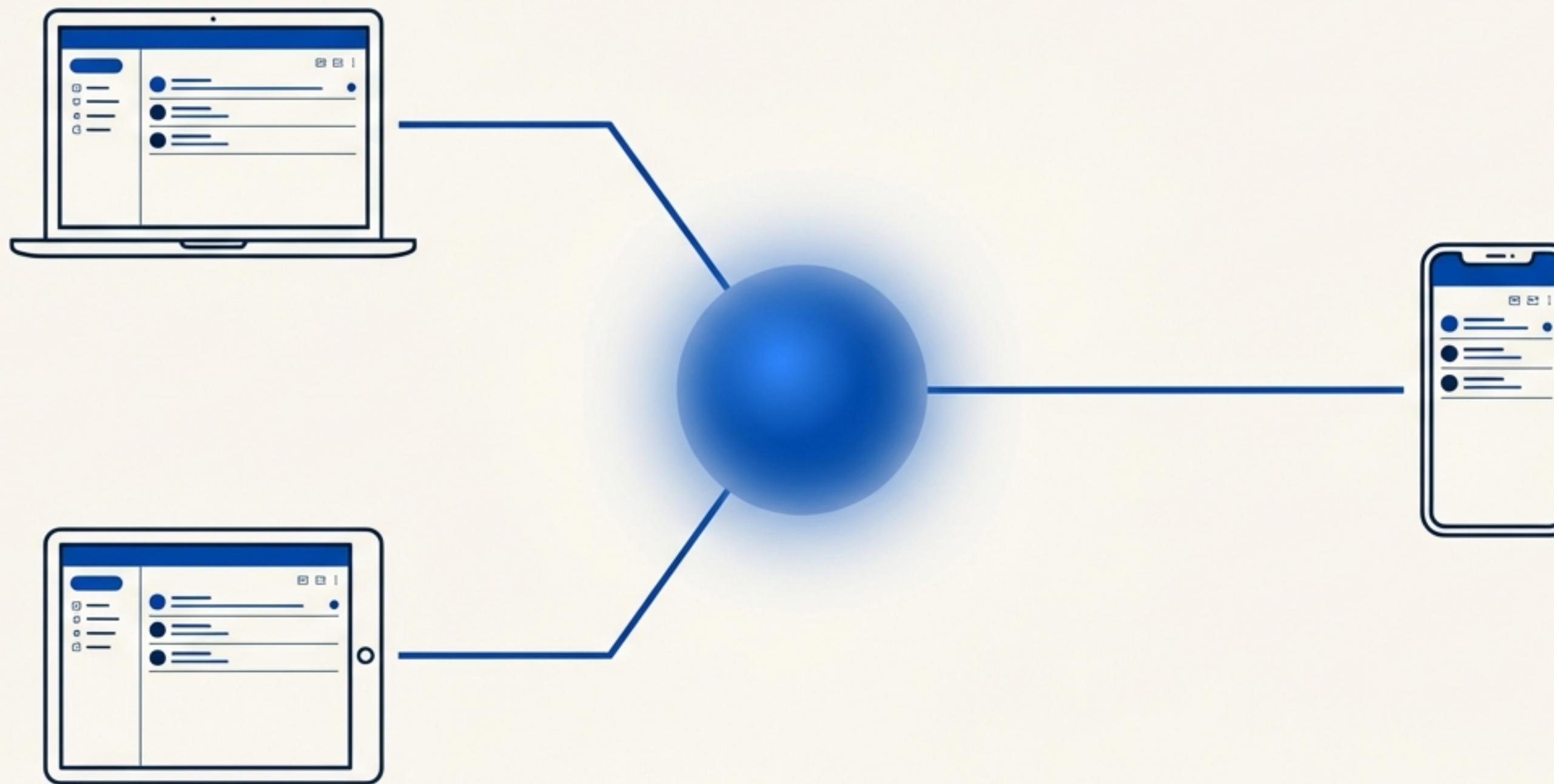


The Journey to a Synchronised World

How IMAP Unleashed Your Email



Every Email Has Two Journeys: Sending and Receiving



The Outbound Journey

When you send an email, it's pushed from your client to the server and onwards to its destination. This is the 'push' action.

Governed by **SMTP (Simple Mail Transfer Protocol)**



The Inbound Journey

To read your messages, your client needs to retrieve them from your mail server. This is the 'pull' or 'access' action.

