

ISP	10.10.10.2/30 к HQ-R 2001::7:2/126 к HQ-R  10.10.10.6/30 к BR-R 2001::7:6/126 к BR-R  192.168.0.1/24 к CLI 2001::3:1/120
HQ R	10.10.10.1/30 к ISP 2001::7:1/126 к ISP  192.168.1.1/(ТВОЯ МАСКА ДЛЯ HQ) к HQ-SRV 2001::1:1/ ТВОЯ МАСКА ДЛЯ HQ) к к HQ-SRV
BR R	10.10.10.5/30 к ISP 2001::7:5/126 к ISP  192.168.2.1/(ТВОЯ МАСКА ДЛЯ BR) к BR-SRV 2001::2:1/(ТВОЯ МАСКА ДЛЯ BR) к BR-SRV
HQ SRV	192.168.1.2 (ТВОЯ МАСКА ДЛЯ HQ) К HQ-R 2001::1:2/(ТВОЯ МАСКА ДЛЯ HQ) К HQ-R
BR SRV	192.168.2.2 /(ТВОЯ МАСКА ДЛЯ BR) К BR-R 2001::2:2/ (ТВОЯ МАСКА ДЛЯ BR) К BR-R
CLI	192.168.0.2/24 К ISP 2001::3:2/120

## Задание 2.

Пишем вот эту лабуду:

OSPF подходит для построения среднеразмерных сетей, и при этом является открытым стандартом протоколов динамической маршрутизации, в то время как EIGRP проприетарный протокол CISCO IOS, IS-IS и BGP используются для глобальной маршрутизации на уровне провайдеров.

## Задание 2а

### Топология сети

Открываем ссылку, пишем свою маску, скриним и добавляем в отчет

[https://viewer.diagrams.net/?tags=%7B%7D&highlight=0000ff&edit=blank&layers=1&nav=1&title=%D1%82%D0%BE%D0%BF%D0%BE%D0%BB%D0%BE%D0%B3%D0%B8%D1%8F.drawio#Uhttps%3A%2F%2Fdrive.google.com%2Fuc%3Fid%3D1OPs5SRLXK\\_F7OiuVI4GdzzSBI6OHvCt6%26export%3Ddownload](https://viewer.diagrams.net/?tags=%7B%7D&highlight=0000ff&edit=blank&layers=1&nav=1&title=%D1%82%D0%BE%D0%BF%D0%BE%D0%BB%D0%BE%D0%B3%D0%B8%D1%8F.drawio#Uhttps%3A%2F%2Fdrive.google.com%2Fuc%3Fid%3D1OPs5SRLXK_F7OiuVI4GdzzSBI6OHvCt6%26export%3Ddownload)

