JUMBO BLOCK MAIL

E-mail client for outages



Manual · Version 1.0.0
November 2026
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1. Overview

MAIL is an e-mail client of the JUMBO BLOCK Engineering Suite for public administrations, municipalities and businesses. It runs in the browser (Microsoft Edge, Chrome, Firefox) on Windows, Linux and macOS and is intended for the case that the usual e-mail program, a cloud service or your own computer fails.

MAIL works in three modes:

Mode	Purpose
Offline mode	mail.html alone: read, search and secure e-mail files, Thunderbird mailboxes and Outlook files (.msg, .pst, .ost) – without installation, account or network connection.
Local bridge jb-mail.py	For one workstation: send and receive via IMAP and SMTP, several accounts, local archive, outbox for operation without a connection. Requires Python 3.
Server bridge jb-mail.php	For organisations: the bridge runs on your own web server; workstations only need a browser. Several accesses with second factor.

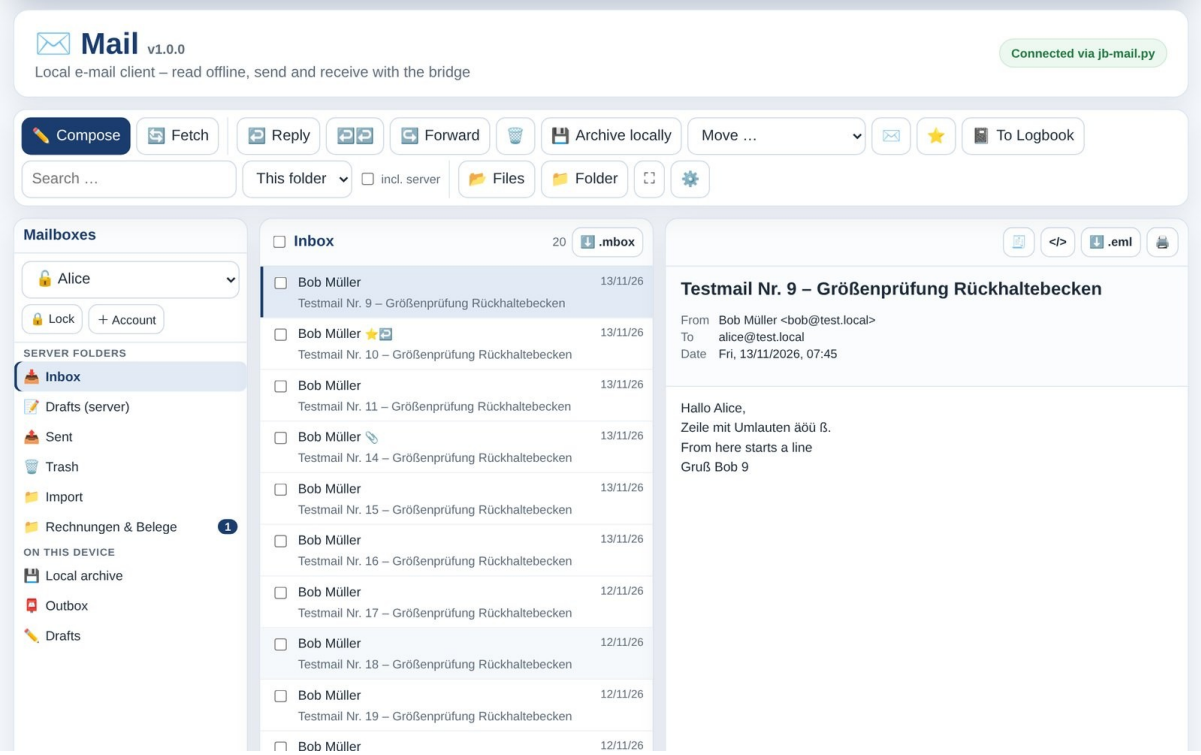


Fig. 1: Workspace with folders, message list and reading pane

Safe display: HTML mails are shown in an isolated sandbox without scripts; external images and tracking pixels are blocked. Attachments are never opened automatically.

No data at JUMBO BLOCK: MAIL does not contact jumboblock.org. The bridges connect exclusively to the mail servers of the configured accounts.

Controls

Button	Function
Compose	Write a new message (key N)
Fetch	Synchronise the mailbox with the mail server (bridge only)
Reply · Reply all · Forward	Respond to the open message (keys R, A, F)
Trash can	Delete the selection or move it to the trash (Del)

Button	Function
Archive locally	Store a copy in the local archive (local bridge only)
Move …	Move the selection to another server folder
Envelope · Star	Toggle read/unread · flag
To Logbook	Hand over the message as an encrypted message to JUMBO BLOCK Logbook
Files · Folder	Open or import e-mail files or whole folders
Full screen · Gear	Full screen display (F11) · settings

The reading pane additionally offers *All headers*, *Show source*, *Save as .eml* and *Print*. The keys J/K or arrow down/up jump to the next or previous message, / puts the cursor into the search field.

