



lemp@u20-03: ~

```
lemp@u20-03:~$ sudo apt install update
[sudo] password for lemp:
Sorry, try again.
[sudo] password for lemp:
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package update
lemp@u20-03:~$ 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 libva-wayland2
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 58 not upgraded.
```

```
lemp@u20-03:~$ telnet opennet.ru 80
Trying 217.65.3.21...
Connected to opennet.ru.
Escape character is '^]'.
^]
HTTP/1.1 400 Bad Request
Server: nginx
Date: Tue, 13 Sep 2022 07:52:34 GMT
Content-Type: text/html
Content-Length: 150
Connection: close

<html>
<head><title>400 Bad Request</title></head>
<body>
<center><h1>400 Bad Request</h1></center>
<hr><center>nginx</center>
```

```
<hr><center>nginx</center>
```

```
</body>
```

```
</html>
```

```
Connection closed by foreign host.
```

```
lemp@u20-03:~$ sudo telnet -d localhost 22
```

```
[sudo] password for lemp:
```

```
Trying 127.0.0.1...
```

```
telnet: Unable to connect to remote host: Connection refused
```

```
lemp@u20-03:~$ sudo telnet opennet.ru 80\
```

```
>
```

```
Trying 217.65.3.21...
```

```
Connected to opennet.ru.
```

```
Escape character is '^]'.
```

```
^CConnection closed by foreign host.
```

```
lemp@u20-03:~$ 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@u20-03:~$ sudo telnet mgpu.ru 80
```

```
Trying 37.230.157.233...
```

```
Connected to mgpu.ru.
```

```
Escape character is '^]'.
```

```
^CConnection closed by foreign host.
```

```
lemp@u20-03:~$ █
```

```
lemp@u20-03:~$ 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
*   Cpath: /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@u20-03: ~$ 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 08:09:19 GMT
< Content-Type: text/html; charset=UTF-8
< Transfer-Encoding: chunked
< Vary: Accept-Encoding
< Last-Modified: Tue, 13 Sep 2022 08:08:55 GMT
< Cache-Control: max-age=576, must-revalidate
< Vary: Cookie
< Link: <https://www.mgpu.ru/wp-json/>; rel="https://api.w.org/"
< Link: <https://www.mgpu.ru/wp-json/wp/v2/pages/2>; rel="alternate"; type="application/json"
< Link: <https://www.mgpu.ru/>; rel=shortlink
<

```

```

lemp@u20-03:~$ sudo curl -v 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 08:17:38 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@u20-03: ~  
lemp@u20-03:~$ sudo curl -v https://www.hse.ru  
* 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 Serv  
* 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 0x563b54df42f0)  
> 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 08:14:05 GMT  
< content-type: text/html  
< content-length: 138  
< location: https://www.hse.ru/en/  
< expires: Tue, 13 Sep 2022 08:14:05 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=ZEsubGMg081L38EyCVdMAg==; expires=Thu, 31-Dec-37 23:55:55 GMT; domain=.hse.ru; path=/
```

```

lemp@u20-03:~$ 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 0x556227ce22f0)
> 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: QRATOR
< date: Tue, 13 Sep 2022 08:16:15 GMT
< content-type: text/html; charset=utf-8
< content-length: 100547

```

NGINX

```

lemp@u20-03:~$ sudo apt update && sudo apt install -y nginx
Hit:1 http://ru.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://ru.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://ru.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Hit:4 http://deb.anydesk.com all InRelease
Hit:5 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:6 http://ppa.launchpad.net/serge-rider/dbeaver-ce/ubuntu focal InRelease
Get:7 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:8 https://download.docker.com/linux/ubuntu focal InRelease
Get:9 http://ru.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2 080 kB]
Get:10 http://ru.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [717 kB]
Get:11 http://ru.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [277 kB]
Get:12 http://ru.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [950 kB]
Get:13 http://ru.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11 Metadata [392 kB]
Get:14 http://ru.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 DEP-11 Metadata [944 B]
Get:15 http://ru.archive.ubuntu.com/ubuntu focal-backports/main amd64 DEP-11 Metadata [7 980 B]
Get:16 http://ru.archive.ubuntu.com/ubuntu focal-backports/universe amd64 DEP-11 Metadata [30,5 kB]
Get:17 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [40,7 kB]
Get:18 http://security.ubuntu.com/ubuntu focal-security/universe amd64 DEP-11 Metadata [77,4 kB]
Get:19 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 DEP-11 Metadata [2 464 B]
Fetched 4 912 kB in 1s (3 911 kB/s)

lemp@u20-03:~$ ls -l /etc/nginx/sites-enabled/
total 0
lrwxrwxrwx 1 root root 34 сен 13 11:28 default -> /etc/nginx/sites-available/default

lemp@u20-03:~$ ls -l /etc/nginx/sites-available/
total 4
-rw-r--r-- 1 root root 2416 map 26 2020 default

```

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@u20-03:~$ sudo rm /etc/nginx/sites-enabled/default
```

```
lemp@u20-03:~$ sudo rm /etc/nginx/sites-enabled/default
```

```
lemp@u20-03:~$ sudo mkdir -p /var/www/simple_static
```

```
lemp@u20-03:~$ sudo chown lemp /var/www/simple_static
```

```
lemp@u20-03:~$ cd /var/www/simple_static
```

```
lemp@u20-03:/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
100	13504	100	13504	0	0	171k	0
							173k

```
lemp@u20-03:/var/www/simple_static$ printf "<body>This is our first html file</body>\n" > index.html
```

```
lemp@u20-03:/var/www/simple_static$ ls
```

```
google.png  index.html
```

```
lemp@u20-03:/var/www/simple_static$ sudo service nginx stop
```

```
lemp@u20-03:/var/www/simple_static$ cd
```

```
lemp@u20-03:~$ sudo nano /etc/nginx/sites-available/simple_static.conf
```

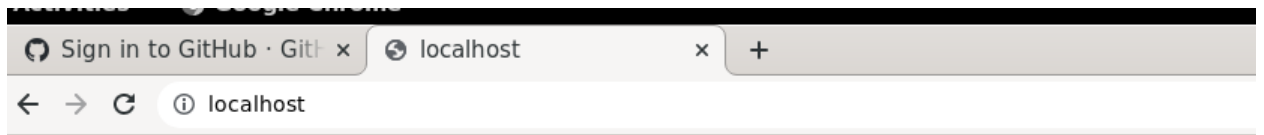
```
lemp@u20-03: ~  
GNU nano 4.8 /etc/nginx/sites-available/simple_static.conf  
server {  
listen 80 default_server;  
server_name _;  
root /var/www/simple_static;  
}
```

```
lemp@u20-03:/etc/nginx$ sudo ln sites-available/simple_static.conf sites-enabled/simple_static.conf
```

```
lemp@u20-03:/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
```



This is our first html file