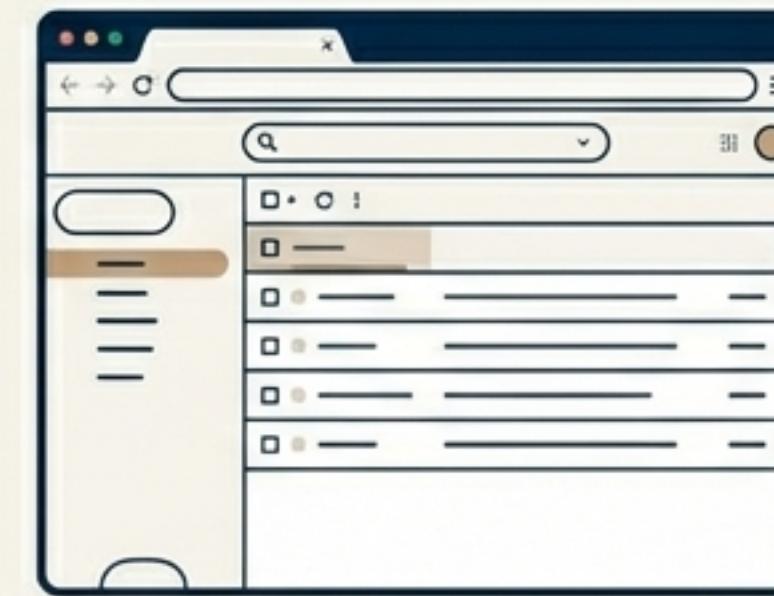
This is where protocols like **POP3** and **IMAP** come in.

