

```
#!/bin/bash
echo "Provisioning script $0"

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

echo "Configure firewall"
firewall-cmd --permanent --add-service=smtp
firewall-cmd --permanent --add-service=pop3
firewall-cmd --permanent --add-service=pop3s
firewall-cmd --permanent --add-service=imap
firewall-cmd --permanent --add-service=imaps
firewall-cmd --permanent --add-service=smtp-submission
firewall-cmd --reload

echo "Copy configuration files if they exist"
if [ -d "/vagrant/provision/server/mail/etc" ]; then
    cp -R /vagrant/provision/server/mail/etc/* /etc
    chown -R root:root /etc/postfix
    restorecon -vR /etc
fi

echo "Configure Postfix"
postconf -e "myhostname = localhost.astakhovam.net"
postconf -e "mydomain = astakhovam.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"
postconf -e "home_mailbox = Maildir/"

echo "Configure Postfix for authentication"
postconf -e "smtpd_sasl_type = dovecot"
postconf -e "smtpd_sasl_path = private/auth"
postconf -e "smtpd_sasl_auth_enable = yes"
postconf -e "smtpd_sasl_security_options = noanonymous"

echo "Configure Postfix recipient restrictions"
postconf -e "smtpd_recipient_restrictions =
reject_unknown_recipient_domain, permit_mynetworks,
reject_non_fqdn_recipient, reject_unauth_destination,
reject_unverified_recipient, permit"

echo "Configure Postfix for TLS"
postconf -e "smtpd_tls_security_level = may"
postconf -e "smtp_tls_security_level = may"
postconf -e "smtpd_tls_session_cache_database =
btree:/var/lib/postfix/smtpd_scache"

echo "Configure Dovecot"
mkdir -p /etc/dovecot/conf.d
echo "mail_location = maildir:~/Maildir" >>
/etc/dovecot/conf.d/10-mail.conf
```

Лабораторная работа №10.

Расширенные настройки SMTP-сервера

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Группа: НПИБД02-23

Настройка SMTP-аутентификации

```
!include conf.d/*.conf

# A config file can also tried to be inc
# it's not found:
!include_try local.conf

protocols = imap pop3 lmtp
```

```
root@localhost:/etc/dovecot/conf.d      x      root@localhost:~      x
[astakhovamd@localhost.astakhovamd.net named]$ sudo -i
[sudo] password for astakhovamd:
[root@localhost.astakhovamd.net ~]# tail -f /var/log/maillog
Nov 26 11:21:36 localhost postfix/postfix-script[45191]: starting the Postfix mail system
Nov 26 11:21:36 localhost postfix/master[45193]: daemon started -- version 3.5.25, configuration /etc/postfix
Nov 26 11:21:37 localhost dovecot[45204]: master: Dovecot v2.3.16 (7e2e900c1a) starting up for imap, pop3
Nov 26 11:25:00 localhost dovecot[45204]: master: Warning: Killed with signal 15 (by pid=45255 uid=0 code=ill)
Nov 26 11:25:02 localhost dovecot[45265]: master: Dovecot v2.3.16 (7e2e900c1a) starting up for imap, pop3
Nov 26 11:25:14 localhost postfix/pickup[45194]: 834D18801385: uid=1001 from=<astakhovamd>
Nov 26 11:25:14 localhost postfix/cleanup[45303]: 834D18801385: message-id=<20251126112514.834D18801385@localhost.astakhovamd.net>
Nov 26 11:25:14 localhost postfix/qmgr[45195]: 834D18801385: from=<astakhovamd@astakhovamd.net>, size=375,
nrcpt=1 (queue active)
Nov 26 11:25:14 localhost postfix/local[45310]: 834D18801385: to=<astakhovamd@astakhovamd.net>, relay=local
, delay=0.03, delays=0.03/0/0/0, dsn=2.0.0, status=sent (delivered to maildir)
Nov 26 11:25:14 localhost postfix/qmgr[45195]: 834D18801385: removed
}

}

service lmtp {
unix_listener /var/spool/postfix/private/dovecot-lmtp {
group = postfix
user = postfix
mode = 0600
}
}

service imap {
# Most of the memory goes to mmap()ing files. You may need to increase t
```

