

Отчет лабораторной работы 8

Дисциплина: Администрирование сетевых подсистем

Астахова Марина
НПИБД02-23

Тема
Настройка
SMTP-сервера

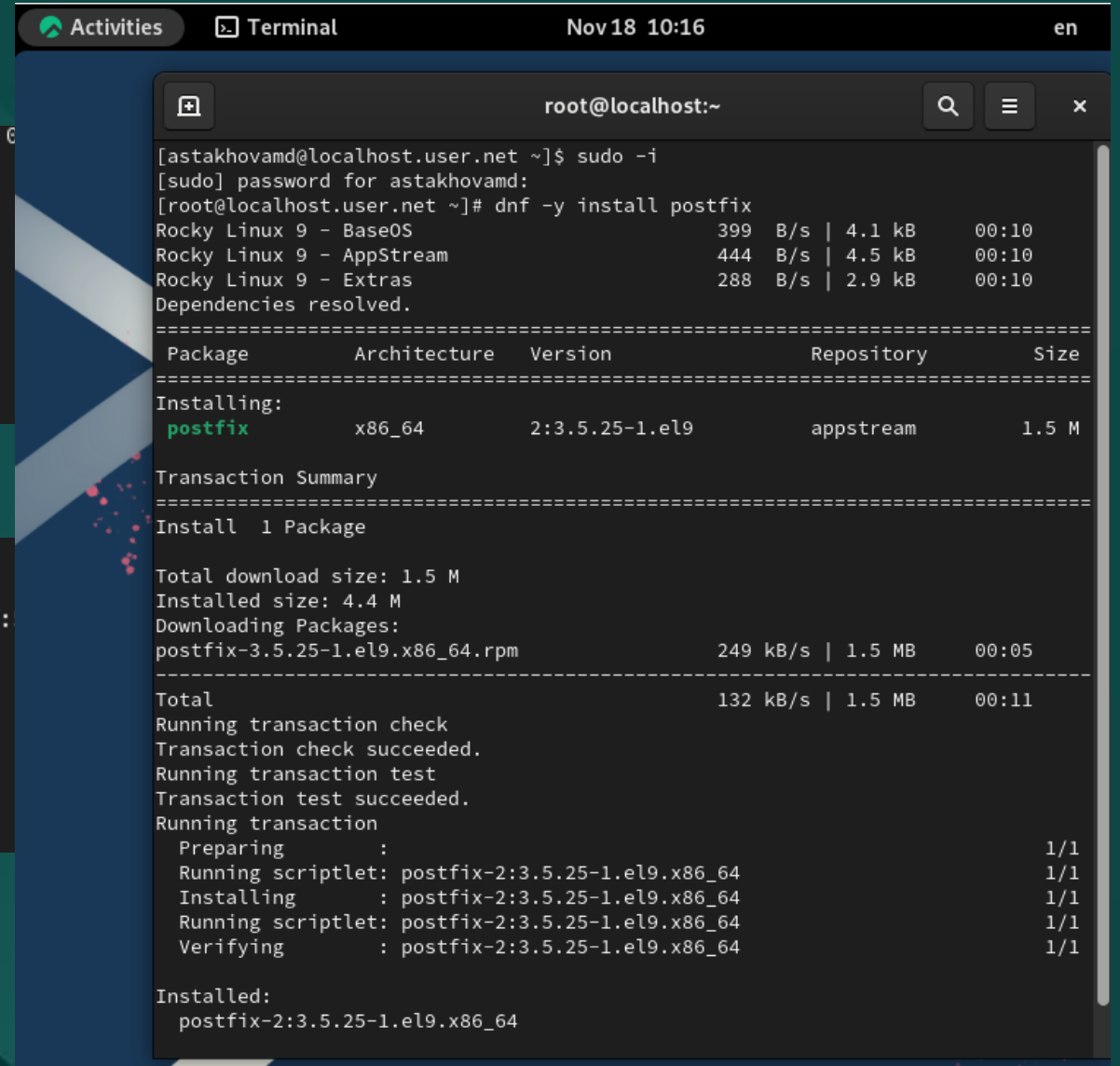
Цель работы

*Приобретение практических
навыков по установке и
конфигурированию SMTP
сервера.*

