

Администрирование сетевых подсистем

Лабораторная работа №8

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Информация

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Приобретение практических навыков по установке и конфигурированию SMTP-сервера.

Выполнение лабораторной работы

```
[user@server ~]$ sudo -i
[sudo] password for user:
[root@server ~]# dnf -y install postfix
Extra Packages for Enterprise Linux 9 - x86_64 10 kB/s | 32 kB 00:03
Extra Packages for Enterprise Linux 9 - x86_64 3.3 MB/s | 20 MB 00:06
Extra Packages for Enterprise Linux 9 openh265 5.9 kB/s | 993 B 00:00
Rocky Linux 9 - BaseOS 1.1 kB/s | 4.3 kB 00:04
Rocky Linux 9 - BaseOS 3.7 MB/s | 12 MB 00:03
Rocky Linux 9 - AppStream 9.4 kB/s | 4.8 kB 00:00
Rocky Linux 9 - AppStream 8.0 MB/s | 15 MB 00:01
Rocky Linux 9 - Extras 10 kB/s | 3.1 kB 00:00
Rocky Linux 9 - Extras 53 kB/s | 17 kB 00:00
Dependencies resolved.
=====
Package Architecture Version Repository Size
=====
Installing:
postfix x86_64 2:3.5.25-1.el9 appstream 1.5 M
Transaction Summary
=====
Install 1 Package

Total download size: 1.5 M
Installed size: 4.4 M
Downloading Packages:
postfix-3.5.25-1.el9.x86_64.rpm 7.5 MB/s | 1.5 MB 00:00
-----
Total 3.2 MB/s | 1.5 MB 00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing : 1/1
  Running scriptlet: postfix-2:3.5.25-1.el9.x86_64 1/1
  Installing : postfix-2:3.5.25-1.el9.x86_64 1/1
  Running scriptlet: postfix-2:3.5.25-1.el9.x86_64 1/1
  Verifying : postfix-2:3.5.25-1.el9.x86_64 1/1

Installed:
postfix-2:3.5.25-1.el9.x86_64
```

Рис. 1: Установка postfix

Выполнение лабораторной работы

```
[root@server ~]# dnf -y install s-nail
Last metadata expiration check: 0:00:13 ago on Wed 11 Feb 2026 03:58:13 PM MSK
Dependencies resolved.
=====
Package           Architecture Version                      Repository      Size
=====
Installing:
s-nail            x86_64      14.9.22-9.el9_7             appstream       619 k
Transaction Summary
=====
Install 1 Package

Total download size: 619 k
Installed size: 1.1 M
Downloading Packages:
s-nail-14.9.22-9.el9_7.x86_64.rpm                105 kB/s | 619 kB    00:05
-----
Total                                           100 kB/s | 619 kB    00:06
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing                : 1/1
  Running scriptlet: s-nail-14.9.22-9.el9_7.x86_64 1/1
  Installing         : s-nail-14.9.22-9.el9_7.x86_64 1/1
  Running scriptlet: s-nail-14.9.22-9.el9_7.x86_64 1/1
  Verifying          : s-nail-14.9.22-9.el9_7.x86_64 1/1

Installed:
s-nail-14.9.22-9.el9_7.x86_64
```

Рис. 2: Установка s-nail

```
[root@server ~]# postconf -e 'myorigin = $mydomain'  
[root@server ~]# postconf myorigin  
myorigin = $mydomain  
[root@server ~]#
```

Рис. 3: myorigin

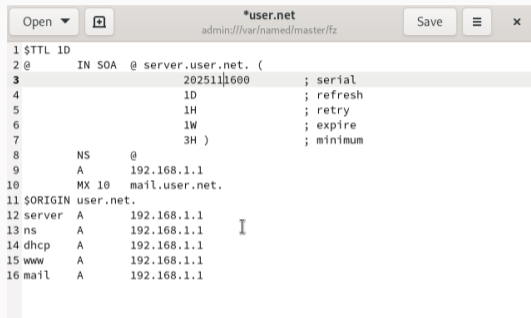
```
[root@server ~]# postconf -e 'mydomain = user.net'
[root@server ~]# postconf inet_protocols
inet_protocols = all
[root@server ~]# postconf -e 'inet_protocols = ipv4'
[root@server ~]# postfix check
[root@server ~]# systemctl reload postfix
[root@server ~]#
```

