



# User Guide

**FOOKES® Software Ltd**  
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## 1 Introduction



Aid4Mail is a fast and accurate email search and conversion application for use in digital forensics, eDiscovery, mail migration and archiving. Its proprietary engine quickly processes large volumes of email data while preserving crucial metadata and content.

Aid4Mail supports over 40 different email programs and mail formats ([see the full list](#)) in addition to most popular webmail services. It can run on a virtual machine (VM) and can access mail files from any local storage device including external drives, CD/DVD media, USB devices, attached networks and remote accounts. In most cases it can process files and folders that are disconnected (unmounted) from their email program.

This section contains the following topics:

- [What's new in Aid4Mail 5?](#)
- [Aid4Mail editions](#)
- [How does Aid4Mail work?](#)

For further information about Aid4Mail and how it can facilitate your email-related tasks, please visit [www.aid4mail.com](http://www.aid4mail.com).

## 1.1 What's new in Aid4Mail 5?

Aid4Mail 5 has been reworked from the ground up with many improvements and new features including:

- **Completely new user interface**

A simple and intuitive [user interface](#) makes it easy to set up your mail processing tasks.

- **Faster than ever**

Aid4Mail 5 is up to six times faster than the previous version without sacrificing accuracy! And version 4 was already one of the fastest email converters on the market. Speed gains obviously depend on your selected mail format and settings.

- **Multiple sessions**

Set up and run [multiple sessions](#) directly in the main interface. You no longer need to run the Console version of Aid4Mail or the Console Launcher to do this. Multiple concurrent sessions are available in [Aid4Mail Enterprise](#) and [Investigator](#). In [Aid4Mail Converter](#) you can set up multiple sessions but they can only run one at a time.

- **More mail formats**

Aid4Mail has always supported an impressive number of mail formats—over 40 in total in addition to most web and [IMAP](#) services. Aid4Mail 5 maintains most of these except for some outdated and obsolete formats. It also adds some important new formats like OST and OLM, as well as HTML, XML, TSV and Mozilla SeaMonkey. In Aid4Mail 5, all Outlook file formats can be processed with or without Outlook installed. And Mimecast, Proofpoint and Google Vault exports can now be processed natively and reorganized per account if necessary.

- **Convert between any combination of formats, including PST to PST**

There are no restrictions on source and target format combinations, even between Outlook formats. PST to PST is now possible. You can even [share the same source or target PST file](#) between multiple concurrent [sessions](#). The same applies to many other formats too.

- **File carving**

Extracts emails or partial emails that are in native MIME format, found in any type of file. Aid4Mail's [file carving](#) feature does not require knowledge of the file's format or structure, or the presence of a Master File Table (MFT) or data placement markers. Carve from uncompressed disk images or forensically-extracted disk space, including [double-deleted files](#), [slack space](#) and [unallocated space](#). Aid4Mail can also carve from corrupted mailboxes and mail formats that it doesn't officially [support](#).

- **Extensive support for the EDRM MIH and Duplicate Identification specification**

- Cross-platform [email deduplication](#) based on [EDRM MIH](#) values as specified by the [EDRM DupelD project](#)
- Extracting EDRM MIH values as metadata
- Search and filtering on EDRM MIH values
- File naming using EDRM MIH values
- Inserting EDRM MIH values into review documents

- **Improved search and filter feature**

A simple-to-use but very powerful [search and filter](#) feature\*:

- Enter [search terms](#) into a simple [search field](#) like those used by most search engines
- Simple [syntax](#) that will be familiar to Google and Outlook users
- A [search assistant](#) to help you build your search terms
- A multitude of [search operators](#) to focus your search
- Search [inside attachments](#) and [files they contain](#)
- Construct complex search terms with [Boolean operators](#)
- Use [wildcards](#) and [regular expressions](#) to refine your search terms
- Improved [search lists](#)
- [Proximity searching](#)
- [Tokenization](#)
- [Stemming](#)
- Write your own filters with [Python scripts](#)
- Bundled with ready-made search terms and filter scripts

\* [Aid4Mail Converter](#) is limited to searching and filtering folders. [Aid4Mail Enterprise](#) and [Investigator](#) extend this capability to individual emails, attachments and [files they contain](#), and the use of [Python filter scripts](#).

- **Native filtering**

Perform a complete pre-acquisition search, server-side. A well-crafted [native filter](#) will minimize the number of individual emails that Aid4Mail has to download and process.

- **Python scripting**

Use the popular Python programming language to create [powerful scripts](#) to [search](#) and [customize the output](#) created by Aid4Mail. Available in [Aid4Mail Enterprise](#) and [Investigator](#).

- **Filename templates**

Completely [customize the email filenames](#) created by Aid4Mail.

- **Folder structure templates**

[Define](#) exactly how you want your target mailboxes to be structured.

- **Email header configuration**

[Specify the header fields](#) to display in archival mail formats like PDF and HTML.

- **Column and content configuration**

Define which [columns or tags](#) appear in CSV, TSV and XML files.

- **Better statistics**

Greatly improved feedback of Aid4Mail's progress through your mail. Includes [real-time statistics](#) of emails analyzed, completed and filtered, and any errors that occurred.

- **Sophisticated incremental processing**

It's now even easier to continue a prior conversion where you left off or to capture new mail received since last time. Aid4Mail 5's incremental processing is up to 100x faster than in version 4! It's also easier to use: Turn incremental processing on or off using a [simple checkbox](#). No need to deal with the log file directly, it's all done for you, intelligently and simply.

- **Projects**

Separate your work into [projects](#) that can contain any number of Aid4Mail [sessions](#). Switch between different projects or cases quickly and easily with no loss of work.

- **Accessibility**

Keyboard navigation and enhanced support for screen readers, ensuring a more inclusive user experience.

We're constantly improving Aid4Mail with new features and functionality. With our subscription licenses, you always have access to the latest version and regular updates.

## 1.2 Aid4Mail editions

### Commercial editions

There are three commercial editions of Aid4Mail:

- [Aid4Mail Converter](#)
- [Aid4Mail Investigator](#)
- [Aid4Mail Enterprise](#)

For a detailed feature comparison, please see the [comparison chart](#) on our website. You can also download a copy of the [End User License Agreement \(EULA\)](#).

#### Aid4Mail Converter

Specialized in converting mail from one format to another, Aid4Mail Converter is extremely fast and accurate, ensuring that converted mail is identical to the original. It's an ideal solution for preparing mail for ingestion into archiving, eDiscovery and forensic tools and can process unlimited mail stores (in-house or from external sources).

Aid4Mail Converter supports [over 40 email programs and mail formats](#). These include Outlook formats (with or without Outlook installed), non proprietary formats like EML and mbox, many popular email applications like Thunderbird, and useful export formats like PDF, HTML, CSV and XML. It offers secure [IMAP](#) access to cloud-based services (webmail) and can access Gmail / Google Workspace (formerly G Suite) and Microsoft 365 (formerly Office 365) accounts through their native [APIs](#), the most secure and efficient method.

A [remote authentication tool](#) is included. It can be downloaded by any third party under investigation, or whose mail account you are processing on their behalf. The remote authentication tool enables an account owner to grant Aid4Mail secure, but temporary, access to a cloud-based email service or IMAP account without providing their full login credentials and without having a copy of Aid4Mail.

Other Aid4Mail Converter features include:

- Reliably download large IMAP accounts through effective error recovery protocol.
- Secure access to Gmail / Google Workspace, Microsoft 365, Outlook.com and [IMAP](#) through [OAuth 2](#).
- Accurately [restore the folder structure](#), including Google Takeout files.
- Export emails as searchable PDFs with linked attachments.
- Convert to HTML and display emails in a browser with the included viewer.
- Plain text, CSV, TSV and XML target formats.

- Extract email attachments.
- Flexible template-based [folder](#) and [file naming](#) with support for [Bates numbering](#).
- Support for long file names exceeding 255 characters.
- Detailed [progress information](#), conversion statistics and logs.
- Works seamlessly with both 32-bit and 64-bit Outlook.
- Modern [user interface](#) with full Unicode support.

### Aid4Mail Investigator

The same powerful conversion engine as [Aid4Mail Converter](#) with the addition of advanced features for digital forensics and eDiscovery. Aid4Mail Investigator provides all the tools you need for preparing email evidence in legal proceedings, including criminal investigations, litigation, compliance and auditing, and freedom of information requests (FOI).

In addition to the regularly [supported mail formats](#), Aid4Mail Investigator allows you to [carve out MIME emails](#) from uncompressed disk images, forensically-extracted space and corrupted mailboxes. In fact, from any (non-compressed) file that contains MIME emails. It also supports Google Vault (zipped Mbox files) as a source format to optimize collection from Google accounts.

Aid4Mail Investigator's powerful [search and filter](#) features allow you to use the same [search operators](#) as Gmail and Microsoft 365. You can search any part of an email including deeply embedded content, attachments and files contained within attachments. For example, text in a PDF file that's contained within a ZIP archive, attached to an email that is itself the attachment of another email, can be found! You can even search for file metadata like EXIF and IPTC information contained in pictures.

Built-in filters allow you to cull redundant and irrelevant emails before review: You can [skip duplicates](#) and target [personal mail](#), excluding emails from mailing lists, bulk mail and notifications. Forensic professionals also have the ability to [search unurged mail](#).

[Native filtering](#) is also supported for PST files and Gmail, Microsoft 365, Exchange and [IMAP](#) accounts. These filters are sent directly to the mail server software to carry out a pre-acquisition search server-side. This can significantly increase performance because Aid4Mail will only download and process emails that match the search results rather than the whole account.

Aid4Mail Investigator's support for [Python filter scripts](#) gives you even more control. Extract and search text from images using Python OCR modules or use Python image analysis to detect nudity in photos. You can also use Python scripts to [modify](#) email content, for example obfuscating sensitive information.



[Concurrent processing](#) enables you to run multiple Aid4Mail sessions simultaneously. These can be totally independent conversions or share the same source, target or both. For example, you can merge emails from multiple sources into a single PST file or split a single source file into multiple target files. Alternatively, apply multiple search criteria to a single mail store, saving the results in different folders within the same PST, all at the same time.

Other features:

- [Search lists](#).
- [Stemming](#) and [tokenization](#).
- [Word proximity](#) operators, [wildcards](#), and [regular expressions](#).
- Reorganize emails [by account](#).
- Configurable [Bates number](#) and [Bates stamp](#).
- [Add missing metadata](#) to target emails.
- Access [public and shared folders](#) and [delegate accounts](#).
- Customize target folder and file names using [Python scripts](#).

### Aid4Mail Enterprise

The ultimate Aid4Mail. It contains every feature in [Aid4Mail Investigator](#) and [Converter](#) plus a [command-line interface \(CLI\)](#) and additional [mail formats](#) for large-scale archival and migration projects. It can also be installed on, and run from, a server.

With flexible, multi-user licensing options, Aid4Mail Enterprise is well suited to large-scale email processing in medium to large organizations. The license is tied to a computer, server, or USB drive rather than a seat, making it available to any number of users in your company. You can run it from a server or networked computer or from a shareable USB flash drive. This makes it an ideal portable solution in the field or the lab.

The [command-line interface \(CLI\)](#) enables you to seamlessly integrate Aid4Mail Enterprise into your work flow. Run it from scripts or batch files to automate email processing, or create your own user interface to customize the features available to end users.

Additional archival [source formats](#):

- Mimecast (zipped EML SJF/EJF files)
- Proofpoint (zipped EML files)

Additional cloud-based [target formats](#):

- Microsoft 365 and MS Exchange (via [MAPI](#) or [IMAP](#))
- Gmail / Google Workspace (via Google [APIs](#) or [IMAP](#))

- Dovecot, Courier, Zimbra, ... (via [IMAP](#))

## Trial mode

A full-featured trial mode is available in each Aid4Mail edition. When Aid4Mail is used in trial mode, it works on a modified **copy** of your mail. Rest assured that Aid4Mail will not alter your actual mail so you can safely run as many tests as you need. Please refer to the [Trial mode](#) topic for details.

## Free edition

A free edition, *Aid4Mail Converter Light*, is available on our [website](#). It has the same feature set as [Aid4Mail Converter](#) but is limited to processing EML and mbox mail formats only.

### 1.3 How does Aid4Mail work?

Aid4Mail's primary goal is to collect, filter and convert emails. It does not concern itself with other tasks, or types of data, and so is able to optimize its workflow. This results in differences of approach when compared to other eDiscovery software products like FTK, Encase and Nuix. Notable differences are Aid4Mail's [prioritization of search accuracy](#), its [high-speed filter](#) and a reduced reliance on [manual review](#). These are discussed below.

#### Prioritizing search accuracy

Many eDiscovery software products create search indexes from their source mail. When a search is performed, it is the index that is searched and not the actual mail. The downside of this approach is that certain *noise words* (or *stop words*) and reserved characters are excluded from the indexes, making precise matches impossible for those terms. In addition, indexes don't usually support phrases, and wildcards and Regular Expressions can only be applied at the word-level and not at the character or phrase-levels.

For example, the following terms would not be found by a typical index search:

- 9% loss
- Plan B
- clause 4.3
- rule 34(b)(1)(C)
- Fed. R. Civ. P. 34(b)(2)(E)(i)-(ii)
- (RS)-2-(4-(2-methylpropyl)phenyl)propanoic acid
- 48 C.F.R. §2.101

eDiscovery products may offer the ability to search terms more precisely using a serial search (one email after the next). However this will be without important index-based features like stemming, support for synonyms and spelling alternatives, and proximity operators.

Aid4Mail takes a unique hybrid approach, combining the precision of serial searching with the features of index searching. It processes emails and their attachments directly, with the ability to apply wildcards and Regular Expressions at any level. Yet it also offers stemming, synonyms, spelling variations and proximity searching. Through this unique combination, Aid4Mail can find and recover mail that other forensic tools miss.

All of the above search terms would be found by Aid4Mail Investigator. This is because it has no noise words and no reserved characters. Aid4Mail will find whatever you tell it to,

whether a single character, symbol or number, or multiple words with punctuation. It's an industry leader in this domain.

## High-speed filtering

Serial search is much faster than index search on the first pass of a filter. This is because creating an index is time-consuming and no filtering can happen before it's built. It also needs to be rebuilt whenever there's a change. By avoiding this stage completely, Aid4Mail often outperforms other eDiscovery products in terms of speed.

The only situation where Aid4Mail will be slower than an index-based product is when repeated searches on the same source mail are necessary. However, as Aid4Mail's search [accuracy](#) reduces the need for multiple search/review cycles, its workflow optimizes for speed. As a result, you can accurately process terabytes of email data from start to finish without user intervention!

## Manual review

Aid4Mail enables you to set up a project and let it run to completion, unattended. This can be a huge time-saver when processing large amounts of email data. It's facilitated by Aid4Mail's [highly accurate search](#) engine that reduces the need for constant manual review.

Although you cannot review filtered emails directly in Aid4Mail, it's easy to conduct a manual review externally when necessary. Especially when your culled collection is small. For example, if you select HTML as your [target format](#) in Aid4Mail, you can choose to create an index file that acts as an online viewer. It offers email and folder selection, easy access to attachments in native format, and a metadata search bar to filter the email list.

The following searchable [target formats](#) all provide the possibility of external manual review:

- **PST** then review emails in Microsoft Outlook.
- **Mbox** then review emails in Mozilla Thunderbird.
- **PDF** then review emails in Adobe Reader.
- **HTML** then review emails in your browser.
- **CSV** then review emails in Microsoft Excel.
- **Plain text** then review emails in a text editor.

If you're not able to cull your email collection to a reasonable size, use Aid4Mail to export to PST, MSG, mbox or EML. Then import into a comprehensive digital forensics product like FTK, Encase or AXIOM. Aid4Mail is a great complement to these tools.

## 2 Getting started

If you're just getting started with Aid4Mail, you've come to the right place. This section contains:

- [System requirements](#)
- [Supported formats](#)
- [Trial mode](#)
- [First steps](#)
- [Collecting and converting mail](#)
- [Activating your Aid4Mail license](#)

## 2.1 System requirements

### Minimum Hardware Requirements

- Pentium (or compatible) processor with a clock-rate of 1 GHz
- 2 GB of RAM (with at least 240 MB of free RAM)
- 120 MB of disk space to install Aid4Mail plus additional space for your [target mail](#).

An Internet connection is required for online license activation, validation and re-activation. Offline activation is available for certain licenses.

### Operating Systems

#### Windows

Supported without further installation:

- Windows 11
- Windows 10: May 2019 Update (v1903) and later versions

Supported if the .NET Framework 4.8 has been installed:

- Windows 10: August 2016 "Anniversary" Update (v1607) and later versions
- Windows 8.1
- Windows 7 with Service Pack 1

#### Windows Server

Supported by [Aid4Mail Enterprise](#) without further installation:

- Windows Server 2022

Supported by [Aid4Mail Enterprise](#) if the .NET Framework 4.8 has been installed:

- Windows Server 2019
- Windows Server v1809
- Windows Server v1803
- Windows Server 2016
- Windows Server 2012 R2
- Windows Server 2012
- Windows Server 2008 R2 with Service Pack 1

#### Other operating systems

Partially supported when used with Wine:

- macOS / OS X / Mac OS X (10.6 or later)

- Linux

**Notes**

- Both 64 and 32-bit versions (where available) of the operating systems listed are supported.
- Processing with MAPI (Outlook's underlying technology) is only available when Microsoft Outlook is installed under Windows or Windows Server. MAPI is used to process Outlook Profiles and is an option for processing MSG and PST files.
- Apple computers running macOS 10.15 Catalina, or a later version, are not able to run 32-bit applications. If you are using one of these, you should select the *Prioritize memory access (64-bit engine)* option under [Optimization](#) in Aid4Mail's *App settings*.

**Python scripts**

To use Python scripts in Aid4Mail, you will need Python 3 or a later version installed on the same computer. Please refer to the [Python installation](#) section of the [Python scripts](#) topic for details.

## 2.2 Supported formats

### Mail formats

#### Source mail formats

Only in [Aid4Mail Enterprise](#):

- Mimecast exports (zipped EML SJF/EJF files)
- Proofpoint exports (password-protected zipped EML files)

Only in [Aid4Mail Investigator](#) and [Aid4Mail Enterprise](#):

- Google Vault exports (zipped mbox files)

In [all commercial editions](#):

- Gmail / Google Workspace (via Google [API](#))
- Microsoft 365 and Office 365 (via Graph [API](#))
- Outlook profile
- Outlook PST file (via [MAPI](#) or independently of Outlook)
- Outlook OST file
- Outlook for Mac OLM file
- Outlook MSG files (via [MAPI](#) or independently of Outlook)
- [IMAP](#) (including Gmail / Google Workspace, Microsoft 365, Office 365, Outlook.com, Yahoo! Mail, AOL, ...)
- EML files
- Mbox files
- Mozilla Thunderbird
- Mozilla SeaMonkey
- Maildir
- Google Takeout
- Apple Mail EMLX files

#### Target mail formats

Only in [Aid4Mail Enterprise](#):

- Gmail / Google Workspace (via Google [API](#))
- [IMAP](#) (including Gmail / Google Workspace, Microsoft 365, Office 365, Outlook.com, Yahoo! Mail, AOL, ...)
- Outlook profile

In [all commercial editions](#):

- Outlook PST file (via [MAPI](#) or independently of Outlook)
- Outlook MSG files (via [MAPI](#) or independently of Outlook)



- EML files
- Mbox files (generic mailbox)
- Mozilla Thunderbird
- Mozilla SeaMonkey
- PDF
- HTML
- Plain text
- CSV
- TSV
- XML

**Attachment/file types that can be searched** (only in [Aid4Mail Enterprise](#) and [Investigator](#))

#### Microsoft Office

- docx
- docm
- xlsx
- xlsxm
- pptx
- pptm

#### OpenDocument (OpenOffice, LibreOffice)

- odt
- ott
- ods
- ots
- odp
- otp

#### Other document formats

- rtf
- pdf

#### MIME (email)

- eml
- mht
- mhtml

#### XML

- xml
- xslt
- fodt
- xsd
- manifest
- fods
- xsl
- abw
- fodp

**Web**

- asp
- cfm
- dhtml
- hta
- htm
- html
- htt
- php
- php3
- php4
- php5
- php6
- php7
- phtml
- shtml
- xhtml

**IFilter plugins**

- doc
- xls
- ppt
- dot
- pot
- pps
- xlt

**Plain text**

- asm
- bat
- c
- cc
- cfg
- clb
- cmd
- cod
- cpp
- cs
- csproj
- css
- csv
- curl
- cxx
- def
- diff
- dpr
- dsp
- dsw
- h
- hpp
- hxx
- htaccess
- i
- ics
- idl
- inc
- inf
- ini
- inl
- java
- js
- json
- latex
- log
- lst
- lua
- mak
- mk
- odl
- otl
- pas
- pl
- ps
- py
- rc
- rc2
- rct
- reg
- res
- rexx
- rgs
- s
- sol
- sql
- sqlite
- tab
- tcsh
- tex
- text
- tlh
- tli
- tsv
- txt
- url
- user
- utf8
- utxt
- vb
- vbproj
- vbs
- vcf
- vcs
- zsh

**Compressed archives**

- 7z
- bz2
- bzip2
- cab
- dar
- gz
- gzip
- lzma
- rar
- tar
- tbz2
- tgz
- tlz
- Z
- zip



## 2.3 Trial mode

A full-featured trial mode is available for each [Aid4Mail edition](#).

In trial mode, Aid4Mail will create a modified **copy** of your mail. Rest assured that Aid4Mail will not alter your actual mail so you can safely run as many tests as you need.

In trial mode, Aid4Mail makes three modifications to emails during conversion:

1. Subject lines are truncated to 20 characters and the following text is added: *[Created with trial version of Aid4Mail]*
2. The *From* email address is replaced with: *trial-mode@aid4mail.com*
3. Attachments, and sometimes embedded contents, are removed from emails that exceed 1 MB ([Aid4Mail Enterprise](#) and [Investigator](#)) or 10 MB ([Aid4Mail Converter](#)).

Note that search filters used in trial mode will be applied to the modified copies of your emails, not to the originals. In some cases this may produce unexpected results. For example, searching for `From:jane@aid4mail.com` will not find any emails in trial mode because the *From* addresses have all been changed to *trial-mode@aid4mail.com*.

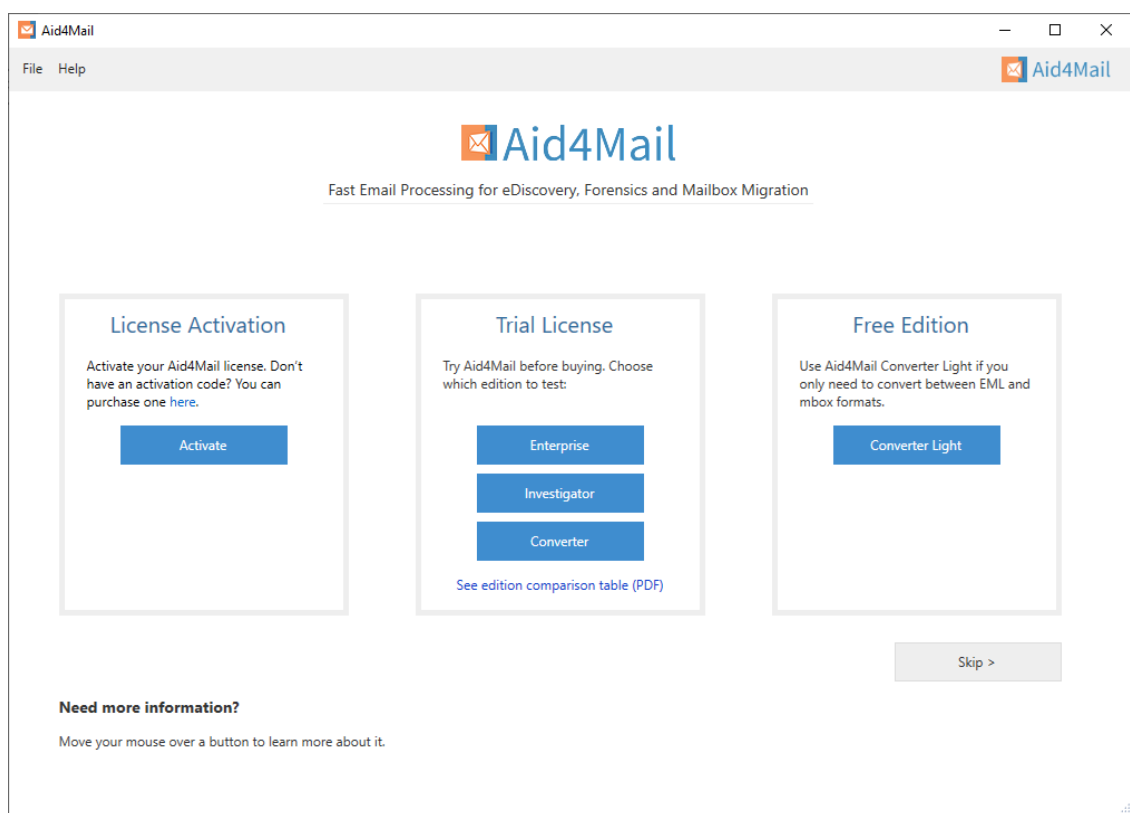
**Data produced by Aid4Mail during trial mode is for evaluation purposes only and must be deleted once you finish testing the software.**

When you purchase a license and [activate Aid4Mail](#), you will be able to process your mail without the modifications and limitations of trial mode.

## 2.4 First steps

### 1. License selection

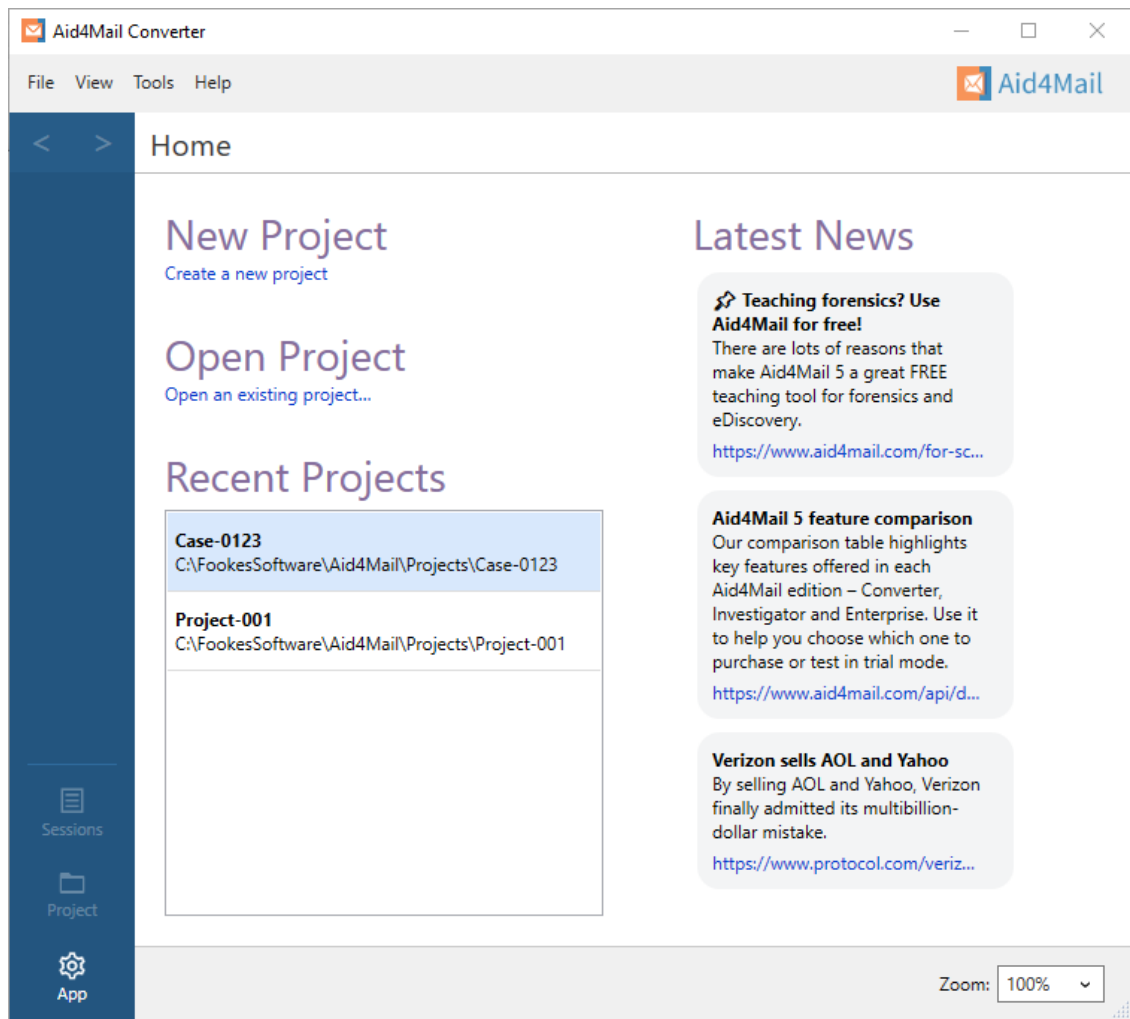
When you first open Aid4Mail, you will be presented with the *License selection* screen. Here, you can activate your Aid4Mail license, if you've purchased one, or select an Aid4Mail edition to use for free in trial mode. You can also choose the free edition that's limited to EML to mbox conversions. For details of these options, please refer to the [License selection](#) topic.



Start screen

### 2. Create a project

Once you have made your license selection, you will be taken to the [Home](#) screen. From here you can create a new project or open an existing one.



*Aid4Mail Converter's Home screen.*

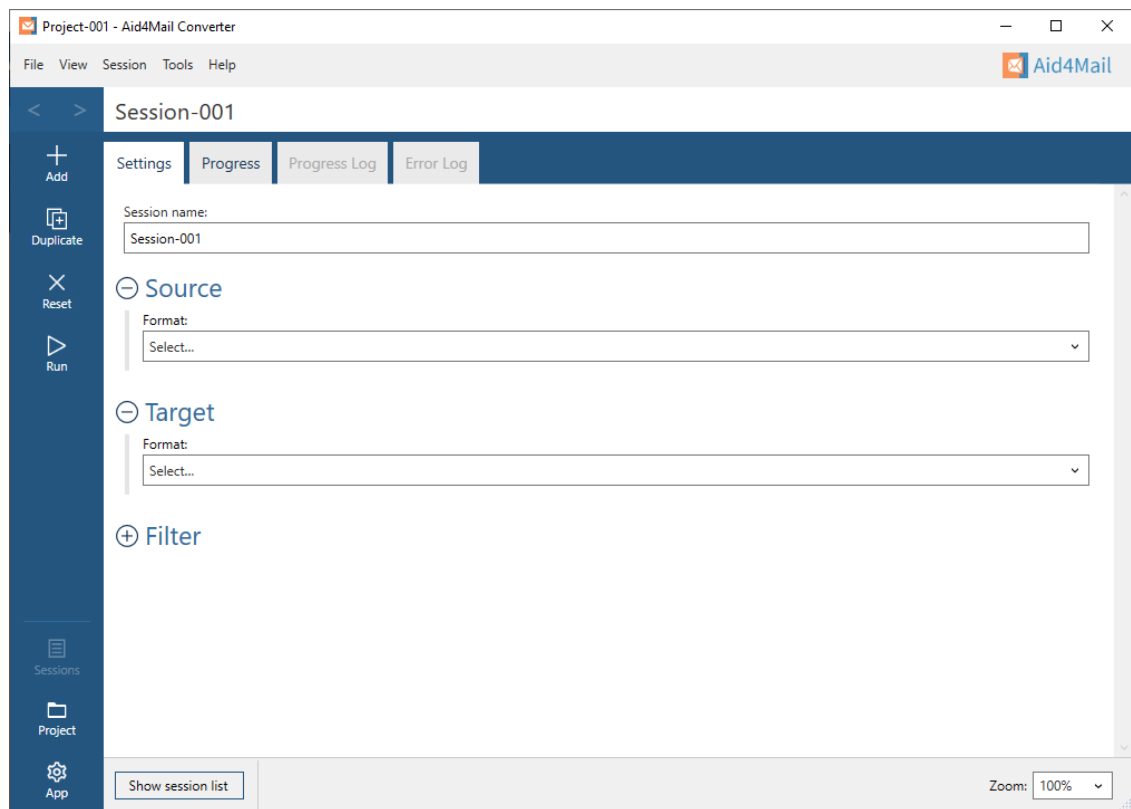
### 3. Set up your project settings (Aid4Mail Investigator/Enterprise only)

When you create or open a project in Aid4Mail Investigator or Enterprise, you will be presented with the [project settings](#). Here, you can modify the project name and add a description of the tasks you'll be undertaking. There are plenty of other optional fields to use too, if necessary. Once you've finished with the project settings, select *Continue*.

If you're using Aid4Mail Converter, this step is skipped. However you can still access the project settings by selecting [View > Project settings](#) from the menu.

## 4. Set up a mail collection/conversion

Once your project is set up, you will be taken to the main [user interface](#) with the [session settings](#) displayed. It will look like this:



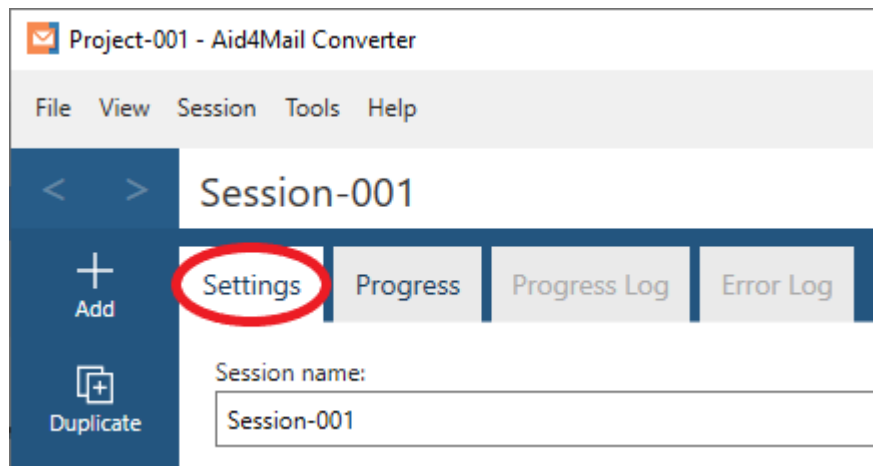
*Aid4Mail Converter's session settings.*

You are now ready to follow the next tutorial, [Collecting and converting mail](#).

## 2.5 Collecting and converting mail

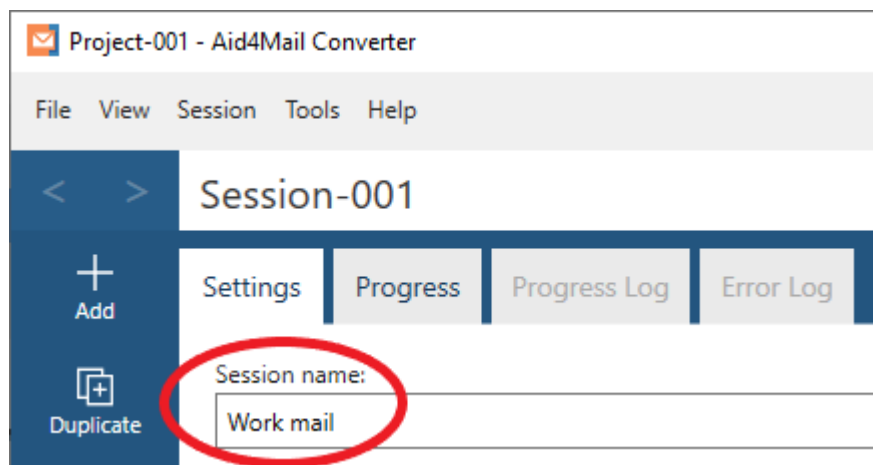
Aid4Mail makes collecting and converting mail very easy. Here are the basic steps:

1. Select the *Settings* tab to display the [Settings](#) screen:



*Select the Settings tab*

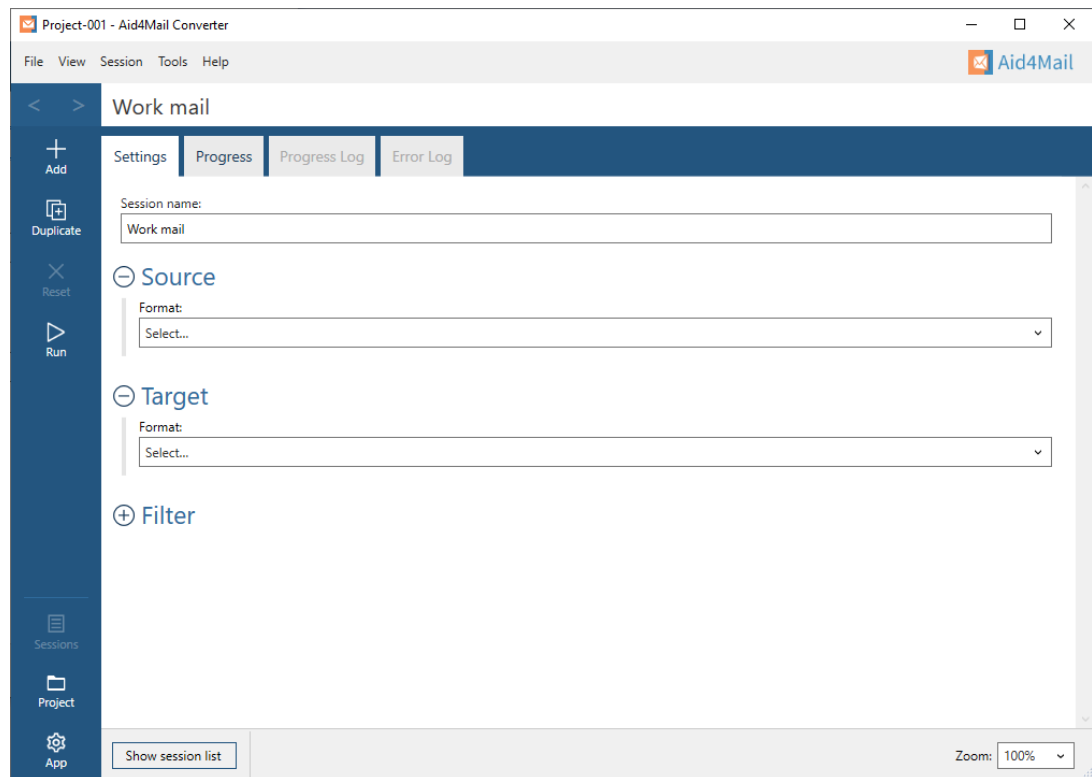
2. Change the [Session name](#) to something more descriptive:



*Change the session name to something more descriptive*

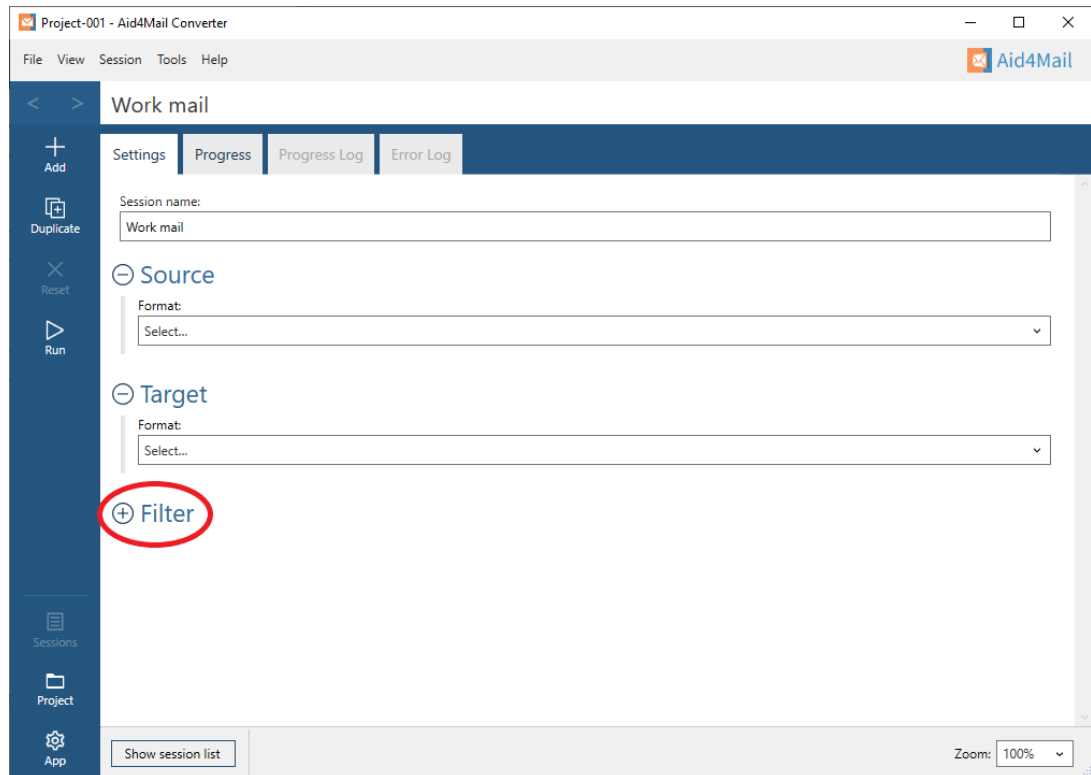
3. Ensure that the [Source](#) and [Target](#) sections are open as shown below. When you first run Aid4Mail, the *Source* and *Target* sections are open by default and the *Filter* section is closed.





*Settings screen with the Source and Target sections expanded*

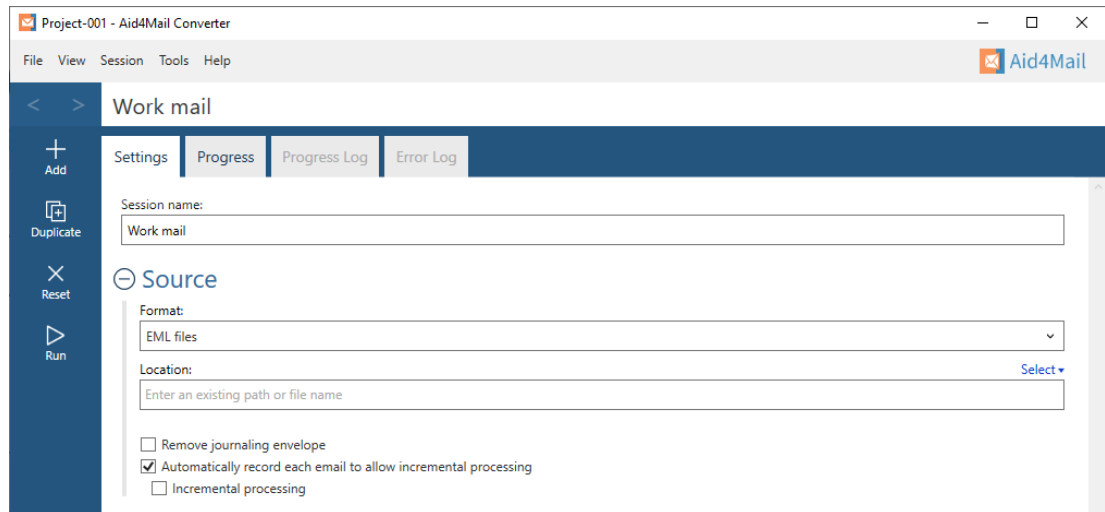
To open a section, select its heading text or the “+” symbol to the left of it. Once open, the “+” symbol changes to a “-” symbol. Selecting it again closes the section.



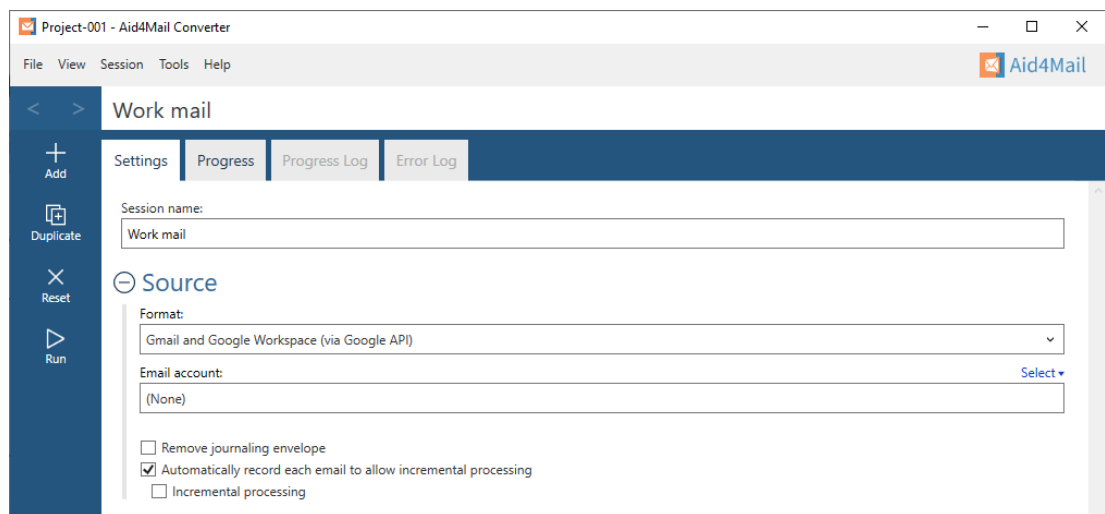
Click on the "+" symbol to open a section. Click on the "-" symbol to close a section.

4. In the [Source](#) section, select a source mail [Format](#) from the list. This is the email format you are converting from. Once selected, additional options related to your chosen format will be displayed.

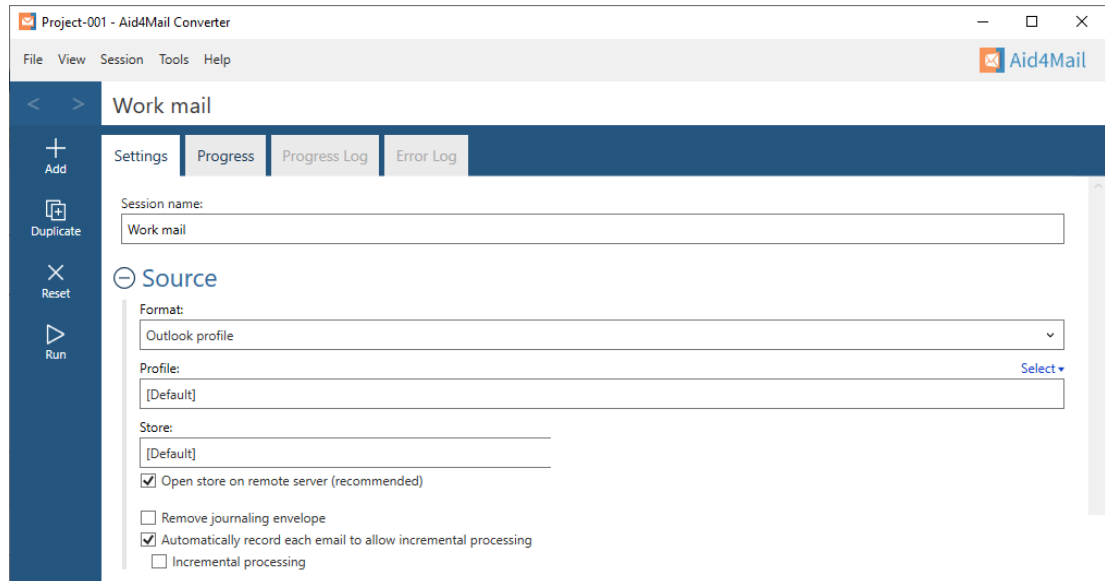
For example, if you select *EML* as your source format then the [Location](#) field will appear. If you select *Gmail* and *Google Workspace* as your source format then the [Email address](#) field will be displayed instead. If you select *Outlook profile* then the [Profile](#) and [Store](#) fields will appear, and so on.



*Select EML as your source format and the Location field becomes available*



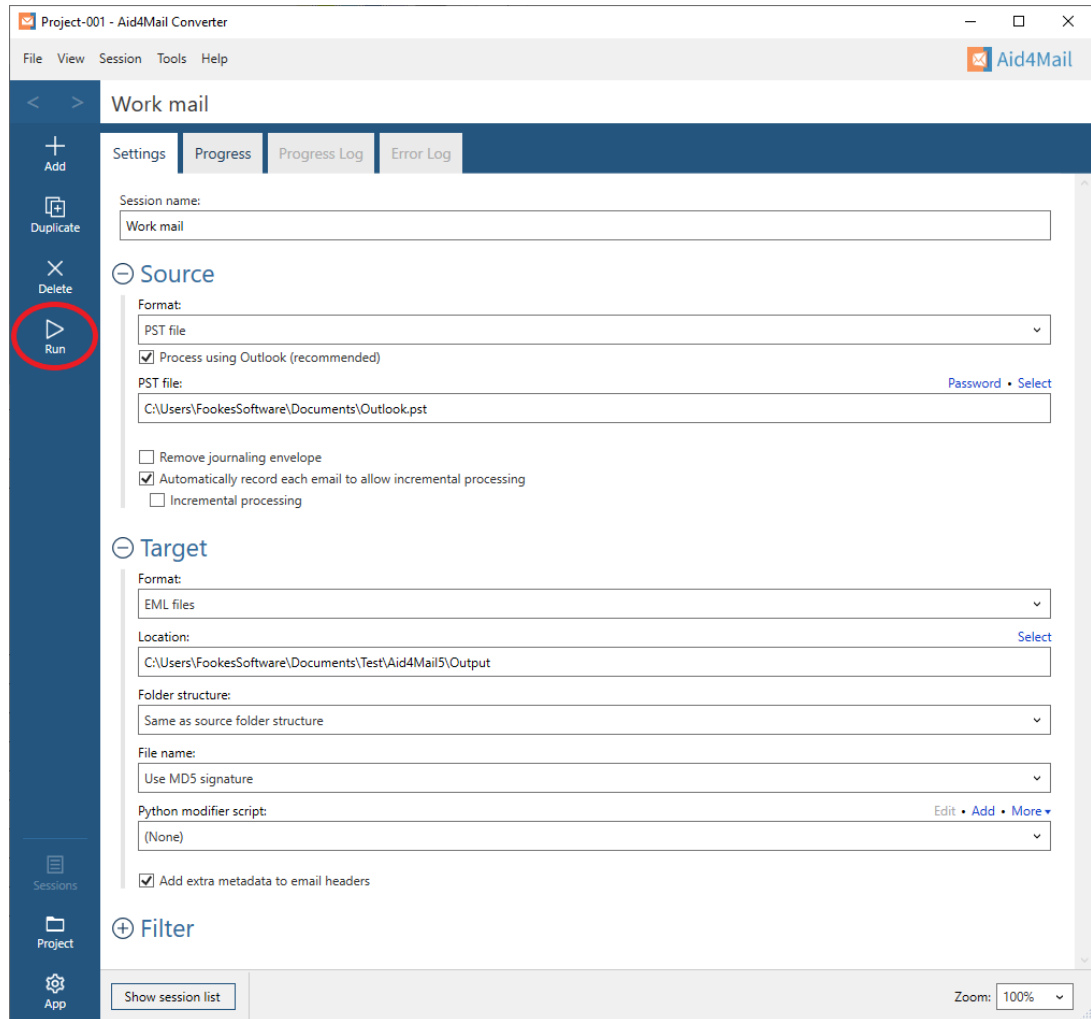
*Select Gmail as your source format and the Email address field becomes available*



*Select Outlook profile as your source format and the Profile and Store fields become available*

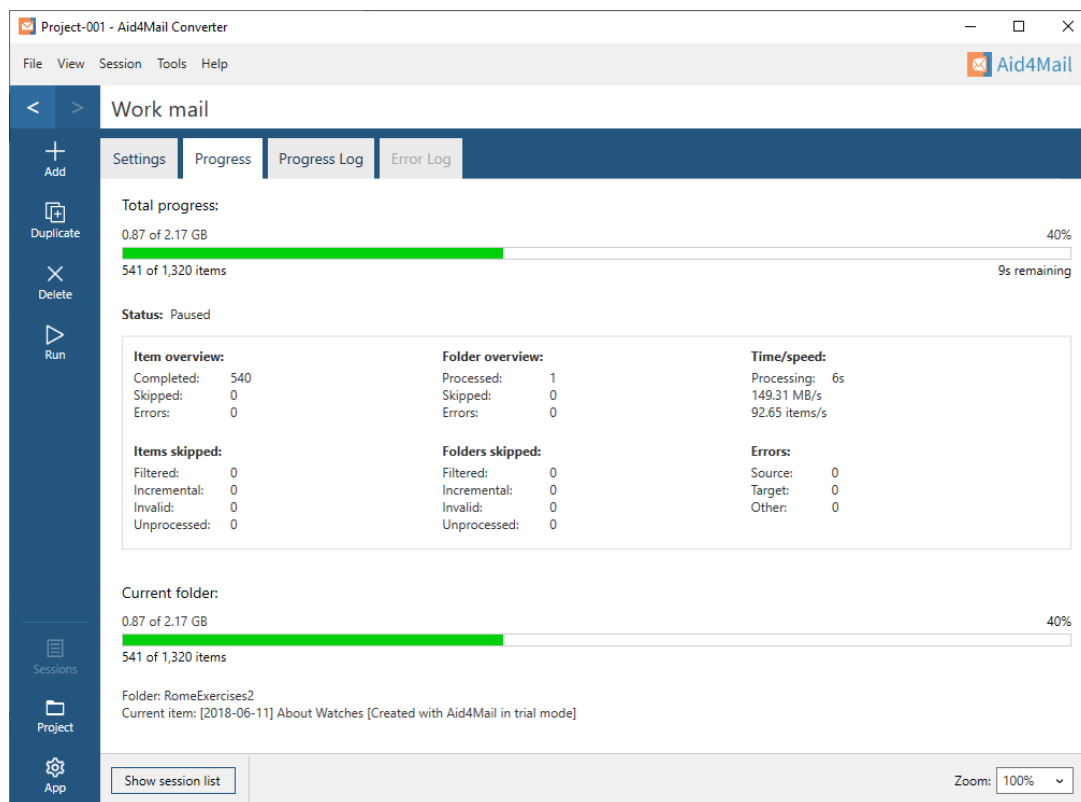
5. Still in the [Source](#) section, complete either [Location](#) / [Email address](#) / [IMAP account](#) / [PST file](#) / [Profile](#) and [Store](#), depending on your source format. These are the only mandatory source settings and must be filled in before Aid4Mail can process your mail.
6. Fill in any remaining [source settings](#) settings you require. They are optional, with default values, so you can safely ignore them if you are unsure of what to choose.
7. In the [Target](#) section, select a target mail [Format](#) from the list. This is the email format you are converting to. Once selected, additional options related to your chosen format will become available.
8. In the [Target](#) section, complete either [Location](#) / [Email address](#) / [IMAP account](#) / [PST file](#) / [Profile](#) and [Store](#), depending on your chosen target format. These are the only mandatory target settings and must be filled in before Aid4Mail can process your mail.
9. Fill in any remaining [target settings](#) settings you require. They are optional, with default values, so you can safely ignore them if you are unsure of what to choose.
10. If you require Aid4Mail to filter your mail during the conversion process, open (if necessary) and complete the optional [Filter](#) section.

11. Once you have finished adjusting the settings, select [Run](#) and Aid4Mail will start processing your mail:



Select Run

The [Progress](#) screen will automatically open and display statistics:



*Progress screen*

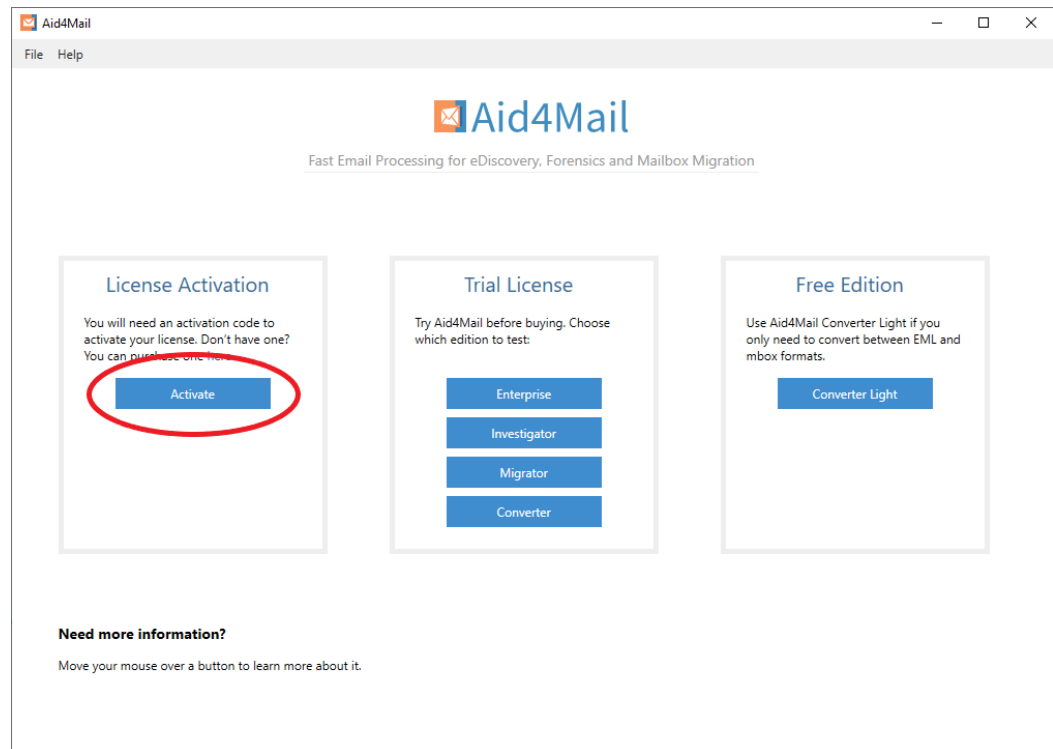
## 2.6 Activating your Aid4Mail license

Once you have purchased Aid4Mail, you will be sent an activation code or key file by email. This section provides step-by-step instructions on how to:

- [Activating with an activation code](#)
- [Activating with a key file](#)

### 2.6.1 Activating with an activation code

1. Open the [License activation](#) screen. This can be done in 3 different ways:
  - a. When you open Aid4Mail for the first time, you will see the [License selection](#) screen. Select *Activate* under the *License Activation* heading as shown below:

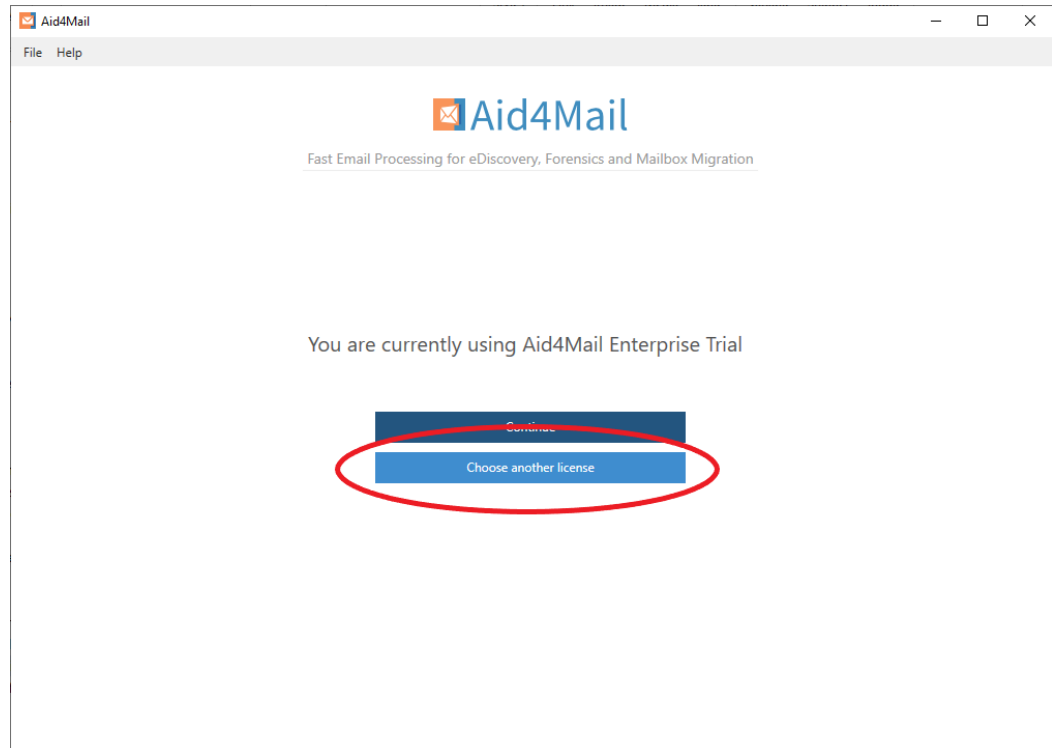


*The "Activate" button on the License selection screen.*

- b. If you have previously been using Aid4Mail in trial mode then, when you next open it, you will be presented with two options. The first is to continue with the trial. Select the second option: *Choose another license*. The [License selection](#) screen will then

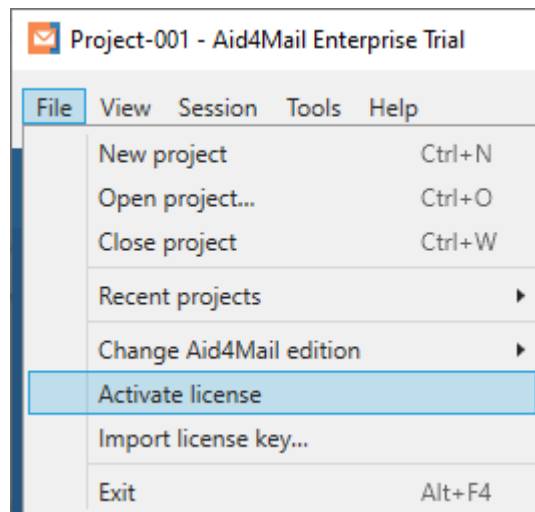


appear as in [a.](#) above and you can select *Activate*.



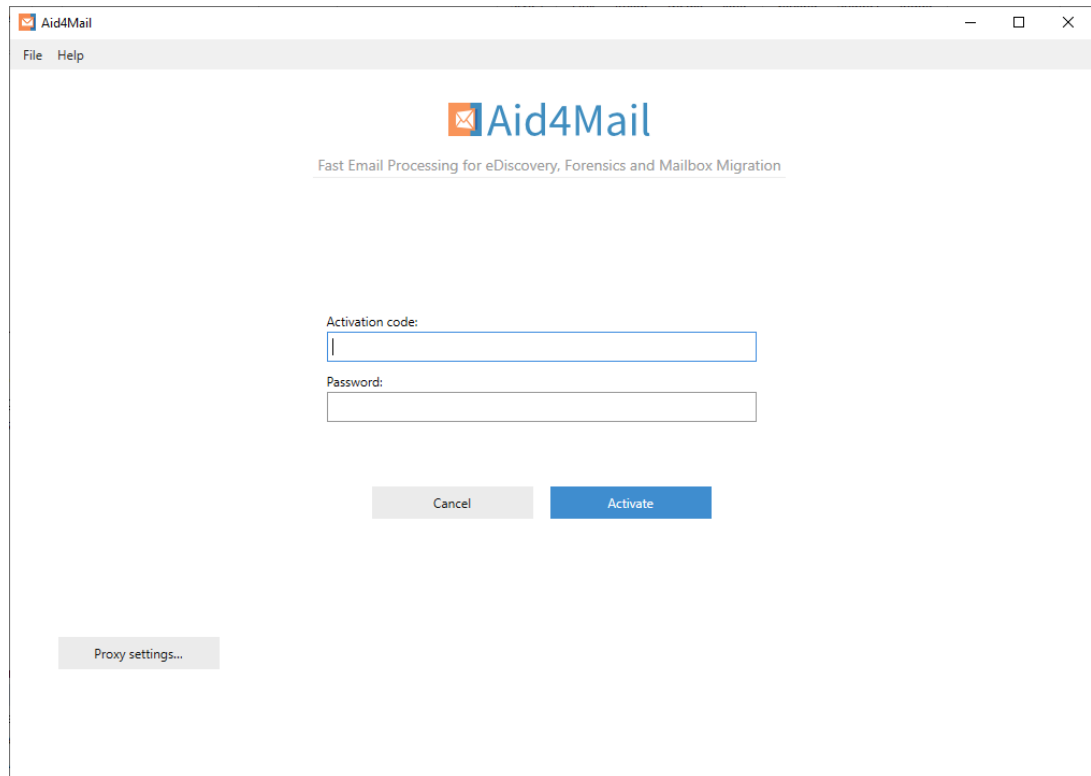
*"Choose another license" button*

- c. If Aid4Mail is already open, you can navigate to the [License activation](#) screen by selecting [File > Activate license](#) from the menu.



*File > Activate license*

2. On the [License activation](#) screen, enter the activation code and password you were sent by email into the [Activation code](#) and [Password](#) fields, respectively.



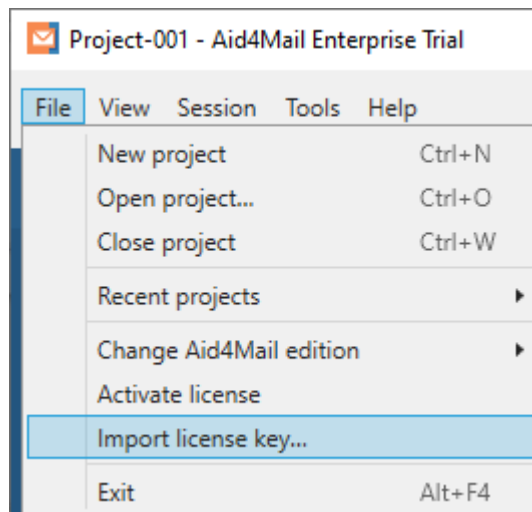
*License activation screen.*

3. Select [Activate](#).

Once you have activated Aid4Mail, you shouldn't have to do it again until your license expires.

### 2.6.2 Activating with a key file

1. Upon receiving your Aid4Mail key file, save it to your computer's hard drive in any location.
2. In Aid4Mail, from select [File > Import license key](#) from the main menu:



*File > Import license key*

3. In the *Open* file dialog, browse for and select the key file from step 1 and then select *Open*. The key file will be installed automatically.

Once you have activated Aid4Mail, you shouldn't have to do it again until your license expires.

### 3 Mail processing

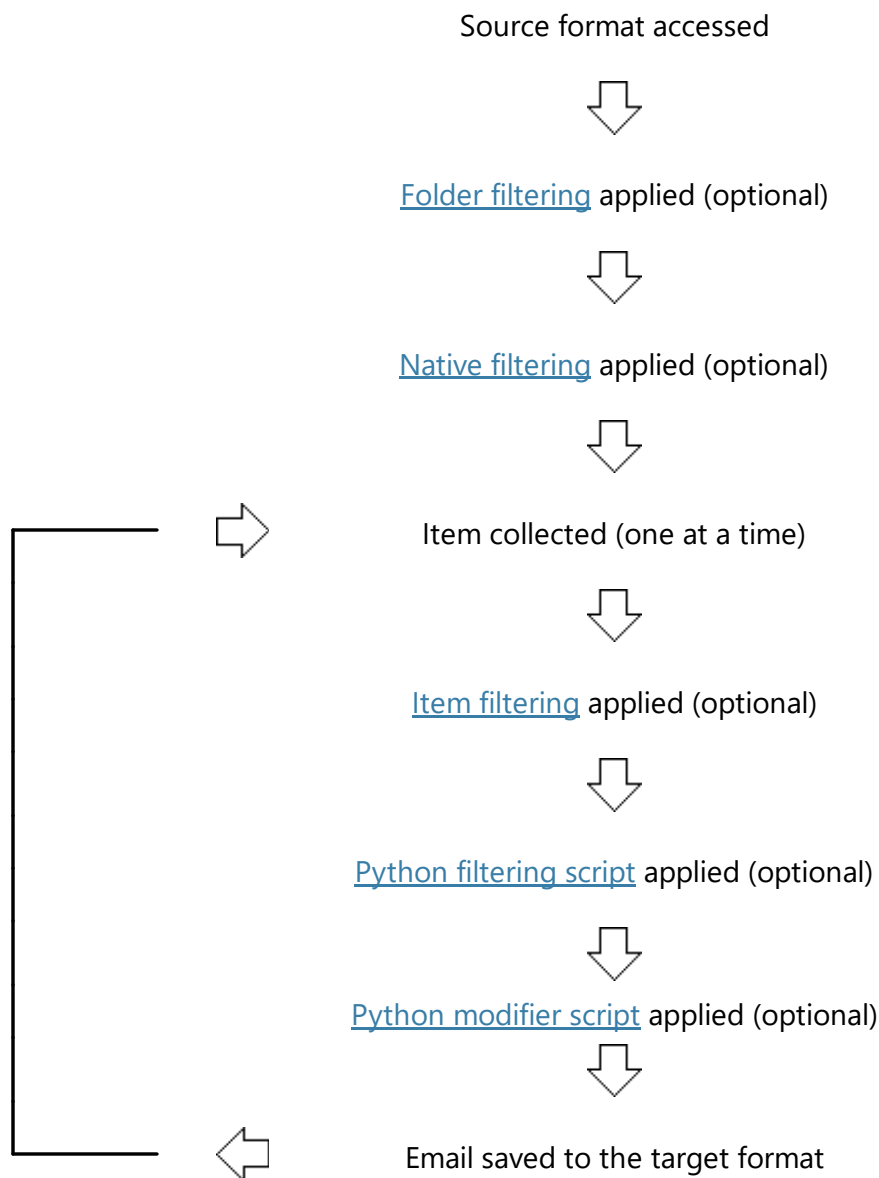
This section contains detailed information about processing mail with Aid4Mail:

- [Processing sequence](#)
- [Choosing the right format](#)
- [Processing archival formats](#)
- [Processing journaled messages](#)
- [File carving](#)
- [Adding header metadata](#)
- [Bates numbering](#)
- [Multiple sessions](#)
- [Templates](#)
- [Optimizing performance](#)
- [Customizing Aid4Mail](#)
- [Known issues](#)

It does not cover [searching and filtering](#) or [Python scripts](#) which are in their own sections. Descriptions of [user interface](#) fields are also presented separately.

### 3.1 Processing sequence

The diagram below shows Aid4Mail's complete processing sequence. The filter and Python script stages are optional: If nothing has been specified for a particular filter or script then that stage in the process will simply be skipped.



## 3.2 Choosing the right format

For most mail formats, it's clear which source and target formats to choose in Aid4Mail because there's only one relevant option available for each. For example, if you're migrating from Thunderbird to PDF, selecting *Thunderbird* as your [source format](#) and *PDF* as the [target format](#) is the only way to do it.

However, some mail formats can be accessed in multiple ways and it isn't always clear which one to choose. For example, Gmail / Google Workspace can be processed directly using *Gmail and Google Workspace (via Google API)*, or using *IMAP*, or via a *Google Vault* or *Google Takeout* archive.

This section tries to clarify the options available, listing their advantages and disadvantages, to help you choose the best one. The following comparisons are covered:

- [Gmail vs IMAP vs Vault vs Takeout](#)
- [Microsoft 365 vs IMAP vs Outlook profile](#)
- [PST/MSG with Outlook vs without](#)
- [IMAP vs Maildir](#)

### 3.2.1 Google API vs IMAP vs Vault vs Takeout

Gmail / Google Workspace accounts can be processed by Aid4Mail in four different ways, using the following [source](#) or [target format](#) options:

- [Gmail and Google Workspace \(via Google API\)](#)
- [IMAP \(including Gmail, Microsoft 365, Outlook.com, Yahoo! Mail, AOL ...\)](#)
- [Google Vault \(zipped mbox files\)](#)
- [Google Takeout](#)

To help you choose the most appropriate option for your requirements, the advantages and disadvantages of each are discussed below.

#### Gmail and Google Workspace (via Google API)

Available as a [source format](#) in all [Aid4Mail editions](#) and as a [target format](#) in [Aid4Mail Enterprise](#).

When you use this option as your source or target format, Aid4Mail will connect directly to your account using Google [APIs](#). The connection is made through [OAuth 2.0](#) and is secure. If this is your source format, Aid4Mail will download emails that match your [search criteria](#) or [native filter](#) and migrate them. If it's your target format, Aid4Mail will upload emails to your account.

This is the recommended option if you want Aid4Mail to collect mail from the Gmail server or if Gmail is your target format.