Установка Postfix.

```
Extra Packages for Enterprise Linux 9 - x86_64 3.8 kB/s | 20 kB
Extra Packages for Enterprise Linux 9 - x86_64
Rocky Linux 9 - BaseOS
Rocky Linux 9 - AppStream
Rocky Linux 9 - Extras
Package postfix-2:3.5.25-1.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@localhost.astakhovamd.net ~]#
```

```
[root@localhost.astakhovamd.net ~]#
dnf -y install s-nail
Last metadata expiration check: 0:00:38 ago on Wed 26 Nov 2025 08:
Package s-nail-14.9.22-6.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@localhost.astakhovamd.net ~]#
```



```
root@localhost:~
[astakhovamd@localhost.user.net ~]$ sudo -i
[sudo] password for astakhovamd:
[root@localhost.user.net ~]# dnf -y install postfix
Rocky Linux 9 - BaseOS 399 B/s | 4.1 kB 00:10
Rocky Linux 9 - AppStream 444 B/s | 4.5 kB 00:10
Rocky Linux 9 - Extras 288 B/s | 2.9 kB 00:10
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 249 kB/s | 1.5 MB 00:05
-----
Total 132 kB/s | 1.5 MB 00:11
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
```

Изменение параметров Postfix с помощью postconf.

```
Complete!  
[root@localhost.user.net ~]# firewall-cmd --add-service=smtp  
success  
[root@localhost.user.net ~]# firewall-cmd --add-service=smtp --permanent  
success  
[root@localhost.user.net ~]# firewall-cmd --list-services  
cockpit dhcp dhcpv6-client dns http https smtp ssh ssh-custom  
[root@localhost.user.net ~]# restorecon -vR /etc  
[root@localhost.user.net ~]#
```

```
[root@localhost.user.net ~]# systemctl enable postfix  
Created symlink /etc/systemd/system/multi-user.target.wants/postfix.service → /usr/lib/systemd/system/postfix.service.  
[root@localhost.user.net ~]# systemctl start postfix  
[root@localhost.user.net ~]#
```

```
[root@localhost.astakhovamd.net ~]# firewall-cmd --list-services  
cockpit dhcp dhcpv6-client dns http https smtp ssh ssh-custom  
[root@localhost.astakhovamd.net ~]# restorecon -vR /etc  
[root@localhost.astakhovamd.net ~]# systemctl enable postfix  
[root@localhost.astakhovamd.net ~]# systemctl start postfix  
[root@localhost.astakhovamd.net ~]#
```

```
[root@localhost.astakhovamd.net ~]# postconf myorigin  
myorigin = $mydomain  
[root@localhost.astakhovamd.net ~]#
```

Изменение параметров Postfix с помощью postconf.

```
[root@localhost.user.net ~]# systemctl start postfix
[root@localhost.user.net ~]# postconf
2bounce_notice_recipient = postmaster
access_map_defer_code = 450
access_map_reject_code = 554
address_verify_cache_cleanup_interval = 12h
address_verify_default_transport = $default_transport
address_verify_local_transport = $local_transport
address_verify_map = btree:$data_directory/verify_cache
address_verify_negative_cache = yes
address_verify_negative_expire_time = 3d
address_verify_negative_refresh_time = 3h
address_verify_pending_request_limit = 5000
address_verify_poll_count = ${stress?{1}}:{3}}
address_verify_poll_delay = 3s
address_verify_positive_expire_time = 31d
address_verify_positive_refresh_time = 7d
address_verify_relay_transport = $relay_transport
address_verify_relayhost = $relayhost
address_verify_sender = $double_bounce_sender
address_verify_sender_dependent_default_transport_maps = $sender_dependent_default_transport_maps
address_verify_sender_dependent_relayhost_maps = $sender_dependent_relayhost_maps
address_verify_sender_ttl = 0s
address_verify_service_name = verify
address_verify_transport_maps = $transport_maps
address_verify_virtual_transport = $virtual_transport
alias_database = hash:/etc/aliases
alias_maps = hash:/etc/aliases
allow_mail_to_commands = alias, forward
allow_mail_to_files = alias, forward
allow_min_user = no
allow_percent_hack = yes
allow_srv_lookup_fallback = no
allow_untrusted_routing = no
alternate_config_directories =
always_add_missing_headers = no
always_bcc =
```

