

SMTP CONFIGURATION

Simple Mail Transfer Protocol:

It is a communication protocol used for sending and receiving email messages over the internet.

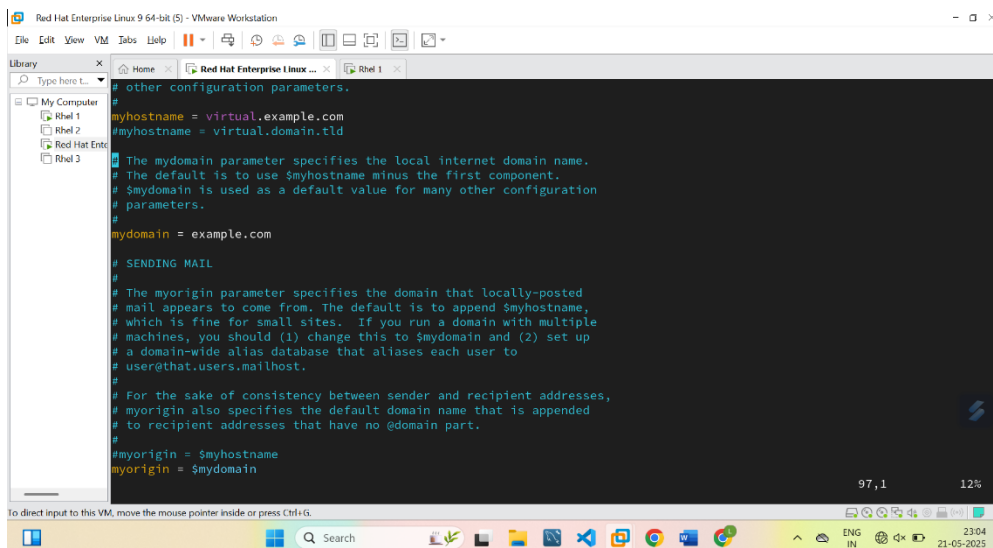
Mail Transfer Agents(MTA):

Mail Transfer Agents are software that facilitates the transfer of email messages between computers using the Simple Mail Transfer Protocol (SMTP). They act as intermediaries, ensuring emails are reliably delivered between senders and recipients, whether locally or across the internet.

Configuration:

Server:

1. Install postfix and s-nail service.
`yum install postfix (MTA)`
`yum install s-nail (mail user agent-MUA)`
2. Enable the service to start at boot
`yum enable - -now postfix`
3. Edit the postfix configuration file
`vim /etc/postfix/main.cf`
4. Edit the following parameters
`myhostname = virtual.example.com`
`mydomain = example.com`
`myorigin = $mydomain`
`inet_interfaces = all`
`inet_protocols = all`
`mydestination = $myhostname, localhost.$mydomain, localhost, $mydomain`
`mynetworks = 172.16.0.0/16, 127.0.0.0/8`
`home_mailbox = Maildir/`

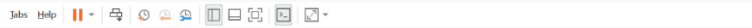


```
Red Hat Enterprise Linux 9 64-bit (5) - VMware Workstation
File Edit View VM Tabs Help
Library
My Computer
  rhel 1
  rhel 2
  Red Hat Enterprise Linux 9 64-bit (5)
  rhel 3
Type here to search
# other configuration parameters.
#
myhostname = virtual.example.com
#myhostname = virtual.domain.tld


# The mydomain parameter specifies the local internet domain name.
# The default is to use $myhostname minus the first component.
# $mydomain is used as a default value for many other configuration
# parameters.
#
mydomain = example.com

# SENDING MAIL
#
# The myorigin parameter specifies the domain that locally-posted
# mail appears to come from. The default is to append $myhostname,
# which is fine for small sites. If you run a domain with multiple
# machines, you should (1) change this to $mydomain and (2) set up
# a domain-wide alias database that aliases each user to
# user@that.users.mailhost.
#
# For the sake of consistency between sender and recipient addresses,
# myorigin also specifies the default domain name that is appended
# to recipient addresses that have no @domain part.
#
myorigin = $myhostname
myorigin = $mydomain

97,1 12%
```




The screenshot shows a VMware Workstation interface with a Red Hat Enterprise Linux 9 64-bit (5) virtual machine. The terminal window displays the configuration of the /etc/hosts file, showing the mapping of IP addresses to hostnames. The configuration includes entries for localhost, the host's IP (192.168.100.10), and the host's name (rhel1). The terminal output shows the contents of the file after editing, with the IP address 192.168.100.10 and the hostname rhel1.