Настройка SMTP-аутентификации

```
60 Nov 26 12:19:14 localhost postfix/bounce[45862]: 955A18801385: sender non-delivery notification: A2E358801387
ov Nov 26 12:19:14 localhost postfix/qmgr[45620]: 955A18801385: removed
Nov 26 12:19:14 localhost dovecot[45822]: lmtp(45858): Connect from local
e Nov 26 12:19:14 localhost postfix/lmtp[45857]: A2E358801387: to=<astakhovamd@astakhovamd.net>, relay=localhost.astakhovamd.net[private/dovecot-lmtp], delay=0, delays=0/0/0/0,
r dsn=5.1.1, status=bounced (host localhost.astakhovamd.net[private/dovecot-lmtp] said: 550 5.1.1 <astakhovamd@astakhovamd.net> User doesn't exist: astakhovamd@astakhovamd.net
(in reply to RCPT TO command))
mt Nov 26 12:19:14 localhost dovecot[45822]: lmtp(45858): Disconnect from local: Logged out (state=READY)
mt Nov 26 12:19:14 localhost postfix/qmgr[45620]: A2E358801387: removed
```

```
#!/include auth-passwdfile.conf.ext
#!/include auth-checkpassword.conf.ext
#!/include auth-static.conf.ext
auth_astakhovamd_format = %Ln
```

```
[astakhovamd@localhost.astakhovamd.net named]$ sudo sed -n '128p' /etc/dovecot/conf.d/10-auth.conf
[sudo] password for astakhovamd:
auth_astakhovamd_format = %Ln
[astakhovamd@localhost.astakhovamd.net named]$ sudo nano 10-auth.conf
[astakhovamd@localhost.astakhovamd.net named]$ cd /etc/dovecot/conf.d/
[astakhovamd@localhost.astakhovamd.net conf.d]$ sudo nano 10-auth.conf
[astakhovamd@localhost.astakhovamd.net conf.d]$ systemctl restart dovecot
[astakhovamd@localhost.astakhovamd.net conf.d]$ echo . | mail -s "LMTP test" astakhovamd@astakhovamd.net
[astakhovamd@localhost.astakhovamd.net conf.d]$
```

Настройка SMTP-аутентификации

```
service auth {  
    unix_listener /var/spool/postfix/private/auth {  
        group = postfix  
        user = postfix  
        mode = 0660  
    }  
    unix_listener auth-userdb {  
        mode = 0600  
        user = dovecot  
    }  
}
```

```
[root@localhost.astakhovamd.net conf.d]# postconf -e 'smtpd_sasl_path = private/auth'  
[root@localhost.astakhovamd.net conf.d]# postconf -e 'smtpd_recipient_restrictions = reject_unknown_recipient_domain, permit_mynetworks,reject_non_fqdn_recipient,check_destination,reject_unverified_recipient, permit'  
[root@localhost.astakhovamd.net conf.d]#
```

```
#submission inet n - n - - - smtpd
smtp      inet n - n - - - smtpd
-o smtpd_sasl_auth_enable=yes
-o smtpd_recipient_restrictions=reject_non_fqdn_recipient,reject_unknown_recipient_domain,permit_sasl_authenticated,reject

# -o syslog name=postfix/submit
```

Настройка SMTP-аутентификации

```
#submission inet n - n - - - smtpd
smtp      inet n - n - - - smtpd
-o smtpd_sasl_auth_enable=yes
-o smtpd_recipient_restrictions=reject_non_fqdn_recipient,reject_unknown_recipient_domain,permit_sasl_authenticated,reject

# -o syslog name=postfix/submit .. .
[root@localhost.astakhovamd.net conf.d]# postconf -e 'smtpd_sasl_path = private/auth'
[root@localhost.astakhovamd.net conf.d]# postconf -e 'smtpd_recipient_restrictions = reject_unknown_recipient_domain, permit_mynetworks,reject_non_fqdn_recipient,reject_destination,reject_unverified_recipient, permit'
[root@localhost.astakhovamd.net conf.d]# postconf -e 'mynetworks = 127.0.0.0/8'
[root@localhost astakhovamd net conf.d]#
```