Проверка работы Postfix.

```
myorigin = $mydomain
[root@localhost.astakhovamd.net ~]# postfix check
[root@localhost.astakhovamd.net ~]# systemctl reload postfix
[root@localhost.astakhovamd.net ~]# postconf -e 'mydomain = astakhovamd.net'
[root@localhost.astakhovamd.net ~]#
```

```
[root@localhost.astakhovamd.net ~]# postconf inet_protocols
inet_protocols = ipv4
[root@localhost.astakhovamd.net ~]# postconf -e 'inet_protocols = ipv4'
[root@localhost.astakhovamd.net ~]# postfix check
[root@localhost.astakhovamd.net ~]# systemctl reload postfix
[root@localhost.astakhovamd.net ~]#
```

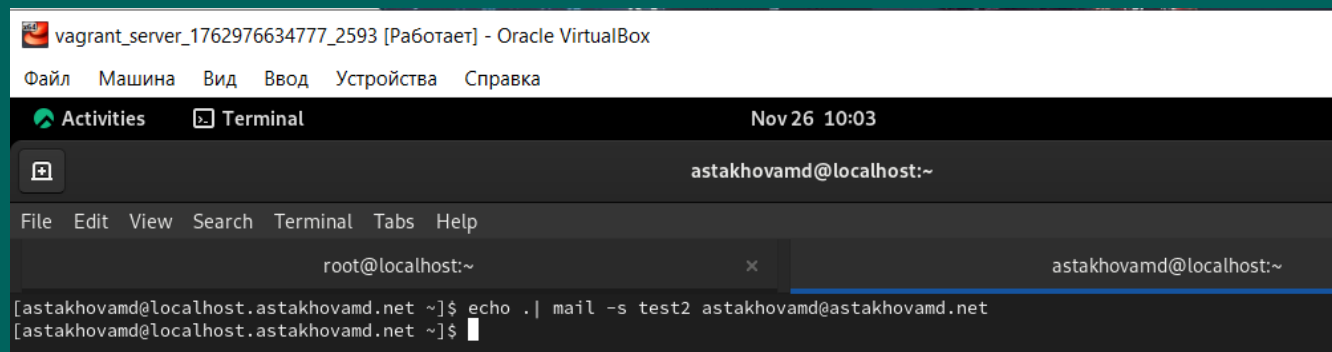
```
root@localhost:~ x astakhovamd@localhost:~ x root@localhost:~ x
[astakhovamd@localhost.astakhovamd.net ~]$ sudo -i
[sudo] password for astakhovamd:
123Sorry, try again.
[sudo] password for astakhovamd:
[root@localhost.astakhovamd.net ~]# sudo tail -f /var/log/maillog
Nov 26 09:14:35 localhost postfix/pickup[4212]: warning: /etc/postfix/main.cf, line 730: overriding earlier entry: mydestination=$myhostname, localho
st.$mydomain, localhost
Nov 26 09:16:46 localhost postfix/postfix-script[4242]: stopping the Postfix mail system
Nov 26 09:16:46 localhost postfix/master[4211]: terminating on signal 15
Nov 26 09:16:46 localhost postfix/postfix-script[4320]: starting the Postfix mail system
Nov 26 09:16:46 localhost postfix/master[4322]: daemon started -- version 3.5.25, configuration /etc/postfix
Nov 26 09:18:03 localhost postfix/pickup[4323]: B37708803CBC: uid=1001 from=<astakhovamd>
Nov 26 09:18:03 localhost postfix/cleanup[4348]: B37708803CBC: message-id=<20251126091803.B37708803CBC@localhost.astakhovamd.net>
Nov 26 09:18:03 localhost postfix/qmgr[4324]: B37708803CBC: from=<astakhovamd@astakhovamd.net>, size=395, nrcpt=1 (queue active)
Nov 26 09:18:03 localhost postfix/local[4354]: B37708803CBC: to=<astakhovamd@astakhovamd.net>, relay=local, delay=0.05, delays=0.03/0.01/0/0.01, dsn=
2.0.0, status=sent (delivered to mailbox)
Nov 26 09:18:03 localhost postfix/amer[4324]: B37708803CBC: removed
```