2. Offline mode

Without a bridge, MAIL opens e-mail files directly in the browser. All content stays on the computer; nothing is uploaded. This way messages can be read, searched and secured even on a cleanly started replacement system.

Format	Note
.eml	Single message (also from the new Outlook via “Save as”)
.mbox	Mailbox file with many messages
Thunderbird	Files without extension next to the .msf files; ideally open the profile folder “Mail” or “ImapMail”
Maildir	Folder with the subfolders cur and new
Outlook .msg	Single Outlook messages including attachments, embedded messages and S/MIME
Outlook .pst / .ost	Whole Outlook accounts with folder structure; ANSI and Unicode, also OST from Outlook 2013 on

Opening files

1. **Files** selects single files, **Folder** a whole folder. Files can also be dragged into the window.
2. MAIL detects the format by its content and sorts the messages into folders. For Outlook data files the folder tree of the file appears.
3. Click a message to read it. **Close all** clears the view; the files themselves remain unchanged.

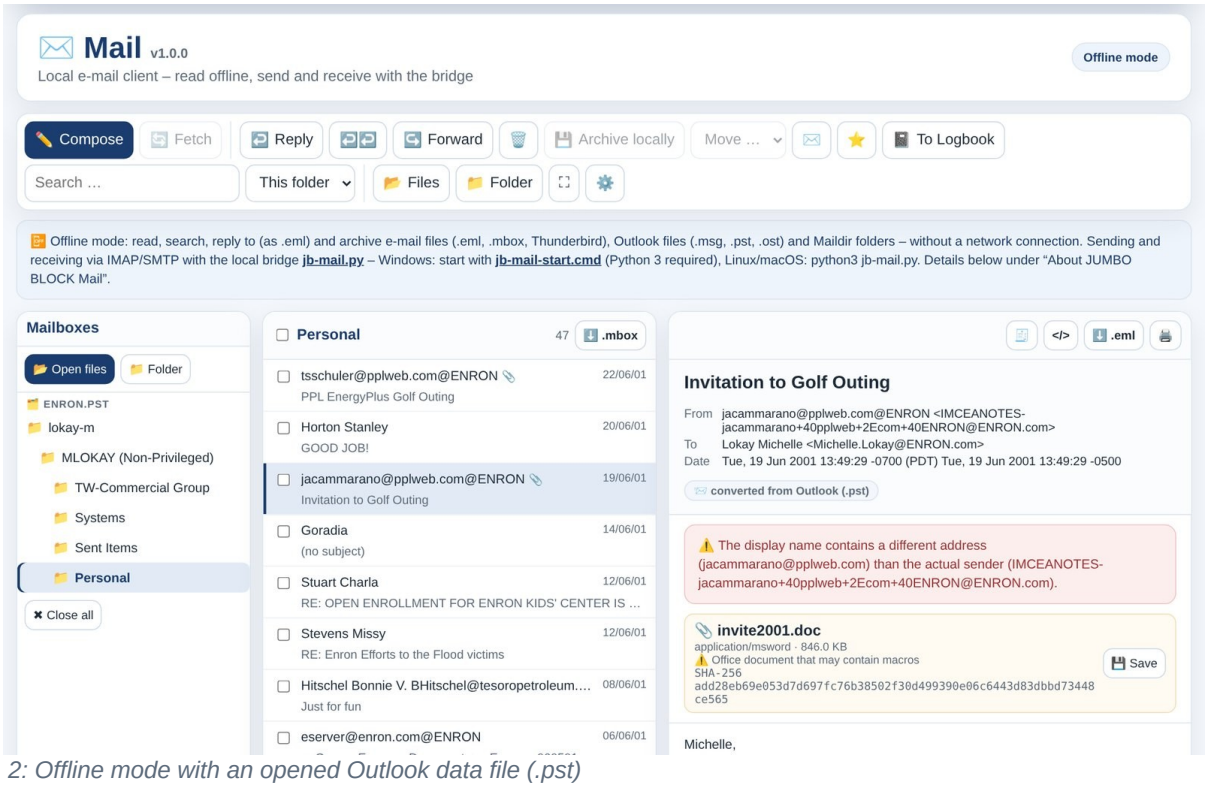


Fig. 2: Offline mode with an opened Outlook data file (.pst)

> **Large Outlook files:** .pst and .ost files are not loaded as a whole. Folders and lists appear immediately, a message is converted only when it is opened. MAIL does not show calendar, contacts and tasks.