The following table presents the advantages and disadvantages of using the *Gmail and Google Workspace (via Google API)* option:

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Available as both <a href="#">source</a> and <a href="#">target</a> formats in <a href="#">Aid4Mail Enterprise</a>.</li> <li>• Direct access to mail without having to download the account first.</li> <li>• Secure connection using <a href="#">OAuth 2.0</a>.</li> <li>• <a href="#">Native filtering</a> can be used to significantly reduce the amount of mail downloaded and processed by Aid4Mail.</li> <li>• Emails with multiple <a href="#">labels</a> will only be downloaded once each, speeding up the collection process.</li> </ul>	<ul style="list-style-type: none"> <li>• Slow processing due to the remote connection (and 2.2x slower than <a href="#">IMAP</a>). This is dependent on your internet connection and available bandwidth but can be mitigated by clever use of <a href="#">native filtering</a>.</li> <li>• Subject to <a href="#">Google's bandwidth limitations</a>. These are less limited than with <a href="#">IMAP</a> access.</li> <li>• Requires <a href="#">Google API credentials</a> to be set up.</li> </ul>

## IMAP (including Gmail, Microsoft 365, Outlook.com, Yahoo! Mail, AOL ...)

Available as a [source format](#) in all [Aid4Mail editions](#) and as a [target format](#) in [Aid4Mail Enterprise](#).

When you use *IMAP* as your source or target format, Aid4Mail will connect directly to your account using the [IMAP protocol](#). The connection can be made either through secure [OAuth 2.0](#) or, simply but less securely, using your Gmail credentials and app-specific password. If this is your source format, Aid4Mail will download emails that match your [search criteria](#) and migrate them. If it's your target format, Aid4Mail will upload emails to your account.

There's really only one scenario where the *IMAP* option would be preferable to *Gmail* and *Google Workspace (via Google API)*: That is when you don't want to set up [Google API credentials](#) and you don't mind a less secure connection to the server.

The following table presents the advantages and disadvantages of using the *IMAP* option:



Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Available as both <a href="#">source</a> and <a href="#">target</a> formats in <a href="#">Aid4Mail Enterprise</a>.</li> <li>• Direct access to mail without having to download the account first.</li> <li>• Secure connection using <a href="#">OAuth 2.0</a> is available.</li> <li>• <a href="#">Native filtering</a> can be used to significantly reduce the amount of mail downloaded and processed by Aid4Mail.</li> <li>• Does not require <a href="#">Google API credentials</a> to be set up but only if a less secure connection is used.</li> </ul>	<ul style="list-style-type: none"> <li>• Gmail <a href="#">labels</a> will automatically be converted to <a href="#">folders</a> by the <a href="#">IMAP</a> protocol. This means that emails with multiple <a href="#">labels</a> will be duplicated, increasing the volume of mail to be collected.</li> <li>• Multiple settings must be <a href="#">configured in Gmail</a> to allow <a href="#">IMAP</a> access.</li> <li>• Slow processing due to the remote connection (although 2.2x faster than the <a href="#">Google API</a>). This is dependent on your internet connection and available bandwidth.</li> <li>• Subject to <a href="#">Google's bandwidth limitations</a>. These are more limited than with <a href="#">Google API</a> access.</li> <li>• Requires <a href="#">Google API credentials</a> to be set up if a secure <a href="#">OAuth 2.0</a> connection is used.</li> <li>• Connection is less secure if <a href="#">OAuth 2.0</a> is not used.</li> </ul>

## Google Vault (zipped mbox files)

Available as a [source format](#) in [Aid4Mail Investigator](#) and [Aid4Mail Enterprise](#).

The *Google Vault* option requires a two-step process: First, in Google Vault, create an archive and download it to your computer. Then process the archive with Aid4Mail.

If you need to process multiple accounts or large volumes of mail, including cloud attachments, then this is the recommended option.

For a detailed walk-through of processing Google Vault files with Aid4Mail, see the [video demo](#) on our website. Don't forget to include the .xml, .csv and .md5 files along with the .zip file(s) as shown in the video.

The following table presents the advantages and disadvantages of using the *Google Vault* option:

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Processing with Aid4Mail is fast because the mail is stored locally. Downloading of the Google Vault archive is obviously still dependent on your internet connection.</li><li>• Not subject to Google's bandwidth limitations.</li><li>• You can use Gmail's filters to only include relevant emails in the Google Vault archive. This will speed up the downloading of the archive and Aid4Mail's processing of it.</li><li>• Emails with multiple <a href="#">labels</a> will not be duplicated in the archive. This reduces the need for <a href="#">deduplication</a> in Aid4Mail, increasing processing speed.</li><li>• Cloud attachments (also known as <i>modern attachments</i>) can be collected and their metadata is searchable (using the <a href="#">FileMetadata[GoogleDrive]</a> search operator).</li></ul>	<ul style="list-style-type: none"><li>• Not available as a <a href="#">target format</a>.</li><li>• Two-step process: You have to create the Google Vault archive before Aid4Mail can process it.</li><li>• Email metadata for regular attachments is stored in a separate .xml file that must be placed in the same folder as the .zip file(s) as shown in the <a href="#">video demo</a>.</li><li>• Google Vault is only available with a Google Workspace subscription.</li></ul>

## Google Takeout

Available as a [source format](#) in all [Aid4Mail editions](#).

The *Google Takeout* option requires a two-step process: First, in Gmail, create a Google Takeout archive and download it to your computer. Then process the archive with Aid4Mail.

If you have large volumes of mail to process, and don't have [Aid4Mail Investigator](#) or [Aid4Mail Enterprise](#), or access to Google Vault, then this is the recommended option.

The following table presents the advantages and disadvantages of using the *Google Takeout* option:

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Processing with Aid4Mail is fast because the mail is stored locally. Downloading of the Google Takeout archive is obviously still dependent on your internet connection.</li><li>• Not subject to Google's bandwidth limitations.</li><li>• Emails with multiple <a href="#">labels</a> will not be duplicated in the archive. This reduces the need for <a href="#">deduplication</a> in Aid4Mail, increasing processing speed.</li><li>• Unlike Google Vault, email metadata is stored directly in the mailboxes so there's no additional files to download.</li><li>• Google Takeout is available to all Gmail users.</li></ul>	<ul style="list-style-type: none"><li>• Not available as a <a href="#">target format</a>.</li><li>• Two-step process: You have to create the Google Takeout archive before Aid4Mail can process it.</li><li>• Unlike Google Vault, you cannot use Gmail's filters to selectively include mail. You can select which labels are included. Nevertheless, the ability to reduce the size of the collection is more limited. This usually results in a larger download and slower processing with Aid4Mail.</li></ul>

### 3.2.2 Microsoft 365 vs IMAP vs Outlook profile

Microsoft 365 (formerly Office 365) can be processed by Aid4Mail in three different ways, using the following [source](#) or [target format](#) options:

- [Microsoft 365, Outlook.com, Hotmail.com \(via Graph API\)](#)
- [IMAP \(including Gmail, Microsoft 365, Outlook.com, Yahoo! Mail, AOL ...\)](#)
- [Outlook profile](#)

To help you choose the most appropriate option for your requirements, the advantages and disadvantages of each are discussed below.

#### **Microsoft 365, Outlook.com, Hotmail.com (via Graph API)**

Available as a [source format](#) in all [Aid4Mail editions](#).

When you use this option as your source format, Aid4Mail will connect directly to your account using Microsoft's Graph [API](#). The connection is made through [OAuth 2.0](#) and is secure. Aid4Mail will download emails that match your [search criteria](#) or [native filter](#) and migrate them.

This is the recommended option if you want Aid4Mail to collect Outlook mail from the server and don't have Outlook installed.

The following table presents the advantages and disadvantages of using the *Microsoft 365, Outlook.com, Hotmail.com (via Graph API)* option:

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Secure connection using <a href="#">OAuth 2.0</a>.</li><li>• <a href="#">Native filtering</a> can be used to significantly reduce the amount of mail downloaded and processed by Aid4Mail.</li><li>• Does not require Outlook to be installed.</li></ul>	<ul style="list-style-type: none"><li>• Not available as a <a href="#">target format</a>. This is a limitation of the Graph <a href="#">API</a>.</li><li>• Slow processing due to the remote connection (and 2.4x slower than <a href="#">IMAP</a> but 2.5x faster than an <a href="#">Outlook profile</a>). This is dependent on your internet connection and available bandwidth but can be mitigated by clever use of <a href="#">native filtering</a>.</li><li>• Subject to <a href="#">Microsoft 365 user throttling</a>.</li></ul>

## IMAP (including Gmail, Microsoft 365, Outlook.com, Yahoo! Mail, AOL ...)

Available as a [source format](#) in all [Aid4Mail editions](#) and as a [target format](#) in [Aid4Mail Enterprise](#).

When you use *IMAP* as your source or target format, Aid4Mail will connect directly to your Microsoft 365 account using the [IMAP protocol](#). The connection can be made either through secure [OAuth 2.0](#) or, simply but less securely, using your Outlook username and password. If this is your source format, Aid4Mail will download emails that match your [search criteria](#) and migrate them. If it's your target format, Aid4Mail will upload emails to your Microsoft 365 account.

This is the recommended option if you want to migrate mail to Microsoft 365 but don't have Outlook installed. We also recommend you use the more secure [OAuth 2.0](#) method of [authentication](#).

The following table presents the advantages and disadvantages of using the *IMAP* option:

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Available as <a href="#">source</a> and <a href="#">target</a> formats in <a href="#">Aid4Mail Enterprise</a>.</li><li>• Secure connection using <a href="#">OAuth 2.0</a> is available.</li><li>• <a href="#">Native filtering</a> can be used to significantly reduce the amount of mail downloaded and processed by Aid4Mail.</li><li>• Does not require Outlook to be installed.</li></ul>	<ul style="list-style-type: none"><li>• Slow processing due to the remote connection (although 2.4x faster than the <a href="#">Graph API</a> and 6x faster than an <a href="#">Outlook profile</a>). This is dependent on your internet connection and available bandwidth.</li><li>• Subject to <a href="#">Microsoft 365 user throttling</a>.</li><li>• Connection is less secure if <a href="#">OAuth 2.0</a> is not used.</li></ul>

## Outlook profile

Available as a [source format](#) in all [Aid4Mail editions](#) and as a [target format](#) in [Aid4Mail Enterprise](#).

When you use *Outlook profile* as your source or target format, Aid4Mail will connect directly to your Microsoft 365 account and/or cached Outlook files using Outlook's underlying technology, [MAPI](#). This means that Outlook will do the work of accessing or creating emails and other items (calendars, tasks, notes, etc.) as instructed by Aid4Mail. MAPI's methods are further optimized by our own in-house technology, developed over 20+ years of email processing!

This is the recommended option for accessing Microsoft 365 mail, as source or target, if you have Outlook installed.

The following table presents the advantages and disadvantages of using the *Outlook profile* option:

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Available as <a href="#">source</a> and <a href="#">target</a> formats in <a href="#">Aid4Mail Enterprise</a>.</li><li>• Uses Outlook's own engine (<a href="#">MAPI</a>) for processing, ensuring the highest quality results.</li><li>• Further optimized by our in-house technology, developed over 20+ years.</li><li>• Non-email items (calendars, tasks, notes, etc.) can be processed (but only if both source and target are formats that use <a href="#">MAPI</a>).</li><li>• <a href="#">Native filtering</a> can be used to significantly reduce the amount of mail downloaded and processed by Aid4Mail. However, only date filters are supported.</li><li>• Additional metadata can be included.</li><li>• Not subject to Microsoft 365 user throttling.</li><li>• Processes cached emails when it's determined that they're up to date, avoiding server access.</li><li>• Does not require <a href="#">authentication</a> of your email account credentials.</li></ul>	<ul style="list-style-type: none"><li>• Except for date filters, <a href="#">native filtering</a> cannot be used to reduce the amount of mail collected. However, Aid4Mail's other <a href="#">filter stages</a> can still be used.</li><li>• When cached emails are not up to date, server access is necessary. This results in slow processing due to the remote connection (and its 2.5x slower than the <a href="#">Graph API</a> and 6x slower than <a href="#">IMAP</a>). It's dependent on your internet connection and available bandwidth.</li><li>• Requires Outlook to be installed on the same machine as Aid4Mail.</li></ul>

### 3.2.3 PST/MSG with Outlook vs without

PST and MSG files can be processed by Aid4Mail in two different ways. In both cases, *PST file* or *MSG files* is selected as the [source](#) or [target format](#). The difference depends on whether the [Process using Outlook](#) option is turned [on](#) or [off](#).

To help you choose the most appropriate configuration for your requirements, the advantages and disadvantages of each are discussed below.

#### Process using Outlook: On

Available when *PST file* or *MSG files* is selected as a [source](#) or [target format](#) in all [Aid4Mail editions](#).

When [Process using Outlook](#) is turned *on*, Aid4Mail will access PST or MSG files using Outlook's underlying technology, [MAPI](#). This means that Outlook will do the work of accessing or creating emails and other items (calendars, tasks, notes, etc.) as instructed by Aid4Mail. MAPI's methods are further optimized by our own in-house technology, developed over 20+ years of email processing!

This is the recommended method of processing PST and MSG files when Outlook is installed.

The following table presents the advantages and disadvantages of turning [Process using Outlook](#) *on*:



Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Processing is up to 4 times faster.</li><li>• All metadata is processed.</li><li>• Uses Outlook's own engine (<a href="#">MAPI</a>) for processing, ensuring the highest quality results.</li><li>• Further optimized by our own in-house technology, developed over 20+ years.</li><li>• With source PST files, <a href="#">native filtering</a> can be used to significantly reduce the amount of mail processed by Aid4Mail. However, only date filters are supported.</li><li>• More hidden data is available when <a href="#">Include hidden folders</a> is turned on in <a href="#">Aid4Mail Enterprise</a> and <a href="#">Investigator</a>.</li></ul>	<ul style="list-style-type: none"><li>• Requires Outlook to be installed on the same machine as Aid4Mail.</li><li>• Outlook modifies source PST files every time it accesses them. However, we have developed a work-around whereby Aid4Mail creates a temporary copy of the file, leaving the original unaltered. Please refer to the <a href="#">Protect from changes by Outlook</a> option for further details.</li></ul>

## Process using Outlook: Off

Available when *PST file* or *MSG files* is selected as a [source](#) or [target format](#) in all [Aid4Mail editions](#).

When [Process using Outlook](#) is turned *off*, Aid4Mail will access PST and MSG files using a stand-alone engine.

This is the recommended method of processing PST and MSG files when Outlook is not installed.

The following table presents the advantages and disadvantages of turning [Process using Outlook](#) *off*:

**Advantages**

- Does not require Outlook to be installed.
- PST files are not altered when accessed.

**Disadvantages**

- Processing is up to 4 times slower.
- Some metadata, notably status information (Read, Replied, Forwarded, etc.), will not be included.
- [Native filtering](#) cannot be used to reduce the amount of mail collected. However, Aid4Mail's other [filter stages](#) can still be used.
- Less hidden data is available when [Include hidden folders](#) is turned on in [Aid4Mail Enterprise](#) and [Investigator](#).

### 3.2.4 IMAP vs Maildir

IMAP mail accounts can be processed directly by Aid4Mail. However, in some cases, large source IMAP accounts can be processed faster by downloading the Maildir archive from the mail server and processing it locally. This requires administrative access to the mail server but avoids the pitfalls of networked processing.

The advantages and disadvantages of each option are discussed below.

## IMAP

Available as a [source format](#) in all [Aid4Mail editions](#) and as a [target format](#) in [Aid4Mail Enterprise](#).

When you use *IMAP* as your source or target format, Aid4Mail will connect directly to your mail account using the [IMAP](#) protocol. The connection can be made through secure [OAuth 2.0](#) if the server supports it. Otherwise, a simple (but less secure) connection can be made using your login and password. If this is your source format, Aid4Mail will download emails that match your [search criteria](#) and migrate them. If it's your target format, Aid4Mail will upload emails to your mail account.

This is the recommended option if you want Aid4Mail to access your mail account directly, or if you do not have administrative access to the mail server, or you want to use IMAP as a [target](#) format.

The following table presents the advantages and disadvantages of using the *IMAP* option:

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Available as both <a href="#">source</a> and <a href="#">target</a> formats.</li><li>• Direct access to mail without having to download the account first.</li><li>• Secure connection using <a href="#">OAuth 2.0</a> is available when supported by the mail server.</li><li>• <a href="#">Native filtering</a> can be used to significantly reduce the amount of mail downloaded and processed by Aid4Mail.</li></ul>	<ul style="list-style-type: none"><li>• Slow processing due to the remote connection. This is dependent on your internet connection and available bandwidth but can be mitigated by clever use of <a href="#">native filtering</a>.</li><li>• May be subject to bandwidth limitations imposed by the mail server.</li></ul>

## Maildir

Available as a [source format](#) in all [Aid4Mail editions](#).

Processing an IMAP account using Aid4Mail's *Maildir* option requires administrative access to the mail server and a two-step process. First, the account needs to be downloaded through [FTP](#). Then the local Maildir archive can be processed by Aid4Mail.

This is the recommended option if you need to process a large source IMAP account and have administrative access to the mail server.

The following table presents the advantages and disadvantages of using the *Maildir* option:

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Only available as a <a href="#">source</a> format.</li><li>• Processing with Aid4Mail is fast because the mail is stored locally. Downloading of the Maildir archive is obviously still dependent on your internet connection.</li><li>• Not subject to the mail server's bandwidth limitations.</li></ul>	<ul style="list-style-type: none"><li>• Two-step process: You have to download the Maildir archive before Aid4Mail can process it.</li><li>• <a href="#">Native filtering</a> cannot be used to reduce the amount of mail downloaded. However, Aid4Mail's other <a href="#">filter stages</a> can still be used.</li></ul>

### 3.3 Processing archival formats

Aid4Mail supports three major archive export formats:

1. Google Vault (zipped mbox files)
2. Mimecast (zipped EML SJF/EJF files)
3. Proofpoint (password-protected zipped EML files)

Google Vault is available in [Aid4Mail Investigator](#) and [Aid4Mail Enterprise](#). They not only preserve email status information (unread, read, replied, sent, etc.) from Google Vault archives but can also restore the original folder structure.

Mimecast and Proofpoint are available in [Aid4Mail Enterprise](#). At the time of writing, it is the only tool on the market that can search and convert these archives in their native form. Aid4Mail also has the unique ability to reorganize Mimecast and Proofpoint exports [by email account](#), saving hours (if not days) of manual work!

For information on how to process these three archival formats, please refer to the following *How to* tutorials on our website:

- [How to convert Google Vault exports](#)
- [How to convert Mimecast archive exports](#)
- [How to convert Proofpoint exports](#)

Note that [Aid4Mail Converter](#) does not support these archival formats.

### 3.4 Processing journaled messages

#### What is journaling?

Journaling is the process of retaining information related to electronic messages including emails, instant messages, text messages, faxes, audio messages, etc. It is typically used as part of an archival and data-management solution for compliance purposes.

#### Journaled email messages

A journaled email typically includes the original email message along with related metadata. This consists of the sender and recipient(s), time/date and transport information, and can also include data relating to the computer involved and its physical location. This metadata is referred to as the journal report. It's located in the body of the journal envelope and includes the original, unaltered email message as an attachment.

#### How does Aid4Mail identify journaled email messages?

Aid4Mail will consider an email to be [Type:Journaled](#) if its header contains either of the following:

- *X-MS-Journal-Report*
- *Content-Identifier: ExJournalReport*

Aid4Mail will consider an email to be [Type:Journal](#) if it comes from the *Journal* folder in a PST file, Exchange or any Outlook message store.

#### Journaling limitations

Journaling is good at preserving data for compliance purposes but it does have limitations. For example:

- Viewing journaled message content can be awkward. The journal report is easily accessible but the original email message is only available as an attachment.
- Searching journaled emails can be problematic if the search tool is limited to the main message (containing the envelope header and journal report) and cannot access the attachment (the original, unaltered email message).

- The journal report may contain useful metadata that is absent in the original email message. For example, Bcc and distribution list recipient addresses. This is the case with Mimecast EJF exports.
- We have observed cases where all email addresses were missing from the original email message. This is usually due to an Exchange configuration error and the addresses typically appear in the journal report.

## Removing the journaling envelope

Aid4Mail offers a solution to these limitations by being able to remove the journaling envelope of a message during processing. This returns the message to its original state, prior to being journaled, making it easy to view and search.

At the same time, Aid4Mail extracts all email addresses from the journal report, making them available for [searching and filtering](#) without altering the original email message.

To turn this option on, select [Remove journaling envelope](#) in the *Source settings*.

With this setting turned on, extraction of email addresses happens automatically in any of the following situations:

- No [search operators](#) are used
- The [Recipients](#) search operator is used
- The [Participants](#) search operator is used
- The [{EmailAccount}](#) template token is used

## Adding extracted email addresses to the original email

If you're not concerned about altering the email message, and prefer to preserve as much data as possible, Aid4Mail can add the addresses extracted from the journal report to the header of the email. The addresses will be added under the following header fields:

- *X-Journal-Sender*
- *X-Journal-Recipients*

You can turn this option on by selecting [Add extra metadata to email headers](#) in the *Target settings*. You can read more on this topic in [Adding header metadata](#).



## 3.5 File carving

### Definition

File carving refers to the reconstruction of coherent data from within larger fragments of, often inaccessible, file data. In other words, the data of interest is “carved out” of its surroundings.

### File carving in Aid4Mail

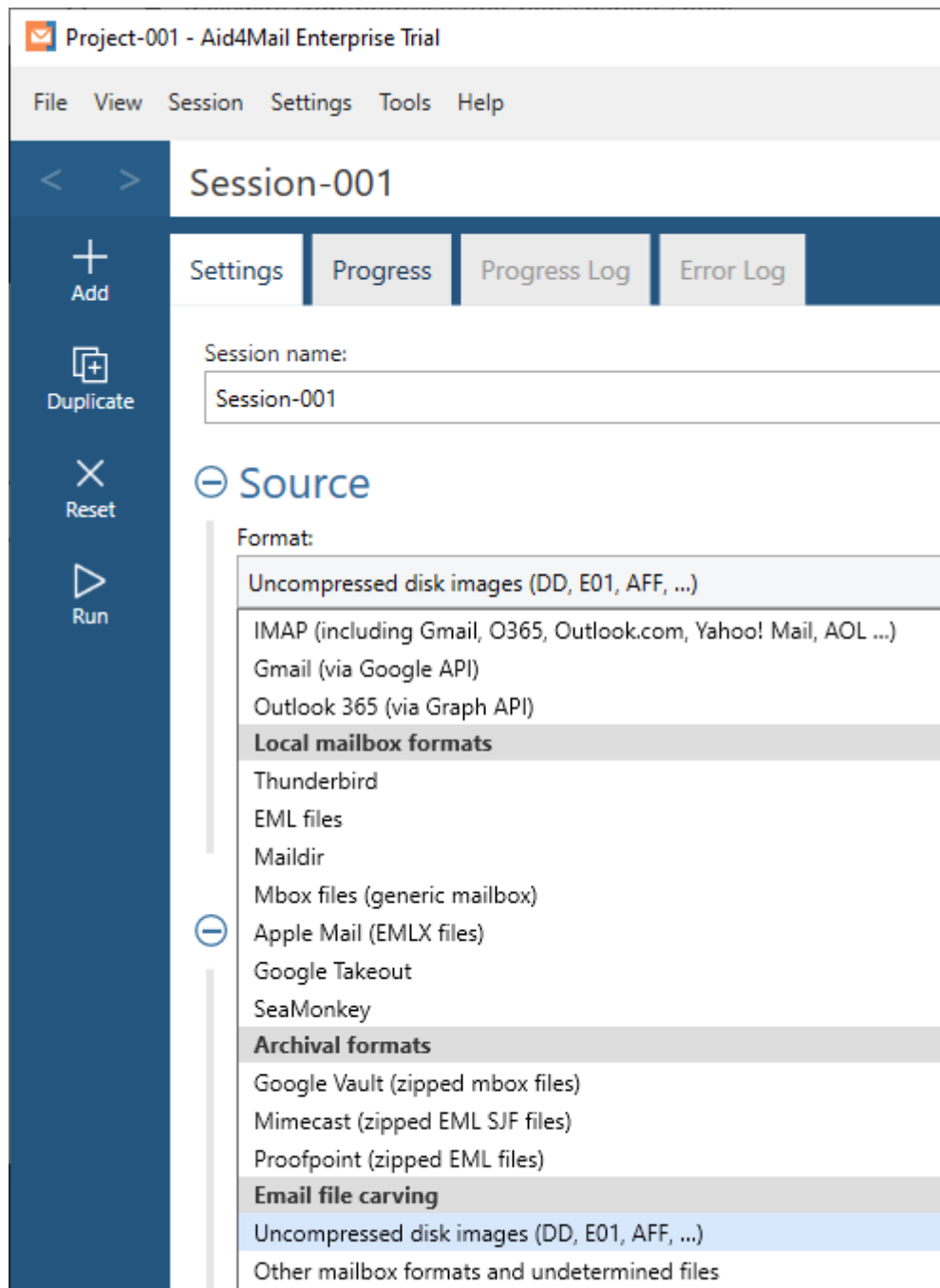
Aid4Mail's file carving feature extracts emails or partial emails that are in native MIME format, found in any type of file. It does not require knowledge of the file's format or structure, or the presence of a Master File Table (MFT) or data placement markers.

For example, Aid4Mail can carve from uncompressed disk images or from forensically-extracted disk space. These can include [double-deleted files](#), [slack space](#) and [unallocated space](#). Disk images in Linux disk dump (DD) and Encase® (E01) formats are supported, as is the Advanced Forensic Format (AFF).

Aid4Mail can also carve from corrupted mailboxes, or mail formats that it doesn't officially [support](#) like FoxMail, Incredimail, Juno, Pegasus, The Bat! and Outlook Express 4 mailboxes.

### Source format options

To use Aid4Mail's file carving feature, select one of the options under the *Email file carving* heading in the source [Format](#) field:



*Select one of the options under Email file carving in the source Format field*

The options are:

- *Uncompressed disk images (DD, E01, AFF...)*

Select this option if your file is an uncompressed disk image or forensically-extracted disk space. Processing will be slower because Aid4Mail will search for partial email remnants as well as complete messages. They may be found in visible files or in [unallocated](#) or [slack space](#).

- *Other mailbox formats and undetermined files*

This option is for files that contain full emails as opposed to partial remnants and therefore processing will be faster. Use it to carve from a corrupt mailbox or a format that's not officially [supported](#), for example.

## Limitations

Aid4Mail cannot carve out emails that are:

- Compressed.
- Encrypted.
- Not stored in the MIME format (for example in Eudora and Outlook Express 5 mailboxes).
- Split into parts that are not stored contiguously and sequentially.

Note that, although emails in PST, OST and OLM files are not stored in the MIME format, these files can still be processed by Aid4Mail by selecting the appropriate option in the source [Format](#) field.

## Optimization

File carving is a slow and processor-intensive task. The following approaches can help improve efficiency:

1. Although Aid4Mail can carve MIME emails out of any file, if the file is in one of Aid4Mail's [supported source formats](#) then use that option instead of the file carving feature. Processing will be faster when Aid4Mail knows the file format, and folder names and status information can be determined more easily.
2. Disk image files can be extremely large in size. Rather than carving mail from a whole disk image, consider processing the visible mail files using Aid4Mail's other [supported source formats](#). Limit the use of carving to files containing forensically-extracted [unallocated space](#). However, this approach may miss data remnants residing in the [slack space](#) of the visible files.



### 3.6 Adding header metadata

Aid4Mail faithfully preserves all available metadata in the email header during conversion from one mail format to another. However, sometimes additional source data is available that has no natural place in the target format. For example:

1. Certain [source mail formats](#) include proprietary header fields that may not exist in the [target format](#).
2. [Journaled emails](#) can contain email addresses in their the journal report rather than in the actual email message.
3. Some [target folder structure](#) options do not reflect their source counterparts.

In such cases, Aid4Mail provides additional metadata fields that can be added to the header of a target email by selecting [Add extra metadata to email headers](#) in the *Target settings*.

#### Example scenarios

There are three main scenarios where adding additional metadata to an email message header can be beneficial:

1. To preserve the original content of header fields after conversion to a [target format](#) that does not support those header fields, or that changes them.

An example of this would be converting from Thunderbird to EML. Thunderbird mailboxes use *From* delimiters to separate one email from the next. This is in addition to the regular *From* header fields which can contain different information. EML does not use *From* delimiters so they will be lost after conversion. However, Aid4Mail can preserve them by adding proprietary *X-From* header fields to contain them. This means that the original *From* delimiters are always available for forensic analysis. It also means that if the EML files are subsequently converted back to Thunderbird, even after conversion to other formats in the meantime, the original *From* delimiters can be recreated instead of creating new ones. This will be done automatically if the *X-From* field is detected.

2. To preserve email addresses in a journaled email that are located in the journal report rather in the actual email message. Aid4Mail can add these addresses to *X-Journal-Sender* and *X-Journal-Recipients* fields in the target mail. For more information, please refer to [Processing journaled messages](#).
3. To preserve the email's original folder hierarchy after conversions that change the folder structure.

For example, if a session's target [folder structure](#) is set to *Flat (everything in the same folder)*, the original folder structure will be lost. However Aid4Mail can preserve a copy of the source folder hierarchy in an *X-Folder* header field. This makes it available for forensic analysis. It also means that the original folder structure can be subsequently recreated, even after multiple conversions, by selecting *Use X-Folder metadata* as the target [folder structure](#) option.

## List of additional header fields

Aid4Mail can add the following header fields to target emails when [Add extra metadata to email headers](#) is selected in the *Target settings*. The exact combination of header fields added depends on the [source mail format](#) and the content of the source email header.

### All source formats

- *X-Folder*

Proprietary header field containing the email's source folder hierarchy.

- *Status* and *X-Status*

Standard [MIME](#) headers that contain one or more status flags (described below). These headers are rarely used, having been replaced by proprietary fields added by email clients. However, when the proprietary fields are not present and this option is *on*, Aid4Mail will add status information gleaned from index files or folder locations to these two fields.

Flag options for the *Status* header:

- R = Read
- O = Old
- U = Unread
- No value = New

Flag options for the *X-Status* header:

- A = Replied
- D = Deleted
- F = Flagged
- W = Forwarded
- No value = None of the above

Example: The following header flags signify an email that has been read, is old and has been replied to and deleted.

```
Status: RO
X-Status: AD
```

**Source formats that use *From* delimiters to separate emails**

- *X-From*

Proprietary header field containing the *From* delimiter for this email.

**Outlook/Exchange as source format**

- *X-MAPI-Categories*

Represents the proprietary [MAPI](#) field *PidNameKeywords* and contains any

Outlook/Exchange categories assigned to the email. For example:

X-MAPI-Categories: Transferred to SharePoint; Important Mail; Teams Mail;  
For Later; Not Important

- *X-PR-CREATION-TIME*

Represents the proprietary [MAPI](#) field *PR\_CREATION\_TIME*

- *X-PR-ENTRYID* (only when [Process using Outlook](#) is selected)

Represents the proprietary [MAPI](#) field *PR\_ENTRYID*

- *X-PR-ICON-INDEX*

Represents the proprietary [MAPI](#) field *PR\_ICON\_INDEX*

- *X-PR-MESSAGE-FLAGS*

Represents the proprietary [MAPI](#) field *PR-MESSAGE-FLAGS*

- *X-PR-FLAG-STATUS*

Represents the proprietary [MAPI](#) field *PR\_FLAG\_STATUS*

- *X-PR-MSG-STATUS*

Represents the proprietary [MAPI](#) field *PR\_MSG\_STATUS*

- *X-PR-LAST-MODIFICATION-TIME*

Represents the proprietary [MAPI](#) field *PR\_LAST\_MODIFICATION\_TIME*

- *X-PR-MESSAGE-CLASS*

Represents the proprietary [MAPI](#) field *PR\_MESSAGE\_CLASS*

- *X-PR-STORE-ENTRYID* (only when [Process using Outlook](#) is selected)

Represents the proprietary [MAPI](#) field *PR\_STORE\_ENTRYID*

**IMAP as source format**

- *X-Email-UID*

A unique ID that combines two proprietary [IMAP](#) fields: The email *UID* and the folder *UID*, separated by a period.

- *X-IMAP-Flags*

Represents the proprietary [IMAP](#) *FLAGS* field which consists of both standard IMAP flags and any proprietary flags specific to the IMAP server. Standard flags are prefixed with a backslash character (\) and proprietary flags with a dollar symbol (\$). All flags are separated by a space. For example:

```
\Answered \Flagged \Seen $Forwarded $Junk
```

- *X-Date-Stored*

Represents the proprietary [IMAP](#) field *INTERNALDATE*.

**Journalled emails**

- *X-Journal-Sender*

Sender email address from the journal report that doesn't appear in the actual email message.

- *X-Journal-Recipients*

Recipient email addresses in the journal report that don't appear in the actual email message.



## 3.7 Bates numbering

### Definition

Bates numbering is a system of unique identification used for documents in the forensic, legal, business and medical fields. Although there is no standard for Bates numbering, it usually consists of a combination of text and sequential numbering, sometimes with the addition of a time stamp, to create a unique ID for each item.

Aid4Mail implements Bates numbering by providing a [Bates number](#) and a formatted [Bates stamp](#).

### Bates number

Aid4Mail's Bates number is a sequential counter that is automatically incremented by 1 for every item processed. In [Aid4Mail Enterprise](#) and [Investigator](#), you can set the Bates number's [start value](#) in the [Bates section of the project settings](#) and its [scope](#) in the [General section of the App settings screen](#). In [Aid4Mail Converter](#), default values are used.

When the scope is *Global*, the Bates number increments across all sessions and projects. With a *Project* scope, it will be set to 1 at the start of each new project but will increment across all sessions in the project. Using a *Session* scope, the Bates number will be set to 1 for each new session which allows for [concurrent processing](#).

The Bates number can be accessed through the [{BatesNumber}](#) token for use in [templates](#). It can be combined with text and/or other [template tokens](#) that represent properties of the email message being processed, the current session and project, the case it's part of, and the computer system running Aid4Mail. The unique ID created can then be used in file or folder names or inserted directly into an email.

The Bates number can also be accessed through the [flt BatesNumber](#) and [mod BatesNumber](#) variables for use in [Python scripts](#). In addition, the [mod BatesNumber](#) variable allows for modifications to its value.

### Bates stamp

The Bates stamp is a formatted version of the Bates number with a fixed [number of digits](#) and an optional [prefix](#) and/or [suffix](#). This allows for standardization as the stamp is always the same length. The prefix and suffix can contain text, other [template tokens](#) or both, providing lots of flexibility.

In [Aid4Mail Enterprise](#) and [Investigator](#), you can configure the Bates stamp in the [Bates section of the project settings](#). In [Aid4Mail Converter](#), default values are used.

The Bates stamp can be accessed through the [{BatesStamp}](#) token for use in [templates](#) and can be further combined with text and/or other [template tokens](#) if necessary. As with the [Bates number](#), it can be used in file or folder names or inserted directly into an email.

The Bates stamp can also be accessed through the [flt BatesStamp](#) and [mod BatesStamp](#) variables for use in [Python scripts](#). In addition, the [mod BatesStamp](#) variable allows for modifications to its value.

## Example 1

A simple [Bates stamp](#), with project-level [scope](#) and *JohnDoe-* as a prefix, would produce the following naming scheme:

*JohnDoe-00000001.eml*  
*JohnDoe-00000002.eml*  
*JohnDoe-00000003.eml*  
*JohnDoe-00000004.eml*  
*etc.*

## Example 2

John Doe's mail is spread across a Gmail account, an Outlook PST file, and several mbox archives. You set up three sessions to convert it all to EML and [name](#) them *JohnDoe-Gmail*, *JohnDoe-PST* and *JohnDoe-Mbox*. Using a [Bates stamp](#) with session-level [scope](#), and *{SessionName}-* as a prefix (the [{SessionName}](#) token followed by a hyphen), the following files would be created:

*JohnDoe-Gmail-00000001.eml*  
*JohnDoe-Gmail-00000002.eml*  
*JohnDoe-Gmail-00000003.eml*  
*etc.*

*JohnDoe-PST-00000001.eml*  
*JohnDoe-PST-00000002.eml*  
*JohnDoe-PST-00000003.eml*  
*etc.*

*JohnDoe-Mbox-00000001.eml*  
*JohnDoe-Mbox-00000002.eml*  
*JohnDoe-Mbox-00000003.eml*  
*etc.*

## 3.8 Multiple sessions

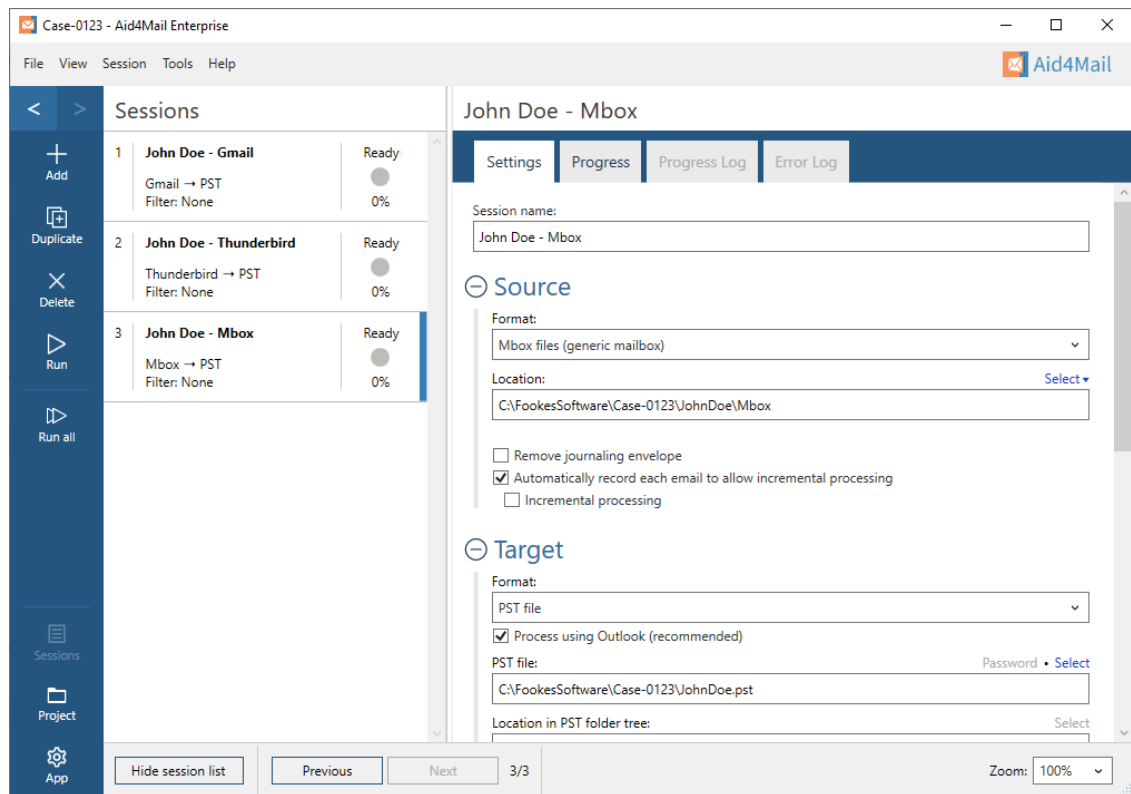
### What is a session?

A *session* can be thought of as an independent instance of the Aid4Mail processing engine. Aid4Mail allows you to work with one session at a time or with multiple sessions, enabling you to set up a whole project of related email processing tasks.

### Setting up multiple sessions

To set up multiple sessions, first open the [session list](#) by selecting [View > Show/Hide session list](#) from the menu or [Show/Hide session list](#) in the task bar. Once the session list is open, you will notice additional items on the [button bar](#) and in the [session menu](#). These allow you to [add](#) a new session, [duplicate](#) an existing one, [delete](#) or [reset](#) it and [move](#) sessions around.

The following screenshot shows a project with three sessions. It is an implementation of [Example 1](#) in the [example scenarios](#) below:



*Project with three sessions to implement Example 1*

## Running multiple sessions

All [Aid4Mail editions](#) allow you to set up multiple sessions and to [run](#), [pause](#) and [stop](#) the currently selected session.

[Aid4Mail Converter](#) can only run one session at a time. You can still set up multiple sessions but the next session can only be run once the current one has finished processing. If you have multiple sessions set up, you will need to continually return to the computer to manage them one at a time.

[Aid4Mail Enterprise](#) and [Investigator](#) can run single sessions like Aid4Mail Converter. In addition, they can [run all](#) the sessions in the list, either [consecutively or concurrently](#), and [pause all](#) and [stop all](#). Any sessions not yet running will be placed in a queue and automatically run when it's their turn. There's no need to return to the computer to manage each session. Aid4Mail does it for you, unattended, whether it takes hours, days or weeks to complete.

## Why run multiple sessions?

There are two major time-saving benefits from running multiple sessions:

1. Set up your whole project in advance and then let it run in your absence while you're doing something else. Whether you're a forensics professional processing multiple mail sources belonging to the same suspect, or an IT technician migrating thousands of employee accounts to a new mail system, this can be a huge time saver.
2. Mail is processed significantly faster when multiple engines can work on it at the same time. Each session runs independently, on a separate thread, maximizing your computer's resources. This is optimized even further when Aid4Mail is running on a multi-core or multi-processor system.

## Processing order

When running multiple sessions, they are processed in the order they appear in the [session list](#). The list can be [rearranged](#) as required before you select [Run all](#).

## Consecutive vs Concurrent processing

In [Aid4Mail Enterprise](#) and [Investigator](#), you can set the [maximum number of sessions that can be run concurrently](#). When set to 1, the sessions will be processed consecutively. When set to a value greater than 1, then up to that number of sessions will be processed simultaneously at any given time.

### Consecutive processing

Consecutive processing is useful if you want to use the target mail of one session as the source of another. It's also necessary when your [Bates numbering scope](#) is set to *Project* or *Global*.

With consecutive processing, the first session is run and the others are placed in a queue. Once a session finishes processing, the next one will automatically be run. This continues, one session after the other, until there are no sessions left in the queue. The whole process is automated and there is no need to intervene, even for large projects.

### Concurrent processing

Concurrent processing is useful in larger projects where having multiple Aid4Mail engines working together can significantly reduce the project's duration.

With concurrent processing, multiple sessions run simultaneously. Each runs in its own thread, making optimal use of the computer's resources. Remaining sessions are placed in a queue. When a session finishes processing, the next one will automatically be run by the available thread until all sessions are complete. Again, no need for user intervention.

For example, say you have set the [maximum number of sessions running concurrently](#) to 5 and have set up 10 sessions. When you select [Run all](#), the first 5 sessions in the [list](#) will start processing at the same time. When one of them finishes, session 6 will start automatically. When the next one finishes, session 7 will launch. This will continue, with 5 sessions processing simultaneously at any given moment, until all 10 sessions have been completed.

### How many sessions can be processed concurrently?

In theory, as many as you want. However, in reality, it depends on the capabilities of the computer running Aid4Mail. Generally, the default value for the [maximum number of sessions running concurrently](#) works well for most modern computers. If you have an older system, you can reduce the number. If you have a powerful one with multiple cores, you could consider increasing it. Note that this does not limit how many sessions you can set up, just how many will run at the same time.

### Sharing source and target mail across multiple sessions

Source mail files or accounts can be shared by any number of sessions because they are not altered or locked by Aid4Mail.

In many cases, target files can also be shared by multiple sessions although it depends on the format:

- Target PST files, [IMAP](#) and Gmail accounts can be shared by multiple sessions.
- Target EML and MSG folders can be shared as long as the files being created in these folders are not shared.
- Target Mbox, Thunderbird, EML and MSG files cannot be shared across sessions.

## Example multi-session scenarios

### Example 1

A forensic examiner may use multiple sessions to process different mail sources belonging to a suspect and compile the results in a single PST file. The first session might use the suspect's online Gmail account as source, the second may be mail from their Thunderbird application that does not exist on the server, and the third session source might be an mbox file containing [archived mail](#) found on the suspect's computer. All three sessions would use the same target PST file to compile the results together.

### Example 2

An IT technician may want to use multiple sessions to migrate all of the company employees from one [live mail system](#) to another. The first session may have John's Gmail account as source and his new Microsoft 365 account as target. The second session would do the same for Sally's mail accounts, the third session for Leroy's, and so on for all employees.

### Example 3

An archiving project may involve separating one huge file, containing all company mail and obtained by exporting from an old archival system, into multiple individual [archives](#), one for each employee. All sessions would have the same source mbox file but use a specific filter and target PST file for each employee. The filter would ensure that only mail sent to or from that employee ends up in their archive. UPDATE: This can now be done even more simply using the [{EmailAccount}](#) token in a [filename template](#).

### Example 4

An eDiscovery analyst may use multiple sessions to categorize an individual's mail. The same mail source would be used by all sessions. The target format may be a single PST file, also shared by all sessions, with each session using a unique filter to separate mail into different folders inside the PST file.



### 3.8.1 Duplicating sessions

#### Creating a single duplicate session

When [multiple sessions are enabled](#), you can use the [Session > Duplicate](#) menu command or the [Duplicate](#) button to create a duplicate of the currently selected session. The new session will be created directly below the session it's duplicating in the [session list](#) and will become the selected session.

With the exception of the [session name](#), both sessions will contain identical settings including any that are blank. You can subsequently edit their settings independently as the two sessions are not linked in any way. However, any source or target mail specified before duplication will be [shared](#) by both sessions unless subsequently edited. The exception to this is when wildcards are used, as explained next.

#### Creating multiple duplicate sessions

Certain projects require [multiple sessions](#) to be set up with almost identical settings. For example, an archival project that saves multiple employee accounts to separate PST files. Its sessions may all have the same settings except for the source and target file locations.

This can be accomplished in more than one way. For very large-scale projects, with hundreds or thousands of sessions, using [Aid4Mail Enterprise's command-line interface](#) may be appropriate. For smaller projects, Aid4Mail allows you to create multiple duplicate sessions using wildcards.

#### Duplicating sessions using wildcards

With certain source formats, you can use the asterisk (\*) or question mark (?) wildcards in a filename or folder name when duplicating a session. The asterisk matches one or more characters and the question mark matches a single character (just like in Windows file dialogs).

Aid4Mail knows whether it's a filename or a folder name based on the presence or absence of a period (.) character. For example, \*.pst and Export-\*.pst are both interpreted as filenames whereas Export-\* will be seen as a folder name.

When you duplicate a session that uses wildcards in this manner, Aid4Mail will replace the file/folder name in this session with the full name of the first file/folder that matches the pattern. It will then create new, duplicate sessions for every remaining file/folder that matches the pattern. This is demonstrated in the [examples](#) below.

**Wildcards in a source filename**

Wildcards can be used in a source filename when duplicating a session with one of the following [source formats](#):

- Google Vault
- Mimecast
- Proofpoint
- PST
- OST
- OLM
- mbox (but only when the *Ctrl* key is used, as explained [below](#))

**Wildcards in a source mbox filename**

Unlike the other source formats listed above, Aid4Mail can process multiple mbox files in a single Aid4Mail session when a wildcard is used in the filename. This makes duplication ambiguous. Is the intention to create:

1. A single duplicate of a session whose source filename includes wildcards?
- or
2. Multiple duplicate sessions by pattern-matching the source filename as with the other formats listed above?

To avoid this ambiguity, Aid4Mail assumes the first scenario unless you hold down the *Ctrl* key when using the [Session > Duplicate](#) menu command or the [Duplicate](#) button.

**Wildcards in a source folder name**

Wildcards can be used in a source folder name when duplicating a session with one of the following [source formats](#):

- EML
- Google Takeout
- Maildir
- mbox
- Mimecast
- Msg
- Proofpoint
- SeaMonkey
- Thunderbird

**Asterisk wildcard in a target file/folder name**

When a wildcard is used in a source file/folder name, an asterisk wildcard can also be placed in the target file/folder name. This acts as a placeholder for the corresponding source name. After duplication, the newly created sessions will each have a target file/folder name that match its source (but usually with a different file extension, if any). The three [examples](#), below, clarify this process.

**Asterisk wildcard in a session name**

Similarly, an asterisk wildcard can be placed in the session name, acting as a placeholder for the corresponding source file/folder name. [Example 1](#) and [Example 3](#), below, demonstrate this.

**Examples**

The following three examples demonstrate the use of wildcards when duplicating sessions:

- [Example 1](#)
- [Example 2](#)
- [Example 3](#)

### 3.8.1.1 Duplicating sessions: Example 1

In this example, four employee's PST files need to be converted to EML. This requires four sessions because Aid4Mail can only process one PST file at a time.

The following folder contains the four PST files:

*C:\Employee PST\*

The files inside are:

*Leroy.pst*

*Sally.pst*

*Mike.pst*

*Judy.pst*

Select *PST* as your [source format](#) and enter the following location in the source [PST file](#) field:

*C:\Employee PST\\*.pst*

Select *EML* as your [target format](#) and enter the following in the target [Location](#) field:

*C:\Employee EML\\**

Aid4Mail knows this is a folder name and not a file name because of the absence of a period (.) in the name.

Enter the following in the [Session name](#) field:

*Session-\**

Next, configure any other settings that need to be identical across all four sessions.

Finally, select the [Session > Duplicate](#) menu command or the [Duplicate](#) button. Aid4Mail will replace the filename pattern in this session with the name of the first PST file. It will then create three new, duplicate sessions: one for each of the remaining three PST files that match the pattern.

The source [PST file](#) fields for the four sessions will be:

*C:\Employee PST\Leroy.pst*

*C:\Employee PST\Sally.pst*

*C:\Employee PST\Mike.pst*

*C:\Employee PST\Judy.pst*

The target [Location](#) fields for the four sessions will contain folder names that match the source PST filenames:

```
C:\Employee EML\Leroy  
C:\Employee EML\Sally  
C:\Employee EML\Mike  
C:\Employee EML\Judy
```

The [Session name](#) fields for the four sessions will also contain the text that matches the wildcard:

```
Session-Leroy  
Session-Sally  
Session-Mike  
Session-Judy
```

You can then [run all](#) the sessions if you have [Aid4Mail Enterprise](#) or [Investigator](#), or [run them one by one](#) if you have [Aid4Mail Converter](#).

### 3.8.1.2 Duplicating sessions: Example 2

In this example, Mimecast has delivered four archives on an external hard drive. They are already organized by account and have been copied over to the computer running Aid4Mail. Each account needs to be converted to PST which requires four Aid4Mail sessions. Note that Mimecast is only available as a source format when you're running [Aid4Mail Enterprise](#).

The following folder contains the four Mimecast archives:

```
C:\Mimecast archives\
```

The files inside are:

```
leroy@aid4mail.com_20121201_20121231_US334-13.000001.zip  
sally@aid4mail.com_20121201_20121231_US334-13.000001.zip  
mike@aid4mail.com_20121201_20121231_US334-13.000001.zip  
judy@aid4mail.com_20121201_20121231_US334-13.000001.zip
```

Select *Mimecast* as your [source format](#) and enter the following in the source [Location](#) field:

```
C:\Mimecast archives\*.zip
```

Select *PST* as your [target format](#) and enter the following in the target [PST file](#) field:

```
C:\PST archives\*.pst
```

Next, configure any other settings that need to be identical across all four sessions.

Finally, select the [Session > Duplicate](#) menu command or the [Duplicate](#) button. Aid4Mail will replace the filename pattern in this session with the name of the first Mimecast archive. It will then create three new, duplicate sessions: one for each of the remaining three archives that match the pattern.

The source [Location](#) fields for the four sessions will be:

```
C:\Mimecast archives\leroy@aid4mail.com_20121201_20121231_US334-13.000001.zip  
C:\Mimecast archives\sally@aid4mail.com_20121201_20121231_US334-13.000001.zip  
C:\Mimecast archives\mike@aid4mail.com_20121201_20121231_US334-13.000001.zip  
C:\Mimecast archives\judy@aid4mail.com_20121201_20121231_US334-13.000001.zip
```

The target [PST file](#) fields for the four sessions will contain PST filenames that match the Mimecast source names:

```
C:\PST archives\leroy@aid4mail.com_20121201_20121231_US334-13.000001.pst  
C:\PST archives\sally@aid4mail.com_20121201_20121231_US334-13.000001.pst
```

```
C:\PST archives\mike@aid4mail.com_20121201_20121231_US334-13.000001.pst  
C:\PST archives\judy@aid4mail.com_20121201_20121231_US334-13.000001.pst
```

You can then [run all](#) the sessions.

### 3.8.1.3 Duplicating sessions: Example 3

In this example, four employee's EML folders need to be converted to Mbox archives. This could be done simply using a single session because Aid4Mail can create a separate Mbox file for each EML folder it encounters. However, using [multiple sessions that are running concurrently](#) can significantly speed things up.

The following folder contains the four EML folders:

```
C:\Employee EML\
```

The folders inside are:

```
leroy@aid4mail.com  
sally@aid4mail.com  
mike@aid4mail.com  
judy@aid4mail.com
```

Select *EML* as your [source format](#) and enter the following location in the source [Location](#) field:

```
C:\Employee EML\*
```

Aid4Mail knows this is a folder name and not a file name because of the absence of a period (.) in the name.

Select *mbox* as your [target format](#) and enter the following in the target [Location](#) field:

```
C:\Employee Mbox\*.mbox
```

In the [Session name](#) field, simply enter an asterisk (\*).

Next, configure any other settings that need to be identical across all four sessions.

Finally, select the [Session > Duplicate](#) menu command or the [Duplicate](#) button. Aid4Mail will replace the folder name pattern in this session with the name of the first EML folder. It will then create three new, duplicate sessions: one for each of the remaining three EML folders that match the pattern.

The source [Location](#) fields for the four sessions will be:

```
C:\Employee EML\leroy@aid4mail.com  
C:\Employee EML\sally@aid4mail.com  
C:\Employee EML\mike@aid4mail.com  
C:\Employee EML\judy@aid4mail.com
```



The target [Location](#) fields for the four sessions will contain Mbox filenames that match the EML source folders:

```
C:\Employee Mbox\leroy@aid4mail.com.mbox  
C:\Employee Mbox\sally@aid4mail.com.mbox  
C:\Employee Mbox\mike@aid4mail.com.mbox  
C:\Employee Mbox\judy@aid4mail.com.mbox
```

The [Session name](#) fields for the four sessions will also reflect the folder names:

```
leroy@aid4mail.com  
sally@aid4mail.com  
mike@aid4mail.com  
judy@aid4mail.com
```

You can then [run all](#) the sessions if you have [Aid4Mail Enterprise](#) or [Investigator](#), or [run them one by one](#) if you have [Aid4Mail Converter](#).

### 3.9 Templates

Templates can be used in Aid4Mail in different 3 ways:

1. To specify the [folder structure](#) of your target mail. This is useful for merging or splitting folders, or for grouping emails based on specific characteristics like the email account, date or status .
2. To customize [filenames](#) when your chosen [target mail](#) format uses individual files for each email message (*MSG, EML, Plain text, HTML, PDF* or *XML*).
3. To define the content of the HTML index file created when your [target mail](#) is *HTML* and the [Create HTML index file](#) option is turned *on*.

When a template is used, it is applied to every email processed in a [session](#).

Templates are easy to create using a simple syntax that combines text with [tokens](#) that represent properties of the email being processed and the Aid4Mail [session](#) and [project](#) that's processing it. Text can also be used [inside tokens](#) to provide increased control of the output or, in some cases, to [refine](#) or [format](#) it.

In this section:

- [Folder structure templates](#)
- [Filename templates](#)
- [Combining templates](#)
- [Template tokens](#)
- [Text inside template tokens](#)
  - [Refining the {EmailAccount} token](#)
  - [Formatting date tokens](#)

### 3.9.1 Folder structure templates

You can customize the [folder structure](#) of your target mail using a template. Aid4Mail will place each target email into the appropriate folder within the structure.

#### Setting up a folder structure template

Enter your template in the [Folder structure template](#) field, located under [Target](#) on Aid4Mail's [Settings screen](#). This field is only available once you've selected *Use a template* in the [Folder structure](#) field.

You can use the Insert button above the [Folder structure template](#) field to insert [template tokens](#).



The screenshot shows a settings panel with a vertical grey bar on the left. The first section is labeled 'Folder structure:' and contains a dropdown menu with 'Use a template' selected. The second section is labeled 'Folder structure template:' and contains a text input field with the placeholder text 'Please complete this field'. To the right of the text input field is a blue 'Insert' button.

#### Understanding folder structure templates

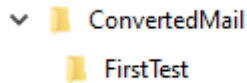
A folder structure template consists of the names of each level of the folder structure, separated by backslash characters (\).

##### Example 1

The following, very basic, folder structure template illustrates the concept:

```
ConvertedMail\FirstTest
```

It tells Aid4Mail to create a simple target folder structure with the top level named *ConvertedMail* and the next level named *FirstTest*:



### Using tokens

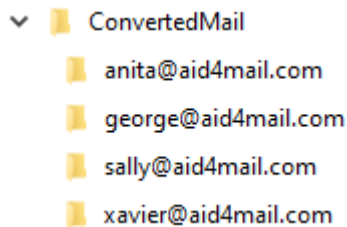
Usually you will want at least part of the folder structure to be dependent on some property of the email, or of the session or project. [Template tokens](#) enable you to do this.

### Example 2

In the following template, the second level of the folder structure is the email address of the message sender. It uses the [{SenderAddress}](#) token to do this:

```
ConvertedMail\{SenderAddress}
```

The resulting folder structure would still have *ConvertedMail* as the top level but there are multiple second level folders, one for each sender address. Aid4Mail will ensure that emails from each address are placed in the correct folder.








### Example 3

Some tokens represent properties that are independent of the email being processed. For example, [{CurrentDate}](#) represents the current system date. It might be used like this:

```
ConvertedMail-{CurrentDate:yyyy-mm-dd}\{SenderAddress}
```

This template will name the top level folder *ConvertedMail*- followed by the current date, formatted to show only the year, month and day (see [Formatting date tokens](#) for details of how to do this). It doesn't include the time because that would be different for every email. The second level of the folder structure will be named after each different sender address as before:

- ▼  ConvertedMail-2020-06-30
  -  anita@aid4mail.com
  -  george@aid4mail.com
  -  sally@aid4mail.com
  -  xavier@aid4mail.com

See the [Template tokens](#) topic for a full list of tokens that can be used in Aid4Mail templates. Note that [certain characters are illegal in operating systems](#) and should be avoided in folder and filename templates.

### 3.9.2 File name templates

If your selected target [target format](#) consists of individual files (*MSG*, *EML*, *Plain text*, *HTML*, *PDF* or *XML*), you can customize the target filenames using a template.

#### How to set up a filename template

Enter your template in the [File name template](#) field, located under [Target](#) on Aid4Mail's [Settings screen](#). This field is only available once you've selected *Use a template* in the [File name](#) field:

You can use the Insert button above the [File name template](#) field to insert [template tokens](#).



The screenshot shows a user interface for setting a filename template. It consists of two main sections. The top section is labeled 'File name:' and contains a dropdown menu with the option 'Use a template' selected. The bottom section is labeled 'File name template:' and contains a text input field with the placeholder text 'Please complete this field'. To the right of the input field is a blue 'Insert' button.

#### Understanding filename templates

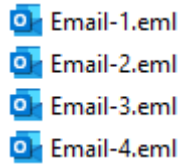
A filename template usually consists of some text and a [token](#).

##### Example 1

This simple example uses the [{BatesNumber}](#) token:

```
Email-{BatesNumber}
```

It would create the filenames *Email-1*, *Email-2*, *Email-3*, etc. as the counter is incremented for each email processed. You don't have to specify a file extension as it will be added automatically based on your chosen [target format](#), as shown below.



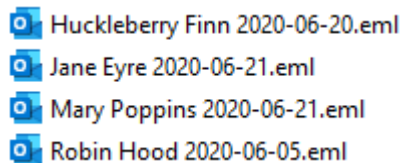
This concept is explored further in the [Bates numbering](#) topic.

## Example 2

The following template uses the [{SenderName}](#) and [{LocalMessageDate}](#) tokens to create filenames based on the name of the message sender along with the message date in local time. The date is formatted to display the year, month and day (see [Formatting date tokens](#) for details of how to do this):

```
{SenderName} {LocalMessageDate:yyyy-mm-dd}
```

It would produce filenames such as these:



The [Template tokens](#) topic contains a full list of tokens that can be used in Aid4Mail templates. Note that [certain characters are illegal in operating systems](#) and should be avoided in folder and filename templates.

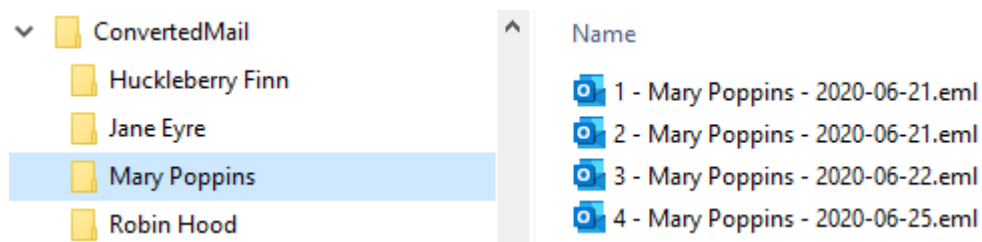
### 3.9.3 Combining templates

Using templates for both your folder structure and filenames can help organize your converted mail. For example:

Folder structure template: `ConvertedMail\{SenderName}`

Filename template: `{BatesCounter} - {SenderName} - {LocalMessageDate:yyyy-mm-dd}`

These would produce the following folder structure and filenames:



See the [Template tokens](#) topic for a full list of tokens that can be used in Aid4Mail templates. Note that [certain characters are illegal in operating systems](#) and should be avoided in folder and filename templates.



### 3.9.4 Template tokens

#### What are template tokens?

Template tokens are placeholders for variable content that's used in Aid4Mail [templates](#). They can represent properties of the email message being processed, the current session and project, the case it's part of and the computer system running Aid4Mail. Tokens also provide access to the [Bates number](#) and [Bates stamp](#).

All the tokens available for use in Aid4Mail templates are listed [below](#).

#### Using template tokens

Tokens can be combined with text to create templates as shown in the examples in the [Folder structure templates](#), [Filename templates](#) and [Combining templates](#) topics.

Text can also be placed inside tokens. The advantage of this approach is that, when the token is empty, the additional text is not displayed. See the [Texts inside template tokens](#) topic for details.

Text inside the [{EmailAccount}](#) token, and in most [date tokens](#), is treated differently. In the `{EmailAccount}` token, it allows you to limit the list of account email addresses. In date tokens, except [{RawMessageDate}](#), it allows you to format the date. Please refer to the [Refining the {EmailAccount} token](#) and [Formatting date tokens](#) topics for details.

#### List of template tokens

All the tokens available for use in Aid4Mail templates are listed below, grouped in the following categories.

- [Bates tokens](#)
- [Case tokens](#)
- [Date tokens](#)
- [Email tokens](#)
- [File tokens](#)
- [Flag tokens](#)
- [Folder tokens](#)
- [Hash tokens](#)
- [Page tokens](#)
- [Project tokens](#)
- [Session tokens](#)

**Bates tokens**

Token	Value
{BatesNumber}	A whole number starting at 1 and incremented for each email message (or non-email item) processed. Please refer to the <a href="#">Bates numbering</a> topic for more information.
{BatesStamp}	A <a href="#">Bates stamp</a> comprising the {BatesNumber}, formatted to a specific number of digits, along with an optional prefix and suffix.

**Case tokens**

Token	Value
{CaseName}	Case name as specified in the <a href="#">project settings</a> .
{CaseID}	Case ID as specified in the <a href="#">project settings</a> .
{EvidenceID}	Evidence ID as specified in the <a href="#">project settings</a> .
{CaseDate}	Case date as specified in the <a href="#">project settings</a> .
{CaseLocation}	Case location as specified in the <a href="#">project settings</a> .
{CustodianName}	Custodian name as specified in the <a href="#">project settings</a> .
{CustodianInitials}	Custodian initials as specified in the <a href="#">project settings</a> .
{InvestigatorName}	Investigator name as specified in the <a href="#">project settings</a> .
{LabID}	Lab ID as specified in the <a href="#">project settings</a> .

**Date tokens**

With the exception of {RawMessageDate}, date tokens are formatted to the [International Date Format](#) by default. However, colon characters (:) that separate the hours, minutes and seconds are replaced with hyphens (-). This is because colons are [illegal characters](#) in Windows folder and filenames. You can customize formatted dates. Please refer to the [Formatting date tokens](#) topic for details.

Token	Value
{RawMessageDate}	Message <i>Date</i> field from the header of the email message currently being processed. It is not formatted and appears exactly as in the email header. Its layout depends on the <a href="#">source mail format</a> being

Token	Value
	<p>processed but typically looks something like this: <i>Thu, 27 Jun 2013 21:08:12 +0300</i>.</p> <p>This raw date cannot be formatted like other date tokens. However, you can still add <a href="#">text inside the token</a>. It's primary use is in the <i>items.html</i> template that defines the index created when <i>HTML</i> is the target format and the <a href="#">Create HTML index file</a> option is turned on.</p>
{LocalMessageDate}	The date in <a href="#">{RawMessageDate}</a> converted to the local time zone of the host computer and <a href="#">formatted</a> .
{UtcMessageDate}	The <a href="#">{RawMessageDate}</a> converted to <a href="#">Coordinated Universal Time (UTC)</a> and <a href="#">formatted</a> .
{CurrentDate}	Current system date of the computer running Aid4Mail, <a href="#">formatted</a> .
{SessionRunDate}	System date of the computer running Aid4Mail at the time the session was run, <a href="#">formatted</a> .

## Email tokens

Token	Value
{EmailAccount}	<p>Only available in <a href="#">Aid4Mail Enterprise</a> and <a href="#">Investigator</a>.</p> <p>Behavior of this token depends on whether <a href="#">{EmailAccount} strict behavior</a>, on the <i>Filters</i> section of the <i>App settings</i> screen, is turned on or off.</p> <p>When <i>Strict behavior</i> is <i>off</i>, it matches any email address found in the <i>From</i>, <i>To</i>, <i>Cc</i> or <i>Bcc</i> fields of the email header.</p> <p>When <i>Strict behavior</i> is <i>on</i>, a match only occurs if, in addition, the email address is the <a href="#">owner</a> of the email or the owner cannot be determined.</p> <p>The <a href="#">Refining the {EmailAccount} token</a> topic details how to customize this token.</p>
{MessageId}	<i>Message-ID</i> field from the email message header.

Token	Value
{EntryId}	<i>PR_ENTRYID</i> property of an email message from a PST or OST file, in Base64 format.
{ReceivedBy}	Email address in the <i>To</i> , <i>Cc</i> or <i>Bcc</i> fields of the email header that is also the <a href="#">owner</a> of the email.
{SenderAddress}	Email address used to send the message.
{SenderName}	Name of the person who sent the email message.
{Subject}	Subject line of the email message.
{Thread}	Value of the <i>Thread-Index</i> or <i>In-Reply-To</i> field from the email message header.

### File tokens

Token	Value
{Filename}	The filename of the source email or mailbox being processed, or blank if there is no filename (for example when processing cloud-based accounts).

### Flag tokens

Token	Value
{HasAttachment}	<i>Attachments</i> if the email message contains one or more attachments, otherwise empty.
{IsDuplicate}	<i>Duplicates</i> if the email message contains one or more <a href="#">duplicates</a> , otherwise empty. Note that the <a href="#">Duplicates detection scope</a> option affects how this token works.
{IsForwarded}	<i>Forwarded</i> if the email message has been forwarded, otherwise empty.
{IsRead}	<i>Read</i> if the email message has been read, otherwise empty.
{IsReplied}	<i>Replied</i> if the email message has been replied to, otherwise empty.
{IsStarred}	<i>Starred</i> if the email message has been starred, otherwise empty.
{IsUnpurged}	<i>Unpurged</i> if the email message is <a href="#">unpurged</a> , otherwise empty.

Token	Value
{IsUnread}	<i>Unread</i> if the email message has been not been read, otherwise empty.
{Origin}	Either <i>Inbound</i> or <i>Outbound</i> , depending on the nature of the message, or empty if this cannot be determined from the folder type or email header flags.
{PrimaryStatus}	Status of the message taken from the email header. If multiple statuses are defined, it is the most important one.

### Folder tokens

Token	Value																		
{FolderId}	ID of the folder that contains the email message.																		
{FolderName}	Name of the folder that contains the email message, i.e. the bottom-most folder in {FolderPath}. For example, if {FolderPath} is <i>Customers\2018\04</i> then {FolderName} is <i>04</i> . If {FolderPath} is empty then so is {FolderName}.																		
{FolderPath}	Full path of the folder that contains the email message, relative to the <a href="#">source location</a> . For example, <i>Customers\2018\04</i> . If the email is directly in the source location folder rather than one of its subfolders then {FolderPath} is empty.																		
{FolderType}	<div>The type of folder that contains the email. If this can be identified then it will be one of the following values:</div> <table><tr><td>inbox</td><td>starred</td><td>journal</td></tr><tr><td>sent</td><td>important</td><td>notes</td></tr><tr><td>drafts</td><td>archive</td><td>tasks</td></tr><tr><td>outbox</td><td>calendar</td><td>chats</td></tr><tr><td>spam</td><td>contacts</td><td>rssfeeds</td></tr><tr><td>trash</td><td></td><td></td></tr></table> <div>If the folder type can't be identified then the token value is blank.</div>	inbox	starred	journal	sent	important	notes	drafts	archive	tasks	outbox	calendar	chats	spam	contacts	rssfeeds	trash		
inbox	starred	journal																	
sent	important	notes																	
drafts	archive	tasks																	
outbox	calendar	chats																	
spam	contacts	rssfeeds																	
trash																			
{TopFolderName}	Name of the top-most folder in {FolderPath}. For example, if {FolderPath} is <i>Customers\2018\04</i> then {FolderTop} is <i>Customers</i> . If {FolderPath} is empty then so is {FolderTop}.																		

**Hash tokens**

Token	Value
{Fnv1a}	64-bit FNV-1a hash code based on the email <i>Message-ID</i> field (or on a combination of other header fields if <i>Message-ID</i> is missing).
{MD5}	MD5 hash code based on the email <i>Message-ID</i> field (or on a combination of other header fields if <i>Message-ID</i> is missing).
{Sha1}	SHA-1 hash code based on the email <i>Message-ID</i> field (or on a combination of other header fields if <i>Message-ID</i> is missing).
{Sha256}	SHA-256 hash code based on the email <i>Message-ID</i> field (or on a combination of other header fields if <i>Message-ID</i> is missing).
{Sha512}	SHA-512 hash code based on the email <i>Message-ID</i> field (or on a combination of other header fields if <i>Message-ID</i> is missing).

**Page tokens**

Token	Value
{PageCount}	The total number of pages in a target document.
{PageNumber}	The current page number in a target document.

**Project tokens**

Token	Value
{ProjectName}	Project name as specified in the <a href="#">project settings</a> .

**Session tokens**

Token	Value
{SessionId}	Unique ID that's automatically generated for the session.
{SessionName}	Session name as specified on the <a href="#">Settings</a> screen.

### 3.9.5 Text inside template tokens

#### The benefit of text inside tokens

Tokens can be combined with text as shown in the examples in the [Folder structure templates](#) and [Filename templates](#) topics. However, text can also be placed within tokens. The advantage of this approach is that, when the token is empty, the additional text is not displayed.

For example, the `{Origin}` token has three possible values. The first is *Inbound*, the second is *Outbound* and the third value is nothing at all (the token is empty). The latter happens when an email cannot be identified as either inbound or outbound. A draft email may fall into this category. However this can be problematic if you're combining the `{Origin}` token with text. For example:

```
{Origin}-Mail
```

If the value of `{Origin}` is *Inbound*, then the above template will produce *Inbound-Mail*. Likewise, if the token's value is *Outbound* then the template will produce *Outbound-Mail*. But if the email is a draft, and `{Origin}` is empty, then the template will produce *-Mail* which is less useful. Placing the additional text inside the token solves this problem:

```
{Origin:-Mail}
```

Text is added inside a token by following the token name with a `:` (colon) and then with the text you want to add. If the token's value is empty then the additional text inside is not added. In our example, the template will now produce either *Inbound-Mail*, *Outbound-Mail* or it will be blank.

#### Placeholders

By default, text inside the token will be appended to the token value. However you can specify the token's position within the text using the `^*` placeholder, like this:

```
{Origin:Jack-^*-Mail}
```

The token value will replace the `^*` placeholder unless it is empty, in which case none of the text will be displayed. So the three possible outcomes of this template would now be: *Jack-Inbound-Mail*, *Jack-Outbound-Mail* or blank.