Конфигурация Postfix для домена

```
inet_protocols = all
[root@localhost.user.net ~]# postconf -e 'inet_protocols = ipv4'
[root@localhost.user.net ~]# systemctl enable postfix
Created symlink /etc/systemd/system/multi-user.target.wants/postfix.service → /usr/lib/
systemd/system/postfix.service.
[root@localhost.user.net ~]# systemctl start postfix
[root@localhost.user.net ~]#
```

```
[root@localhost.user.net ~]# sudo tail -f /var/log/maillog
Nov 26 09:58:21 localhost postfix/master[4500]: daemon started -- version 3.5.25, configurati
on /etc/postfix
Nov 26 10:00:41 localhost postfix/postfix-script[4571]: stopping the Postfix mail system
Nov 26 10:00:41 localhost postfix/master[4500]: terminating on signal 15
Nov 26 10:00:41 localhost postfix/postfix-script[4647]: starting the Postfix mail system
Nov 26 10:00:41 localhost postfix/master[4649]: daemon started -- version 3.5.25, configurati
on /etc/postfix
Nov 26 10:00:50 localhost postfix/pickup[4650]: 4FF571154E35: uid=1001 from=<astakhovamd>
Nov 26 10:00:50 localhost postfix/cleanup[4660]: 4FF571154E35: message-id=<20251126100050.4FF
571154E35@localhost.astakhovamd.net>
Nov 26 10:00:50 localhost postfix/qmgr[4651]: 4FF571154E35: from=<astakhovamd@astakhovamd.net
>, size=387, nrcpt=1 (queue active)
Nov 26 10:00:50 localhost postfix/local[4666]: 4FF571154E35: to=<astakhovamd@astakhovamd.net>
, relay=local, delay=0.03, delays=0.03/0/0/0, dsn=2.0.0, status=sent (delivered to mailbox)
Nov 26 10:00:50 localhost postfix/qmgr[4651]: 4FF571154E35: removed
```

