

Лабораторная работа №9

Настройка POP3/IMAP сервера

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Приобрести практические навыки по установке и простейшему конфигурированию POP3/IMAP-сервера.

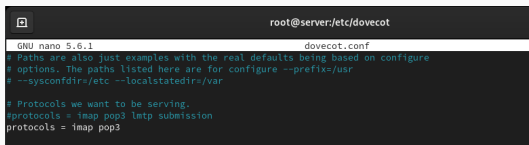
1. Установить на виртуальной машине server Dovecot и Telnet для дальнейшей проверки корректности работы почтового сервера.
2. Настроить Dovecot.
3. Установить на виртуальной машине client программу для чтения почты Evolution и настройте её для манипуляций с почтой вашего пользователя. Проверить корректность работы почтового сервера как с виртуальной машины server, так и с виртуальной машины client.
4. Изменить скрипт для Vagrant, фиксирующий действия по установке и настройке Postfix и Dovecot во внутреннем окружении виртуальной машины server, создать скрипт для Vagrant, фиксирующий действия по установке Evolution во внутреннем окружении виртуальной машины client. Соответствующим образом внести изменения в Vagrantfile.

Выполнение лабораторной работы

```
[dmbelicheva@server.dmbelicheva.net ~]$ sudo -i
[sudo] password for dmbelicheva:
[root@server.dmbelicheva.net ~]# dnf -y install dovecot telnet
Extra Packages for Enterprise Linux 9 - x86_64          14 kB/s | 33 kB      00:02
Extra Packages for Enterprise Linux 9 - x86_64          4.0 MB/s | 20 MB     00:04
Rocky Linux 9 - BaseOS                                  2.2 kB/s | 4.1 kB    00:01
Rocky Linux 9 - AppStream                               7.4 kB/s | 4.5 kB    00:00
Rocky Linux 9 - Extras                                 4.8 kB/s | 2.9 kB    00:00
Dependencies resolved.
=====
Package                Architecture      Version                                Repository          Size
=====
Installing:
dovecot                 x86_64            1:2.3.16-10.el9                       appstream            4.7 M
telnet                  x86_64            1:0.17-85.el9                          appstream             63 k
Installing dependencies:
clucene-core            x86_64            2.3.3.4-42.20130812.e8e3d20git.el9     appstream            585 k
libxtextcat              x86_64            3.4.5-11.el9                           appstream            209 k
=====
```

Рис. 1: Установка пакетов

В конфигурационном файле `/etc/dovecot/dovecot.conf` пропишем список почтовых протоколов, по которым разрешено работать Dovecot: *`protocols = imap pop3`*

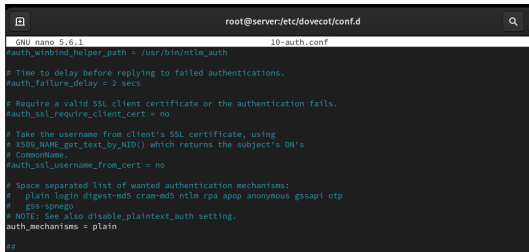


```
root@server:/etc/dovecot
GNU nano 5.6.1 dovecot.conf
# Paths are also just examples with the real defaults being based on configure
# options. The paths listed here are for configure --prefix=/usr
# --sysconfdir=/etc --localstatedir=/var

# Protocols we want to be serving.
#protocols = imap pop3 lmtp submission
protocols = imap pop3
```

Рис. 2: Редактирование файла

В конфигурационном файле `/etc/dovecot/conf.d/10-auth.conf` укажем метод аутентификации `plain`: *`auth_mechanisms = plain`*



```
root@server:/etc/dovecot/conf.d
GNU nano 5.6.1 10-auth.conf
#auth_winbind_helper_path = /usr/bin/ntlm_auth

# Time to delay before replying to failed authentications.
#auth_failure_delay = 2 secs

# Require a valid SSL client certificate or the authentication fails.
#auth_ssl_require_client_cert = no

# Take the username from client's SSL certificate, using
# X509_NAME_get_text_by_NID() which returns the subject's DN's
# CommonName.
#auth_ssl_username_from_cert = no

# Space separated list of wanted authentication mechanisms:
#  plain login digest-md5 cram-md5 ntlm rpa apop anonymous gssapi otp
#  gss-spnego
# NOTE: See also disable_plaintext_auth setting.
auth_mechanisms = plain

##
```