Настройка SMTP-аутентификации

```
Connection closed by foreign host.  
[root@localhost.astakhovamd.net ~]# dnf -y install telnet  
Last metadata expiration check: 2:11:44 ago on Wed 26 Nov 2025 10:26:54 AM UTC.  
Package telnet-1:0.17-85.el9.x86_64 is already installed.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[root@localhost.astakhovamd.net ~]#
```

```
[root@localhost.astakhovamd.net ~]# printf 'astakhovamd\x00astakhovamd\x0012345' | base64  
YXN0YWtob3ZhbWQAYXN0YWtob3ZhbWQAMTIZNDU=  
[root@localhost.astakhovamd.net ~]# telnet mail.astakhovamd.net 25  
Trying ::1...  
telnet: connect to address ::1: Connection refused  
Trying 127.0.0.1...  
Connected to mail.astakhovamd.net.  
Escape character is '^]'.  
220 localhost.astakhovamd.net ESMTP Postfix
```

Настройка SMTP-аутентификации

```
[sudo] password for astakhovamda:  
[root@localhost.astakhovamd.net ~]# cp /etc/pki/dovecot/certs/dovecot.pem /etc/pki/tls/certs  
cp: overwrite '/etc/pki/tls/certs/dovecot.pem'? Y  
[root@localhost.astakhovamd.net ~]# cp /etc/pki/dovecot/private/dovecot.pem /etc/pki/tls/private  
[root@localhost.astakhovamd.net ~]#
```

```
500 5.5.2 Error: bad syntax  
EHLO test  
250-localhost.astakhovamd.net  
250-PIPELINING  
250-SIZE 10240000  
250-VRFY  
250-ETRN  
250-STARTTLS  
250-ENHANCEDSTATUSCODES  
250-8BITMIME  
250-DSN  
250-SMTPUTF8  
250 CHUNKING  
AUTH PLAIN YXN0YWtob3ZhbWQAYXN0YWtob3ZhbWQAMTIzNDU=  
503 5.5.1 Error: authentication not enabled
```