We Access Our Email From Everywhere



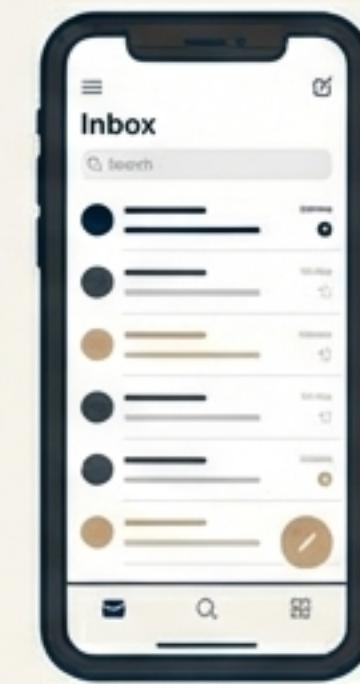
Desktop Clients

Outlook, Mozilla Thunderbird



Webmail

Gmail, Yahoo, Hotmail

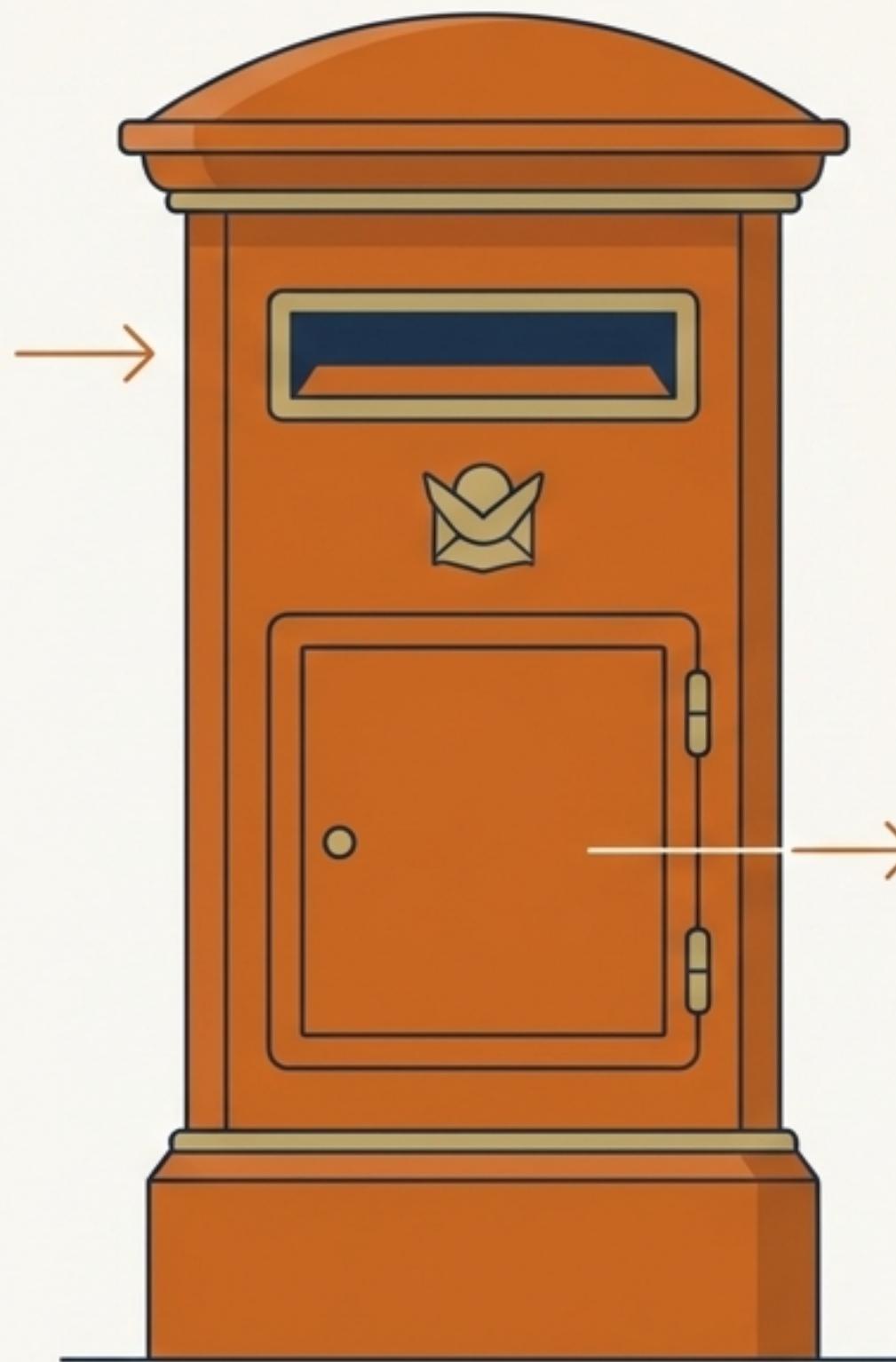


Mobile Apps

Mail applications on mobile devices

How do we keep all these in sync?

The Original Method: The Digital Postbox (POP3)



1. Connect

Your device connects to the mail server.

2. Download

It downloads *all* new messages to your device.

3. Delete

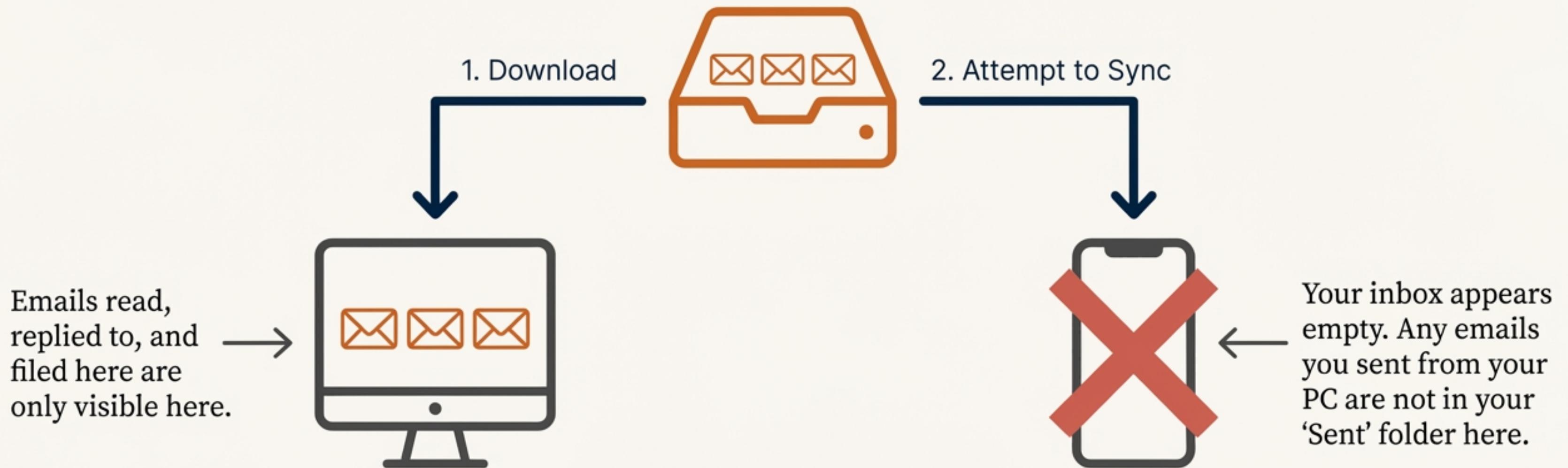
By default, the messages are then deleted from the server.

4. Disconnect

The connection is closed.

The mail now lives on your device, and the server's 'postbox' is empty. This is known as **offline mode**.

The Postbox Problem: A Fragmented World



Your email experience is trapped on a single device.