## Задание 3.

Скрины конфигов DHCP и пруф что он работает

```
root@HQ-R:~# systemctl status isc-dhcp-server
● isc-dhcp-server.service - LSB: DHCP server
   Loaded: loaded (/etc/init.d/isc-dhcp-server; generated)
   Active: active (running) since Wed 2024-06-05 13:46:22 EDT; 1min 32s ago
     Docs: man:systemd-sysv-generator(8)
    Tasks: 2 (limit: 2307)
   Memory: 10.9M
      CPU: 150ms
   CGroup: /system.slice/isc-dhcp-server.service
           └─3286 /usr/sbin/dhcpd -4 -q -cf /etc/dhcp/dhcpd.conf ens256
             └─3292 /usr/sbin/dhcpd -6 -q -cf /etc/dhcp/dhcpd6.conf ens256

Jun 05 13:46:18 HQ-R dhcpd[3286]: Wrote 0 new dynamic host decls to leases file.
Jun 05 13:46:18 HQ-R dhcpd[3286]: Wrote 0 leases to leases file.
Jun 05 13:46:18 HQ-R dhcpd[3286]: Server starting service.
Jun 05 13:46:20 HQ-R isc-dhcp-server[3273]: Starting ISC DHCPv4 server: dhcpd.
Jun 05 13:46:20 HQ-R isc-dhcp-server[3273]: Launching IPv6 server only.
Jun 05 13:46:20 HQ-R dhcpd[3292]: Wrote 0 NA, 0 TA, 0 PD leases to lease file.
Jun 05 13:46:20 HQ-R dhcpd[3292]: Bound to *:547
Jun 05 13:46:20 HQ-R dhcpd[3292]: Server starting service.
Jun 05 13:46:22 HQ-R isc-dhcp-server[3273]: Starting ISC DHCPv6 server: dhcpd6.
Jun 05 13:46:22 HQ-R systemd[1]: Started isc-dhcp-server.service - LSB: DHCP server.
root@HQ-R:~#
```

```
GNU nano 7.2
default-lease-time 600;
max-lease-time 7200;
ddns-updates on;
ddns-update-style interim;
authoritative;

subnet 192.168.1.0 netmask 255.255.255.0 {
    range 192.168.1.3 192.168.1.14;
    option routers 192.168.1.1;
    option domain-name "hq.work";
    option domain-name-servers 192.168.1.1;
}

host HQ-SRV {
    hardware ethernet 00:0c:29:24:32:21;
    fixed-address 192.168.1.2;
}
```

```
GNU nano 7.2 /etc/dhcp/dhcpd6.conf
# Server configuration file example for DHCPv6
# From the file used for TAHI tests - addresses chosen
# to match TAHI rather than example block.

# IPv6 address valid lifetime
# (at the end the address is no longer usable by the client)
# (set to 30 days, the usual IPv6 default)
default-lease-time 2592000;
preferred-lifetime 604800;
option dhcp-renewal-time 3600;
option dhcp-rebinding-time 7200;
allow leasequery;
authoritative;

subnet6 2001::1:0/124 {
    range6 2001::1:0 2001::1:e;
    option dhcp6.name-servers 2001::1:2;
    option dhcp6.domain-search "hq.work";
}

# Set preference to 255 (maximum) in order to avoid waiting for
# additional servers when there is only one
##option dhcp6.preference 255;

# Server side command to enable rapid-commit (2 packet exchange)
##option dhcp6.rapid-commit;

# The delay before information-request refresh
# (minimum is 10 minutes, maximum one day, default is to not refresh)
# (set to 6 hours)
option dhcp6.info-refresh-time 21600;
```

### Задание 3а

```
HQ-R
GNU nano 7.2 /etc/dhcp/dhcpd.conf
default-lease-time 600;
max-lease-time 7200;
ddns-updates on;
ddns-update-style interim;
authoritative;

subnet 192.168.1.0 netmask 255.255.255.240 {
    range 192.168.1.3 192.168.1.14;
    option routers 192.168.1.1;
    option domain-name "hq.work";
    option domain-name-servers 192.168.1.2;
}

host HQ-SRV {
    hardware ethernet 00:0c:29:24:32:21;
    fixed-address 192.168.1.2;
}
```

### Задание 5.

Iperf

```
root@HQ-R:~# iperf3 -c 10.10.10.2 -i1 -t20
Connecting to host 10.10.10.2, port 5201
[ 5] local 10.10.10.1 port 38922 connected to 10.10.10.2 port 5201
[ ID] Interval           Transfer     Bitrate      Retr  Cwnd
[ 5]  0.00-1.00   sec   1.21 GBytes   10.4 Gbits/sec   400  2.21 MBytes
[ 5]  1.00-2.00   sec   1.20 GBytes   10.3 Gbits/sec    0  2.42 MBytes
```

### Задание 6. Скрипт бекапа

```
root@HQ-R:~# bash /etc/backup.sh
Backing up /home /etc /root /boot /opt to /mnt/backup/backup.tgz
tar: Removing leading '/' from member names
tar: Removing leading '/' from hard link targets
Backup finished
total 50M
-rw-r--r-- 1 root root 50M Mar 21 21:29 backup.tgz
```

### Задание 7.

```
root@BR-SRV:~# ssh -l admin -p 3035 192.168.1.2
admin@192.168.1.2's password:
Linux HQ-SRV 6.1.0-13-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.55-1 (2023-09-29) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
admin@HQ-SRV:~$
```