Настройка SMTP Pover TLS

```
[sudo] password for astakhovamda.
[root@localhost.astakhovamd.net ~]# cp /etc/pki/dovecot/certs/dovecot.pem /etc/pki/tls/certs
cp: overwrite '/etc/pki/tls/certs/dovecot.pem'? Y
[root@localhost.astakhovamd.net ~]# cp /etc/pki/dovecot/private/dovecot.pem /etc/pki/tls/private
[root@localhost.astakhovamd.net ~]# postconf -e 'smtpd_tls_cert_file=/etc/pki/tls/certs/dovecot.pem'
[root@localhost.astakhovamd.net ~]# postconf -e 'smtpd_tls_key_file=/etc/pki/tls/private/dovecot.pem'
[root@localhost.astakhovamd.net ~]# postconf -e 'smtpd_tls_session_cache_database = btree:/var/lib/postfix/smtpd_session_cache'
[root@localhost.astakhovamd.net ~]# postconf -e 'smtpd_tls_security_level = may'
[root@localhost.astakhovamd.net ~]# postconf -e 'smtp_tls_security_level = may'
postconf: warning: /etc/postfix/main.cf: multiple entries for "smtp_tls_security_level"
[root@localhost.astakhovamd.net ~]# sudo sed -i '/smtp_tls_security_level/d' /etc/postfix/main.cf
[root@localhost.astakhovamd.net ~]# sudo postconf -e 'smtp_tls_security_level = may'
[root@localhost.astakhovamd.net ~]#
```

```
Resumption PSK: 1C326FC81B3903629E37EBD54480C9C4393300CA6513A62EC9CA150CB28B5AEB25E72F29836F523B7E89C8419BD6D528
PSK identity: None
PSK identity hint: None
SRP username: None
TLS session ticket lifetime hint: 7200 (seconds)
TLS session ticket:
0000 - 55 ad f0 c7 4f e3 4e df-d3 e8 6c f2 61 89 08 3b U...O.N...l.a..;
0010 - bd f4 24 78 1f 51 85 6f-ea 2c 7e 5c cb 62 dc f2 ..$x.Q.o.,~\b..
0020 - 9f ac 10 6e a5 e8 ad 3f-22 9a e3 c8 2f f1 73 47 ...n...?..."/.sG
0030 - f9 3d 64 f4 60 39 d8 d9-9a 11 07 29 20 84 95 c1 .=d.'9.....) ...
0040 - 63 da 53 2d e9 4e 30 b9-06 b0 42 c5 0c 5e 85 0b c.S-.N0...B..^..
0050 - c1 f0 41 82 f4 db 36 51-c3 28 7a 55 47 37 8c b1 ..A...6Q.(zUG7..
0060 - 7d ca e0 e4 41 0b 2e d7-64 2f 02 62 11 97 81 88 }...A...d./.b...
0070 - ec 9a 45 ab bb a2 a0 8b-12 4e de 48 54 f3 38 ce ..E.....N.HT.8.
0080 - 68 8f 3e 91 f2 9f 95 bd-c0 88 de 4a 73 57 49 c8 h.>.....JswI.
0090 - 5f 85 93 97 cd db 9d 2c-fe 61 a6 fa 8c 1a 9f d4 .....,a.....
00a0 - 1e 80 45 b4 fb 98 d3 95-b1 9d 06 fa 14 fd 46 b4 ..E.....F.
00b0 - 7c ee 56 f6 75 93 e5 3b-d7 6c 92 82 e1 47 bf a2 J.V.u.;.l...G..
00c0 - 66 45 c2 0c 12 da 1c 68-81 cf f0 2c 23 ac 05 72 fE....h...,#..r

Start Time: 1764161887
Timeout   : 7200 (sec)
Verify return code: 18 (self-signed certificate)
Extended master secret: no
Max Early Data: 0
---
read R BLOCK
EHLO test
250-localhost.astakhovamda.net
250-PIPELINING
250-SIZE 10240000
250-VRFY
250-ETRN
250-AUTH PLAIN
250-ENHANCEDSTATUSCODES
250-8BITMIME
250-DSN
250-SMTPUTF8
250 CHUNKING
AUTH PLAIN YXN0YWtob3ZhbwQAYXN0YWtob3ZhbwQAMTIZNDU=
235 2.7.0 Authentication successful
```