Searching, securing, replying

- **Search:** searches subject, sender, recipients and text, either in the current folder or in all folders.
- **Securing:** save single messages as .eml, export the folder or the selection as .mbox, save attachments with SHA-256 checksum.
- **Replying:** without a bridge the reply is saved as an .eml file and can be sent later with any e-mail program. The sender address is set under Settings.

3. Data from a failed computer

If a computer no longer starts or is infected, its mail files can be read from the hard disk with a cleanly started system (e.g. JUMBO BLOCK Rescue) and opened in MAIL. Typical locations on Windows:

Program	Location
Outlook (PST)	`Documents\Outlook Files` or `%USERPROFILE%\Documents\Outlook Files`
Outlook (OST)	`%LOCALAPPDATA%\Microsoft\Outlook`
Thunderbird	`%APPDATA%\Thunderbird\Profiles\<profile>\Mail` or `ImapMail`

- Close Outlook first, as it otherwise locks the file. On a failed computer this does not apply.
- Ideally make a copy of the file first and only work with the copy.

> **BitLocker:** if the disk is encrypted with BitLocker, the BitLocker recovery key is required to read it. It should be kept separately from the computer in advance.

4. Local bridge jb-mail.py

The local bridge is a small Python program that runs on your own computer and connects MAIL to the mail servers. It only listens on 127.0.0.1 and cannot be reached from outside.

Starting

System	Procedure
Windows	Install Python 3 from python.org (installing for the current user is sufficient, tick “Add python.exe to PATH”). Place jb-mail.py and jb-mail-start.cmd next to mail.html and double-click jb-mail-start.cmd.
Linux / macOS	`python3 jb-mail.py` or jb-mail-start.sh

The browser opens with the interface; the bridge window stays open while MAIL is in use. The option `--store` sets a different storage folder. S/MIME additionally requires OpenSSL.

Setting up an account

1. Settings → Accounts → **Add account**.
2. Choose the provider (STRATO, IONOS) or **Own server** with IMAP and SMTP server, port and connection security (SSL/TLS or STARTTLS).
3. Enter e-mail address, display name and user name and save.
4. Unlock the account: the password stays only in the bridge memory and is never stored.

