

# Email: POP & IMAP

Let's now discuss the other side of the coin for how email works.

## WE'LL COVER THE FOLLOWING ^

- POP
  - POP Phases
  - POP Modes
- IMAP
- Quick Quiz!

POP and IMAP are used to retrieve email from an email server. Either one can be used. Let's discuss both.

## POP #

The most commonly used version of the **Post Office Protocol (POP)** is version 3, or **POP3**. This is how it works:

## POP Phases #

Emails are simply downloaded from the server in **4 phases: connect, authorize, transaction, update**.

1. **Connect:** The user agent first connects to the POP3 server on TCP using `port 110`.
2. **Authorize:** The user agent authenticates the user with a username and a password.
3. **Transaction:** The user can now retrieve emails and mark emails for deletion.
4. **Update:** After the user agent quits and closes the POP3 session, the server makes updates based on the user's commands. So if the user marked an email for deletion, it will delete it. No copy of a deleted email is kept on

email for deletion, it will delete it. No copy of a deleted email is kept on the server.

- Note that only what's in the user's inbox is downloaded. Other folders such as sent items, outbox, or drafts are not synced. So POP3 does not synchronize the folders.

## POP Modes #

POP works in two modes.

- **Download and delete:** Once emails are downloaded from the server to the user agent, they are all deleted from there.
- **Download and keep:** Emails are not deleted from the server once they are downloaded onto the user agent.

However, with the download and delete model, you can only use one client to check your emails. If you use multiple devices to check your email, this method is not appropriate because emails will not look the same across devices at different times. Also, users won't be able to reread emails from different devices.

Have a look at the following slides for an example of how emails might not be in sync on multiple devices with POP.

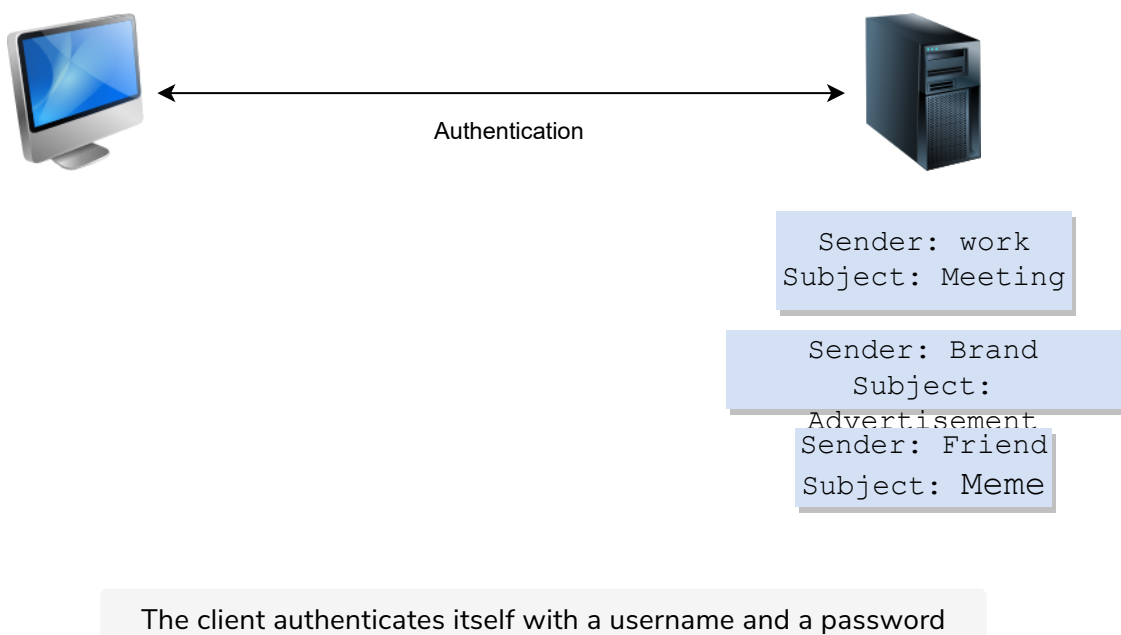
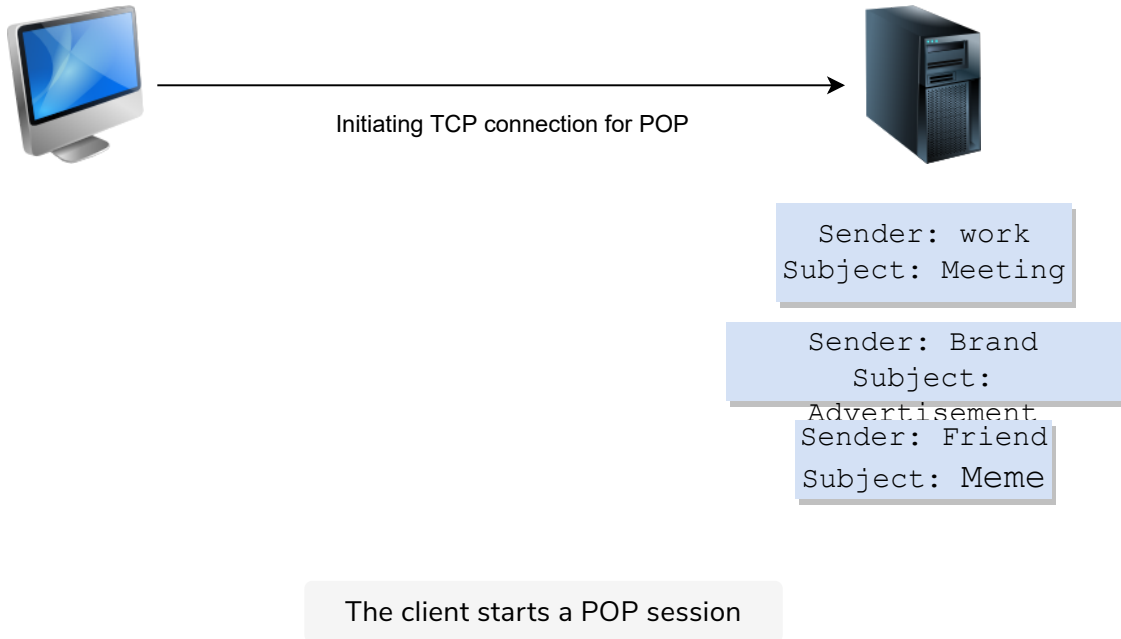