## Truncating text inside tokens

If you know that a token's value may produce text that's too long, you can truncate it using `^[n]` where `n` is the maximum number of characters allowed. The final character will be an ellipsis (...). This means that `^[10]` will use the first 9 characters of the token's value with the tenth character being an ellipsis. This option is useful when using the `{Subject}` token because email subject lines can often be fairly long. Truncating them makes them shorter, and all the same length, which is useful in filenames.

For example:

```
{Subject:^[30]}
```

If the email subject line was: *Hi from the Jones family on vacation in Greece enjoying sunset at the beach*

The token's value would be: *Hi from the Jones family on v...*

The truncated token value can be placed at any position in additional text, like this:

```
{Subject:Subject - ^[30]}
```

The template would now produce: *Subject - Hi from the Jones family on v...*

## Refining the {EmailAddress} token and formatting date tokens

Text inside the [{EmailAddress}](#) token, and in most [date tokens](#), is treated differently. In the `{EmailAddress}` token, it allows you to limit the list of account email addresses. In date tokens, except [{RawMessageDate}](#), it allows you to format the date. Please refer to the following sub-topics for details:

- [Refining the {EmailAddress} token](#)
- [Formatting date tokens](#)



### 3.9.5.1 Refining the {EmailAddress} token

#### Limiting the email addresses

The [{EmailAddress}](#) token matches email addresses found in the *From*, *To*, *Cc* or *Bcc* fields of the email header. You can limit the addresses that will result in a match by listing them inside the token, after a colon (:). For example, the following token will only match the email address *alice@aid4mail.com*:

```
{EmailAddress:alice@aid4mail.com}
```

Multiple addresses can be separated by the [vertical bar \(|\) operator](#). For example, this token will match both *alice@aid4mail.com* and *trevon@aid4mail.com*:

```
{EmailAddress:alice@aid4mail.com|trevon@aid4mail.com}
```

#### Wildcards

The [\\* wildcard](#) and [? wildcard](#) can also be used in an email address although they will operate slightly differently in this context. They will not be limited to a single word as they are with search terms. This means they will match periods, parentheses or any other characters that would normally delimit a word. The use of these two wildcards in this context is the same as in the [Windows Common File dialog](#) and MS-DOS:

- ? matches a single character.
- \* matches zero or more characters (including word delimiters).

For example, the following token will match any email address in the *aid4mail.com* domain, including those containing word-delimiter characters like *intern.helen@aid4mail.com*:

```
{EmailAddress:*@aid4mail.com}
```

#### Folder structure example

A whole folder structure token using this technique might be:

```
EmployeeAccounts\{EmailAddress:*@aid4mail.com|*@admin.aid4mail.com}
```

The `{EmailAddress}` token in this example would match any email address in the *@aid4mail.com* or *@admin.aid4mail.com* domains and would produce the following folder structure (obviously depending on the actual accounts encountered):

- ▼ EmployeeAccounts
  - alice@aid4mail.com
  - intern.helen@aid4mail.com
  - john@admin.aid4mail.com
  - nia@aid4mail.com
  - tracy@admin.aid4mail.com
  - trevon@aid4mail.com

Notice that each email address that matches the token has its own folder containing the relevant emails. The exact content of each folder is also affected by turning on/off [{EmailAddress} strict behavior](#).

## Adding additional text

You can still add additional text inside the {EmailAddress} token by placing your list of email addresses inside the ^[] placeholder. For example:

```
EmployeeAccounts\{EmailAddress:Employee-^[*@aid4mail.com|
*@admin.aid4mail.com]}
```

This would produce the following folder structure (again, depending on the actual accounts encountered):

- ▼ EmployeeAccounts
  - Employee-alice@aid4mail.com
  - Employee-intern.helen@aid4mail.com
  - Employee-john@admin.aid4mail.com
  - Employee-nia@aid4mail.com
  - Employee-tracy@admin.aid4mail.com
  - Employee-trevon@aid4mail.com

### 3.9.5.2 Formatting date tokens

In general, date tokens work differently to other tokens. The text inside them is primarily used to format the date. This is the case for the following date tokens:

- [{LocalMessageDate}](#)
- [{UtcMessageDate}](#)
- [{CurrentDate}](#)
- [{SessionRunDate}](#)

The exception is [{RawMessageDate}](#). Its content cannot be formatted and so text inside the token is treated the same as with regular tokens (see the [Text inside template tokens](#) topic for details).

## Default date values

The default, and only, value of [{RawMessageDate}](#) is the content of the message *Date* field, exactly as it appears in the email message header and without any additional formatting. Its layout depends on the [source mail format](#) being processed but typically looks something like this: *Thu, 27 Jun 2013 21:08:12 +0300*. This raw date cannot be formatted like other date tokens although [text can be added inside the token](#) to present additional information.

All other date tokens are formatted by default to the [International Date Format](#) (extended format). This includes both the date and the time, ordered from the largest to smallest unit (YYYY-MM-DD hh:mm:ss). However, in this case, colon characters (:) that separate the hours, minutes and seconds are replaced with hyphens (-). This is because colons are [illegal characters](#) in Windows folder and filenames.

Formatted dates therefore look like this by default: *2013-06-27 21-08-12*. The year is specified first followed by the month and day, separated by hyphens. A space separates this block from the hours, minutes and seconds that are also separated by hyphens. This layout is useful for folder and filenames as they will all have the same length and be in chronological order when listed alphabetically.

## Custom formatting

You can customize formatted dates tokens by specifying a date pattern inside the token. The table below describes the pattern symbols and shows the results they produce on the following 2 dates:

Date 1: January 5, 2019 at 2 seconds after 9:08 am

Date 2: December 25, 2019 at 56 seconds after 4:34 pm

Symbol	Represents	Result for date 1	Result for date 2
YY	2-digit year	19	19
YYYY	4-digit year	2019	2019
m	1 or 2-digit month	1	12
mm	2-digit month	01	12
mmm	First 3 characters of the month	Jan	Dec
mmmm	All characters of the month	January	December
d	1 or 2-digit day	5	25
dd	2-digit day	05	25
h	1 or 2-digit hour (uses 24-hour clock / military time)	9	16
hh	2-digit hour (uses 24-hour clock / military time)	09	16
n	1 or 2-digit minute	8	34
nn	2-digit minute	08	34
s	1 or 2-digit second	3	56
ss	2-digit second	03	56

Note that:

- Pattern symbols are case-insensitive so using `yyyymmdd-hhnnss` gives the same result as `YYYYMMDD-HHNNSS`.
- Hour symbols use the 24-hour clock (military time) so 2pm is presented as 14.

## Example date patterns

Below are some example patterns using the [{LocalMessageDate}](#) token operating on an email with the following message date in local time: January 5, 2019 at 2 seconds after 9:08 am.

```
{LocalMessageDate}                produces  2019-01-05 09-08-02
{LocalMessageDate:yyyy-mm-dd hh-nn-ss} produces 2019-01-05 09-08-02
```

<code>{LocalMessageDate:yyyymmdd-hhnnss}</code>	produces	<code>20190105-090802</code>
<code>{LocalMessageDate:yyyy-mm-dd}</code>	produces	<code>2019-01-05</code>
<code>{LocalMessageDate:m-d-yy}</code>	produces	<code>1-5-19</code>
<code>{LocalMessageDate:dd.mm.yy}</code>	produces	<code>05.01.19</code>
<code>{LocalMessageDate:mmm yyyy}</code>	produces	<code>Jan 2019</code>
<code>{LocalMessageDate:mmm d, yyyy}</code>	produces	<code>January 5, 2019</code>
<code>{LocalMessageDate:mmm d, yyyy @ h.nn}</code>	produces	<code>January 5, 2019 @ 9.08</code>

## Adding additional text

You can still add additional text inside date tokens by placing your formatting pattern in the `^[]` placeholder. For example, the following produces the text *Email date is January 5, 2019*:

```
{LocalMessageDate:Email date is ^[mmm d, yyyy]}
```

### 3.10 Optimizing performance

Here are some tips for optimizing Aid4Mail's performance.

#### Speed up on-premises processing

1. Use a machine with a fast processor and at least four cores. For example, Intel i7, i9 or better (or their AMD equivalents).
2. Use a dedicated GPU.
3. Use a fast SSD or RAM drive, at least for [cache and temporary files](#). Avoid NAS drives as they can significantly diminish processing speed.
4. If your source or target is an Outlook profile, PST or MSG file, or Exchange, make sure you have the latest Outlook updates installed.
5. Reboot your computer and close any unnecessary programs, including mail applications.
6. Disable any anti-virus, file-monitoring or file-indexing tools that may operate on the source and target folders.
7. Disable Outlook plugins if you are processing Outlook mailboxes.
8. Disable Windows sleep, hibernation and automatic updates.

#### Speed up remote processing (for cloud-based services)

1. Connect locally using an Ethernet cable rather than Wi-Fi.
2. Ensure your network drivers are up-to-date.
3. Choose a time of day that ensures the highest possible Internet speed.
4. Close any programs or tasks that may reduce available Internet bandwidth (streaming services, software updates, offsite backups, etc).
5. Avoid migrating mail directly from one remote location to another, to reduce the risk of bottlenecks. Instead, migrate from the remote source location to a local format (*PST*, *mbox* or *EML*). Then migrate these temporary, local files to the remote target location.

## Optimize your Aid4Mail settings

1. Whenever possible, [prioritize Aid4Mail's 32-bit processing engine](#) over its 64-bit engine. In general, 32-bit applications are faster than their 64-bit counterparts except for tasks that involve advanced mathematical modeling.
2. Unless required, turn *off* [incremental processing](#) and its [recording of emails](#).
3. Use a [folder filter](#) to skip any folders you don't need, or a [native filter](#) if supported by your source mail service.
4. Use an [item filter](#) to skip emails based on their header content, message body text and attachments, in that order.
5. Unless required, avoid searching [files contained within attachments](#).
6. Unless required, avoid searching [file metadata](#).
7. Set the highest reasonable [image-size limit for metadata searches](#).
8. Unless required, avoid using [Python scripts](#) as they may significantly impact performance.

## Optimize your filters

1. Use a [folder filter](#) to exclude folders before individual emails are processed, or a [native filter](#) if supported by your source mail service. Please refer to the [Filter stages](#) topic for additional information.
2. Be attentive to the order of search terms:
  - a. If you have two search terms separated by an [AND](#) operator, if the first term is not found then Aid4Mail doesn't need to search for the second term. For example, if you're searching for `cat AND dog`, and `cat` is not found then Aid4Mail doesn't need to search for `dog`. To optimize performance when you're using an `AND` operator, put the search term that's least likely to be found on the left side of the statement.
  - b. If you have two search terms separated by an [OR](#) operator, if the first term is found then Aid4Mail doesn't need to search for the second term. For example, if you're searching for `ham OR cheese`, and `ham` has been found then Aid4Mail doesn't need

to search for *cheese*. To optimize performance when you're using an *OR* operator, put the search term that's most likely to be found on the left side of the statement.

- c. If you have search terms to [eliminate duplicates](#) (NOT Is:Duplicate) or to [eliminate unpurged mail](#) (NOT Is:Unpurged), place them before any other search terms. As Aid4Mail searches for each term in the order it appears, this will greatly reduce the number of emails processed.
  - d. Place search terms that scan attachments or metadata, notably those that use the [FileText](#) or [FileMetadata](#) operators, after other search terms. This way, scanning of these potentially large files is done last and on the smallest number of emails.
3. Use the search term `Is:Personal` to eliminate bulk and automated mail, newsletters and mailing lists, bounced emails and any other non-personal items from your target mail. Please refer to the [Searching personal mail](#) topic for details.



### 3.11 Customizing Aid4Mail

Aid4Mail allows you to customize some of its core functionality by making its data files available for editing, and through its support for Python scripts. These files are stored in the [Data](#) and [Scripts](#) folders, respectively.

#### Data folder

The *Data* folder contains files that you can edit to customize Aid4Mail's behavior. They contain information on time zones, file extensions, [IMAP](#) server names, MIME fields and how they are used, etc.

#### Scripts folder

The *Scripts* folder contains [Python scripts](#). There are a number of scripts shipped with Aid4Mail and they are all editable. You can also create your own scripts, or add third-party ones, by placing them in the Scripts folder. Aid4Mail will automatically find them the next time you run it.

#### Folder locations

The *Data* and *Scripts* folders are subfolders of the [program folder](#). However, you should not edit a file, or add a new one, directly in this location because it will be overwritten whenever you reinstall or update Aid4Mail. Instead, copy the file to the corresponding *Data* or *Scripts* subfolder of your [AppData folder](#) and edit it there. This location will not be affected by reinstallation or software updates.

Alternatively you can copy the file to the *Data* or *Scripts* subfolder of your [Public folder](#). This makes it available to all users.

If you have installed Aid4Mail on a USB drive, you can instead copy the file to the *Data* or *Scripts* subfolder of your [USB program folder](#). However, that this location may also be overwritten if you reinstall or update Aid4Mail.

Note that, in each case, you may have to create the *Data* or *Scripts* subfolder if it doesn't exist yet in that location.

## Folder location priority

When Aid4Mail uses a file from the *Data* or *Scripts* folders, it checks the aforementioned locations in the following order:

1. [USB program folder](#)
2. [AppData folder](#)
3. [Public folder](#)
4. [Program folder](#)

If a file exists in multiple locations, Aid4Mail will use the first one it finds. This means that files in the [USB program folder](#) are given priority over those in the [AppData folder](#), which in turn has priority the [public folder](#) and finally the [program folder](#). This makes it easy to revert back to the original version of a file that you've edited: Simply delete it and Aid4Mail will automatically use the original version in the program folder.

### 3.12 Known issues

This page lists issues related to Aid4Mail that we are already aware of. Most are caused by third-party products or services that interact with Aid4Mail, and not by Aid4Mail itself. However, as they affect our customers, we are dedicated to finding solutions or workarounds wherever possible. In the meantime they are listed here for your information.

#### **Anti-virus warnings (false positives)**

Anti-virus products, and especially those using proactive protection, occasionally generate false positives. This happens when they incorrectly determine that a file contains a virus, or other malware, when there is none at all. We have received reports of this happening to Aid4Mail's installation file. This is not an issue with Aid4Mail but with the anti-virus product that's generating the false positive.

All our products are uploaded to the Internet virus-free. Aid4Mail was scanned by over 60 different anti-virus products. With the exception of one or two obscure apps that sometimes show false positives, all the major anti-virus products show Aid4Mail to be 100% clean. If you have downloaded Aid4Mail from our website or online store, or a reputable software repository, then you can be confident that it does not contain a virus. Unless you have a virus on your computer that affects Aid4Mail after installation, any warning you may get from your anti-virus product is most likely a false positive.

This is a frustrating situation for us because, other than contacting the manufacturer of the offending anti-virus product, there is little we can do to rectify it. However you may be able to help as these companies are more likely to listen to their own customers. If you encounter a false positive concerning Aid4Mail, please inform the manufacturer so they can fix the issue in their next update. In the meantime, you should be able to white-list Aid4Mail in your anti-virus product, or turn off proactive protection, to prevent any further false positives.

#### **Outlook installation**

Microsoft Outlook can be installed on your computer in several different ways. The following two installation types can prevent Aid4Mail from converting between Outlook formats (Outlook profiles, PST and MSG files) and MIME formats (EML and mbox):

1. Outlook installed as part of the Microsoft Office Desktop Apps package.

The recommended solution in this case is to uninstall Microsoft 365 and reinstall the

regular edition from your Microsoft 365 account on Microsoft's website. In an upcoming Aid4Mail update we plan to provide a workaround that will enable mail conversion when this type of installation is encountered. However, these conversions may not be as accurate as those handled by Outlook's internal converter.

2. Outlook installed as a Microsoft Office Click-to-Run app and the Windows Registry has not been updated to support IConverterSession.

If you have this type of setup and are unable to convert Outlook mail, please use the [Fix Registry for MAPI](#) command under Aid4Mail's [Tools menu](#).

## Accessing cloud-based Microsoft accounts through IMAP with OAuth 2.0

Aid4Mail supports [IMAP](#) access to cloud-based email accounts using several different [security protocols](#). The most secure is [OAuth 2.0](#).

OAuth 2.0 IMAP access is supported by Microsoft accounts such as Microsoft 365 (formerly Office 365), Outlook.com and Hotmail.com but only works if Multi-Factor Authentication (MFA) is turned on for the account. Even then, Microsoft's implementation does not appear to be completely reliable, as observed in our testing and confirmed by comments on public forums.

Aid4Mail remains committed to OAuth 2.0 IMAP access for these accounts but is dependent on Microsoft resolving the issues. If you encounter a problem, Aid4Mail can still access Microsoft accounts through IMAP using one of the other [connection security protocols](#).

## Microsoft Graph API limitations

Aid4Mail offers direct access to Microsoft 365 accounts using the Microsoft Graph [API](#) along with the secure [OAuth 2.0](#) protocol. This is the most efficient way of accessing these accounts. The Microsoft Graph API is recommended by Microsoft and is a replacement for their older Exchange Web Services (EWS). Unfortunately, the Microsoft Graph API is currently limited to downloading messages. It cannot upload them. For this reason, Microsoft 365 is only available directly as a [source format](#) and not as a [target format](#) in Aid4Mail. However, you can still convert to Microsoft 365 using either *IMAP* or an *Outlook profile* as your target format.

## 4 Searching and filtering

### Purpose of filtering

Aid4Mail's powerful search and filtering capabilities, specifically in the Investigator and Enterprise editions, are designed to meet the exacting needs of professionals in email forensics and eDiscovery. In these fields, the ability to precisely locate and extract relevant emails is paramount. Aid4Mail supports a [multitude of email formats](#) and can even [carve emails](#) from unknown file formats, uncompressed disk images, and forensically extracted disk space. However, determining which emails are relevant to a case requires sophisticated filtering.

Aid4Mail's filtering feature allows you to:

- Include or exclude emails, non-email items, or whole folders from your target mailbox based on specific search criteria.
- Rapidly identify emails pertinent to an investigation or legal case.
- Exclude irrelevant or privileged communications.
- Detect patterns of communication or specific content across large email sets.
- Isolate emails within specific date ranges or from particular senders.
- Uncover hidden or deleted emails that may be crucial to your investigation.

Note that, in trial mode, Aid4Mail works on modified copies of your mail which may, in turn, impact your filter results. For more details see the [Trial mode](#) topic.

### Syntax

Aid4Mail's filter syntax is similar to Gmail and Microsoft 365's, making it easy to learn and remember. However, Aid4Mail's syntax is richer, offering capabilities that are on par with, or even exceed, those of other eDiscovery and forensics tools.

As you progress through this chapter of the User Guide, you'll learn how to construct increasingly sophisticated filters to support your forensic analysis or eDiscovery efforts. Whether you're searching for specific pieces of evidence, establishing communication patterns, or isolating relevant date ranges, Aid4Mail's filter syntax provides the precision and flexibility you need for your professional investigations.

## Filter concepts

The remainder of this chapter contains in-depth information about the various filter concepts used in Aid4Mail:

- [Filter stages](#): The four stages of the Aid4Mail search and filter feature.
- [Search Terms](#): The words, phrases, or patterns you're looking for in emails. They can contain:
  - [Wildcards](#): Special characters that represent unknown or variable parts of a search term.
  - [Punctuation](#): Quotes, parentheses, brackets and braces help you write clear and concise search terms.
  - [Regular expressions](#): Powerful search patterns (with a cryptic syntax) that enable otherwise impossible searches.
  - [Search Operators](#): Refine search terms to target specific parts or attributes of an email.
  - [Boolean Operators](#): Combine or exclude search terms using AND, OR, XOR, and NOT.
- [Native search terms](#): Sent directly to the mail server software to carry out a pre-acquisition search server-side.
- [Search Lists](#): Groups of search terms, saved in external files. They improve organization and simplify search queries.
- [Tokenization](#): Recognize and match similar characters and words within text.
- [Stemming](#): Find words that share the same root.
- [Proximity Searching](#): Find words or phrases that appear near to each other.
- [Searching by email type](#): Find emails based on their [type](#), including:
  - [Deduplication](#): Eliminate duplicate emails from search results.
  - [Searching unpurged mail](#): Include/exclude emails that have been moved or deleted but not permanently removed from the system.
  - [Searching personal mail](#): Target emails sent to individuals rather than to mailing lists.

Note that, if you're using [Aid4Mail Enterprise](#) or [Investigator](#), you can also create custom filters using [Python filter scripts](#).

## Example

In an investigation into communication patterns, you might use a filter like:

```
Date>=2023 AND Type:Personal AND ("project alpha" OR "confidential acquisition")
```

This filter would find all personal emails (excluding newsletters, marketing emails, automated notifications, etc.) from 2023 onwards that mention “project alpha” or “confidential acquisition”. This could help isolate direct, person-to-person communications about sensitive topics, filtering out bulk emails or automated notifications that might use similar keywords.

## 4.1 Filter stages

The Aid4Mail search and filter feature has four stages that are applied in the the following order:

1. [Folder filtering](#)
2. [Native filtering](#)
3. [Item filtering](#)
4. [Python filtering script](#)

This is also the order they appear in the [Filter settings](#) in Aid4Mail.

The folder filter is available in all [Aid4Mail editions](#). The native filter, item filter and Python filter are only available in [Aid4Mail Enterprise](#) and [Investigator](#). All four stages of the filter process are optional. If nothing has been specified for a particular filter or script then that stage in the process will simply be skipped.

The four filter stages are part of a larger [processing sequence](#). Taking advantage of the filter order can significantly improve Aid4Mail's performance. For example, using a folder filter or native filter can minimize the number of emails items to be downloaded and then processed by the item filter. Likewise, the order of [search terms](#) within a filter is important to consider too. For guidance, please refer to the [Optimize your filters](#) section of the [Optimizing performance](#) topic.

### Folder filtering

The folder filter is the first to be applied, before any emails (or non-email items) have been collected. It enables you to specify which folders are to be processed by Aid4Mail. When your source mail is in the cloud, this filter is applied server-side (whenever possible) to avoid downloading unnecessary items. The folder filter can significantly reduce the amount of data processed by Aid4Mail and greatly improves performance.

You can specify a folder filter in the [Folder filter section of the filter settings](#).

### Native filtering

The native filter is only available in [Aid4Mail Enterprise](#) and [Investigator](#), and only when your [source format](#) is a cloud-based service that supports native searching. It allows you to perform a complete pre-acquisition search, server-side, using the [syntax](#) of the cloud service and subject to its search capabilities. Most cloud mail services allow you to filter both folders



and individual items.

The native filter is applied to the results of the [folder filter](#), before any emails (or non-email items) have been collected. It can significantly reduce the amount of data processed by Aid4Mail because only folders and items that match the native search results will be downloaded, rather than the whole account. Therefore, a well-crafted native filter can significantly enhance Aid4Mail's performance.

Note, however, that Aid4Mail's [item filter](#) can search deeper than the native filter of most mail servers and so can find data that would otherwise be missed. For example, words in documents that are nested inside ZIP archive attachments. In such cases, using both a native filter and an [item filter](#) is the optimal approach.

You can specify a native filter in the [Native filter section of the filter settings](#).

## Item filtering

The item filter is only available in [Aid4Mail Enterprise](#) and [Investigator](#) and is applied to the results of the [native filter](#), or to the results of the folder filter when no native filter is available.

Items (emails and non-email items) that successfully make it through the [folder filter](#) and [native filter](#) are collected, and downloaded if necessary, one at a time. The item filter is applied to a locally-stored item after it has been collected but before it is saved to the target format.

You can specify an item filter in the [Item filter section of the filter settings](#).

## Python filtering script

The Python filtering script is the final step in the filter process. It will run immediately after the [item filter](#) but still before the item is saved to the target format. For information about Python, how to install it and how to create scripts, please refer to the [Python scripts](#) and [Python filter scripts](#) topics.

You can set a Python filtering script in the [Python filter script section of the filter settings](#).

## 4.2 Search terms

Aid4Mail filters consist of one or more *search terms* (except Python filter scripts which use a different [syntax](#)).

Search terms are the foundation of Aid4Mail's filtering capabilities. They allow forensics experts and eDiscovery professionals to pinpoint specific content within large email datasets.

### Definition and Usage

A search term is a word, phrase, or pattern that Aid4Mail looks for in emails. These can be simple keywords or more complex expressions using wildcards and operators. Search terms are used to identify emails containing specific information relevant to an investigation or legal case. During processing, items that match your search terms will be included in your target mail. Those that don't will be excluded.

Search terms must adhere to specific [rules](#). They can be refined by [wildcards](#), [punctuation](#) and [Regular Expressions](#), and targeted with [search operators](#). In addition, search terms can be combined using [Boolean operators](#). Understanding how to construct effective search terms is crucial for efficiently sifting through large volumes of email data. By combining basic search terms with more advanced filtering techniques, you can create powerful, precise queries tailored to your specific investigative needs.

### Ordering search terms

The order in which search terms appear in your query can significantly impact Aid4Mail's processing speed. To enhance efficiency, place search terms with the smallest scope (e.g. date, sender, recipients, subject), and those that are less likely to be found, before those that are more common or covering a larger part of the email. For further details, refer to the [Optimize your filters](#) section of the [Optimizing performance](#) topic.

### Examples

Examples of search terms tailored for email forensics and eDiscovery scenarios:

#### 1. Simple keyword

```
confidential
```

This will find all emails containing the word *confidential*.

## 2. Exact phrase

```
"trade secret"
```

This will match emails containing the exact phrase *trade secret*.

## 3. Combining multiple search terms using a [Boolean operator](#)

```
lawsuit AND settlement
```

This will find emails containing both words, *lawsuit* and *settlement*, in any order.

## 4. Using [wildcards](#)

```
litigat*
```

This will match *litigation*, *litigate*, *litigator*, etc.

## 5. Combining concepts

```
"insider trading" OR "market manipulation"
```

This will find emails containing either of the two phrases.

## 6. Complex example using a [search operator](#)

```
Date:2022 AND (embezzle* OR fraud*) AND (account* OR financ*)
```

This search term would be useful in a financial crimes investigation, looking for emails from 2022 that mention embezzlement or fraud in relation to accounts or finances.

## Example

An example of search terms that use punctuation, wildcards, a search operator and a Boolean operator would be:

```
"animal shelter" (cat* OR dog*) foldername:inbox
```

These search terms would find any emails in the Inbox that contain the exact phrase *animal shelter*, as long as they also contain one or more words starting with *cat* or *dog*. So an Inbox

email containing the following sentence would be found: *At the animal shelter, we would never put cats in the doghouse!*

### 4.2.1 Search terms tips

Tips for creating effective search terms:

- Follow the [search term rules](#), notably:
  - All search terms must be on a single line (no line breaks).
  - Search terms cannot include comments.
- Target a specific [type](#) of email to narrow down your search:
  - Use NOT Type:Duplicate to [skip duplicates](#).
  - Use Type:Personal to [search for personal mail](#) and NOT Type:Personal to exclude it.
  - Use Type:Unpurged to [search unpurged \(soft-deleted\) mail](#) and NOT Type:Unpurged to skip it.
- Incorporate [wildcards](#) and [stemming](#) where appropriate to enhance search flexibility and coverage.
- Be careful with [double-quotes](#):
  - Enclose a search term in double-quotes to search for an exact phrase that contains a space, or that contains a literal double-quote character.
  - Do not use double-quotes in search lists unless searching for the literal character.
- Use a [search list](#) when you have a large number of search terms. You can even group terms into multiple search lists. Refer to a search list using [braces and the SearchList](#) modifier, for example: {SearchList=C:\Filters\Search list.txt}
- Optimize your search by targeting specific parts of an email, using [search operators](#). For example:
  - Use the [Sender](#) and/or [Recipients](#) operators to limit the search to those address fields.
  - Use [SenderMessage](#) to search the latest text from the sender while excluding older quoted emails in the thread.
- [Order your search terms wisely](#)—it can significantly impact processing speed. Place rarer terms before more common ones to optimize efficiency.

#### 4.2.2 Search term rules

##### General rules for all search terms

1. You can have any number of search terms.
2. Multiple search terms must be separated by spaces. For example: `apple banana pear`.
3. All search terms must be on the same single line.

Note that when you use the *Enter* key in one Aid4Mail's search boxes ([folder search query](#), [native search query](#) or [item search query](#)), a space will automatically be inserted instead of a line break. The single line of search terms may wrap and appear as multiple lines (depending on the number of search terms and the size of Aid4Mail's window) but it is still a single line.

4. Search terms and [Boolean operators](#) must be separated by spaces unless you're using the abbreviated versions of these operators ([+](#), [|](#), [^](#), [-](#)). For example: `cat AND dog` requires spaces but `cat+dog` does not.
5. When there is no [Boolean operator](#) between two search terms, the [AND](#) operator will be used implicitly. For example, `cat dog` is the same as `cat AND dog`. Both will search for all items that contain both words *cat* and *dog*.
6. Only whole words that match a search term are found. Matches with partial words are not included.

For example, if your search term is `cat`, Aid4Mail will search for all items that contain the whole word *cat*. It will not find *cats*, *wildcat* or *scatt* or any other words that begin with, contain, or end with *cat*. To search for partial words, can enclose the term with [braces](#) and use the partial-word modifier: `{P=cat}`. Alternatively, you can use [wildcards](#): `*cat*`.

7. Use [double-quotes](#) to search for an exact phrase that contains a space, or that contains a literal double-quote character. In [search lists](#), only use double-quotes when a search term contains the literal character.
8. Typographic quotes and apostrophes (" " and ' ') will be treated the same as straight ones (" " and ' '). This means that you can simply use straight quotes and apostrophes in your search terms and these will also match the corresponding typographic characters.
9. [Search operators](#) and [Boolean operators](#) are always case-insensitive. This means that `Subject:Cat` is identical to `subject:Cat`, and `Cat OR Dog` is identical to `Cat or Dog`.

However, the content they operate on (the words *Cat* and *Dog* in the examples) may be case-sensitive, depending on other settings that are discussed below.

10. Search terms cannot include comments.

## Additional rules for folder search terms

1. Folder searches are always case-insensitive. For example, searching for `Inbox` will give the same results as searching for `inbox`.
2. When no search operator is applied to a folder search term, the [FolderName](#) operator is automatically applied. So the folder search term `inbox` is identical to `FolderName:Inbox`.
3. [Folder search operators](#) are the only search operators that can be applied to folder search terms.

## Additional rules for item search terms

Note that item search terms are only available in [Aid4Mail Enterprise](#) and [Investigator](#).

1. Case sensitivity in item searches depends on the [Case](#) setting, located below the item search query field. Note that this setting does not have any effect on:
  - a. [Search operators](#) and [Boolean operators](#) which are always case-insensitive, as mentioned [above](#).
  - b. Search terms enclosed in [braces](#) using the 'C' (case-sensitive) or 'I' (case-insensitive) modifier, which override the case setting.
2. When no search operator is applied to an item search term, Aid4Mail will search both the message header and message body of each email (or non-email item) for that term. It may also search attachments, files contained within attachments, and file metadata, depending on the [attachment options](#) you have selected (this only applies to search terms that don't have search operators applied).
3. Any [search operator](#) can be applied to an item search term. However it is usually more efficient to avoid [folder search operators](#) in an item search, unless there's a specific reason for using them. This is because item searches are carried out while items are being read, whereas folder searches happen beforehand and so can avoid large quantities of items being read unnecessarily. Please refer to the [Processing sequence](#)

topic for additional information, and to the [Optimize your filters](#) section of the [Optimizing performance](#) topic for tips.



### 4.2.3 Wildcards

## Definition

Wildcards are special tokens that represent unknown or variable parts of a search term. They are particularly useful in forensics and eDiscovery when you need to account for variations in spelling, prefixes, suffixes, or unknown parts of an email address or domain. They can also be used for [proximity searching](#)

Wildcards significantly enhance the power and flexibility of your searches, allowing you to cast a wider net in your investigations while still maintaining precision. They're particularly valuable when dealing with large datasets where you may not know the exact phrasing used in relevant communications.

## Usage

Each wildcard represents one or more [characters](#) or [words](#). Some wildcards operate within a single word while others span a specified number of words, a whole [sentence](#) or [paragraph](#), or have no limit at all.

Wildcards are divided into two main categories:

- [Character wildcards](#)
- [Word wildcards](#)

Note that:

- Some character and wildcards may appear to be very similar. However, there are subtle [differences](#) in behavior.
- Wildcards can be [chained](#) for even more flexibility.
- Some wildcards can be used for [proximity searching](#).

## Examples for forensics and eDiscovery

### Example 1: Investigating various forms of financial misconduct

```
embezzle* OR fraud* OR money<5>launder*
```

This search would find mentions of embezzlement, fraud, and money laundering, including variations of these terms. It uses the [\\* \(multiple characters\)](#) and [<n> \(words near to each other\)](#) wildcards.

### Example 2: Searching for potentially altered documents

```
(modif* OR chang* OR alter*)<.>(document* OR file* OR record*)
```

This would find sentences mentioning modifications to documents, files, or records. It uses the [\\* \(multiple characters\)](#) and [<.> \(words in a sentence\)](#) wildcards.

### Example 3: Identifying communication about insider information

```
(insider<*>trading) OR (material<5>nonpublic<5>information)
```

This search would find paragraphs mentioning insider trading or discussions of material nonpublic information within close proximity. It uses the [<\\*> \(words in a paragraph\)](#) and [<n> \(words near to each other\)](#) wildcards.

### Example 4: Investigating international communications

```
@*.?? OR @*.??? OR @*.????
```

This would match email addresses with two-letter (.us, .uk), three-letter (.com, .org), or four-letter (.info) top-level domains. It uses the [\\* \(multiple characters\)](#) and [? \(single character\)](#) wildcards.

### Example 5: Searching for potential code words or deliberate misspellings

```
th?ft OR fr??d
```

This could catch attempts to obfuscate discussions of theft or fraud. It uses the [? \(single character\) wildcard](#).

## 4.2.3.1 Character wildcards

Wildcards that represent one or more individual [characters](#). They are grouped into two tables below:

- [General character wildcards](#)
- [Known-variation character wildcards](#)

### General character wildcards

Wildcard	Description
*	<p>Matches zero or more <a href="#">characters</a> within a <a href="#">word</a>.</p> <p>Example: <code>ca*t</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>cat</i></li> <li>• <i>cart</i></li> <li>• <i>carrot</i></li> <li>• <i>can't</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>cats</i></li> <li>• <i>catch</i></li> </ul> <p>Example: <code>corrupt*</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>corrupt</i></li> <li>• <i>corruption</i></li> <li>• <i>corrupted</i></li> <li>• <i>corrupting</i></li> <li>• <i>corruptible</i></li> <li>• <i>corruptibility</i></li> </ul>
?	<p>Matches exactly one <a href="#">character</a>.</p> <p>Example: <code>j o?</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>job</i></li> <li>• <i>jot</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>Jo</i></li> <li>• <i>John</i></li> <li>• <i>Jody</i></li> <li>• <i>joint</i></li> </ul> <p>Example to find both British and American spellings: <code>saniti?e</code></p> <p>Matches:</p>

Wildcard	Description
	<ul style="list-style-type: none"> <li>• <i>sanitise</i></li> <li>• <i>sanitize</i></li> </ul>
#	<p>Matches zero or one non-alphanumeric <a href="#">characters</a> (will not match letter, digit or underscore characters).</p> <p>This wildcard is useful when searching for telephone or credit-card numbers where the formatting is unknown, or for acronyms and punctuation variations.</p> <p>Example: U#S#A#</p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>U.S.A.</i></li> <li>• <i>USA</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>US</i></li> </ul> <p>Example: can#t</p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>can't</i></li> <li>• <i>can't</i></li> <li>• <i>cant</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>cannot</i></li> </ul> <p>Example: #123</p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>#123</i></li> <li>• <i>123</i></li> <li>• <i>-123</i></li> <li>• <i>+123</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>0123</i></li> </ul> <p>Example: e#discovery</p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>ediscovery</i></li> <li>• <i>e-discovery</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>discovery</i></li> </ul> <p>Example: data#breach</p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>data breach</i></li> <li>• <i>data-breach</i></li> <li>• <i>databreach</i></li> </ul>

Wildcard	Description
	<p>Example using a telephone number: #541##754#3010</p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• (541) 754-3010</li> <li>• 541-754-3010</li> <li>• 541-754 3010</li> <li>• 541/754/3010</li> <li>• 5417543010</li> </ul> <p>Example using a credit-card number: 4012#8888#8888#1881</p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• 4012 8888 8888 1881</li> <li>• 4012-8888-8888-1881</li> <li>• 4012888888881881</li> </ul>
<?>	<p>Matches one or more <a href="#">characters</a> except for white-space characters (space, tab, new line, etc.).</p> <p>It is similar to the <a href="#">* wildcard</a> except that it's able to span beyond a single <a href="#">word</a>. This is because words are bound by characters such as periods and commas that this wildcard would match. It is useful for finding numbers with thousands or decimal separators, for example.</p> <p>Example: \$&lt;?&gt;</p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• \$1</li> <li>• \$100</li> <li>• \$100.00</li> <li>• \$1000</li> <li>• \$1K</li> <li>• \$1,000</li> <li>• \$1,000.00</li> <li>• \$1,000,000</li> <li>• \$1,000,000.00</li> <li>• \$1M</li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• \$ 100</li> </ul>
~*	<p>Matches zero or more <a href="#">characters</a> within the same <a href="#">sentence</a>.</p> <p>Example: click~*link</p>

Wildcard	Description
	<p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>click link</i></li> <li>• <i>click on link</i></li> <li>• <i>clicking on link</i></li> <li>• <i>Click on this link</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>click on links</i></li> <li>• <i>Click here for more. Alternatively use this link.</i></li> <li>• <i>Click here for more. Alternatively use this link.</i></li> </ul>
**	<p>Matches zero or more <a href="#">characters</a> within the same <a href="#">paragraph</a>.</p> <p>Example: <code>click**link</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>click link</i></li> <li>• <i>click on link</i></li> <li>• <i>clicking on link</i></li> <li>• <i>Click on this link</i></li> <li>• <i>Click here for more. Alternatively use this link.</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>click on links</i></li> <li>• <i>Click here for more. Alternatively use this link.</i></li> </ul>
~	<p>Performs stemming if the following four conditions are met:</p> <ol style="list-style-type: none"> <li>1. The wildcard is placed at the end of the word, e.g. <code>jockey~</code> but not <code>j~b</code>.</li> <li>2. The word does not contain any other wildcards.</li> <li>3. A dictionary has been set in the <a href="#">Stemming</a> option, under the <i>Filter</i> section of the <i>Project settings</i> screen.</li> <li>4. A match has been found in the dictionary.</li> </ol> <p>Example (using English dictionary): <code>jockey~</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>jockey</i></li> <li>• <i>jockeys</i></li> <li>• <i>jockeyed</i></li> <li>• <i>jockeying</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>jockeyship</i> (not in dictionary)</li> </ul> <p>Example (using English dictionary): <code>steal~</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>steal</i></li> <li>• <i>steals</i></li> <li>• <i>stole</i></li> </ul>

Wildcard	Description
	<ul style="list-style-type: none"> <li>• <i>stolen</i></li> </ul> <p>If the four conditions are not met then this wildcard matches zero or one <a href="#">characters</a> within a <a href="#">word</a>.</p> <p>Example: <code>jockey~</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>jockey</i></li> <li>• <i>jockeys</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>jockeyed</i></li> <li>• <i>jockeying</i></li> <li>• <i>jockeyship</i></li> </ul>

## Known-variation character wildcards

Wildcards that represent known variations of a [character](#) or sequence of characters. This includes letters with diacritics (accented letters), ligatures, and typographic characters.

For example:

1. `na<i>ve` will match both *naïve* and *naïve*.
2. `L<ae>titia` will match both *Laetitia* and *Lætitia*.
3. `can<'>t` will match both *can't* and *can't*.
4. `<e>vidence` will match both *evidence* and *évidence*.

Wildcard	Matches
<code>&lt;a&gt;</code>	a, á, à, â, ä and å
<code>&lt;A&gt;</code>	A, Á, À, Â, Ä and Å
<code>&lt;c&gt;</code>	c and ç
<code>&lt;C&gt;</code>	C and Ç
<code>&lt;d&gt;</code>	d and ð
<code>&lt;D&gt;</code>	D and Ð
<code>&lt;e&gt;</code>	e, é, è, ê and ë
<code>&lt;E&gt;</code>	E, É, È, Ê and Ë

Wildcard	Matches
<i>	i, í, ì, î and ĭ
<I>	I, Í, Ì, Î and Ĭ
<n>	n and ñ
<N>	N and Ñ
<o>	o, ó, ò, ô, ö and ø
<O>	O, Ó, Ò, Ô, Ö and Ø
<s>	s and š
<S>	S and Š
<u>	u, ú, ù, û and ü
<U>	U, Ú, Û, Û and Ü
<y>	y, ý and ŷ
<Y>	Y, Ý and Ÿ
<z>	z and ž
<Z>	Z and Ž
<ae>	ae and æ
<AE>	AE and Æ
<ij>	ij and ?
<IJ>	IJ and ?
<oe>	oe and œ
<OE>	OE and Œ
<ss>	ss, sz and ß
<SS>	SS, SZ and ß
<th>	th and þ
<TH>	TH and Þ
<'>	' and ' (straight and typographic apostrophe)



## 4.2.3.2 Word wildcards

Wildcards that represent whole [words](#) rather than individual [characters](#). They are useful for [proximity searching](#), allowing you to find words near each other within emails.

Note that the order of words immediately surrounding the wildcards is irrelevant when using the [<n>](#), [<.>](#) and [<\\*>](#) wildcards. Word order is respected with the [<+n>](#), [<+.>](#) and [<+\\*>](#) wildcards.

Wildcard	Description
<n>	<p>Matches up to n <a href="#">words</a>, where n is a number between 0 and 99. The order of the words surrounding the wildcard are irrelevant and do not have to be in the same <a href="#">sentence</a> or <a href="#">paragraph</a>. This wildcard is similar to <a href="#">Google's AROUND operator</a> and <a href="#">Outlook's NEAR operator</a>.</p> <p>Example: <code>robin&lt;2&gt;hood</code></p> <p>This <a href="#">search term</a> will match any instance of the words <i>robin</i> and <i>hood</i> within three words of each other (the wildcard matches up to two words), in any order, even if they span multiple sentences or paragraphs. It will not match instances where <i>robin</i> and/or <i>hood</i> are parts of longer words or where more than two words separate them.</p> <div> <div> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>Robin Hood</i></li> <li>• <i>Robin wears his hood</i></li> <li>• <i>The hood belongs to Robin</i></li> </ul> </div> <div> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>Robin wears hoodies</i></li> <li>• <i>Robina hates hoods</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> <li>• <i>A hood. It covered the face of Robin.</i></li> </ul> </div> </div> <p>Example: <code>robin&lt;5&gt;hood</code></p> <div> <div> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>Robin Hood</i></li> <li>• <i>Robin wears his hood</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> </ul> </div> <div> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>Robin wears hoodies</i></li> <li>• <i>Robina hates hoods</i></li> </ul> </div> </div>

Wildcard	Description
	<ul style="list-style-type: none"> <li>• <i>Robin was stealthy.</i> <i>His hood partially masked his face.</i></li> <li>• <i>The hood belongs to Robin</i></li> <li>• <i>A hood. It covered the face of Robin.</i></li> </ul>
<+n>	<p>The same as <a href="#">&lt;n&gt;</a> except that the order of the words surrounding the wildcard is respected. This wildcard is very similar to <a href="#">Google's AROUND operator</a> when the latter is used with quotes.</p> <p>Example: <code>robin&lt;+5&gt;hood</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>Robin Hood</i></li> <li>• <i>Robin wears his hood</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> <li>• <i>Robin was stealthy.</i> <i>His hood partially masked his face.</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>Robin wears hoodies</i></li> <li>• <i>Robina hates hoods</i></li> <li>• <i>The hood belongs to Robin</i></li> <li>• <i>A hood. It covered the face of Robin.</i></li> </ul>
<.>	<p>Matches zero or more <a href="#">words</a> in the same <a href="#">sentence</a> (or in an individual cell of a table). The order of the words surrounding the wildcard are irrelevant.</p> <p>Example: <code>robin&lt;.&gt;hood</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>Robin Hood</i></li> <li>• <i>Robin wears his hood</i></li> <li>• <i>The hood belongs to Robin</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>Robin wears hoodies</i></li> <li>• <i>Robina hates hoods</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> <li>• <i>Robin was stealthy.</i> <i>His hood partially masked his face.</i></li> <li>• <i>A hood. It covered the face of Robin.</i></li> </ul>

Wildcard	Description
<+.>	<p>The same as <a href="#">&lt;.&gt;</a> except that the order of the words surrounding the wildcard is respected.</p> <p>Example: <code>robin&lt;+.&gt;hood</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>Robin Hood</i></li> <li>• <i>Robin wears his hood</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>Robin wears hoodies</i></li> <li>• <i>Robina hates hoods</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> <li>• <i>The hood belongs to Robin</i></li> <li>• <i>A hood. It covered the face of Robin.</i></li> </ul>
<*>	<p>Matches zero or more <a href="#">words</a> in the same <a href="#">paragraph</a> (or in the row of a table). The order of the words surrounding the wildcard are irrelevant.</p> <p>Example: <code>robin&lt;*&gt;hood</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>Robin Hood</i></li> <li>• <i>Robin wears his hood</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> <li>• <i>The hood belongs to Robin</i></li> <li>• <i>A hood. It covered the face of Robin.</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>Robin wears hoodies</i></li> <li>• <i>Robina hates hoods</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> </ul>
<+*>	<p>The same as <a href="#">&lt;*&gt;</a> except that the order of the words surrounding the wildcard is respected.</p> <p>Example: <code>robin&lt;+*&gt;hood</code></p> <p>Matches:</p> <ul style="list-style-type: none"> <li>• <i>Robin Hood</i></li> <li>• <i>Robin wears his hood</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> </ul> <p>Does not match:</p> <ul style="list-style-type: none"> <li>• <i>Robin wears hoodies</i></li> <li>• <i>Robina hates hoods</i></li> <li>• <i>Robin was stealthy. His hood partially masked his face.</i></li> </ul>

Wildcard	Description
	<ul style="list-style-type: none"><li>• <i>The hood belongs to Robin</i></li><li>• <i>A hood. It covered the face of Robin.</i></li></ul>

### 4.2.3.3 Character vs word wildcards

Certain [character wildcards](#) and [word wildcards](#) may initially appear to be very similar. For example:

- The [~\\* character wildcard](#) and the [<.> word wildcard](#) both span sentences.
- The [\\*\\* character wildcard](#) and the [<\\*> word wildcard](#) both span paragraphs.

However, there are subtle differences in their behavior. To demonstrate, consider how they would perform in the following examples.

#### Example 1

`robin~*hood` and `robin**hood` use [character wildcards](#) and would both match:

*Robin's old green hood.*

However, using [word wildcards](#) instead, `robin<.>hood` and `robin<*>hood` would not find a match. This is because the 's in *Robin's* is accepted as two individual characters by the character wildcards but is rejected by the word wildcards for not being a whole word.

#### Example 2

`joseph**smith` and `joseph<*>smith` would match both of these sentences:

- *Joseph Smith*
- *Joseph walked to town. He is the most athletic member of the Smith family.*

However only `joseph**smith` would match:

- *Josephine went to the Aerosmith concert.*

This is because the *ine* in *Josephine* and the *Aero* in *Aerosmith* are acceptable as sequences of individual characters but not as whole words.

#### 4.2.3.4 Chaining wildcards

Multiple wildcards can be used within the same search term as shown in the examples below. This applies to any [character wildcard](#), and to [word wildcards](#) that respect word order ([<+n>](#), [<+.>](#) and [<+\\*>](#)).

### Example 1

The following search term includes two [\\* wildcards](#) to match any variation at the end of the words *robin* and *hood*:

```
"robin* hood*"
```

This search term would find any of the following:

- *Robin Hood*
- *Robin's hood*
- *Robin's hoods*
- *Robin Hood's*

### Example 2

This example combines multiple [character wildcards](#) in the same search term:

```
robin~*hood**bow~*arrow
```

It will find any text with *robin* and *hood* in the same sentence, *hood* and *bow* in the same paragraph, and *bow* and *arrow* in the same sentence, all in the order specified. It would find all three of these texts:

- *Robin Hood took his bow and arrow.*
- *Robin Hood was the finest archer. He handled a bow and arrow better than anyone.*
- *Robin's hoodie had a bow and arrow logo.*

However it would not find the following because *Robin* and *hood* are not in the same sentence:

- *Robin looked everywhere. He eventually found his hood, bow and arrow under a bush.*

### Example 3

The search term below incorporates four [character wildcards](#) to match language variations of the name *Jeremiah*:

```
j<e>r<e>m<i>*
```

It will match English, French, German, Spanish and Portugese versions of the name, as well as anglicized spelling (without the accents) of the non-English versions:

- *Jeremiah*
- *Jérémie*
- *Jeremie*
- *Jeremia*
- *Jeremías*
- *Jeremias*

### Example 4

The following search term contains chained [word wildcards](#) to find words that are near to each other:

```
cat<+8>dog<+8>horse
```

It will match text that has *dog* within 9 words of *cat* (8 intermediary words) and also *horse* within 9 words of *dog*. All three words must be present and in the order specified. An example match would be:

*I own a cat called Fluffy and a dog called Rex but my favorite pet is my horse, Blossom.*

Note that, when using [word wildcards](#), only those that respect word order ([<+n>](#), [<+.>](#) and [<+\\*>](#)) can be chained.

### Example 5

This example uses different types of [word wildcards](#) in the search term:

```
jim<+.>sand<+*>sea
```

It will find text with *jim* and *sand* in the same sentence, and *sand* and *sea* in the same paragraph, in that order. An example match would be:

*Jim played all day in the sand. He only came in when the sea got too cold.*

Note that, when using [word wildcards](#), only those that respect word order ([<+n>](#), [<+.>](#) and [<+\\*>](#)) can be chained.

## Example 6

This final examples shows the advantage of combining [character wildcards](#) with [word wildcards](#) to broaden the search. The goal is find the words *jim* and *sand* occurring anywhere in the same paragraph but not necessarily close to each other or in the same sentence. To complicate matters, Jim is often know as Jimmy to his friends and lives in an area known for its quicksand! An appropriate search term might be:

```
jim*<+*>*sand
```

The [\\* wildcard](#) following *jim* allows it to match *jim* or *jimmy*. The [\\* wildcard](#) preceding *sand* allows both *sand* and *quicksand* to be found. The [<+\\*> wildcard](#) in between allows for any number of intermediary words within the same paragraph. Example matches for this search term are:

- *Jim played in the sand.*
- *Jimmy was sinking in quicksand.*
- *Jim played all day. He had the most fun in the sand.*
- *Jimmy didn't read the sign. He was sinking in quicksand.*

The following will not be found as it spans more than one paragraph. In other words, one (or more) of the intermediary characters is a [new line](#):

*Jim played all day at the beach.*

*The next day he returned to the sand dunes to search for shells.*

Note that, when using [word wildcards](#), only those that respect word order ([<+n>](#), [<+.>](#) and [<+\\*>](#)) can be chained.



## 4.2.4 Punctuation

Quotes, parentheses, brackets and braces have special meaning in Aid4Mail's filter syntax. The list below details the punctuation available in Aid4Mail.

Note that punctuation cannot be used in search lists—it will be treated as literal characters.

Punctuation	Description
"	<p>Enclose a search term in double-quotes to search for an exact phrase that contains a space, or that contains a literal double-quote character. Wildcards can be used as long as a <a href="#">*, ?, #, or ~ wildcard</a> is present.</p> <p>Examples:</p> <p><code>thanksgiving Mom "pecan pie"</code> Matches <i>At Thanksgiving, Mom makes great pecan pie.</i></p> <p><code>"good dog*"</code> Matches <i>good dogs</i> and <i>good doggies</i> but not <i>good little dog.</i></p> <p><code>""heidi""</code> Matches <i>her favorite book is "Heidi"</i> but not <i>her favorite book is Heidi.</i></p>
()	<p>Enclose search terms in parentheses to group operations, or to give preferential treatment to specific terms by overriding the <a href="#">order of precedence of Boolean operators</a>. Nested parentheses are permitted.</p> <p>Note that, even when parentheses are not technically necessary, they can often increase clarity.</p> <p>Example of grouping: <code>From: (john@aid4mail.com OR mary@aid4mail.com)</code> The parentheses here allow two search terms to be grouped into one. V</p> <p>Example of preferential treatment: <code>vacation AND (Bahamas OR Seychelles)</code> Here, the terms in parentheses are processed first. Without parentheses</p> <p>Example of both: <code>Subject: (contract OR agreement) AND AttachmentNames:*.pdf</code> This would find emails with "contract" or "agreement" in the subject that also have PDF attachments. The parentheses in the example serve two purposes:</p>

Punctuation	Description
	<ul style="list-style-type: none"> <li>They allow two keywords to be used with the Subject operator, which is shorter than writing <code>Subject:contract OR Subject:agreement</code>.</li> <li>They override the default precedence of the Boolean operators. Without the parentheses, <code>agreement AND AttachmentNames:*.pdf</code> would be evaluated before <code>Subject:contract</code>.</li> </ul> <p>Example of nested parentheses:  <code>apple XOR (orange AND (lemon OR lime))</code></p>
[]	<p>Search terms enclosed in square brackets must be exact. They are case-sensitive and cannot use <a href="#">wildcards</a>.</p> <p>Example:  <code>[Uncle Sam]</code></p>
{}	<p>Braces allow you to specify a single search term, or a list of search terms separated by <a href="#">vertical bar ( ) operators</a>, along with optional modifiers. When a list is specified, emails containing any or all of the search terms will be included.</p> <p>The following optional modifiers can be applied to the search term(s):</p> <p>C = Case-sensitive  F = Whole field  I = Case-insensitive  L = Literal  P = Partial words  R = Regular expression  W = Wildcards</p> <p>The modifiers can be applied individually, or combined, by placing one or more of them in square brackets, followed by an equal sign, before the search terms. This is shown in some of the following examples.</p> <p>Example 1:  <code>{wolf dingo hyena "african wild dog"}</code></p>

Punctuation	Description
	<p>There are no modifiers in this example so the search works as usual: case-insensitive due to the lowercase characters. Wildcards can be used as long as a <a href="#">*, ?, #, or ~ wildcard</a> is present.</p> <p>Example 2:  <code>{[C]=wolf dingo hyena "african wild dog"}</code>  This example uses <code>[C]</code> as the modifier meaning the search for each term in the list is case-sensitive.</p> <p>Example 3:  <code>{[IP]=Harry}</code>  Here, the <code>[IP]</code> modifiers make the search case-insensitive with partial word matches included.</p> <p>Example 4:  <code>{[R]=(?s)&lt;a.+?href\s*?=\s*?"(.*)" }</code>  The <code>[R]</code> modifier tells Aid4Mail that the search term is a Regular Expression.</p> <p>Two additional modifiers, <code>Exact</code> and <code>WordList</code>, are available but cannot be combined with those listed previously and so are not placed inside square brackets.</p> <p><b>Exact</b></p> <p>The <code>Exact</code> modifier uses a faster search algorithm and is ideal for searching for text that has no possible variants like User IDs or MD5 hash codes. For example:</p> <pre> UId:{Exact=397670} UId:{Exact=397670 397671} MD5:{Exact=7b7e8488d0b11ff6dd30064fa5ff79c1} </pre> <p>It can also be used to search a list of exact terms in an external file:</p> <pre> UId:{Exact=C:\Temp\UIdList.txt} List:{Exact="C:\Temp\Mailing List.txt"} </pre> <p><b>SearchList</b></p> <p>The <code>SearchList</code> modifier allows you to put search terms in an external file. For example:</p> <pre> {SearchList=C:\Temp\SearchTerms.txt} Subject:{SearchList=C:\Temp\Subjects.txt} </pre>

Punctuation	Description
	For details, please refer to the <a href="#">Search lists</a> topic.

### 4.2.5 Regular expressions

#### Definition

A *regular expression* (also known as *regex*) is an extremely powerful search pattern (with a cryptic syntax) that enables searches that would not otherwise be possible. Aid4Mail's supports [Perl Compatible Regular Expressions \(PCRE\)](#) as [search terms](#).

Regular expression syntax is beyond the scope of this manual. However, the PCRE website contains a [syntax reference](#) as well as information on [pattern matching](#).

#### Using regular expressions in Aid4Mail search terms

You can tell Aid4Mail that your search term is a regular expression by enclosing it in [braces](#) and using the [R] modifier, as explained in the [Punctuation](#) topic:

```
{ [R]=SearchTerm }
```

For example, imagine you want to find a sentence containing the words *cat* and *dog*, in that order, located near each other but not necessarily next to each other in the sentence. For this example, let's say "near each other" is being within 10 words of each other. So *the cat loves the dog* should be found but *the cat chases the mouse and is then scared away by the dog* should not be found. Neither should *the dog loves the cat* be found because the order of *cat* and *dog* is reversed.

This is an example of [proximity searching](#) and can be done much more simply using the [<n> wildcard](#). However, to illustrate this example, let's use a regular expression instead.

The regular expression to perform this search is:

```
\bcat\W+(?:\w+\W+){0,10}?dog\b
```

To specify the regular expression as a search term in Aid4Mail, enclose it in braces and use the [R] modifier:

```
{ [R]=\bcat\W+(?:\w+\W+){0,10}?dog\b }
```

Aid4Mail will now know that this search term is a regular expression and treat it accordingly.

#### 4.2.6 Search operators

Search operators help refine your filter query by specifying which parts of an email to search, or by setting specific criteria. They are powerful tools for forensics experts and eDiscovery professionals, narrowing down searches to quickly locate relevant emails within large datasets. By combining search operators with [wildcards](#), you can create highly specific and effective queries, crucial for targeted investigations.

Aid4Mail supports most Gmail, Google Vault and Microsoft Office search operators and many more. They are grouped in the following categories:

- [Folder search operators](#)
- [Sender/Recipient search operators](#)
- [Date/Time search operators](#)
- [Email section search operators](#)
- [Email attribute search operators](#)
- [Email ID search operators](#)

Note that search operators cannot be used in search lists—they will be treated as literal characters.

### Using search operators

Search operators make your search terms more specific. For example, the search term `cat` will search for the word `cat` anywhere in the message header or body of the email. However, if you only want to search for emails that have `cat` in the message subject, you can specify `Subject:cat`.

Note that search operators are case-insensitive so it doesn't matter if you write `Subject`, `subject` or `SUBJECT`. They all do the same thing. In this document, we use the first option.

In most cases a colon is used to separate the search operator from the word(s) being searched, as in the example above. However, sometimes comparison operators provide more clarity or additional functionality.

### Comparison operators

Comparison operators are used by certain search operators to compare one value with another. For example, the [Size](#) operator can be used to compare an email message's size with a given value. The message is then included in, or excluded from, the target mail

depending on the results of the comparison. For example, `Size<=25M` will include email messages whose size is no more than 25 MB. Messages larger than 25 MB will be excluded.

To improve clarity, the [equality comparison operator](#) can be used instead of a colon to separate the search operator from its parameter. For example, `Size=25M` is the same as `Size:25M` but, arguably, easier to read.

Similarly, the [inequality comparison operator](#) can be used instead of negating a whole search term with the [NOT Boolean operator](#) or [minus \(-\) operator](#). For example, `Size<>25M` is the same as `NOT Size=25M`. In fact all of the following are identical:

```
Size<>25M
NOT Size=25M
NOT Size:25M
-Size=25M
-Size:25M
```

The following comparison operators can be used in Aid4Mail:

Operator	Description
=	Equal to.
<>	Not equal to.
>	Greater than.
<	Less than.
>=	At least (greater than or equal to).
<=	At most (less than or equal to).

## 4.2.6.1 Folder search operators

Search specific folders or types of folders.

Search operator	Searches for																		
FolderName	<p>Messages in a particular folder.</p> <p>Example: <code>FolderName:archive</code></p> <p>You can also specify a subfolder by using a backslash character: <code>FolderName:archive\2019</code></p> <p>Forensics example: <code>FolderName:"Project X" AND Subject:confidential</code></p> <p>This would search for confidential emails specifically within the "Project X" folder.</p>																		
Label	Same as <a href="#">FolderName</a> , using Gmail / Google Vault syntax.																		
In	<p>Messages in a particular type of folder, whatever its name.</p> <p>Options:</p> <table><tr><td><code>In:Inbox</code></td><td><code>In:Starred</code></td><td><code>In:Journal</code></td></tr><tr><td><code>In:Sent</code></td><td><code>In:Important</code></td><td><code>In:Notes</code></td></tr><tr><td><code>In:Drafts</code></td><td><code>In:Archive</code></td><td><code>In:Tasks</code></td></tr><tr><td><code>In:Outbox</code></td><td><code>In:Calendar</code></td><td><code>In:Chats</code></td></tr><tr><td><code>In:Spam</code></td><td><code>In:Contacts</code></td><td><code>In:RssFeeds</code></td></tr><tr><td><code>In:Trash</code></td><td></td><td></td></tr></table> <p>Note that these options represent folder categories rather than folder names. So using <code>In:Inbox</code> will also search for the following alternative or localized folder names:</p> <ul style="list-style-type: none"><li>• boîte de réception</li><li>• in</li><li>• posteingang</li><li>• εισερχόμενα</li><li>• входящие</li><li>• 收件箱</li><li>• </li><li>• ...and many more</li></ul> <p>The same also applies to the other options. For a full list of all the variations supported, please refer to the file <i>FolderNames.dat</i> in the</p>	<code>In:Inbox</code>	<code>In:Starred</code>	<code>In:Journal</code>	<code>In:Sent</code>	<code>In:Important</code>	<code>In:Notes</code>	<code>In:Drafts</code>	<code>In:Archive</code>	<code>In:Tasks</code>	<code>In:Outbox</code>	<code>In:Calendar</code>	<code>In:Chats</code>	<code>In:Spam</code>	<code>In:Contacts</code>	<code>In:RssFeeds</code>	<code>In:Trash</code>		
<code>In:Inbox</code>	<code>In:Starred</code>	<code>In:Journal</code>																	
<code>In:Sent</code>	<code>In:Important</code>	<code>In:Notes</code>																	
<code>In:Drafts</code>	<code>In:Archive</code>	<code>In:Tasks</code>																	
<code>In:Outbox</code>	<code>In:Calendar</code>	<code>In:Chats</code>																	
<code>In:Spam</code>	<code>In:Contacts</code>	<code>In:RssFeeds</code>																	
<code>In:Trash</code>																			



Search operator	Searches for
	<p><i>Data</i> subfolder of your Aid4Mail <a href="#">program folder</a>. Note that you can edit this file to add (or remove) your own folder names.</p> <p>However this means that <code>In:</code> cannot be used to search for custom folders as it can with Gmail. To search for a custom folder use <a href="#">FolderName</a> instead.</p> <p>You can list multiple folder types to search, separating them with <a href="#">vertical bar ( ) operators</a>:  <code>In:Inbox Sent Drafts</code></p>
Category	<p>Messages in a particular folder category.</p> <p>Only applicable when when your source <a href="#">format</a> is:</p> <ul style="list-style-type: none"> <li>• <i>Gmail and Google Workspace</i></li> <li>• <i>Google Takeout</i></li> <li>• <i>Google Vault</i></li> </ul> <p>Options:  <code>Category:Social</code>  <code>Category:Promotions</code>  <code>Category:Updates</code>  <code>Category:Forums</code></p> <p>You can list multiple categories to search, separating them with <a href="#">vertical bar ( ) operators</a>:  <code>Category:Social Promotions</code></p>

#### 4.2.6.2 Sender/Recipient search operators

Search emails based on the parties involved in the communication.

Search operator	Searches for
From	<p>Messages from a particular sender in the <i>From</i> field of the message header.</p> <p>Example: From:john@aid4mail.com</p>
ReplyTo	<p>Messages from a particular sender in the <i>Reply-To</i> field of the message header.</p> <p>Example: ReplyTo:john@aid4mail.com</p>
Sender	<p>Messages from a particular sender in the <i>From</i> or <i>Reply-To</i> fields of the message header.</p> <p>Example: Sender:Sally</p>
FromIp	<p>Messages from a particular IP address, specified using either IPv4 or IPv6.</p> <p>Note that IP address extraction operates independently and so is not affected by tampering in the message header.</p> <p>Examples: FromIp:142.250.188.14 FromIp:2607:f8b0:4005:802::200e</p>
To	<p>Messages to a particular recipient in the <i>To</i> field of the message header.</p> <p>Example: To:mary@aid4mail.com</p>

Search operator	Searches for
CC	<p>Messages to a particular recipient in the <i>CC</i> field of the message header.</p> <p>Example:  CC:jane@aid4mail.com</p>
Bcc	<p>Messages to a particular recipient in the <i>BCC</i> field of the message header.</p> <p>Example:  Bcc:tom@aid4mail.com</p>
Recipients	<p>Messages to a particular recipient in the <i>To</i>, <i>CC</i> or <i>BCC</i> fields of the message header.</p> <p>Example:  Recipients:Fookes</p>
ReceivedBy	<p>Messages to a particular recipient in the <i>To</i>, <i>CC</i> or <i>BCC</i> fields of the message header, who is also the <a href="#">owner</a> of the email.</p> <p>Example:  ReceivedBy:amy@aid4mail.com</p>
Participants	<p>Messages from a particular sender, or to a particular recipient, in the <i>From</i>, <i>To</i>, <i>CC</i> or <i>BCC</i> fields of the message header.</p> <p>Example:  Participants:Fookes</p> <p>Example:  Participants:ceo@company.com AND Subject:(merger OR acquisition)  This would find all emails involving the CEO that mention mergers or acquisitions.</p>
DeliveredTo	<p>Messages to a particular recipient in the <i>Delivered-To</i> field of the message header.</p> <p>Example:</p>

Search operator	Searches for
	DeliveredTo:john@aid4mail.com
List	<p>Messages from or to a particular mailing list.</p> <p>Example: List:info@aid4mail.com</p>
ListID	Same as <a href="#">List</a> , using Google Vault syntax.

### 4.2.6.3 Date/Time search operators

Search within specific time frames.

Date/Time search operators are crucial in forensics and eDiscovery for establishing timelines, identifying patterns of communication, and focusing investigations on specific periods of interest.

### Which Date/Time operator to use?

Email messages contain multiple dates. The [Sent](#) and [Received](#) dates are often the most useful. However many, but not all, messages contain additional dates representing when the message was [Stored](#), [Modified](#) or deleted.

If you're not sure which date operator to use, then use the [Date](#) operator. It is the most likely to contain a value because it is an alias for one of the other dates, and Aid4Mail fills it with the most commonly-used date available.

### Date/Time format

Dates in Aid4Mail use a subset of the [International date format](#):

```
YYYY
YYYY-MM
YYYY-MM-DD
"YYYY-MM-DD hh"
"YYYY-MM-DD hh:mm"
"YYYY-MM-DD hh:mm:ss"
```

Note that:

- When the hour (hh) is specified, it must use the 24-hour clock.
- When the date and time are used together, quotes must be used due to the presence of the space character.
- If an invalid date is specified (for example 8018-18-80) then Aid4Mail will ignore it. However, if you want to search for emails with invalid dates, use zero or the word *Bad* as the date value.

Examples:

Date:2018	Finds emails from the year 2018
Date:2018-03	Finds emails from March 2018
Date:2018-03-10	Finds emails from March 10, 2018
Date:"2018-03-10 19"	Finds emails from March 10, 2018 at 7pm
Date:"2018-03-10 19:25:"	Finds emails from March 10, 2018 at 7:25pm

Date:"2018-03-10 19:25:30"	Finds emails from March 10, 2018 at 7:25pm and 30 seconds
Date:0	Finds emails with an invalid or missing date
Date:Bad	Finds emails with an invalid or missing date

## Exact dates

Exact dates to be included in a search can be specified using a colon (:) after the operator or using the [equality \(=\) operator](#). Both are equivalent and produce the same results.

Examples:

```
Date:2023-01-01
Date=2023-01-01
```

Exact dates to be excluded from a search can either be preceded by the [NOT Boolean operator](#) or [minus \(-\) operator](#) or, more concisely, using the [inequality \(<>\) comparison operator](#).

Examples (all produce the same results):

```
NOT Date:2023-01-01
NOT Date=2023-01-01
-Date:2023-01-01
-Date=2023-01-01
Date<>2023-01-01
```

## Date ranges

Date ranges with either a lower or upper limit, but not both, can be specified using [comparison operators](#):

- [Greater than \(>\)](#)
- [Less than \(<\)](#)
- [At least \(>=\)](#)
- [At most \(<=\)](#)

Examples:

Sent>2024-01-01	Finds emails sent after the date specified
Sent<2024-01-01	Finds emails sent before that date
Sent>=2024-01-01	Finds emails sent from that date onward
Sent<=2024-01-01	Finds emails sent up to that date

To specify a date range that has both a lower and upper limit, combine two search terms with the [AND Boolean operator](#). For example, to search for messages received in the first six months of 2018:

```
Received>=2018-01-01 AND Received<=2018-06-30
```

To search for confidential emails sent by a suspect during the first quarter of 2023:

```
Sent>=2023-01-01 AND Sent<=2023-03-31 AND From:suspect@aid4mail.com AND Subject:confidential
```

Note that Aid4Mail does not support Outlook's date range operator (that uses two periods between the dates). Specifying the above example as `Received:2018-01-01..2018-06-30` will not produce the desired results.

## Operators

Search operator	Searches for
Date	<p>Messages with a specific display date or within a date range.</p> <p>The <i>Date</i> operator is based on the message's display date and so is an alias for one of the other dates. Aid4Mail will use the first valid date it finds when searching in the following order: <a href="#">Received</a>, <a href="#">Sent</a>, <a href="#">Stored</a>, <a href="#">Modified</a> and, finally, the date the message was created. This makes <i>Date</i> the most trustworthy date operator to use.</p> <p>Note that email clients may use a different display date in their applications. For example, some (but not all) email clients use the <a href="#">Sent</a> date as the display date which can lead to confusion.</p> <p>Examples:</p> <pre>Date=2023-01-01 Date&gt;=2023-01-01 Date&lt;=2023-01-01 Date&lt;&gt;2023-01-01</pre>
Sent	<p>Messages sent on or relative to a specific date.</p> <p>If there is no <i>Sent</i> date, Aid4Mail will use the <a href="#">Received</a> date instead.</p> <p>Examples:</p> <pre>Sent&gt;2018-02 Sent&lt;"2018-03-10 19:30" Sent=0</pre>

Search operator	Searches for
Received	<p>Messages received on or relative to a specific date.</p> <p>Note that outbound mail will not contain a <i>Received</i> date.</p> <p>Examples:  Received=2017-01-31  Received&lt;="2010-04-03 12:15"  Received=0</p>
Stored	<p>Messages stored to disk on or relative to a specific date.</p> <p>Examples:  Stored&lt;2015  Stored&lt;&gt;2018-01-01  Stored=0</p>
Modified	<p>Messages modified on or relative to a specific date.</p> <p>Examples:  Modified&gt;=2018-01-01  Modified&lt;"2015-03-03 10:00"  Modified=0</p>
SentDay	<p>Messages sent on a specific day of the week.</p> <p>Specified using <a href="#">comparison operators</a> (&gt;, &lt;, =, &lt;&gt;, &gt;=, &lt;=) and a numerical value to represent the day (1 for Monday, 2 for Tuesday, etc.). Alternatively, the English name or 3-letter abbreviation of the day can be used.</p> <p>Examples:  SentDay: (Saturday OR Sunday)  SentDay: (Sat OR Sun)  SentDay: (6 OR 7)  SentDay&gt;Friday  SentDay&gt;5</p> <p>SentDay can be combined with SentTime to refine your search. For example, to find emails sent over lunchtime during work days (Monday to Friday):  SentDay&lt;6 AND SentTime&gt;=12 AND SentTime&lt;=14</p>



Search operator	Searches for
SentTime	<p>Messages sent at a specific time of day, irrespective of the date.</p> <p>Unlike the other date/time operators, SentTime searches for the local time, converted from the time zone specified in the SMTP header.</p> <p>Examples:  <code>SentTime&gt;=12 AND SentTime&lt;=14</code>  <code>SentTime&lt;13:30</code></p>
OlderThan	<p>Messages older than a specific amount of time, relative to today.</p> <p>Use <code>d</code>, <code>m</code> or <code>y</code> to specify whether the amount represents days, months or years.</p> <p>Examples:  <code>OlderThan:30d</code>  <code>OlderThan:6m</code></p>
NewerThan	<p>Messages newer than a specific amount of time, relative to today.</p> <p>Use <code>d</code>, <code>m</code> or <code>y</code> to specify whether the amount represents days, months or years.</p> <p>Examples:  <code>NewerThan:7d</code>  <code>NewerThan:5y</code></p>
SentBefore	<p>Messages sent before a specific date. This is the same as using <a href="#">Sent</a> with the <a href="#">&lt; operator</a>.</p> <p>Example:  <code>SentBefore:"2018-03-10 19:30"</code></p>
SentAfter	<p>Messages sent after a specific date. This is the same as using <a href="#">Sent</a> with the <a href="#">&gt; operator</a>.</p> <p>Example:  <code>SentAfter:2018-02</code></p>
ReceivedBefore	<p>Messages received before a specific date. This is the same as using <a href="#">Received</a> with the <a href="#">&lt; operator</a>.</p>

Search operator	Searches for
	<p>Example:</p> <p><code>ReceivedBefore:"2016-09-09 09:30:00"</code></p>
ReceivedAfter	<p>Messages received after a specific date. This is the same as using <a href="#">Received</a> with the <a href="#">&gt; operator</a>.</p> <p>Example:</p> <p><code>ReceivedAfter:2017</code></p>
Sent_Before	Same as <a href="#">SentBefore</a> , using Google Vault syntax.
Before	Same as <a href="#">SentBefore</a> , using Gmail syntax.
Older	Same as <a href="#">SentBefore</a> , using Gmail syntax.
Sent_After	Same as <a href="#">SentAfter</a> , using Google Vault syntax.
After	Same as <a href="#">SentAfter</a> , using Gmail syntax.
Newer	Same as <a href="#">SentAfter</a> , using Gmail syntax.
Received_Before	Same as <a href="#">ReceivedBefore</a> , using Google Vault syntax.
Received_After	Same as <a href="#">ReceivedAfter</a> , using Google Vault syntax.
Older_Than	Same as <a href="#">OlderThan</a> , using Gmail / Google Vault syntax.
Newer_Than	Same as <a href="#">NewerThan</a> , using Gmail / Google Vault syntax.

