

# LPIC-1 102-500 – Lesson 11

## 108.3 Mail Transfer Agent (MTA) basics

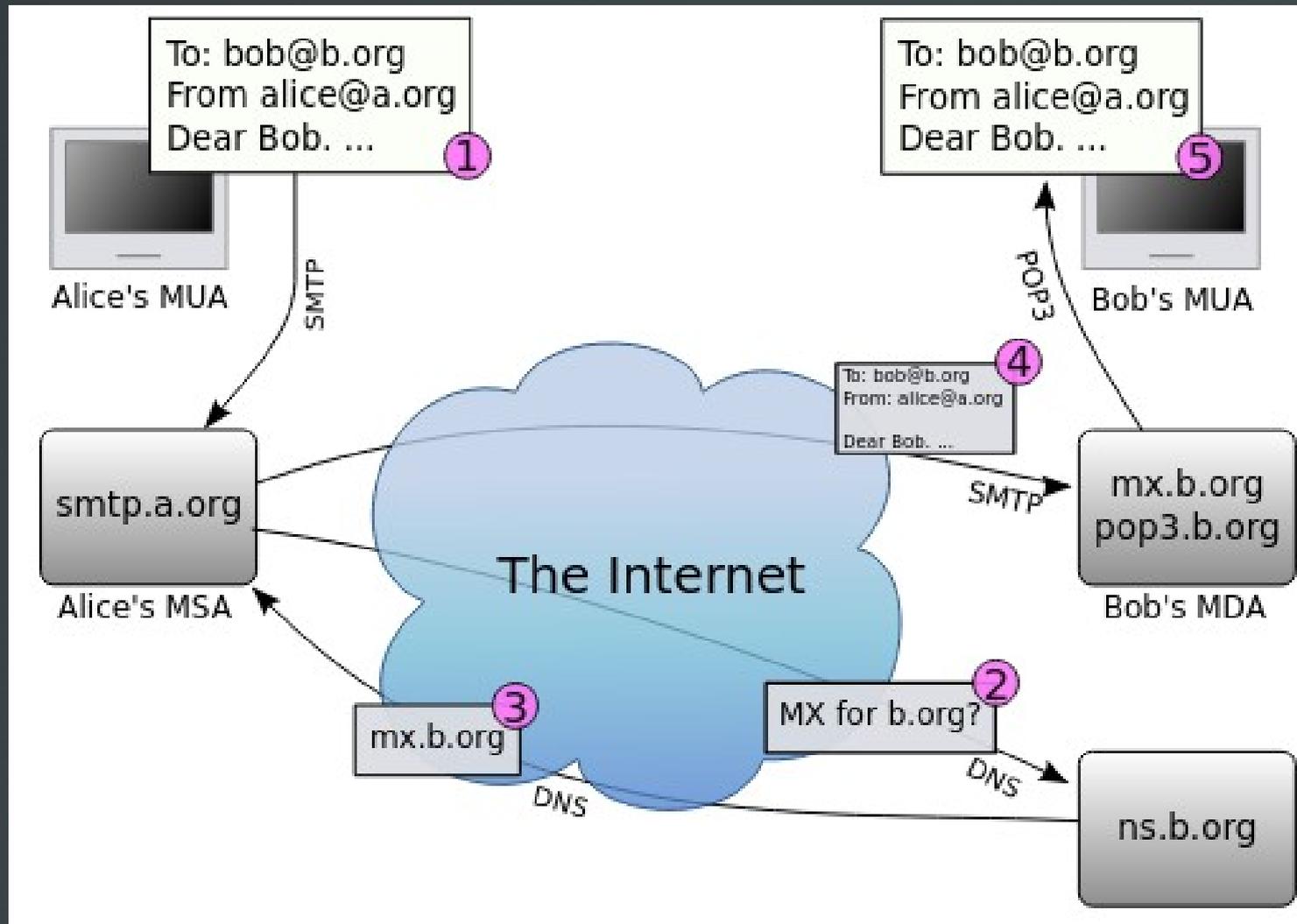


# Terminology

- **MTA (Mail Transfer Agent):** these are services implementing the **SMTP** protocol and used for sending email between client-server or between servers. The most popular MTAs in Linux are **sendmail**, **postfix** and **exim**.
- **MDA (Mail Delivery Agent):** these are services that collect mail from the MTA and save it, usually locally, in some mailbox.
- **MUA (Mail User Agent):** these are email clients that can send mail through SMTP, and receive mail from mailboxes through protocols like POP3 or IMAP. The most popular MUAs for Linux are **Thunderbird**, **Evolution**, **KMail**, **Claws Mail** and the console based **pine** and **mutt**.



# The E-mail system



# Mail Transfer Agents (MTA)

- **sendmail**: one of the first free/open source SMTP implementations. It greatly helped spread email across the Internet. It has lost popularity because of security issues but it is the reference implementation where most MTAs are based on.
- **postfix**: A very popular MTA build for ease of use, better performance and security. It is a drop-in replacement of sendmail. Default in many distributions.
- **exim**: another sendmail drop-in replacement. It is very very by ISPs and universities. Default in Debian.



