



МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РФ
ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ
ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ
«ЛИПЕЦКИЙ ГОСУДАРСТВЕННЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ»

Факультет автоматизации и информатики Кафедра
автоматизированных систем управления

Лабораторная работа № 6 по
дисциплине “Linux”

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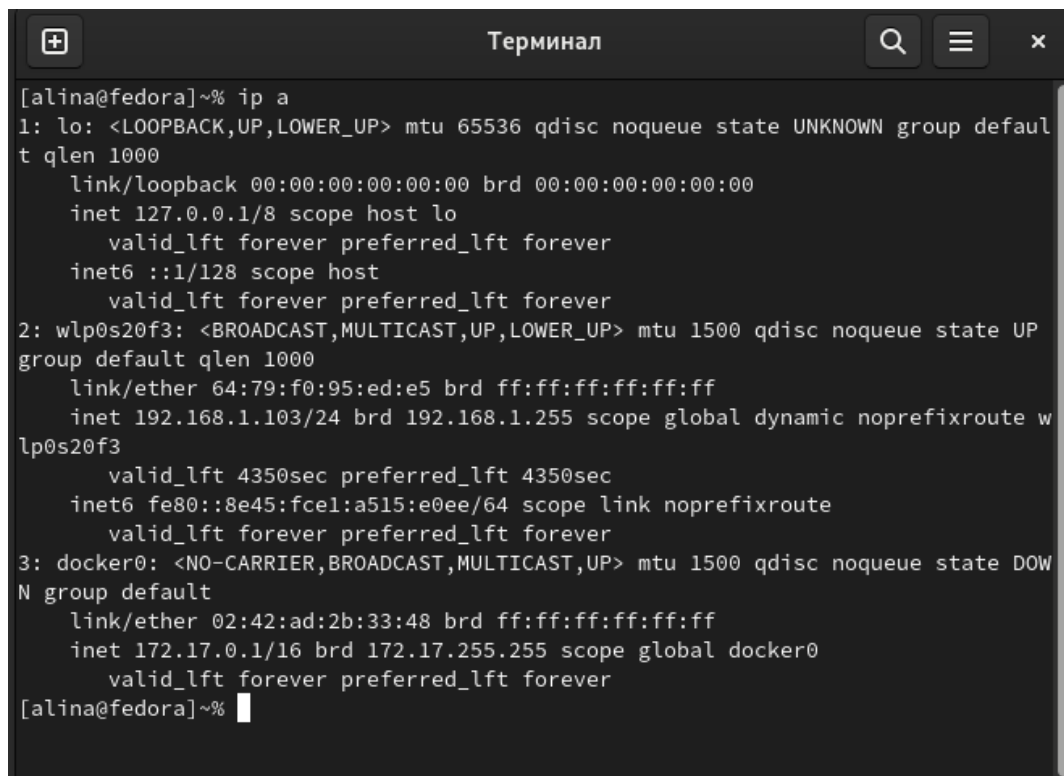
доцент

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Липецк 2023

1. Смотрим ip

A terminal window titled "Терминал" with search, menu, and close buttons. It shows the output of the command 'ip a' on a Fedora system. The output lists three network interfaces: 'lo' (loopback), 'wlp0s20f3' (wireless), and 'docker0' (bridge). Each interface shows its state, MTU, queue discipline, and assigned IP addresses with their subnets and scopes.

```
[alina@fedora]~% ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: wlp0s20f3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
    link/ether 64:79:f0:95:ed:e5 brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.103/24 brd 192.168.1.255 scope global dynamic noprefixroute wlp0s20f3
        valid_lft 4350sec preferred_lft 4350sec
    inet6 fe80::8e45:fc1:a515:e0ee/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
3: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
    link/ether 02:42:ad:2b:33:48 brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid_lft forever preferred_lft forever
[alina@fedora]~% 
```

2. Подключаемся по ssh

```
[alina@fedora]~% ssh alina@127.0.0.1
The authenticity of host '127.0.0.1 (127.0.0.1)' can't be established.
ED25519 key fingerprint is SHA256:a/M6lVpkgqZxg6a+qCB9ZtVuS2zhTemhu0GUEWpe770.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '127.0.0.1' (ED25519) to the list of known hosts.
alina@127.0.0.1's password:
```