#### 4.2.6.4 Email section search operators

Search within specific parts of an email.

Search operator	Searches for
Header	<p>Messages with specific text in any part of the message header. This is the same as using <a href="#">Header[All]</a>.</p> <p>Example: Header:john@aid4mail.com</p>
Header[Field]	<p>Messages with specific text in a particular field of the message header.</p> <p>Example: Header[x-mailer]:"Apple Mail"</p> <p>You can also use <i>All</i> as a parameter to search all fields in the header.</p> <p>Example: Header[All]:helpdesk@aid4mail.com</p>
References	<p>Messages with specific references to other emails in the same thread.</p> <p>Example: References:&lt;41F653C3.3234.14AD858@localhost&gt;</p>
Subject	<p>Messages with specific text in the subject field of the message header.</p> <p>Examples: Subject:"urgent meeting" Subject:(contract OR agreement) AND AttachmentNames:*.pdf</p>
Message	<p>Messages with specific text in any part of the message body.</p> <p>Note that HTML tags are ignored by this operator so, for example, <i>&lt;em&gt;small&lt;/em&gt; dog</i> will be treated as <i>small dog</i>.</p> <p>Example: Message:(apples OR oranges)</p>

Search operator	Searches for
SenderMessage	<p>Messages with specific text in the newest part of the message body—the part that was created by the sender. (In an email reply, previous messages in the thread are often quoted beneath the new content. This operator ignores the quoted part and only searches the sender's new content.)</p> <p>Note that HTML tags are ignored by this operator so, for example, <code>&lt;em&gt;small&lt;/em&gt; dog</code> will be treated as <i>small dog</i>.</p> <p>Example: <code>SenderMessage:"call me"</code></p> <p>Note that identifying the end of a sender's message, and the start of the quoted email thread, can be challenging due to the lack of a standard delimiter. This is compounded by the fact that, in plain-text emails, the delimiter is language-dependent. This makes absolute accuracy difficult to achieve.</p> <p>Aid4Mail can detect the most common language delimiters (in English, French, German, Italian, Portuguese, and Spanish). You can customize these, and add additional language delimiters, in the <i>BeginQuotedPart.dat</i> configuration file. Before doing so, copy the file from the <i>Data</i> subfolder of your Aid4Mail <a href="#">program folder</a> to the <i>Data</i> subfolder of your <a href="#">application data</a> folder. Edit the latter so that your changes are preserved following Aid4Mail updates.</p>
Text	<p>Messages with specific text in any part of the message body, or in any plain text or HTML attachments.</p> <p>Note that HTML tags are ignored by this operator so, for example, <code>&lt;em&gt;small&lt;/em&gt; dog</code> will be treated as <i>small dog</i>.</p> <p>Example: <code>Text:(apples OR oranges)</code></p>
Raw	<p>Messages with specific text in raw MIME format, in any part of the email.</p>

Search operator	Searches for																		
	<p>This operator is useful for searching for specific content types, or words within known HTML tags. Unlike the <a href="#">Message</a>, <a href="#">SenderMessage</a> and <a href="#">Text</a> operators, HTML tags are not ignored.</p> <p>Examples: Raw:"Content-Type: multipart/mixed" Raw:&lt;del&gt;red&lt;/del&gt;</p>																		
FileText	<p>Messages with specific text in an attachment, or in a file inside an attachment (for example a Word file inside a ZIP attachment). It also searches text in EXIF, IPTC and XMP metadata in JPEG, TIFF and PSD images but excludes all other metadata.</p> <p>This operator is only available in <a href="#">Aid4Mail Enterprise</a> and <a href="#">Investigator</a> and is not affected by the <a href="#">attachment options in the item filtering settings</a>. Most common <a href="#">file types are supported</a>.</p> <p>Examples: FileText:(apples OR oranges) FileText:"artist:*doisneau"</p> <p>If you know what type of document contains the search terms, you can speed up the search by specifying the document type in square brackets following the operator name.</p> <p>Examples: FileText[Pdf]:(apples OR oranges) FileText[Image]:"artist:*doisneau"</p> <p>The following document types are supported:</p> <table><tr><td>Audio</td><td>Jpeg</td><td>Spreadsheet</td></tr><tr><td>Database</td><td>Multimedia</td><td>Tiff</td></tr><tr><td>Document</td><td>Pdf</td><td>Video</td></tr><tr><td>Email</td><td>Powerpoint</td><td>Website</td></tr><tr><td>Excel</td><td>Presentation</td><td>Word</td></tr><tr><td>Image</td><td>SourceCode</td><td></td></tr></table> <p>Several document types can be specified in a list, separated by <a href="#">vertical bar ( ) operators</a>: FileText[Pdf Word Excel]:(apples oranges)</p>	Audio	Jpeg	Spreadsheet	Database	Multimedia	Tiff	Document	Pdf	Video	Email	Powerpoint	Website	Excel	Presentation	Word	Image	SourceCode	
Audio	Jpeg	Spreadsheet																	
Database	Multimedia	Tiff																	
Document	Pdf	Video																	
Email	Powerpoint	Website																	
Excel	Presentation	Word																	
Image	SourceCode																		

Search operator	Searches for																		
	<p>Document types can be excluded by starting the list with the <a href="#">minus (-) operator</a>. All document types will then be searched except those in the list. For example:</p> <pre>FileText [-Multimedia Database] : (apples oranges)</pre> <p>The more you narrow down the document type in your search script the faster Aid4Mail will run.</p>																		
FileMetadata	<p>Messages with specific metadata in attachments, and in files contained inside attachments, from a wide range of file formats.</p> <p>This operator is only available <a href="#">Aid4Mail Enterprise</a> and <a href="#">Investigator</a> and is not affected by the <a href="#">attachment options in the item filtering settings</a>. Note that collecting metadata requires considerable system resources and can impact Aid4Mail's performance.</p> <p>Example:</p> <pre>FileMetadata:Fookes</pre> <p>If you know the type of document containing the search terms, you can speed up the search by specifying the document type in square brackets after the operator name.</p> <p>Example:</p> <pre>FileMetadata [Pdf] :Fookes</pre> <p>The following document types are supported:</p> <table><tr><td>Audio</td><td>Image</td><td>SourceCode</td></tr><tr><td>Database</td><td>Jpeg</td><td>Spreadsheet</td></tr><tr><td>Document</td><td>Multimedia</td><td>Tiff</td></tr><tr><td>Email</td><td>Pdf</td><td>Video</td></tr><tr><td>Excel</td><td>Powerpoint</td><td>Website</td></tr><tr><td>GoogleDrive</td><td>Presentation</td><td>Word</td></tr></table> <p>Several document types can be specified in a list, separated by <a href="#">vertical bar ( ) operators</a>:</p> <pre>FileMetadata [Pdf Word Excel] :Fookes</pre> <p>Document types can be excluded by starting the list with the <a href="#">minus (-) operator</a>. All document types will then be searched except those in the list. For example:</p> <pre>FileMetadata [-Multimedia Database] :Fookes</pre>	Audio	Image	SourceCode	Database	Jpeg	Spreadsheet	Document	Multimedia	Tiff	Email	Pdf	Video	Excel	Powerpoint	Website	GoogleDrive	Presentation	Word
Audio	Image	SourceCode																	
Database	Jpeg	Spreadsheet																	
Document	Multimedia	Tiff																	
Email	Pdf	Video																	
Excel	Powerpoint	Website																	
GoogleDrive	Presentation	Word																	

Search operator	Searches for
	<p>The more you narrow down the document type in your search script, the more results you will get.</p> <p>Note that searchable metadata in cloud attachments will be formatted as follows:</p> <p>Author: fred@aid4mail.net  Collaborators: wilma@aid4mail.net, barney@aid4mail.net  DateCreated: 2024-04-03 20:01:38  DateModified: 2024-04-04 17:46:42  DocId: 1aBFPUapK1RANfceFV2adIYmpUjgj7Y88faRdkwZbzo4  FileName: Why Hyperlinked Files Should Be _1aBFPUapK1RANfceFV2adIYmpUjgj7Y88faRdkwZbzo4  Title: Why Hyperlinked Files Should Be Treated as Email Attachments  Viewers: john.doe@domain.com</p> <p>Example:  FileMetadata[GoogleDrive]:"Collaborators:**wilma@aid4mail.net"</p>
AttachmentNames	<p>Messages containing attachments with a specific filename or extension. It does not search files contained inside attachments.</p> <p>Examples:  AttachmentNames:JanuaryReport.pdf  AttachmentNames:pdf  Subject:(contract OR agreement) AND AttachmentNames:*.pdf</p>
FileNames	<p>Messages containing files with a specific filename or extension. It searches both attachments and any files contained within them.</p> <p>Examples:  FileNames:JanuaryReport.pdf  FileNames:pdf</p>
FileName	<p>Same as <a href="#">AttachmentNames</a>, using Gmail / Google Vault / MS Office syntax.</p>

## 4.2.6.5 Email attribute search operators

Search for emails with specific attributes.

Search operator	Searches for
Importance	<p>Messages with a particular level of importance.</p> <p>Options:</p> <pre>Importance: Highest Importance: High Importance: Medium Importance: Low Importance: Lowest</pre> <p>You can list multiple alternatives, separated by <a href="#">vertical bar ( )</a> <a href="#">operators</a>:</p> <pre>Importance: Highest   High</pre>
Type	<p>Messages of a particular type.</p> <p>Options:</p> <pre>Type: Calendar Type: Chat Type: Contact Type: Deleted Type: Draft Type: Duplicate Type: Encrypted Type: Filtered Type: Forwarded Type: Important Type: Journal Type: Journaled Type: List Type: News Type: Note Type: Notification Type: Notify Type: Offline Type: Partial Type: Personal Type: Read Type: Received Type: Redirected Type: Replied Type: Sent Type: Spam Type: Starred Type: Task Type: Unpurged Type: Unread Type: Unsent</pre> <p>Example:</p> <pre>Type: Personal AND Size &gt; 5M AND AttachmentNames: *.zip</pre> <p>This would find personal emails (not bulk messages) larger than 5MB with zip attachments, which could be relevant in data exfiltration investigations.</p> <p>You can list multiple types to search, separated by <a href="#">vertical bar ( )</a> <a href="#">operators</a>:</p> <pre>Type: Deleted   Unpurged</pre>



Search operator	Searches for
	<p>The <a href="#">Glossary</a> contains definitions for the following types:</p> <ul style="list-style-type: none"> <li>• <a href="#">Duplicate</a></li> <li>• <a href="#">Encrypted</a></li> <li>• <a href="#">Journal</a></li> <li>• <a href="#">Journaled</a></li> <li>• <a href="#">Offline</a></li> <li>• <a href="#">Partial</a></li> <li>• <a href="#">Personal</a></li> <li>• <a href="#">Unpurged</a></li> </ul>
Category	<p>Google messages, and older Outlook messages, of a particular <i>category</i>.</p> <p>Options:</p> <pre>Category:Social Category:Promotions Category:Updates Category:Forums Category:Blue Category:Green Category:Yellow Category:Pink Category:White</pre> <p>Social, Promotions, Updates and Forums are only applicable when when your source <a href="#">format</a> is:</p> <ul style="list-style-type: none"> <li>• <i>Gmail and Google Workspace</i></li> <li>• <i>Google Takeout</i></li> <li>• <i>Google Vault</i></li> </ul> <p>Blue, Green, Yellow, Pink and White are only applicable when when your source <a href="#">format</a> is:</p> <ul style="list-style-type: none"> <li>• <i>Outlook profile</i></li> <li>• <i>PST file</i> (and <a href="#">Process using Outlook</a> is selected)</li> <li>• <i>MSG files</i> (and <a href="#">Process using Outlook</a> is selected)</li> </ul> <p>and the source mail was categorized using an older version of Outlook.</p> <p>Example:</p> <pre>Category:Blue</pre> <p>You can list multiple categories to search, separating them with <a href="#">vertical bar ( ) operators</a>:</p> <pre>Category:Social Promotions</pre>

Search operator	Searches for																				
MapiCategories	<p>Newer Outlook messages of a particular category (including custom categories).</p> <p>Only applicable when your source <a href="#">format</a> is:</p> <ul style="list-style-type: none"> <li>• <i>Outlook profile</i></li> <li>• <i>PST file</i> (and <a href="#">Process using Outlook</a> is selected)</li> <li>• <i>MSG files</i> (and <a href="#">Process using Outlook</a> is selected)</li> </ul> <p>and the source mail was categorized using a newer version of Outlook.</p> <p>Example: MapiCategories:Red</p> <p>Place the category name in double-quotes if it includes a space: MapiCategories:"Invoices and bills"</p> <p>You can list multiple category keywords to search, separating them with <a href="#">vertical bar ( ) operators</a>: MapiCategories:Red "Invoices and bills"</p>																				
Content	<p>Messages with an attached or embedded file of a particular type, or with a link to a Google Drive or OneDrive attachment.</p> <p>Options:</p> <table> <tbody> <tr> <td>Content:Archive</td><td>Content:Jpeg</td></tr> <tr> <td>Content:Attachment</td><td>Content:Multimedia</td></tr> <tr> <td>Content:Audio</td><td>Content:OneDrive</td></tr> <tr> <td>Content:Database</td><td>Content:Pdf</td></tr> <tr> <td>Content:Document</td><td>Content:Powerpoint</td></tr> <tr> <td>Content:Drive (same as Content:Drive)</td><td>Content:Presentation</td></tr> <tr> <td>Content:Email</td><td>Content:SourceCode</td></tr> <tr> <td>Content:Excel</td><td>Content:Spreadsheet</td></tr> <tr> <td>Content:GoogleDrive</td><td>Content:Video</td></tr> <tr> <td>Content:Image</td><td>Content:Word</td></tr> </tbody> </table> <p>You can search for multiple options, separating them with <a href="#">vertical bar ( ) operators</a>: Content:Pdf Word GoogleDrive OneDrive</p>	Content:Archive	Content:Jpeg	Content:Attachment	Content:Multimedia	Content:Audio	Content:OneDrive	Content:Database	Content:Pdf	Content:Document	Content:Powerpoint	Content:Drive (same as Content:Drive)	Content:Presentation	Content:Email	Content:SourceCode	Content:Excel	Content:Spreadsheet	Content:GoogleDrive	Content:Video	Content:Image	Content:Word
Content:Archive	Content:Jpeg																				
Content:Attachment	Content:Multimedia																				
Content:Audio	Content:OneDrive																				
Content:Database	Content:Pdf																				
Content:Document	Content:Powerpoint																				
Content:Drive (same as Content:Drive)	Content:Presentation																				
Content:Email	Content:SourceCode																				
Content:Excel	Content:Spreadsheet																				
Content:GoogleDrive	Content:Video																				
Content:Image	Content:Word																				
Size	<p>Messages with a particular size, or size range, specified using <a href="#">comparison operators</a> (&gt;, &lt;, =, &lt;&gt;, &gt;=, &lt;=). Size units are specified using B, K, M, or G (for bytes, KB, MB and GB, respectively).</p>																				

Search operator	Searches for
	<p>Examples:</p> <p>Size&lt;=25M</p> <p>Size&gt;25B</p>
Larger	<p>Messages larger than a particular size. This is the same as using <a href="#">Size</a> with the <a href="#">&gt; operator</a>. Size units are specified using B, K, M, or G (for bytes, KB, MB and GB, respectively).</p> <p>Example:</p> <p>Larger:100B (same as Size&gt;100B)</p>
Smaller	<p>Messages smaller than a particular size. This is the same as using <a href="#">Size</a> with the <a href="#">&lt; operator</a>. Size units are specified using B, K, M, or G (for bytes, KB, MB and GB, respectively).</p> <p>Example:</p> <p>Smaller:20M (same as Size&lt;20M)</p>
Is	Same as <a href="#">Type</a> , using Gmail / Google Vault syntax.
IsRead	<p>Same as <a href="#">Type:Read</a>, using MS Office syntax.</p> <p>Options:</p> <p>IsRead:True (same as Type:Read)</p> <p>IsRead:False (same as NOT Type:Read)</p>
IsSent	<p>Same as <a href="#">Type:Sent</a>.</p> <p>Options:</p> <p>IsSent:True (same as Type:Sent)</p> <p>IsSent:False (same as NOT Type:Sent)</p>
Has	Same as <a href="#">Content</a> , using Gmail / Google Vault syntax.
HasAttachment	<p>Same as <a href="#">Content:Attachment</a>, using MS Office syntax.</p> <p>Options:</p>

Search operator	Searches for
	HasAttachment:True (same as Content:Attachment) HasAttachment:False (same as NOT Content:Attachment)

## 4.2.6.6 Email ID search operators

Search for emails by their unique identifiers.

Search operator	Searches for
MessageId	<p>Messages with a particular ID as specified in the <a href="#">RFC 822 standard</a>.</p> <p>Note that, if the application that created and sent the message did not add a message ID, it is sometimes added by servers that the message passes through. However, some messages don't contain any message ID at all.</p> <p>Specify a single ID to search, or multiple IDs separated by <a href="#">vertical bar ( ) operators</a>. Alternatively, specify a file that contains a list of IDs (use the <a href="#">Exact</a> modifier for faster processing of the list).</p> <p>Example:  MessageId:&lt;0000000000000615e100583c436d4@google.com&gt;  MessageId:{Exact=C:\Temp\MessageId.txt}</p> <p>(Please refer to the <a href="#">Punctuation</a> topic for details of how to use Braces with the Exact modifier.)</p>
EntryId	<p>Messages from a PST or OST file with a particular PR_ENTRYID property in Base64 format.</p> <p>Specify a single ID to search, or multiple IDs separated by <a href="#">vertical bar ( ) operators</a>. Alternatively, specify a file that contains a list of IDs (use the <a href="#">Exact</a> modifier for faster processing of the list).</p> <p>Examples:  EntryId:AAAAACAxEBNkXX9FrLrZhRrXpa6EACAA  EntryId:{Exact=C:\Temp\EntryId.txt}</p> <p>(Please refer to the <a href="#">Punctuation</a> topic for details of how to use Braces with the Exact modifier.)</p>
Uid	<p>Messages from an <a href="#">IMAP</a> server with a particular UID (unique ID).</p> <p>Specify a single ID to search, or multiple IDs separated by <a href="#">vertical bar ( ) operators</a>. Alternatively, specify a file that contains a list of IDs (use the <a href="#">Exact</a> modifier for faster processing of the list).</p>

Search operator	Searches for
	<p>Examples:</p> <p>UId:397670</p> <p>UId:397670 397671</p> <p>UId:{exact=C:\Temp\UID.txt}</p>
Md5	<p>Messages with a particular <a href="#">MD5 signature</a>.</p> <p>Specify a single MD5 signature to search, or multiple signatures separated by <a href="#">vertical bar ( ) operators</a>. Alternatively, specify a file that contains a list of signatures (use the <a href="#">Exact</a> modifier for faster processing of the list).</p> <p>Examples:</p> <p>Md5:7b7e8488d0b11ff6dd30064fa5ff79c1</p> <p>Md5:{exact=C:\Temp\MD5.txt}</p>
Mih	<p>Messages with a particular <a href="#">EDRM Message Identification Hash (EDRM MIH)</a> value.</p> <p>Specify a single EDRM MIH value to search, or multiple values separated by <a href="#">vertical bar ( ) operators</a>. Alternatively, specify a file that contains a list of MIH values (use the <a href="#">Exact</a> modifier for faster processing of the list).</p> <p>Examples:</p> <p>Mih:7b7e8488d0b11ff6dd30064fa5ff79c1</p> <p>Mih:{exact=C:\Temp\Mih.txt}</p>
Rfc822MsgId	Same as <a href="#">MessageId</a> , with Gmail / Google Vault syntax.

### 4.2.7 Boolean operators

## Definition and usage

Boolean operators (also known as logical operators) enable you to combine or exclude search terms. They are essential tools in Aid4Mail, enabling forensics experts and eDiscovery professionals to create complex, precise queries to pinpoint relevant emails within large datasets.

Note that Boolean operators cannot be used in search lists—they will be treated as literal characters.

## Operators

Boolean operator	Description
AND	<p>Syntax: <code>term1 AND term2</code></p> <p>Finds emails that contain all of the specified terms.</p> <p>The operator and terms must be separated by spaces.</p> <p>Examples:</p> <p><code>embezzlement AND "financial records"</code></p> <p>Finds messages that contain both the word <i>embezzlement</i> and the phrase <i>financial records</i>.</p> <p><code>From:john@aid4mail.com AND To:mary@aid4mail.com</code></p> <p>Finds messages sent from John to Mary.</p>
OR	<p>Syntax: <code>term1 OR term2</code></p> <p>Finds emails that contain at least one of the specified terms.</p> <p>The operator and terms must be separated by spaces.</p> <p>Examples:</p> <p><code>bribery OR kickback</code></p> <p>Finds emails that contain both the word <i>bribery</i> and the word <i>kickback</i>.</p> <p><code>From:john@aid4mail.com OR To:mary@aid4mail.com</code></p> <p>Finds messages sent from John, or messages sent to Mary, including messages sent from John to Mary.</p>

Boolean operator	Description
XOR	<p>Syntax: <code>term1 XOR term2</code></p> <p>Finds emails that contain either one term or the other, but not both. The operator and terms must be separated by spaces.</p> <p>Examples:</p> <p><code>"intellectual property" XOR patent</code></p> <p>Finds emails that contain either the phrase <i>intellectual property</i>, or the word <i>patent</i>, but not both.</p> <p><code>From:john@aid4mail.com XOR To:mary@aid4mail.com</code></p> <p>Finds messages sent from John, or messages sent to Mary, but rejects messages sent from John to Mary.</p>
NOT	<p>Syntax: <code>NOT term</code></p> <p>Excludes emails containing the specified term. The operator and term must be separated by a space.</p> <p>Examples:</p> <p><code>NOT vacation</code></p> <p>Finds messages that do not contain the word <i>vacation</i>.</p> <p><code>confidential AND NOT draft</code></p> <p>Finds messages that contain the word <i>confidential</i> but do not contain the word <i>draft</i>.</p> <p><code>(NOT From:john@aid4mail.com) AND To:mary@aid4mail.com</code></p> <p>Finds messages that were sent to Mary except those sent by John.</p>
+	<p>Used as an abbreviated <a href="#">AND</a> operator in certain contexts. Does not use a space to separate the operator and terms.</p> <p>Example: <code>vacation+bahamas</code></p>
	<p>Used as an abbreviated <a href="#">OR</a> operator in certain contexts. Does not use a space to separate the operator and terms.</p>



Boolean operator	Description
	Example: <code>vacation bahamas</code>
<code>^</code>	Used as an abbreviated <a href="#">XOR</a> operator in certain contexts. Does not use a space to separate the operator and terms.  Example: <code>vacation^bahamas</code>
<code>-</code>	Used as an abbreviated <a href="#">NOT</a> operator in certain contexts. Does not use a space to separate the operator and term.  Example: <code>-vacation</code>

## Capitalization

Boolean operators do not have to be capitalized. So `vacation and bahamas` is the same as `vacation AND bahamas`. However, capitalizing Boolean operators increases readability and is recommended in most cases.

## Implicit AND operator

If no Boolean operator is specified between search terms, the AND operator will be used. So `vacation bahamas` is the same as `vacation AND bahamas`.

## Grouping operations

[Parentheses](#) are used to group operations or to give preferential treatment to specific parts of a search term. For example:

- `From: (john@aid4mail.com OR mary@aid4mail.com)`
- `vacation AND (bahamas OR seychelles)`
- `apple XOR (orange AND (lemon OR lime))`

## Order of precedence

The order of precedence of Boolean operators is:

() > NOT > AND > XOR > OR

That is, [Parentheses](#) are processed before [NOT](#) operators, which are processed before [AND](#) operators. These are processed before [XOR](#) operators, with [OR](#) operators being processed last. (Note that this is different to the order of precedence in Gmail that puts OR before AND.) Understanding this order is crucial for creating accurate, complex search queries.

### Example 1

```
Subject:contract OR agreement AND Sender:john.doe@aid4mail.com
```

The AND operator has higher precedence than OR. As a result, this search query will match emails that have the word *contract* in the subject line, as well as emails from john.doe@aid4mail.com that have the word *agreement* anywhere in the email. In other words, this search query is equivalent to: Subject:contract OR (agreement AND Sender:john.doe@aid4mail.com)

### Example 2

```
Subject:(contract OR agreement) AND Sender:john.doe@aid4mail.com
```

This query will match emails sent by john.doe@aid4mail.com that have either *contract* or *agreement* in the subject line.

## Examples of Complex Queries

By leveraging Boolean operators and understanding their order of precedence, forensics and eDiscovery professionals can craft highly specific search queries. This allows for efficient filtering of large email datasets, helping to quickly identify the most relevant communications for an investigation or legal proceeding.

### Example: Investigating potential insider trading

```
((("insider information" OR "material nonpublic") AND (trade OR stock OR share))
```

This query looks for discussions of insider information or material nonpublic information in relation to trades, stocks, or shares, while excluding newsletters and press releases.

**Example: Examining communication patterns in a fraud case**

```
Date>=2023-01-01 AND Date<=2023-06-30 AND (From:suspect@company.com OR To:suspect@company.com)
```

This query focuses on emails to or from a suspect, involving financial terms, within a specific six-month period.

**Example: Identifying potential data breaches**

```
("data leak" OR "information breach" OR "unauthorized access") AND (customer OR client OR patient)
```

This search looks for mentions of data breaches involving customer, client, or patient information, while excluding emails about security drills or tests.

**Example: Investigating intellectual property theft**

```
("trade secret" OR patent OR copyright) AND (steal OR theft OR misappropriate OR misuse)
```

This query searches for discussions about stealing or misusing intellectual property, excluding emails that might be from the legal department discussing these terms in a different context.

**Example: Examining conflicts of interest**

```
("conflict of interest" OR "competing interest" OR "personal benefit") AND (disclosure OR reporting OR concealment)
```

This complex query looks for emails discussing conflicts of interest in relation to disclosure or reporting, or alternatively, concealment of such conflicts, but not both simultaneously.

### 4.3 Native search terms

Aid4Mail supports the use of native search terms that are sent directly to the mail server software to carry out a pre-acquisition search server-side. They are part of Aid4Mail's [native filter](#) and can significantly increase performance. This is because well-crafted native search terms will minimize the number of individual emails (or non-email items) that Aid4Mail has to download and subsequently process.

You can read more about native filters in the [Filter stages](#) and [Processing sequence](#) topics. You can enter your native search terms in the [Native search terms section of Aid4Mail's filter settings](#).

Unfortunately each mail service provider can have its own native search syntax. A brief overview of the most common, [Gmail](#), [Microsoft 365](#) and [IMAP](#), follows.

#### Gmail

Gmail's native search syntax is exactly the same as that used in the Gmail web and mobile applications. It is similar to [Aid4Mail's search syntax](#) and to Microsoft 365's [KQL](#).

Please refer to the [Gmail search syntax / KQL](#) topic for basic information. For a more complete reference, visit the [Gmail search operators](#) page on the Google website.

#### Microsoft 365

Microsoft 365 supports two different protocols: [OData](#) and [KQL](#). Due to a serious limitation imposed by KQL and discussed [below](#), Aid4Mail uses OData by default unless you specify otherwise.

#### OData

Aid4Mail treats native search terms used with Microsoft 365 as OData expressions by default. However, OData syntax is complex and beyond the scope of this document. Full details can be found at the [OData protocol](#) page on the OASIS (Organization for the Advancement of Structured Information Standards) website.

#### KQL

KQL (Keyword Query Language) has a syntax similar to both [Aid4Mail](#) and [Gmail](#). Unfortunately, it has a major limitation: KQL in the Microsoft Graph API is limited to delivering a maximum of 275 search results per folder. For example, if your search criteria

match 500 items in a folder, only 275 of these will be delivered. This is such a serious constraint that **we cannot recommend using KQL** except in situations where you know folders contain less than 275 items.

To use a [KQL](#) expression in Aid4Mail, simply prefix it with `kql=`. This tells Aid4Mail to interpret the line as KQL rather than OData. For example:

```
kql=from:john to:sally subject:salary
```

Please refer to the [Gmail search syntax / KQL](#) topic for basic syntax information. For a more complete reference, visit the [KQL search operators](#) page on Microsoft's website.

## IMAP

Every [IMAP](#) server can potentially have its own proprietary syntax. However there is a common core that is generally supported by most IMAP servers. Please refer to the [IMAP search syntax](#) topic for basic information.

For a more complete reference, visit the following pages on the Internet Engineering Task Force (IETF) website:

- [Standard IMAP search syntax](#)
- [Extended IMAP search syntax](#)

Note that if you are accessing a Gmail account via IMAP, use [Gmail search syntax](#) instead of IMAP syntax.

### 4.3.1 Gmail search syntax / KQL

Note that this section is provided as a light introduction. For detailed information, please consult the documentation for each mail service in the links below:

- [Gmail search operators](#)
- [KQL search operators](#)

## Search terms

Gmail's native search syntax and Microsoft 365's KQL are very similar to Aid4Mail's [search terms](#). They can all be used without search operators to search every part of an email. For example, to find emails containing the word *education* you would simply write this in Aid4Mail's [Native search query](#) field:

```
education
```

To find emails with both the words *education* and *conference* you would write:

```
education conference
```

Note that:

- All search terms must be written in one line.
- Gmail search and KQL are both case-insensitive.

## Boolean operators

Both Gmail and KQL support the Boolean operators *AND*, *OR* and *NOT*, using the same syntax as [Aid4Mail's Boolean operators](#). For example, to find emails with both the words *education* and *conference* (as in the example above) you could explicitly use the *AND* operator:

```
education AND conference
```

As in [Aid4Mail's syntax](#), when no Boolean operator is specified, the *AND* operator is automatically used.

To find emails containing either *education* or *conference* or both, you would use the *OR* operator:

```
education OR conference
```

To find emails containing *education* but not *conference*, you would write:

```
education AND NOT conference
```

Note that when using multiple Boolean operators without parentheses, both Aid4Mail and KQL give precedence to *AND* operators over *OR* operators. Gmail does the opposite, giving *OR* precedence over *AND*. Take the following search terms for example:

```
education AND conference OR test
```

Aid4Mail and KQL will interpret them as:

```
(education AND conference) OR test
```

Gmail will interpret them as:

```
education AND (conference OR test)
```

The use of parentheses is recommended to avoid confusion.

## Wildcards

Gmail will find substrings within a larger word. For example, the search term `cat` will find the words *Cathy* and *Meercat*.

This is not the case for KQL which, like Aid4Mail, requires wildcards to do this. However, unlike Aid4Mail that supports a [variety of wildcards](#) placed anywhere in the search term, KQL only supports the [asterisk \(\\*\) wildcard](#) and only at the end of a search term. This means that in KQL, `cat*` will find *Cathy* but `*cat` will not find *Meercat*.

## Search operators

You can refine your native filter with search operators, many of which are the same as [Aid4Mail's search operators](#).

For example, to find emails sent from John to Sally with the word *salary* in the subject line, using either Gmail's search syntax or Microsoft 365's KQL, you would write:

```
from:john to:sally subject:salary
```

However, there are differences between Gmail and KQL search operators. For example, to refine the above search to only include emails sent after June 2019, there would be a difference in syntax between the two:

```
from:john to:sally subject:salary after:06/30/2019 (Gmail)
from:john to:sally subject:salary sent>06/30/2019 (KQL)
```

Note that date formatting (06/30/2019) in Gmail and KQL is different to the [International date format](#) (2019-06-30) used by Aid4Mail's [date/time operators](#).

Gmail has many more search operators than KQL and so offers greater flexibility. For detailed information on the operators available and how they should be used, please refer to their respective documentation:

- [Gmail search operators](#)
- [KQL search operators](#)



## 4.3.2 IMAP search syntax

Note that this section is provided as a light introduction. For a more complete reference, please visit the following pages on the Internet Engineering Task Force (IETF) website:

- [Standard IMAP search syntax](#)
- [Extended IMAP search syntax](#)

Note that if you are accessing a Gmail account via IMAP, use [Gmail search syntax](#) instead of IMAP syntax.

## Search operator syntax

Unlike [Aid4Mail](#), [Gmail](#) and [KQL](#), native IMAP [search operators](#) are followed by a space rather than a colon. For example, the following search term will find all items dated from November 27, 2019 to May 22, 2020:

```
SINCE 27-Nov-2019 BEFORE 23-may-2020
```

Note that date formatting (27-Nov-2019) in IMAP is different to the [International date format](#) (2019-11-27) used by Aid4Mail's [date/time operators](#).

## List of search operators

The IETF website [lists](#) the IMAP search operators available (referring to them as *search keys*). However, as they are located in the middle of a long document, this information has been copied to the table below for your convenience:

Search operator (aka search key)	Finds
ALL	All messages in the mailbox.
ANSWERED	Messages with the \Answered flag set.
UNANSWERED	Messages that do not have the \Answered flag set.
DELETED	Messages with the \Deleted flag set.
UNDELETED	Messages that do not have the \Deleted flag set.
DRAFT	Messages with the \Draft flag set.

Search operator (aka search key)	Finds
UNDRAFT	Messages that do not have the \Draft flag set.
FLAGGED	Messages with the \Flagged flag set.
UNFLAGGED	Messages that do not have the \Flagged flag set.
RECENT	Messages that have the \Recent flag set.
OLD	Messages that do not have the \Recent flag set.
SEEN	Messages that have the \Seen flag set.
UNSEEN	Messages that do not have the \Seen flag set.
NEW	Messages that have the \Recent flag set but not the \Seen flag. This is functionally equivalent to “(RECENT UNSEEN)”.
KEYWORD <flag>	Messages with the specified keyword set.
UNKEYWORD <flag>	Messages that do not have the specified keyword set.
BEFORE <date>	Messages whose internal date is earlier than the specified date.
ON <date>	Messages whose internal date is within the specified date.
SINCE <date>	Messages whose internal date is within or later than the specified date.
SENTBEFORE <date>	<p>Messages whose Date header is earlier than the specified date.</p> <p>This operator appears to be <b>unreliable when used in Yahoo! Mail and AOL</b>. Use the <a href="#">BEFORE</a> operator instead.</p>
SENTON <date>	Messages whose Date header is within the specified date.
SENTSINCE <date>	Messages whose Date header is within or later than the specified date.

Search operator (aka search key)	Finds
	This operator appears to be <b>unreliable when used in Yahoo! Mail and AOL</b> . Use the <a href="#">SINCE</a> operator instead.
TO <string>	Messages that contain the specified string in the TO header.
FROM <string>	Messages that contain the specified string in the FROM header.
CC <string>	Messages that contain the specified string in the CC header.
BCC <string>	Messages that contain the specified string in the BCC header.
SUBJECT <string>	Messages that contain the specified string in the Subject header.
BODY <string>	Messages that contain the specified string in the message body.
TEXT <string>	Messages that contain the specified string in the header or in the message body.
HEADER <field-name> <string>	Messages that have a header with the specified field-name and that contain the specified string in the field-body.
UID <message UID>	Messages with unique identifiers corresponding to the specified unique identifier set.
LARGER <n>	Messages with a size larger than the specified number of bytes.
SMALLER <n>	Messages with a size smaller than the specified number of bytes.
NOT <search-key>	Messages that do not match the specified search key.
OR <search-key1> <search-key2>	Messages that match either search key.

## Examples

- SENTSINCE 01-Mar-2017 SENTBEFORE 05-Mar-2017  
Finds items whose *Date* fields are from March 1 to 4, 2017.

- `FLAGGED SINCE 1-Feb-2014 NOT FROM "Smith"`  
Finds flagged items, with internal dates on or after February 1, 2014, whose *From* fields do not contain the word "Smith".
- `UNANSWERED SENTSINCE 04-Mar-2007 Subject "Problem"`  
Finds items that have not been marked as *Answered*, and whose *Date* fields are on or after March 4, 2007, and contain the word "Problem" in their *Subject* fields.
- `BODY "problem solved"`  
Finds items with the phrase "problem solved" in their message bodies.
- `OR SUBJECT Help SUBJECT Question`  
Finds items with either of the words "Help" or "Question" in their *Subject* fields.
- `OR DELETED (SEEN ANSWERED)`  
Finds items marked either as *Deleted* or as both *Seen* and *Answered*.

## Resources

For a more complete reference, please visit the following pages on the Internet Engineering Task Force (IETF) website:

- [Standard IMAP search syntax](#)
- [Extended IMAP search syntax](#)

Further information and examples can be found at the [4D Doc Center](#) and the [Microsoft Developer Network](#).

## 4.4 Search lists

When a filter requires a lot of [search terms](#), it can be convenient to store them as a list in an external [file](#). This makes it easier to reuse them later or share them between [multiple sessions](#). You can create a search list file in any text editor or [directly in Aid4Mail](#).

### Using the SearchList modifier

In a search term in a [folder search query](#) or [item search query](#), use the `SearchList` modifier inside [braces](#) to tell Aid4Mail to use a search list and where to find the [file](#). For example:

```
{SearchList=Search list.txt}
```

This assumes that the file is located in the *SearchLists* subfolder of your [project folder](#). You can place the file elsewhere but will then need to specify its full path. For example:

```
{SearchList=C:\Filters\Search list.txt}
```

The `SearchList` modifier inside [braces](#) can be used a stand-alone search term, as in the examples above, or as part of a more complex search term:

```
Subject:{SearchList=C:\Filters\Subjects.txt}
```

It can also be combined with other search terms:

```
car AND {SearchList=CarModels.txt}
```

Including those containing other search lists:

```
{SearchList=Include.txt} AND NOT {SearchList=Exclude.txt}
```

The last example will find emails that contain any of the search terms listed in file *Include.txt* and don't contain any in *Exclude.txt*.

### Search list files

This section is separated into four sub-topics:

- [Search list content](#)
- [Tokenization](#)
- [Search list behavior](#)
- [Search term behavior](#)

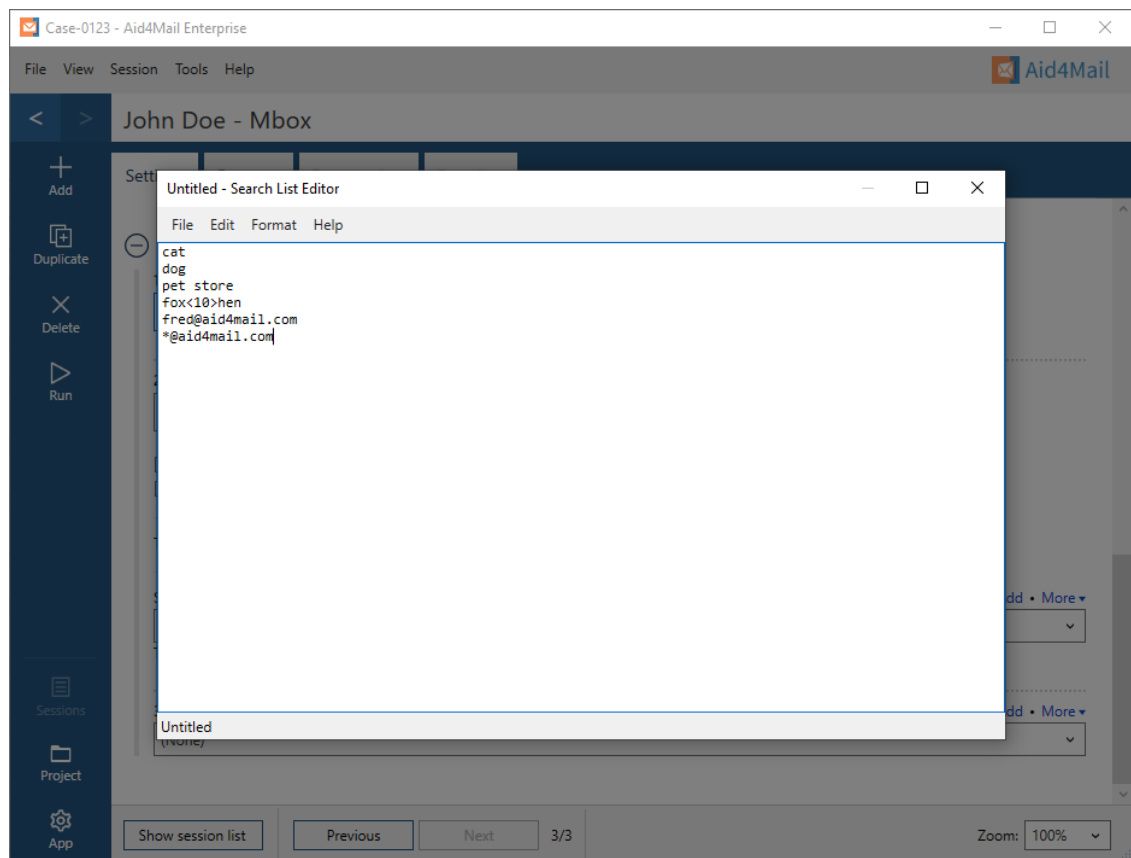
#### 4.4.1 Search list content

A search list file must contain one [search term](#) per line. For example:

```
cat
dog
pet store
fox<10>hen
fred@aid4mail.com
*@aid4mail.com
```

Search terms can be single words or phrases. Note that phrases in a search list do not need to be enclosed in [double-quotes](#), as demonstrated by the phrase *pet store* in the example above. In fact, search lists cannot include quotes or any other punctuation as explained [below](#).

The following screenshot shows the above example entered into Aid4Mail (using the *Add* button above the [Search list](#) field, after selecting [Basic search](#) in the item filter).



*A search list added in Aid4Mail.*

## Wildcards, operators and punctuation in search lists

Search terms in search lists can contain [wildcards](#) but not [Boolean operators](#), [punctuation](#) or [search operators](#). For example, the following lines in a search list would **not** be valid:

```
subject:cat
cat AND dog
```

By default, an [OR](#) operator is automatically applied between each line in the search list. A match occurs when **any** of the terms in the file are found. Therefore, Aid4Mail would interpret the example at the top of this section as:

```
cat OR dog OR "pet store" OR fox<10>hen OR fred@aid4mail.com OR
*@aid4mail.com
```

This default behavior can be changed by adding properties to the first line of the search list as discussed in [Search list behavior](#).

## Search term grouping

[Plus \(+\) operators](#) and [minus \(-\) operators](#) can be added to the start of lines to group search terms together. For example:

```
cat
+dog
-mouse
fox
+hen
```

A blank line can also be added between the groups to increase clarity. Aid4Mail ignores blank lines in a search list:

```
cat
+dog
-mouse

fox
+hen
```

This search list would instruct Aid4Mail to first look for messages with both *cat* and *dog*, but without *mouse*, in their text. If a match is found in that group, Aid4Mail will stop searching. If no match is found, it will move onto the next group, searching for messages containing both *fox* and *hen*. In other words, the equivalent syntax in a regular search term (that's not part of a search list) using [Boolean operators](#) would be:

```
(cat AND dog AND NOT mouse) OR (fox AND hen)
```

The default behavior of search lists can be changed by adding properties to the first line of the list as discussed in [Search list behavior](#).

## Search term order

Aid4Mail will process each search term in the order it appears in the file. The longer the list, the longer it will take Aid4Mail to filter each email. In most cases, you can improve performance by placing the most common search terms, or groups of search terms, at the beginning of the list. The exception to this is if you [change the search list's behavior with OPERATOR=AND](#). In such cases, performance is optimized by placing the most common search terms at the end of the list.



#### 4.4.2 Changing search list behavior

You can change the default behavior of a search list by adding one or more [properties](#) to the first line of the file.

These properties are optional but, if present, must be located on the first line of the file. The line must also be prefixed with an exclamation mark (!) character. Multiple properties are separated by spaces. However, they can be specified in any order.

For example:

```
!CASE=SENSITIVE OPERATOR=AND
Mary
Leroy
Frank
Jessica
```

In the search list above, the first line (!CASE=SENSITIVE OPERATOR=AND) tells Aid4Mail to apply an [AND](#) operator between each subsequent line in the file and to treat the search terms as case-sensitive.

### Search list properties

The properties available, and their values, are listed in the table below.

Property and value	Description
CASE=DEFAULT	<p>Case-sensitivity <a href="#">rules</a> are unchanged:</p> <ul style="list-style-type: none"> <li>• In <a href="#">folder search queries</a>, the search list is case-insensitive.</li> <li>• In <a href="#">item search queries</a>, case-sensitivity depends on the <a href="#">Case</a> setting below the search field.</li> <li>• In <a href="#">basic item searches</a>, case-sensitivity depends on the <a href="#">Case sensitivity</a> option on the <i>Sessions</i> section of the <i>App settings</i> screen.</li> </ul> <p>This is the default value when no <i>CASE</i> property is specified.</p>
CASE=AUTO	Search terms in the list that contain one or more uppercase characters are case-sensitive and terms that contain only lowercase characters are case-insensitive.
CASE=INSENSITIVE or CASE=IGNORE	All search terms in the list are case-insensitive.
CASE=SENSITIVE	All search terms in the list are case-sensitive.
LITERAL=NO	<p>Search terms are not treated as being literal and <a href="#">tokenization</a> is automatically applied.</p> <p>This is the default value when no <i>LITERAL</i> property is specified.</p>
LITERAL=YES	Search terms are treated as being literal so no <a href="#">tokenization</a> is applied.
OPERATOR=MIXED	<p>An <a href="#">OR</a> operator is automatically applied between each line in the search list. A match occurs when <b>any</b> of the terms in the file are found. In addition, lines can be prefixed with <a href="#">plus (+) operators</a> and <a href="#">minus (-) operators</a> to <a href="#">group search terms</a> together.</p> <p>This is the default value when no <i>OPERATOR</i> property is specified and is described in detail in the <a href="#">Search list content</a> topic.</p>
OPERATOR=OR	An <a href="#">OR</a> operator is automatically applied between each line in the search list. A match occurs when <b>any</b> of the terms in the file are found. Search terms cannot be <a href="#">grouped</a> so '+' and '-' are treated as literal characters.
OPERATOR=AND	An <a href="#">AND</a> operator is automatically applied between each line in the search list. A match occurs when <b>all</b> of the terms in the file are found. Search terms cannot be <a href="#">grouped</a> so '+' and '-' are treated as literal characters.
STEMMING=DEFAULT	Stemming is applied to all search terms unless the <a href="#">Stemming</a> property is set to <a href="#">OFF</a> .

When no properties are specified in the first line of the search list file, default values are used. These are the equivalent of:

```
!CASE=DEFAULT LITERAL=NO OPERATOR=MIXED STEMMING=DEFAULT TOKENIZATION=DEFAULT
```

#### 4.4.3 Changing search term behavior

It's possible to explicitly specify the behavior of each line in the search list. This is done by prefixing the search term with one of the following:

Search term prefix	Description
I=	This search term is case-insensitive.
C=	This search term is case-sensitive.
W=	<p>This search term contains one or more <a href="#">wildcards</a>.</p> <p>This is the default option when the search term contains one or more wildcard characters (* ? # &amp; ~ &lt; &gt;).</p>
R=	This search term is a <a href="#">regular expression</a> .
T=	<p>The same as using W= except that, in addition, it produces <a href="#">tokenized</a> searches that are insensitive to diacritics, ligatures, typographic apostrophes, dots and hyphens. For example, T=U . S . A . would match U.S.A., u.s.a., USA and usa.</p>
L=	<p>This search term is <i>literal</i>. It's not interpreted as a wildcard or regular expression.</p> <p>Case-sensitivity depends on the <a href="#">CASE property</a> of the search list. If there is none specified then case-sensitivity <a href="#">rules</a> are unchanged:</p> <ul style="list-style-type: none"> <li>• In <a href="#">folder search queries</a>, the search list is case-insensitive.</li> <li>• In <a href="#">item search queries</a>, case-sensitivity depends on the <a href="#">Case</a> setting below the search field.</li> <li>• In <a href="#">basic item searches</a>, case-sensitivity depends on the <a href="#">Case sensitivity</a> option on the <i>Sessions</i> section of the <i>App settings</i> screen.</li> </ul> <p>This is the default option when the search term contains no <a href="#">wildcard</a> characters (* ? # &amp; ~ &lt; &gt;).</p>

When no prefix is specified then [W=](#) is automatically applied if the search term contains [wildcard](#) characters (\* ? # & ~ < >). Otherwise, [L=](#) is applied. Search terms are [tokenized](#) by default.

Example:

```
L=*Footnote  
W=cat*  
R=photo\d*\.  
cat*
```

The first line, above, is a *literal* search term. This means that the asterisk is treated as a regular character and not as a wildcard or part of a regular expression. This search term will find the phrase *\*Footnote* but that's all.

The second line is a *wildcard* search term. The asterisk character is treated as a [\\* wildcard](#) that matches zero or more characters. This search term will match the words *cat*, *cats*, *catnip*, *cathartic*, etc.

The third line is a *regular-expression* search term. It would match any filename in the format *photoxxxxxx.jpg* (where *xxxxxx* represents any sequence of digits).

The fourth line has no prefix but contains the [\\* wildcard](#) so it is treated as a *wildcard* search term. This makes it identical to the second line. Normally you wouldn't want multiple search terms with the same functionality so this is just for demonstration purposes. If this search term had not contained a wildcard, it would have been treated as a *literal* search term instead.

Note that the syntax for specifying a search term's behavior in a search list, as described here, is a little different to the syntax used in regular [search terms](#) which require [braces and a modifier](#).

#### 4.4.4 Backwards compatibility

### Aid4Mail 5 beta, RC1 and RC2

In early beta and RC versions of Aid4Mail 5, the *SearchList* modifier was called *WordList*. It could be used in the same way as *SearchList*, or post-fixed with *[MIXED]*, *[OR]*, or *[AND]*. This syntax is now deprecated although currently still supported to maintain backwards compatibility. We recommend you ultimately update any filters that use this older syntax, as follows:

Deprecated modifier	Replacement
WordList or WordList[MIXED]	SearchList  <a href="#">Use the SearchList modifier</a> in your search term. On the first line of the search list file, include <a href="#">OPERATOR=MIXED</a> (or no <i>OPERATOR</i> property at all because <i>MIXED</i> is the default behavior).
WordList[OR]	SearchList  <a href="#">Use the SearchList modifier</a> in your search term. On the first line of the search list file, include <a href="#">OPERATOR=OR</a> .
WordList[AND]	SearchList  <a href="#">Use the SearchList modifier</a> in your search term. On the first line of the search list file, include <a href="#">OPERATOR=AND</a> .

### Aid4Mail 4 and earlier

Aid4Mail 4 and earlier versions also used lists. These can still be used in the current Aid4Mail but require minor modification. The changes only affect search terms that are both [part of a group](#) and also have [explicitly specified behavior](#). That is, they are prefixed with [plus \(+\) operators](#) or [minus \(-\) operators](#) and also with *I=*, *C=*, *W=*, *R=*, *T=* or *N=*. In Aid4Mail 4, the behavioral prefix was placed before the grouping prefix. In Aid4Mail 5 and later versions, it's the other way round with the grouping prefix coming first.

For example, the following search term was valid for Aid4Mail 4 and earlier versions:

```
W=+cat*
```

In Aid4Mail 5 and later versions it would need to be written as follows:

+W=cat\*

We recommend you ultimately update any filters that use this older syntax.

## 4.5 Tokenization

Tokenization is the process of recognizing lexical units within text and matching them to other similar units.

In Aid4Mail, when using search terms in an [item search query](#), or a search list in a [basic item search](#), tokenization can be turned on or off using the [Tokenize](#) field. This is located under the search box, in the *Filter* section of the *Session settings*.

When [Tokenize](#) is turned *on*, Aid4Mail will:

1. Automatically match certain characters in item search terms to other, similar characters. This applies to punctuated terms, diacritical marks, ligatures and typographic apostrophes, quotes and double quotes. Please refer to the [Automatically tokenized characters](#) topic for details.
2. Optionally, match whole words specified in a [word list](#) if one has been set. This is explained in the [Tokenizing words](#) topic.

Note that, when [Tokenize](#) is turned *off*, you can use [known-variation character wildcards](#) to obtain similar outcomes.



#### 4.5.1 Automatically tokenized characters

When [Tokenize](#) is turned *on*, Aid4Mail will automatically match certain characters (called *tokenized characters*) in item search terms to other, similar characters. This applies to punctuated terms, diacritical marks, ligatures and typographic apostrophes, quotes and double quotes.

#### List of tokenized characters

The table below shows characters that are tokenized when [Tokenize](#) is turned *on*, along with the characters they match.

Tokenized character	Matches
á or à	a, á and à
â	a and â
ä	a and ä
å	a and å
ç	c and ç
ð	d and ð
é or è	e, é and è
ê	e and ê
ë	e and ë
í or ì	i, í and ì
î	i and î
ï	i and ï
?	? and ij
ñ	n and ñ
ó or ò	o, ó and ò
ô	o and ô
ö	o and ö
ø	o and ø
š	s and š
ú or ù	u, ú and ù

Tokenized character	Matches
û	u and û
ü	u and ü
ý	y and ý
ÿ	y and ÿ
ž	z and ž
æ	æ and ae
œ	œ and oe
ß	ß, ss and sz
þ	þ and th
.	. and <i>nothing</i> when preceded by a letter of the alphabet (a-z)
-	- and <i>space</i> and <i>nothing</i>
' or '	' and '
" or " or "	" and " and "

## Examples

The following examples assume that [Tokenize](#) is turned *on* and do not take case-sensitivity into consideration:

1. The search term `naïve` contains the tokenized character `ï` which matches both `i` and `ï`. This means that `naïve` matches both `naive` and `naïve`. However, the search term `naïve` only matches `naïve` because the `i` character is not tokenized.
2. `Lætitia` matches `Laetitia` and `Lætitia`.  
`Laetitia` only matches `Laetitia`.
3. `Jérôme` matches `Jérôme`, `Jèrôme`, `Jerôme`, `Jérome`, `Jèrome`, and `Jerome`.  
`Jerome` only matches `Jerome`.
4. `größte` matches `größte`, `grösste`, `großte` and `grosste`.  
`grosste` only matches `grosste`.

5. `G.D.P.R.` matches *GDPR* and *G.D.P.R.*. However, this only works with letters, not numbers. The search term `4.3` matches *4.3* but not *43* which is mathematically correct.
6. `can't` matches both *can't* and *can't* (note that the apostrophes are different).  
`can't` produces identical results.
7. `chat-room` matches *chat-room*, *chatroom* and *chat room*.  
`chatroom` only matches *chatroom*.  
`chat room` produces different results: It's the equivalent of `chat AND room` and so matches any text containing both those words (whole words only) in that order.
8. `4012-8888-8888-1881` matches all of the following, making it useful for finding credit-card numbers when the format is unknown:

*4012-8888-8888-1881*

*4012 8888 8888 1881*

*4012888888881881*

9. `"dangerous"` matches both *"dangerous"* and *"dangerous"* (note that the quotes are different).  
`"dangerous"` (with typographical quotes) produces identical results.

### 4.5.2 Tokenizing words

When [Tokenize](#) is turned *on*, in addition to [automatically tokenizing characters](#), Aid4Mail can tokenize whole words that you specify in a separate word list.

## Creating a word list

A word list is a simple text file, saved with a *.tkn* extension and UTF-8 encoding. You can create it in any text editor or [directly in Aid4Mail](#).

The word list should contain a separate line for every set of words. Word alternatives are separated by a [vertical bar \(|\) operator](#). Blank lines are ignored.

For example, a word list's content might be:

```
color|colour  
Dr|Dr.|Doctor  
St|St.|Saint  
1st|first  
cannot|can not|can't|can't|cant
```

Using this example, if you used the search term `color` in an item filter, it would not only match the word *color* but also its British variation, *colour*. Likewise, the search term `Dr` would match *Dr*, *Dr.* and *Doctor*.

Note that:

- Only [whole words](#) or [phrases](#) can be used in a word list, not individual [characters](#).
- All words in a line are tokenized unless they are part of a phrase. This means that it doesn't matter if you specify `color` as your search term or `colour`. Both will produce the same results.
- Phrases, and words that are part of a phrase, are not tokenized. This is because phrases contain characters that are word-separators, like spaces. Based on the last line of the example, you could use the words *cannot*, *can't*, *can't* and *cant* interchangeably as search terms. However, using `can not` as a search term will produce different results due to the space between the words. This means that lines in a word list must contain at least one whole word that's not part of a phrase.

## Setting a word list

You can import and set a word list using the *Import* button above the [Word alternatives list](#) field, located under *Tokenization* on the *Filters* section of the *Project settings* screen. Importing a list simply places a copy of the file in the *Tokenization* subfolder of your [project folder](#). You can also place word lists in this location manually. Previously imported word lists can be selected in the drop-down [Word list](#) field.

## Why use a word list?

Word lists manage complexity at the project level, allowing you to simplify search terms at the session level. This is best demonstrated by an example.

Let's say you are searching for the word *color* but you are not sure if it would use the American spelling (*color*) or the British (*colour*). One solution would be to use `color OR colour` as your search term. However, this quickly becomes cumbersome if there are lots of possible variations of the word. For example, perhaps you also want to include the German, French and Italian translations of the word (a Swiss document may contain any or all of these). Now your search term would be quite complex:

```
color OR colour OR farbe OR couleur OR colore
```

A simpler solution is to use the search term `color` and to place all variations of the word in a word list. The content of the word list would look like this:

```
color|colour|farbe|couleur|colore
```

Organizing your search criteria this way manages complexity at the appropriate level, making your search terms more readable.

## 4.6 Stemming

Stemming is the process of reducing a word to its root in order to find other words with the same root. For example, the root of the word *fished* is *fish*, which is also shared by *fishes* and *fishing*.

Aid4Mail implements stemming in its search and filter features by using [dictionaries](#) that list words with common roots. Rather than algorithmically reducing a word to its root, it looks up words that share the same root in the dictionary.

There are 8 pre-prepared language dictionaries available. However, you can easily create dictionaries for up to 24 languages by importing Michal Mechura's [lemmatization lists](#). You can also modify existing dictionaries or create your own from scratch.

You can set which dictionary is used, if any, in the [Stemming](#) field under the *Filters* section of the *Project settings* screen. Once set, the [~ wildcard](#) can be used to perform stemming. For example, searching for *fished~* will match the words *fished*, *fish*, *fishes* and *fishing*. Without the wildcard, only the exact word *fished* would be found.

## Dictionaries

The stemming dictionaries used by Aid4Mail are based on [lemmatization lists](#) by Michal Mechura. Aid4Mail installs and sets the English dictionary by default. You can download an additional 7 pre-prepared language dictionaries through the links below.

### Download links

- French:  
<https://www.aid4mail.com/download/stemming/French.zip>
- German:  
<https://www.aid4mail.com/download/stemming/German.zip>
- Italian:  
<https://www.aid4mail.com/download/stemming/Italian.zip>
- Portuguese:  
<https://www.aid4mail.com/download/stemming/Portuguese.zip>
- Russian:  
<https://www.aid4mail.com/download/stemming/Russian.zip>

- Spanish:  
<https://www.aid4mail.com/download/stemming/Spanish.zip>
- Swedish:  
<https://www.aid4mail.com/download/stemming/Swedish.zip>

### Installation

To install a dictionary, unzip the downloaded file to extract the *.stm* dictionary file. Then import it into Aid4Mail using the *Import* button above the [Stemming](#) field (under the *Filters* section of the *Project settings* screen).

Alternatively, you can place the dictionary file in either of the following locations:

- The *Dictionaries* subfolder of Aid4Mail's [application data folder](#).
- The *Dictionaries* subfolder of Aid4Mail's [program folder](#).

The new dictionary will become available for selection in the [Stemming](#) field once you restart Aid4Mail.

### Michal Mechura's lemmatization lists

Michal Mechura has provided 24 [lemmatization lists](#), free of charge, under the [Open Database License](#). Eight of these lists have already been converted to Aid4Mail [dictionaries](#). However, you can import any of the lists into Aid4Mail using the *Import* button above the [Stemming](#) field. Once imported, Aid4Mail will automatically convert the list into a dictionary and set it for use.

You can download lemmatization lists from the following page:  
<https://www.aid4mail.com/redir/lemmatization>

## 4.7 Proximity searching

### Definition

Proximity searching allows you to find words or phrases that appear near each other in an email. This is crucial for identifying relevant conversations and context in investigations.

### Aid4Mail's proximity search feature is more powerful than most

Most proximity search engines are limited to finding words within a specified distance of one another, where distance is the number of intermediary words. Aid4Mail can do this too but goes further, beyond traditional proximity searching. It enables you to search within the grammatical structures that naturally exist in most text—[sentences](#) and [paragraphs](#)—regardless of the number of intermediary words.

### Proximity-search wildcards

Aid4Mail uses [wildcards](#) for proximity searches.

#### Word proximity-search wildcards

- [<n> wildcard](#)

Matches up to n words, where n is a number between 0 and 99. The order of the words surrounding the wildcard are irrelevant and do not have to be in the same sentence or paragraph. This wildcard is similar to Google's AROUND operator and Outlook's NEAR operator. Please refer to the [<n> wildcard](#) description for details and examples.

- [<+n> wildcard](#)

The same as <n> except that the order of the words surrounding the wildcard is respected. This wildcard is very similar to Google's AROUND operator when the latter is used with quotes. Please refer to the [<+n> wildcard](#) description for details and examples.

- [<.> wildcard](#)

Matches zero or more words in the same sentence (or in an individual cell of a table). The order of the words surrounding the wildcard are irrelevant. Please refer to the [<.> wildcard](#) description for details and examples.

- [<+.> wildcard](#)

The same as <.> except that the order of the words surrounding the wildcard is respected. Please refer to the [<+.> wildcard](#) description for details and examples.



- [<\\*> wildcard](#)

Matches zero or more words in the same paragraph (or in the row of a table). The order of the words surrounding the wildcard are irrelevant. Please refer to the [<\\*> wildcard](#) description for details and examples.

- [<+\\*> wildcard](#)

The same as <\*> except that the order of the words surrounding the wildcard is respected. Please refer to the [<+\\*> wildcard](#) description for details and examples.

### Character proximity-search wildcards

- [~\\* wildcard](#)

Matches zero or more characters within the same sentence. Please refer to the [~\\* wildcard](#) description for details and examples.

- [\\*\\* wildcard](#)

Matches zero or more characters within the same paragraph. Please refer to the [\\*\\* wildcard](#) description for details and examples.

## Examples

### Example 1

bribe<5>official

Finds: *bribe* and *official* appearing within 5 words of each other.

### Example 2

insider<.>trading

Finds: *insider* and *trading* appearing in the same sentence.

### Example 3

confidential<\*>agreement

Finds: *confidential* and *agreement* appearing in the same paragraph.

### Example 4

(trade<5>secret) AND (steal<.>proprietary)

Finds emails discussing trade secrets within five words of each other, in the same email as discussions of stealing proprietary information within the same sentence.

## 4.8 Searching by email type

### Common scenarios

Searching by an email's [type](#) can be significantly more powerful than it may initially seem. Three common examples of this are:

- [Deduplication](#)
- [Searching unpurged mail](#)
- [Searching personal mail](#)

### Combining Email Types

Searching by a specific email type can be very useful. However, there are cases where email-type search terms can be combined for highly targeted results. For example:

```
Date>=2023-01-01 AND Date<=2023-06-30 AND Type:Unpurged AND NOT Type:Duplicate
```

This complex query:

1. Restricts the date range for efficiency.
2. Includes mail that has been deleted (but is still hidden in the system).
3. Eliminates duplicates.
4. Focuses on personal emails.
5. Searches for discussions of insider trading or material nonpublic information using proximity.
6. Narrows down to emails from specific executives.

These advanced filtering techniques allow forensics and eDiscovery professionals to create highly targeted searches, improving the efficiency and effectiveness of their investigations. By combining filtering techniques, investigators can quickly isolate the most relevant communications from large email datasets, even when dealing with deleted items or attempting to separate personal communications from automated messages.

### 4.8.1 Deduplication

## Definitions

Duplicates are emails that are identical to each other as determined by the [rules below](#).

Deduplication is the process of eliminating duplicate emails from your search results, ensuring there is only one of each in your target mail. This is crucial for efficiency in large-scale investigations.

## How do duplicates occur?

There are a variety of situations that could result in duplicate emails. For example:

- When an email client downloads mail from a POP mail server and is set to leave mail on the server. The next time it fetches the mail it will be duplicated.
- Duplicates can result from copy/paste actions in a mailbox or in a folder of individual messages files (like EML or MSG files).
- Many mail clients organize email in folders but connect to mail services, like Gmail, that use the concept of [labels](#) rather than folders. As a single email can have multiple labels attached to it, after downloading it may be copied to multiple folders in the mail client.

## How to deduplicate in Aid4Mail

### Skip duplicates in the Filter settings

If skipping duplicates and/or [unpurged mail](#) are the **only** item filters you require, the simplest way to do this is by turning on [Skip duplicates](#) in the [Basic search](#) section of the [Filter settings](#). However, if you require additional search terms, you'll need to [skip duplicates using a search query](#).

### Deduplication using a search query

Aid4Mail makes skipping duplicates very easy with a simple [search term](#) that uses the [Type](#) search operator:

```
NOT Type:Duplicate
```

The same search term can be written more concisely as:

```
-Type:Duplicate
```

Both these search terms are identical in functionality and will eliminate all duplicates from your target mailbox. You only need to use one of them, placing it in the [Item search query](#) field in Aid4Mail. You can either write it in the field directly or use the [Assistant](#) to insert it for you (once the assistant is open, *Select > Common search terms > Skip duplicates*).

### Understanding the deduplication search term

The [Type](#) operator finds emails that are of a certain type so `Type:Duplicate` finds duplicates. However, as is, this search term would result in your target mail consisting only of duplicate emails, the opposite of deduplication!

To eliminate duplicates, the search term needs to be negated using the [Boolean NOT operator](#) or its more concise version, the [minus \(-\) operator](#). This results in either `NOT Type:Duplicate` or `-Type:Duplicate`. Both are identical in functionality.

### Example using the deduplication search term

```
(contract OR agreement) AND NOT Type:Duplicate
```

This query would find unique emails about contracts or agreements, eliminating duplicates to streamline review.

## Deduplication scope

By default, Aid4Mail only identifies duplicates that are in the same source folder. However you can widen the scope to detect duplicates wherever they are located. This is done through [Duplicates detection scope](#) in the [Filters](#) section of the [App settings](#) screen.

## How does Aid4Mail determine duplicates?

To determine if two emails are identical, Aid4Mail compares characteristics of their headers. It does this by creating an MD5 hash from metadata in the header fields of each email, and then comparing the hashes. The exact method used depends on the [Generate hash value from](#) option, under the [Sessions](#) section of the [App settings](#) screen.

Note that hash values created from data in the *Subject* field will differ in [trial mode](#) from those created after Aid4Mail has been activated. This is because the subject line is truncated in trial mode and a trial tag is added. For this reason, you should always delete files created in trial mode once you have purchased and activated Aid4Mail.

### Generate the MD5 hash value from the Message-ID

If [Generate hash value from](#) is set to *Message-ID header field*, which is the default option, only the *Message-ID* fields need to match for the emails to qualify as duplicates. This works well for incoming mail because the *Message-ID* is unique by definition and so is sufficient as the MD5 hash source: **MD5(message-id)**. This method corresponds to the [EDRM Duplicate Identification](#) specification, with the resulting hash being identical to the [EDRM MIH](#) value.

For emails lacking a *Message-ID* value, typically drafts and outgoing messages, the EDRM MIH will result in a null value. To enable deduplication, a different approach is required so Aid4Mail generates an MD5 hash from other metadata values in the email header. When possible, Aid4Mail uses a concatenation of the sender, date, and subject as the MD5 hash source: **MD5(sender + date + subject)**. If any of those values are missing, Aid4Mail uses the entire header: **MD5(email header)**.

To obtain the email sender, date, and subject, Aid4Mail can draw from multiple email header fields which it checks in a specific order:

- The sender is taken from the *From* field if available, otherwise from the *Sender* field, otherwise from the *Reply-To* field.
- The date is taken from the *Date* field if available, otherwise from the most recent (topmost) *Received* field.
- The subject is taken from the *Subject* field.

The result is fast and reliable deduplication that, for incoming emails with a *Message-ID*, also works cross-platform across disparate vendors that support the EDRM MIH.

### Generate the MD5 hash value from the entire email header

If [Generate hash value from](#) is set to *Original SMTP header* then the headers of both emails must match in their entirety for them to be considered duplicates. In other words, the whole email header is used as the MD5 hash source: **MD5(email header)**. Note that this method of deduplication is not compatible with the [EDRM Duplicate Identification](#) specification.

## Automatic removal of binary duplicates

There is an exception to the behavior described above. Target EML, HTML, PDF and plain text files, and any extracted attachments, will automatically be removed if **both** of the following conditions are met:

- They are binary duplicates of another file saved by the same session.
- They have the same name as the other file.

This feature avoids unnecessary file copies being created and taking up precious disk space.

#### 4.8.2 Searching unpurged mail

### What is unpurged mail?

Unpurged mail refers to hidden emails that have been deleted or moved to another location but not permanently removed from the system. These can be crucial in forensic investigations.

When you delete an email, it's not immediately removed. Instead, it's flagged as *DELETED* and hidden from display. The email is only deleted permanently when the folder containing it is *purged* (or *compacted* or *expunged*, depending on the terminology used).

When an email is moved from one folder to another in your email client, a copy of the email is placed in the destination folder. The original is flagged as *DELETED*, and hidden, but not deleted permanently until the containing folder is purged.

The reason for this behavior is to optimize the delete and move processes by not having to reorganize the whole mailbox each time. As mailboxes can become very large, and emails can usually be moved around or deleted without limitation, this can provide a considerable time-saving. However, it also means that mailboxes can contain large amounts of unpurged mail.

### How does Aid4Mail treat unpurged mail?

Generally, unpurged mail is not wanted. After all, it's remnants of emails that have been deleted or moved. However, it can be of interest to those doing investigative work and used as evidence in legal situations. For this reason, it is handled differently by the various Aid4Mail editions.

- [Aid4Mail Enterprise](#) and [Investigator](#) automatically process unpurged mail and restore it by removing the *DELETED* status flag. However, you can still skip, or even target it specifically, using one of the [methods described below](#). Note that unpurged mail is not accessible in PST files or Outlook profile message stores.
- [Aid4Mail Converter](#) automatically skips unpurged mail.

If unpurged mail is to be skipped, whether intentionally or automatically, we recommend you purge/compact/expunge your source mailboxes or accounts before running Aid4Mail. This potentially reduces the amount of mail Aid4Mail has to process and speeds up your migration.



## Skip or target unpurged mail in Aid4Mail Enterprise/Investigator

### Skip unpurged mail in the Filter settings

If skipping unpurged mail and/or [duplicates](#) are the **only** item filters you require, the simplest way to do this is by turning on [Skip unpurged mail](#) in the [Basic search](#) section of the [Filter settings](#). However, if you require additional search terms, you'll need to [skip unpurged mail using a search query](#).