Рис. 3: Редактирование файла

В конфигурационном файле `/etc/dovecot/conf.d/auth-system.conf.ext` проверим, что для поиска пользователей и их паролей используется `pam` и файл `passwd`:

```
passdb {  
  driver = pam  
}  
userdb {  
  driver = passwd  
}
```


В конфигурационном файле `/etc/dovecot/conf.d/10-mail.conf` настроим месторасположение почтовых ящиков пользователей: *mail_location = maildir:~/Maildir*



```
root@server:/etc/dovecot/conf.d
GNU nano 5.6.1 10-mail.conf
# mail_location = mbox:~/mail:INBOX=/var/mail/%u
# mail_location = mbox:/var/mail/%d/%n:INDEX=/var/indexes/%d/%n/%n
#
# <doc/wiki/MailLocation.txt>
#
mail_location = maildir:~/Maildir
# If you need to set multiple mailboxes, you need to change default
```

Рис. 4: Редактирование файла

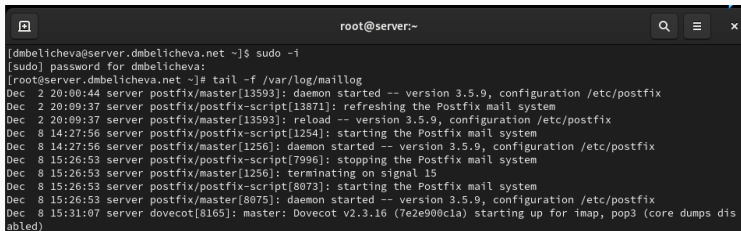
```
[root@server.dmbelicheva.net conf.d]# postconf -e 'home_mailbox = Maildir/'
[root@server.dmbelicheva.net conf.d]# firewall-cmd --get-services
RH-Satellite-6 RH-Satellite-6-capsule afp amanda-client amanda-k5-client amqp amqps apcupsd audit ausweisapp2 bacula
bacula-client bb bgp bitcoin bitcoin-rpc bitcoin-testnet bitcoin-testnet-rpc bittorrent-lsd ceph ceph-mon cfengine ch
eckmk-agent cockpit collectd condor-collector cratedb ctdd dhcp dhcpv6 dhcpv6-client distcc dns dns-over-tls docker-r
egistry docker-warm dropbox-lansync elasticsearch etcd-client etcd-server finger foreman foreman-proxy freeipa-4 fre
eipa-ldap freeipa-ldaps freeipa-replication freeipa-trust ftp galera ganglia-client ganglia-master git gpsd grafana g
re high-availability http http3 https ident imap imaps ipfs ipp ipp-client ipsec irc ircs iscsi-target isns jellyfin
jenkins kadmin kdeconnect kerberos kibana klogin kpasswd kprop kshell kube-api kube-apiserver kube-control-plane kube
-control-plane-secure kube-controller-manager kube-controller-manager-secure kube-nodeport-services kube-scheduler ku
be-scheduler-secure kube-worker kubelet kubelet-readonly kubelet-worker ldap ldaps libvirt libvirt-tls lightning-netw
ork llmnr llmnr-tcp llmnr-udp managesieve matrix mdns memcache minidlna mongodb mosh mountd mqtt mqtt-tls ms-wbt mssq
l murmur mysql nbd netbios-ns netdata-dashboard nfs nfs3 nmap-0183 nrpe ntp nut openvpn ovirt-imageio ovirt-storageco
nsole ovirt-vmconsole plex pmcd pmproxy pmwebapi pmwebapis pop3 pop3s postgresql privoxy prometheus prometheus-node-e
xporter proxy-dhcp ps3netsrv ptp pulseaudio puppetmaster quassel radius rdp redis redis-sentinel rpc-bind rquotad rsh
rsyncd rtsp salt-master samba samba-client samba-dc sane sip sips slp smtp smtp-submission smtps snmp snmptls snmptl
s-trap snmptrap spideroak-lansync spotify-sync squid ssdp ssh ssh-custom steam-streaming svdrp svn syncthing syncthin
g-gui synergy syslog syslog-tls telnet tentacle tftp tile38 tinc tor-socks transmission-client upnp-client vdsms vnc-s
erver wbem-http wbem-https wireguard ws-discovery ws-discovery-client ws-discovery-tcp ws-discovery-udp wsmann wsmans
xdmcp xmpp-bosh xmpp-client xmpp-local xmpp-server zabbix-agent zabbix-server zerotier
[root@server.dmbelicheva.net conf.d]# firewall-cmd --add-service=pop3 --permanent
success
[root@server.dmbelicheva.net conf.d]# firewall-cmd --add-service=pop3s --permanent
success
[root@server.dmbelicheva.net conf.d]# firewall-cmd --add-service=imap --permanent
success
[root@server.dmbelicheva.net conf.d]# firewall-cmd --add-service=imaps --permanent
success
[root@server.dmbelicheva.net conf.d]# firewall-cmd --reload
success
[root@server.dmbelicheva.net conf.d]# firewall-cmd --list-services
cockpit dhcp dhcpv6-client dns http https imap imaps pop3 pop3s smtp ssh
```