A Modern Solution: The Cloud-Synced Briefcase (IMAP)

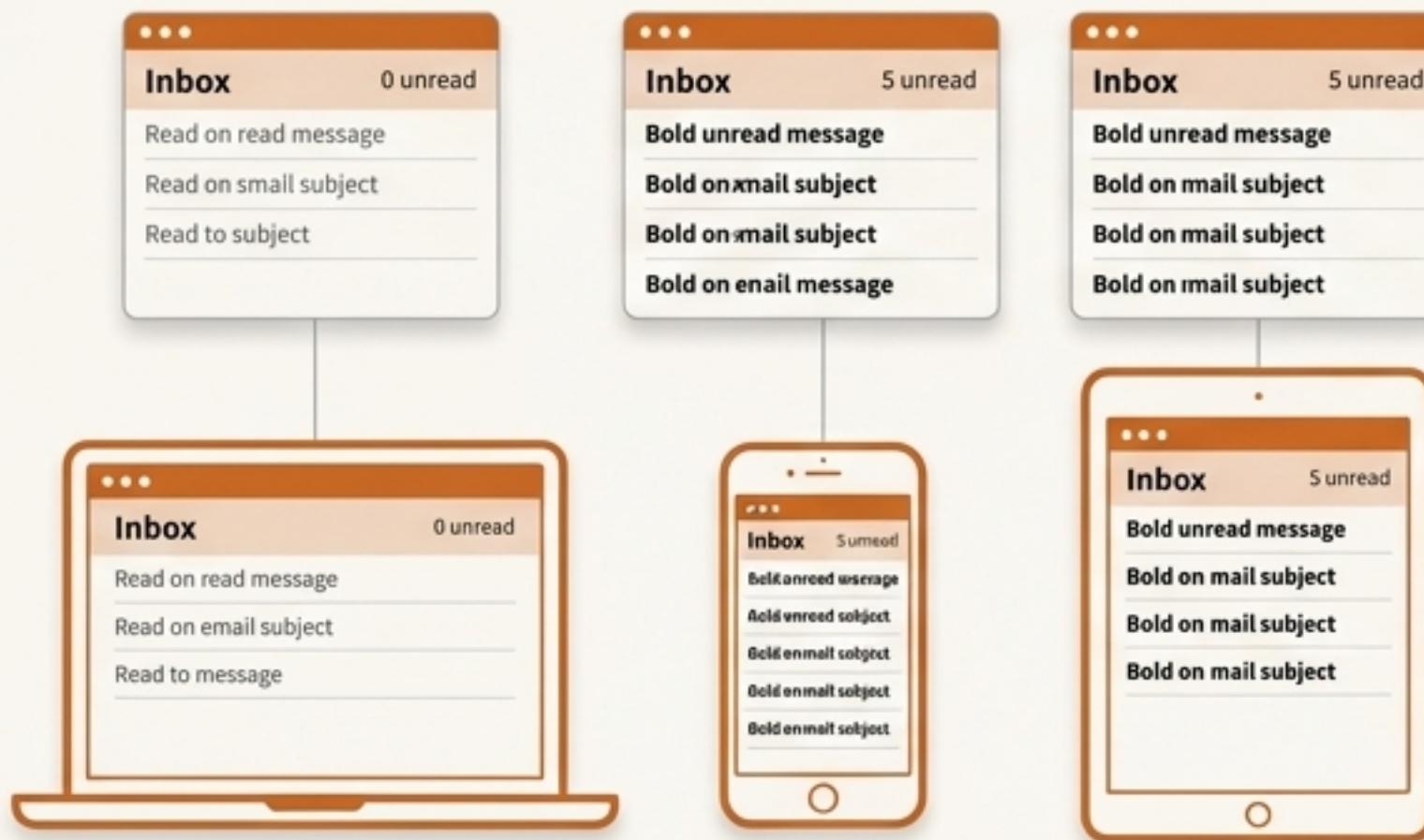


IMAP, the **Internet Message Access Protocol**, works differently. Instead of moving your mail, it gives you a live, synchronised view of it directly on the server.