Рис. 4: Отключение ipv6, проверка и перезапуск

```
From user@user.net Wed Feb 11 16:33:52 2026
Return-Path: <user@user.net>
X-Original-To: user@server.user.net
Delivered-To: user@server.user.net
Received: by server.user.net (Postfix, from userid 1001)
        id 26376115E8AC; Wed, 11 Feb 2026 16:33:52 +0300 (MSK)
Date: Wed, 11 Feb 2026 16:33:52 +0300
To: user@server.user.net
Subject: test1
User-Agent: s-nail v14.9.22
Message-Id: <20260211133352.26376115E8AC@server.user.net>
From: user <user@user.net>

.
```

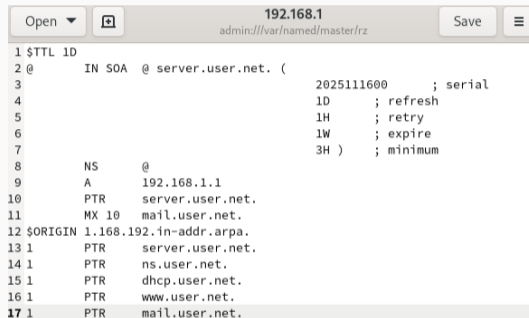
Рис. 5: Информация о письме



The screenshot shows a text editor window titled '*user.net' with the path 'admin:///var/named/master/fz'. The editor contains a DNS zone file for 'user.net'. The file includes a SOA record, an ORIGIN statement, and several A and MX records. The MX record points to 'mail.user.net.' with a priority of 10. The A records point to '192.168.1.1' for 'server', 'ns', 'dhcp', 'www', and 'mail'.

```
1 $TTL 1D
2 @      IN SOA  @ server.user.net. (
3          2025111600      ; serial
4          1D              ; refresh
5          1H              ; retry
6          1W              ; expire
7          3H              ; minimum
8      NS      @
9      A       192.168.1.1
10     MX 10    mail.user.net.
11 $ORIGIN user.net.
12 server A     192.168.1.1
13 ns     A     192.168.1.1
14 dhcp   A     192.168.1.1
15 www    A     192.168.1.1
16 mail   A     192.168.1.1
```

Рис. 6: MX и A записи в прямой зоне



```
1 $TTL 1D
2 @      IN SOA  @ server.user.net. (
3                                     2025111600      ; serial
4                                     1D              ; refresh
5                                     1H              ; retry
6                                     1W              ; expire
7                                     3H )            ; minimum
8      NS      @
9      A        192.168.1.1
10     PTR      server.user.net.
11     MX 10    mail.user.net.
12 $ORIGIN 1.168.192.in-addr.arpa.
13 1       PTR      server.user.net.
14 1       PTR      ns.user.net.
15 1       PTR      dhcp.user.net.
16 1       PTR      www.user.net.
17 1       PTR      mail.user.net.
```

Рис. 7: MX и PTR записи в обратной зоне

Выполнение лабораторной работы

```
GNU nano 5.6.1 mail.sh
#!/bin/bash
echo "Provisioning script $0"

echo "Install needed packages"
dnf -y install postfix
dnf -y install s-nail

echo "Copy configuration files"
#cp -R /vagrant/provision/server/mail/etc/* /etc

echo "Configure firewall"
firewall-cmd --add-service=smtp --permanent
firewall-cmd --reload

restorecon -vR /etc

echo "Start postfix service"
systemctl enable postfix
systemctl start postfix

echo "Configure postfix"
postconf -e 'mydomain = user.net'
postconf -e 'myorigin = $mydomain'
postconf -e 'inet_protocols = ipv4'
postconf -e 'inet_interfaces = all'
postconf -e 'mydestination = $myhostname, localhost.$mydomain, localhost, $myb
postconf -e 'mynetworks = 127.0.0.0/8, 192.168.0.0/16'

postfix set-permissions
restorecon -vR /etc
systemctl stop postfix
systemctl start postfix
```

Рис. 8: mail.sh для сервера

```
GNU nano 5.6.1                                mail.sh
#!/bin/bash

echo "Provisioning script $0"

echo "Install needed packages"
dnf -y install postfix
dnf -y install s-nail

echo "Configure postfix"
postconf -e "inet_protocols = ipv4"

echo "Start postfix service"
systemctl enable postfix
systemctl start postfix
```

Рис. 9: mail.sh для клиента

```
server.vm.provision "server mail",  
    type: "shell",  
    preserve_order: true,  
    path: "provision/server/mail.sh"
```

Рис. 10: Vagrantfile для server

```
client.vm.provision "client mail",  
  type: "shell",  
  preserve_order: true,  
  path: "provision/client/mail.sh"
```

Рис. 11: Vagrantfile для client

В процессе выполнения данной лабораторной я приобрел практические навыки по установке и конфигурированию SMTP-сервера.