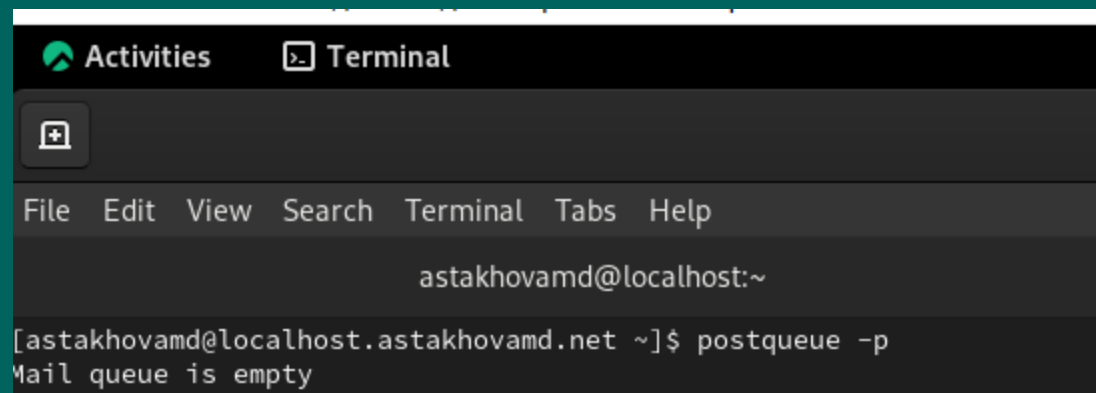
Конфигурация Postfix для домена



The screenshot shows a terminal window titled "vagrant_server_1762976634777_2593 [Работает] - Oracle VirtualBox". The terminal has a menu bar with "Файл", "Машина", "Вид", "Ввод", "Устройства", and "Справка". Below the menu bar, there are tabs for "Activities" and "Terminal", with the date and time "Nov 26 10:03" on the right. The terminal content shows the user "astakhovamd@localhost:~" and a menu bar with "File", "Edit", "View", "Search", "Terminal", "Tabs", and "Help". The terminal output shows the user "root@localhost:~" and the command "echo . | mail -s test2 astakhovamd@astakhovamd.net" being executed. The output of the command is "astakhovamd@localhost.astakhovamd.net ~\$".

```
[root@localhost.astakhovamd.net ~]# echo "Test message from Postfix" | mail -s "Test email" astakhovamd@astakhovamd.net
[root@localhost.astakhovamd.net ~]# mail
s-nail: No mail for root at /var/spool/mail/root
s-nail: /var/spool/mail/root: No such entry, file or directory
[root@localhost.astakhovamd.net ~]# tail -f /var/log/maillog
Nov 26 09:18:03 localhost postfix/pickup[4323]: B37708803CBC: uid=1001 from=<astakhovamd>
Nov 26 09:18:03 localhost postfix/cleanup[4348]: B37708803CBC: message-id=<20251126091803.B37708803CBC@localhost.astakhovamd.net>
Nov 26 09:18:03 localhost postfix/qmgr[4324]: B37708803CBC: from=<astakhovamd@astakhovamd.net>, size=395, nrcpt=1 (queue active)
Nov 26 09:18:03 localhost postfix/local[4354]: B37708803CBC: to=<astakhovamd@astakhovamd.net>, relay=local, delay=0.05, delays=0.03/0.0, status=sent (delivered to mailbox)
Nov 26 09:18:03 localhost postfix/qmgr[4324]: B37708803CBC: removed
Nov 26 10:03:10 localhost postfix/pickup[4323]: 3C1328803CBC: uid=1001 from=<astakhovamd>
Nov 26 10:03:10 localhost postfix/cleanup[4539]: 3C1328803CBC: message-id=<20251126100310.3C1328803CBC@localhost.astakhovamd.net>
Nov 26 10:03:10 localhost postfix/qmgr[4324]: 3C1328803CBC: from=<astakhovamd@astakhovamd.net>, size=351, nrcpt=1 (queue active)
Nov 26 10:03:10 localhost postfix/local[4545]: 3C1328803CBC: to=<astakhovamd@astakhovamd.net>, relay=local, delay=0.03, delays=0.03/0.0, status=sent (delivered to mailbox)
Nov 26 10:03:10 localhost postfix/qmgr[4324]: 3C1328803CBC: removed
```