### Include only unpurged mail using a search query

What if you want your target mail to consist only of unpurged mail? [Aid4Mail Enterprise](#) and [Investigator](#) make this easy through a simple [search term](#) that uses the [Type](#) search operator:

```
Type:Unpurged
```

This search term should be placed in the [Item search query](#) field in Aid4Mail. You can either write it in the field directly or use the [Assistant](#) to insert it for you (once the assistant is open, *Select > Common search terms > Include only unpurged mail*).

This will not work in [Aid4Mail Converter](#) because unpurged mail is automatically skipped, as explained in the previous paragraph.

### Skip unpurged mail using a search term

In [Aid4Mail Enterprise](#) and [Investigator](#), it is still possible to skip all unpurged mail. As this task is the opposite of [including only unpurged mail](#), simply negate the search term above using the [Boolean NOT operator](#):

```
NOT Type:Unpurged
```

Alternatively, use its more concise version, the [minus \(-\) operator](#):

```
-Type:Unpurged
```

Both these search terms are identical in functionality and will eliminate all unpurged mail from your target mailbox. You only need to use one of them, placing it in the [Item search query](#) field in Aid4Mail. You can either write it in the field directly or use the [Assistant](#) to insert it for you (once the assistant is open, *Select > Common search terms > Skip unpurged mail*).

In [Aid4Mail Converter](#), this process is not necessary as it skips unpurged mail automatically, as mentioned previously. You don't have to do anything to enable this.

**Example using a search term**

```
Type:Unpurged AND Date>=2023-01-01 AND Date<=2023-06-30 AND From:suspect@company.com
```

This query would search for unpurged emails from a suspect within a specific date range, potentially uncovering deleted evidence.

### 4.8.3 Searching personal mail

#### What is personal mail?

Aid4Mail classifies an email as *personal* if it meets all three of the following conditions:

1. It is sent from an individual person,
2. It shows no evidence of being part of a campaign, message list or mailing list,
3. It shows no evidence of being a bulk email, advertisement, notification or [journaled email](#).

For technical details, see [How does Aid4Mail determine an email is personal?](#), below.

#### Including only personal mail

[Aid4Mail Enterprise](#) and [Investigator](#) enable you to target personal mail through a simple [search term](#) that uses the [Type](#) search operator:

```
Type:Personal
```

This search term should be placed in the [Item search query](#) field in Aid4Mail. You can either write it in the field directly or use the [Assistant](#) to insert it for you (once the assistant is open, *Select > Email attributes > Type* and then select *is* and *Personal* from the drop down lists).

#### Skipping personal mail

Similarly, you can filter out any personal mail in [Aid4Mail Enterprise](#) and [Investigator](#). As this task is the opposite of [including only personal mail](#), simply negate the search term above using using the [Boolean NOT operator](#):

```
NOT Type:Personal
```

Alternatively, use its more concise version, the [minus \(-\) operator](#):

```
-Type:Personal
```

Both these search terms are identical in functionality and will eliminate all personal mail from your target mailbox. You only need to use one of them, placing it in the [Item search query](#) field in Aid4Mail. You can either write it in the field directly or use the [Assistant](#) to insert it for you (once the assistant is open, *Select > Email attributes > Type* and then select *is not* and *Personal* from the drop down lists).

### Example

```
Date>=2023 AND Type:Personal AND (confidential OR proprietary)
```

This query focuses on personal communications (excluding bulk emails) that mention confidential or proprietary information from 2023 onwards.

### How does Aid4Mail determine an email is personal?

Aid4Mail designates an email to be personal if, after scanning its header, all of the following are all true:

- The [Type](#) of the email is not:
  - [Journaled](#)
  - *List*
  - *News*
  - *Notification*.
- The email is not sent from an impersonal address (for example: *postmaster@*, *mailer-daemon@*, *noreply@*, *no-reply@*, etc.)
- The email header does not contain any of following fields:
  - *Precedence*
  - *X-Campaign*
  - *X-Report-Abuse*
- If the email header contains the *Auto-Submitted* field, its value is not *no*.
- If the email header contains the *Return-Path* field, its value is not <>.
- The email header does not contain any of the fields listed in file *SMTP-Impersonal.dat* (located in your [Data folder](#)). These fields are:
  - *Bounces-to*
  - *TenantHeader*
  - *X-AMAZON-MAIL-RELAY-TYPE*
  - *X-Bounce*
  - *X-Bounceld*
  - *X-Complaints-To*
  - *X-CSA-Complaints*
  - *X-DynectEmail-Msg-Key*
  - *X-elqPod*

- *X-elqSiteID*
- *X-EMID*
- *X-EMV-MemberId*
- *X-EnvId*
- *X-ICPINFO*
- *x-job*
- *X-LyrisMailingID*
- *X-MA-Reference*
- *X-Mailgun-Sid*
- *X-Mandrill-User*
- *X-MarketID*
- *X-Match*
- *X-MC-User*
- *X-PHP-Originating-Script*
- *X-PHP-Script*
- *X-PM-Message-Id*
- *X-rext*
- *X-Roving-ID*
- *X-SFDC-User*
- *X-SG-EID*
- *X-SMFBL*
- *X-SMTPCOM-Tracking-Number*
- *X-XN-UUID*

Note:

1. The lists above are not exhaustive as some of the techniques we use are confidential.
2. The content of file *SMTP-Impersonal.dat* is a [regular expression](#). As with all files in the Data folder, you can edit it. This enables you to customize, to a certain extent, how Aid4Mail determines personal email.

## 5 Python scripts

[Python](#) is an interpreted, high-level programming language and is the language of choice for many forensic professionals. This is partly due to its use as a scripting language, embedded in software products like Aid4Mail, to enable user-created functionality beyond what's built in.

[Aid4Mail Enterprise](#) and [Investigator](#) support the use of Python scripts to add new features to Aid4Mail. These include specialized filtering, data extraction, the modification of email content and the customization of file and folder names. You can even use Python scripts to create your own target mail formats and custom output.

### Python installation

To use Python scripts in Aid4Mail, you will need to install Python on your computer. Aid4Mail supports Python 3 and later versions. You can [download installers](#) from the Python website.

Note that Aid4Mail includes both 32-bit and 64-bit processing engines and automatically selects the appropriate one depending on your [Optimization](#) settings (located in the [Advanced](#) section of the [App settings](#) screen). If you are running a [session](#) that includes a Python script, and it's using Aid4Mail's 32-bit processing engine, you will need 32-bit Python installed. Likewise if the session uses Aid4Mail's 64-bit processing engine then you will need 64-bit Python installed in order to process the script.

Unfortunately, Python does not install both 32 and 64-bit versions like Aid4Mail. It only installs one at a time. Aid4Mail can usually find the default Python installation but does not know if it's 32 or 64-bit. Running a Python script with the wrong bit version of Python will generate an error.

For Windows users, the safest way of dealing with this is to install both 32 and 64-bit versions of Python into separate folders. They can be downloaded from the [Windows downloads](#) page on the Python website. The 32-bit version is referred to as the *Windows x86 executable installer*. The 64-bit version is the *Windows x86-64 executable installer*. Once installed, tell Aid4Mail where to find them by specifying their folder locations under [App settings > Advanced > Python installation folders](#).

For Mac users, recent versions of Python are 64-bit only. The installer is referred to as the *macOS 64-bit installer* and can be downloaded from the [Mac downloads](#) page of the Python website. Once installed, tell Aid4Mail where to find it by entering the installation folder location in the *64-bit* field under [App settings > Advanced > Python installation folders](#). You

will also need to select *Prioritize memory access (64-bit engine)* under [App settings > Advanced > Optimization](#) to tell Aid4Mail to prioritize its 64-bit engine.

## Creating and modifying Python scripts

You can create Python scripts in any text editor, specialized code editor or from [within Aid4Mail](#). Details of the Python language are not covered in this guide. For this information, please consult the [Python website](#) that contains a [beginner's guide](#), [tutorial](#), [FAQ](#) and [documentation](#).

Python scripts contain your Python code and are stored in `.py` files in the [Scripts folder](#), usually under your [application data folder](#).

If you save a script directly to this location, it will automatically become available in either the [Python modifier script](#) or [Python filtering script](#) drop-down list the next time you run Aid4Mail. Alternatively, you can load an existing script from any location by using *Add* above either of those drop-down lists. This effectively copies your script to the [Scripts folder](#) (without deleting the original) and makes it available in the list.

You can view or modify an existing Python script by selecting *Open* above the [Python modifier script](#) or [Python filtering script](#) drop-down list. This will open the script in whatever application you have associated with `.py` files.

Aid4Mail includes a number of scripts bundled with the software. These are stored in your Aid4Mail [program folder](#) and are automatically loaded in the aforementioned drop-down lists when you first run Aid4Mail. You can customize these scripts too. Simply open a script by selecting *Open* (above the drop-down list), make the necessary changes and save the file. The modified file will automatically be saved in the [Scripts folder](#), leaving the original unchanged in the [program folder](#).

Python scripts in Aid4Mail are grouped into two categories:

- [Python filtering scripts](#)
- [Python modifier scripts](#)

## 5.1 Python filtering scripts

[Aid4Mail Enterprise](#) and [Investigator](#) allow you to create your own custom filters using [Python scripts](#). Python filter scripts use the `.flt.py` file extension and are for use in the [Python filtering script](#) field in the [filter settings](#).

A filter script is executed while a source email is being read and so is the first of the Python scripts to be run. A filter script contains code that determines whether or not the email currently being processed should be kept or discarded. This should result in a `True` or `False` value that is then assigned to variable [flt Continue](#) to tell Aid4Mail whether or not to continue processing the email.

Example:

```
# Filter script that only continues processing the current email if it contains the word 'aid4mail'
flt_Continue.Value = "aid4mail" in flt_ItemMime.Value
```

Note that the first line in the example above is a *comment* and so is ignored by the Python interpreter. Comments start with a hash (#) character and extend to the end of the line. They are useful to explain what the script does, as in this example.

### Filter variables

Data in Aid4Mail is made available to your Python scripts through variables. Filter variables are prefixed with `flt_` and are only for use in filter scripts.

Aid4Mail's Python variables need to be appended with `.Value` whenever they're used. This is a syntax requirement that enables the Python variables to interact with the Delphi programming language used by Aid4Mail. For example:

```
flt_Continue.Value = "aid4mail" in flt_ItemMime.Value
```

The following Python filter variables are available in Aid4Mail. Note that they are case-sensitive.

Variable name	
flt_AppSettings	Contains the filename of the settings used to configure the current session. The file is stored in the standard INI format.
flt_BatesNumber	Access the <a href="#">Bates number</a> .
flt_BatesStamp	Access the <a href="#">Bates stamp</a> .
flt_Continue	Use this variable to return your script's filter result to Aid4Mail. A Boolean result of <code>True</code> or <code>False</code> is expected. The



Variable name	
	email is skipped when set to False. Alternatively, you can assign the <code>skip</code> keyword to <a href="#">flt_ScriptStatus</a> , which has the same effect as <code>flt_Continue = False</code> .
<code>flt_ItemFiles</code>	Provides a list of filenames of extracted attachments so they can be analyzed by Python scripts and modules. Each filename is stored in a separate line.
<code>flt_ItemHeader</code>	Contains an unwrapped and decoded version of the email header.
<code>flt_ItemImages</code>	Provides a list of filenames of extracted image attachments so they can be analyzed by Python scripts and modules. Each filename is stored in a separate line.
<code>flt_ItemMetadata</code>	Contains a list of metadata values in plain JSON format: <pre> {     "Attachments"="",     "Bcc"="",      "Category"="none,social,promotions,updates,forums,blue,green,orange,purple,red,yellow",     "Cc"="",      "Contents"="archive,attachment,audio,document,email,excel,image,pdf,powerpoint,presentation,spreadsheet,video,word",     "DisplayDate"="",      "Flags"="calendar,chat,contact,deleted,draft,duplicate,encrypted,forwarded,important,journal,journaled,list,news,note,notification,notify,offline,partial,read,received,redirected,replied,sent,spam,starred,task,unpurged,unread,unsent",     "MD5"="",     "MessageId"="",     "Received"="",     "Sender"="",     "Sent"="",     "Subject"="",     "To"="",     "UID"= } </pre>

Variable name	
<code>flt_ItemMime</code>	Contains the current email in MIME format.
<code>flt_ScriptError</code>	Use this variable if an error occurred while processing the data in your script. If this variable is empty after the script has executed, Aid4Mail will assume the email was successfully processed. Otherwise it will display the error message.
<code>flt_ScriptStatus</code>	Use this variable to report an <code>error</code> and/or to issue a <code>skip</code> or <code>abort</code> command. Use a comma as a separator between several values. Assign <code>error</code> to report an error. Add the <code>skip</code> keyword if the email shouldn't be processed further (the equivalent of setting <code>flt_Continue</code> to <code>False</code> ). Use <code>abort</code> to terminate all further processing. The following example will skip the current email and increment the <i>Skip</i> count: <code>flt_ScriptStatus = skip</code>
<code>flt_SourceFolder</code>	Provides the source folder name of the current email being processed.
<code>flt_SourceFolderMetadata</code>	Contains a list of metadata values in plain JSON format: <pre>{     "DisplayName"="",     "Flag"="All Mail,Archive,Calendar,Chats,Contacts,Drafts,Important,Inbox,Journal,News,Notes,Outbox,RSS,Sent,Spam,Starred,Tasks,Trash" ,     "Folder"="",     "ItemCount"=,     "RootLocation"="",     "SizeInBytes"= }</pre>

Note that, although filter variables can be modified, this will only affect the filter feature and will not modify target emails. For example, if one source email contains *Peter* in the header then it will be found with the following script:

```
flt_Continue.Value = "Peter" in flt_ItemHeader.Value
```

The header can be modified before the filter condition is tested. Here, *Peter* is changed to *Sally* before the filter condition and no emails will be found:

```
flt_ItemHeader.Value = flt_ItemHeader.Value.replace("Peter", "Sally")
```

```
flt_Continue.Value = "Peter" in flt_ItemHeader.Value
```

If the condition is then updated so that the script is both changing *Peter* to *Sally*, and then searching for *Sally*, then the email will be found again:

```
flt_ItemHeader.Value = flt_ItemHeader.Value.replace("Peter", "Sally")  
flt_Continue.Value = "Sally" in flt_ItemHeader.Value
```

However the saved target email will not have been modified and will have *Peter* in the header, not *Sally*. This is because filter variables only modify the filter. To modify the saved target email you would need to use a [modifier script](#) (that uses [modifier variables](#)).

## 5.2 Python modifier scripts

[Aid4Mail Enterprise](#) and [Investigator](#) allow you to extract data, customize file and folder names, modify email content and even create your own target mail formats using [Python scripts](#). Python modifier scripts use the `.mod.py` file extension and are for use in the [Python modifier script](#) field in the [Target settings](#).

A modifier script is run after a source email has been read and passed through the filter but before it is saved in its target format. The modifier script allows you to make changes to the content of the email, its file or folder name, or to extract data from it.

### Example 1

```
# Modifier script that prepends "Aid4Mail\" to the target folder name
mod_TargetFolder.Value = "Aid4Mail\\" + mod_TargetFolder.Value
mod_UpdateVars.Value = "TargetFolder"
```

### Example 2

```
# Modifier script that replaces the password "abc123" with six 'X' characters
mod_ItemMime.Value = mod_ItemMime.Value.replace("abc123", "XXXXXX")
mod_UpdateVars.Value = "MIME"
```

Note that the first line in each of the examples above is a *comment* and so is ignored by the Python interpreter. Comments start with a hash (#) character and extend to the end of the line. They are useful to explain what the script does, as in these examples.

## Modifier variables

Data in Aid4Mail is made available to your Python scripts through variables. Modifier variables are prefixed with `mod_` and are only for use in modifier scripts.

Aid4Mail's Python variables need to be appended with `.Value` whenever they're used. This is a syntax requirement that enables the Python variables to interact with the Delphi programming language used by Aid4Mail. For example:

```
mod_TargetFolder.Value = "Aid4Mail\\" + mod_TargetFolder.Value
```

The following Python modifier variables are available in Aid4Mail. Note that they are case-sensitive.

Variable name	
mod_AppSettings	Contains the filename of the settings used to configure the current session. The file is stored in the standard INI format.

Variable name	
mod_BatesNumber	Access or modify the <a href="#">Bates number</a> .
mod_BatesStamp	Access or modify the <a href="#">Bates stamp</a> .
mod_ItemMetadata	The data in this variable is in the same format as <a href="#">flt_ItemMetadata</a> .
mod_ItemMime	Contains the current email in MIME format. If you set <a href="#">mod_UpdateVars</a> equal to "MIME", any modifications you make to the contents of this variable will be returned to Aid4Mail.
mod_ScriptError	Use this variable if an error occurred while processing the data in your script. If this variable is empty after the script has executed, Aid4Mail will assume the email was successfully processed. Otherwise it will display the error message.
mod_ScriptStatus	<p>Use this variable to report an error and/or to issue a skip or abort command. Use a comma as a separator between several values. Assign "error" to report an error and stop processing the item. Use "abort" to terminate all further processing. The following example will increment the error count and abort email processing:</p> <pre>mod_ScriptStatus = error,abort</pre>
mod_SourceFolder	Provides the source folder name of the current email being processed.
mod_SourceFolderMetadata	The data in this variable is in the same format as <a href="#">flt_SourceFolderMetadata</a> .
mod_TargetFile	Provides the target filename. It will be empty (and ignored) for target formats that are not file-based like <a href="#">MAPI</a> and <a href="#">IMAP</a> .
mod_TargetFolder	Provides the target folder name. If you set <a href="#">mod_UpdateVars</a> to "TargetFolder", any changes to its value will be reflected in the target folder used by Aid4Mail.
mod_UpdateVars	Use this variable to tell Aid4Mail whether to update the data based on the contents of the <a href="#">mod_ItemMime</a> and <a href="#">mod_TargetFolder</a> variables. Recognized values include

**Variable name**

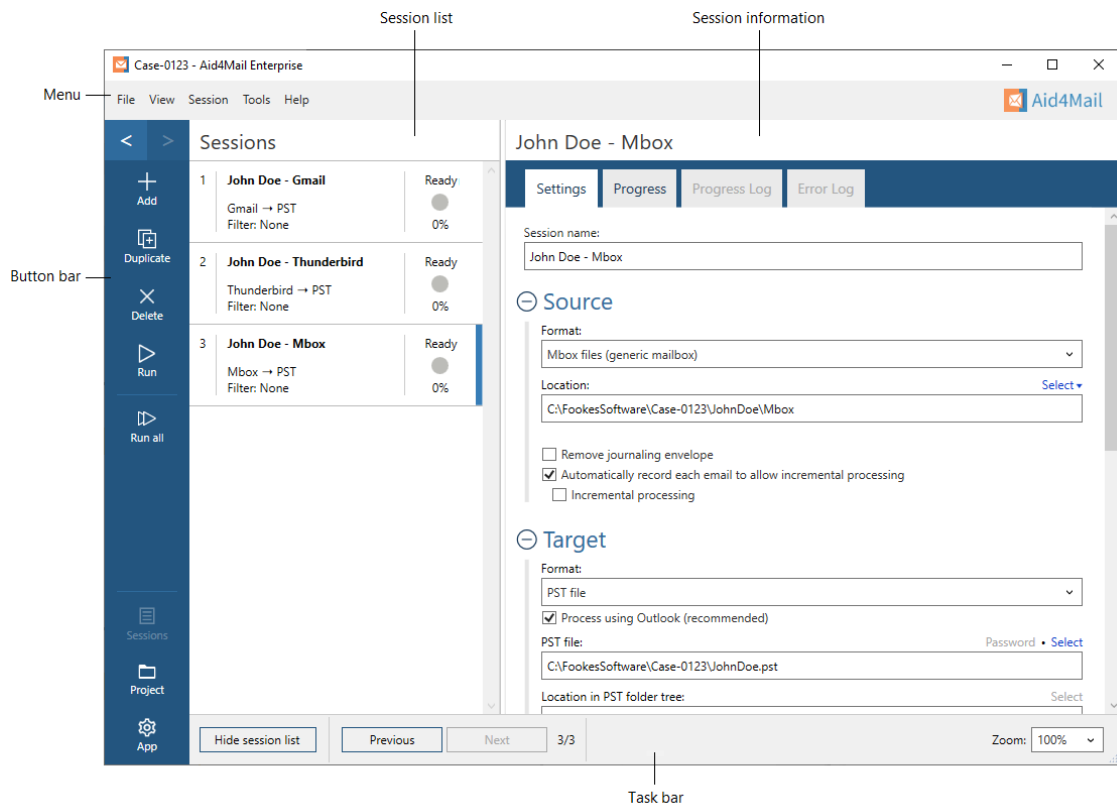
either MIME or TargetFolder, or any combination (separate with a comma if you use more than one).

## 6 Graphical user interface (GUI)

This section provides a description for almost every field and setting in Aid4Mail's main user-interface.

Aid4Mail's GUI is comprised of 5 main elements that can be seen in the screenshot below:

- [Menu](#)
- [Button bar](#)
- [Session list](#)
- [Session information](#)
- [Task bar](#)



*Aid4Mail's Graphical User Interface (GUI)*

When you run Aid4Mail for the first time, the [session list](#) is closed by default. It can be opened and closed by selecting [View > Show/Hide session list](#) from the menu or [Show/Hide session list](#) in the task bar.

This section also contains information on user-interface components that are not immediately visible but available after navigation:

- [License selection](#)
- [License activation](#)
- [Home](#)
- [Project settings](#)
- [App settings](#)
- [Aid4Mail Authenticator](#)
- [Aid4Mail Remote Authenticator](#)
- [IMAP Configuration Editor](#)
- [Proxy settings](#)
- [Keyboard shortcuts](#)
- [Session settings file](#)



## 6.1 License selection

The license selection screen is the first to appear when you open Aid4Mail. It will appear differently depending on whether this is:

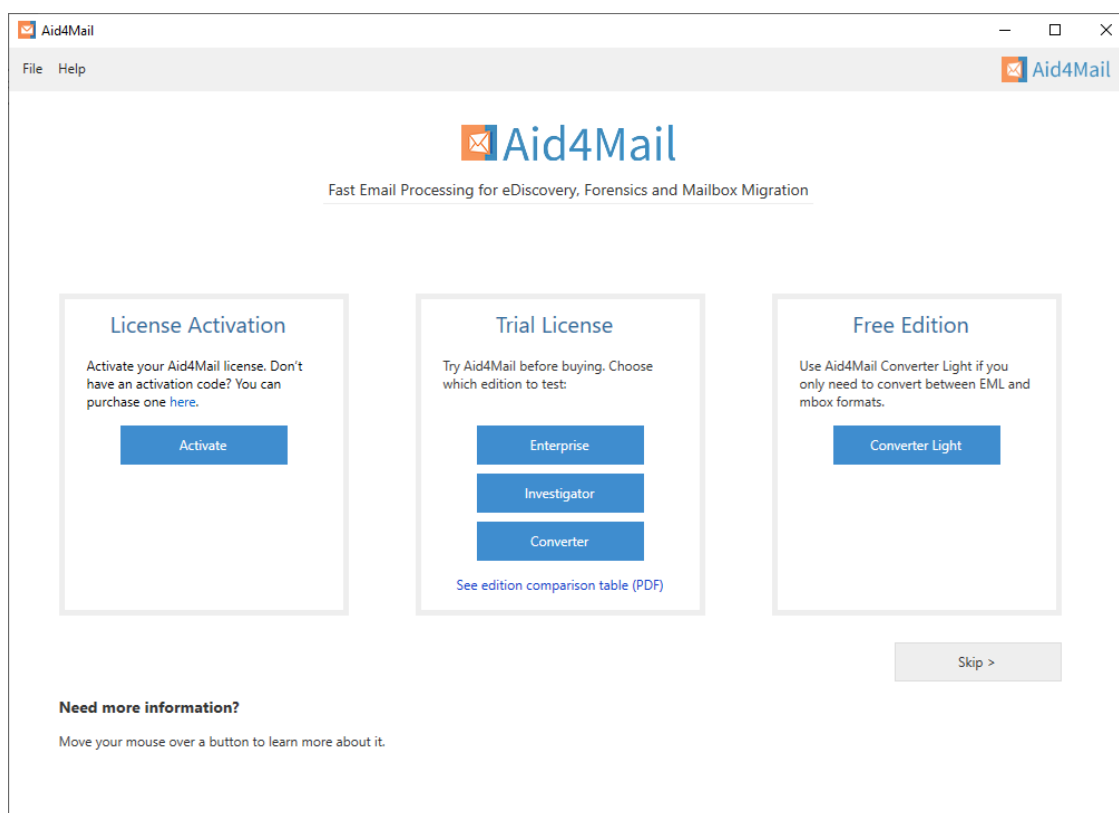
- [The first time you open Aid4Mail](#).
- [Not the first time](#).

### The first time you open Aid4Mail

If this is the first time you open Aid4Mail (or it's [not the first time](#) and you opted to [choose your license](#)), the license selection screen will contain three boxes with the following titles:

- [License activation](#)
- [Trial license](#)
- [Free edition](#)

Each box contains one or more options as shown in the following screenshot and explained below. Once you have selected an option, you will be taken to Aid4Mail's [Home](#) screen.



*License selection screen the first time you use Aid4Mail.*

### License activation

If you have already purchased an Aid4Mail license, and received an activation code or key file by email, select *Activate*. Then follow the instructions in the [Activating your Aid4Mail license](#) topic.

### Trial license

If you'd like to test Aid4Mail before purchasing, select the Aid4Mail edition you'd like to try:

- [Enterprise](#)
- [Investigator](#)
- [Converter](#)

For more information about the different editions of Aid4Mail, please see the [comparison chart](#) on our website.

In trial mode, Aid4Mail works on a modified **copy** of your mail. Rest assured that Aid4Mail will not alter your actual mail so you can safely run as many tests as you need. Please refer

to the [Trial mode](#) topic for details.

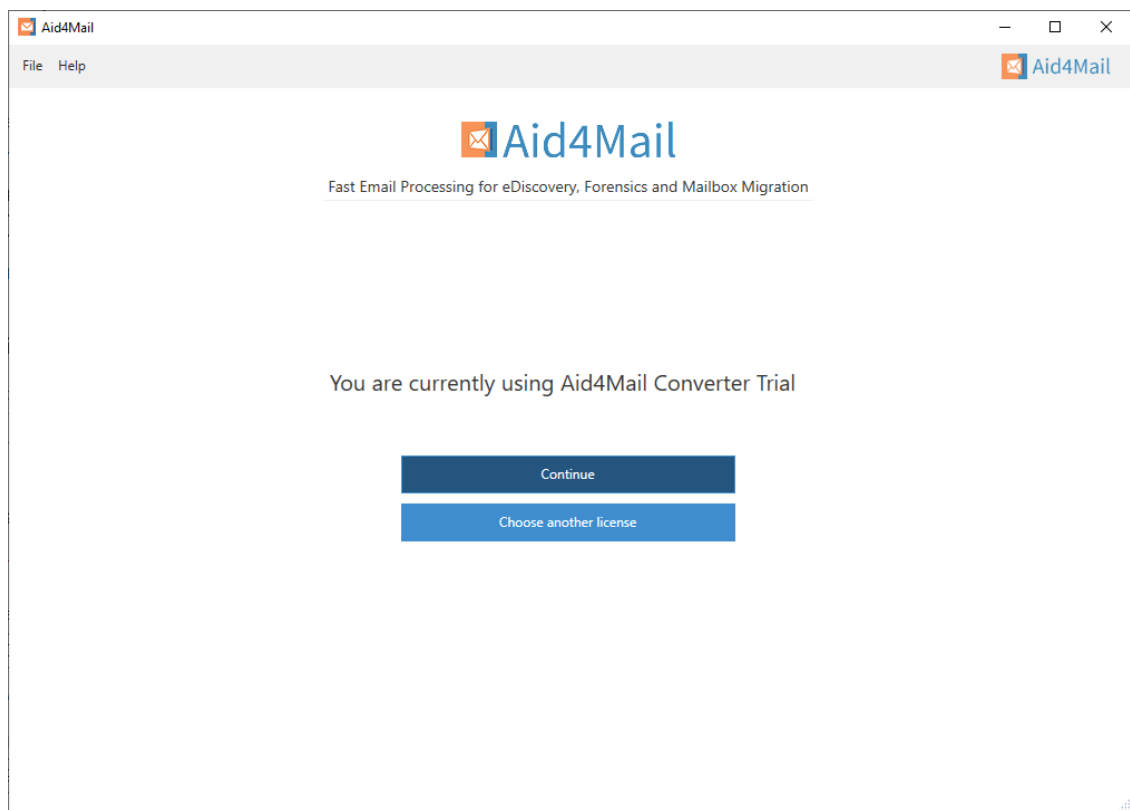
### Free edition

Select *Converter Light* to use our free edition. Converter Light is 100% free to use but is limited to converting between EML and mbox mail formats.

## Not the first time you open Aid4Mail

If you have already used Aid4Mail, the license selection screen will display the license you've been using along with two options:

- [Continue](#)
- [Choose another license](#)



*License selection screen when you've already used Aid4Mail.*

**Continue**

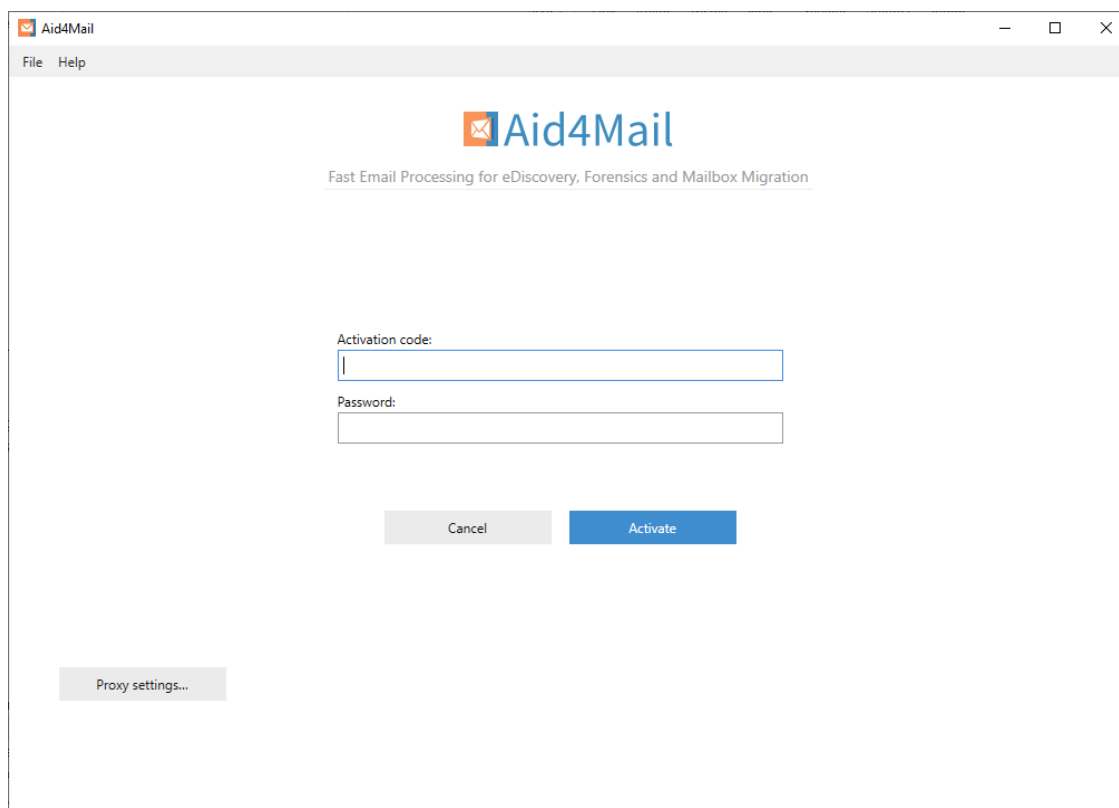
Continue using the same Aid4Mail license as before. Selecting this option will take you directly to Aid4Mail's [Home](#) screen.

**Choose another license**

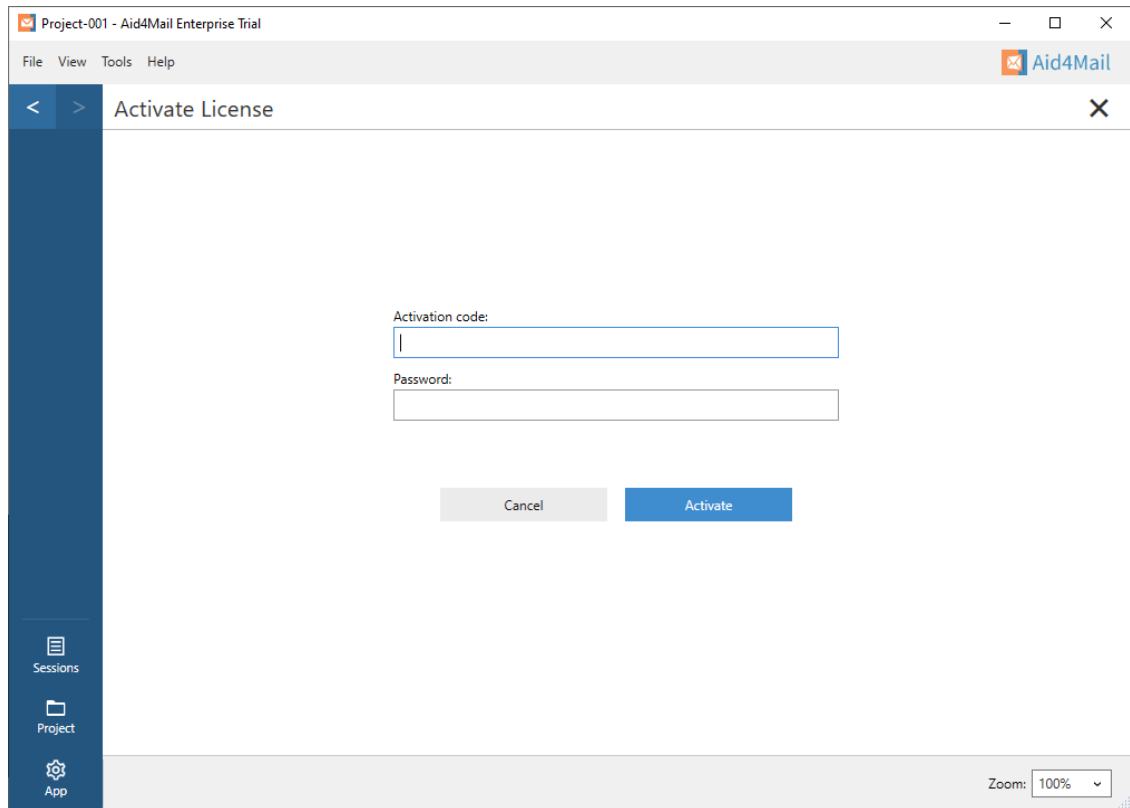
Selecting this option will update the screen to appear as if it's [the first time you open Aid4Mail](#). You can then select another license.

## 6.2 License activation

The *License activation* screen looks slightly different depending on whether you opened it from the [License selection](#) screen or from the [File > Activate license](#) menu command. However they both contain the same input fields:



*License activation screen when opened from the License selection screen.*



*License activation screen when opened from the the File menu.*

### Activation code

When you purchase Aid4Mail, in most cases you will be sent an activation code by email. Enter it into this field.

### Password

Enter a password of your choosing. You can click and hold the eye icon to make the password visible. If you are re-activating Aid4Mail, note that the password you create must be different to all the passwords you have previously used with this activation code.

### Activate

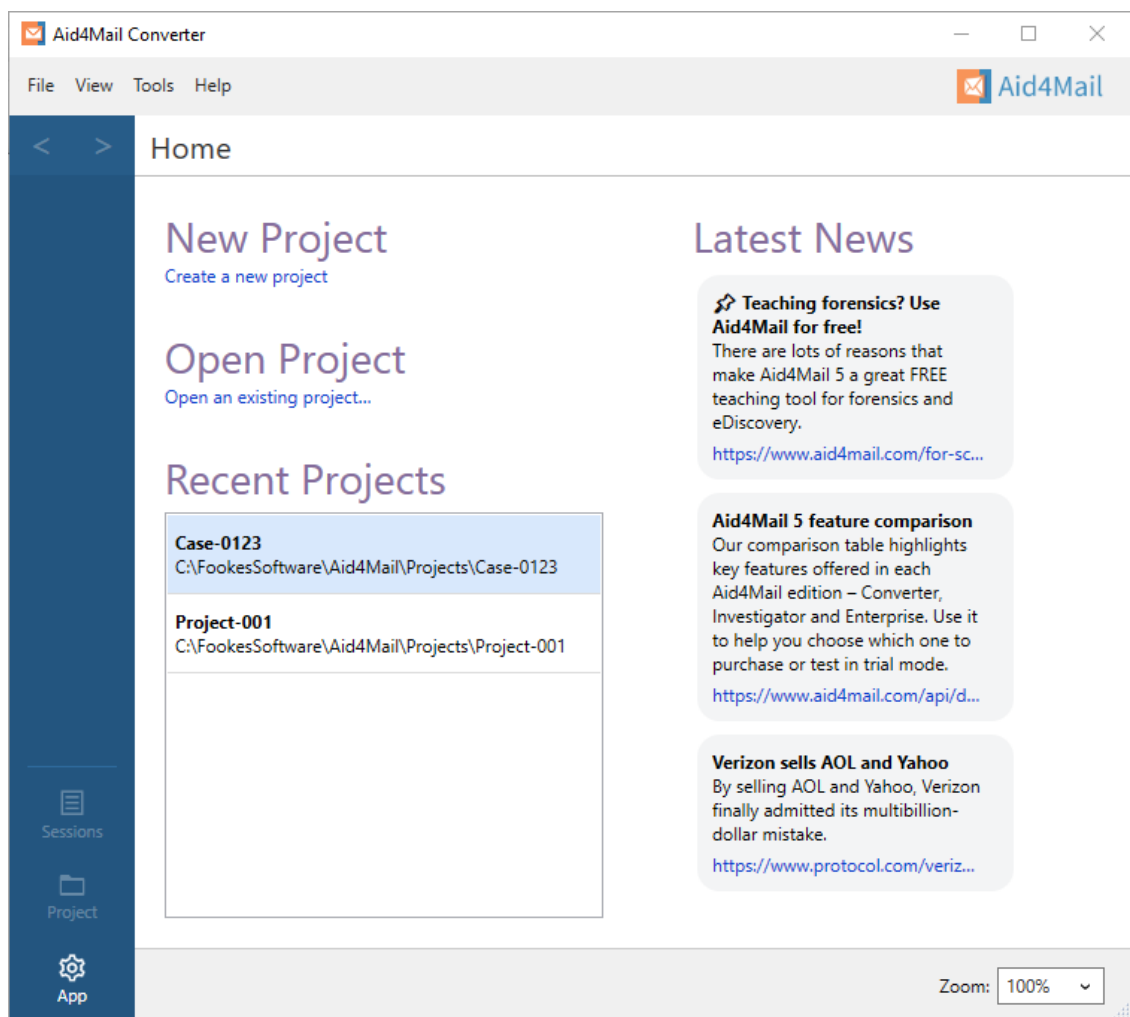
Once you have filled in all the fields on this screen, select *Activate* to activate Aid4Mail.

## 6.3 Home

The Home screen is displayed after the [license selection](#) screen when you open Aid4Mail, or when you [close a project](#). It offers shortcuts to:

- [Create a new project](#).
- [Open an existing project](#).
- [Select a recent project from the list](#).

The Home screen also displays the [latest news](#) about Aid4Mail and related topics.



Home screen

**New project**

Same functionality as the [New project](#) command under the [File menu](#).

**Open project**

Same functionality as the [Open project](#) command under the [File menu](#).

**Recent projects**

Open a recent project by selecting it from the list. Similar to the [Recent projects](#) command under the [File menu](#).

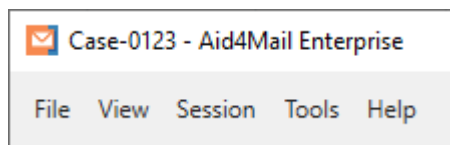
**Latest news**

News feed from the Aid4Mail server with links where appropriate.



## 6.4 Menu

Aid4Mail's main menu is found at the top-left of the window:

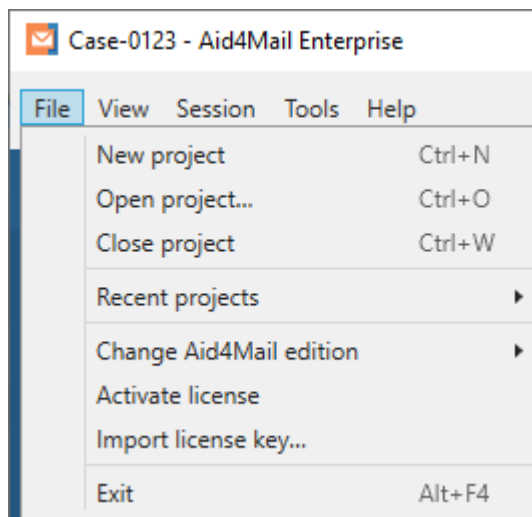


*Menu*

The menu contains five items:

- [File menu](#)
- [View menu](#)
- [Session menu](#)
- [Tools menu](#)
- [Help menu](#)

### 6.4.1 File menu



*File menu*

#### **New project**

Create a new project with one new session. The new session will have default values except for the following fields which will be blank:

- Source [Format](#)
- Source [Location](#) or [Email address](#) or [IMAP account](#) (depending on the selected source format)
- Target [Format](#)
- Target [Location](#) or [Email address](#) or [IMAP account](#) (depending on the selected source format)

#### **Open project**

Open an existing project using the Windows *Open* dialog. Browse to your chosen project file (with extension `.project.ini`) in the dialog and then select *Open*.

#### **Close project**

Close the current project.

#### **Recent projects**

Open a recent project by selecting it from the list, or select *Clear list* to empty the list.

**Change Aid4Mail edition**

Try a different [Aid4Mail edition](#) by selecting it from the submenu. The selected edition will run in trial mode unless you have purchased a license and [activated](#) that edition, or you selected the free version with limited features (*Aid4Mail Converter Light*).

**Activate license**

Open the [License activation](#) screen to activate Aid4Mail with an activation code. Please follow the instructions in [Activating with an activation code](#).

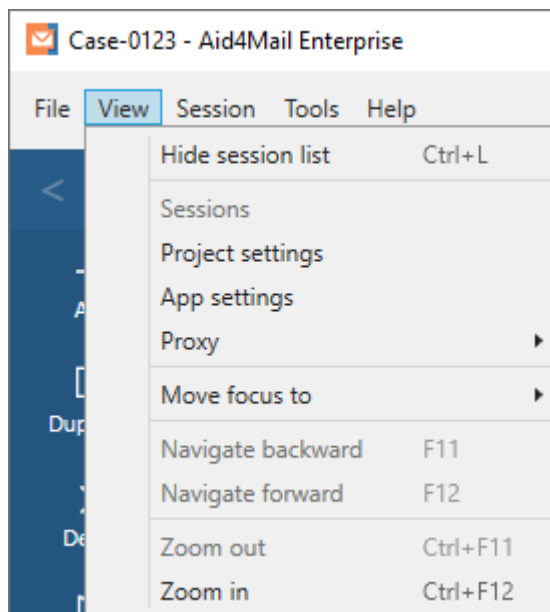
**Import license key**

Open the Windows *Open* dialog to allow you to select a license key file. Please follow the instructions in [Activating with a key file](#).

**Exit**

Exit the application.

### 6.4.2 View menu



*View menu*

#### Show/Hide session list

Show or hide the [session list](#). When the session list is visible, additional options appear in the [button bar](#) and [session menu](#). Please refer to the [Multiple sessions](#) topic for details.

#### Sessions

View the [Sessions](#) screen.

#### Project settings

View the [Project settings](#).

#### App settings

View the [App settings](#).

#### Proxy

View the [HTTP proxy settings](#) or [IMAP proxy settings](#).

#### Move focus to

Move the keyboard focus to a specific section of the user interface. The options are:

- *Source*  
Move the keyboard focus to the [Source section of the Session settings](#).
- *Target*  
Move the keyboard focus to the [Target section of the Session settings](#).
- *Filter*  
Move the keyboard focus to the [Filter section of the Session settings](#).
- *Session list*  
Move the keyboard focus to the [Session list](#).
- *Session tabs*  
Move the keyboard focus to the tab bar at the top of the [Session information](#).

## **Navigate backward**

Navigate backwards through recently viewed screens.

## **Navigate forward**

Navigate forwards through recently viewed screens.

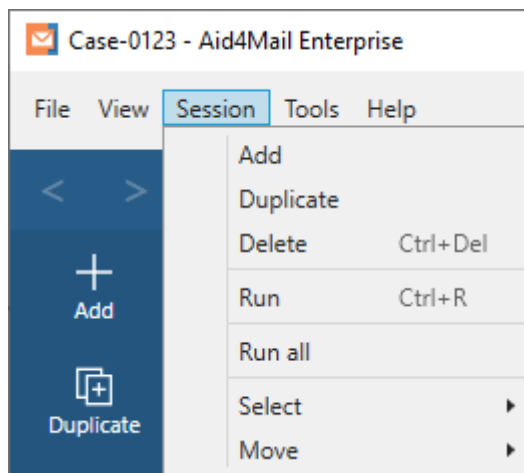
## **Zoom out**

Progressively zoom out the user interface until it reaches 100%.

## **Zoom in**

Progressively zoom in the user interface to a maximum of 150%.

### 6.4.3 Session menu



*Session menu*

#### **Add**

Only available when the [session list](#) is open.

Add a new session with default values except for the following fields which are blank:

- Source [Format](#)
- Source [Location](#) or [Email address](#) or [IMAP account](#) (depending on the selected source format)
- Target [Format](#)
- Target [Location](#) or [Email address](#) or [IMAP account](#) (depending on the selected source format)

#### **Duplicate**

Only available when the [session list](#) is open.

Create a new session with identical settings (except for the [session name](#)) to the currently selected session. The new session will be created directly below the one it's duplicating in the session list and will become the new selected session.

With certain source formats, you can use wildcards in the source file or folder name to [create multiple duplicate sessions](#) at the same time. For more information, please refer to the [Duplicating sessions](#) topic.

**Delete**

Only available when the [session list](#) is open.

Delete the currently selected session from the project. If there's only one session then it cannot be deleted, only [Reset](#).

**Reset**

Reset the currently selected session's settings (except for [Session name](#)) to their default values.

**Run**

Run the currently selected session. If the session is [paused](#) then selecting Run will resume processing from that point. Otherwise processing will start at the beginning.

**Pause**

Pause the currently selected session. Processing will be temporarily halted but can be resumed again, from the same point, by selecting [Run](#).

**Stop**

Stop the currently selected session. Processing cannot be resumed after a stop. Selecting Run after a session has been stopped will start processing from the beginning again.

**Run all**

Only available in [Aid4Mail Enterprise](#) and [Investigator](#) when the [session list](#) is open.

[Run](#) all the sessions in the project.

**Pause all**

Only available in [Aid4Mail Enterprise](#) and [Investigator](#) when the [session list](#) is open.

[Pause](#) all sessions in the project.

**Stop all**

Only available in [Aid4Mail Enterprise](#) and [Investigator](#) when the [session list](#) is open.

[Stop](#) all the sessions in the project.

**Select**

Select a session in the [session list](#). The options are:

- *Previous*  
Select the previous session in the list (unless the first session is selected).
- *Next*  
Select the next session in the list (unless the last session is selected).
- *By index*  
Select a session by entering its [index](#) in the session list into the dialog.

**Move**

Only available when the [session list](#) is open.

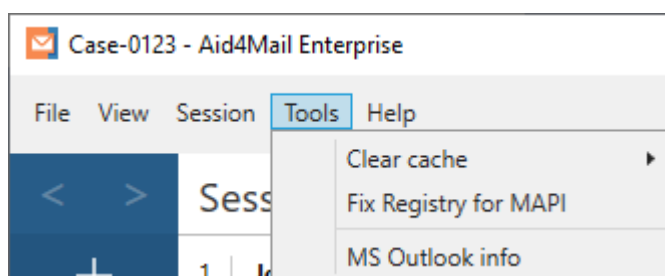
Move the currently selected session to a different position in the [session list](#). This will change its [index](#) in the list and the indices of any other sessions affected by the move. However, the [names](#) of the sessions will not be affected.

The options for this menu command are:

- *Up*  
Move the currently selected session up the list by one position (unless it's already the first session).
- *Down*  
Move the currently selected session down the list by one position (unless it's already the last session).
- *To top*  
Move the currently selected session to the top of the list (unless it's already the first session).
- *To bottom*  
Move the currently selected session to the bottom of the list (unless it's already the last session).



#### 6.4.4 Tools menu



Tools menu

##### **Clear cache**

Delete temporary cache files created by Aid4Mail:

- *Index data*  
Index files created by Aid4Mail to increase efficiency for operations that share the same source mail.
- *Incremental data*  
A log of every email processed by this session. Used by the [Incremental processing](#) feature.
- *All data*  
Both index data and incremental data.

##### **Fix Registry for MAPI**

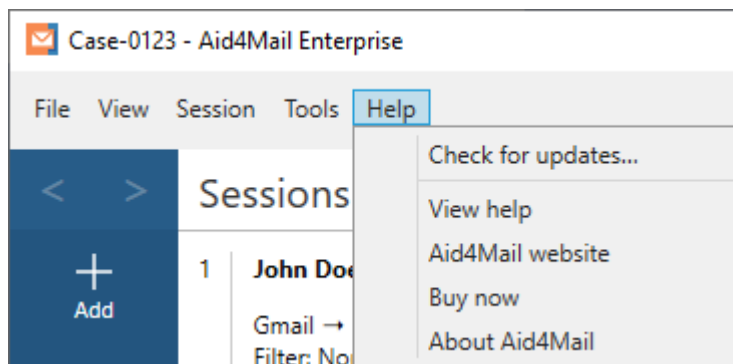
Updates the Windows registry with Outlook information that may be missing. This is useful to do if:

- You installed Outlook after installing Aid4Mail.
- You installed Aid4Mail on a USB drive.
- Errors occurred when running Aid4Mail with *Outlook profile*, *PST file* or *MSG file* as the [source](#) or [target format](#) (or both).

##### **MS Outlook info**

Display information about your Microsoft Outlook installation, if it can be found.

### 6.4.5 Help menu



*Help menu*

#### **Check for updates**

Check whether a new Aid4Mail update is available.

#### **View help**

Open the *Aid4Mail Help Manual* in a separate window.

#### **Aid4Mail website**

Open the [Aid4Mail website](#) in your browser.

#### **Buy now**

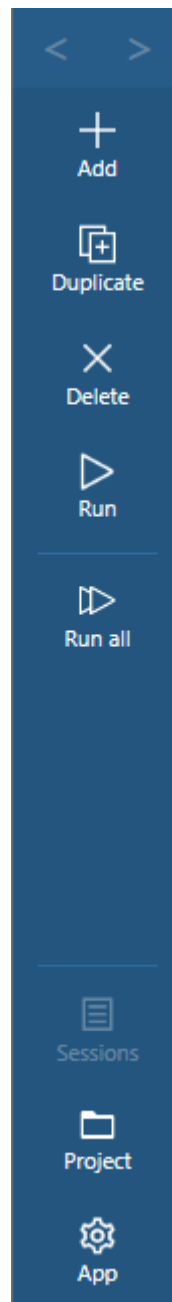
Purchase Aid4Mail from our website, then run it immediately without any [trial mode](#) limitations.

#### **About Aid4Mail**

Open a dialog with information about this Aid4Mail version.

## 6.5 Button bar

The *Button bar* is a blue strip at the left of the Aid4Mail window, containing shortcuts to commands in the [View](#) and [Session](#) menus.



*Button bar*

< >

Navigate through the previously selected sessions in the [session list](#).

**Add**

Same functionality as the [Add](#) command under the [Session menu](#).

**Duplicate**

Same functionality as the [Duplicate](#) command under the [Session menu](#).

**Delete**

Same functionality as the [Delete](#) command under the [Session menu](#).

**Run**

Same functionality as the [Run](#) command under the [Session menu](#).

**Pause**

Same functionality as the [Pause](#) command under the [Session menu](#).

**Stop**

Same functionality as the [Stop](#) command under the [Session menu](#).

**Run all**

Same functionality as the [Run all](#) command under the [Session menu](#).

**Pause all**

Same functionality as the [Pause all](#) command under the [Session menu](#).

**Stop all**

Same functionality as the [Stop all](#) command under the [Session menu](#).

**Sessions**

Same functionality as the [Sessions](#) command under the [View menu](#).

**Project**

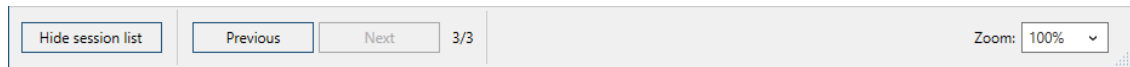
Same functionality as the [Project settings](#) command under the [View menu](#).

**App**

Same functionality as the [App settings](#) command under the [View menu](#).

## 6.6 Task bar

The task bar displays important information relative to the task being performed. It also contains shortcuts to elements in the [View](#) and [Session](#) menus.



*Task bar*

### Show/Hide session list

Same functionality as the [Show/Hide session list](#) command under the [View menu](#).

### Previous

Only available when there is two or more [sessions](#) in the [session list](#).

Same functionality as the [Move > Down](#) command under the [Session menu](#).

### Next

Only available when there is two or more [sessions](#) in the [session list](#).

Same functionality as the [Move > Up](#) command under the [Session menu](#).

### Current/total session indicator

Only available when there is two or more [sessions](#) in the [session list](#).

Indicates the currently selected session in relation to the total number of sessions. For example, 4/8 indicates that the fourth session of eight is currently selected

### Zoom

Zoom the user interface between 100% and 150%. This is the equivalent of using [Zoom in](#) or [Zoom out](#) under the [View menu](#).

## 6.7 Sessions

The *Sessions* screen contains details about the [sessions](#) in the current [project](#). It consists of the [Session list](#) to the left, and the [Session information](#) panel on the right.

### 6.7.1 Session list

The *Session list* is an ordered list containing all [sessions](#) that have been [set up](#) in the current [project](#), as shown below:

Sessions		
1	<b>John Doe - Gmail</b> Gmail to PST Filter: None	Ready 0%
2	<b>John Doe - Thunderbird</b> Thunderbird to PST Filter: None	Ready 0%
3	<b>John Doe - Mbox</b> Mbox to PST Filter: None	Ready 0%

*Session list with 3 sessions*

## Opening and closing the session list

When you run Aid4Mail for the very first time, the session list is closed by default. It can be opened and closed by selecting [View > Show/Hide session list](#) from the menu or [Show/Hide session list](#) in the task bar.

When the session list is open, additional commands appear in the [session menu](#) and [button bar](#), enabling you to [add](#) a new session, [duplicate](#) an existing one, [delete](#) or [reset](#) it and [move](#) sessions around. In [Aid4Mail Enterprise](#) and [Investigator](#), options to [run all](#), [pause all](#) and [stop all](#) sessions also become available.


## Selecting a session

Selecting a session in the list makes its [session information](#) available for editing. Only one session can be selected at a time and the selected session will display a blue strip at the right as shown in the image above.



## What's in a session list entry?

Each entry in the session list contains 3 parts:

Index	Session information	Progress overview
3	<b>John Doe - Mbox</b> Mbox to PST Filter: None	Ready  0%

*The 3 parts of a session list entry*

1. Index of the session in the list. This can also be thought of as the row number because the first session's index will always be 1, the second session's index will always be 2. As sessions are [moved](#) around the session list, their indices will change to maintain numerical order (but their [names](#) will not change).
2. [Session information](#) overview containing the [session name](#), [source](#) and [target](#) formats, and whether or not a [filter](#) has been set.
3. [Progress](#) overview containing the session's [status](#), and [progress](#) as a percentage.

### 6.7.2 Session information

Information related to the currently selected session. This part of the [user interface](#) contains a tab bar to navigate to the following sections:

- [Settings](#)
- [Progress](#)
- [Progress Log](#)
- [Error Log](#)

## John Doe - Mbox

Settings

Progress

Progress Log

Error Log

Session name:

John Doe - Mbox

⊖ Source

Format:

Mbox files (generic mailbox)

Location:

Select

C:\FookesSoftware\Case-0123\JohnDoe\Mbox

☐ Remove journaling envelope

☒ Automatically record each email to allow incremental processing

☐ Incremental processing

⊖ Target

Format:

PST file

☒ Process using Outlook (recommended)

PST file:

Password • Select

C:\FookesSoftware\Case-0123\JohnDoe.pst

Location in PST folder tree:

Select

Optional base folder

Folder structure:

Same as source folder structure

Python modifier script:

Edit • Add • More

(None)

Limit PST file size:

No limit

☐ Append messages to target file if it already exists

☒ Add extra metadata to email headers

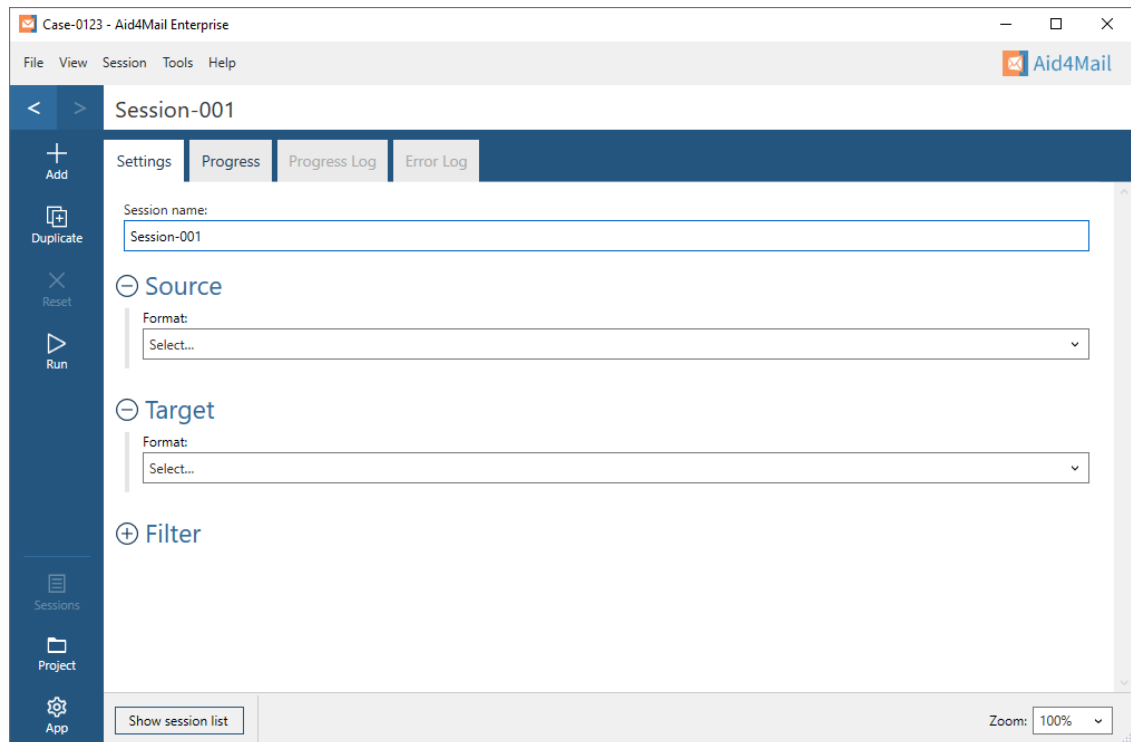
⊕ Filter

*Session information*

### 6.7.2.1 Session settings

The session *Settings* screen consists of the [Session name](#) followed by 3 collapsible sections:

1. [Source](#)
2. [Target](#)
3. [Filter](#)



*Settings screen before configuration*

#### **Session name (required)**

The name of the selected session. Initially this will show a default name. We recommend you change it to something you can easily identify.

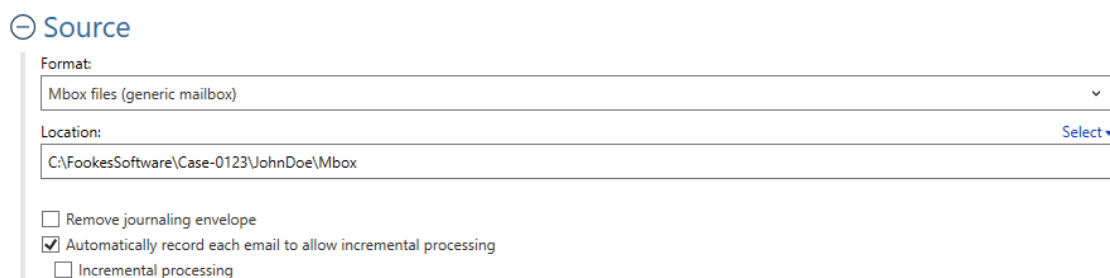
Example: John Doe's email is spread across 3 different source formats which all need to be converted to PDF. One approach would be to set up 3 different sessions, one for each format: The first to convert his Outlook mail, the second for his web mail and the third for his Thunderbird files. Descriptive session names might be:

1. John Doe - Outlook
2. John Doe - Webmail
3. John Doe - Thunderbird

Note that the session name is also used to name the settings file and log files for this session and so must not contain any [illegal characters](#).

#### 6.7.2.1.1 Session settings: Source

The *Source* section of the [Settings](#) screen contains required and optional settings related to your chosen source format. The fields displayed depend on the value chosen in the [Format](#) field.



⊖ Source

Format:  
Mbox files (generic mailbox) ▼

Location: Select ▼  
C:\FookesSoftware\Case-0123\JohnDoe\Mbox

☐ Remove journaling envelope  
☒ Automatically record each email to allow incremental processing  
☐ Incremental processing

*Source settings*

#### Format (required)

The email format that Aid4Mail will be reading and importing from. Please refer to the full list of [supported source formats](#).

Some mail files correspond to more than one source format. We recommend you always select the most specific option when faced with a choice.

For example, Thunderbird mailboxes are also mbox files but with additional status information in the headers. If you select *Thunderbird* as your source format, Aid4Mail knows it must read the status information which would be lost if you select *Mbox*.

Similarly, if you your mbox files come from Google Vault, select *Google Vault* as the source format (only available in [Aid4Mail Investigator](#) and [Aid4Mail Enterprise](#)) to obtain optimal results. Google Vault adds label information to the mbox files which will be lost if you select *Mbox*. When you select *Google Vault*, Aid4Mail knows it must read the proprietary label information to correctly understand the folder structure.

#### Process using Outlook

Only available when your source [format](#) is *PST file* or *MSG files*.

When turned *On*, Aid4Mail will use Microsoft Outlook's engine to access your source file(s). This is the recommended option but requires you to have a copy of Outlook installed on the same computer as Aid4Mail.

When turned *Off*, Aid4Mail will access the source file(s) without using Outlook. It does not require Outlook to be installed on the computer. However, some metadata in the email header, like status information, may not be accessible.

Please refer to [Choosing the right format: PST and MSG](#) for additional information.

### **Files downloaded from Mimecast server**

Only available when your source [format](#) is *Mimecast*.

Mimecast archives are delivered in two different ways:

1. A collection of ZIP files downloaded from a Mimecast FTP server with all accounts mixed together. Mimecast refers to this grouping of accounts as "Not Per User" (NPU).
2. Files organized in folders for each account on an external hard drive. Mimecast refers to this grouping as "Per User" (PU).

If you obtained your Mimecast export from a Mimecast FTP server (#1 above) then select this option. It pre-fills many of your [target settings](#) to split your Mimecast archives into multiple EML folders, organized per account. Aid4Mail is possibly the only software on the market that's able to do this and it's a huge time saver. Once you've run this conversion, you can then do a second conversion to convert the EML folders to whichever target [format](#) you require.

### **Location**

Only available when your source [format](#) is *MSG, EML, mbox, Thunderbird, SeaMonkey, Maildir, Google Takeout, Google Vault, Mimecast or Proofpoint*.

The folder or file location on the drive where the source email file(s) are located. You can write the location directly in the field or use *Select* to browse for a location.

If your chosen source [format](#) is *Thunderbird* then you can also use *Find* to automatically locate Thunderbird's mail directory.

With certain source formats, you can use wildcards in this field to [create multiple duplicate sessions](#) at the same time. For more information, please refer to the [Duplicating sessions](#) topic.

### **Password**

Only available when your source [format](#) is *Proofpoint*.

The password for the Proofpoint ZIP archive that's specified in the [Location](#) field.

### Email address

Only available when your source [format](#) is *Gmail and Google Workspace* or *Microsoft 365*.

Select the email address of the source mail account from the list. If it is not yet in the list, you can use *Add* to launch [Aid4Mail Authenticator](#) and add the account. Alternatively, you can *Import* an existing authentication token (that was created using [Aid4Mail Remote Authenticator](#)).

Authentication files are saved directly in your [application data folder](#). Importing an existing account makes a copy of the file in this folder. The original will not be moved or deleted.

### Use login credentials to access another account as a delegate

Only available when your source [format](#) is *Microsoft 365*.

A delegate is an email account that has been authorized to access another account (the delegator's account). If the [Email address](#) field refers to a delegate account, turn this option *on* and enter the email address of the delegator's account it has access to.

### Profile

Only available when your source [format](#) is *Outlook profile*.

Select which profile you want Aid4Mail to process. The list will automatically be filled with all Outlook profiles available on the computer that Aid4Mail is being run on.

[Default] is the profile that is designated as the default in Outlook. It is the same as one of the other profiles in the list. Choose this option if you want to process the default profile, no matter which one it is set to. Otherwise, select a specific profile from the list.

Use *Reload* to tell Aid4Mail to regenerate the list of profiles provided by Outlook. This is useful if a profile has been added or removed in Outlook since Aid4Mail was last opened or, as can occasionally happen, you notice that Outlook has not provided all of its profiles in the list.

### Store

Only available when your source [format](#) is *Outlook profile*.



Select which message store you want Aid4Mail to process. The list will automatically be filled with all Outlook stores available for your chosen [profile](#).

[Default] is the store that is designated as the default in Outlook for your chosen [profile](#). It is the same as one of the other stores in the list. Choose this option if you want to process the default store, no matter which one it is set to. Otherwise, select a specific store from the list.

Use *Reload* to tell Aid4Mail to regenerate the list of stores provided by Outlook. This is useful if a store has been added or removed in Outlook since Aid4Mail was last opened or, as can occasionally happen, you notice that Outlook has not provided all of its stores in the list.

### Open store on remote server

Only available when your source [format](#) is *Outlook profile*.

When turned on, Aid4Mail collects mail directly from the server in the cloud (for example, from the Exchange or IMAP server), bypassing the locally-stored OST file. When off, Aid4Mail collects from the OST file.

Although collecting mail directly from the server is the slower option, due to the remote connection, it is recommended nevertheless. This is because the server may contain mail that is not in the OST file, if the OST has not been synchronized recently or has been configured to purge older mail.

Note that this setting may also affect which folders are accessed when the Folder filter's [Include hidden system folders](#) option is selected.

### PST file

Only available when your source [format](#) is *PST file*.

The location of the PST file on your drive. You can write the location directly in the field or use *Select* to browse for a location. If the PST file is password-protected, use the *Password* button to enter it.

Note that Aid4Mail can only process one source PST file per [session](#). To process multiple PST files, you will need to set up [multiple sessions](#) (one for each PST file). You can use wildcards in the PST file field to [create multiple duplicate sessions](#), one for each PST, as shown in [Duplicate sessions: Example 1](#).

**IMAP account**

Only available when your source [format](#) is *IMAP*.

Select an [IMAP](#) account from the drop-down list. Use the buttons above the field to *Add* a new account, *Edit* the currently selected one, *Import* an account from another location, or *Remove* the currently selected account. *Add* and *Edit* both launch the [IMAP Configuration Editor](#).

IMAP account files are saved directly in the *IMAP* subfolder of your [application data folder](#). Importing an existing account makes a copy of the file in this folder. The original will not be moved or deleted. If you edit an imported account, modifications are only made to the copy. The original will not be altered.

**Access email located outside your personal mailbox (e.g. shared mailboxes)**

Only available when your source [format](#) is *IMAP*.

Select this option to allow Aid4Mail to access any shared mailboxes (or other mailboxes outside the direct scope of your personal mailbox) associated with this account.

**Remove journaling envelope**

A journaled email includes additional metadata along with the original email message. When this option is on, Aid4Mail will remove the additional data from any journaled emails that are processed. For more information, please refer to the [Processing journaled messages](#) topic.

Note that journaled emails sometimes have their sender and recipient email addresses missing from the original SMTP header, storing them instead in the journal report. When Aid4Mail removes the journaling envelope, it extracts these addresses so they are searchable. Aid4Mail does this automatically when the [Recipients](#) or [Participants](#) search operators are used, or when there are no search operators, or when the [EmailAccount](#) template token is used. Aid4Mail can also place these addresses in the *X-Journal-Sender* and *X-Journal-Recipients* fields of the target email header when [Add extra metadata to email headers](#) is turned on in the *Target settings*.

**Automatically record each email to allow incremental processing**

When *on*, Aid4Mail will keep a log of every email that has been processed. This option is *on* by default to allow for data recovery in the event of a failure. However, logging every email processed has an impact on performance. If you need Aid4Mail to run faster, try turning this option *off*.

**Incremental processing**

[Only available when Automatically record email email to allow incremental processing](#) is turned *on*.

When incremental processing is *on*, Aid4Mail will ignore any emails in the source [Location](#) that were already processed during a previous run of this same session (i.e. emails. that appear in the log created by the [Automatically record email email to allow incremental processing](#)). This allows you to resume processing where you left off if a session is stopped or fails for any reason, or for processing large mailboxes in small increments.

#### 6.7.2.1.2 Session settings: Target

The *Target* section of the [Settings](#) screen contains optional settings related to your chosen target format. The fields displayed depend on the value chosen in the [Format](#) field.



Target

Format:  
PST file

☒ Process using Outlook (recommended)

PST file: Password • Select  
C:\FookesSoftware\Case-0123\JohnDoe.pst

Location in PST folder tree: Select  
Optional base folder

Folder structure:  
Same as source folder structure

Python modifier script: Edit • Add • More  
(None)

Limit PST file size:  
No limit

☐ Append messages to target file if it already exists  
☒ Add extra metadata to email headers

*Target settings*

#### Format (required)

The email format that Aid4Mail will be creating and exporting to. Please refer to the full list of [supported target formats](#).

#### Process using Outlook

Only available when your target [format](#) is *PST file* or *MSG files*.

When turned *On*, Aid4Mail will use Microsoft Outlook's engine to create your target file(s). This is the recommended option but requires you to have a copy of Outlook installed on the same computer as Aid4Mail.

When turned *Off*, Aid4Mail will create the target file(s) without using Outlook. It does not require Outlook to be installed on the computer. However, some metadata in the email header, like status information, may be missing.

Please refer to [Choosing the right format: PST and MSG](#) for additional information.

**Email address**

Only available in [Aid4Mail Enterprise](#) when your target [format](#) is *Gmail and Google Workspace* or *Microsoft 365*.

Select the email address of the target mail account from the list. If it is not yet in the list, you can use *Add* to launch [Aid4Mail Authenticator](#) and add the account. Alternatively, you can *Import* an existing authentication token (that was created using [Aid4Mail Remote Authenticator](#)).

Authentication files are saved directly in your [application data folder](#). Importing an existing account makes a copy of the file in this folder. The original will not be moved or deleted.

**Use login credentials to access another account as a delegate**

Only available in [Aid4Mail Enterprise](#) when your target [format](#) is *Microsoft 365*.

A delegate is an email account that has been authorized to access another account (the delegator's account). If the [Email address](#) field refers to a delegate account, turn this option *on* and enter the email address of the delegator's account it has access to.

**Profile**

Only available in [Aid4Mail Enterprise](#) when your target [format](#) is *Outlook profile*.

Select a profile to receive your target mail. The list will automatically be filled with all Outlook profiles available on the computer that Aid4Mail is being run on.

[Default] is the profile that is designated as the default in Outlook. It is the same as one of the other profiles in the list. Choose this option if you want to use the default profile, no matter which one it is set to. Otherwise, select a specific profile from the list.

**Store**

Only available in [Aid4Mail Enterprise](#) when your target [format](#) is *Outlook profile*.

Select which message store you want to receive your target mail. The list will automatically be filled with all Outlook stores available for your chosen [profile](#).

[Default] is the store that is designated as the default in Outlook for your chosen [profile](#). It is the same as one of the other stores in the list. Choose this option if you want to use the default store, no matter which one it is set to. Otherwise, select a specific store from the list.