The screenshot shows a terminal window titled "Red Hat Enterprise Linux 9 64-bit (5) - VMware Workstation". The terminal displays the following text:

```
# Specify an explicit list of network/network patterns, where the
# mask specifies the number of bits in the network part of a host
# address.
#
# You can also specify the absolute pathname of a pattern file instead
# of listing the patterns here. Specify type:table for table-based lookups
# (the value on the table right-hand side is not used).
#
mynetworks = 172.16.0.0/16, 127.0.0.0/8
#mynetworks = $config_directory/mynetworks
#mynetworks = hash:/etc/postfix/network_table
```

The left sidebar of the VMware Workstation interface shows a "Library" with a tree view containing "My Computer", "Rhel 1", "Rhel 2", "Red Hat Enterprise Linux 9 64-bit (5)", and "Rhel 3". The "Red Hat Enterprise Linux 9 64-bit (5)" item is selected, and the main window displays the terminal output for this VM.



The screenshot shows a Red Hat Enterprise Linux 9 64-bit VM window. The terminal displays the following output:

```
# DELIVERY TO MAILBOX
#
# The home_mailbox parameter specifies the optional pathname of a
# mailbox file relative to a user's home directory. The default
# mailbox file is /var/spool/mail/user or /var/mail/user. Specify
# "Maildir/" for qmail-style delivery (the / is required).
#
#home_mailbox = Mailbox
#home_mailbox = Maildir/
#
# The mail_spool_directory parameter specifies the directory where
# UNIX-style mailboxes are kept. The default setting depends on the
# system type.
```

- Restart the postfix service
`systemctl restart postfix`
- Add the service to firewall
`firewall-cmd - -add-service=smtp - -permanent`
`firewall-cmd - -reload`
`firewall-cmd - -list-all`
- Add the server to DNS

The screenshot shows a VMware Workstation window titled "Rhel 2 - VMware Workstation". The interface includes a menu bar (File, Edit, View, VM, Tabs, Help), a toolbar with icons for various actions, and a library pane on the left. The library pane shows a tree view with "My Computer" expanded, listing "Rhel 1", "Rhel 2", "Red Hat Lints", and "Rhel 3". The main window displays a terminal window titled "Rhel 2" with a dark background and light-colored text. The terminal content is a DNS zone file for "example.com", showing records for SOA, NS, A, and MX. The records are as follows:

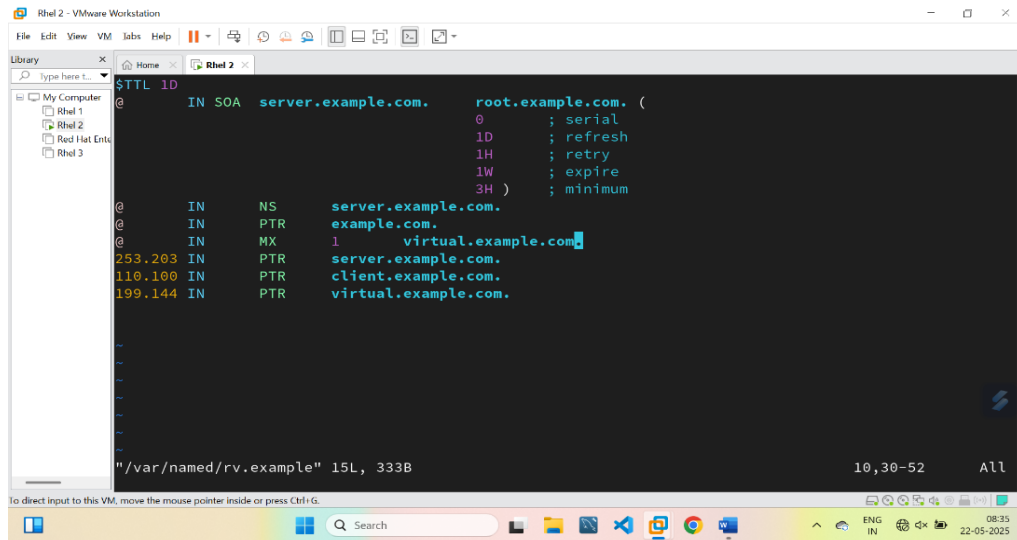
```

$TTL 1D
@ IN SOA server.example.com. root.example.com. (
    0 ; serial
    1D ; refresh
    1H ; retry
    1W ; expire
    3H ) ; minimum

@ IN NS server.example.com.
@ IN A 172.16.203.253
@ IN MX 1 virtual.example.com.
server IN A 172.16.203.253
client IN A 172.16.100.110
orange IN A 172.16.100.110
virtual IN A 172.16.144.199

"/var/named/fw.example" 14L, 334B
  