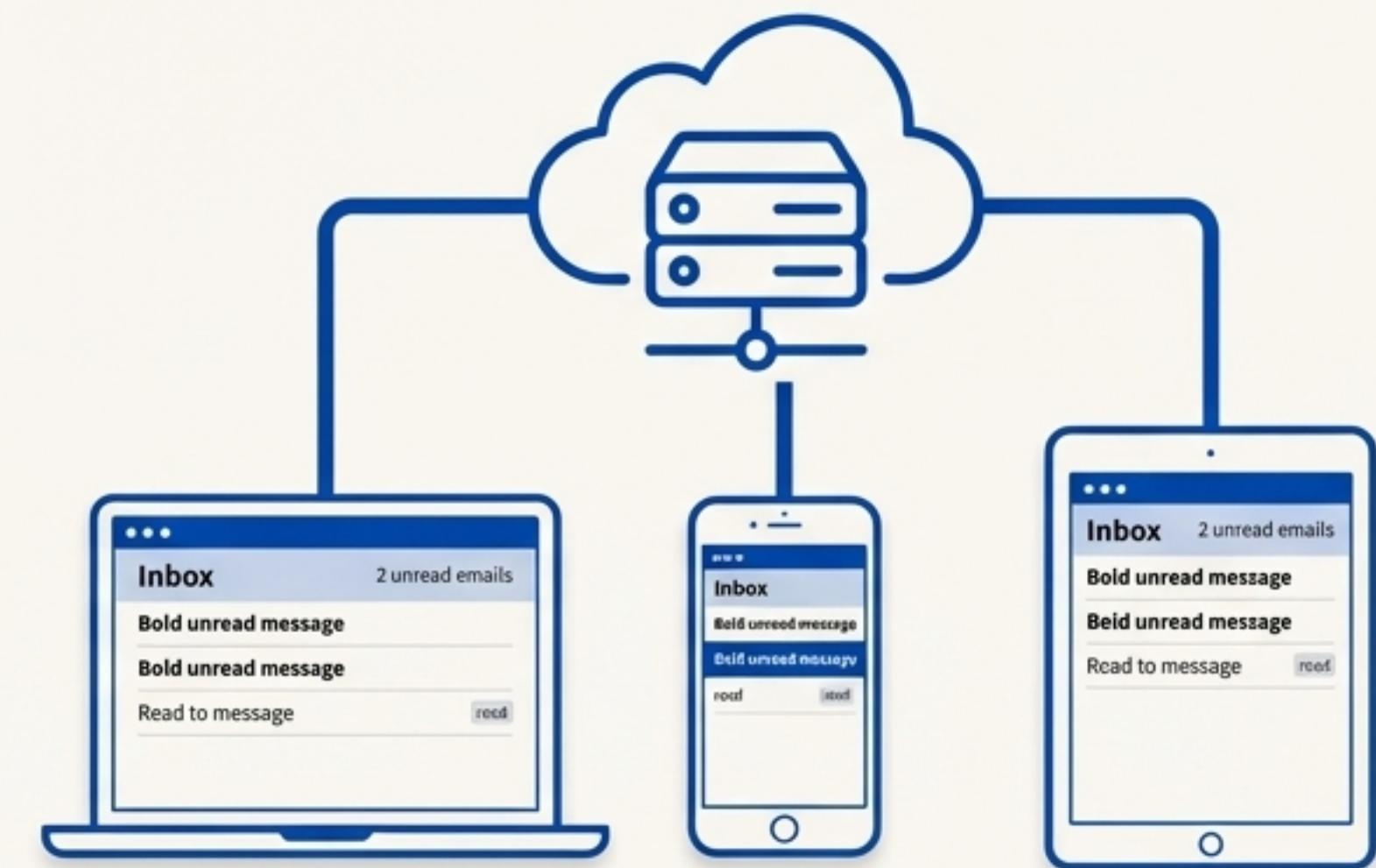
Your email lives on the server, and a copy is never permanently deleted after download. You are simply manipulating the master copy.

The IMAP Advantage: The Same View, Everywhere

The Old Way



The New Way



With IMAP, actions on one device—like reading a message, moving it to a folder, or deleting it—are instantly reflected on all other devices.

How IMAP Stays Synchronised: The Live Connection



TCP Connection

IMAP clients connect to the server using a stable **TCP connection**. This is the foundation for the conversation.

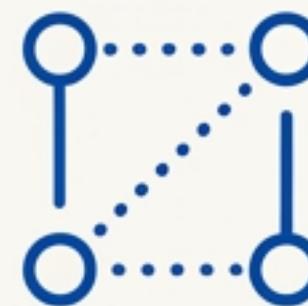
Online Mode

Unlike POP3's brief 'offline mode' sessions, IMAP typically operates in **online mode**. This means the client remains continuously connected to the server, allowing for real-time updates.

Disconnected Mode

IMAP also supports a **disconnected mode**, which combines the benefits of both—allowing you to work offline and then synchronise changes when you reconnect.

The IMAP Handshake: A Secure Conversation



State: Not Authenticated

Client establishes a TCP connection.
Server is waiting.



Authentication

Client provides login credentials.
Server verifies them.