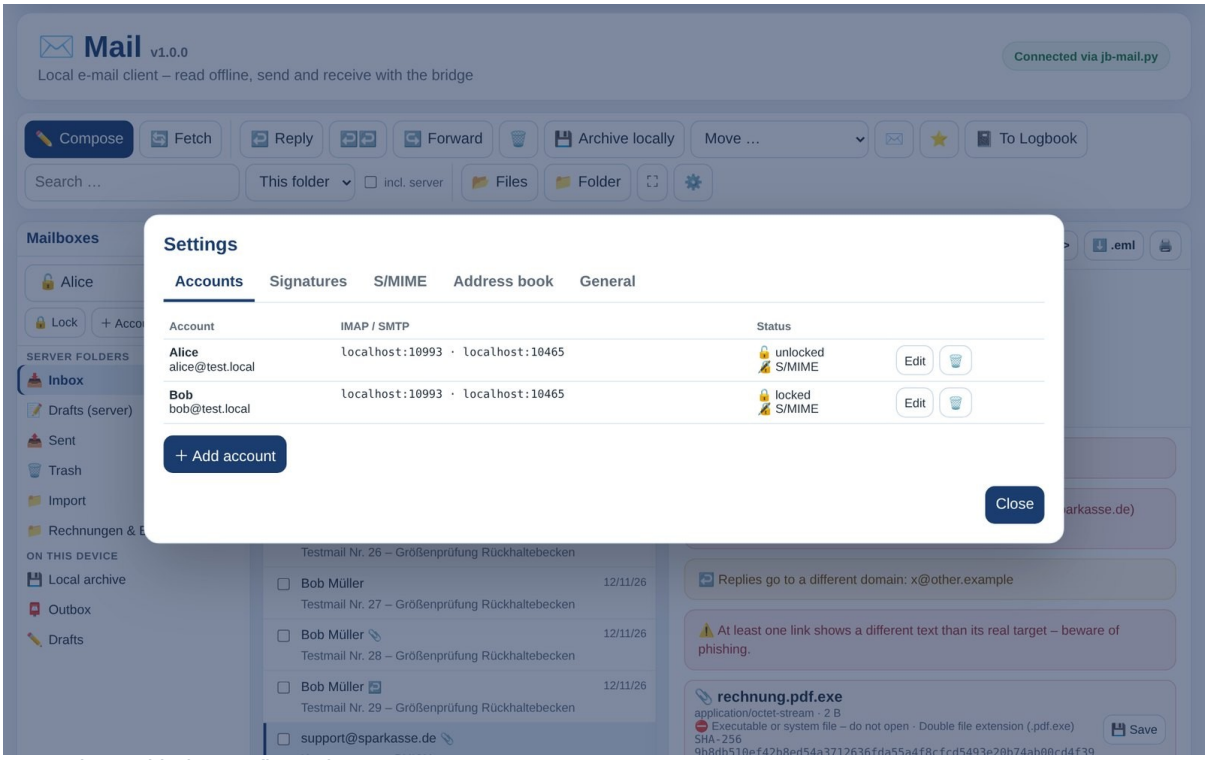


Fig. 3: Settings with the configured accounts

> Microsoft 365 / Exchange Online only allows modern sign-in (OAuth), which MAIL 1.0.0 does not support. An own Exchange Server with IMAP enabled works.

Fetching, archive, outbox, drafts

- **Fetch** synchronises the folders and stores the messages in the open Maildir format in the storage folder – readable even without a connection.
- **Local archive:** copies kept only on this device and never deleted by the server.

- **Outbox:** messages sent without a connection wait here and go out with the next fetch. Flags set offline are also transferred later.
- **Drafts** are stored locally, also automatically while writing.

> The storage folder contains all mails and the settings without passwords. It should be on an encrypted drive (e.g. BitLocker or LUKS).

5. Server bridge jb-mail.php

Organisations can run the server bridge on their own web server (PHP 8.1 or newer, HTTPS). The package jb-mail-php.zip contains the program, configuration examples for Apache, LiteSpeed, nginx and Microsoft IIS and the instructions README.txt.

> **Responsibility:** the organisation runs the server bridge itself. JUMBO BLOCK only provides the software, does not run a bridge for others and receives no data. The operator is responsible for the server, updates, accesses, data protection and backups.

Setup

1. Copy the folder to the web server and open the address in the browser. The bridge checks the environment.
2. The bridge creates the file jb-mail-setup-code.php. Read the setup code in it via SFTP/FTP – this way only someone with access to the server can set it up.
3. Enter the setup code, the data folder (ideally outside the web root) and the first administration access.
4. Sign in and set up the second factor.

Sign-in with second factor

Every person signs in with user name, password and a code from an authenticator app (e.g. Microsoft Authenticator, Google Authenticator, FreeOTP, Aegis). At the first sign-in MAIL shows a QR code; afterwards the person chooses an own password.