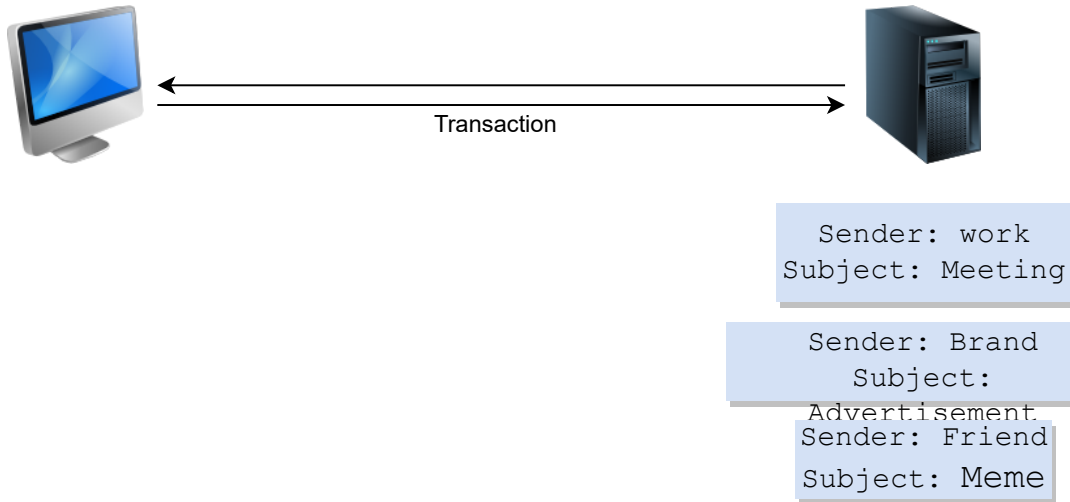
Sender: work  
Subject: Meeting

Sender: Brand  
Subject:

Advertisement  
Sender: Friend  
Subject: Meme

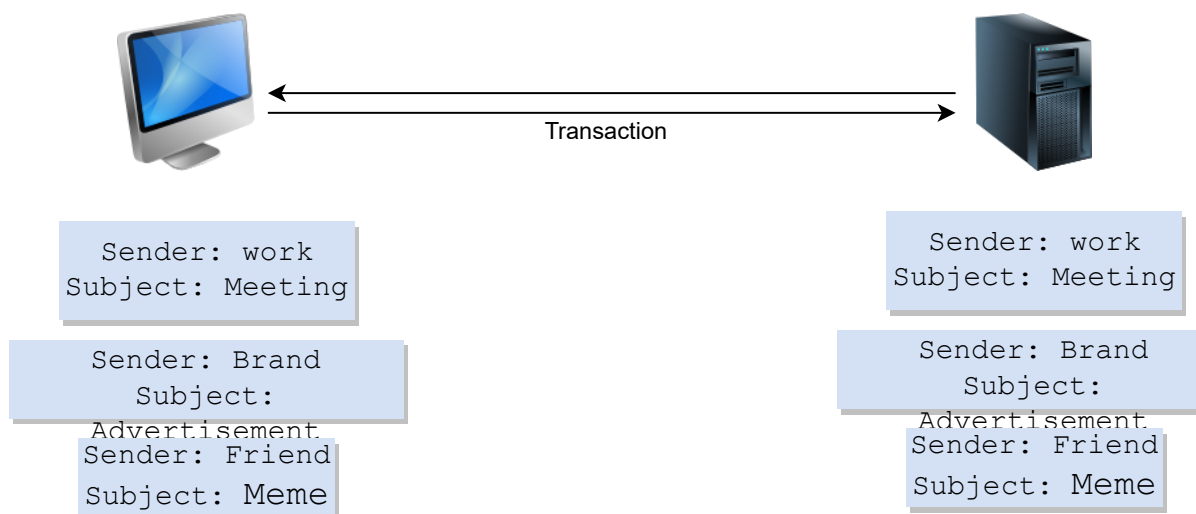
Emails reside on server





The client agent requests all emails

4 of 10



The client requests all emails

5 of 10



Transaction

Sender: work  
Subject: Meeting

Sender: work  
Subject: Meeting

Sender: Brand  
Subject:  
Advertisement.  
Sender: Friend  
Subject: Meme

Sender: Brand  
Subject:  
Advertisement.  
Sender: Friend  
Subject: Meme

The client requests all emails

6 of 10



Quit

Sender: work  
Subject: Meeting

Sender: work  
Subject: Meeting

Sender: Brand  
Subject:  
Advertisement.  
Sender: Friend  
Subject: Meme

Sender: Brand  
Subject:  
Advertisement.  
Sender: Friend  
Subject: Meme

The client now quits the session

7 of 10



Sender: work  
Subject: Meeting

Sender: Brand  
Subject:  
Advertisement  
Sender: Friend  
Subject: Meme



--

During the update phase, the server updates its records. In this case, all emails are wiped clean because no new ones are received

8 of 10



Sender: work  
Subject: Meeting

Sender: Brand  
Subject:  
Advertisement  
Sender: Friend  
Subject: Meme



Sender: Friend2  
Subject: Dinner

Suppose another email is received sometime later.

9 of 10



Sender: work  
Subject: Meeting



Sender: Brand  
Subject:  
Advertisement  
Sender: Friend  
Subject: Meme

Sender: Friend2  
Subject: Dinner

Suppose that the user checks their email via another device, say their cell phone. All 4 steps would occur again but they won't be able to view their previous emails.

10 of 10



## IMAP #

The **Internet Message Access Protocol (IMAP)**, like POP, is also a mail access protocol used for retrieving email. It is a bit more complex than POP and hence allows you to view your email from multiple devices. With IMAP, though:

- Emails are **kept** on the server and **not deleted**.
- Local copies of the emails are cached on each device.
- It **syncs** up all of the **user's folders** including custom folders.
- The **inbox** would look exactly the **same on all clients**.
- If an email is deleted from one user agent, it will be **deleted off the server**.

- Deleted emails **won't be visible** from other devices either.

## Quick Quiz! #

Q

Which of the following are valid differences between POP3 and IMAP?

COMPLETED 0%



1 of 1