Рис. 5: Команды postconf и firewall-cmd

```
[root@server.dmbelicheva.net conf.d]# restorecon -vR /etc
Relabeled /etc/sysconfig/network-scripts/ifcfg-eth1 from unconfined_u:object_r:user_tmp_t:s0 to unconfined_u:object_r:net_conf_t:s0
[root@server.dmbelicheva.net conf.d]# systemctl restart postfix
[root@server.dmbelicheva.net conf.d]# systemctl enable dovecot
Created symlink /etc/systemd/system/multi-user.target.wants/dovecot.service → /usr/lib/systemd/system/dovecot.service
[root@server.dmbelicheva.net conf.d]# systemctl start dovecot
[root@server.dmbelicheva.net conf.d]#
```

Рис. 6: Команды restorecon и systemctl

Проверка работы Dovecot

A terminal window titled 'root@server:~' with search, menu, and close icons in the top right. The terminal shows a user 'dmbelicheva' running 'sudo -i' to become root. Then, the command 'tail -f /var/log/maillog' is executed, displaying a series of log messages from Dec 2 to Dec 8. The logs show the Postfix mail system being started, reloaded, and stopped multiple times, and finally Dovecot being started for imap and pop3 services.

```
root@server:~  
[dmbelicheva@server.dmbelicheva.net ~]$ sudo -i  
[sudo] password for dmbelicheva:  
[root@server.dmbelicheva.net ~]# tail -f /var/log/maillog  
Dec 2 20:00:44 server postfix/master[13593]: daemon started -- version 3.5.9, configuration /etc/postfix  
Dec 2 20:09:37 server postfix/postfix-script[13871]: refreshing the Postfix mail system  
Dec 2 20:09:37 server postfix/master[13593]: reload -- version 3.5.9, configuration /etc/postfix  
Dec 8 14:27:56 server postfix/postfix-script[1254]: starting the Postfix mail system  
Dec 8 14:27:56 server postfix/master[1256]: daemon started -- version 3.5.9, configuration /etc/postfix  
Dec 8 15:26:53 server postfix/postfix-script[7996]: stopping the Postfix mail system  
Dec 8 15:26:53 server postfix/master[1256]: terminating on signal 15  
Dec 8 15:26:53 server postfix/postfix-script[8073]: starting the Postfix mail system  
Dec 8 15:26:53 server postfix/master[8075]: daemon started -- version 3.5.9, configuration /etc/postfix  
Dec 8 15:31:07 server dovecot[8165]: master: Dovecot v2.3.16 (7e2e900c1a) starting up for imap, pop3 (core dumps disabled)
```