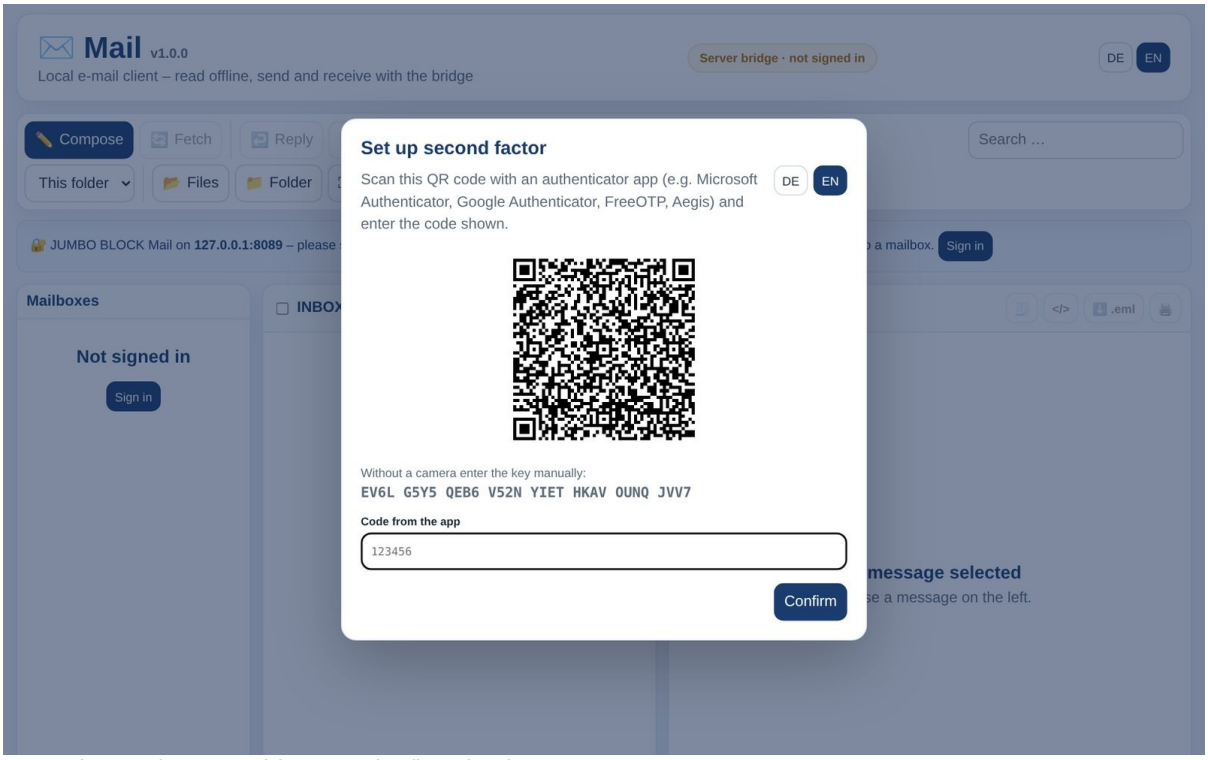


Fig. 4: Setting up the second factor at the first sign-in

- After several failed attempts sign-in is blocked temporarily.
- After 30 minutes without activity MAIL signs out, at the latest after 12 hours.
- Mailbox passwords and S/MIME passphrases stay in the browser window and are never stored.
- Mails stay on the mail server. Imported files go to the folder “Import” of the mailbox, drafts to the drafts folder of the mail server.

Managing accesses

Under Settings → Administration the administration creates accesses, locks them, resets the second factor or sets a new initial password. It cannot see mailboxes or settings of other people – they are encrypted with the password of the respective person.

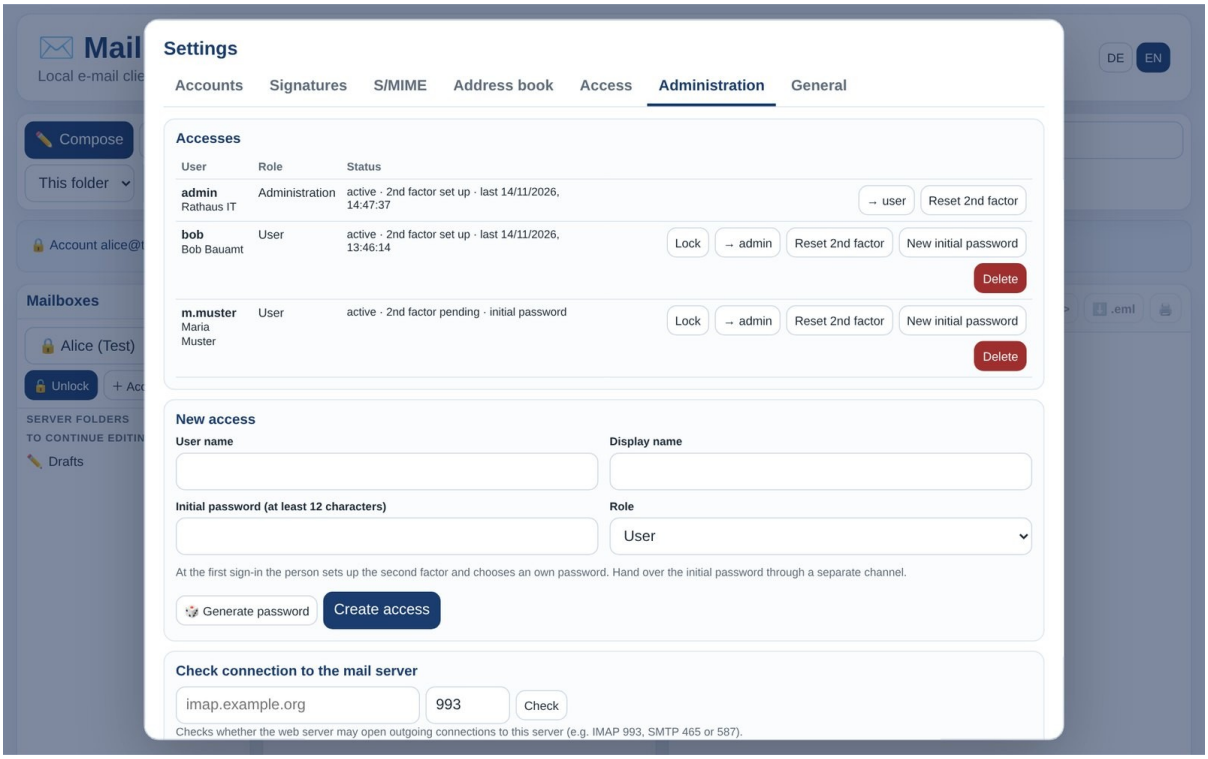


Fig. 5: Managing accesses

> A new initial password resets the stored settings of that access (accounts, signatures, contacts, certificates). The mails on the mail server remain untouched.