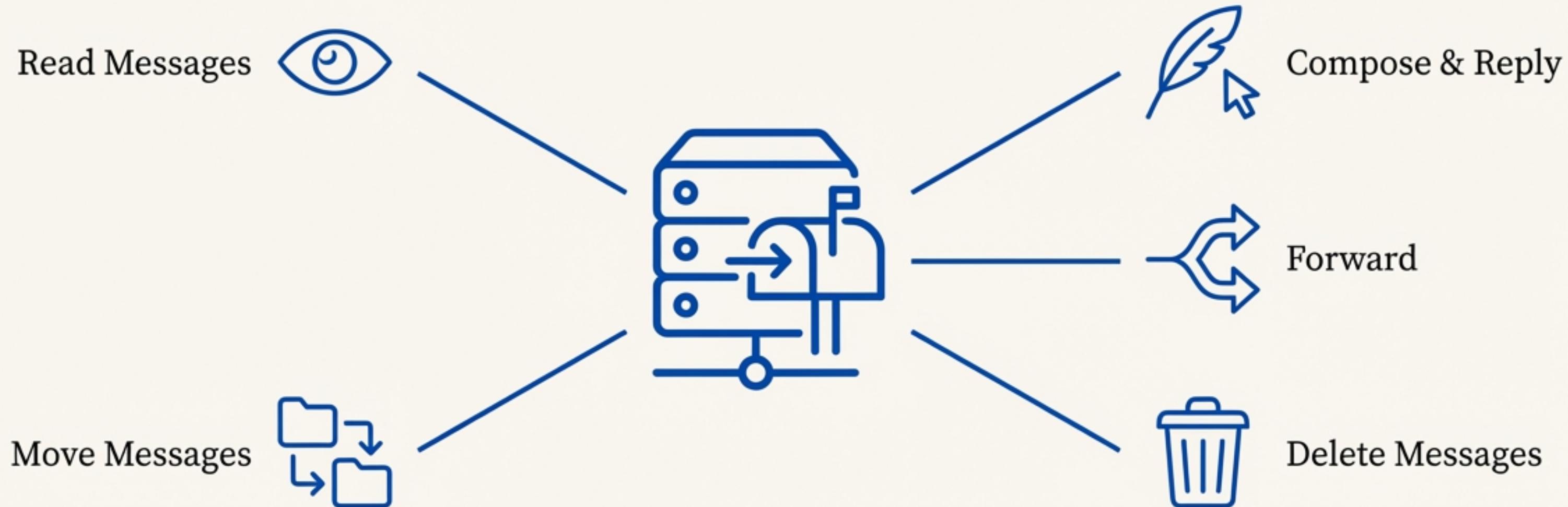
If authentication fails,
the session is treated
as a logout.



State: Authenticated

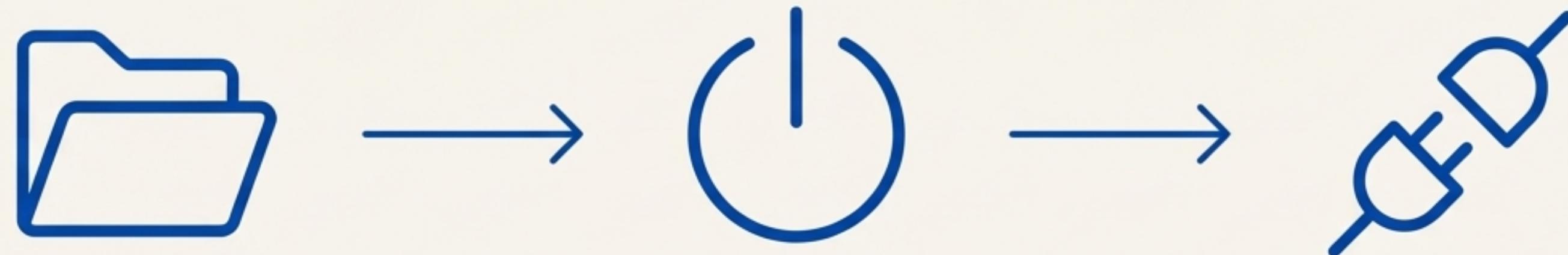
Success! The client can now select a mailbox
(e.g., Inbox) and interact with messages.

The Command Centre: Full Control Over Your Mailbox



All these actions happen directly on the server,
ensuring every change is part of the master record.

Ending the Session: The Graceful Logout



Close Mailbox

The client finishes its tasks and signals it is done with the current mailbox.

Send LOGOUT Command

The client explicitly tells the server it is terminating the session.

Terminate Connection

The TCP connection is closed by both sides, and resources are released.

This orderly process ensures the session is closed securely and efficiently.

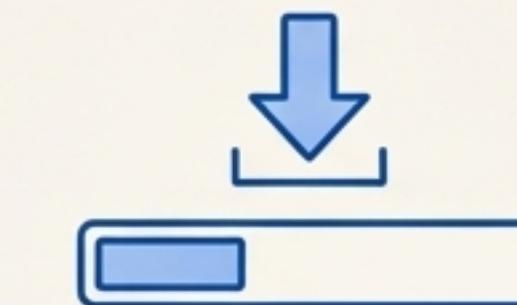
More Than Just Access: The IMAP Superpowers

IMAP was designed with extra functionalities to overcome the limitations of earlier protocols.