Рис. 7: Мониторинг работы почтовой службы

```
[root@server.dmbelicheva.net conf.d]# MAIL=~/Maildir mail  
s-nail: No mail for root at /root/Maildir  
s-nail: /root/Maildir: No such entry, file or directory  
[root@server.dmbelicheva.net conf.d]# dovecadm mailbox list -u dmbelicheva  
INBOX  
[root@server.dmbelicheva.net conf.d]#
```

Рис. 8: Просмотр почты и mailbox

```
root@client:~  
[dmbelicheva@client.dmbelicheva.net ~]$ sudo -i  
[sudo] password for dmbelicheva:  
[root@client.dmbelicheva.net ~]# dnf -y install evolution  
Last metadata expiration check: 1:16:57 ago on Fri 08 Dec 2023 04:04:07 PM UTC.  
Dependencies resolved.  
=====
```

Package	Architecture	Version	Repository	Size
Installing:				
evolution	x86_64	3.40.4-9.el9	appstream	3.7 M
Installing dependencies:				
evolution-langpacks	noarch	3.40.4-9.el9	appstream	5.6 M
highlight	x86_64	3.60-5.el9	appstream	880 k

```
Transaction Summary  
=====
```

Install 3 Packages			
Total download size: 10 M			
Installed size: 56 M			
Downloading Packages:			
(1/3): highlight-3.60-5.el9.x86_64.rpm	2.5 MB/s	880 kB	00:00
(2/3): evolution-langpacks-3.40.4-9.el9.noarch.rpm	5.1 MB/s	5.6 MB	00:01
(3/3): evolution-3.40.4-9.el9.x86_64.rpm	2.8 MB/s	3.7 MB	00:01

```
=====
```

Рис. 9: Установка пакетов

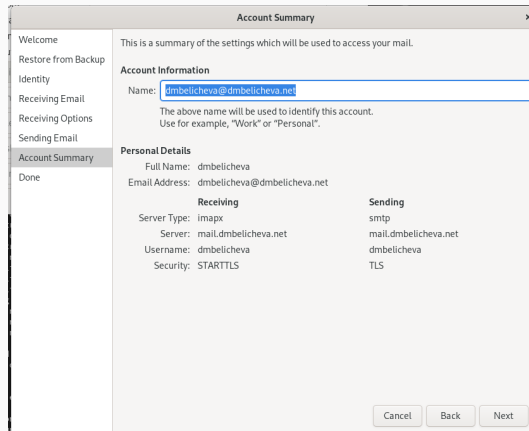


Рис. 10: Настройка почтовый клиент Evolution

Из почтового клиента отправим себе несколько тестовых писем.

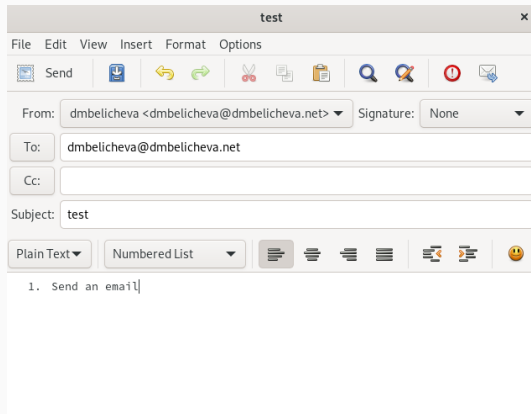


Рис. 11: Отправка писем

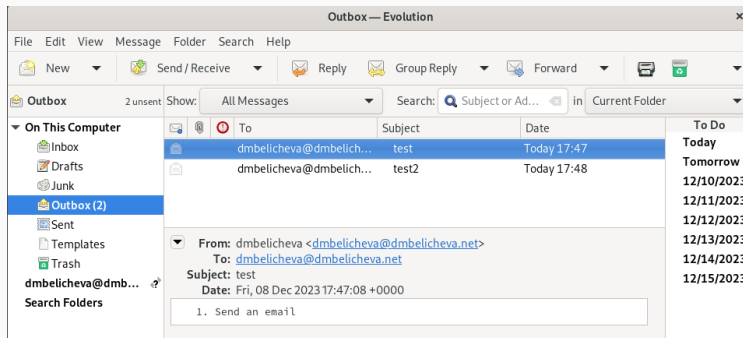


Рис. 12: Письма в outbox

```
[root@server.dmbelicheva.net server]# telnet mail.dmbelicheva.net
telnet: mail.dmbelicheva.net: Name or service not known
mail.dmbelicheva.net: Unknown host
[root@server.dmbelicheva.net server]#
```