6. Writing, signatures and address book

Messages can be written as HTML or plain text. Images can be inserted, files attached and recipients completed from the address book.

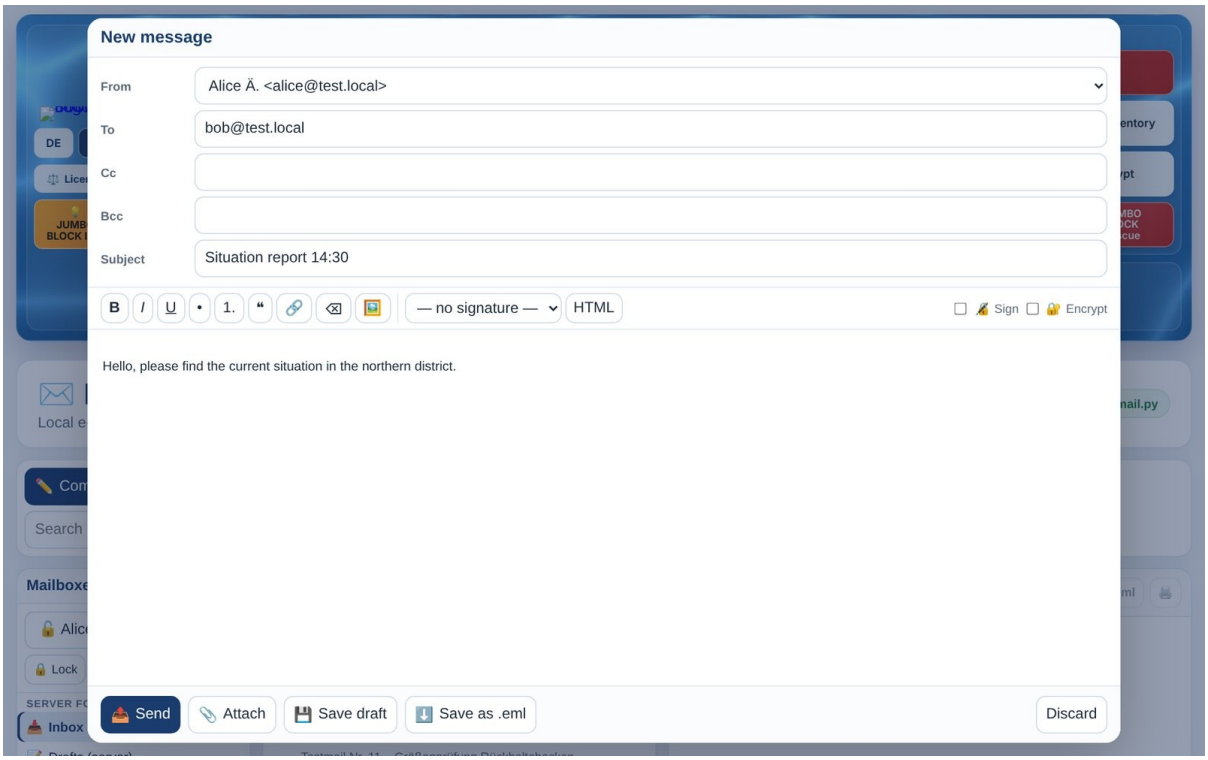


Fig. 6: Composing a new message

- **Signatures:** every mailbox can have several HTML signatures with images (Settings → Signatures). One of them is the default signature.
- **Address book:** MAIL takes over recipients you have sent to automatically; further contacts can be maintained under Settings → Address book.
- **Save draft** keeps the current state; without a bridge an .eml file is saved instead.

7. S/MIME

With S/MIME messages are signed and encrypted. The bridge uses OpenSSL for this.

1. Settings → S/MIME: import your own certificate as a PKCS#12 file (.p12/.pfx) and set a passphrase for the key.
2. When writing, choose **Sign** and/or **Encrypt**; defaults can be set per account.
3. Encrypting requires the certificate of every recipient. It is taken over automatically as soon as the recipient sends a validly signed message, or can be imported.