Конфигурация Postfix для домена

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Tabs, Help). The prompt is 'astakhovamd@localhost:~'. The command '[astakhovamd@localhost.astakhovamd.net ~]\$ postfix check' has been executed, resulting in the output 'Mail queue is empty'.

```
Activities Terminal
File Edit View Search Terminal Tabs Help
astakhovamd@localhost:~
[astakhovamd@localhost.astakhovamd.net ~]$ postfix check
Mail queue is empty
```

```
[root@localhost.astakhovamd.net named]# sudo nano mail.astakhovamd.net
[root@localhost.astakhovamd.net named]# postconf -e 'mydestination = $myhostname, localhost.$mydomain, localhost,$mydomain'
[root@localhost.astakhovamd.net named]# postfix check
[root@localhost.astakhovamd.net named]# systemctl reload postfix
[root@localhost.astakhovamd.net named]# restorecon -vR /etc
[root@localhost.astakhovamd.net named]# restorecon -vR /var/named
[root@localhost.astakhovamd.net named]# systemctl restart named
[root@localhost.astakhovamd.net named]# postfix queue -f
[root@localhost.astakhovamd.net named]#
```

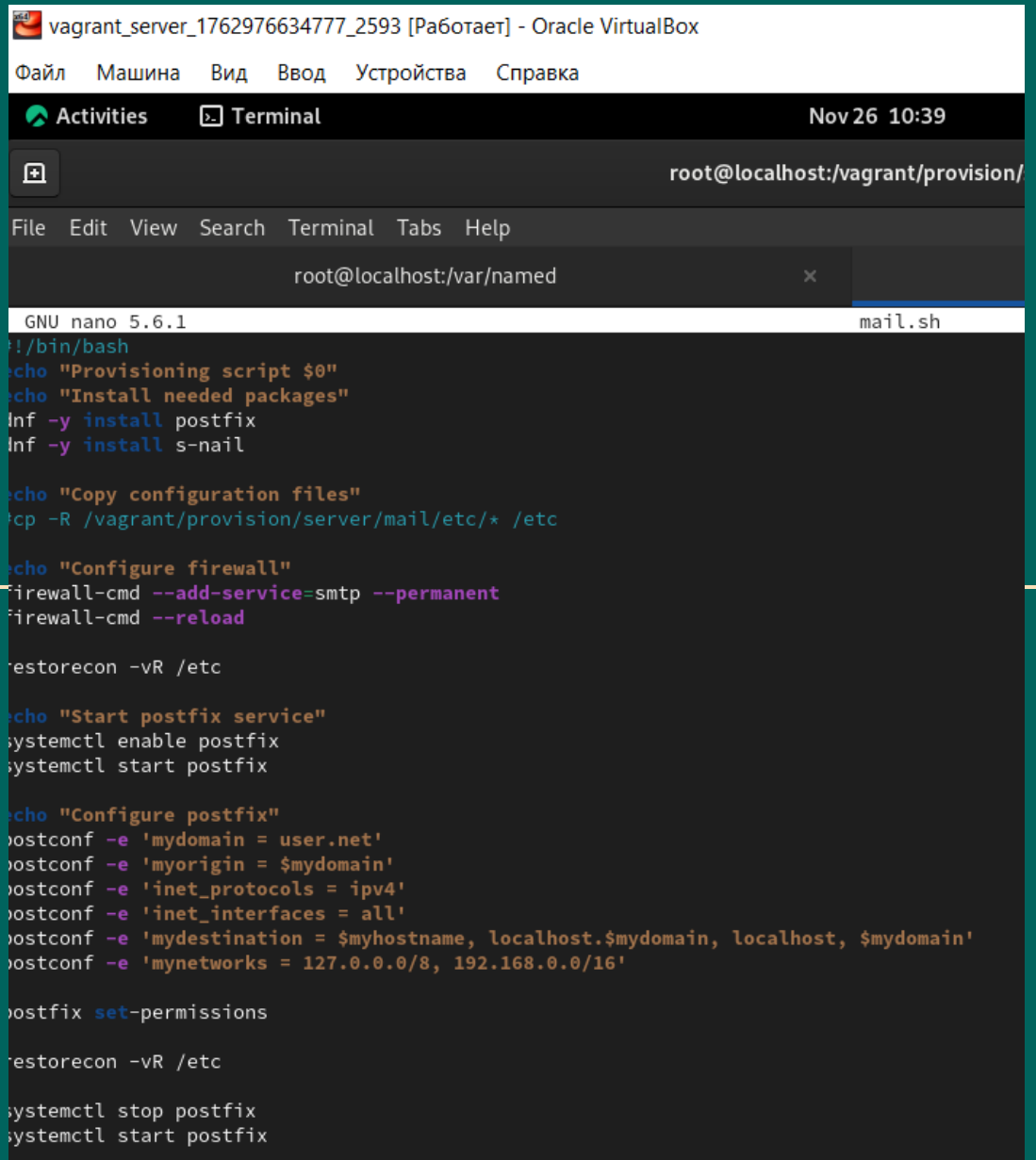
```
[astakhovamd@localhost.astakhovamd.net ~]$ echo .| mail -s test2 astakhovamd@astakhovamd.net
[astakhovamd@localhost.astakhovamd.net ~]$ mail
s-nail version v14.9.22. Type '?' for help
/var/spool/mail/astakhovamd: 2 messages 1 new 2 unread
U 1 astakhovamd@astakhov 2025-11-26 09:18 16/583 "Test DNS fix
N 2 astakhovamd@astakhov 2025-11-26 10:03 15/529 "test2
&
```