**PST file**

Only available when your target [format](#) is *PST file*.

The location of the PST file on your drive. You can write the location directly in the field or use *Select* to browse for a location. If you want the PST file to be password-protected, use the *Password* button to enter it.

**Location in PST folder tree**

Only available when your target [format](#) is *PST file*.

The base folder location inside a PST file where Aid4Mail will create your target emails and/or non-email items.

**IMAP account**

Only available in [Aid4Mail Enterprise](#) when your target [format](#) is *IMAP*.

Select an [IMAP](#) account from the drop-down list. Use the buttons above the field to *Add* a new account, *Edit* the currently selected one, *Import* an account from another location, or *Remove* the currently selected account. *Add* and *Edit* both launch the [IMAP Configuration Editor](#).

IMAP account files are saved directly in the *IMAP* subfolder of your [application data folder](#). Importing an existing account makes a copy of the file in this folder. The original will not be moved or deleted. If you edit an imported account, modifications are only made to the copy. The original will not be altered.

**Access email located outside your personal mailbox (e.g. shared mailboxes)**

Only available in [Aid4Mail Enterprise](#) when your target [format](#) is *IMAP*.

Select this option to allow Aid4Mail to access any shared mailboxes (or other mailboxes outside the direct scope of your personal mailbox) associated with this account.

**PDF file standard**

Only available when your target [format](#) is *PDF*.

From the drop-down list, choose a specific file standard for your target PDF files:

- *Full (recommended)*  
Permits all features of the ISO-standard Portable Document Format .

- *Archivable PDF/A*

An ISO-standard subset of PDF used for document archiving and long-term preservation. It excludes features not suitable for archiving, such as encryption. The specific version used by Aid4Mail, PDF/A-1b, also requires fonts to be embedded (rather than linked) and prohibits the embedding of files.

- *Press-ready PDF/X*

An ISO-standard subset of PDF with print-related conditions that do not apply to regular PDF files. Aid4Mail uses PDF/X-1a which stipulates that all fonts must be embedded, with any images using CMYK or spot colors.

### **CSV/TSV for Excel**

Only available when your target [format](#) is CSV or TSV.

Turn this option on to ensure the CSV/TSV file respects the limits imposed by Microsoft Excel, notably the cell size. If you are not planning on using the file in Excel, you can turn this option off.

### **Export to a single text/CSV/TSV file**

Only available when your target [format](#) is *Plain text*, CSV or TSV.

Turn this option on to ensure that only one target text, CSV or TSV file is created for the session. This means that the [Location](#) field must contain a filename, rather than a directory name, and the [Folder structure](#) option will be unavailable.

### **Export to a single mbox/mailbox/PDF/text file**

Only available when your target [format](#) is *Mbox files*, *Thunderbird*, *Seamonkey*, *PDF* or *Plain text*.

When turned *On*, all emails processed in the [session](#) will be placed in the same target file. When *Off*, each email will be placed in a separate file.

### **Location**

The location where Aid4Mail will create your target emails and/or non-email items.

If your target [format](#) is *MSG*, *EML*, *HTML*, *PDF* or *XML*, this will be a folder location on your drive.

If your target [format](#) is *mbx*, *Thunderbird*, *SeaMonkey*, *Plain text*, *CSV* or *TSV*, this will be a folder or file location on your drive.

If your target [format](#) is *Outlook profile*, *Gmail* and *Google Workspace* or *IMAP*, will this be a folder location inside the mail store.

You can write the location directly in the field or, depending on your target [format](#), use *Select* to browse for a drive location. If your chosen target format is *Thunderbird* then you can also use *Find* to automatically locate Thunderbird's mail directory.

### Cloud attachment location

Only available in [Aid4Mail Investigator](#) and [Aid4Mail Enterprise](#) when your source [format](#) is *Google Vault*.

The directory location on your drive where any Google Vault cloud attachments (also known as *modern attachments*) will be stored. You can write the location directly in the field or use *Select* to browse for a location.

You can specify a fully qualified path or a relative path. If relative, the path will be treated as a subfolder of the target [location](#).

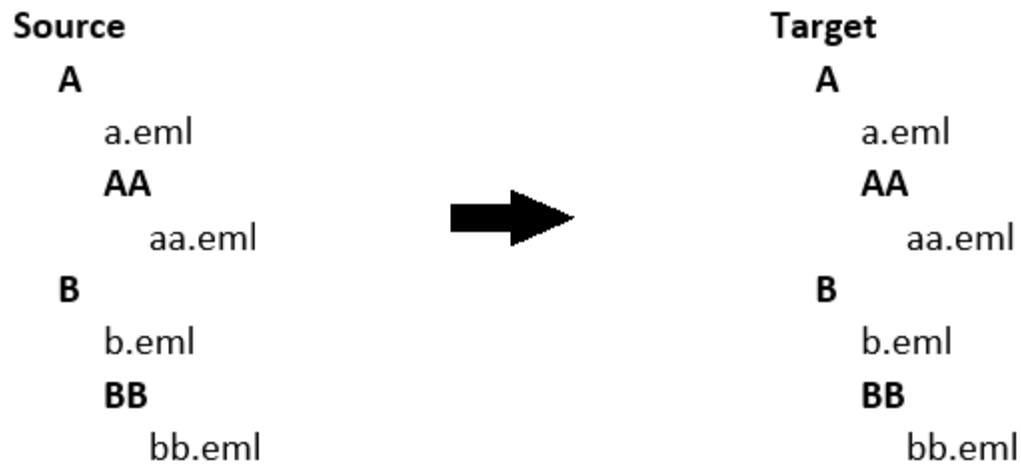
If the field is left blank, a relative path named *Hyperlinked* will be used by default.

### Folder structure

Determine how Aid4Mail creates the target folder structure. Available options are:

- *Same as source folder structure*  
The target folder structure will be exactly the same as the source folder structure, as shown in the image below. This option is selected by default.

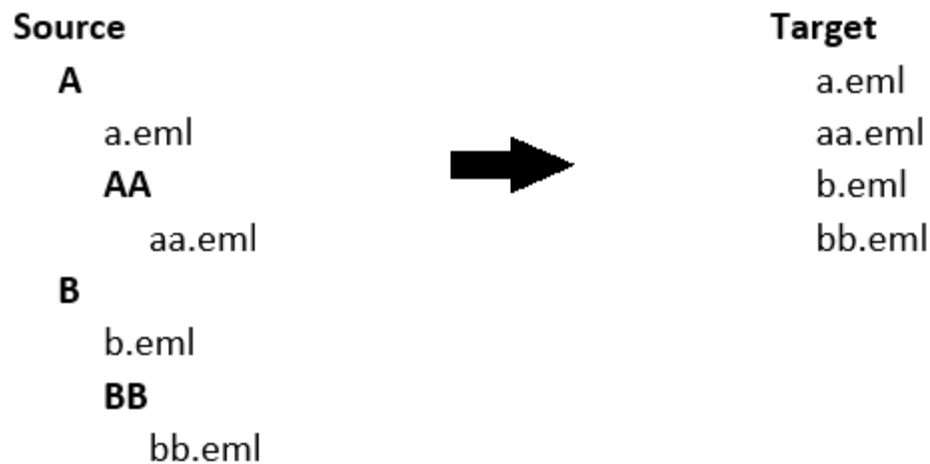




*Folder structure: Same as source folder structure*

- Merge all emails into the target folder

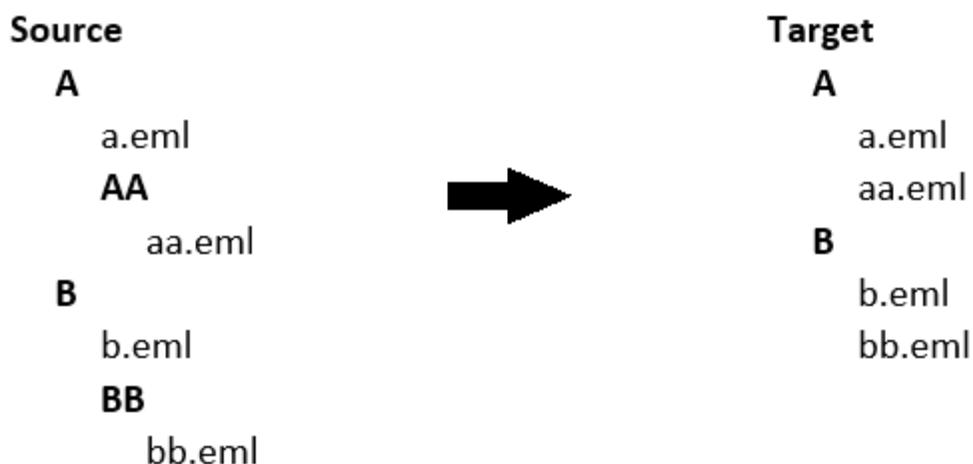
All target emails will be placed at the same level in the target [Location](#). This includes emails that were in subfolders in the source. This means that any folder hierarchy will be lost although the emails themselves will not be lost.



*Folder structure: Merge all emails into the target folder*

- Merge all emails into the top-level folders

All target emails will be placed into the top-level folder(s) of the source folder structure, under the target [Location](#). This means that part of the folder hierarchy may be lost although the emails themselves will not be lost.



*Folder structure: Merge all emails into the top-level folders*

- *Use X-Folder metadata*

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

The folder structure will be read from the email's *X-Folder* header field, if it exists. The *X-Folder* field is a proprietary header field that contains an email's original folder structure and is added to the email header when [Add extra metadata to headers](#) is turned on.

- *Use a template*

Define a template that will be applied to the target folder structure.

### Folder structure template

Only available when *Use a template* is selected in the [Folder structure](#) drop-down list.

Enter your folder structure template in this field. You can use the *Insert* button above the field to insert [template tokens](#). Please refer to the [Folder structure templates](#) topic for details of how to create a template.

### File name

Only available when your target [format](#) is *MSG*, *EML*, *PDF*, *HTML*, *Plain text* or *XML*.

Determine how Aid4Mail will name each of your target email files. Available options are:

- *Same as source file names*

Each target file will have the same name as its corresponding source file.

- *Use MD5 signatures*

Each target filename will be based on an MD5 signature created from the content of the

email. This has many benefits, notably that it guarantees all names are unique, of equal length and not too long, and don't contain any [illegal characters](#). A great option for saving to external media.

- *Use SHA-1 signature*

The same as the MD5 option except it uses an SHA-1 signature instead of MD5.

- *Use FNV-1a signature*

The same as the MD5 option except it uses a 64-bit FNV-1a signature instead of MD5.

- *Use email UID value*

Every email has a unique ID associated with it. With this option, an email's ID will be used for the filename.

- *Use a template*

Define a template that will be used for the target filenames.

Note: For the options that use signatures, the exact method used depends on the [Generate hash value from](#) option, under the [Sessions](#) section of the [App settings](#) screen.

### **File name template**

Only available when *Use a template* is selected in the [File name](#) drop-down list.

Enter your filename template in this field. You can use the *Insert* button above the field to insert [template tokens](#). Please refer to the [Filename templates](#) topic for details of how to create a template.

### **Email header configuration**

Only available when your target [format](#) is *HTML*, *PDF* or *Plain text*.

Select a configuration to specify which email header fields appear in the target mail. Alternatively, *Add* a new configuration or *Edit* the selected one using the [Email header configuration editor](#). You can also *Import* an existing configuration file from another location or *Remove* the currently selected one.

If no configuration has been selected, an internal default (called *{Default}*) will be used. The default configuration cannot be edited.

Configuration files are saved directly in the *Templates/Fields* subfolder of your [application data folder](#). Importing an existing file makes a copy of it in this folder. The original will not be moved or deleted.

If you edit an imported configuration file, modifications are only made to the copy. The original will not be altered. Likewise, if you edit one of Aid4Mail's built-in configuration files, you are editing a copy that's stored in the *Templates/Fields* subfolder of your [application data folder](#). It won't affect the original that is safely intact in the *Templates/Fields* subfolder of your [program folder](#).

The built-in configuration files for HTML and PDF are:

- *Append full header*  
The same as *Email with basic header* but with the full email header added to the end of the email. The full header contains all fields present in the source email.
- *Email with basic header*  
A basic email header containing just the essential fields, followed by the email body. Attachments are extracted and deduplicated to a separate folder.
- *Email with reduced header*  
The full header minus non-standard or unimportant SMTP fields, followed by the email body. Attachments are extracted and deduplicated to a separate folder.

### Column/content configuration

Only available when your target [format](#) is CSV, TSV or XML.

Select a configuration to specify which columns (in TSV and CSV) or tags (in XML) appear in the target files. Alternatively, *Add* a new configuration or *Edit* the selected one using the [Column/content configuration editor](#). You can also *Import* an existing configuration file from another location or *Remove* the currently selected one.

If no configuration has been selected, an internal default (called *{Default}*) will be used. The default configuration cannot be edited.

Configuration files are saved directly in the *Templates/Fields* subfolder of your [application data folder](#). Importing an existing file makes a copy of it in this folder. The original will not be moved or deleted.

If you edit an imported configuration file, modifications are only made to the copy. The original will not be altered. Likewise, if you edit one of Aid4Mail's built-in configuration files,

you are editing a copy that's stored in the *Templates/Fields* subfolder of your [application data folder](#). It won't affect the original that is safely intact in the *Templates/Fields* subfolder of your [program folder](#).

### Python modifier script

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

Select a [Python script](#) from the drop-down list to customize the target email content, its folder or filename. *Add* a new script or *Edit* the selected one using the built-in editor. You can also *Import* an existing script from another location or *Remove* the currently selected one.

Python scripts are saved directly in the *Scripts* subfolder of your [application data folder](#). Importing an script makes a copy of it in this folder. The original will not be moved or deleted. If you edit an imported script, modifications are only made to the copy. The original will not be altered.

For information on writing scripts, please refer to the [Python modifier scripts](#) topic.

### Limit PST file size

Only available when your target [format](#) is *PST file*.

Select a size from the drop-down list if you want your target mail to be placed in multiple PST files, each with a fixed file size, instead of one larger PST file. For example, if you have 17 GB of mail and *Limit PST file size* is set to 5 GB, you will end up with four target PST files: The first three will each contain 5 GB of mail with the fourth containing the remaining 2 GB.

The first PST file will have the filename that is set in [PST file](#). The remaining files will have the same name but suffixed with an index. Using the example above, if [PST file](#) is set to Target.pst then Aid4Mail would produce the following four files:

- *Target.pst* (5 GB)
- *Target[001].pst* (5 GB)
- *Target[002].pst* (5 GB)
- *Target[003].pst* (2 GB)

Note that:

- The PST files may slightly exceed the selected size limit. This is because Outlook uses a data cache, adding data to the PST file after Aid4Mail has finished exporting to it. If your

size limit must not be exceeded under any circumstances, it is recommended to select a smaller value.

- The *Based on registry* option uses the PST file size limit defined in the Windows registry. If no value is defined, it will use the maximum PST size recommended by Microsoft for the version of Outlook being used:
  - 50 GB for Outlook 2019, 2016, 2013 and 2010
  - 20 GB for Outlook 2007 and 2003
  - 2 GB for earlier versionsFor more information, please refer to [How to configure the size limit for both \(.pst\) and \(.ost\) files in Outlook](#) on Microsoft's website.
- When multiple sessions share the same target PST file, and the *Limit PST file size* option is used, Aid4Mail will only run one session at a time regardless of the value set in [Maximum sessions running concurrently](#). This is because each session is independent and can only control a PST file's size when it is the only session accessing it.
- The default value for the Limit PST file size option is *No limit*.

### Create HTML index file

Only available when your target [Format](#) is *HTML*.

When *on*, Aid4Mail will create an index for your target HTML files. The index acts as a web viewer, containing a list of all target emails created by the [session](#). The list can be sorted and filtered by keywords to locate specific messages. Any email selected in the list will be displayed in the lower half of the page, allowing you to view and examine it.

The index file, *index.html*, is located in the target [location](#). Simply double-click it to open it in your web browser.

### Append messages to target mailbox if it already exists

Only available when your target [format](#) is *PST file, mbox, Thunderbird, SeaMonkey, HTML, Plain text, CSV, TSV or XML*.

When this option is turned *on* and Aid4Mail encounters a file that already exists at the target location, it will add the target emails to the end of the existing file. When this option is turned *off*, Aid4Mail will make a back-up copy of any existing file and create a new file at the target location for the target emails.

**Add extra metadata to headers**

When *on*, Aid4Mail will add additional metadata to each email's message header. When *off*, no additional metadata is added. For details, please refer to the [Adding header metadata](#) topic.

#### 6.7.2.1.2.1 Email header configuration editor

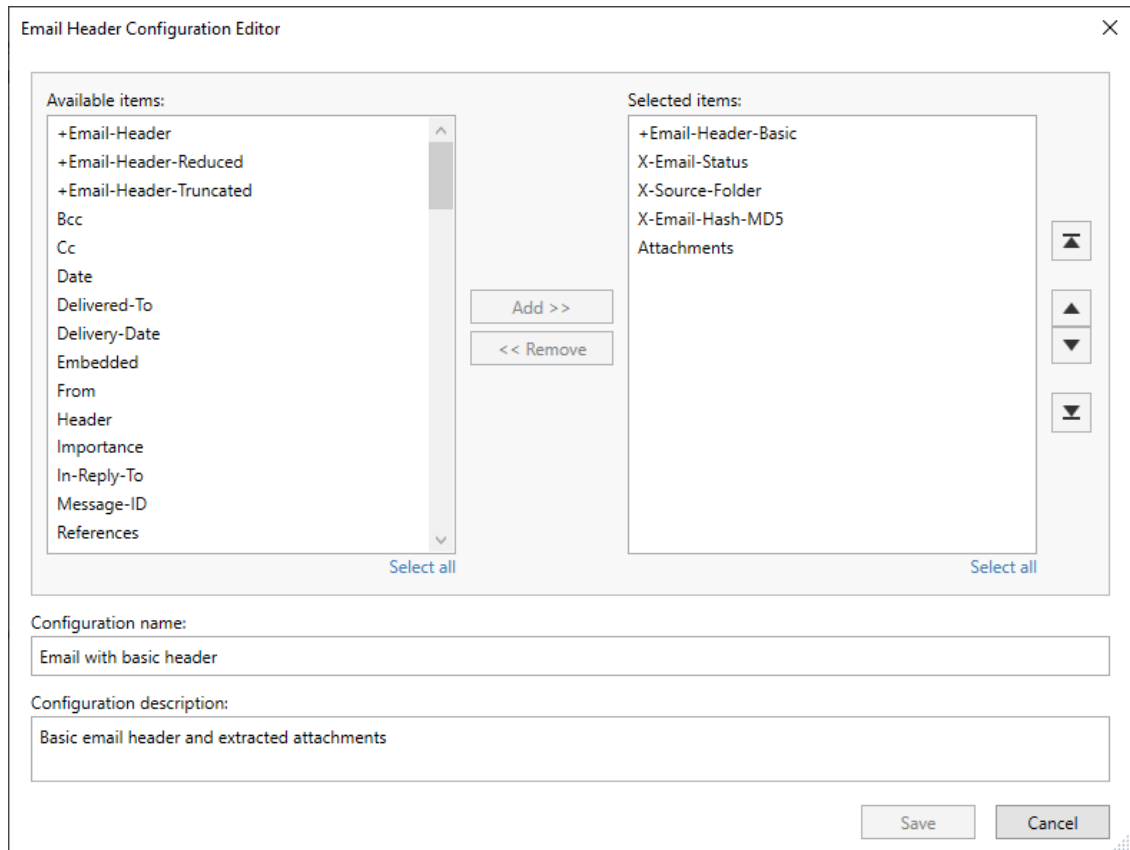
Target PDF, HTML and plain text files created by Aid4Mail can be customized by choosing which email header fields are to be included.

When all email header fields are displayed, the header can be lengthy, pushing the email content far down the page. By minimizing the header fields displayed at the top to just those required, a more readable page can be created. There is always the option of adding the whole header at the end of the file so that the information is not lost.

To customize Aid4Mail's output in this way requires a configuration file (with a *pdf.ini*, *html.ini* or *txt.ini* extension depending on the target format). This file is placed in the *Templates/Fields* subfolder of your [application data folder](#). Files in that location will then appear in the drop-down [Email header configuration](#) field in the Target settings.

To facilitate creating a configuration file, or editing an existing one, Aid4Mail includes an *Email header configuration editor*. It can be opened using the *Add* or *Edit* buttons above the [Email header configuration](#) field.





*Email header configuration editor*

In the editor, you can select which header fields to include in your configuration file. To do this, in the left-hand *Available items* column, select one or more header fields and then select the *Add* button. The selected items will move to the right-hand *Selected items* column.

You can reverse this process if necessary using the *Remove* button. The list of *Selected items* can also be reordered using the up/down/top/bottom arrow buttons to the right of the column.

Most of the items listed represent individual email header fields. For example, *From*, *Subject* and *X-Mailer*. However, there are a few items that represent groups of fields. These are preceded by a '+' character and described below:

- *+Email-Header*  
The full email header.

- *+Email-Header-Basic*  
A basic version of the email header containing only the most essential fields.
- *+Email-Header-Reduced*  
A reduced version of the email header containing more fields than *+Email-Header-Basic* but less than the full header.
- *+Email-Header-Truncated*  
The full email header, truncated once it reaches a certain length.

Note that when more than one header item is added, the shortest one will appear before the email content and the largest one after it, at the end of the document. If more than two header items are added, only two will appear—the shortest and the longest.

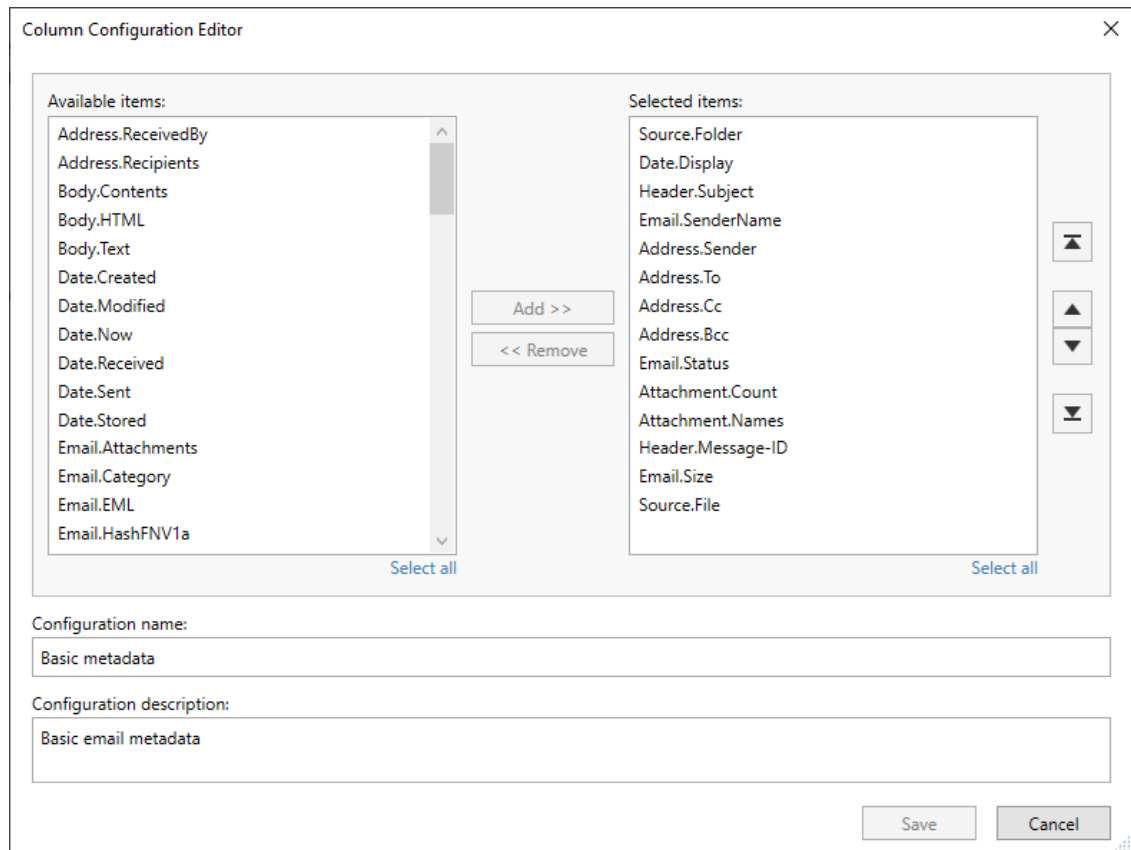
Finally, once you've added the required header fields, enter a name for this particular configuration in the *Configuration name* field and, optionally, a description in the *Configuration description* field. Then select *Save* and the file will automatically be saved in the *Templates/Fields* subfolder of your [application data folder](#).

### 6.7.2.1.2.2 Column/content configuration editor

Target CSV, TSV and XML files created by Aid4Mail can be customized by choosing which columns (in TSV and CSV) or tags (in XML) are to be included.

To customize Aid4Mail's output in this way requires a configuration file (with a *csv.ini*, *tsv.ini* or *xml.ini* extension depending on the target format). This file is placed in the *Templates/Fields* subfolder of your [application data folder](#). Files in that location will then appear in the drop-down [Column/content configuration](#) field in the Target settings.

To facilitate creating a configuration file, or editing an existing one, Aid4Mail includes a *configuration editor*. It can be opened using the *Add* or *Edit* buttons above the [Column/content configuration](#) field.



*Column/content configuration editor*

In the editor, you can select which information from the [source mail](#), [session](#) or [project](#) to include in your configuration file. To do this, in the left-hand *Available items* column, select

one or more items and then select the *Add* button. The selected items will move to the right-hand *Selected items* column.

You can reverse this process if necessary using the *Remove* button. The list of *Selected items* can also be reordered using the up/down/top/bottom arrow buttons to the right of the column.

Finally, once you've added the required items, enter a name for this particular configuration in the *Configuration name* field and, optionally, a description in the *Configuration description* field. Then select *Save* and the file will automatically be saved in the *Templates/Fields* subfolder of your [application data folder](#).

### 6.7.2.1.3 Session settings: Filter

The *Filter* section of the [Settings](#) screen contains options for searching and filtering folders, emails and non-email items.

[Aid4Mail Converter](#) is limited to searching and filtering folders. [Aid4Mail Enterprise](#) and [Investigator](#) extend this capability to individual emails, non-email items and attachments (and any files they contain). They also support both server-side native searches and local searches as well as [wildcards](#), [regular expressions](#) and [Python scripts](#). Please refer to the substantial [Searching and filtering](#) topic and its numerous sub-topics for detailed information.

⊖ Filter

1. Folder filtering:

☒ Process all ☐ Folder selection ☐ Search query

☐ Include hidden system folders

2. Native filtering:

☒ None ☐ Date selection

3. Item filtering:

☒ Process all ☐ Basic search ☐ Search query

4. Python filtering script: Edit • Add • More ▾

(None) ▾

*Filter settings*

Note that, in trial mode, Aid4Mail works on modified copies of your mail which may, in turn, impact your filter results. For details see the [Trial mode](#) topic.

Filters are applied in the order they appear on this screen, as detailed in the [Filter stages](#) topic and shown in the [Processing sequence](#). The following four subtopics covers each of the filter sections:

- [Folder filter](#)
- [Native filter](#)
- [Item filter](#)
- [Python script](#)

#### 6.7.2.1.3.1 Session settings: Folder filtering

The folder filter is the first of the [filter stages](#) to be applied.

The folder filter section provides three mutually-exclusive options:

1. [Process all](#)
2. [Folder selection](#)
3. [Search query](#)

No matter which of the three you choose, you have the additional option to [include hidden system folders](#) if you are using an Outlook source format.

#### **Include hidden system folders**

Only available in [Aid4Mail Enterprise](#) and [Investigator](#) when your [source format](#) is *PST file*, *OST file* or *Outlook profile*.

In some Outlook mail stores, the visible folder tree is only a subset of a larger structure. There are a number of hidden system folders that may be of interest in forensic examinations. They can contain deleted data, previous versions of email drafts and other potentially useful information. Turning this option *on* includes these hidden folders. Turning it off excludes them.

Note:

- The [Process using Outlook](#) option can also affect hidden folders—More hidden folders are available when processing with Outlook than without.
- The "Shared Data" folder in OST files is usually a hidden folder. However, Aid4Mail makes it available even when *Include hidden system folders* is off. To separate it from personal data, the latter is placed under a folder called "IPM\_SUBTREE". This name is an alias for the root folder and only used for the sake of clarity. It won't appear in the target file.

## Process all

### ⊖ Filter

#### 1. Folder filtering:



Process all



Folder selection



Search query

*Process all*

When selected, all folders will be processed. In other words, the folder filter is turned off. However, you can still choose whether to [include hidden system folders](#) or not.

## Folder selection

When this option is used, any [folder search query](#) set will be ignored. In other words, you can either select folders in the tree or use a search query but not both.

### ⊖ Filter

#### 1. Folder filtering:



Process all



Folder selection



Search query

☐ Include hidden system folders[Export](#) • [Reload](#)

- ▲ ☒ [ROOT]
  - ☒ Archive (0)
  - ☒ Conversation History (0)
  - ☒ Deleted Items (0)
  - ☒ Drafts (0)
  - ▲ ☒ Inbox (568)
    - ☒ McAfee Anti-Spam (0)
  - ☒ Junk Email (0)
  - ☒ Outbox (0)
  - ☒ Sent Items (0)
  - ☒ Social Activity Notifications (0)
  - ▲ ☒ Sync Issues (70)

Selected folders: 14/14

[Hide empty folders](#)*Folder selection*

Select the folders you want to process from the visual folder tree. Aid4Mail will only process items in the selected folders. Items in non-selected folders will automatically be excluded.

Selecting a parent folder selects all the folders underneath it. Likewise for deselection. You can override this behavior by pressing the *Ctrl* key while selecting folders. Selecting/deselecting a folder with no children only affects that folder.

### Reload

Reload the folder tree. Usually it will load automatically but this allows you to manually reload it when necessary.

### Export

Export the folder tree to a text file.

### Show/Hide empty folders

Show or hide folders in the tree that have no content.

### Search query

⊖ Filter

1. Folder filtering:

☐ Process all ☐ Folder selection ☒ Search query

Clear • Validate

vacation

Open assistant

Search query

Only available in [Aid4Mail Enterprise](#) and [Investigator](#). When this option is used, any [folders selected in the tree](#) will be ignored. In other words, you can either use a search query or select folders in the tree but not both.

Enter [search terms](#) in the search field to specify which folders to include or exclude. Aid4Mail will only read items in the folders that result from the search. Items in other folders



will automatically be excluded. Whenever possible, Aid4Mail will apply the folder filter server-side (like a [native filter](#)) to further optimize the process.

For example, if you know that the only emails you need to find are in the *Vacation* folder, you can specify `vacation` as your folder search term. This is shown in the screenshot above. Only that folder will be processed by Aid4Mail and all other folders will be ignored.

Note that folder search terms are always case-insensitive.

### Clear

Clear all search terms in the search field. You can use the *Ctrl+Z* keyboard shortcut to undo this operation if necessary.

### Validate

Once you have finished creating your search terms, you can check that they are syntactically correct by selecting *Validate*. A validation message will appear below your search terms. Clicking on your search terms will clear this message. If your search terms are not syntactically valid, the message will be colored red and will indicate errors. If your search terms are valid, the message will be green and will indicate (using parentheses) how your search terms will be interpreted by Aid4Mail. In this case, double-clicking the validation message will replace your search terms with the validated version.

### Open/Close assistant

Open or close the search assistant. The assistant helps you create [search terms](#) that use a [search operator](#) by laying out the fields you need to fill in. Below is an example using the [FolderName](#) search operator:

Clear • Validate

FolderName:vacation

Folder name contains vacation OK

Close assistant

*Using the search assistant to construct a folder search term with the FolderName operator*

#### 6.7.2.1.3.2 Session settings: Native filtering

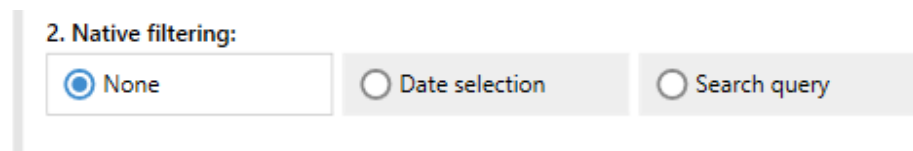
The native filter is the second of the [filter stages](#) to be applied. It is only available in [Aid4Mail Enterprise](#) and [Investigator](#) when your [source format](#) is *Gmail and Google Workspace*, *Microsoft 365*, *Outlook profile*, *PST* (with [Process using Outlook](#) turned on) or *IMAP*.

The native filter section provides three mutually-exclusive options:

1. [None](#)
2. [Date selection](#)
3. [Search query](#)

### None

Only available in [Aid4Mail Enterprise](#) and [Investigator](#) when your [source format](#) is *Gmail and Google Workspace*, *Microsoft 365*, *Outlook profile*, *PST* (with [Process using Outlook](#) turned on) or *IMAP*.



2. Native filtering:

☒ None ☐ Date selection ☐ Search query

*None*

When selected, no native filter will be applied and all folders and items will be processed.

### Date selection

Only available in [Aid4Mail Enterprise](#) and [Investigator](#) when your [source format](#) is *Gmail and Google Workspace*, *Microsoft 365*, *Outlook profile*, *PST* (with [Process using Outlook](#) turned on) or *IMAP*. When this option is used, any [native search query](#) set will be ignored. In other words, you can either make a date selection or use a search query but not both. However, the search query does allow you to search by date using the cloud provider's syntax.

2. Native filtering:

☐ None ☒ Date selection ☐ Search query

Time period: ☐ Any date ☐ Specific date ☒ Within date range

From:

1999-01-01

To:

1999-12-31

*Date selection*

### Time period

Select one of the following:

- *Any date*  
Turns off the date filter, allowing items through regardless of their date.
- *Specific date*  
Allows you to enter an exact date in the *Date* field. Only items matching this date will be processed.
- *Within date range*  
Enables you to enter a date range in the *From* and *To* fields. Only items whose dates fall in this range will be processed.

### Search query

Only available in [Aid4Mail Enterprise](#) and [Investigator](#) when your [source format](#) is *Gmail* and *Google Workspace*, *Microsoft 365* or *IMAP*. When this option is used, any [date selection](#) will be ignored. In other words, you can either use a search query or make a date selection but not both. However, the search query does allow you to search by date using the cloud provider's syntax.

2. Native filtering:

☐ None ☐ Date selection ☒ Search query

|

*Search query*

Enter [native search terms](#) in the search field. Aid4Mail will send them to the cloud service and collect the emails (and non-email items) that result from the search.

For convenience, Aid4Mail can create a new search query from a [date selection](#). This happens automatically when you select *Search query* and the following two conditions have been met:

1. A date selection has been made.
2. No search query has been set.

You can then build the search query further if necessary.

#### 6.7.2.1.3.3 Session settings: Item filtering

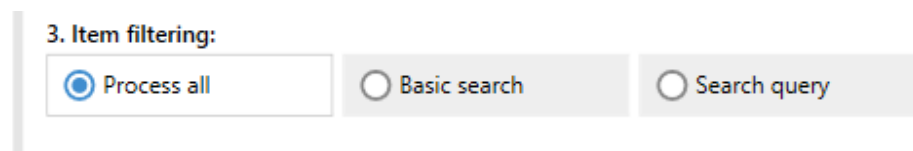
The item filter is the third of the [filter stages](#) to be applied. It is only available in [Aid4Mail Enterprise](#) and [Investigator](#).

The item filter section provides three mutually-exclusive options:

1. [Process all](#)
2. [Basic search](#)
3. [Search query](#)

### Process all

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).



*Process all*

When selected, all items will be processed. In other words, the item filter is turned off.

### Basic search

Only available in [Aid4Mail Enterprise](#) and [Investigator](#). When this option is used, any [item search query](#) set will be ignored. In other words, you can either do a basic search or use a search query but not both. However, the search query allows you to do everything the basic search can do and more.

3. Item filtering:

☐ Process all ☒ Basic search ☐ Search query

☒ Skip duplicates  
☒ Skip unpurged mail

Time period: ☐ Any date ☐ Specific date ☒ Within date range

From:  
1999-01-01

To:  
1999-12-31

Search list: Edit • Add • More ▼  
(None) ▼

Tokenize: Off ▼ | Case: Ignore ▼

*Basic search*

### Skip duplicates

Select if you want Aid4Mail to skip [duplicate](#) items while processing. This is the equivalent of adding `NOT Type:Duplicate` to a [search query](#). See the [Deduplication](#) topic for details.

### Skip unpurged mail

Select if you want Aid4Mail to skip [unpurged](#) mail while processing. This is the equivalent of adding `NOT Type:Unpurged` to a [search query](#). See the [Searching unpurged mail](#) topic for details.

### Time period

Only available when the [native filtering](#) is not possible.

Select one of the following:

- *Any date*

Turns off the date filter, allowing items through regardless of their date.

- *Specific date*  
Allows you to enter an exact date in the *Date* field. Only items matching this date will be processed.
- *Within date range*  
Enables you to enter a date range in the *From* and *To* fields. Only items whose dates fall in this range will be processed.

### Search list

Select a [search list](#) from the drop-down field. Use the buttons above the field to *Add* a new search list, *Edit* the currently selected one, *Import* a search list from another location, or *Remove* the currently selected list.

Search lists are saved directly in the *SearchLists* subfolder of your [project folder](#). Importing an existing search list makes a copy of it in this folder. The original will not be moved or deleted. If you edit an imported search list, modifications are only made to the copy. The original will not be altered.

### Tokenize

Turn [tokenization](#) on or off.

### Case

Same behavior as the item search query [Case](#) setting.

### Search query

Only available in [Aid4Mail Enterprise](#) and [Investigator](#). When this option is used, any [basic search](#) criteria set will be ignored. In other words, you can either use a search query or do a basic search but not both. However, the search query allows you to do everything the basic search can do and more.

3. Item filtering:

☐ Process all ☐ Basic search ☒ Search query

Clear • Validate

NewerThan:1y

Tokenize: Off ▾ | Case: Ignore ▾ Open assistant

☒ Search text in attachments and image Exif/IPTC/XMP metadata  
☐ Include files contained in attachments  
☐ Include metadata for file types lacking searchable text (slower)

Search query

Enter [search terms](#) in the search field to specify which email items (messages) or non-email items (calendars, contacts, etc) to include or exclude.

For convenience, Aid4Mail can create a new search query from a *Basic search*'s [time period](#). This happens automatically when you select *Search query* and the following two conditions have been met:

1. A *Basic search* time period has been set.
  2. No search query has been set.
- You can then build the search query further if necessary.

### Clear

Clear all search terms in the search field. You can use the *Ctrl+Z* keyboard shortcut to undo this operation if necessary.

### Validate

Once you have finished creating your search terms, you can check that they are syntactically correct by selecting *Validate*. A validation message will appear below your search terms. Clicking on your search terms will clear this message.

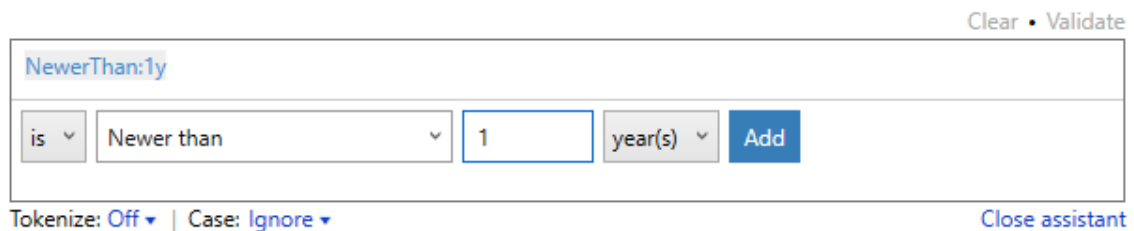
If your search terms are not syntactically valid, the message will be colored red and will indicate errors.



If your search terms are valid, the message will be green and will indicate (using parentheses) how your search terms will be interpreted by Aid4Mail. In this case, double-clicking the validation message will replace your search terms with the validated version.

### Open/Close assistant

Open or close the search assistant. The assistant helps you create [search terms](#) that use a [search operator](#) by laying out the fields you need to fill in. Below is an example using the [NewerThan](#) search operator:



Clear • Validate

NewerThan:1y

is Newer than 1 year(s) Add

Tokenize: Off | Case: Ignore Close assistant

*Using the Search assistant to construct an item search term with the NewerThan operator*

### Tokenize

Turn [tokenization](#) on or off.

### Case

When set to *Ignore*, item searches are case-insensitive. When set to *Auto*, searches containing one or more uppercase characters are case-sensitive, and searches that contain only lowercase characters are case-insensitive.

Note that this setting does not have any effect on:

- [Search operators](#) and [Boolean operators](#) which are always case-insensitive, as specified in the [search term rules](#).
- Search terms enclosed in [braces](#) using the 'C' (case-sensitive) or 'I' (case-insensitive) modifier, which override the case setting.

Examples:

1. When *Case* is set to *Ignore*, the following search terms will all produce the same results:

```
cat
Cat
CAT
{ I=CAT }
```

They will all match the words *cat*, *Cat* and *CAT* because the search is case-insensitive. However, the search term `{C=CAT}` will find *CAT* but not *cat* or *Cat* because the 'C' modifier inside the brace overrides the setting, making the search case-sensitive.

2. When *Case* is set to *Auto*:

- a. The search term `cat` will find *cat*, *Cat* and *CAT* because the search term is lower-case, making the search case-insensitive.
- b. The search term `CaT` will find *Cat* but not *cat* or *CAT* because the presence of an uppercase letter in the search term makes the search case-sensitive.
- c. The search term `CAT` will find *CAT* but not *cat* or *Cat* for the same reason.
- d. The search term `{I=CAT}` will find *cat*, *Cat* and *CAT* because the 'I' modifier inside the brace overrides the setting, making the search case-insensitive.
- e. The search term `{C=CAT}` will find *CAT* but not *cat* or *Cat* because the 'C' modifier inside the brace overrides the setting, making the search case-sensitive.

### Search text in attachments and image Exif/IPTC/XMP metadata

By default, Aid4Mail searches the message header and body of each email when looking for item search terms. When this option is turned *on*, Aid4Mail will search attachments too. Most common [file types are supported](#). Note, however, that it will not necessarily search files contained within attachments (that capability depends on [Include files contained in attachments](#)).

When *on*, Aid4Mail will also search *EXIF*, *IPTC* and *XMP* metadata stored in attached or embedded *JPEG*, *TIFF* and *PSD* images.

This option is *on* by default. Turn it *off* for faster processing if you don't need this functionality.

### Include files contained in attachments

When *on*, Aid4Mail will not only search attachments but also any files contained within them. For example, Aid4Mail would be able to find a word located in a PDF file that is contained within a ZIP archive, which is attached to an email that is also an attachment to an email.

Turning this option *on* will also turn on [Search text in attachments and image Exif/IPTC/XMP metadata](#).

This option is *on* by default. Turn it *off* for faster processing if you don't need your search to run so deep.

**Include metadata for file types lacking searchable text (slower)**

When *on*, metadata will be extracted from a wide range of image, audio and video file formats. The metadata is then searched by Aid4Mail.

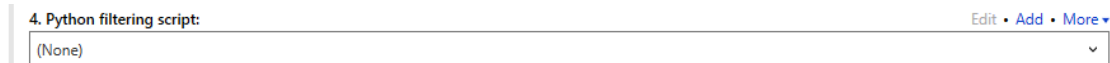
Turning this option *on* will also turn on [Search text in attachments and image Exif/IPTC/XMP metadata](#).

This option is *off* by default as it is processor-intensive. Turning it *on* may significantly increase processing time.

#### 6.7.2.1.3.4 Session settings: Python filtering script

The Python filtering script is the fourth and final [filter stage](#) to be applied. It is only available in [Aid4Mail Enterprise](#) and [Investigator](#).

Use a [Python filtering script](#) to determine whether the email currently being processed should be kept or discarded.

A screenshot of a software interface showing a configuration step. At the top, it says "4. Python filtering script:" followed by a button bar with "Edit", "Add", and "More" (with a dropdown arrow). Below this is a large rectangular drop-down menu that currently displays "(None)".

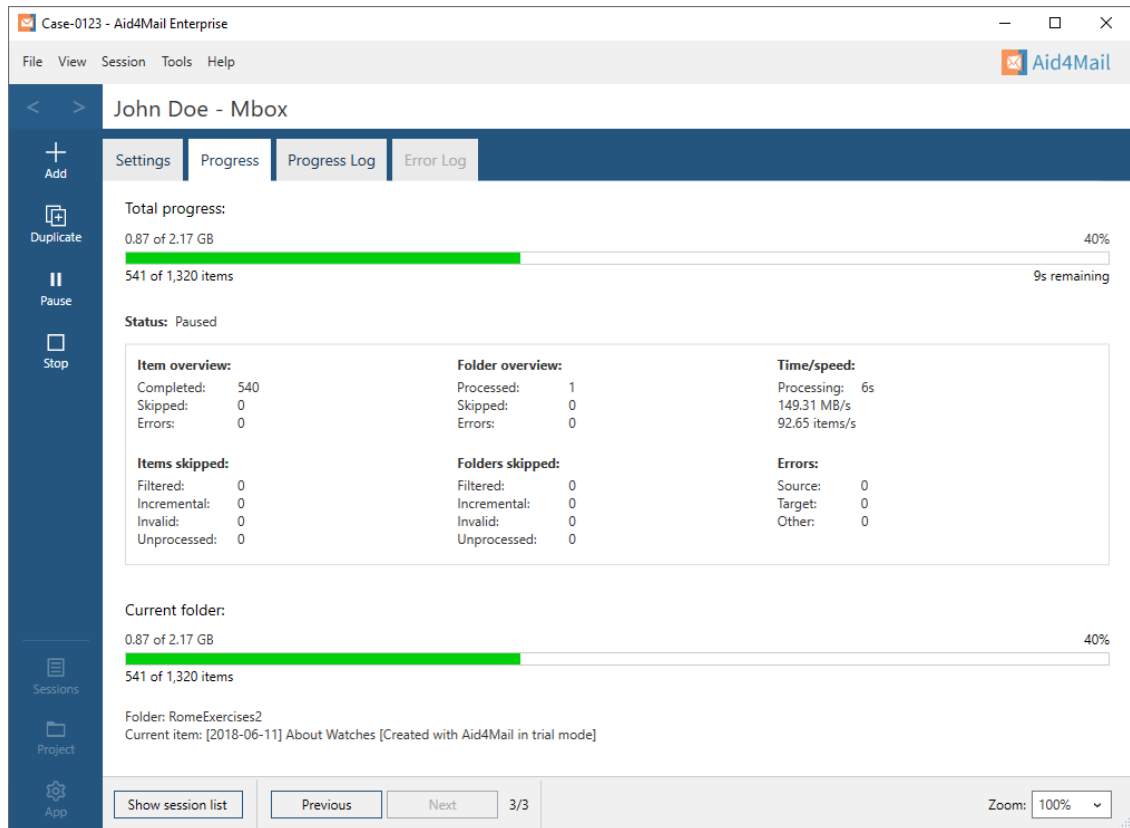
*Python filtering script*

Select an existing script from the drop-down field. Use the buttons above the field to *Add* a new script, *Edit* the currently selected script, *Import* a script from another location, or *Remove* the currently selected script.

For syntax details, please refer to the [Python filter scripts](#) topic. For Python installation information, refer to the [Python scripts](#) topic.

### 6.7.2.2 Progress

Progress statistics for the currently selected [session](#).



*Progress screen*

## Total Progress

### Progress bar

Visually shows Aid4Mail's total progress for this session. Information includes:

- Amount of data processed in Bytes, KB, GB or TB (whichever is most relevant).
- Number of items processed.
- Progress percentage.
- Time remaining.

Note: If you process a [live email account](#) that continues to receive mail while Aid4Mail is processing, the progress percentage may exceed 100%. This is because Aid4Mail calculates the number of emails to be processed at the start. If new emails arrive later, Aid4Mail will

process them too but the final count will be greater than the number calculated at the start. For example, if your account has 100 emails in it, and 10 new emails arrive while Aid4Mail is processing, the progress percentage at the end will be 110%. A similar situation can arise if you use the same email account or mailbox as both source and target, causing [circular processing](#).

## Status

The session's current status. One of the following will be displayed:

- *Editing*  
One or more of the required [settings](#) have not been completed.
- *Ready*  
Aid4Mail's [settings](#) are complete but the session has not yet been run.
- *Waiting*  
[Run](#) has been selected but the session is still waiting its turn. This is because other sessions are already running and the [maximum number of sessions running concurrently](#) has been reached. As the [other sessions](#) finish, one by one, this session will move forward in the queue and will automatically start when its turn arrives.
- *Collecting data*  
The session is now running and collecting data prior to processing it.
- *Processing*  
Emails (or non-email items) are currently being processed.
- *Paused*  
The session has been paused. If you select *Run* when a session is paused then Aid4Mail will pick up where it left off.
- *Stopping*  
The session has been stopped but Aid4Mail is still in the process of stopping it, waiting for another resource to terminate. Usually this state will quickly pass to *Stopped*. If it does not, you can right-click on the session in the [session list](#) and select *Force stop*.
- *Stopped*  
The session has been stopped. If you select *Run* when a session is stopped then Aid4Mail will restart the session from the beginning.

- *Successful*  
The session has ended. All of the email and non-email items were processed successfully.
- *Completed*  
The session has ended. All of the email and non-email items were processed but errors were encountered.
- *Failed*  
The session has ended. However, some items could not be processed. This can be due to a variety of reasons including the loss of a network connection.

### Item overview

Statistics that show how many emails (or non-email items) were:

- *Completed*  
Aid4Mail was able to open the item and process it. Note that *Completed* and *Skipped* are mutually exclusive.
- *Skipped*  
Aid4Mail ignored the item and skipped it, usually due to your [filter settings](#). Details of skipped items are shown under the [Items skipped](#) heading. Note that *Completed* and *Skipped* are mutually exclusive.
- *Errors*  
Indicates the number of items that produced errors. An error can occur even if an item was *Completed* or *Skipped*. For example, a completed item may have generated errors while accessing attachments. Further error details are shown under the [Errors](#) heading.

### Folder overview

Statistics that show how many folders were:

- *Processed*  
Aid4Mail processed the folder. Note that *Processed* and *Skipped* are mutually exclusive.
- *Skipped*  
Aid4Mail ignored the folder and skipped it, usually due to your [filter settings](#). Details of skipped items are shown under the [Folders skipped](#) heading. Note that *Processed* and *Skipped* are mutually exclusive.

- *Errors*

Indicates the number of folders that produced errors. An error can occur even if a folder was *Processed* or *Skipped*. Further error details are shown under the [Errors](#) heading.

**Time/speed**

Time and speed-related statistics include:

- *Processing time*

The time elapsed so far for this session.

- *Bytes per second*

The amount of data processed per second.

- *Items per second*

The number of items processed per second.

**Items/Folders skipped**

Details for the *Skipped* statistic under [Item overview](#) / [Folder overview](#). It shows how many skipped items were:

- *Filtered*

By any [filter](#) set using Aid4Mail's [search & filter](#) feature.

- *Incremental*

Items/folders that were already processed during a previous run of the same session with [incremental processing](#) turned on.

- *Invalid*

Items/folders that don't have any data, or don't conform to the file format, are automatically skipped.

- *Unprocessed*

The number of items/folders that were not processed and not accounted for in the other statistics. This is calculated once processing finishes.

**Errors**

Details for the *Error* statistic under [Item overview](#) and [Folder overview](#). It shows how many errors were attributed to the:



- *Source*  
The number of source items of folders that produced errors while being read.
- *Target*  
The number of target items of folders that produced errors while being saved.
- *Other*  
Errors that occurred but not while reading the source email or saving the target email. For example, emails in Eudora mailboxes contain links to attachments rather than the attachments themselves. If an attachment has been moved from the location the link points to, Aid4Mail will not be able to find it or include it in the target email, generating an error. However the target email is still successfully saved (without the attachment). This kind of error would fall into the *Other* errors category.

## Current Folder

### Progress bar

Visually shows how far Aid4Mail has progressed through the current folder. Information includes:

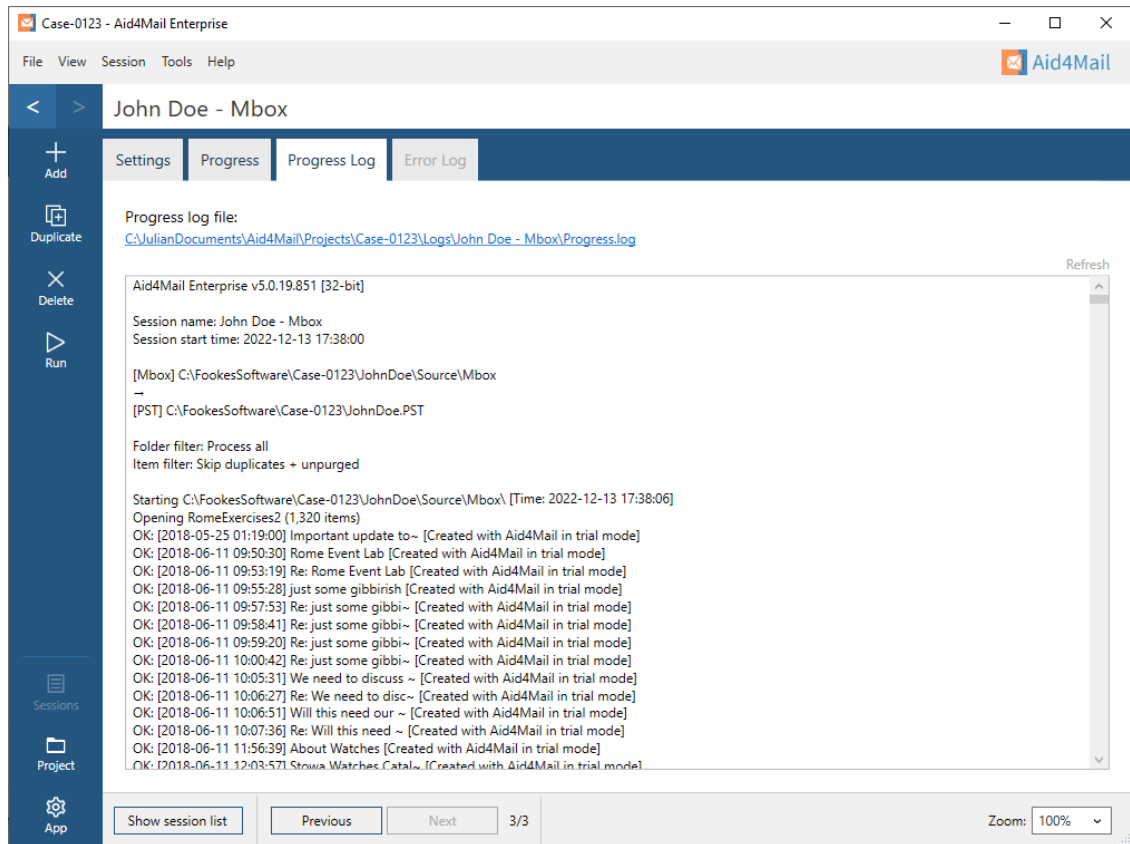
- Amount of data processed in Bytes, KB, GB or TB (whichever is most relevant).
- Number of Items processed.
- Progress percentage.

Details underneath include:

- *Mail store*  
The name of the mail store currently being processed.
- *Folder*  
The name of the folder currently being processed.
- *Current item*  
The name of the email, or non-email item, currently being processed. For emails, this name is taken from the subject line.

### 6.7.2.3 Progress log

The [location](#) and contents of the session's progress log file. The file is only created once a session has started processing. If the progress log file has not yet been created then this screen is not available.



*Progress log screen*

### Progress log file

The full path and filename of the progress log file for this session. Clicking on the path will open the file in whatever local application is associated with *.log* files (e.g. Notepad).

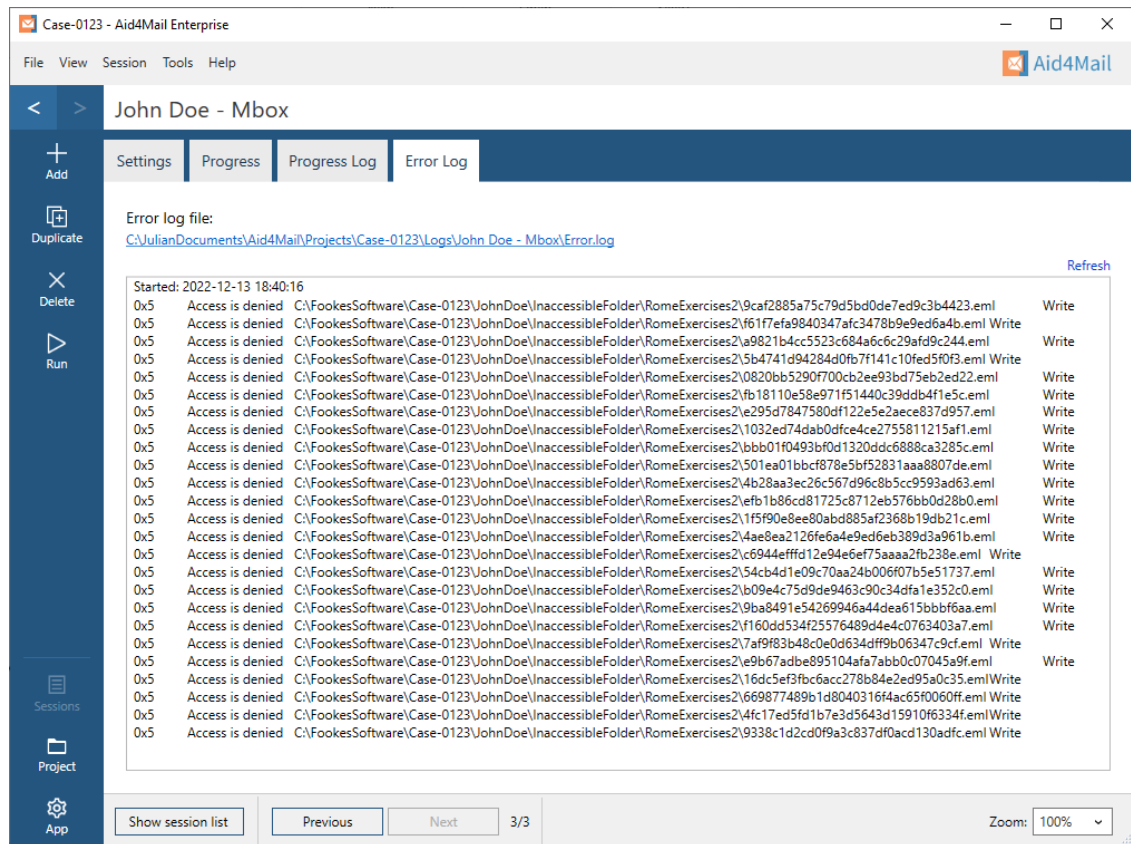
Note that a secondary progress log file is created in the same location, with the same filename but a *.tsv* extension instead of *.log*. It contains additional data fields and is in the TSV (Tab Separated Values) format so will open in most spreadsheet applications.

**Content pane**

Displays the content of the *.log* progress log file, line by line. If this screen is accessed while the session is running, the current content of the progress log file will be displayed. However, it will not automatically be updated until the session has finished. Select *Refresh* to update the content of the file at any time while the session is running.

### 6.7.2.4 Error log

The [location](#) and contents of the session's error log file. The file is only created if one or more errors were encountered. If there is no error log file then this screen is not available.



Error log screen

### Error log file

The full path and filename of the error log file for this session. Clicking on the path will open the file in whatever local application is associated with .log files (e.g. Notepad).

Note that a secondary error log file is created in the same location, with the same filename but a .tsv extension instead of .log. It contains additional data fields and is in the TSV (Tab Separated Values) format so will open in most spreadsheet applications.

### Content pane

Displays the content of the error log file, line by line. If this screen is accessed while the session is running, the current content of the error log file will be displayed. However, it will

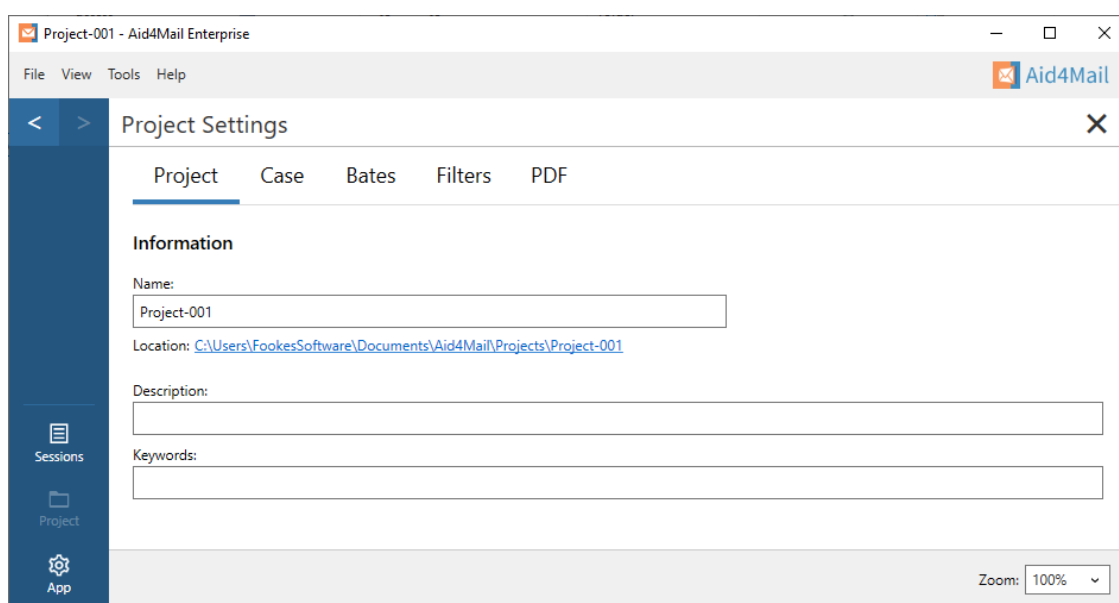
not automatically be updated until the session has finished. Select *Refresh* to update the content of the file at any time while the session is running.

## 6.8 Project settings

Settings that concern the whole [project](#) rather than individual [sessions](#).

The *Project settings* screen is divided into five sections, each with its own tab. Select a tab to view that section:

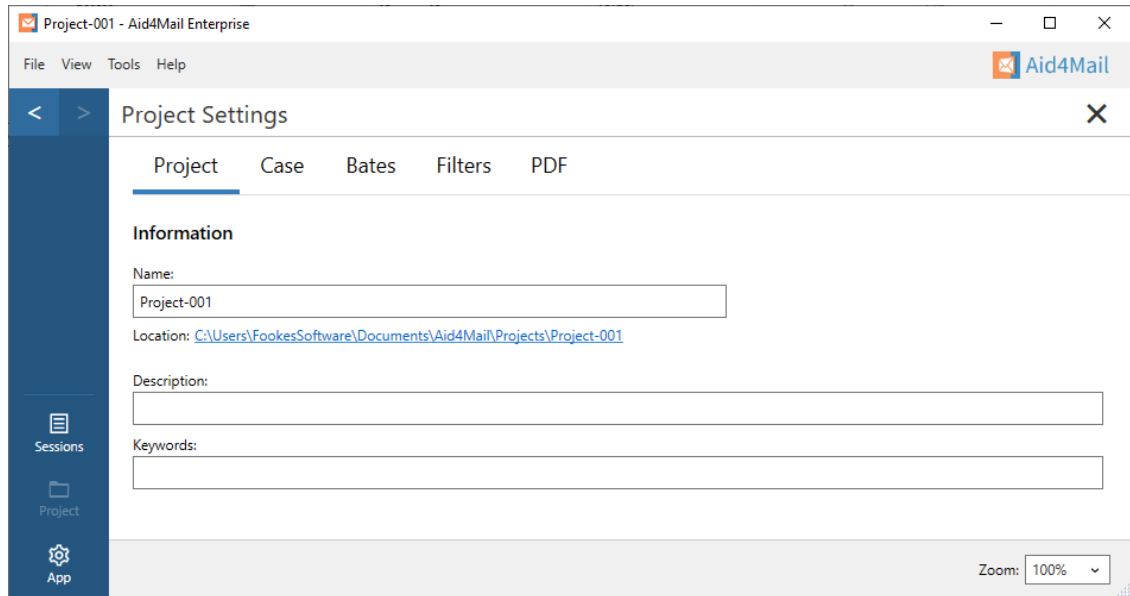
- [Project](#)
- [Case](#)
- [Bates](#)
- [Filters](#)
- [PDF](#)



*Progress settings screen*

### 6.8.1 Project settings: Project

The *Project* section of the [Project settings](#) screen.



The screenshot shows a window titled "Project-001 - Aid4Mail Enterprise". The menu bar includes "File", "View", "Tools", and "Help". The "Aid4Mail" logo is in the top right corner. On the left is a sidebar with icons for "Sessions", "Project", and "App". The main area is titled "Project Settings" and has tabs for "Project", "Case", "Bates", "Filters", and "PDF". The "Project" tab is selected, showing an "Information" section with the following fields:

- Name:** A text box containing "Project-001".
- Location:** A text box containing the path "C:\Users\FookesSoftware\Documents\Aid4Mail\Projects\Project-001", which is a hyperlink.
- Description:** A large empty text box.
- Keywords:** A large empty text box.

At the bottom right of the window, there is a "Zoom:" label and a dropdown menu set to "100%".

*Project section of the Project settings screen*

## Information

### Name (required)

Name of the current [project](#). This is also used to name the [project folder](#) and its settings file and so must not contain any [illegal characters](#).

### Location

Full path of the folder on disk where the current [project](#) is stored. It is also a hyperlink so, when selected, will open the project folder location in the Windows *File Explorer* app.

### Description

An optional description of the current [project](#).

### Keywords

An optional list of keywords associated with the current [project](#).

## 6.8.2 Project settings: Case

The *Case* section of the [Project settings](#) screen.



The screenshot displays the 'Project Settings' window in Aid4Mail Enterprise. The window has a title bar 'Project-001 - Aid4Mail Enterprise' and a menu bar with 'File', 'View', 'Tools', and 'Help'. The 'Aid4Mail' logo is in the top right. A sidebar on the left contains navigation icons for 'Sessions', 'Project', and 'App'. The main content area is titled 'Project Settings' and features a tabbed interface with 'Project', 'Case', 'Bates', 'Filters', and 'PDF'. The 'Case' tab is selected, showing four sections: 'Information', 'Custodian', 'Investigator', and 'Additional information'. Each section contains text input fields for various details. A 'Zoom' control is located in the bottom right corner.

Project-001 - Aid4Mail Enterprise

File View Tools Help

Aid4Mail

< > Project Settings

Project Case Bates Filters PDF

**Information**

Case name:

Case ID:

Evidence ID:

Date:

Location:

Description:

**Custodian**

Name:

Initials:

Contact:

**Investigator**

Name:

Lab ID:

Contact:

**Additional information**

Notes:

Sessions

Project

App

Zoom: 100%

*Case section of the Project settings screen*

## Information

The following optional case information fields are available. The information entered in these fields determines the values of the [Case template tokens](#).

- *Case name*
- *Case ID*
- *Evidence ID*
- *Date*
- *Location*
- *Description*

## Custodian

The following optional custodian fields are available. The information entered in these fields determines the values of the [Case template tokens](#).

- *Name*
- *Initials*
- *Contact*

## Investigator

The following optional investigator/lab information fields are available. The information entered in these fields determines the values of the [Case template tokens](#).

- *Name*
- *Lab ID*
- *Contact*

## Additional information

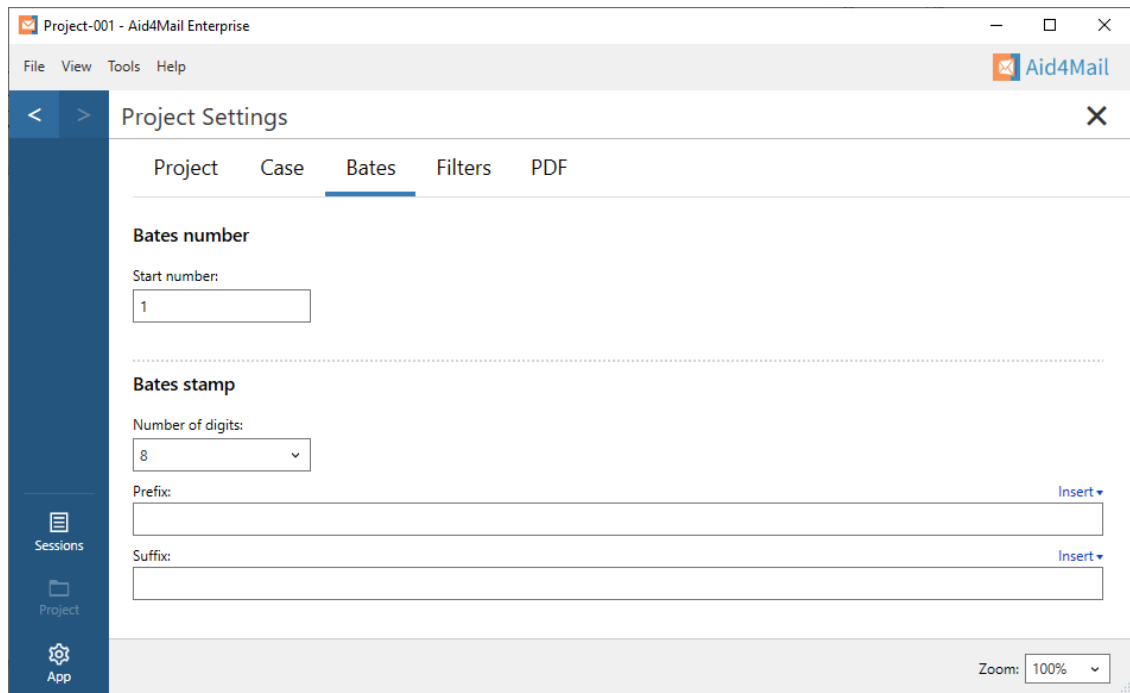
The following optional field is available:

- *Notes*

### 6.8.3 Project settings: Bates

The *Bates* section of the [Project settings](#) screen.

This section is only available in [Aid4Mail Enterprise](#) and [Investigator](#). In [Aid4Mail Converter](#), default values are used: The [start number](#) is automatically set to 1, the [number of digits](#) to 8, and there is no [prefix](#) or [suffix](#).



*Bates section of the Project settings screen*

## Bates number

### Start number

The starting value for the [Bates number](#), for each new session or project, when the [Bates numbering scope](#) is set to *Session* or *Project*.

## Bates stamp

### Number of digits

The number of digits used for the formatted [Bates number](#) in the [Bates stamp](#). For example if the Bates number is currently 12 and the number of digits is set to 8, then the numerical part of the Bates stamp will be:

*00000012*

### Prefix

The prefix to the formatted [Bates number](#) in the [Bates stamp](#). It can be text, a [template token](#) or a combination of both.

For example, when running a session named *JohnDoe-Gmail*, if the [Bates number](#) is currently 135, the [number of digits](#) is 6 and the prefix is *{SessionName}-* (the [{SessionName}](#) token followed by a hyphen), then the Bates stamp will be:

*JohnDoe-Gmail-000135.*

### Suffix

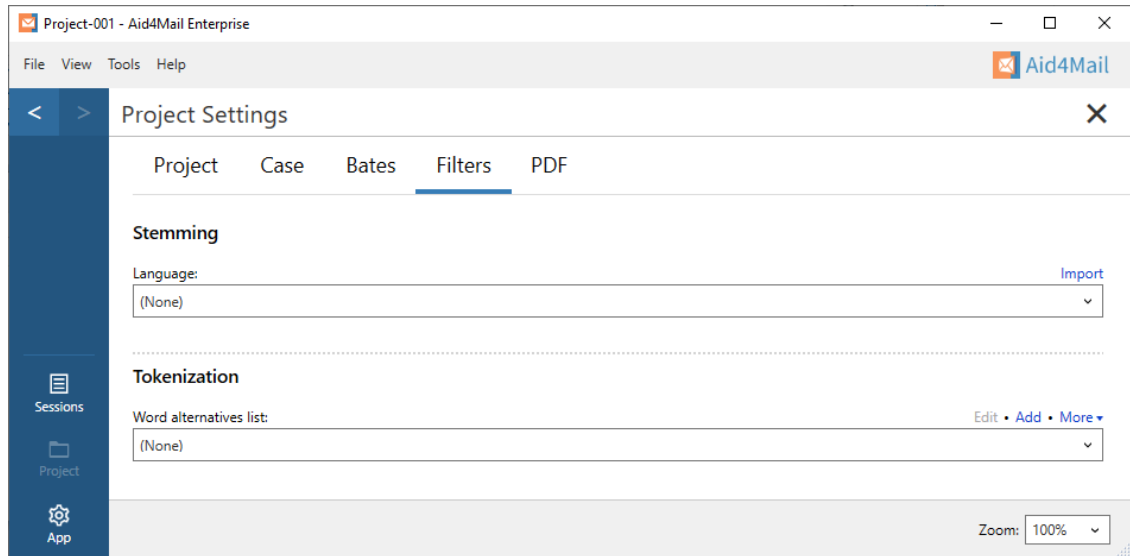
The suffix following the formatted [Bates number](#) in the [Bates stamp](#). It can be text, a [template token](#) or a combination of both.