Рис. 13: Проверка работы почты с помощью telnet

Внесение изменений в настройки внутреннего окружения виртуальной машины

```
[root@server.dmbelicheva.net conf.d]# cd /vagrant/provision/server
[root@server.dmbelicheva.net server]# mkdir -p /vagrant/provision/server/mail/etc/dovecot/conf.d
[root@server.dmbelicheva.net server]# cp -R /etc/dovecot/dovecot.conf /vagrant/provision/server/mail/etc/dovecot/
[root@server.dmbelicheva.net server]# cp -R /etc/dovecot/conf.d/10-auth.conf
cp: missing destination file operand after '/etc/dovecot/conf.d/10-auth.conf'
Try 'cp --help' for more information.
[root@server.dmbelicheva.net server]# cp -R /etc/dovecot/conf.d/10-auth.conf /vagrant/provision/server/mail/etc/dovecot/conf.d/
[root@server.dmbelicheva.net server]# cp -R /etc/dovecot/conf.d/auth-system.conf.ext /vagrant/provision/server/mail/etc/dovecot/conf.d/
[root@server.dmbelicheva.net server]# cp -R /etc/dovecot/conf.d/10-mail.conf /vagrant/provision/server/mail/etc/dovecot/conf.d/
[root@server.dmbelicheva.net server]# cp -R /etc/postfix/main.cf /vagrant/provision/server/mail/etc/postfix/
```

Рис. 14: Внесение изменений в настройки внутреннего окружения виртуальной машины

Внесение изменений в настройки внутреннего окружения виртуальной машины

```
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
dnf -y install dovecot telnet

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

echo "Configure firewall"
firewall-cmd --add-service=smtp --permanent
firewall-cmd --add-service=pop3 --permanent
firewall-cmd --add-service=pop3s --permanent
firewall-cmd --add-service=imap --permanent
firewall-cmd --add-service=imaps --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'
postconf -e 'home_mailbox = Maildir/'

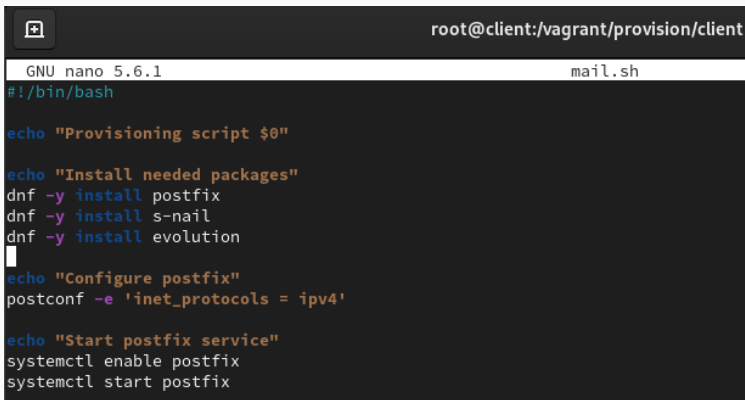
postfix set-permissions

restorecon -vR /etc

systemctl stop postfix
systemctl start postfix

systemctl enable dovecot
systemctl start dovecot
```

Внесение изменений в настройки внутреннего окружения виртуальной машины



A terminal window titled 'root@client:/vagrant/provision/client' showing the editing of a file named 'mail.sh' using the GNU nano 5.6.1 editor. The terminal has a dark background with light-colored text. The file content includes several echo statements for provisioning steps, followed by dnf commands to install postfix, s-nail, and evolution, and finally systemctl commands to enable and start the postfix service.

```
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
dnf -y install evolution

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

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

Рис. 16: Редактирование файла

В процессе выполнения данной лабораторной работы я приобрела практические навыки по установке и простейшему конфигурированию POP3/IMAP-сервера.