Peek at Headers

IMAP



Partial Downloads



Manage Mailboxes



Move Messages

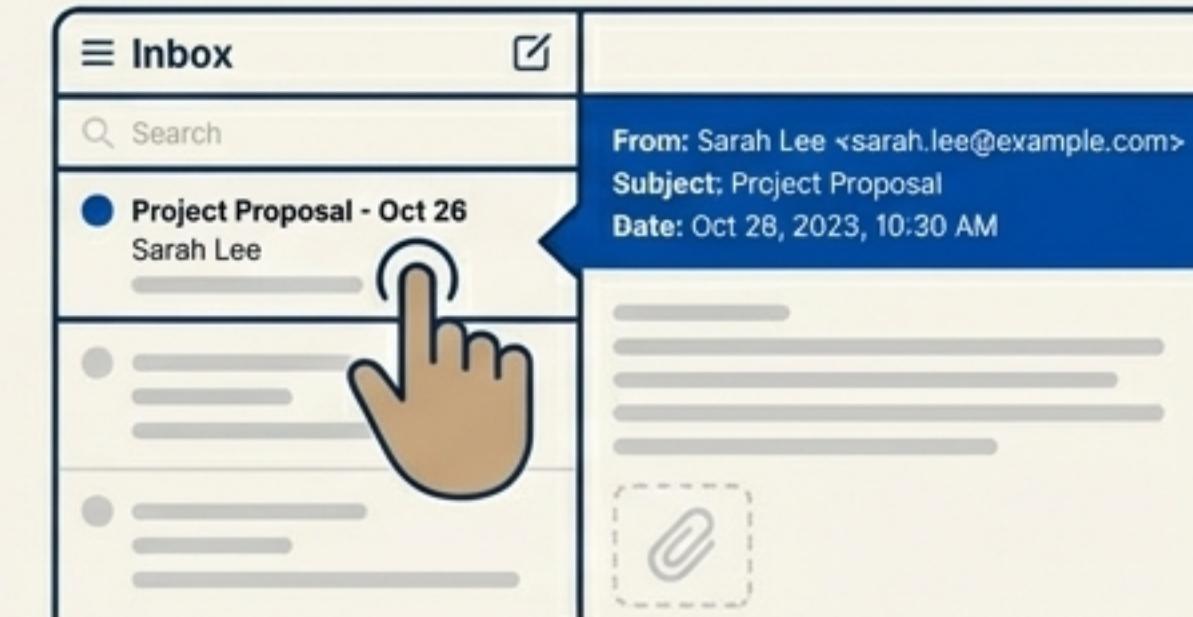


Server-Side Search

Control Your Data: Peek Before You Leap

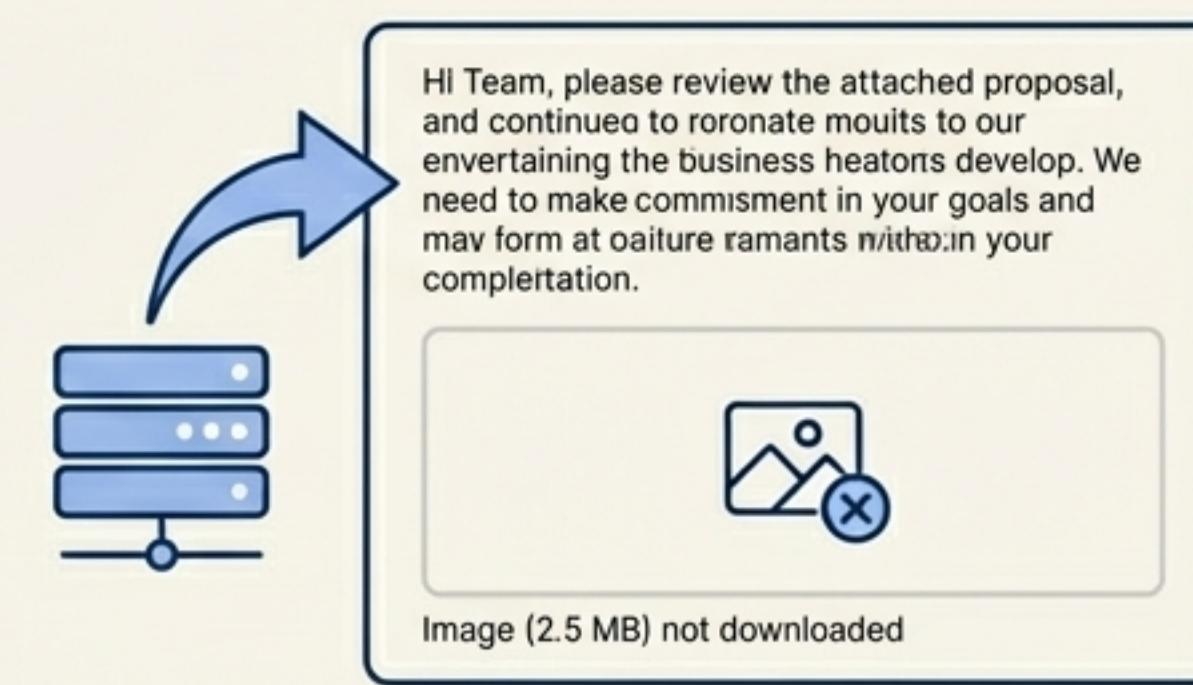
Check Headers Before Downloading

You can check an email's header—including the subject, sender, and date—before downloading the entire message and its attachments. Perfect for managing large emails on slow connections.