```

The terminal window also shows a status bar at the bottom with the text "13,20-32 All". The VMware interface at the bottom includes a taskbar with various application icons and a system tray showing the date and time as "22-05-2025 08:34".



```
$TTL 1D
@ IN SOA server.example.com. root.example.com. (
    0 ; serial
    1D ; refresh
    1H ; retry
    1W ; expire
    3H ) ; minimum

@ IN NS server.example.com.
@ IN PTR example.com.
@ IN MX 1 virtual.example.com.
253.203 IN PTR server.example.com.
110.100 IN PTR client.example.com.
199.144 IN PTR virtual.example.com.
```

"/var/named/rv.example" 15L, 333B 10,30-52 All

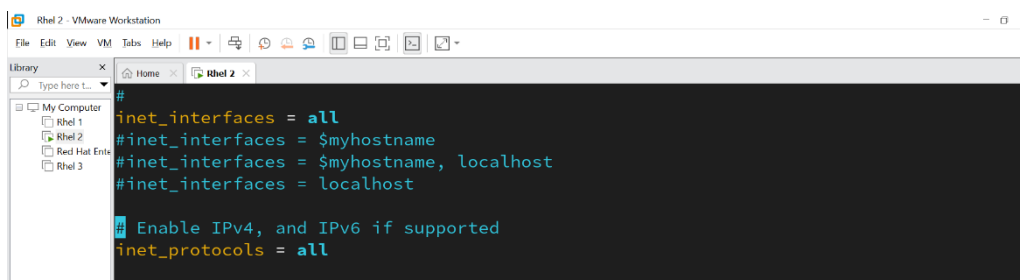
Client:

- Install postfix and s-nail packages

```
yum install postfix
yum install s-nail
```
- Enable the package to start at boot

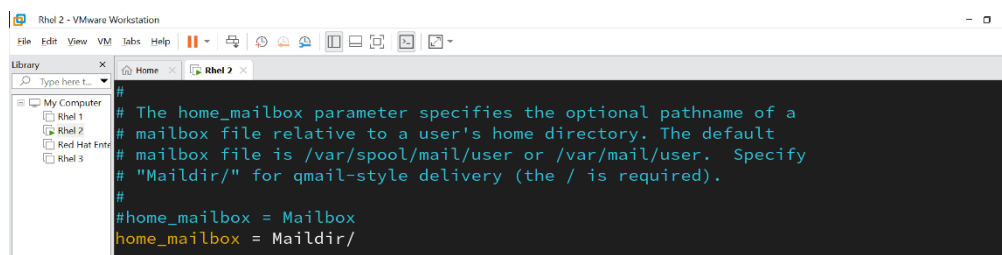
```
systemctl enable - -now postfix
```
- Edit the following parameters in postfix configuration file

```
inet_interfaces = all
inet_protocols = all
home_mailbox = Maildir/
```



```
#
inet_interfaces = all
#inet_interfaces = $myhostname
#inet_interfaces = $myhostname, localhost
#inet_interfaces = localhost

## Enable IPv4, and IPv6 if supported
inet_protocols = all
```



```
#
# The home_mailbox parameter specifies the optional pathname of a
# mailbox file relative to a user's home directory. The default
# mailbox file is /var/spool/mail/user or /var/mail/user. Specify
# "Maildir/" for qmail-style delivery (the / is required).
#
#home_mailbox = Mailbox
home_mailbox = Maildir/
```

- Add the service to firewall
`firewall-cmd - --add-port=25 - -permanent`
`firewall-cmd - -reload`
`firewall-cmd - -list-all`

Working:

Mail server – `virtual.example.com`

Client machines – `server.example.com`

`client.example.com`

Send the mail between the machines to check the working of smtp

`echo "<contents>" | mail -s "<subject>" user@hostname`

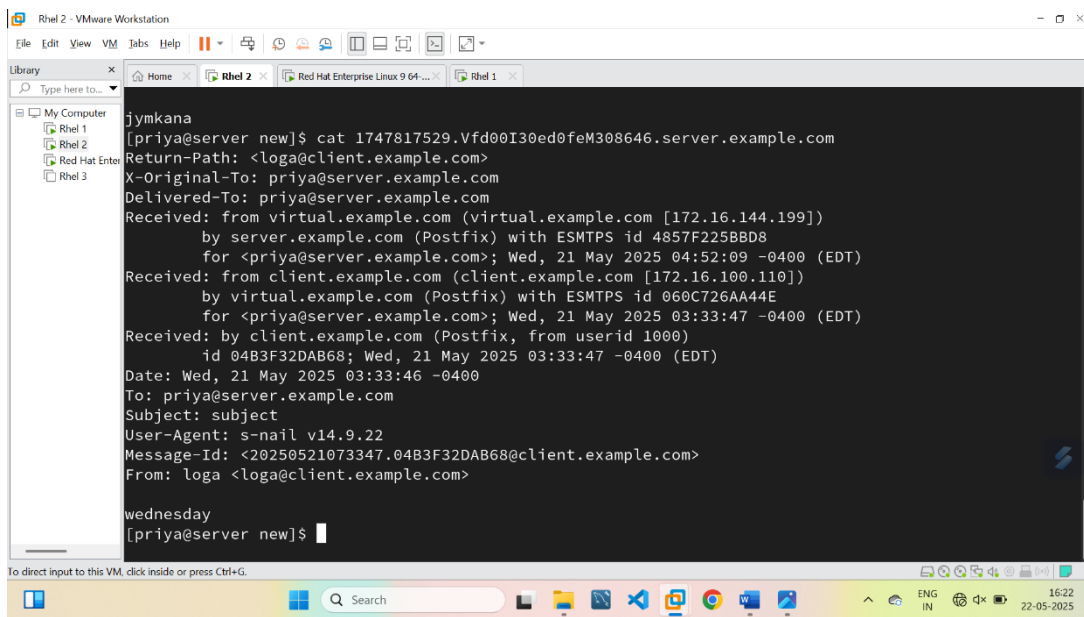
- Sending the mail from `loga@client.example.com` to `priya@server.example.com`
- Verify the status of the mail by checking the log file in `client.example.com` machine
`/var/log/maillog`

```

May 21 03:32:22 client postfix/qmgr[1556]: 0A41632DAB68: removed
May 21 03:33:47 client postfix/pickup[1555]: 04B3F32DAB68: uid=1000 from=<loga>
May 21 03:33:47 client postfix/cleanup[3549]: 04B3F32DAB68: message-id=<20250521073347.04B3F32DAB68
@client.example.com>
May 21 03:33:47 client postfix/qmgr[1556]: 04B3F32DAB68: from=<loga@client.example.com>, size=347,
nrcpt=1 (queue active)
May 21 03:33:47 client postfix/smtp[3555]: 04B3F32DAB68: to=<priya@server.example.com>, relay=virtu
al.example.com[172.16.144.199]:25, delay=0.03, delays=0.01/0/0.01/0, dsn=2.0.0, status=sent (250 2.
0.0 Ok: queued as 060C726AA44E)
May 21 03:33:47 client postfix/qmgr[1556]: 04B3F32DAB68: removed
May 21 03:37:32 client postfix/qmgr[1556]: D771E32DAB5F: from=<loga@client.example.com>, size=348,
nrcpt=1 (queue active)
May 21 03:37:32 client postfix/smtp[3582]: D771E32DAB5F: to=<kavin@virtual.example.com>, relay=virt
ual.example.com[172.16.144.199]:25, delay=933, delays=933/0.05/0.05/0.02, dsn=2.0.0, status=sent (2
50 2.0.0 Ok: queued as 3BBEE26AA451)
May 21 03:37:32 client postfix/qmgr[1556]: D771E32DAB5F: removed

```

- Verify whether the mail has received or not in `server.example.machine` as a Priya user, by checking the mail file in `/home/riya/Maildir/new` and open the respective mail file.



```
jymkana
[priya@server new]$ cat 1747817529.Vfd00I30ed0feM308646.server.example.com
Return-Path: <loga@client.example.com>
X-Original-To: priya@server.example.com
Delivered-To: priya@server.example.com
Received: from virtual.example.com (virtual.example.com [172.16.144.199])
    by server.example.com (Postfix) with ESMTPS id 4857F225BBD8
    for <priya@server.example.com>; Wed, 21 May 2025 04:52:09 -0400 (EDT)
Received: from client.example.com (client.example.com [172.16.100.110])
    by virtual.example.com (Postfix) with ESMTPS id 060C726AA44E
    for <priya@server.example.com>; Wed, 21 May 2025 03:33:47 -0400 (EDT)
Received: by client.example.com (Postfix, from userid 1000)
    id 04B3F32DAB68; Wed, 21 May 2025 03:33:47 -0400 (EDT)
Date: Wed, 21 May 2025 03:33:46 -0400
To: priya@server.example.com
Subject: subject
User-Agent: s-nail v14.9.22
Message-Id: <20250521073347.04B3F32DAB68@client.example.com>
From: loga <loga@client.example.com>

wednesday
[priya@server new]$
```

Same way mail can be sent between all the three machines.