3. Генерируем ключ

```

[alina@fedora]~% ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/alina/.ssh/id_rsa): keygen
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in keygen
Your public key has been saved in keygen.pub
The key fingerprint is:
SHA256:J4T5iCRxKxS93wzNWsJoJqZyv1MtiYrvosQj+Q4lJEs alina@fedora
The key's randomart image is:
+----[RSA 3072]-----+
|  +o.                  |
|  . o.. o             |
| .Eo o+oo.           |
|+.o+=.+++            |
|oo.+o.XS .           |
|++ . . * +o          |
|=* o . .             |
|=oo o                |
|o== .o               |
+-----[SHA256]-----+
[alina@fedora]~%

```

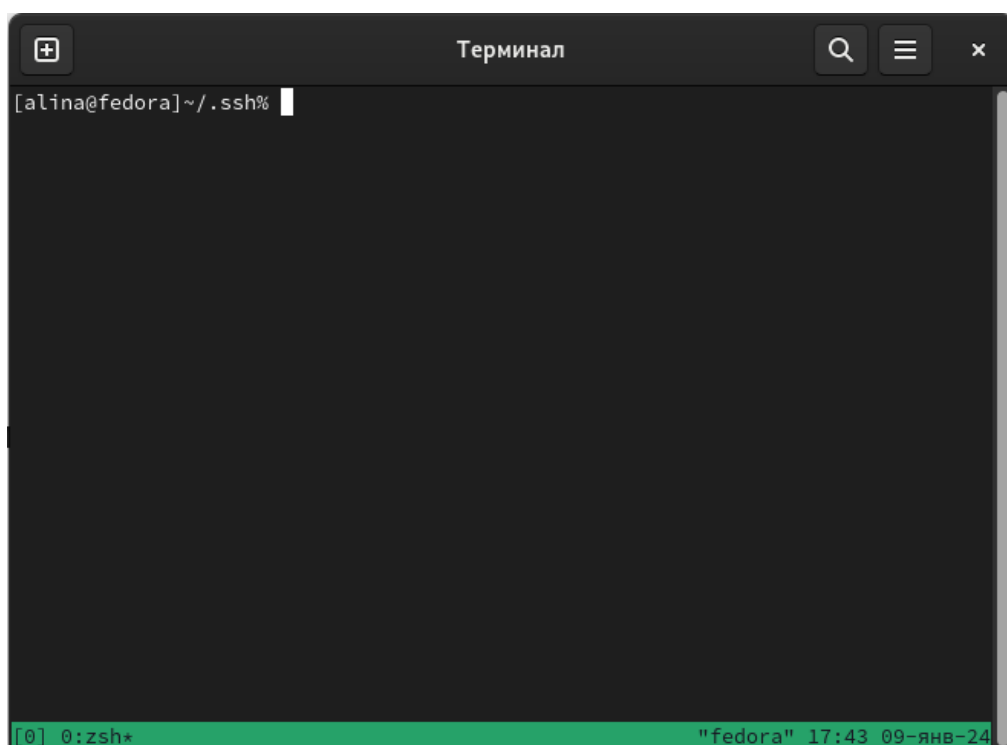
4. Входим без пароля и смотрим информацию о системе

```

[alina@fedora]~% sudo uname -a
[sudo] пароль для alina:
Попробуйте ещё раз.
[sudo] пароль для alina:
Linux fedora 6.1.10-200.fc37.x86_64 #1 SMP PREEMPT_DYNAMIC Mon Feb  6 23:56:48 U
TC 2023 x86_64 x86_64 x86_64 GNU/Linux

```

5. Запускаем tmux



6. Запускаем tcpdump по порту 23

```
[alina@fedora]~/.ssh% sudo tcpdump -l -v -nn tcp and src port 23 or dst port 23  
| tee telnet.log  
dropped privs to tcpdump  
tcpdump: listening on wlp0s20f3, link-type EN10MB (Ethernet), snapshot length 26  
2144 bytes  
[0] 0:sudo* "fedora" 17:46 09-января-24
```

7. Установка соединения с удаленной системой по 22 порту

```
telnet: connect to address 192.168.1.103: Connection refused  
[alina@fedora]~/.ssh% sudo telnet 192.168.1.103 22  
Trying 192.168.1.103...  
Connected to 192.168.1.103.  
Escape character is '^]'.  
SSH-2.0-OpenSSH_8.8
```

8. Установка соединения с удаленной системой по 23 порту. Получаем ошибку

```
connection closed by foreign host  
[alina@fedora]~/.ssh% sudo telnet 192.168.1.103 23  
Trying 192.168.1.103...  
telnet: connect to address 192.168.1.103: Connection refused  
[alina@fedora]~/.ssh%  
[0] 0:zsh* "fedora" 17:46 09-января-24
```