For example, when running a session named *JohnDoe-Gmail*, if the [Bates number](#) is currently 270, the [number of digits](#) is 8, the prefix is *FS-* and the suffix is *-{SessionName}* (a hyphen followed by the [{SessionName}](#) token), then the Bates stamp will be:

*FS-00000270-JohnDoe-Gmail*

#### 6.8.4 Project settings: Filters

The *Filters* section of the [Project settings](#) screen.



*Filters section of the Project settings screen*

## Stemming

### Language

The language dictionary used for [stemming](#), if any. Select a dictionary from the drop-down list or *Import* a new one. Both [dictionaries](#) and [lemmatization lists](#) can be imported.

Stemming dictionaries are saved directly in the *Dictionaries* subfolder of your [application data folder](#). Importing an existing dictionary makes a copy in this folder. The original will not be moved or deleted. If you edit an imported stemming dictionary, modifications are only made to the copy. The original will not be altered.

Once a dictionary is selected, Aid4Mail will perform stemming when the [~ wildcard](#) is used. See the [Stemming topic](#) for further details.

## Tokenization

### Word alternatives list

An optional list of word alternatives, used for [tokenization](#). Use the buttons above the field to *Add* a new list, *Edit* the currently selected one, *Import* a list from another location, or *Remove* the currently selected list.

Tokenization lists are saved directly in the *Tokenization* subfolder of your [project folder](#). Importing an existing list makes a copy in this folder. The original will not be moved or deleted. If you edit an imported tokenization list, modifications are only made to the copy. The original will not be altered.

When [tokenization is turned on](#), Aid4Mail automatically matches [certain characters](#) in [item search terms](#) to other, similar characters. By [creating a tokenization list](#), you can specify whole words or phrases for Aid4Mail to tokenize too. See the [Tokenizing words](#) topic for details.

### 6.8.5 Project settings: PDF

The *PDF* section of the [Project settings](#) screen.

The screenshot shows the 'Project Settings' window in Aid4Mail Enterprise. The 'PDF' tab is selected, displaying fields for document information, page headers, page footers, and security features. The left sidebar contains icons for Sessions, Project, and App. The bottom right corner shows a zoom level of 100%.

Project-001 - Aid4Mail Enterprise

File View Tools Help

Aid4Mail

Project Settings

Project Case Bates Filters **PDF**

**Document information**

Author:  [Insert ▼](#)

Title:  [Insert ▼](#)

Subject:  [Insert ▼](#)

Keywords:  [Insert ▼](#)

**Page header**

Left side:  [Insert ▼](#)

Right side:  [Insert ▼](#)

**Page footer**

Left side:  [Insert ▼](#)

Right side:  [Insert ▼](#)

**Remote content**

**Security features**

☒ Allow printing

☒ Allow copying

☒ Allow editing

Permissions password:

Document open password:

Sessions

Project

App

Zoom: 100% ▼

*PDF section of the Project settings screen*

## Document information

The information in these optional fields is included in the PDF document's metadata. You can view it in Adobe Reader, for example, by right-clicking a document and selecting *Document properties*.

You can use text, [template tokens](#) or a combination of both in these fields. Template tokens can be typed manually or inserted by selecting a token from the drop-down *Insert* list, located above the field on the right.

For example, if you enter `{InvestigatorName}` in the *Author* field, the value of that token will be used. The content for the token is taken from the investigator [Name](#) field in the [Case](#) section of the project settings. So, entering `Anne Appleby` as the investigator's name, and `{InvestigatorName}` as the PDF *Author*, will result in Anne Appleby being the author of the PDF.

### Author

The author of the PDF document.

### Title

The title of the PDF document.

### Subject

The subject of the PDF document.

### Keywords

A list of keywords that describe the PDF document.

## Page header

The page header appears at the top of every page of the PDF document. You can specify any text to be displayed on the left or right side (or both) of the header.

You can use text, [template tokens](#) or a combination of both in these fields. Template tokens can be typed manually or inserted by selecting a token from the drop-down *Insert* list, located above the field on the right.



For example, entering `{CaseID}`, `{CaseDate}` in the *Left side* field will insert the case ID and date, separated by a comma, into the left side of the page header. The content for these particular tokens is taken from the [Case](#) section of the project settings. Entering `{BatesStamp}` in the *Right side* field will insert a unique [Bates stamp](#) into the right side of the header.

Note that header text is limited to one line. If the text on the left or right side is too long, they may overlap. For this reason, we recommend that you keep both the left and right sides of the header shorter than half of the width of the page.

### Left side

The text to be displayed on the left side of the page header.

### Right side

The text to be displayed on the right side of the page header.

## Page footer

The page footer appears at the bottom of every page of the PDF document. You can specify any text to be displayed on the left or right side (or both) of the footer.

You can use text, [template tokens](#) or a combination of both in these fields. Template tokens can be typed manually or inserted by selecting a token from the drop-down *Insert* list, located above the field on the right.

For example, entering `Lab ID: {LabID}` in the *Left side* field will insert the lab ID into the left side of the page footer. The content for this particular token is taken from the [Case](#) section of the project settings. Entering `Page {PageNumber} of {PageCount}` in the *Right side* field will insert page numbering into the right side of the footer.

Note that footer text is limited to one line. If the text on the left or right side is too long, they may overlap. For this reason, we recommend that you keep both the left and right sides of the footer shorter than half of the width of the page.

### Left side

The text to be displayed on the left side of the page footer.

### Right side

The text to be displayed on the right side of the page footer.

## Remote content

### Download and render (slow)

When *On*, remote content linked to by emails will be downloaded and rendered in the PDF document. This can significantly increase processing time, especially if your internet connection is slow. When *Off*, remote content will be absent from the PDF document.

## Security features

By default, PDF documents created by Aid4Mail are printable and editable, and their content can be copied. You can turn off any, or all, of these capabilities by deselecting *Allow printing*, *Allow copying* or *Allow editing*. However, a *Permissions password* or a *Document open password* (or both) is required for these changes to take effect.

### Allow printing

When *On*, the PDF document's printing capabilities are enabled. When *Off*, and one of the passwords is set, printing is disabled.

### Allow copying

When *On*, copying of the PDF document's content is enabled. When *Off*, and one of the passwords is set, copying is disabled.

### Allow editing

When *On*, the PDF document's editing capabilities are enabled. When *Off*, and one of the passwords is set, editing is disabled.

### Permissions password

This password only controls the print/copy/edit capabilities of a PDF document.

### Document open password

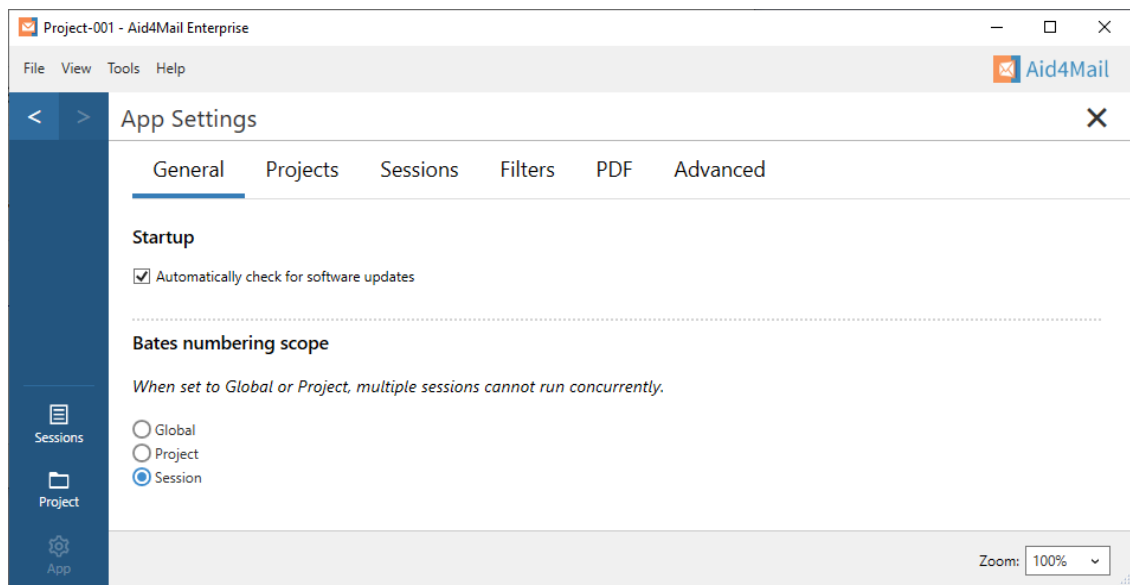
Protects a PDF document with a password that's required to open the document. This password will also control print/copy/edit capabilities if the *Permissions password* is absent. When both passwords are present, the *Permissions password* controls the print/copy/edit capabilities and the *Document open password* is required to open the document. For maximum security, ensure the two passwords are different.

## 6.9 App settings

Settings that apply to the app as a whole or to all [sessions](#) and [projects](#).

The *App settings* screen is divided into six sections, each with its own tab. Select a tab to view that section:

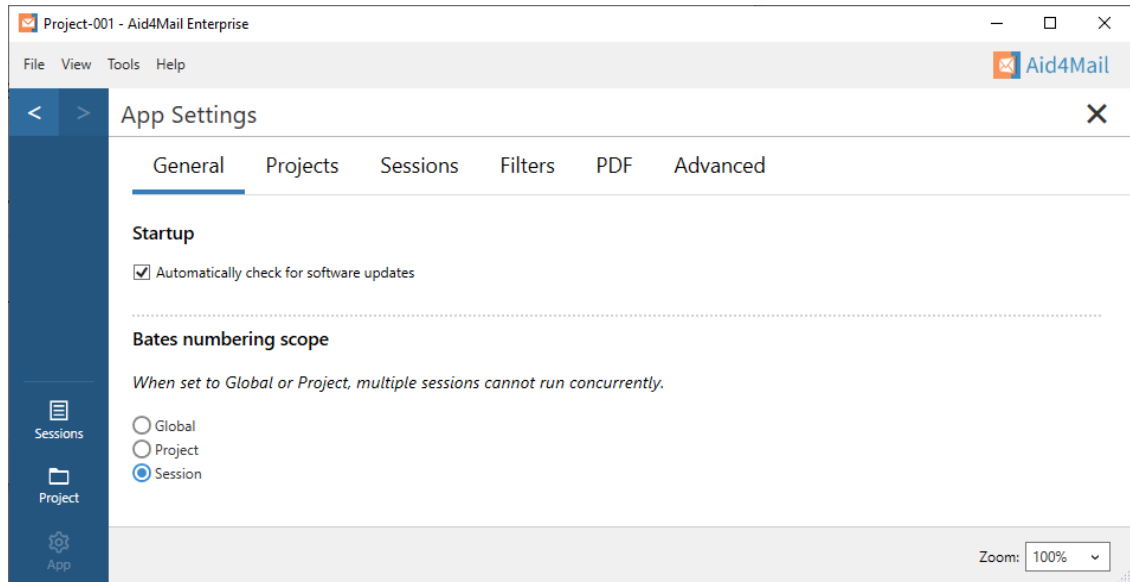
1. [General](#)
2. [Projects](#)
3. [Sessions](#)
4. [Filters](#)
5. [PDF](#)
6. [Advanced](#)



*App settings screen*

### 6.9.1 App settings: General

The *General* section of the [App settings](#) screen.



*General section of the App settings screen*

## Startup

### Automatically check for software updates

When *on*, Aid4Mail will check for updates each time it is opened. This option is *on* by default. We recommend you always use the latest version of Aid4Mail.

### Bates numbering scope

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

Set the [Bates numbering](#) scope to one of three options:

- *Global*

The [Bates number](#) increments across all sessions in all projects. When this option is selected, only [consecutive processing](#) is available.

- *Project*

The [Bates number](#) will be set to 1 at the start of each new project but will increment

across all sessions in the project. When this option is selected, only [consecutive processing](#) is available.

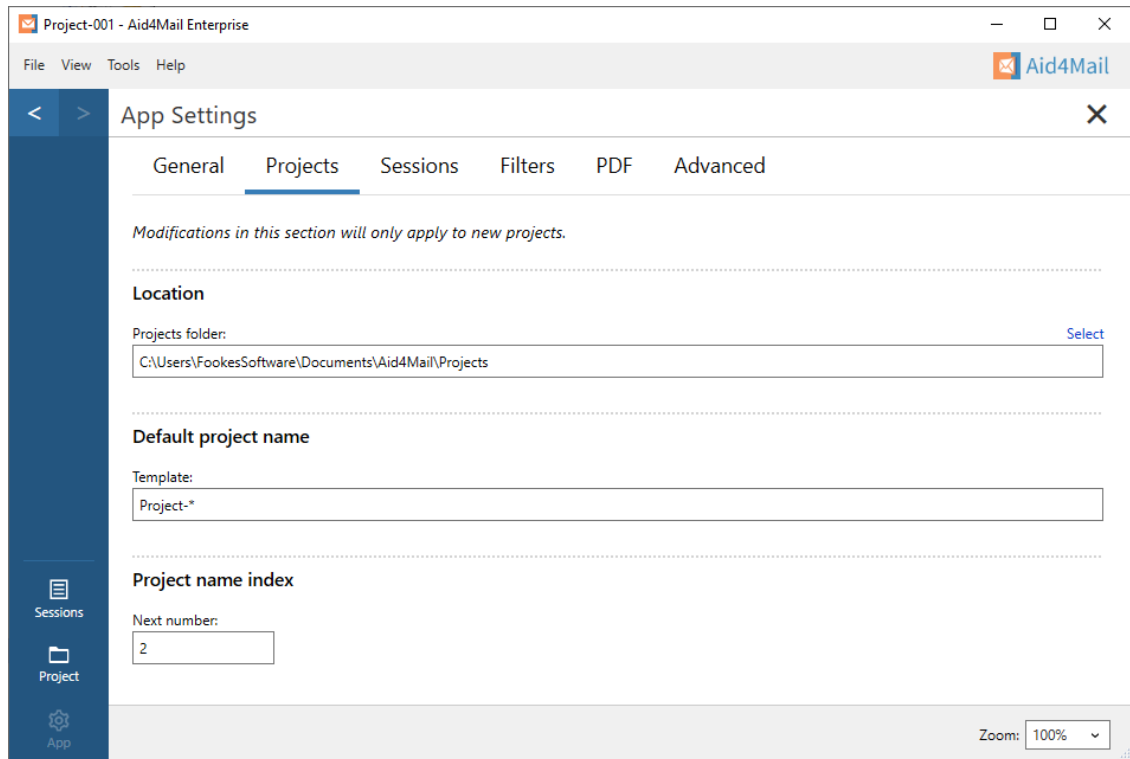
- *Session*

The [Bates number](#) will be set to 1 for each new session. This allows for either [consecutive or concurrent processing](#).

In [Aid4Mail Converter](#), the scope is automatically set to *Session*.

### 6.9.2 App settings: Projects

The *Projects* section of the [App settings](#) screen. Note that modifications in this section will only apply to new projects. They won't apply to existing projects including the current one.



*Projects section of the App settings screen*

## Location

### Projects folder

The location where new [projects](#) are created. It will not have any effect on existing projects.

## Default project name

### Template

A template that defines the default name for each new [project](#). It will not have any effect on existing projects or the current one. Note that after a project has been created, its name can be changed in the [project settings](#).

This field is a template that accepts a combination of text and the following tokens:

- \* The [project name index](#), formatted to display 3 digits.
- : The current date (without the time) in the [International date format](#), YYYY-MM-DD.

Examples (assuming the [next value](#) for the project name index is set to 1):

Project-\*

Produces the following project names:

*Project-001*

*Project-002*

*Project-003*

: Project-\*

Produces the following project names (assuming the current date is January 25, 2020):

*2020-01-25 Project-001*

*2020-01-25 Project-002*

*2020-01-25 Project-003*

Note that the [project name](#) is also used to name the [project folder](#) and settings file and so must not contain any [illegal characters](#).

## Project name index

### Next value

The next value for the index that's used in the [default project name](#). The index is incremented by 1 every time you create a new project.

When you first install Aid4Mail, the index is zero and *Next value* is 1. This means that the next project you create will be the first. Similarly, if you're working on the 10th project then *Next value* will be 11 (unless it has been modified).

You can change *Next value*. This will not have any effect on the current project but will affect subsequent projects. For example, if your first three projects were used for testing Aid4Mail and now you want a fresh start, you can set *Next value* to 1.

### 6.9.3 App settings: Sessions

The *Sessions* section of the [App settings](#) screen.

The screenshot shows the 'App Settings' window for 'Project-001 - Aid4Mail Enterprise'. The 'Sessions' tab is selected, showing various configuration options. The left sidebar has icons for Sessions, Project, and App. The bottom right corner shows a zoom level of 100%.

**Project-001 - Aid4Mail Enterprise**

File View Tools Help

**App Settings**

General Projects **Sessions** Filters PDF Advanced

**Default session name**

Template:  
Session-\*

**Session name index**

Start number:  
1

☒ Reset to 1 for each new project

**Multiple sessions**

Maximum sessions running concurrently:  
1

**Default values**

☒ Automatically record each email to allow incremental processing

Tokenization:  
Off

Case sensitivity:  
Ignore

**File naming & duplicate detection**

Generate hash value from:  
Message-ID header field

**Folder mapping**

☐ Apply to top-level target folders

**Error handling**

☐ Stop processing if an item can't be opened or saved  
☒ Create a local backup when saving an email fails

Zoom: 100%

*Sessions section of the App settings screen*



## Default session name

### Template

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

A template that defines the default name for each new session. Note that after a session has been created, its name can be changed in the session [settings](#).

This field is a template that accepts a combination of text and the following tokens:

- \* The [session name index](#), formatted to display 3 digits.
- : The current date (without the time) in the [International date format](#), YYYY-MM-DD.
- ? The [project name](#).

Examples (assuming the [starting value](#) of the session name index is set to 1):

`Session-*`

Produces the following session names:

*Session-001*

*Session-002*

*Session-003*

`Session : #*`

Produces the following session names (assuming the current date is January 25, 2020):

*Session 2020-01-25 #001*

*Session 2020-01-25 #002*

*Session 2020-01-25 #003*

`?-S*`

Produces the following session names (assuming the project name is Project5):

*Project5-S001*

*Project5-S002*

*Project5-S003*

Note that the [session name](#) is also used to name the settings file and log files for this session and so must not contain any [illegal characters](#).

## Session name index

### Start number

Only available in [Aid4Mail Enterprise](#) and [Investigator](#), and only editable when [Reset to 1 for each new project](#) is *off*.

The starting value for the index used in the [default session name](#). The index is incremented by 1 every time you create a new session. However, if sessions are deleted, those numbers will be reused again.

### Reset to 1 for each new project

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

If *on*, the session name index is automatically set to 1 when a new project is created and the [starting value](#) field is not available. This option is *on* by default.

## Multiple sessions

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

### Maximum sessions running concurrently

The number of Aid4Mail sessions that can be run at the same time. It does not limit the number of sessions you can set up, only the number that will run concurrently.

The default value should work well for the average computer. With higher values, more sessions will be processed at the same time and, if your computer has the available resources, the faster your project will run. However, if your computer is older or lower-end, a smaller value will perform better. If you're undertaking a large-scale migration, we recommend you test a variety of values to find the optimal number for your hardware, available internet bandwidth and mail account set up.

Note that if your source or target format is an Outlook profile then the maximum number of sessions running concurrently is limited to 8.

For more information on running multiple sessions, please refer to the [Multiple sessions](#) topic.

## Default values

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

### Automatically record each email to allow incremental processing

The default value for [Automatically record each email to allow incremental processing](#), in the [source settings](#), when a new session is created.

### Tokenization

The default value for [Tokenize](#), in the [item filtering settings](#), when a new session is created.

### Case sensitivity

The default value for [Case](#), in the [item filtering settings](#), when a new session is created. Also, the default value for [search list case-sensitivity](#).

## File naming & duplicate detection

### Generate hash value from

MD5 hash values are used in the [detection of duplicates](#) and for certain [filenames](#). This field allows you to select the source data that the hash function uses. Select from:

- *Message-ID header field*
- *Original SMTP header*

For a detailed description of these options, please read How does [Aid4Mail determine duplicates?](#) in the Deduplication topic.

Note that hash values created from data in the Subject field will differ in [trial mode](#) from those created after Aid4Mail has been activated. This is because the subject line is truncated in trial mode and a trial tag is added. For this reason, you should always delete files created in trial mode once you have purchased and activated Aid4Mail.

## Folder mapping

### Apply to top-level target folders

Only available in [Aid4Mail Enterprise](#).

Unfortunately, email clients are not consistent in their naming of folders. For example, *Inbox* in one application may be called *In* in another. The *Sent* folder might be *Sent Mail* or *Sent Items*. *Spam* may be called *Junk*. Language settings can also affect folder names. In French, Outlook's *Inbox* becomes *Boîte de réception*.

When this option is *on*, Aid4Mail maps between folders that have different names for the same concept, in order to place your target mail in the intended location. This process is only necessary in the top-level of the folder structure.

For example, when converting from Gmail to PST with this option turned *on*, emails from Gmail's *Sent* folder will be placed in the PST file's *Sent Items* folder. If this option is *off*, the target emails will be placed in a newly created *Sent* folder in the PST, resulting in two separate folders for sent mail: *Sent* (the newly created folder) and *Sent Items* (that all PST files have by default).

This option is *off* by default.

The complete list of folder names recognized by Aid4Mail, for each folder category, is stored in file *FolderNames.dat*, in your [Data folder](#). You can add to this list if you have an email client that uses folder names that are not listed.

The file *FolderMapping.dat* enables you to override Aid4Mail's default mapping by specifying a target folder name to use for each folder category. By default, this file has no effect because each line in it starts with a semicolon character (;), indicating that it's a *comment* and will not be read by Aid4Mail. Removing the semicolon causes Aid4Mail to use the mapping specified in that line. You can also edit the folder name (after the equal sign in each line) if necessary.

## Error handling

### Stop processing if an item can't be opened or saved

When *on*, Aid4Mail will stop processing the session if an email or non-email item is unable to be read or saved. When *off*, Aid4Mail will continue processing after the error, moving on to the next item. This option is *off* by default.

### Create a local backup when saving an email fails

For certain [target formats](#), Aid4Mail is dependent on a third-party to save an email. For example, if your [target format](#) is an *Outlook profile*, *PST* file or *MSG* file, Aid4Mail uses Outlook's [MAPI](#) to save each email. If your [target format](#) is a cloud-based format like *Gmail*

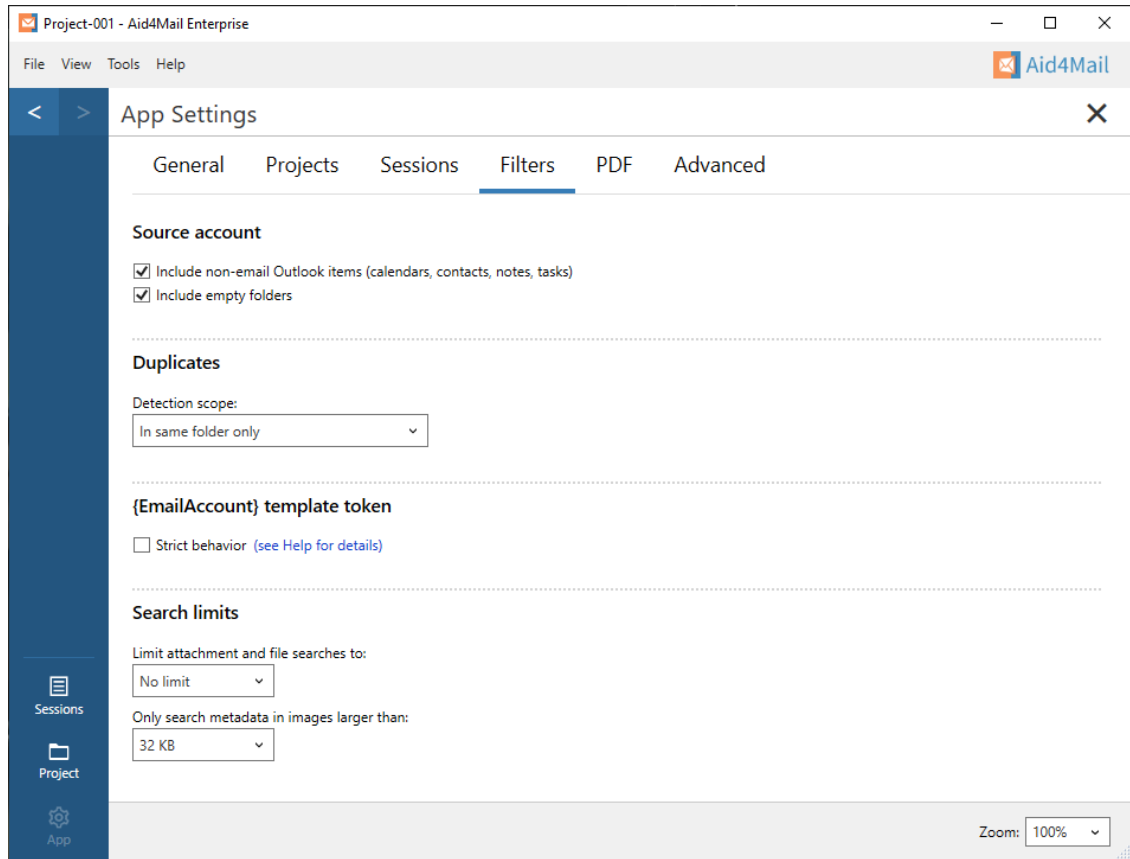
*and Google Workspace or Microsoft 365, or an IMAP account, then Aid4Mail is dependent on the mail server for this task. In turn, the mail server is dependent on the bandwidth available and your internet connection.*

Occasionally these third-parties are not be able to save a target email. For example, if an email's size, number of recipients or number of attachments exceeds the server's limit, it may fail. When this happens, and you have this option turned *on*, Aid4Mail will save a backup copy of the email. It will be saved with an MD5 filename, and its folder structure intact, in the *Backup* subfolder of your [project folder](#). The email will be saved in the *EML* format unless your [source format](#) was an *Outlook profile*, *PST* file or *MSG* file in which case the email will be saved as an *MSG* file.

This option is *on* by default.

#### 6.9.4 App settings: Filters

The *Filters* section of the [App settings](#) screen.



*Filters section of the App settings screen*

### Source account

#### **Include non-email Outlook items (calendars, contacts, notes, tasks)**

Outlook mail stores (*Outlook profile*, *PST* files and *MSG* files) may contain items that are not email messages like calendars, contacts, notes or tasks. When this option is turned *on*, Aid4Mail will include non-email items in its processing. When *off*, these items will be skipped. This option is *on* by default.

Note that:

- Non-email items cannot be filtered.

- If your [target format](#) is not an Outlook mail store then a non-email item will be treated as if it were an email message. This will not generate an error but it will not convert to an equivalent calendar/contact/note/task in a non-Outlook format. So using this option only makes sense if both your [source format](#) and [target format](#) are Outlook mail stores, for example converting from an Outlook profile to a PST file, in which case non-email items will remain intact.

### Include empty folders

When turned *on*, Aid4Mail will process empty folders and include them in your target mail. When *off*, empty folders will be ignored and will not appear in your target mail. This option is *on* by default.

## Duplicates

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

### Detection scope

Aid4Mail detects duplicates so they can be used in filters or scripts. Here you can choose the scope of what is considered a duplicate:

- *Across all folders*  
Any email that is identical to another email in any folder will be flagged as a duplicate.
- *In same folder only*  
An email that's identical to another email will only be flagged as a duplicate if both are located in the same folder.

You can read more about how Aid4Mail handles duplicates in the [Deduplication](#) topic.

## {EmailAccount} template token

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

### Strict behavior

Affects the behavior of the [{EmailAccount}](#) template token. The default value is *off*.

When *Strict behavior* is *off*, the [{EmailAccount}](#) token matches any email address found in the *From*, *To*, *Cc* or *Bcc* fields of the email header. When *Strict behavior* is turned *on*, a match only occurs if, in addition, the email address is the [owner of the email](#) or if the owner cannot

be determined. The main benefit of turning on *Strict behavior* is that it prevents duplicate emails from being stored in an account folder, notably from mail sent to multiple recipients.

Note that Mimecast archives typically don't include outgoing mail, in which case *Strict behavior* may also prevent sent emails from being stored at all. Conversely, turning *Strict behavior* off provides the sent emails but also the potential for duplicates. You may want to run tests with the option on and off to determine which best suits your requirements. We have found that most clients processing Mimecast exports with Aid4Mail prefer *Strict behavior* to be off.

**Example:**

Amy (amy@aid4mail.com) sends an email to three friends. Two are colleagues, Joe (joe@aid4mail.com) and Becca (becca@aid4mail.com). The third, Fred (fred@notetab.com) works elsewhere. There are 4 copies of the email: the one sent by Amy, and the three copies received by her friends. These are all part of an archive that is to be processed by Aid4Mail. The following [folder structure template](#) is used, with the [{EmailAccount}](#) token set to match any aid4mail.com address:

```
{EmailAccount:*@aid4mail.com}
```

- After processing with Aid4Mail and *Strict behavior* turned off, the result would be:

- A folder named *amy@aid4mail.com* containing all four copies of the email.  
This is because Amy's address appears in the *From* address of all four.
- A folder named *joe@aid4mail* containing all four copies of the email.  
This is because Joe's address appears in the *To* address of all four.
- A folder named *becca@aid4mail* containing all four copies of the email.  
This is because Becca's address appears in the *To* address of all four.

Note that there would not be a folder for *fred@notetab.com* because it doesn't have an aid4mail.com domain.

- After processing with Aid4Mail and *Strict behavior* turned on, the result would be:

- A folder named *amy@aid4mail.com* containing just one copy of the email.  
This is the copy that was actually sent by Amy.
- A folder named *joe@aid4mail* containing just one copy of the email.  
This is the copy that was actually received by Joe, as determined by metadata in other



header fields.

- A folder named *becca@aid4mail* containing just one copy of the email.  
This is the copy that was actually received by Becca, as determined by metadata in other header fields.

Note: If the archive in the example was from a Mimecast export, it probably would not have included outgoing emails. This would cause the results to be slightly different: There would be only be three emails in each of the folders when *Strict behavior* was turned on. With *Strict behavior* off, there would be no folder for *amy@aid4mail.com*.

## Search limits

Only available in [Aid4Mail Enterprise](#) and [Investigator](#).

### Limit attachment and file searches to

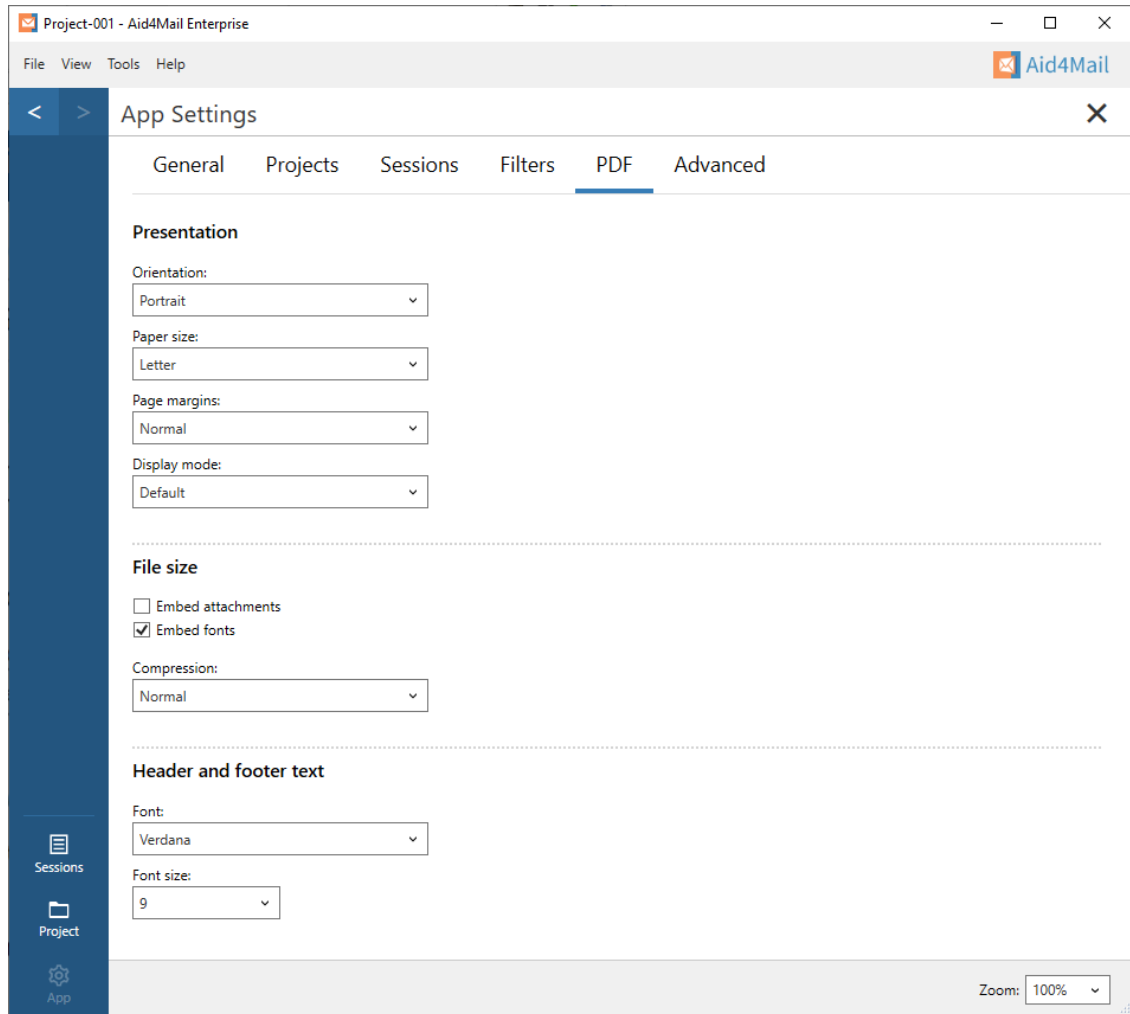
Determines how far Aid4Mail will search through large attachments and files contained within attachments. The smaller the value, the faster the search but the greater the chance of missing a search term. For example, if the value set is 32 MB then Aid4Mail will only search the first 32 MB of a file before moving on to the next one.

### Only search metadata in images larger than

Emails can contain small images for display purposes that offer no useful metadata to search. Aid4Mail can skip these images to improve performance. Use this option to set the threshold.

### 6.9.5 App settings: PDF

The *PDF* section of the [App settings](#) screen.



*PDF section of the App settings screen*

## Presentation

### Orientation

The orientation of each page in a PDF document. Choose between:

- *Portrait*  
The document height is greater than its width.

- *Landscape*

The document width is greater than its height.

**Paper size**

The size of paper used to in the PDF document. Select one of the following:

- *A4*
- *Folio*
- *Legal*
- *Letter*

**Page margins**

The amount of space between the edge of the page and its content. Choose between:

- *None*  
Left, right, top and bottom margins are all set to zero.
- *Normal*  
Left, right, top and bottom margins are all set to 1 inch (2.54 cm).
- *Narrow*  
Left, right, top and bottom margins are all set to 0.5 inches (1.27 cm).
- *Moderate*  
Left and right margins are set to 0.75 inches (1.905 cm). Top and bottom margins are set to 1 inch (2.54 cm).
- *Wide*  
Left and right margins are set to 2 inches (5.08 cm). Top and bottom margins are set to 1 inch (2.54 cm).

When margins are set to *None*, any page headers and footers are placed directly above and below the page content. When margins are set to any other value, headers and footers are placed in the space occupied by the margins.

**Display mode**

Configures the PDF reader that's displaying the document. Well-known PDF readers like Adobe Reader will respond to these settings. However, others may not if their developers have not implemented this feature.

Select one of the following:

- *Default*  
Use the default settings of the PDF reader that's displaying the document.
- *Outlines*  
Instruct the PDF reader to display the outline feature when opening the document.
- *Thumbnails*  
Instruct the PDF reader to display thumbnails of the document when it's opened.
- *Full screen*  
Instruct the PDF reader to display the document full-screen.

## File size

### Embed attachments

When *on*, attachments in source emails will be embedded into the target PDF document. A link to each attachment will be provided below the content of each email in the PDF. Copies of the attachments will also be saved to the *Embedded* subfolder in your [target location](#).

When *off*, attachments in source emails will not be embedded into the target PDF document. Instead, they will be saved to an *Attachment* subfolder in your [target location](#). Links to these external attachments will be provided below the content of each email in the PDF.

Embedding attachments can significantly increase the size of a PDF document. However, the resulting document is self-contained and can easily be sent to others. When attachments are not embedded, you would need to send both the PDF document and the *Attachment* subfolder in order to share.

### Embed fonts

When *on*, any fonts used in the document will be embedded into the PDF file. This ensures the document will always appear as intended in any PDF reader. However, if the document uses a lot of fonts, it can significantly increase the file size.

When this option is *off*, fonts are not embedded into the file. This ensures the file size is as small as possible. However, fonts not found on the computer that's displaying the PDF document will be replaced with alternatives and the document may not appear as intended.

**Compression**

The amount of compression applied to the document. Generally, higher amounts of compression lead to smaller file sizes and reduced document quality. The options are:

- *None*  
No compression is applied to the document. This will result in the largest file size and maintains 100% document quality.
- *Maximum*  
Maximum compression is applied to the document. This will result in the smallest file size but with the greatest impact to document quality.
- *Normal*  
This default setting is a good balance between the extremes, applying some compression without too much loss of quality.

**Header and footer text****Font**

Select which font is used in the header and footer text:

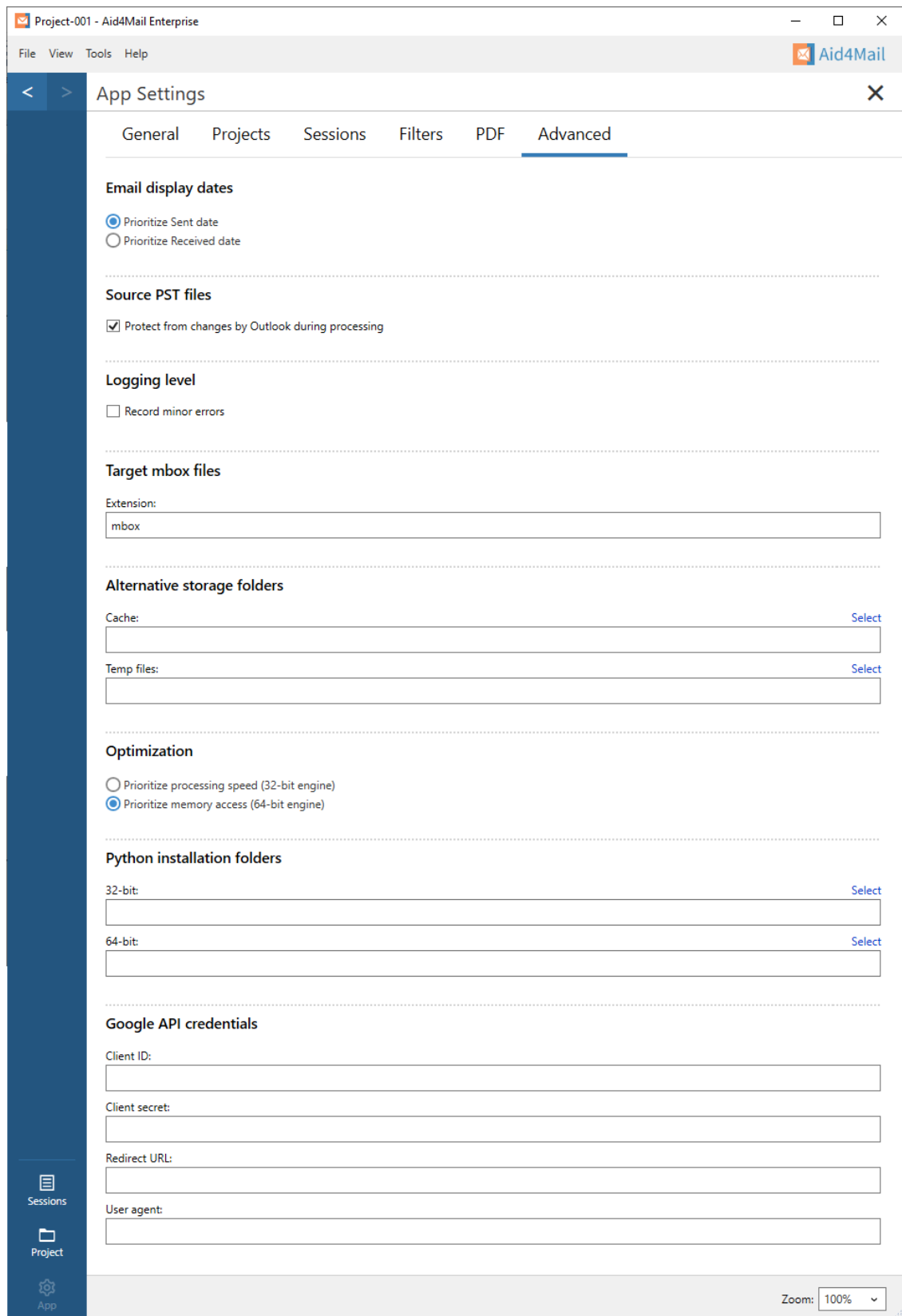
- *Arial*
- *Calibri*
- *Courier New*
- *Georgia*
- *Tahoma*
- *Times New Roman*
- *Trebuchet*
- *Verdana* (default)

**Font size**

Select the size of the font used in the header and footer text. The default value is 9 points but any value between 6 and 20 is acceptable.

## 6.9.6 App settings: Advanced

The *Advanced* section of the [App settings](#) screen.



*Advanced section of the App settings screen*

## Email display dates

### Prioritize Sent date

Use the email's *Sent* date as the display date whenever possible.

### Prioritize Received date

Use the email's *Received* date as the display date whenever possible.

## Source PST files

### Protect from changes by Outlook during processing

When a PST file is accessed by Outlook, Aid4Mail or any other program, the PST file is slightly modified internally. This is unacceptable in forensic examinations and also makes detecting duplicates almost impossible. When this option is *on*, Aid4Mail will create a temporary copy of a source PST file which it then connects to [MAPI](#) before processing. This avoids the original PST file being accessed and subsequently modified. However, it also has a small impact on performance. When this option is *off*, Aid4Mail will access a source PST file directly, thereby modifying it.

This option is *on* by default. [Aid4Mail editions](#) that do not have this option will access PST files directly (as if the option is *off*).

## Logging level

### Record minor errors

When turned *on*, Aid4Mail will log minor errors that affect email processing but do not cause conversion or filtering to fail.



## Target mbox files

### Extension

Mbox files are valid with or without a file extension. Common mbox file extensions are *mbox* or *mbx*, for example *MyMailbox.mbox* or *MyMailbox.mbx*. By default Aid4Mail uses *mbox* as an extension. You can change this by entering the file extension of your choice in this field (without the preceding period character, i.e. write *mbox* and not *.mbox*) or by leaving it blank for no extension at all.

## Alternative storage folders

Provide alternative folder locations for file cache and temp files. We recommend you store these on a fast SSD or RAM drive for optimal performance.

### Cache

Enter an alternative folder location for file cache.

By default, cache files are stored in the following folder:

`C:\Users\<User>\AppData\Local\Aid4Mail5\Cache`

If Aid4Mail is running from a USB thumb drive then cache files are stored in the AppData\Cache directory under the [program folder](#).

### Temp files

Enter an alternative folder location for temporary files.

By default, temporary files are stored in the following folder:

`C:\Users\<User>\AppData\Local\Temp\Aid4Mail5`

If Aid4Mail is running from a USB thumb drive then temp files are stored in the AppData\Temp directory under the [program folder](#).

## Optimization

Only available when your operating system is 64-bit.

Aid4Mail includes both 32-bit and 64-bit processing engines and automatically selects the appropriate one. For example, if you need to process a PST file and have a 64-bit version of

Outlook, Aid4Mail will automatically use its 64-bit processing engine. However, in cases where either version of the processing engine could be used, this option allows you to specify which one based on your priorities.

**Prioritize processing speed (32-bit engine)**

In general, 32-bit software is faster than 64-bit software. If processing speed is your priority, select this option. Aid4Mail will use the 32-bit engine in all cases except for those that specifically require 64-bit processing.

**Prioritize memory access (64-bit engine)**

64-bit software can potentially access four billion times more physical memory than 32-bit applications! If your system has more than 4 GB of RAM, and you need to process emails that are large (usually due to large attachments), Aid4Mail may perform more efficiently using the 64-bit engine. When you select this option, Aid4Mail will use the 64-bit engine in all cases except for those that specifically require 32-bit processing.

**Python installation folders**

Only available in [Aid4Mail Enterprise](#) and [Investigator](#) running on a 64-bit operating system.

As explained under [Optimization](#), Aid4Mail includes both 32-bit and 64-bit processing engines and automatically selects the appropriate one. Unfortunately, Python does not. It only installs one version. This means that if your Python installation is 32-bit and Aid4Mail needs to use its 64-bit engine, your [Python script](#) will generate an error. Likewise if your Python installation is 64-bit and Aid4Mail is required to use its 32-bit engine.

This problem is accentuated if you have a project with multiple sessions that all use [Python scripts](#) and some require 32-bit processing while others require 64-bit. Aid4Mail will adapt to this scenario but Python will not. Fortunately there is a work-around: It is possible to install both 32-bit and 64-bit versions of Python manually in different locations. Then you can use these fields to tell Aid4Mail where to look to find the correct Python version.

Note that if both fields are blank, Aid4Mail will attempt to locate your default Python installation (if there is one), when required, but it will not be able to determine in advance whether it's 32 or 64-bit.

**32-bit**

Enter the location of your 32-bit [Python](#) installation.

**64-bit**

Enter the location of your 64-bit [Python](#) installation.

**Google API credentials**

Aid4Mail uses Google's secure [APIs](#) to access Google accounts, authenticating login details using [Aid4Mail Authenticator](#) and the secure [OAuth 2.0](#) protocol without any knowledge of usernames or passwords. This method of access and authentication provides maximum security and privacy. However, it also requires you to set up [set up Google API credentials](#) if you don't already have them. Once set up, enter your Google API credentials in this section before starting the [authentication process](#).

**Client ID**

Enter the *Client ID* obtained from [setting up Google API credentials](#).

**Client secret**

Enter the *Client secret* obtained from [setting up Google API credentials](#).

## 6.10 Aid4Mail Authenticator

*Aid4Mail Authenticator* enables you to authorize temporary access to a cloud-based email service or [IMAP](#) account without having to share your login credentials with Aid4Mail. Example services include Gmail, Microsoft 365, Outlook.com, and Hotmail.

It uses the secure [OAuth 2.0](#) protocol, creating an authentication token that Aid4Mail can read but that does NOT contain your username or password. You can invalidate the token at any time, revoking Aid4Mail's access to the account. This method of access and authentication provides you with maximum security and privacy.

### **For Gmail accounts only:**

Aid4Mail uses Google [APIs](#) during authentication and mail processing and requires you to have API credentials. You can set them up in a few minutes by following the instructions in the [Setting up Google API credentials](#) topic.

When you have created your credentials, enter them in the [Google API credentials](#) field on Aid4Mail's *App settings* screen before following the [authentication instructions](#) below.

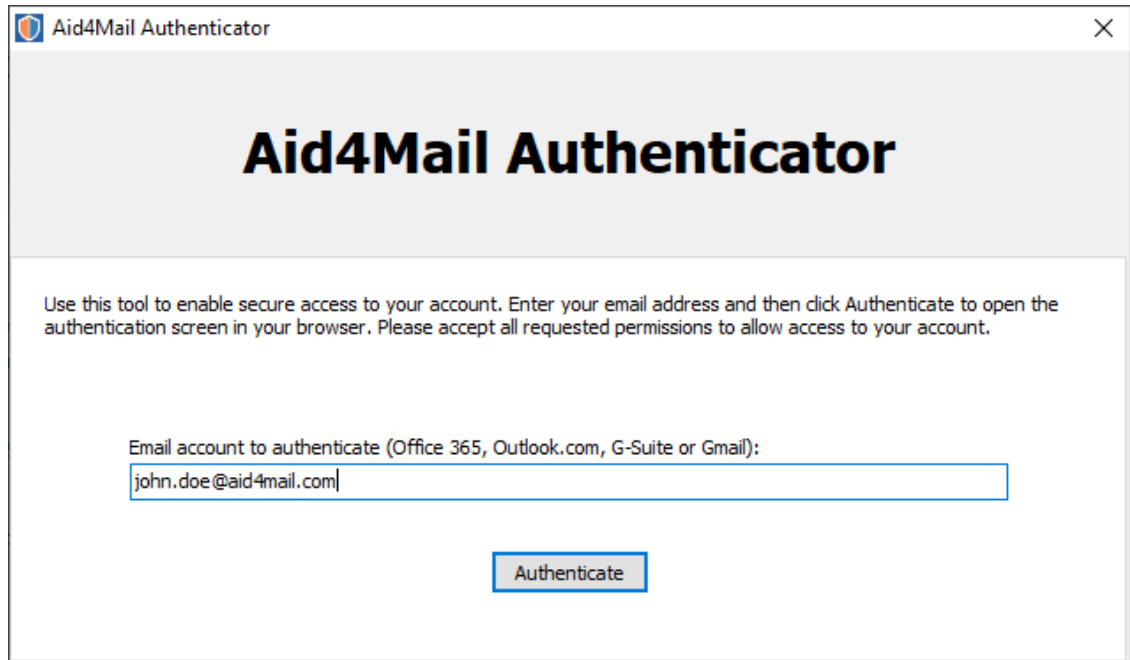
## **Authentication instructions**

1. Launch Aid4Mail Authenticator automatically by selecting *Add* above either of these fields:

- Source [Email address](#)
- Target [Email address](#)

Or when using the *OAuth2* [connection security](#) option in the [IMAP configuration editor](#).

2. Enter the address of the email account you want to access and then select *Authenticate*:



*Enter an email account in Aid4Mail Authenticator and press the Authenticate button*

3. Aid4Mail Authenticator will automatically open your web browser so that you can select your mail account and log into it. Note that Aid4Mail Authenticator has no access to your browser and does not see your login credentials at any time. It will only see the authentication token that's produced at the end of the process.

You will be presented with one or more of the following pages, depending on your mail service and whether you are already logged in or not:

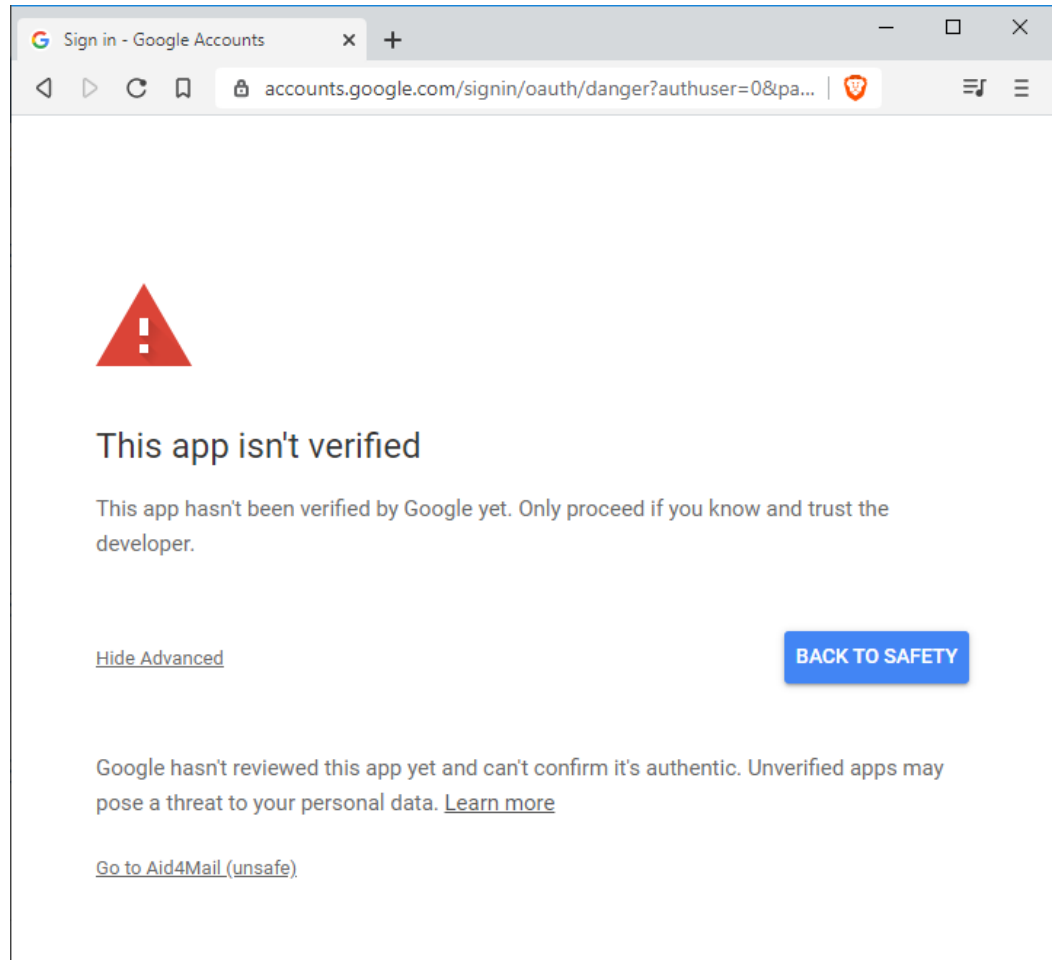
- a. A login page that requires you to:
- Select your account if you have multiple accounts with this mail service .
  - Log in with your username and password (unless you are already logged in).

If you only have one account with this mail service and are already logged in, you may not see this page at all.

- b. **Only when accessing Google accounts outside of your own domain:** A message warning that the app has not yet been verified by Google. This message will not appear if you are accessing an account in your own domain.

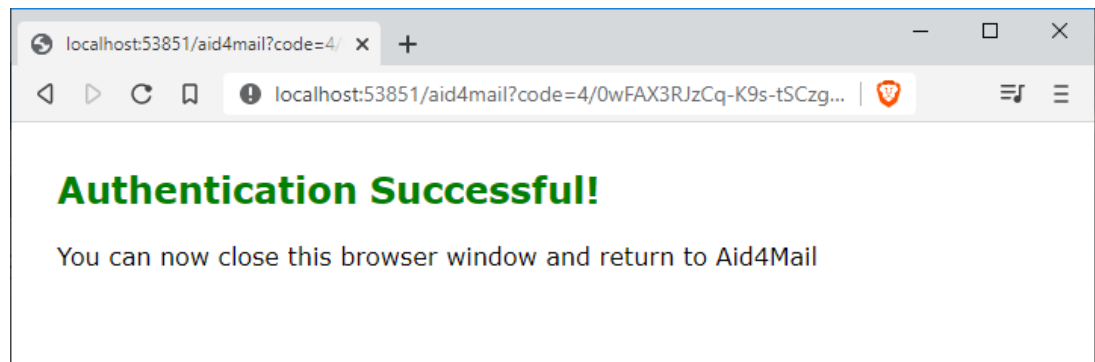
At the bottom of the warning message, select *Advanced* and then *Go to Aid4Mail*

(unsafe) as shown below. Then [continue](#) with the authentication process.



*Warning message: "This app hasn't been verified by Google yet".  
Select "Advanced" and then "Go to Aid4Mail (unsafe)".*

- c. A page requesting permission for Aid4Mail to access the account. Depending on your mail service, you may not see this screen. If you do, you need to allow access for Aid4Mail to continue.
- d. A success page. You will only see this if the previous steps were completed successfully. Otherwise the mail service will indicate any errors (for example an incorrect password).



*"Authentication successful" message in browser*

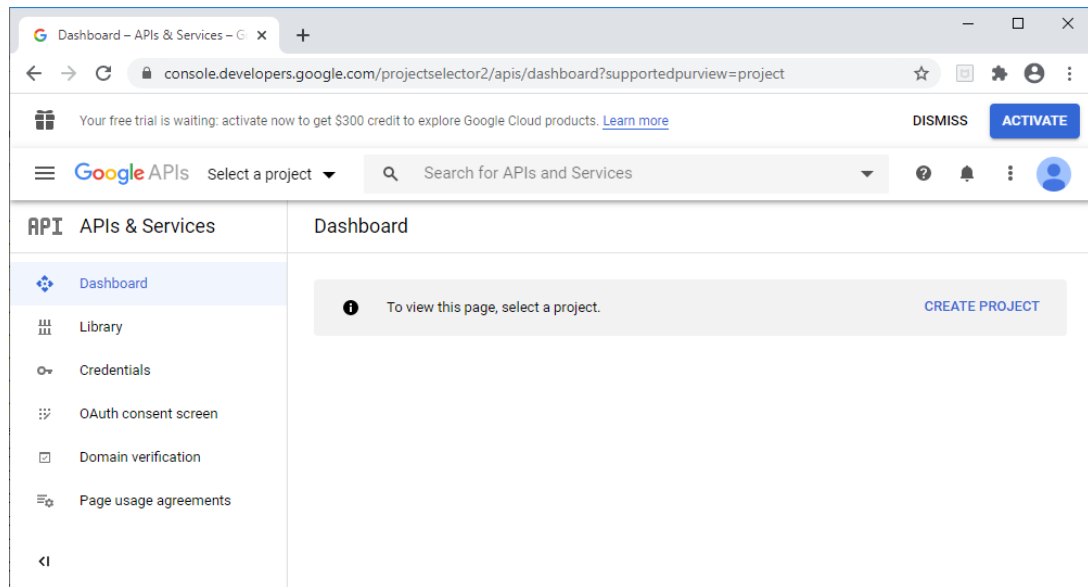
4. Close the browser window and return to Aid4Mail. The authentication token will automatically be saved in the correct location.

Note that you can revoke Aid4Mail's access to your mail account at any time. Please refer to your mail account's settings for details. For Gmail, you can revoke access on the [permissions page of the Google website](#).

### 6.10.1 Setting up Google API credentials

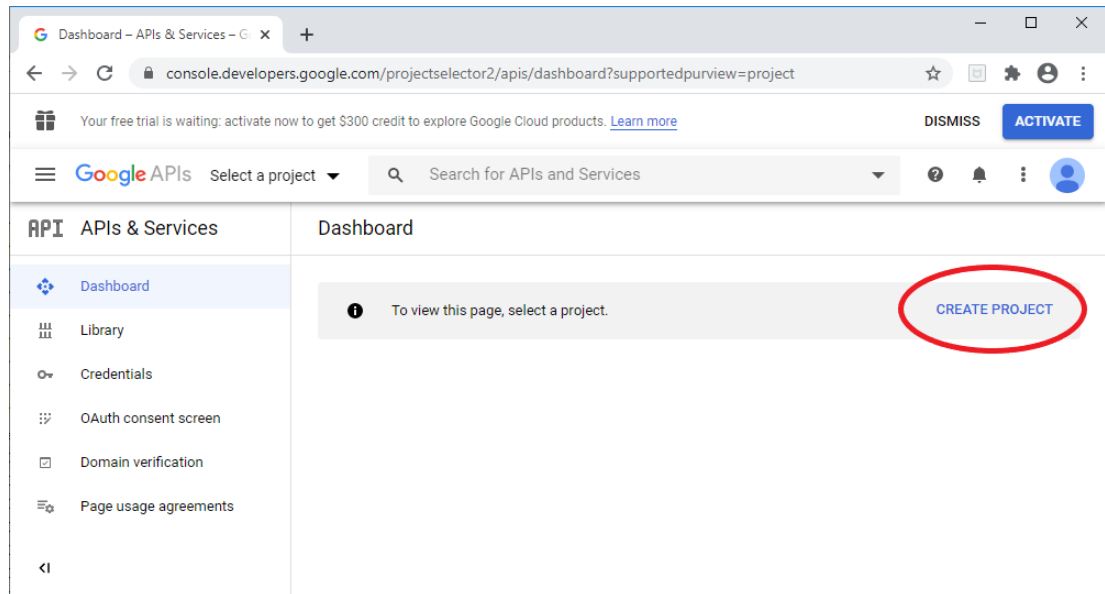
Instructions:

1. Log into the [Google developers website](https://developers.google.com/) using your Google account details. It will look something like this:

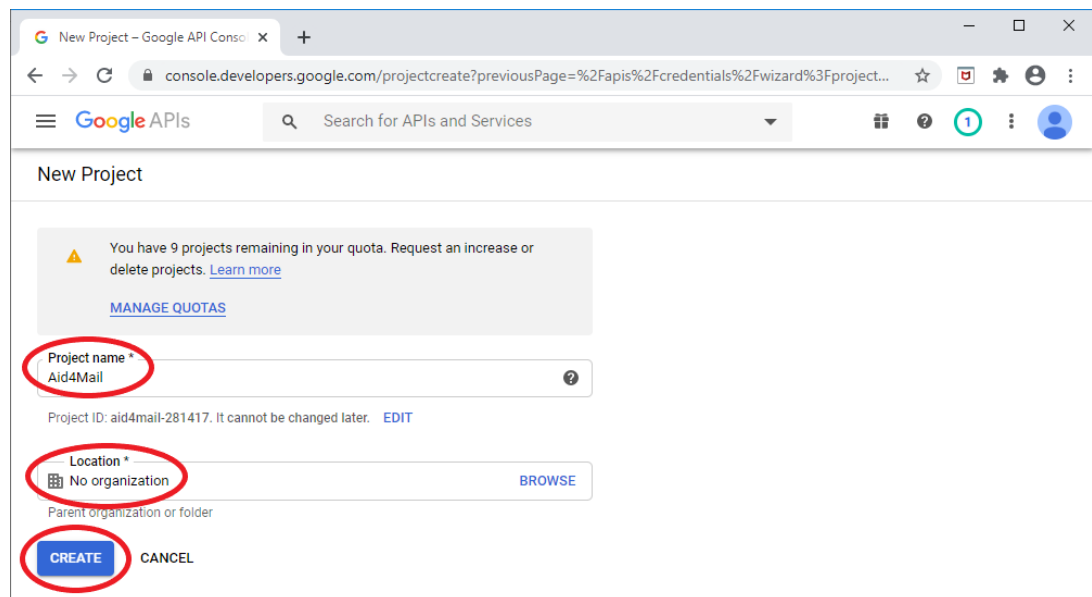


2. Select *CREATE PROJECT* at the top-right of the page.

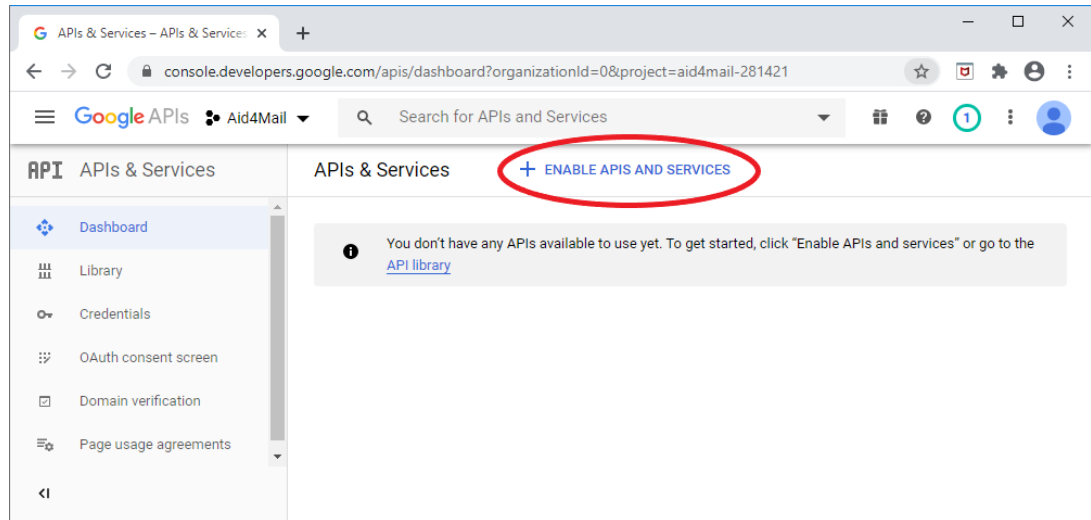




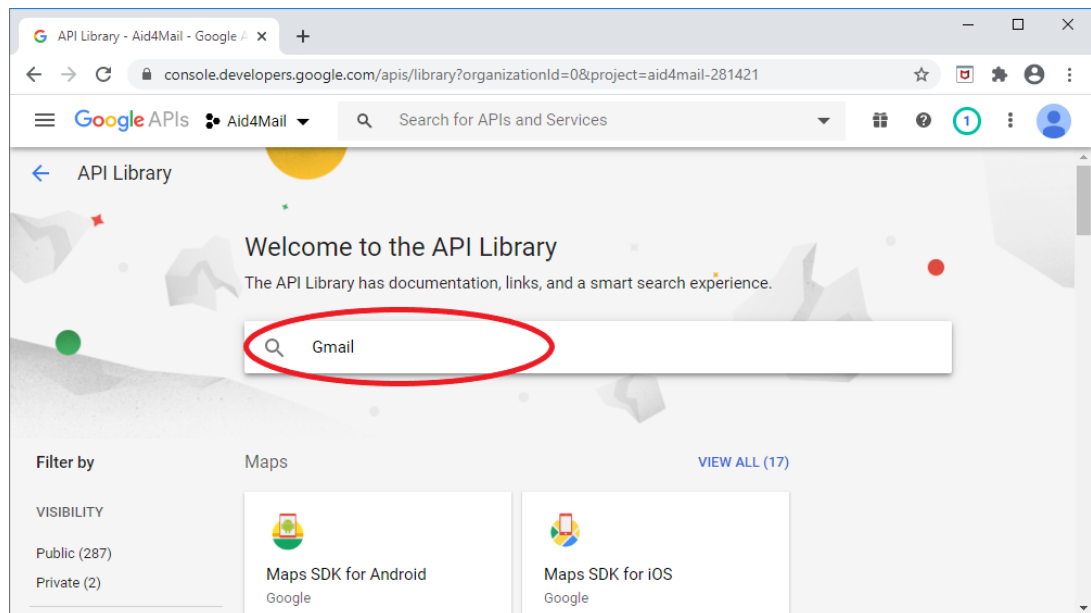
3. Enter a project name (for example *Aid4Mail*), leave *Location* set to *No organization* and select the *CREATE* button. It may take a few seconds for the project to be created.



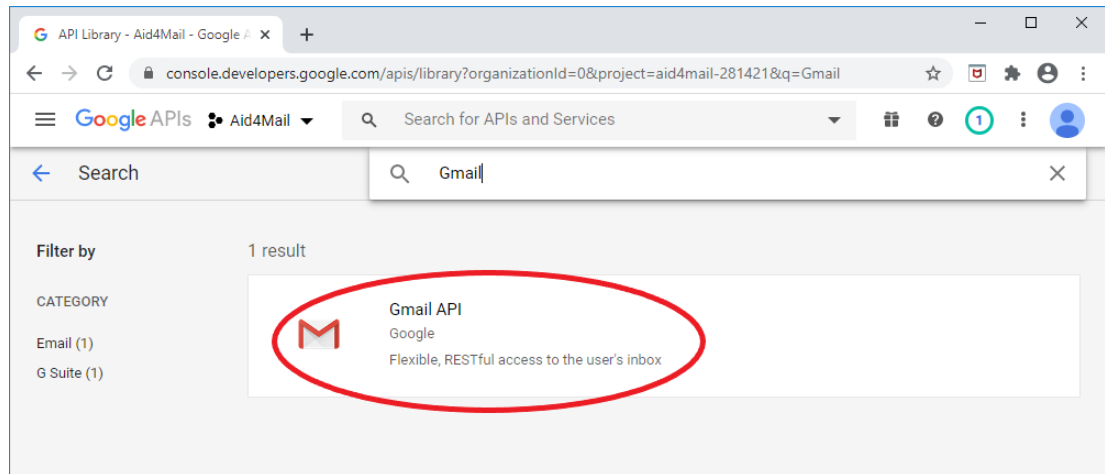
4. Select *ENABLE APIS AND SERVICES* at the top of the next page.



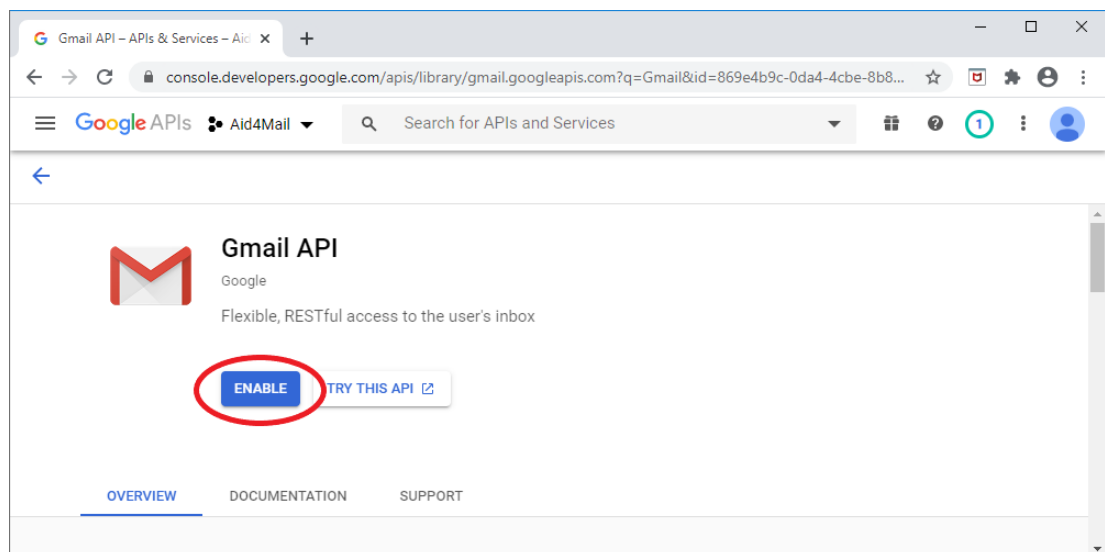
5. Enter *Gmail* into the search bar.



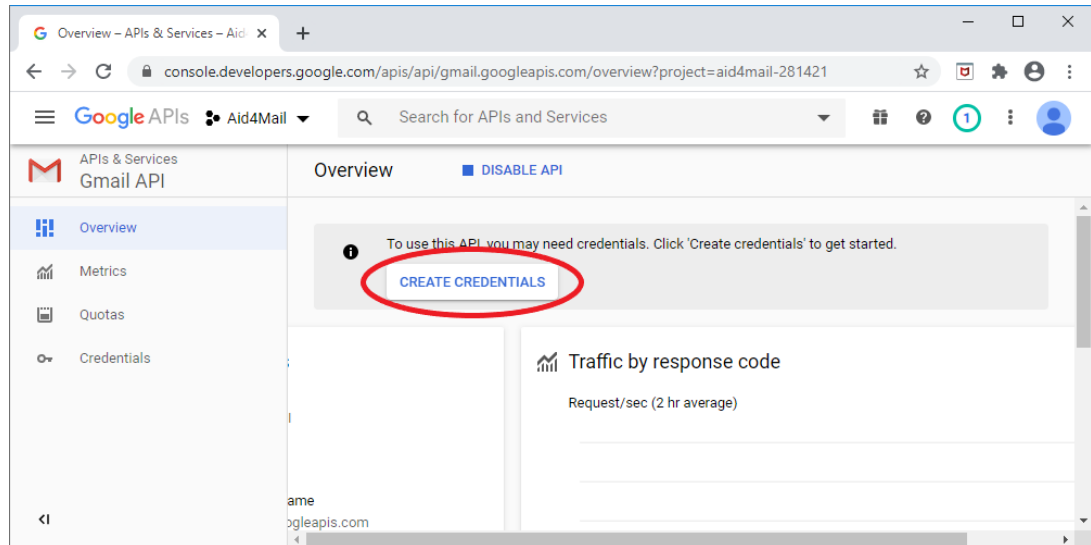
6. Select the *Gmail API*.