Внесение изменений в настройки внутреннего окружения виртуальной машины

```
QUIT
DONE
[root@localhost.astakhovamd.net postfix]# cd /vagrant/provision/server
[root@localhost.astakhovamd.net server]# mkdir -p mail/etc/dovecot/conf.d
[root@localhost.astakhovamd.net server]# mkdir -p mail/etc/postfix
[root@localhost.astakhovamd.net server]# cp /etc/dovecot/dovecot.conf mail/etc/dovecot/
cp: overwrite 'mail/etc/dovecot/dovecot.conf'? Y
[root@localhost.astakhovamd.net server]# cp /etc/dovecot/conf.d/10-master.conf mail/etc/dovecot/conf.d/
[root@localhost.astakhovamd.net server]# cp /etc/dovecot/conf.d/10-auth.conf mail/etc/dovecot/conf.d/
cp: overwrite 'mail/etc/dovecot/conf.d/10-auth.conf'? Y
[root@localhost.astakhovamd.net server]# cp /etc/postfix/master.cf mail/etc/postfix/
[root@localhost.astakhovamd.net server]#
```

```
echo "Mail server configuration completed!"

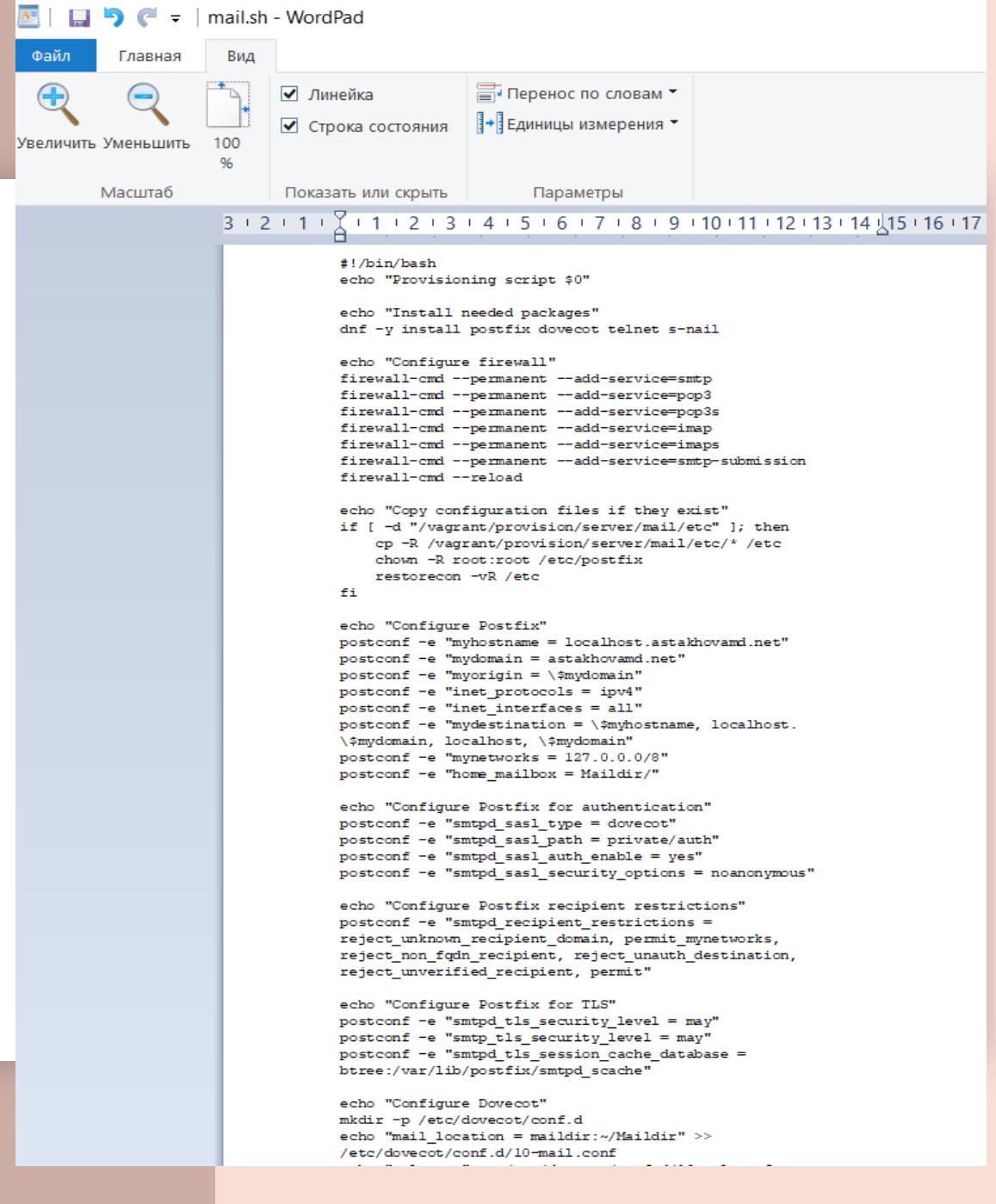
echo "Provisioning script $0"

echo "Install needed packages"
dnf -y install evolution
dnf -y install telnet

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

echo "Client mail configuration completed!"
```

Внесение изменений в настройки внутреннего окружения виртуальной машины



The screenshot shows a Microsoft WordPad window titled "mail.sh - WordPad". The window contains a shell script for provisioning a virtual machine. The script performs several tasks:

- Installs needed packages (Postfix, Dovecot, telnet, s-nail) via dnf.
- Configures the firewall to allow SMTP, POP3, POP3S, IMAP, and IMAPS services.
- Copies configuration files from "/vagrant/provision/server/mail/etc" to "/etc/postfix" if they exist, and applies ownership changes.
- Configures Postfix with local hostnames and domains, specifying inet_protocols as ipv4, inet_interfaces as all, and mydestination as localhost, \$mydomain, \$myhostname.
- Configures Postfix for authentication using dovecot as the smtptd_sasl_type, private/auth as the smtptd_sasl_path, and yes as smtptd_sasl_auth_enable.
- Configures Postfix recipient restrictions to reject unknown_recipient_domain, permit_mynetworks, reject_non_fqdn_recipient, reject_unauth_destination, and reject_unverified_recipient.
- Configures Postfix for TLS with smtpd_tls_security_level set to may and smtpd_tls_session_cache_database set to btree:/var/lib/postfix/smtpd_scache.
- Configures Dovecot by creating a directory at /etc/dovecot/conf.d/10-mail.conf and setting mail_location to maildir:~/Maildir.

```
#!/bin/bash
echo "Provisioning script $0"

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

echo "Configure firewall"
firewall-cmd --permanent --add-service=smtp
firewall-cmd --permanent --add-service=pop3
firewall-cmd --permanent --add-service=pop3s
firewall-cmd --permanent --add-service=imap
firewall-cmd --permanent --add-service=imaps
firewall-cmd --permanent --add-service=smtptd-submission
firewall-cmd --reload

echo "Copy configuration files if they exist"
if [ -d "/vagrant/provision/server/mail/etc" ]; then
    cp -R /vagrant/provision/server/mail/etc/* /etc
    chown -R root:root /etc/postfix
    restorecon -vR /etc
fi

echo "Configure Postfix"
postconf -e "myhostname = localhost.astakhovamd.net"
postconf -e "mydomain = astakhovamd.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"
postconf -e "home_mailbox = Maildir/"

echo "Configure Postfix for authentication"
postconf -e "smtptd_sasl_type = dovecot"
postconf -e "smtptd_sasl_path = private/auth"
postconf -e "smtptd_sasl_auth_enable = yes"
postconf -e "smtptd_sasl_security_options = noanonymous"

echo "Configure Postfix recipient restrictions"
postconf -e "smtpd_recipient_restrictions =
reject_unknown_recipient_domain, permit_mynetworks,
reject_non_fqdn_recipient, reject_unauth_destination,
reject_unverified_recipient, permit"

echo "Configure Postfix for TLS"
postconf -e "smtpd_tls_security_level = may"
postconf -e "smtpd_tls_security_level = may"
postconf -e "smtpd_tls_session_cache_database =
btree:/var/lib/postfix/smtpd_scache"

echo "Configure Dovecot"
mkdir -p /etc/dovecot/conf.d
echo "mail_location = maildir:~/Maildir" >>
/etc/dovecot/conf.d/10-mail.conf
echo "listen = 127.0.0.1" >>
/etc/dovecot/conf.d/10-mail.conf
echo "port = 143" >>
/etc/dovecot/conf.d/10-mail.conf
echo "port = 587" >>
/etc/dovecot/conf.d/10-mail.conf
echo "ssl = yes" >>
/etc/dovecot/conf.d/10-mail.conf
echo "ssl_cert = /etc/ssl/certs/dovecot.pem" >>
/etc/dovecot/conf.d/10-mail.conf
echo "ssl_key = /etc/ssl/private/dovecot.pem" >>
/etc/dovecot/conf.d/10-mail.conf
echo "ssl_cipher_list = HIGH" >>
/etc/dovecot/conf.d/10-mail.conf
echo "ssl_dhparam = /etc/dovecot/dhparams.pem" >>
/etc/dovecot/conf.d/10-mail.conf
```

Спасибо за внимание!

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