Конфигурация Postfix для домена

```
cp: overwrite '/vagrant/provision/server/dns/var/named/named.loopback'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/named.user.net.zone'? Y
[root@localhost.astakhovamd.net ~]# cd /vagrant/provision/server
[root@localhost.astakhovamd.net server]# touch mail.sh
[root@localhost.astakhovamd.net server]# chmod +x mail.sh
[root@localhost.astakhovamd.net server]# sudo nano mail.sh
```

```
root@localhost:/var/named x root@localhost:~
[astakhovamd@localhost.astakhovamd.net ~]$ cd /vagrant/provision/server/dns/var/named
[astakhovamd@localhost.astakhovamd.net named]$ cp -R /var/named/* /vagrant/provision/server/dns/var/named
cp: cannot stat '/var/named/*': Permission denied
[astakhovamd@localhost.astakhovamd.net named]$ sudo -i
[sudo] password for astakhovamd:
[root@localhost.astakhovamd.net ~]# cp -R /var/named/* /vagrant/provision/server/dns/var/named
cp: overwrite '/vagrant/provision/server/dns/var/named/data/named.run'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/dynamic/managed-keys.bind.jnl'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/dynamic/managed-keys.bind'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/master/fz/192.168.1'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/master/fz/astakhovamd.net'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/master/fz/user.net'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/master/rz/192.168.1'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/named.astakhovamd.net.zone'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/named.ca'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/named.empty'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/named.localhost'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/named.loopback'? Y
cp: overwrite '/vagrant/provision/server/dns/var/named/named.user.net.zone'? Y
[root@localhost.astakhovamd.net ~]#
```

Внесение изменений в настройки внутреннего окружения виртуальной машины.



The screenshot shows a terminal window titled "vagrant_server_1762976634777_2593 [Работает] - Oracle VirtualBox". The terminal is running a script in the directory "root@localhost:/vagrant/provision/". The script is editing a file named "mail.sh" in the directory "root@localhost:/var/named". The script content is as follows:

```
GNU nano 5.6.1 mail.sh
#!/bin/bash
echo "Provisioning script $0"
echo "Install needed packages"
Inf -y install postfix
Inf -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, $mydomain'
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
```

Внесение изменений в настройки внутреннего окружения виртуальной машины.

```
#!/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
```

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

```
client.vm.provision "client routing",
    type: "shell",
    preserve_order: true,
    run: "always",
    path: "provision/client/01-routing.sh"
client.vm.provision "client mail",
    type: "shell",
    preserve_order: true,
    path: "provision/client/mail.sh"

end
end
```

Спасибо за внимание!