Partially Download Emails

IMAP allows you to fetch individual parts of a message, like viewing the text without downloading a large embedded photo, or opening an attachment before downloading it fully.



Organise Like a Pro: Find, File, and Filter

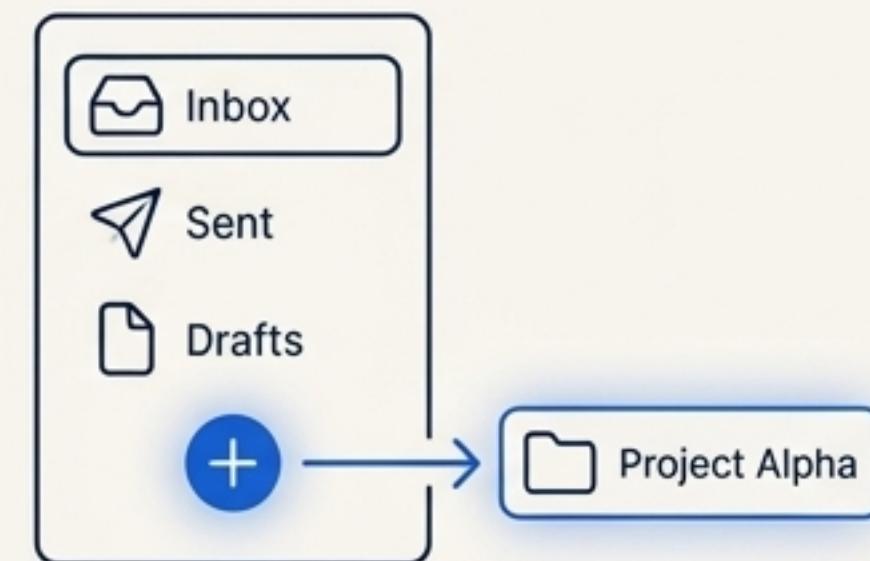
Search Content on the Server

Search the content of emails for specific characters or strings directly on the server. Filter by email ID, subject, keywords, or file name without downloading everything first.



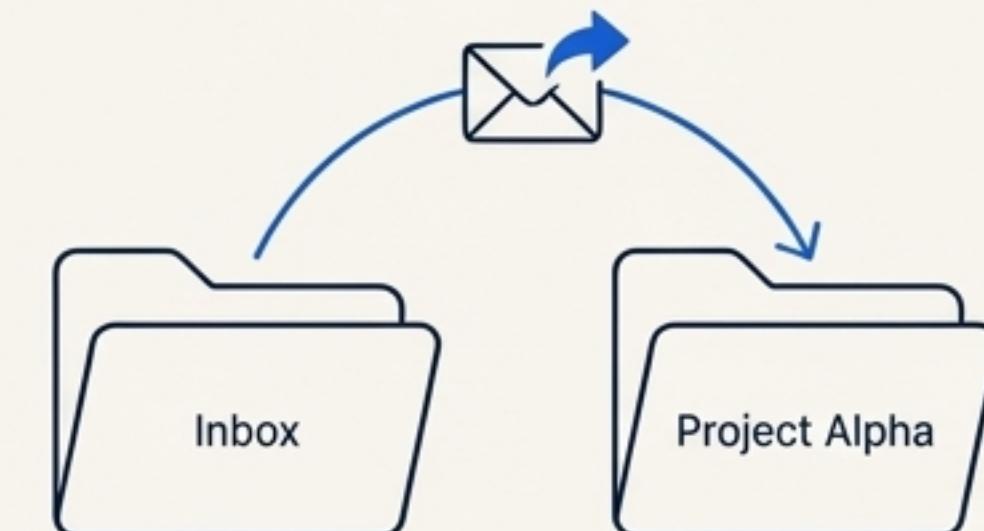
Manage Mailboxes (Folders)

You can create, delete, and rename mailboxes (folders) directly on the mail server. This allows you to build a custom filing system.



Move Messages Between Folders

Effortlessly organise your mail by moving specific messages from your inbox into your custom folders, keeping your master record perfectly tidy.



IMAP: The Protocol That Powers Our Synchronised World

From its server-side storage to its rich set of features, IMAP transformed email from a static, single-device system into the dynamic, always-accessible communication platform we rely on today.