# Install an MTA

- `# netstat -lnpt | grep 25` # check if the port  
# 25 is occupied.  
tcp 0 0 127.0.0.1:25  
0.0.0.0:\* LISTEN  
1869/exim4
- `# apt-get install sendmail | postfix | exim` #  
in Debian.
- `# yum install sendmail | postfix | exim` # in  
RedHat.



# The `mail` utility

- The **mail** CLI utility can be used to send or read mail in your system. If a domain is not specified the messages will be delivered locally to the the `/var/spool/mail/` directory under the username of the recipient.
- `$ echo "Greedings Human" | mail -s "testing" user1`  
# send message from the active user (`$USER`) to `user1`. The message will be temporarily saved the `/var/spool/mail/user1` file.
- `$ mail # read mail from /var/spool/mail/$USER`  
(active user). Read messages are saved in `~/mbox`.
- `# mail -u user1 # read user1 messages by root.`
- `$ mail -f ~/mbox # read saved messages from mbox.`

# Create email aliases with */etc/aliases*

- The **/etc/aliases** file is used to set alternative names and mailing lists (aliases) for forwarding email. The first column defines the alias and the second column the destination(s), separated by comma “,” and space “ ”.
- **# cat /etc/aliases**  
postmaster: root  
abuse: postmaster  
theo: theodotos.andreou@example.com  
root: admin@example.com  
admins: bob, alice #  
backup: kyriacos, dimitris
- After changes in the **aliases** file we need to run the **newaliases** command for the MTA to be notified of the changes.



# Forwarding messages with `~/.forward`

- If we need to forward all mail messages of a user to another user we can create the `~/.forward` file and set each recipient on a separate line.
- ```
$ cat ~/.forward # forward all mail of user  
$USER to user theo and  
admin@example.com  
  
theo  
admin@example.com
```
- The technique can be used by regular user and root as well.



# Show messages in the MTA queue with `mailq`

- The **mailq** command shows a summary of the messages that have not yet been delivered by the MTA. If these can not be delivered they will remain in the queue for a specific time and then deleted.

```
$ mailq
426A22CDC9B2      497 Thu Mar  1 13:00:01  smmsp
                   root
3E3A63442166      497 Thu Mar  1 01:20:04  smmsp
                   root
DA5E73442122      2535 Tue Feb 28 04:04:55  root
                                     user@example.com
```

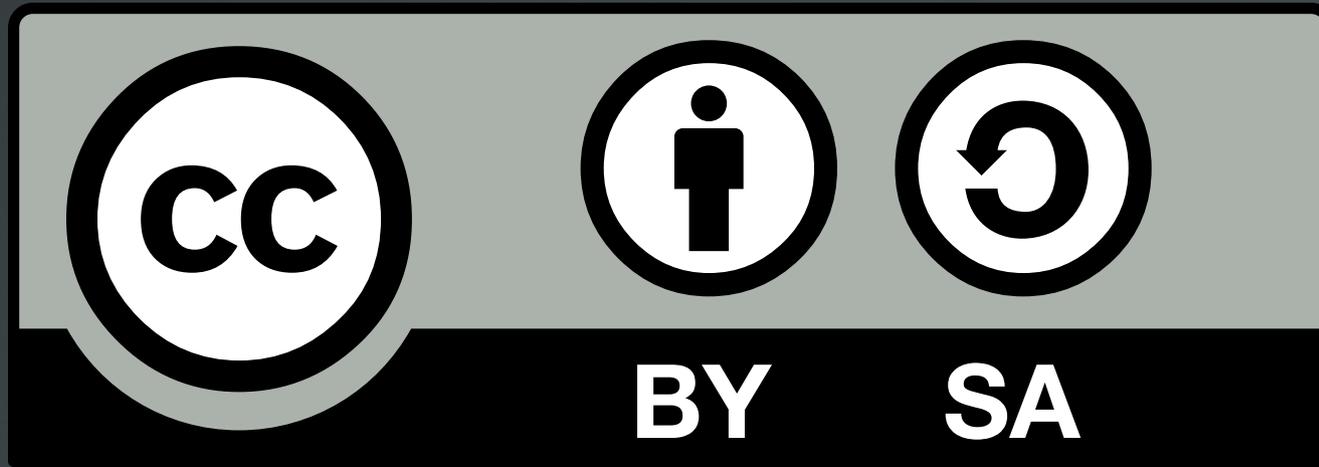


# sendmail emulation layer commands

- The **sendmail emulation layer commands** is a compatibility layer of Linux MTAs (like **postfix** and **exim**) with sendmail. We can find these commands in sendmail drop-in replacements.
- These commands are:
  - sendmail #** receives messages (e.g using **mail**).
  - mailq #** show the message queue.
  - newaliases #** apply new aliases.
- **\$ man sendmail #** for more information.



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