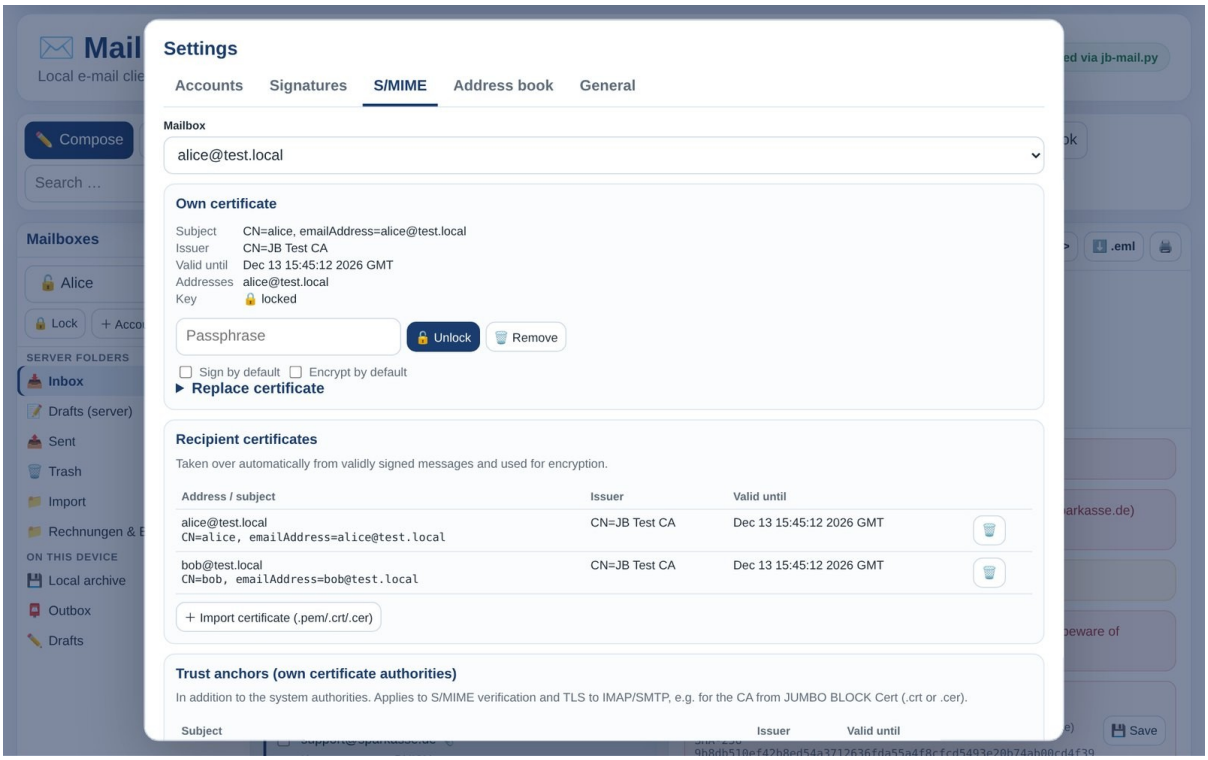


Fig. 7: S/MIME settings with own certificate and recipient certificates

Display	Meaning
Signature valid	Content unchanged, certificate from a trusted authority
Signature correct, issuer not trusted	Content unchanged, the issuing authority is unknown to this device
Signature INVALID	The content was changed after signing

> **Own certificate authority:** the CA from JUMBO BLOCK Cert can be stored under trust anchors. It applies to the S/MIME check and to TLS connections to internal mail servers.

8. Safety when reading

MAIL warns about typical signs of phishing and dangerous attachments:

