

Департамент образования и науки города Москвы
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»

Преподаватель: Босенко Т.М.

Выполнил: Макаревич Д.Е.

группа: ТП-191

Москва

2022

```
lemp@u20-08: ~  
lemp@u20-08:~$ sudo telnet -d localhost 22  
[sudo] password for lemp:  
Trying 127.0.0.1...  
telnet: Unable to connect to remote host: Connection refused  
lemp@u20-08:~$ sudo telnet opennet.ru 80  
Trying 217.65.3.21...  
Connected to opennet.ru.  
Escape character is '^]'.  
^CConnection closed by foreign host.  
lemp@u20-08:~$ sudo telnet india.colorado.edu 13  
Trying 128.138.140.44...  
Connected to india.colorado.edu.  
Escape character is '^]'.  
  
59835 22-09-13 07:55:51 50 0 0 797.1 UTC(NIST) *  
Connection closed by foreign host.  
lemp@u20-08:~$
```

```
59835 22-09-13 07:55:51 50 0 0 797.1 UTC(NIST) *  
Connection closed by foreign host.  
lemp@u20-08:~$ sudo telnet -d mgpu.ru 80  
Trying 37.230.157.233...  
Connected to mgpu.ru.  
Escape character is '^]'.  
^CConnection closed by foreign host.  
lemp@u20-08:~$ S
```

```
lemp@u20-08:~$ 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@u20-08: ~  
lemp@u20-08:~$ 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 - G  
2  
* 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

```

```

lamp@u20-08:~$ 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 - G
2
*   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)

```

```
< Server: nginx/1.18.0 (Ubuntu)
< Date: Tue, 13 Sep 2022 08:08:55 GMT
< Content-Type: text/html; charset=UTF-8
< Transfer-Encoding: chunked
< Vary: Accept-Encoding
< 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@u20-08:~$ 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 08:16:02 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
```

```

leni@u20-08:~$ 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 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 0x560a85dd92f0)

```



```
> 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 08:16:53 GMT
< content-type: text/html
< content-length: 138
< location: https://www.hse.ru/en/
< expires: Tue, 13 Sep 2022 08:16:53 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=ZEsUBGMgPHVL38EyCWTIAg==; 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@u20-08:~$ 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 0x55815d2962f0)
```



```

* Using Stream ID: 1 (easy handle 0x55815d2962f0)
> 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 08:19:11 GMT
< content-type: text/html; charset=utf-8
< content-length: 100547
< etag: W/"188c3-TTRGgiSJ8Xq6BiuGAC4y1eeBTdc"
< x-ireland-cache-status: HIT
< strict-transport-security: max-age=15552000
< x-xss-protection: 1; mode=block; report=https://www.hse.ru/n/api/xss/report
< set-cookie: tracking=ZEsUBGMgPP9L38EyCXDrAg==; expires=Thu, 31-Dec-37 23:55:55 GMT; domain=.hse.ru; path=/
<

```

Индивидуальное задание:

```

lemp@u20-08: ~
lemp@u20-08:~$ sudo apt update && sudo apt install -y nginx
[sudo] password for lemp:
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 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:5 http://deb.anydesk.com all 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
Get:8 http://ru.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [717 kB]
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 amd64 DEP-11 Metadata [277 kB]
Get:11 http://ru.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [950 kB]
Get:12 http://ru.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [277 kB]

```

```
lemp@u20-08: ~  
lemp@u20-08:~$ ls -l /etc/nginx/sites-enabled/  
total 0  
lrwxrwxrwx 1 root root 34 cen 13 11:27 default -> /etc/nginx/sites-available/  
/default  
lemp@u20-08:~$ ls -l /etc/nginx/sites-available/  
total 4  
-rw-r--r-- 1 root root 2416 map 26 2020 default  
  
lemp@u20-08:~$ sudo rm /etc/nginx/sites-enabled/default  
lemp@u20-08:~$ sudo mkdir -p /var/www/simple_static  
lemp@u20-08:~$ sudo chown hdmaster /var/www/simple_static  
chown: invalid user: 'hdmaster'  
lemp@u20-08:~$ sudo chown lemp /var/www/simple_static  
lemp@u20-08:~$ cd /var/www/simple_static  
lemp@u20-08:/var/www/simple_static$ curl https://www.google.com/images/branding/google  
logo/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@u20-08:/var/www/simple_static$ curl https://www.google.com/images/branding/google  
logo/2x/googlelogo_color_272x92dp.png > google.png  
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current  
                                 Dload  Upload  Total   Spent    Left   Speed  
  0     0     0     0     0     0      0      0  --:--:-- --:--:-- --:--:--    100 13504  
100 13504  100     0  173k      0  --:--:-- --:--:-- --:--:--    173k  
lemp@u20-08:/var/www/simple_static$ curl https://www.google.com/images/branding/google  
logo/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  171k      0  --:--:-- --:--:-- --:--:--    171k  
lemp@u20-08:/var/www/simple_static$ printf "<body>This is our first html file</body>\n  
> index.html  
lemp@u20-08:/var/www/simple_static$ ls  
google.png  index.html  
lemp@u20-08:/var/www/simple_static$
```

```
lemp@u20-08: ~  
GNU nano 4.8 /etc/nginx/sites-available/simple_static.conf Modified  
server {  
listen 80 default_server;  
server_name _;  
root /var/www/simple_static;  
}  
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos  
^X Exit. ^R Read File ^M Replace ^V Paste Text ^T To Spell ^_ To Line
```

```
lemp@u20-08:/var/www/simple_static$ cd  
lemp@u20-08:~$ sudo nano /etc/nginx/sites-available/simple_static.conf  
lemp@u20-08:~$ cd /etc/nginx/  
lemp@u20-08:/etc/nginx$ sudo ln sites-available/simple_static.conf sites-  
lemp@u20-08:/etc/nginx$ sudo ln sites-available/simple_static.conf sites-enabled/simpl  
e_static.conf  
lemp@u20-08:/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@u20-08:/etc/nginx$
```

```
lemp@u20-08: /etc/nginx  
lemp@u20-08:/var/www/simple_static$ sudo service nginx stop  
lemp@u20-08:/var/www/simple_static$ ls  
google.png index.html  
lemp@u20-08:/var/www/simple_static$ cd  
lemp@u20-08:~$ sudo nano /etc/nginx/sites-available/simple_static.conf  
lemp@u20-08:~$ cd /etc/nginx/  
lemp@u20-08:/etc/nginx$ sudo ln sites-available/simple_static.conf sites-  
lemp@u20-08:/etc/nginx$ sudo ln sites-available/simple_static.conf sites-enabled/simpl  
e_static.conf  
lemp@u20-08:/etc/nginx$ sudo nginx  
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok  
nginx: configuration file /etc/nginx/nginx.conf test is successful  
lemp@u20-08:/etc/nginx$ sudo service nginx start  
lemp@u20-08:/etc/nginx$
```


This is our first html file