20-13:~$
```

```
</BODY></HTML>
* Connection #0 to host www.hse.ru left intact
lemp@u20-13:~$ 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 0x55d6c374b2f0)
> GET /en/ 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/2 200
< server: ORATOR
```
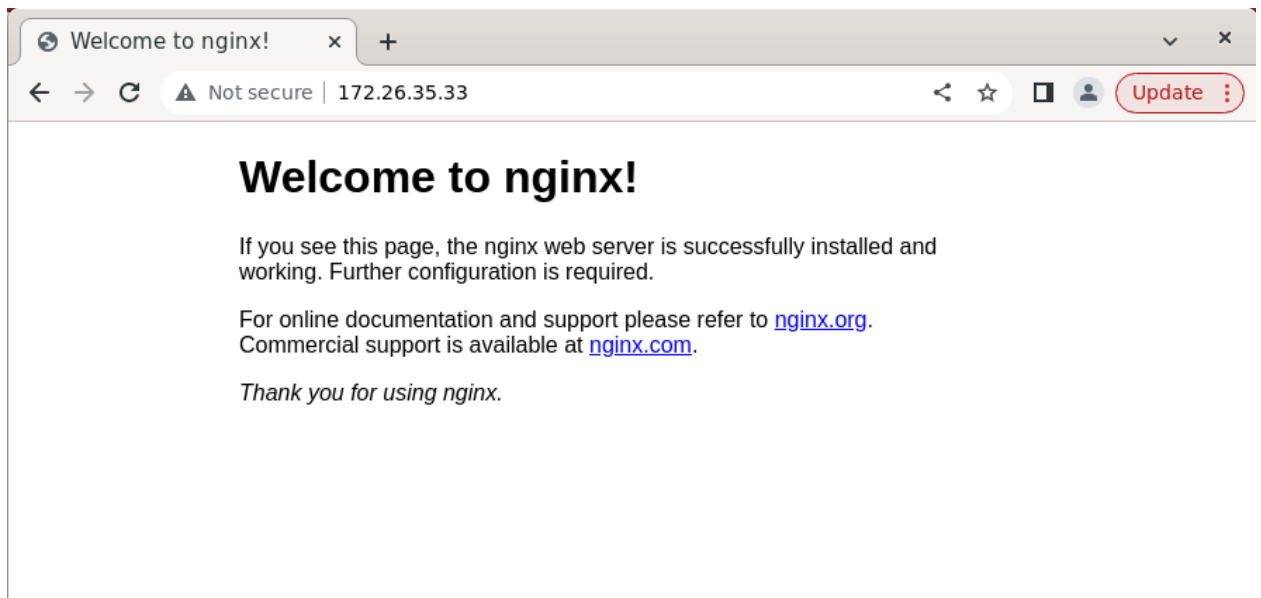
Индивидуальное задание

```
lemp@u20-13:~$ sudo apt update && sudo apt install -y nginx
[sudo] password for lemp:
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://cz.archive.ubuntu.com/ubuntu bionic InRelease
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Hit:6 http://deb.anydesk.com all InRelease
Hit:7 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:8 http://ppa.launchpad.net/serge-rider/dbeaver-ce/ubuntu focal InRelease
Hit:9 https://download.docker.com/linux/ubuntu focal InRelease
Reading package lists... Done
Building dependency tree
Reading state information... Done
43 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 libminizip1 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
```

```
Unpacking nginx-core (1.18.0-0ubuntu1.3) ...
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@u20-13:~$ ls -l /etc/nginx/sites-enabled/
total 0
lrwxrwxrwx 1 root root 34 сен 13 11:33 default -> /etc/nginx/sites-available/def
ault
lemp@u20-13:~$ ls -l /etc/nginx/sites-available/
total 4
-rw-r--r-- 1 root root 2416 мар 26  2020 default
lemp@u20-13:~$
```

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org. Commercial support is available at nginx.com.

Thank you for using nginx.

---

lemp@u20-13: /var/www/simple_static

```
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@u20-13:~$ ls -l /etc/nginx/sites-enabled/
total 0
lrwxrwxrwx 1 root root 34 сен 13 11:33 default -> /etc/nginx/sites-available/def
ault
lemp@u20-13:~$ ls -l /etc/nginx/sites-available/
total 4
-rw-r--r-- 1 root root 2416 мар 26  2020 default
lemp@u20-13:~$ sudo rm /etc/nginx/sites-enabled/default
lemp@u20-13:~$ sudo mkdir -p /var/www/simple_static
lemp@u20-13:~$ sudo chown lemp /var/www/simple_static
lemp@u20-13:~$ cd /var/www/simple_static
lemp@u20-13:/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   155k      0 --:--:-- --:--:-- --:--:--  156k
lemp@u20-13:/var/www/simple_static$ printf "<body>This is our first html file</b
ody>\n" > index.html
lemp@u20-13:/var/www/simple_static$
```

```
lemp@u20-13:~$ ls
Desktop     google-chrome-stable_current_amd64.deb   Public      thinclient_drives
Documents   Music                                     snap        Videos
Downloads   Pictures                                  Templates
lemp@u20-13:~$ cd /var/www/simple_static
lemp@u20-13:/var/www/simple_static$ cd
lemp@u20-13:~$ sudo nano /etc/nginx/sites-available/simple_static.conf
[sudo] password for lemp:
lemp@u20-13:~$
```

```
  GNU nano 4.8        /etc/nginx/sites-available/simple_static.conf
server {
listen 80 default_server;
server_name _;
root /var/www/simple_static;
}

                              [ Wrote 5 lines ]
^G Get Help   ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos
^X Exit       ^R Read File  ^\ Replace    ^U Paste Text ^T To Spell   ^  Go To Line
```

```
lemp@u20-13:/etc/nginx$ sudo service nginx start
lemp@u20-13:/etc/nginx$ 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, 20 Sep 2022 06:15:51 GMT
< Content-Type: text/html
< Content-Length: 41
< Last-Modified: Tue, 13 Sep 2022 08:47:06 GMT
< Connection: keep-alive
< ETag: "6320438a-29"
< Accept-Ranges: bytes
<
<body>This is our first html file</body>
* Connection #0 to host localhost left intact
lemp@u20-13:/etc/nginx$
```

```
<
<body>This is our first html file</body>
* Connection #0 to host localhost left intact
lemp@u20-13:/etc/nginx$ curl -v http://localhost:80/google.png > /dev/null
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
  0     0    0     0    0     0      0      0 --:--:-- --:--:-- --:--:--     0*
  Trying 127.0.0.1:80...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 80 (#0)
> GET /google.png 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, 20 Sep 2022 06:19:59 GMT
< Content-Type: image/png
< Content-Length: 13504
< Last-Modified: Tue, 13 Sep 2022 08:45:55 GMT
< Connection: keep-alive
< ETag: "63204343-34c0"
< Accept-Ranges: bytes
<
{ [13504 bytes data]
100 13504  100 13504    0     0  1318k      0 --:--:-- --:--:-- --:--:-- 1318k
* Connection #0 to host localhost left intact
lemp@u20-13:/etc/nginx$
```