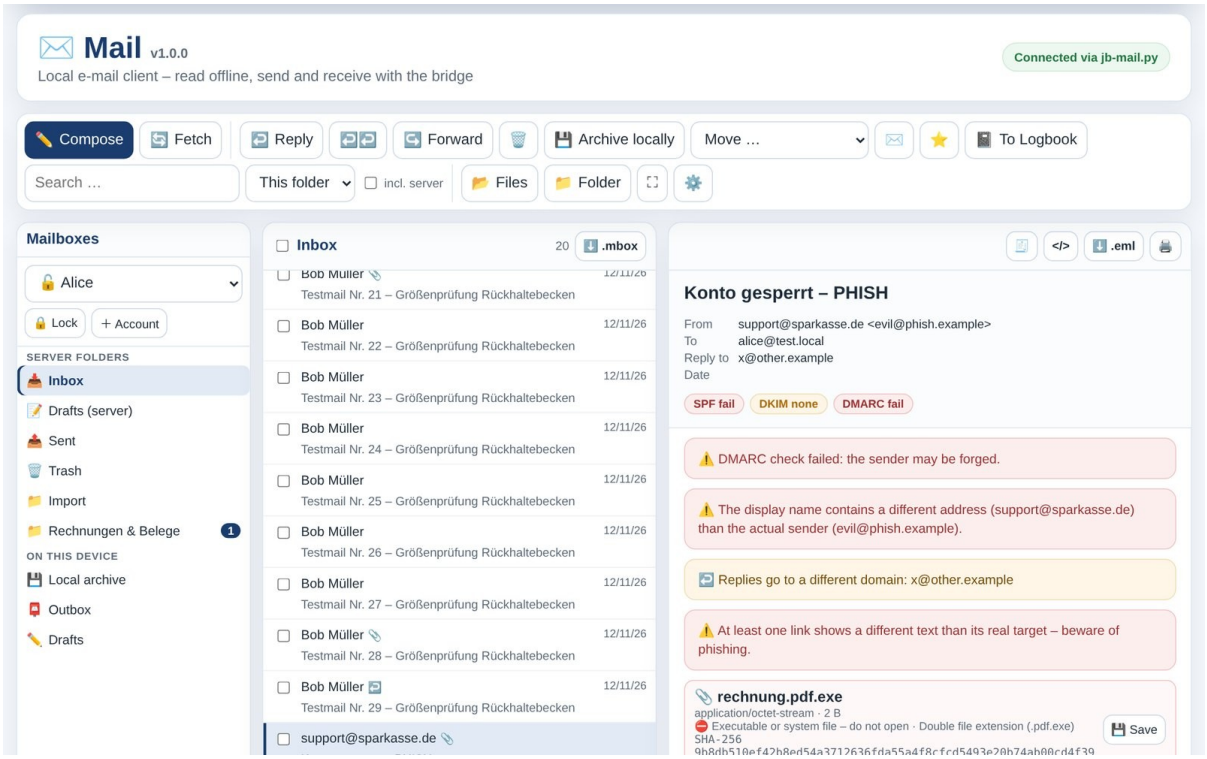


Fig. 8: Warnings for a suspicious message

- **Sender check:** the SPF, DKIM and DMARC results of the receiving server are shown; a failed DMARC check is highlighted.
- **Display name:** if the display name contains a different address than the actual sender, MAIL warns.
- **Reply address:** if replies go to a different domain, MAIL points this out.
- **Links:** before opening, MAIL shows the real target; deviating link texts are marked.
- **Attachments:** macro documents, executables and double extensions (e.g. invoice.pdf.exe) trigger a warning. Attachments are only saved, never opened.

> In a crisis or on an infected computer do not open links and do not run attachments.

9. Hand-over to Logbook

Important messages can be handed over as an encrypted message to the situation log JUMBO BLOCK Logbook:

1. Open the message and choose **To Logbook**.
2. Load the message key of the log (.jbk) – you receive it from the crisis team – and compare the fingerprint with the crisis team.
3. Check sender, type, priority, subject and content; optionally attach the original e-mail (.eml) and its attachments.
4. **Save message (.jbm)** and hand the file over to the crisis team. There it is read in under “Messages” in the log.

10. Limitations

- **Microsoft 365 / Exchange Online:** sign-in only via OAuth – not supported by MAIL 1.0.0. If Exchange Online fails, no program can reach the mailboxes anyway; MAIL then serves as access to a fallback mailbox and for reading secured exports.
- **JUMBO BLOCK Rescue:** on the rescue system MAIL works in offline mode only. It does not connect to mail servers.
- **Outlook data files:** calendar, contacts and tasks are not shown.
- **Server bridge:** no local archive and no outbox; it always works directly with the mail server.

11. Questions and troubleshooting

Problem	Solution
The bridge does not respond	Is jb-mail.py still running? The bridge window must stay open. Start jb-mail-start.cmd again.
Session expired	The bridge was restarted or the sign-in has expired. Restart the bridge or sign in again.
Sign-in to the IMAP server failed	Check user name and password; with Microsoft 365 password sign-in is switched off.
Server certificate not trusted	For internal servers store your own CA under S/MIME → trust anchors.
Server not reachable (server bridge)	The web server must allow outgoing connections to the mail server (IMAP 993, SMTP 465 or 587). The connection can be checked under Administration.
Outlook file not readable	Close Outlook or work with a copy; an incompletely copied file cannot be opened.
Code is rejected	Check the smartphone clock (enable automatic time). Every code is valid only once.
Smartphone with authenticator lost	The administration resets the second factor.