7. Once the Gmail API loads, select *ENABLE*.



8. Select *CREATE CREDENTIALS* at the top of the next page.

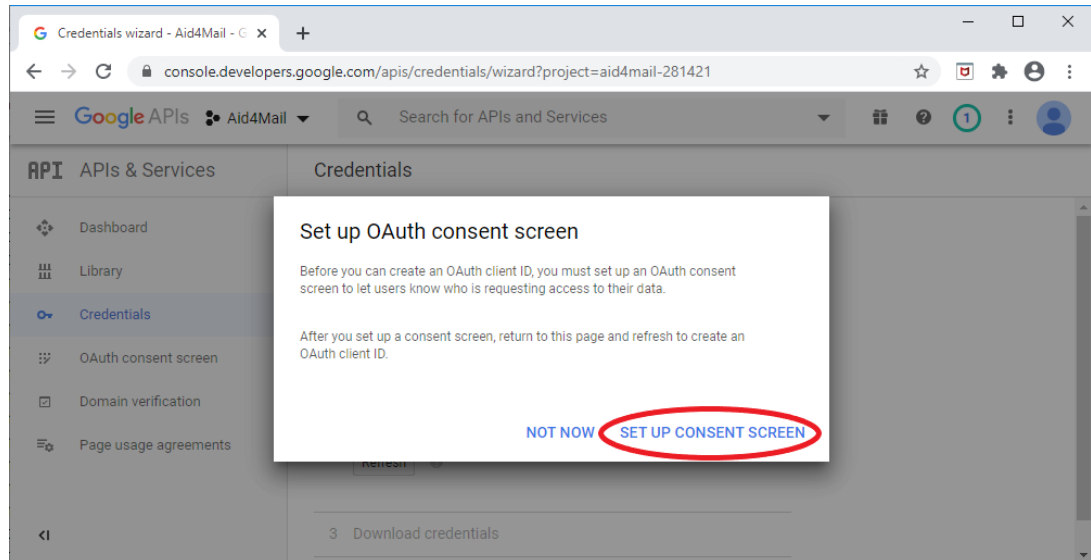


9. Under *Which API are you using?*, select *Gmail API*.  
Under *Where will you be calling the API from?*, select *Other UI (e.g. Windows, CLI tool)*.  
Under *What data will you be accessing?*, select *User data*.

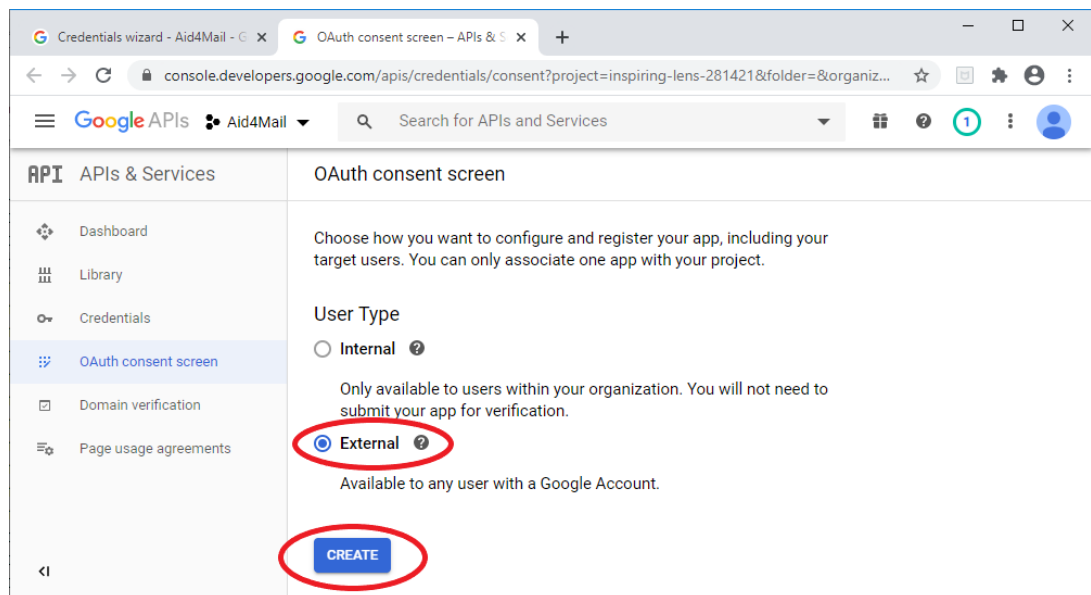
Finally, select the *What credentials do I need?* button.

The screenshot shows the 'Credentials wizard' for the 'Aid4Mail' project in the Google Cloud console. The left sidebar lists navigation options: Dashboard, Library, Credentials (selected), OAuth consent screen, Domain verification, and Page usage agreements. The main content area is titled 'Add credentials to your project' and contains a multi-step wizard. Step 1, 'Find out what kind of credentials you need', includes three sections: 'Which API are you using?' with a dropdown menu set to 'Gmail API'; 'Where will you be calling the API from?' with a dropdown menu set to 'Other UI (e.g. Windows, CLI tool)'; and 'What data will you be accessing?' with two radio button options, 'User data' (selected) and 'Application data'. A blue button labeled 'What credentials do I need?' is located at the bottom of the first section. Step 2, 'Get your credentials', is partially visible below. A 'Cancel' button is located at the bottom left of the wizard area.

10. Select **SET UP CONSENT SCREEN** at the bottom-right of the overlay that appears.



11. A new browser window will open, presenting two *UserType* options: *Internal* or *External*. If your organization has a Google Workspace subscription, and you will only be using Aid4Mail to process accounts within your organization's domain, then select *Internal*. If you have a regular Gmail account or plan to process accounts outside of your organization's domain, select *External*. Once you've chosen, select the **CREATE** button.



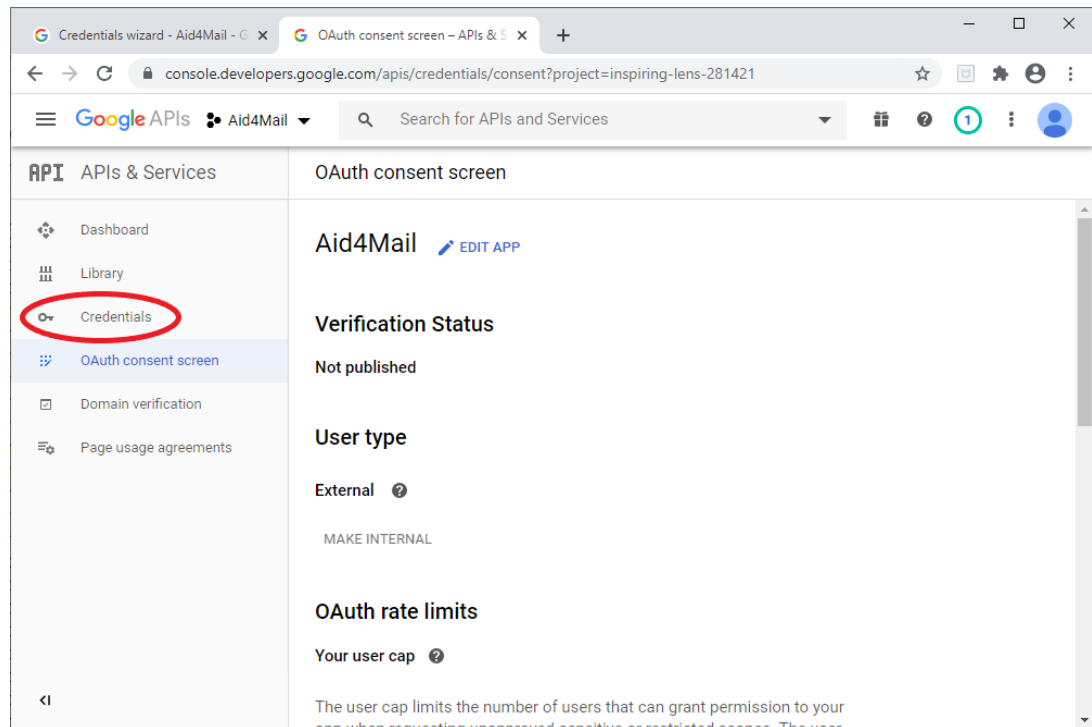
12. On the *OAuth consent screen*, enter *Aid4Mail* as your *Application name* and select your email address under *Support email*. Then select the *Save* button at the bottom of the page.

The screenshot shows the 'OAuth consent screen' configuration page in the Google Developers console. The page is titled 'OAuth consent screen' and is part of the 'Aid4Mail' project. The left sidebar shows the 'APIs & Services' menu with 'OAuth consent screen' selected. The main content area contains the following fields and sections:

- Verification status:** Not published.
- Application name:** A text field containing 'Aid4Mail', which is circled in red.
- Application logo:** A section for uploading a logo, with a 'Browse' button.
- Support email:** A dropdown menu showing 'mary@aid4mail.com', which is circled in red.
- Scopes for Google APIs:** A section for selecting scopes (email, profile, openid) to access user data.
- Authorized domains:** A section for adding domains where the application's links are hosted.
- Application Homepage link:** A text field for the homepage URL.
- Application Privacy Policy link:** A text field for the privacy policy URL.
- Application Terms of Service link (Optional):** A text field for the terms of service URL.
- Buttons:** At the bottom, there are three buttons: 'Save' (circled in red), 'Submit for verification', and 'Cancel'.

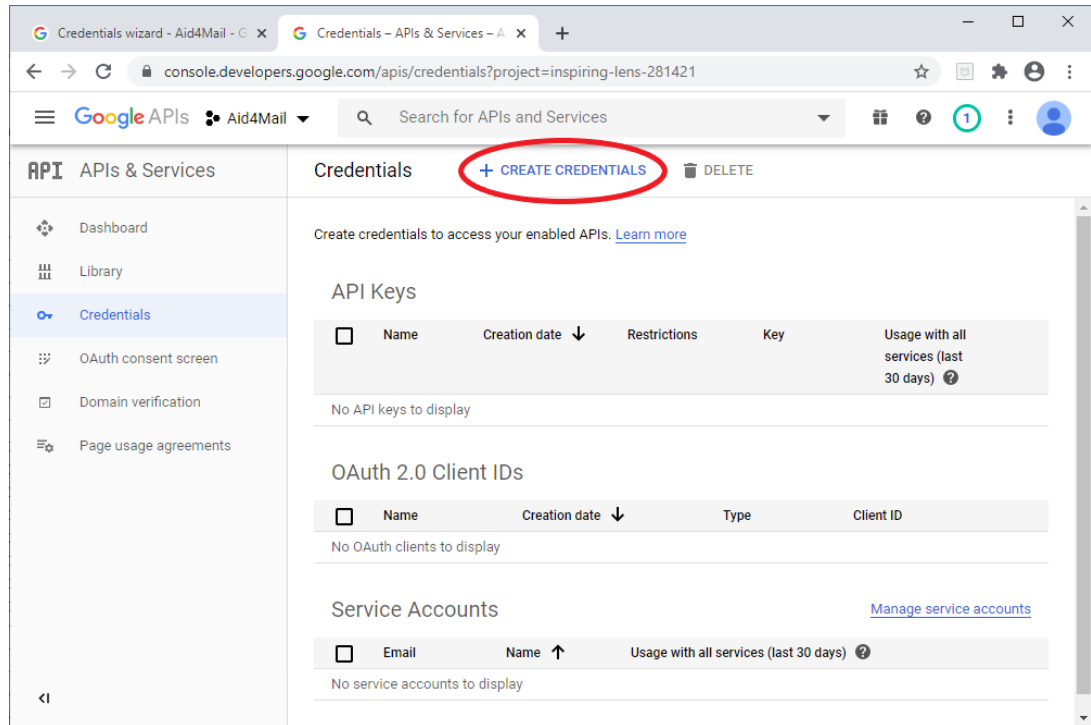
The right sidebar contains information about the consent screen, including 'About the consent screen', 'OAuth verification', and 'OAuth grant limits'.

13. Select *Credentials* from the menu on the left of the page.

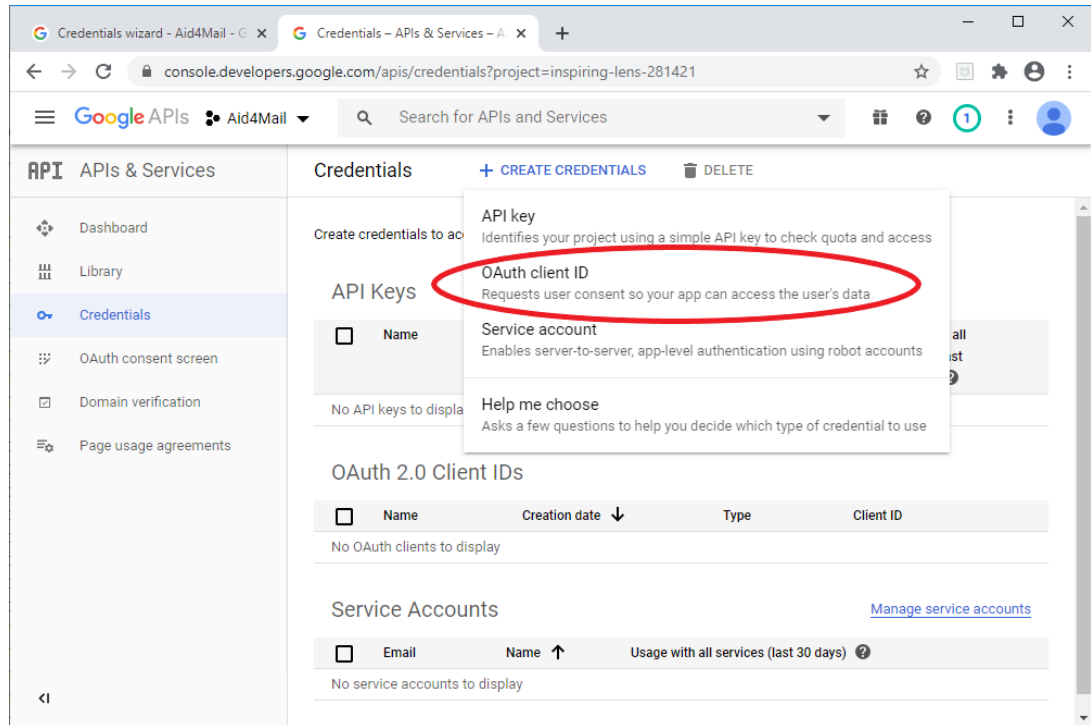




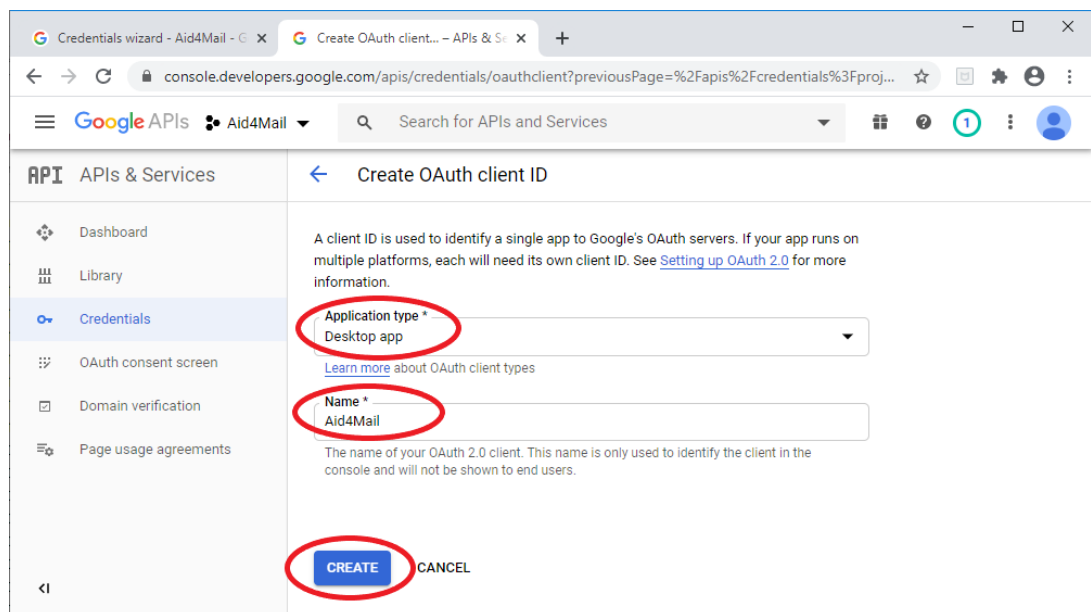
14. Select *CREATE CREDENTIALS* at the top of the page.



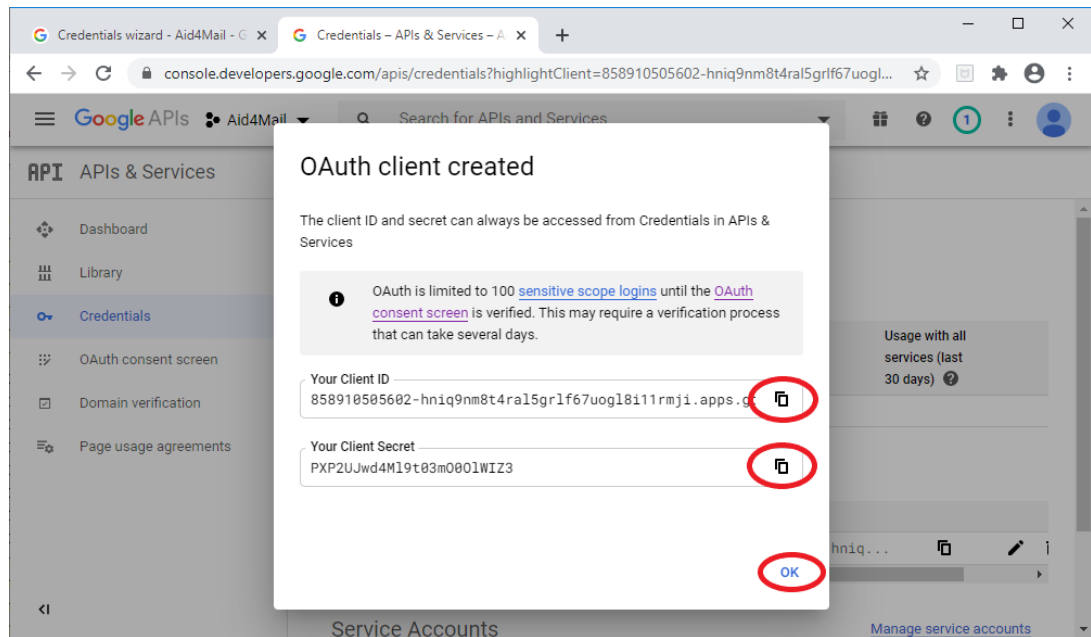
15. Select *OAuth client ID* from the popup menu.



16. Under *Application type*, select *Desktop app*. In the *Name* field, enter *Aid4Mail* and select the *CREATE* button.



17. The overlay shows your Google API credentials. Before selecting **OK**, copy *Your client ID* and, in Aid4Mail, paste it into the [Client ID](#) field under [Google API credentials](#) (in the [Advanced](#) section of Aid4Mail's [App settings](#) screen). Likewise, copy *Your Client secret* to the [Client secret](#) field.



That's it! You can now follow the [Authentication instructions](#) to add any Gmail accounts you would like to process with Aid4Mail.

## 6.11 Aid4Mail Remote Authenticator

*Aid4Mail Remote Authenticator* is a stand-alone version of [Aid4Mail Authenticator](#) that does not require installation or an Aid4Mail license. It can be downloaded by any third party under investigation, or whose mail account you are processing on their behalf. It enables the account owner to grant Aid4Mail secure, temporary access to a cloud-based email service or [IMAP](#) account without providing their full login credentials and without having a copy of Aid4Mail.

The [Aid4Mail Remote Authenticator User Guide](#) (pdf) includes complete instructions for an account owner to download and use *Aid4Mail Remote Authenticator*.

### How does it work?

Aid4Mail Remote Authenticator creates an authentication token that Aid4Mail can read but that protects the account owner's information. With [IMAP](#) accounts, the password field is encrypted and an expiry date can be set for the token. For Google and Microsoft accounts, the secure [OAuth 2.0](#) protocol is used whenever possible. This creates an authentication token that provides account access without containing the username or password at all. The account owner can invalidate the token at any time, revoking Aid4Mail's access.

### Using an authentication token

Once an authentication token has been created, the account owner simply sends you the file. You can import it into Aid4Mail by selecting *Import* above one of the following fields:

- Source [Email address](#)
- Source [IMAP account](#)
- Target [Email address](#)
- Target [IMAP account](#)

The authentication token's filename indicates which option to use: It consists of the email address of the account owner followed by a two-part extension reflecting the protocol used to create it. For example, the token with filename *test@aid4mail.com.Google.auth* was created using the email address *test@aid4mail.com* and authenticated through Google [APIs](#) using the [OAuth 2.0](#) protocol.

The following explains each two-part extension and how to use the authentication token in Aid4Mail:

- *Google.auth*  
Authenticated through Google [APIs](#) using the [OAuth 2.0](#) protocol. To use the token in Aid4Mail, select *Gmail and Google Workspace* as the source or target [Format](#) and use the *Import* button above the [Email address](#) field to import it..
- *Microsoft.auth*  
Authenticated through the Microsoft Graph [API](#) using the [OAuth 2.0](#) protocol. Currently, only Microsoft 365 accounts are authenticated this way and they can only be used as source formats. To use the token in Aid4Mail, select *Microsoft 365* as the source [Format](#) and use the *Import* button above the [Email address](#) field to import it.
- *IMAP.auth*  
Authenticated through [IMAP](#) using the [OAuth 2.0](#) protocol. To use the token in Aid4Mail, select *IMAP* as the source or target [Format](#) and use the *Import* button above the [IMAP account](#) field to import it.
- *IMAP.ini*  
Authenticated using regular [IMAP](#) credentials with an encrypted password. To use the token in Aid4Mail, select *IMAP* as the source or target [Format](#) and use the *Import* button above the [IMAP account](#) field to import it.

Note that each cloud-based email service or IMAP account that you process will require its own authentication token.

### For Google accounts only

Aid4Mail uses Google [APIs](#) during authentication and mail processing and requires you to have API credentials. You can set them up in a few minutes by following the instructions in the [Setting up Google API credentials](#) topic.

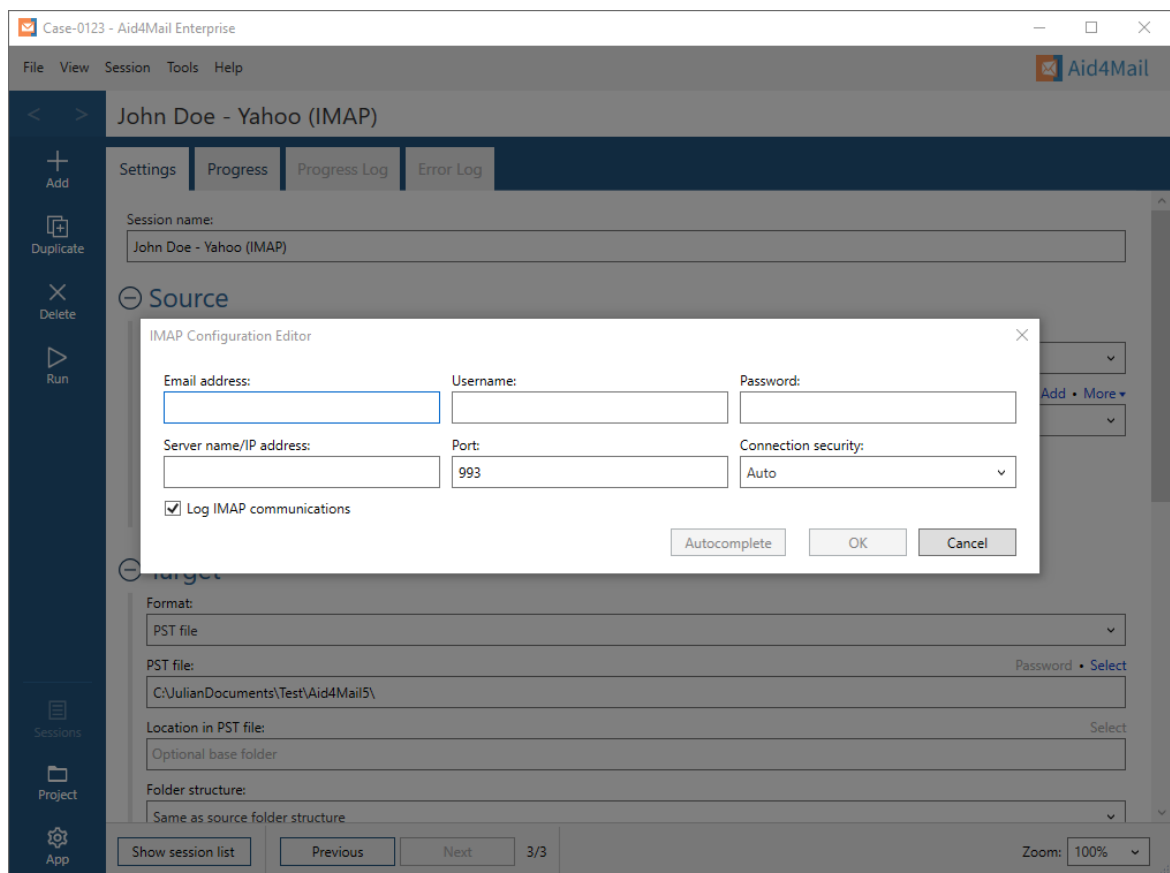
When you have created your credentials, enter them in the [Google API credentials](#) field on Aid4Mail's *App settings* screen and then access one of your own Google accounts by following the [instructions](#) on the Aid4Mail Authenticator page. This will create a file called *Auth-Google.ini* in your [application data folder](#). You will need to send this file to your customer/suspect along with the link for Aid4Mail Remote Authenticator. Don't worry, this file does not contain the login credentials for your account—only your Google API credentials—and is encrypted.

## 6.12 IMAP Configuration Editor

The IMAP Configuration Editor opens when you select *Add* or *Edit* above the [source IMAP account](#) or [target IMAP account](#) list. It allows you to enter the details of an [IMAP account](#) manually or by using [autocomplete](#).

For manual configuration, please consult your IMAP account service provider's documentation for the necessary details. Alternatively, refer to our list of [common IMAP configurations](#).

For automatic configuration, fill in the [Email address](#) field and then select [Autocomplete](#). Aid4Mail will automatically configure the [Username](#), [Server name/IP address](#) and [Port](#) fields, leaving only the [Password](#) to be entered manually.



*IMAP Configuration Editor*

## Fields

### Email address

The email address of your [IMAP](#) account.

### Username

The username of your [IMAP](#) account. This is often (but not always) the same as the [email address](#).

### Password

The [IMAP](#) account password.

### Server name/IP address

The name or IP address of the server hosting the account. A server's name is in a more readable format, for example *imap.gmail.com*, whereas the IP address is a less-readable sequence of numbers, *74.125.21.108*. Both refer to the same server location so you can use either.

### Port

Ports allow network resources to be shared by different applications on the same computer at the same time. They are similar in concept to a telephone extension that allows a phone number to be shared by multiple people.

Aid4Mail will pre-fill this field with 993 which is the most commonly used port for [IMAP](#) connections. If you select [Autocomplete](#), Aid4Mail may update this with a port number that's appropriate for your [email address](#) domain name.

### Connection security

Choose one of the following options:

- *None*  
No security protocol is used to access the [IMAP](#) account.
- *Auto*  
The most appropriate security setting will automatically be used. This is the default option.

- *StartTLS*

Aid4Mail will determine if a plain text connection needs to be upgraded to a secure one based on the server response.

- *SSL/TLS*

The SSL/TLS security protocol will be used to access the [IMAP](#) account.

- *OAuth2*

Aid4Mail will connect to the [IMAP](#) account using the [OAuth 2.0](#) protocol. This is the most secure option.

If you select this option, Aid4Mail will ignore your password and, after you select [OK](#), will launch [Aid4Mail Authenticator](#) to establish a connection to your IMAP account. Please follow the [instructions in the Aid4Mail Authenticator topic](#).

Note:

Although OAuth2 is supported by Microsoft IMAP accounts (like Office 365, Outlook.com and Hotmail.com), it only works if the account has *Multi-Factor Authentication* turned on. Even so, our testing has shown it to be unreliable and this is confirmed by comments in public forums. The issue appears to be Microsoft's.

For Microsoft 365 users, ensure that the *multi-factor auth status* option is set to *Disabled* or *Enabled* but not *Enforced*. You'll find it at:

*Go to Microsoft 365 admin center > Active users > Multi-factor authentication*

We also advise you to check if there are existing conditional policies configured. If so, they will take precedence over the multi-factor authentication settings. You can check this at:

*Go to Azure AD portal > Protect & Secure > Conditional Access > Policies*

## Log IMAP communications

When *on*, Aid4Mail will log all communication with the [IMAP](#) server, storing the details in *.log* files in your [project folder](#). There may be multiple log files corresponding to the various stages of the conversion process. These logs can help identify connection issues or problems encountered while downloading or uploading emails. They will sometimes be requested by our [technical support](#) team if you [contact us](#) with IMAP related issues. This option is *off* by default to maximize performance.

## Autocomplete

Only available once the [email address](#) field has been completed with a valid address.



Autocomplete will configure the [Username](#), [Server name/IP address](#) and [Port](#) fields based on the [email address](#) domain name, leaving only the [Password](#) field to be completed manually.

**OK**

Close the *IMAP Configuration Editor*, either adding a newly created account to the [source IMAP account](#) or [target IMAP account](#) list, or updating an existing account in one of these lists.

**Cancel**

Close the *IMAP Configuration Editor* without adding to, or updating, the [source IMAP account](#) or [target IMAP account](#) list.

### 6.12.1 Common IMAP configurations

If you choose to [configure your IMAP account](#) manually, you should find the necessary details in your [IMAP](#) account service provider's documentation. For your convenience, some of the most common IMAP configurations are listed below (in alphabetical order).

Service provider	Server name	Port	Connection security
Amazon WorkMail	imap.mail.us-west-2.awsapps.com or imap.mail.us-east-1.awsapps.com or imap.mail.eu-west-1.awsapps.com  Contact your system administrator for guidance on which of the three regional server names to use.	993	SSL/TLS
AOL Mail (AIM.Mail)	imap.aol.com	993	SSL/TLS
FastMail	imap.messagingengine.com	993	SSL/TLS
Gmail Google Workspace	imap.gmail.com	993	SSL/TLS
GMX Mail	imap.gmx.com	993	SSL/TLS
Lotus Domino	imap.host.name	993	SSL/TLS
Microsoft 365 Office 365 Office 365 Education (formerly Live@edu) Outlook.com Hotmail.com	outlook.office365.com	993	SSL/TLS
Yahoo! Mail	imap.mail.yahoo.com	993	SSL/TLS
Zoho Mail	imap.zoho.com	993	SSL/TLS

### 6.13 Proxy settings

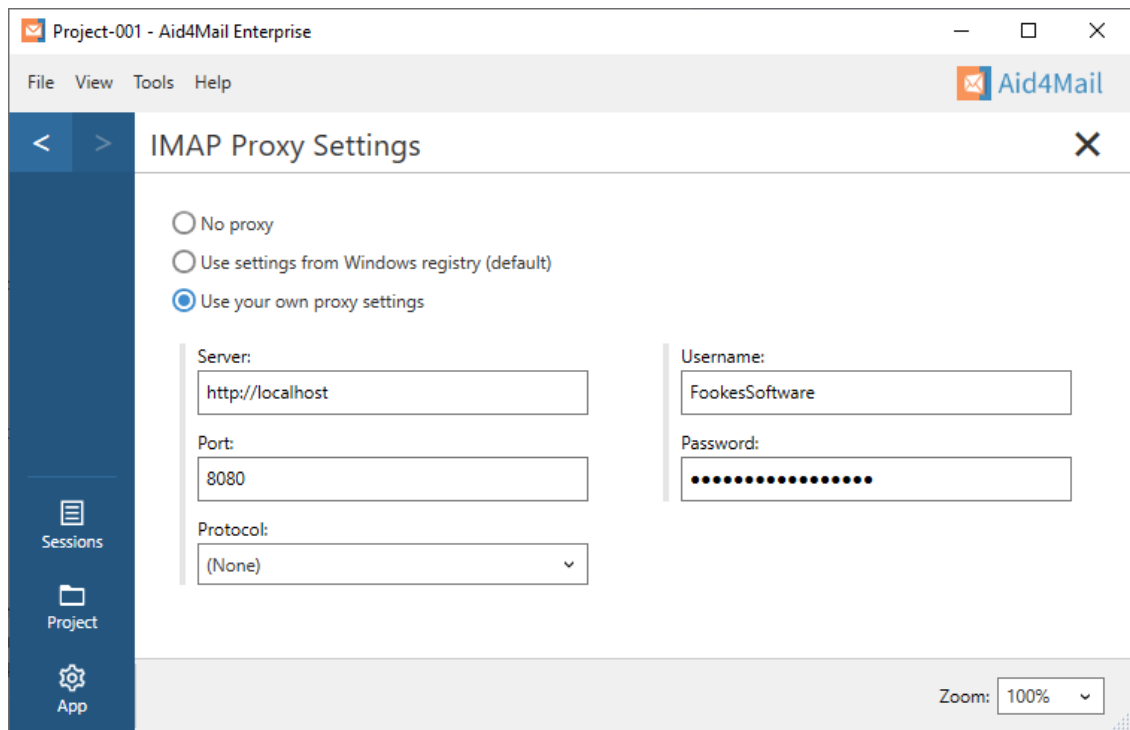
A proxy server is an intermediary layer between your computer and any online resources requested. It is typically used as a security measure to block internet access by unauthorized Local Area Network users. Access is only available to those who are authenticated with a username and password.

If your system is using a proxy server, you will need to share its settings with Aid4Mail to enable access to cloud-based email accounts and other application features. You can specify the following:

- [IMAP proxy settings](#)
- [HTTP proxy settings](#)

### 6.13.1 IMAP proxy settings

If you are using *IMAP* as a [source](#) or [target mail format](#), and IMAP access on your system uses a [proxy server](#), enter the proxy settings on this screen.



The screenshot shows the 'IMAP Proxy Settings' dialog box within the 'Project-001 - Aid4Mail Enterprise' application. The dialog has a menu bar with 'File', 'View', 'Tools', and 'Help'. On the left is a sidebar with icons for 'Sessions', 'Project', and 'App'. The main area contains three radio buttons: 'No proxy', 'Use settings from Windows registry (default)', and 'Use your own proxy settings' (which is selected). Below these are input fields for 'Server' (containing 'http://localhost'), 'Port' (containing '8080'), and 'Protocol' (a dropdown menu showing '(None)'). To the right of these are fields for 'Username' (containing 'FookesSoftware') and 'Password' (masked with dots). A 'Zoom' control at the bottom right shows '100%'.

*IMAP proxy settings*

#### Server

The name of the proxy server.

#### Port

The port used by the proxy server.

#### Protocol

The protocol used by the proxy server, if any. Available options are:

- *SOCKS4*
- *SOCKS5*
- *Tunnel* (through an [HTTP proxy server](#))

**Username**

Your username to access the proxy server.

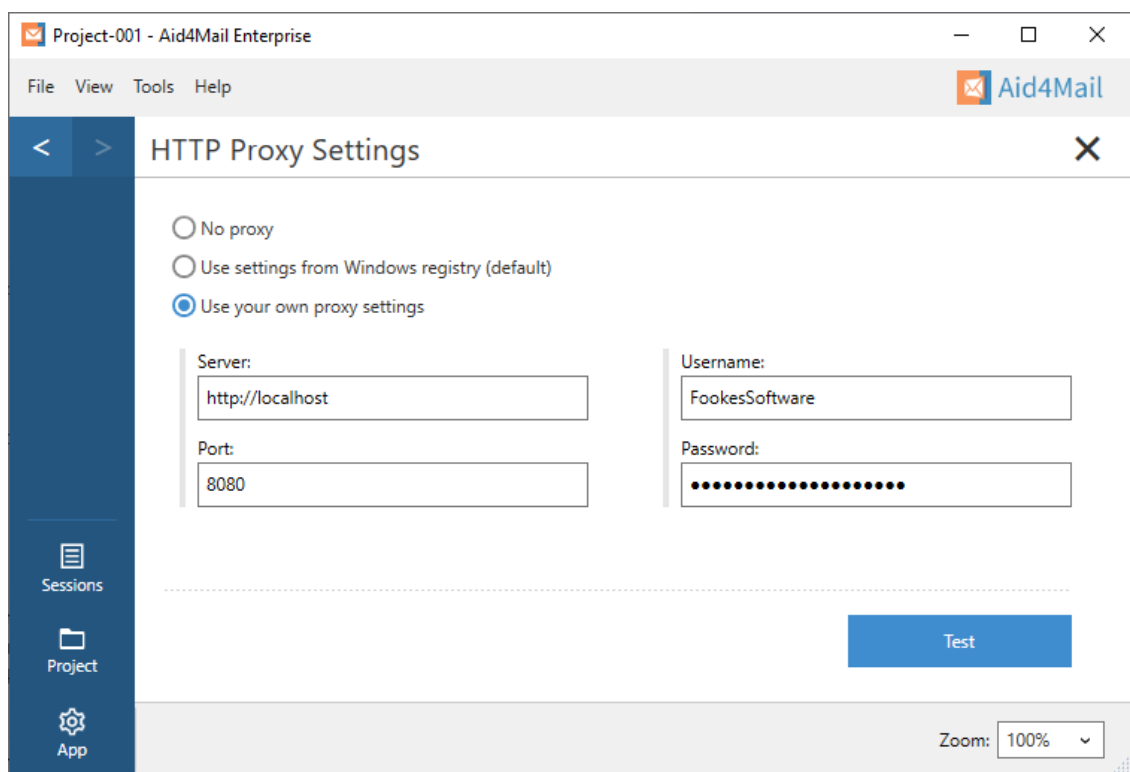
**Password**

Your password to access the proxy server.

### 6.13.2 HTTP proxy settings

If your system uses a [proxy server](#), you will need to enter the proxy settings on this screen to enable Aid4Mail's HTTP features. These include:

- [License activation](#)
- [Check for updates](#)
- [Latest news](#)
- The following cloud-based [source](#) or [target mail formats](#):
  - *Gmail and Google Workspace (via Google API)*
  - *Microsoft 365, Outlook.com, Hotmail.com (via Graph API)*



*HTTP proxy settings*

#### **Server**

The name of the proxy server.

#### **Port**

The port used by the proxy server.

**Username**

Your username to access the proxy server.

**Password**

Your password to access the proxy server.

**Test**

Use this to immediately test your HTTP proxy settings.

## 6.14 Keyboard shortcuts

The following keyboard shortcuts are available in Aid4Mail.

### General keyboard shortcuts

Shortcut	Description
F1	Context-sensitive help.
Ctrl+X	Cut (only in a text field).
Ctrl+C	Copy (only in a text field).
Ctrl+V	Paste (only in a text field).

### File menu shortcuts

Shortcut	Description
Ctrl+N	Shortcut for the <a href="#">File &gt; New</a> menu item.
Ctrl+O	Shortcut for the <a href="#">File &gt; Open</a> menu item.
Alt+F4	Shortcut for the <a href="#">File &gt; Exit</a> menu item.

### View menu shortcuts

Shortcut	Description
Ctrl+L	Shortcut for the <a href="#">View &gt; Show/Hide list</a> menu item.
Shift+F1	Shortcut for the <a href="#">View &gt; Move focus to &gt; Source</a> menu item.
Shift+F2	Shortcut for the <a href="#">View &gt; Move focus to &gt; Target</a> menu item.
Shift+F3	Shortcut for the <a href="#">View &gt; Move focus to &gt; Filter</a> menu item.
F6	Shortcut for the <a href="#">View &gt; Move focus to &gt; Session list</a> menu item.
F9	Shortcut for the <a href="#">View &gt; Move focus to &gt; Session tabs</a> menu item.
F11	Shortcut for the <a href="#">View &gt; Navigate backward</a> menu item.
F12	Shortcut for the <a href="#">View &gt; Navigate forward</a> menu item.



Shortcut	Description
Ctrl+F11	Shortcut for the <a href="#">View &gt; Zoom out</a> menu item.
Ctrl+F12	Shortcut for the <a href="#">View &gt; Zoom in</a> menu item.

## Session menu shortcuts

Shortcut	Description
Ctrl+Del	Shortcut for either the <a href="#">Session &gt; Delete</a> or <a href="#">Session &gt; Reset</a> menu item: If there's more than one session then delete the selected session. If there's only one session then reset it.
Ctrl+R	Shortcut for the <a href="#">Session &gt; Run</a> menu item.
F7	Shortcut for the <a href="#">Session &gt; Select &gt; Previous</a> menu item.
Up arrow	Shortcut for the <a href="#">Session &gt; Select &gt; Previous</a> menu item when the <a href="#">Session list</a> has focus.
F8	Shortcut for the <a href="#">Session &gt; Select &gt; Next</a> menu item.
Down arrow	Shortcut for the <a href="#">Session &gt; Select &gt; Next</a> menu item when the <a href="#">Session list</a> has focus.
Ctrl+G	Shortcut for the <a href="#">Session &gt; Select &gt; By index</a> menu item.
Alt+Up arrow	Shortcut for the <a href="#">Session &gt; Move &gt; Up</a> menu item.
Alt+Down arrow	Shortcut for the <a href="#">Session &gt; Move &gt; Down</a> menu item.
Alt+Home	Shortcut for the <a href="#">Session &gt; Move &gt; To top</a> menu item.
Alt+End	Shortcut for the <a href="#">Session &gt; Move &gt; To bottom</a> menu item.

## 6.15 Session settings file

When you run an Aid4Mail session, or close the application, the session's settings are saved to a file in the [project folder](#). The filename is composed of the [session name](#) followed by `.settings.ini`. For example, the session named *JohnDoe* will have its settings saved in file *JohnDoe.settings.ini*.

Every [session setting](#) in Aid4Mail has a corresponding entry in the file (although unused settings may not be listed). They are grouped under headings: *[Source]*, *[Target]*, *[Filter]* and others that generally reflect the various sections of the [settings screen](#) in Aid4Mail. Settings in the file are composed of the setting name followed by an equal sign (=) and a value. Generally, setting names in the file correspond to those in Aid4Mail although there are some exceptions.

For example, when converting EML files, the *[Source]* section of the file might look like this:

```
[Source]
Format=EML
RootLocation=D:\Email\Source\EML\
```

You can edit the session settings file directly although care must be taken to use the correct syntax and valid values. We suggest you experiment by changing settings in Aid4Mail and observing how they are stored in the file. Once you are familiar with them, you can edit the file directly. This can prove useful if you are running [Aid4Mail Enterprise](#) using its [command-line interface](#).

## 7 Command-line interface (CLI)

[Aid4Mail Enterprise](#) includes a command-line interface (CLI) that enables further automation. It allows the software to be run from the Windows Command Prompt, batch files or directly from third-party applications. [Aid4Mail Investigator](#) and [Converter](#) do not have access to the command-line interface.

### Aid4Mail CLI executables

Aid4Mail contains two CLI executables. One is 32-bit and the other 64-bit:

- a4m-32.exe
- a4m-64.exe

In general, 32-bit software is faster than 64-bit software. If processing speed is your priority, use the 32-bit executable. However, 64-bit software can potentially access four billion times more physical memory than 32-bit applications! If your system has more than 4 GB of RAM, and you need to process emails that are large (usually due to large attachments), Aid4Mail may perform more efficiently if you use the 64-bit executable.

If your source or target mail format is an Outlook profile, or PST/MSG file(s) that you want to access through Outlook, and you have 64-bit Outlook installed on your system, then you will need to use the 64-bit Aid4Mail executable.

### Constructing a command line

To run Aid4Mail from the command line, specify an executable followed by either the [Settings switch](#) or the [CLI switch](#). Additional switches can be used to [specify individual settings](#) (that override their counterparts in the settings file).

#### Settings switch

The `-settings` switch specifies the location of the [session settings file](#) to be used.

For example, the following command line will run the 32-bit Aid4Mail executable using the JohnDoe session settings file:

```
a4m-32.exe -settings:C:\Users\FookesSoftware\Projects\ArchiveEmployeeMail\JohnDoe.se
```

Note that if the file location contains one or more spaces then it needs to be enclosed in quotes, as follows:

```
a4m-32.exe -settings:"C:\Users\Fookes Software\Projects\Archive Employee Mail\JohnDo
```

Any optional switches used to [specify individual settings](#) will override the corresponding settings in the settings file. This can prove useful in [certain scenarios](#).

### CLI switch

The `-cli` switch tells Aid4Mail not to use a settings file and, instead, use internal default values. The intention is that all settings will be [individually specified](#). This means that, at a minimum, you must [specify](#) the source and target format, and the location of the source and target files or accounts.

## Specifying individual settings

Any setting that can be used in the [session settings file](#) has a corresponding, optional command-line switch that takes precedence. In other words, a setting specified in the command line overrides the corresponding setting in the session settings file if both are present.

The command-line switch for an individual setting is composed of a hyphen (-), followed by the heading under which the setting would appear in the settings file, a period, and finally the setting name:

```
-Heading.SettingName
```

If you are running the CLI from Windows PowerShell, use an addition sign (+) instead of a period to separate the heading and setting name:

```
-Heading+SettingName
```

For example, in the session settings file, the source format is located under the *Source* heading and the setting is called *Format*. The command-line switch for this setting is:

```
-Source.Format
```

If running from PowerShell:

```
-Source+Format
```

Likewise, the command-line switch for the *RootLocation* setting, under the *Source* heading, is:

```
-Source.RootLocation
```

or

```
-Source+RootLocation
```

These command-line switches require a value (as do their corresponding settings in the file). Specify the value after a colon following the switch as follows:

```
-Source.Format:EML  
-Source.RootLocation:D:\Email\Source\EML\  
or  
-Source+Format:EML  
-Source+RootLocation:D:\Email\Source\EML\
```

The full command line, using the JohnDoe session settings file, and overriding the source format and root location, would look like this:

```
a4m-32.exe -settings:C:\Users\FookesSoftware\Projects\ArchiveEmployeeMail\JohnDoe.se  
-Source.Format:EML -Source.RootLocation:D:\Email\Source\EML\  
or  
a4m-32.exe -settings:C:\Users\FookesSoftware\Projects\ArchiveEmployeeMail\JohnDoe.se  
-Source+Format:EML -Source+RootLocation:D:\Email\Source\EML\
```

As before, make sure that any values containing spaces are placed in quotes.

## When should you override a session settings file?

The ability to specify individual settings is particularly useful in multi-session scenarios, where sessions mostly share the same settings but have a small number that are different. An example of this type of scenario would be a large-scale archival project where 1,000 employee accounts, currently in the EML format, need to be archived in separate PST files.

In this example, most settings would be identical for each Aid4Mail session with only the source and target file locations changing from one session to another. To accomplish this, common settings can be stored in a shared settings file and the source and target file locations can be specified directly for each session. The command line (for the first three sessions) would look something like this:

```
a4m-32.exe -settings:Common.settings.ini -Source.RootLocation:Leroy\ -Target.FileSto  
a4m-32.exe -settings:Common.settings.ini -Source.RootLocation:Ava\ -Target.FileStore  
a4m-32.exe -settings:Common.settings.ini -Source.RootLocation:Janelle\ -Target.FileS  
etc...
```

## Common command-line switches

Note that command-line switches and their values are case-insensitive.

Command-line switch	Description
-Settings	<p>Location of the <a href="#">session settings file</a> to be used. Settings in this file can be overridden by <a href="#">specifying individual settings</a>.</p> <p>Note that every command-line must contain either the -Settings switch or the -CLI switch.</p>
-CLI	<p>Indicates that there is no <a href="#">session settings file</a> and internal defaults will be used, overridden by <a href="#">specifying individual settings</a>.</p> <p>Note that every command-line must contain either the -Settings switch or the -CLI switch.</p>
-Monitor.LogsFolder	<p>Specify an alternative location for the progress and error log files.</p> <p>For example: -Monitor.LogsFolder:"D:\Email\Target\Logs"</p>
-Source.Format	Same as the <a href="#">Format</a> field in the <a href="#">Source settings</a> .
-Target.Format	Same as the <a href="#">Format</a> field in the <a href="#">Target settings</a> .
-Source.RootLocation	Same as the <a href="#">Location</a> field in the <a href="#">Source settings</a> .
-Target.RootLocation	Same as the <a href="#">Location</a> field in the <a href="#">Target settings</a> .
-Source.FileStore	Same as the <a href="#">PstFile</a> field in the <a href="#">Source settings</a> .
-Target.FileStore	Same as the <a href="#">PstFile</a> field in the <a href="#">Target settings</a> .
-Source.MapiProfile	Same as the <a href="#">Profile</a> field in the <a href="#">Source settings</a> .
-Target.MapiProfile	Same as the <a href="#">Profile</a> field in the <a href="#">Target settings</a> .
-Source.MapiStore	Same as the <a href="#">Store</a> field in the <a href="#">Source settings</a> .
-Target.MapiStore	Same as the <a href="#">Store</a> field in the <a href="#">Target settings</a> .
-Source.AuthTokenFile	File location of the authentication token that provides access to the account whose <a href="#">Email address</a> is in the <a href="#">Source settings</a> .
-Target.AuthTokenFile	File location of the authentication token that provides access to the account whose <a href="#">Email address</a> is in the <a href="#">Target settings</a> .
-Source.ImapConfig	Location of the configuration file that represents the <a href="#">IMAP account</a> in the <a href="#">Source settings</a> .

Command-line switch	Description
<code>-Target.ImapConfig</code>	Location of the configuration file that represents the <a href="#">IMAP account</a> in the <a href="#">Target settings</a> .

## 8 Glossary

### Application data (AppData) folder

The folder in which your Aid4Mail application data and settings are stored on your computer.

The data and settings stored in this folder are those related to the app itself or those made available to all [projects](#) and [sessions](#) (data and settings related to specific projects or sessions are stored in your [project folder](#)). For example, the following are stored in the application data folder (some in subfolders):

- Configuration file containing the [App settings](#),
- Authentication tokens created by [Aid4Mail Authenticator](#) or [imported](#) from another location (stored in the *OAuthTokens* subfolder),
- [IMAP](#) account files set up through the [IMAP Configuration Editor](#) (stored in the *IMAP* subfolder),
- User-edited data files (stored in the [Data](#) subfolder).
- [Python scripts](#) you have created or modified (stored in the [Scripts](#) subfolder).

Each Aid4Mail user will have their own application data folder, located under their Windows profile. The specific location depends on your system's configuration and your Windows username but is usually the following (where *<User>* represents your Windows username):

`C:\Users\<User>\AppData\Roaming\Aid4Mail5`

If you are not able to browse to this location in File Explorer, turn on *View > Hidden items*.

### Application programming interface (API)

A method of communication between two pieces of software. Using a mail service's API to access data usually offers benefits over using more general protocols like [IMAP](#). For example, access to additional metadata, native filtering, and reduced bandwidth limitations. Email-related APIs used by Aid4Mail include [MAPI](#), Microsoft Graph API, and Google APIs.

### Archive

A mailbox or file that is no longer connected (or never was) to an email service and cannot receive or send emails. An archive can be considered to be the opposite of a [live email account](#).



**Bates numbering**

A system of unique identification used for documents in the forensic, legal, business and medical fields. Although there is no standard for Bates numbering, it usually consists of a combination of text and sequential numbering, sometimes with the addition of a time stamp, to create a unique ID for each item.

Aid4Mail implements Bates numbering by providing a [Bates number](#) and a formatted [Bates stamp](#). For information, please refer to the [Bates numbering](#) topic.

**Boolean operator**

In Aid4Mail, Boolean operators (also known as logical operators) allow you to negate [search terms](#) or combine them to build sophisticated filters. For details, see the [Boolean operators](#) topic.

**Character**

Represented in a Unicode or extended ANSI character set.

**Circular processing**

A potentially problematic situation that can occur when you use the same email account or mailbox as both source and target. Mail added to the account can be processed again and again in a never-ending loop. This problem can be mitigated by using a [filter to exclude duplicate emails](#) although it may still produce ambiguous progress information and cause the progress bar to exceed 100%. A cleaner solution is for target mail to be placed in a folder that has been excluded from processing by a [folder filter](#). This provides an internal separation between the source and target mail within the same account or mailbox and will result in accurate progress information.

**Comparison operator**

Comparison operators are used to compare one value with another. Aid4Mail uses them in certain [search operators](#). Please refer to the [Comparison operators](#) section for details.

**Coordinated Universal Time (UTC)**

A 24-hour time standard created in 1884 and used to synchronize all world clocks. UTC is not a time zone itself but is a standard that all time zones in the world are based upon. It does not adjust for daylight savings.

Time zones across the world are specified as positive or negative offsets from UTC. For example:

- GMT (Greenwich Mean Time) is UTC +0:00,
- EST (Eastern Standard Time) is UTC -5:00
- EDT (Eastern Daylight Time) is UTC -4:00
- PST (Pacific Standard Time) is UTC -8:00
- SGT (Singapore Time) is UTC +8:00

You can obtain the current time in UTC at the [WorldTimeServer.com](https://WorldTimeServer.com) website.

### Data folder

The *Data* folder contains files that you can edit to customize Aid4Mail's behavior. They contain information on time zones, file extensions, [IMAP](#) server names, MIME fields and how they are used, etc.

The *Data* folder can be present in multiple locations. Original data files shipped with Aid4Mail are in the *Data* subfolder of your [program folder](#). However these should not be edited directly as this location is overwritten whenever you reinstall or update Aid4Mail. Files you edit should be placed in the *Data* subfolder of your [application data folder](#) (or alternatively your [public folder](#) or [USB program folder](#), depending on how you're using Aid4Mail). Please refer to [Customizing Aid4Mail](#) for further information.

### Deduplication

Deduplication is the process of eliminating [duplicate emails](#), ensuring there is only one of each in your target mail. Aid4Mail makes deduplication very easy through a simple [search term](#), NOT `Type:Duplicate`. Please refer to the [Deduplication](#) topic for more information.

### Digital Forensics

A branch of forensic science that focuses on identifying, collecting, preserving, analyzing, and presenting data from digital devices, such as computers, smartphones, and network servers. Its aim is to extract and examine digital evidence in a way that is legally admissible, often for the purpose of solving crimes or legal disputes.

### Disk Image

A precise digital copy or snapshot of the contents of a storage device, such as a hard drive, SSD, CD, DVD, or USB drive. It captures the entire data structure, including all the files and folders, as well as system-specific information like the master boot record, file system, and partition table.

**Disk Slack Space**

Unused space on a storage drive that exists when a file does not entirely fill the space allocated to it. Storage on digital devices is organized into clusters (or blocks) of a fixed size. A file usually requires multiple clusters and does not completely fill the last one. The unused "slack" space may contain remnants of previously deleted data or random bits of information from the memory. In digital forensics, disk slack space can be a valuable resource for recovering hidden or inadvertently stored data, providing insight into previous activities on the device.

**Double-deleted files**

Files that have been deleted from the Recycle Bin (or by bypassing the Recycle Bin) but may still exist on disk in [unallocated space](#).

When you delete a file, it is placed in the Recycle Bin. However, its physical location on disk does not change. Its reference in the operating system's file table is simply updated.

When you subsequently delete the file from the Recycle Bin (or if you delete a file without sending it to the Recycle Bin), the reference in the file table is flagged as deleted. The file is now considered *double-deleted* and no longer accessible to regular applications. However, it will still exist on disk as [unallocated space](#) until the space is required by the operating system for another file.

**Duplicate email**

An email that is identical to another as determined by [certain rules](#), explained in the [Deduplication](#) topic.

**Electronic Discovery Reference Model (EDRM)**

A framework that outlines standards for the recovery and discovery of digital data. The EDRM model is used to guide the process of handling electronic data during legal proceedings, including phases such as identification, preservation, collection, processing, review, analysis, production, and presentation of digital evidence. It's widely adopted by legal and IT professionals to ensure a clear and efficient approach to eDiscovery processes.

**EDRM Duplicate Identification (DupelD) project**

In eDiscovery and digital forensics projects involving multiple custodians and email platforms, duplicate email messages can significantly increase the volume of data to be reviewed. Historically, specialized products have offered deduplication across their own datasets using proprietary techniques. However, it was impossible to deduplicate across

datasets from different vendors. The only solution was to reprocess all data with a single platform, a time-consuming and economically inefficient process.

In February 2023, the [EDRM](#) Duplicate Identification (DupelID) project solved this problem by proposing a standardized, cross-platform method for generating unique identifiers for email messages. It produces a value called the [EDRM Message Identification Hash](#) (EDRM MIH). For further information, please refer to the [EDRM website](#).

### **EDRM Message Identification Hash (EDRM MIH)**

An MD5 hash value generated from the Message-ID metadata field found in email SMTP headers. The EDRM MIH is part of the [EDRM Duplicate Identification](#) specification and is intended to exist alongside proprietary deduplication techniques rather than to replace them. It allows messages to be consistently identified across systems for purposes like deduplication, selection, and cross-referencing in the context of eDiscovery and digital forensics.

### **Email owner**

When an email is sent and received, the result is that there are two or more copies of it: The one that was sent, and the copies received by each of the recipients in the To, Cc or Bcc fields. Usually, these copies are not identical with each having a slightly different header. In such cases, Aid4Mail is able to determine who is the actual owner of each copy of the email by examining metadata in its other header fields.

### **Encrypted email**

An email whose content has been scrambled so that only those with the key can read it. There are various protocols for doing this but *S/MIME* is the most widely supported. Aid4Mail will consider an email to be encrypted ([Type:Encrypted](#)) if its header contains the field *Content-Type: multipart/encrypted*.

### **Folder**

A container for emails (or non-email items). A single email can only exist in one folder although identical copies of it can be placed in other folders, resulting in [duplicates](#).

For example, an email in the *Sent* folder can be moved to the *Work* folder but then will no longer exist in the *Sent* folder. Alternatively, a copy of the email can be placed in the *Work* folder resulting in two duplicate emails, one in each folder.

**File carving**

The reconstruction of coherent data from within larger fragments of, often inaccessible, file data. In other words, the data of interest is “carved out” of its surroundings.

Aid4Mail's file carving feature extracts emails that are in native MIME format, from any type of file, without knowledge of the file's structure. For example, it can carve from corrupted mailboxes, [double-deleted files](#), and even [unallocated](#) or [slack space](#) on the disk.

For further information, see the [File carving](#) topic.

**File Transfer Protocol (FTP)**

A communication standard used to transfer files between computers on a network.

**HTML Entity**

A symbolic representation of certain individual characters in HTML.

In HTML, some characters cannot be specified directly because they are reserved for other purposes. For example, the less than and greater than characters, < and >, form part of an HTML tag like <p> or <h1> and so cannot be used directly in text. Instead they are represented by HTML entities, in this case &lt; and &gt; respectively.

HTML entities are comprised of a series of letters or numbers that start with an ampersand (&) and finish with a semicolon (;). Other examples are &quot; that represents a double quotation mark (") and &euro; which is the euro currency symbol (€). You can read more about HTML entities at the [W3Schools website](#).

In Aid4Mail, you will only encounter HTML entities when filtering raw email text using the [Raw](#) search operator.

**Illegal filename characters**

Operating systems define certain characters that are illegal to use in folder and filenames. In Windows these characters are:

- < (less than)
- > (greater than)
- :
- " (double quote)
- / (forward slash)
- \ (backslash)
- | (vertical bar or pipe)

? (question mark)

\* (asterisk)

### Internet Message Access Protocol (IMAP)

An Internet Standard protocol ([RFC 3501](#)), supported by most email applications, that enables direct access to mail on a remote server. IMAP allows multiple apps to access the same mail account, even from different devices. This feature is the main reason IMAP is generally preferred over POP, an older protocol that requires mail to be downloaded to the device.

### International date format

An international standard ([ISO 8601](#)) of presenting dates numerically that avoids the ambiguity of country-based representations. It also ensures that alphabetically listed dates are ordered chronologically.

Notably, the year is specified first followed by the month and then the day: `YYYY-MM-DD` (extended format) or `YYMMDD` (basic format). Dates can include time values which follow the same logic of being ordered from the largest to smallest unit: `YYYY-MM-DD hh:mm:ss` (extended format) or `YYMMDD hhmmss` (basic format). Hours `hh` must always be specified using the 24-hour clock.

Dates in Aid4Mail use the following subset of the international date standard's extended format:

```
YYYY
YYYY-MM
YYYY-MM-DD
YYYY-MM-DD hh
YYYY-MM-DD hh:mm
YYYY-MM-DD hh:mm:ss
```

### Journaling

The process of retaining information related to electronic messages including emails, instant messages, text messages, faxes, audio messages, etc. It is typically used as part of an archival and data-management solution for compliance purposes.

A journaled email typically includes the original email message along with related metadata. This consists of the sender and recipient(s), time/date and transport information, and can also include data relating to the computer involved and its physical location. This metadata is referred to as the journal report. It's located in the body of the journal envelope and includes the original, unaltered email message as an attachment.

Aid4Mail will consider an email to be [Type:Journaled](#) if its header contains either of the following:

- *X-MS-Journal-Report*
- *Content-Identifier: ExJournalReport*

Aid4Mail will consider an email to be [Type:Journal](#) if it comes from the *Journal* folder in a PST file, Exchange or any Outlook message store.

See [Processing journaled messages](#) for more information.

### **Label**

A descriptive tag assigned to an email in a system that organizes mail using labels instead of folders.

Traditionally, mail is organized in [folders](#). A single email can only exist in one folder although identical copies of it can be placed in other folders, resulting in [duplicates](#).

Gmail, and other service providers, organize mail using labels instead. With this system, the mail resides in a central location and individual emails can be assigned one or more labels. The advantage of this approach is that there is only one copy of each email, even if it has multiple labels. This also facilitates searching as emails with multiple labels can easily be targeted.

Note that most mail clients organize by folders. This means that, when the mail client downloads from Gmail, emails with multiple labels are duplicated to multiple folders. For example, an email labelled *Sent* and *Work* will be duplicated and placed in both the *Sent* folder and the *Work* folder after downloading.

### **Live email account**

An email account (or mailbox connected to an email account) that is in active use to receive or send emails. A live email account can be considered to be the opposite of an [archive](#).

### **MAPI**

An [API](#) for accessing Microsoft Outlook and Exchange. Aid4Mail uses MAPI to read and write to Outlook profiles, and PST/MSG files when the [Process using Outlook](#) option is turned *on*.

**MD5 signature**

A unique 128-bit hash created using the MD5 message-digest algorithm, with the email Message ID as its source. If there is no Message ID, other fields in the message header are used as source. This allows an MD5 signature to be created for any email.

**New line**

Any character that represents a new line. This includes Line Feed (LF), Vertical Tab (VT), Form Feed (FF), Carriage Return (CR), Next Line (NEL), Line Separator (LS), Paragraph Separator (PS), etc.

**OAuth 2.0**

OAuth 2.0 is a secure protocol that enables internet users to grant limited temporary access to their data, to third-party websites or applications, without giving up their username or password. It uses an authentication token, requested from the service hosting the user's data by the third-party application. The token is only created once the user has logged in to their account and granted permission, and it can be invalidated by the user at any time. The file does not contain the user's credentials but, instead, contains unique access codes that are only valid for that account and specific application. This method of access and authentication provides users with the maximum security and privacy.

For more information, see the [OAuth 2.0 Authorization Framework](#) specification.

**Offline email**

An email whose environment has been disconnected from the internet. Many email clients and services allow you to work offline. However Aid4Mail only considers an email to be offline ([Type:Offline](#)) if its header contains an Outlook offline flag.

**Paragraph**

In the context of Aid4Mail, a paragraph is defined as a sequence of one or more related [words](#) or [sentences](#) followed by one or more [new lines](#).

**Partial email**

An email containing only a part of the full message. Aid4Mail considers an email to be partial ([Type:Partial](#)) if its header contains the field *Content-Type: message/partial*.

**Personal email**

Aid4Mail classifies an email as *personal* if it meets all three of the following conditions:



1. It is sent from an individual person,
2. It shows no evidence of being part of a campaign, message list or mailing list,
3. It shows no evidence of being a bulk email, advertisement, notification or [journaled email](#).

[Aid4Mail Enterprise](#) and [Investigator](#) allow you to include or exclude personal mail using the [Type:Personal](#) operator. For further details, see [Searching personal mail](#).

### Phrase

In the context of Aid4Mail, a phrase is defined as a sequence of one or more related [words](#) that do not form a whole [sentence](#).

### Program folder

The folder in which Aid4Mail is installed on your computer. It's location depends on your system's configuration but is typically:

*C:\Program Files (x86)\Aid4Mail5*

or

*C:\Program Files (x86)\Fookes Software\Aid4Mail5*

### Project

An Aid4Mail project contains one or more [sessions](#) that are usually related in some way (although this is not a requirement). For example a Forensic examiner may have a different project for every individual under investigation. Each project may contain multiple sessions, one for each of the individual's various mail sources (as in [Example 1 in the Multiple sessions topic](#)). An IT technician may have a different project for each department in the company, with each project containing a session for every employee whose mail is to be migrated (as in [Example 2 in the Multiple sessions topic](#)).

### Project folder

The folder on disk where the project is stored.

The [Location](#) field on the [Project settings](#) screen displays the full path of the project folder. It is also a hyperlink so, when selected, will open the project folder location in the Windows File Explorer app.

You can set the [default project folder](#) location for all future projects on the [App settings](#) screen, under the [Projects](#) section.

**Proximity search**

A proximity search finds words or characters that are located close to one another. Proximity searches can be very powerful, using context to enable precise searching and filtering.

Most proximity search engines are limited to finding words within a specified distance of one another, where distance is the number of intermediate words. Aid4Mail can do this too but goes further, beyond traditional proximity searching. It enables you to search within the grammatical structures that naturally exist in most text—sentences and paragraphs—regardless of the number of intermediary words.

For more details, please refer to the [Proximity searching](#) topic.

**Proxy server**

A proxy server is an intermediary layer between your computer and any online resources requested. It is typically used as a security measure to block internet access by unauthorized Local Area Network users. Access is only available to those who are authenticated with a username and password.

If your system is using a proxy server, you will need to share its settings with Aid4Mail in order to access cloud-based email accounts and other application features. See the [Proxy settings](#) topic for details.

**Public folder**

The folder in which Aid4Mail settings or data can be publicly shared with other people on same computer or network. It's location depends on your system's configuration but is typically:

`C:\Users\Public\Aid4Mail5`

This folder does not exist by default so, if necessary, you need to create it under C:\Users\Public. Most content from the [application data folder](#) can be placed in the this folder to make it publicly accessible, as long as you maintain the same folder structure.

**Punctuation**

In Aid4Mail's search and filter feature, quotes, parentheses, brackets and braces have special meaning. See the [Punctuation](#) topic for details.

**Python**

An interpreted, high-level programming language and the language of choice for many forensic professionals. This is partly due to its use as a scripting language, embedded in software products like Aid4Mail, to enable user-created functionality beyond what's built in.

For more information about Python, please refer to the [Python website](#). For help using Python in Aid4Mail, please refer to the [Python scripts](#) topic.

**Python script**

Script written in the [Python](#) programming language to add new features to [Aid4Mail Enterprise](#) and [Investigator](#). Scripts can add specialized filtering, data extraction, the modification of email content and the customization of file and folder names. You can even use Python scripts to create your own target mail formats and custom output. Please refer to the [Python scripts](#) topic for details.

**Regular expression**

Also known as *regex*. An extremely powerful search pattern (with a cryptic syntax) that enables searches that would not otherwise be possible. Aid4Mail's supports [Perl Compatible Regular Expressions \(PCRE\)](#) as [search terms](#). Please refer to the [Regular expressions](#) topic for details.

**Scripts folder**

The *Scripts* folder contains [Python scripts](#). There are a number of scripts shipped with Aid4Mail and they are all editable. You can also create your own scripts, or add third-party ones, by placing them in the *Scripts* folder. Aid4Mail will automatically find them the next time you run it.

The *Scripts* folder can be present in multiple locations. Original scripts shipped with Aid4Mail are in the *Scripts* subfolder of your [program folder](#). However these should not be edited directly as this location is overwritten whenever you reinstall or update Aid4Mail. Scripts you edit, new scripts you create, or any third-party scripts you want to add should be placed in the *Scripts* subfolder of your [application data folder](#) (or alternatively your [public folder](#) or [USB program folder](#), depending on how you're using Aid4Mail). Please refer to [Customizing Aid4Mail](#) for further information.

**Sentence**

In the context of Aid4Mail, a sentence is defined as a sequence of one or more related [words](#) ending with any of the following characters:

- Period of full stop (.)

- Exclamation mark (!)
- Question mark (?)
- Tab
- [New line](#)

## Session

A *session* is a single mail-processing task. For example, a conversion from Gmail to PST with a custom filter.

A session can also be thought of as an independent instance of the Aid4Mail processing engine. Aid4Mail allows you to work with one session at a time or with multiple sessions, enabling you to set up a whole project of related email processing tasks.

All [Aid4Mail editions](#) allow you to set up multiple sessions and to [run](#), [pause](#) and [stop](#) the currently selected session. Whereas [Aid4Mail Converter](#) can only run one session at a time, [Aid4Mail Enterprise](#) and [Investigator](#) can [run all](#) the sessions in the list, either [consecutively or concurrently](#). Any sessions not yet running will be placed in a queue and automatically run when it's their turn. Please refer to the [Multiple sessions](#) topic for further information.

## Session settings file

When you run an Aid4Mail session, or close the application, the session's settings are saved to a file in the [project folder](#). Every session setting in Aid4Mail has a corresponding entry in the session settings file (although unused settings may not be listed). For further details, please refer to the [Session settings file](#) topic.

## Search operator

Search operators allow you to narrow down a search by specifying exactly which items should be included in the target mailbox. Aid4Mail supports most Gmail, Google Vault and Microsoft Office search operators and many more. Please refer to the [Search operators](#) topic for details.

## Search term

A word or phrase to be searched for in folders, email messages and non-email items (contacts, calendars, etc). Search terms can be refined by [punctuation](#), [wildcards](#) and [regular expressions](#), and targeted with [search operators](#). They can also be combined using [Boolean operators](#).

Aid4Mail filters consist of one or more search terms. During processing, items that match your search terms will be included in your target mail. Those that don't will be excluded. Please refer to the [Search terms](#) topic for more information.

**Slack space**

Unused disk space that occurs when a file does not completely occupy the space allocated to it.

Disk space is divided into clusters of a pre-determined size. A single file usually spans multiple clusters and, often, the final cluster is not completely filled. The remaining space in the final cluster is wasted and referred to as *slack space*. It may contain remnants of previous data that was stored in the cluster.

**Source mail**

The mail that Aid4Mail will be processing or converting. Conversions are from your *source mail* to your *target mail*.

**Stemming**

Stemming is the process of reducing a word to its root in order to find other words with the same root. For example, the word *fished* is reduced to its root, *fish*, which is also shared by *fishes* and *fishing*. Aid4Mail implements stemming in its search and filter features by using dictionaries that list words with common roots. There are dictionaries for multiple languages and you can modify them or create your own. For more information, please refer to the [Stemming topic](#).

**Target mail**

The mail that Aid4Mail will be creating. Conversions are from your *source mail* to your *target mail*.

**Template**

Templates are an optional feature in Aid4Mail that can be used in different 3 ways:

1. To specify the [folder structure](#) of your target mail. This is useful for merging or splitting folders, or for grouping emails based on specific characteristics like the email account, date or status .
2. To customize [filenames](#) when your chosen [target mail](#) format uses individual files for each email message (*MSG*, *EML*, *Plain text*, *HTML*, *PDF* or *XML*).

3. To define the content of the HTML index file created when your [target mail](#) is *HTML* and the [Create HTML index file](#) option is turned *on*.

For further information, please refer to the [Templates](#) topic.

### Template token

A placeholder for variable content that's used in Aid4Mail [templates](#). A token can represent properties of:

- The email being processed.
- The [session](#) processing the email.
- The [project](#) processing the email.

Please refer to the [Template tokens](#) topic for details.

### Tokenization

Tokenization is the process of recognizing lexical units within text and matching them to other similar units. Please refer to the [Tokenization](#) topic for details of how it's implemented in Aid4Mail.

### Trial mode

A special mode that allows you to test Aid4Mail before you purchase. It is fully featured but modifies [target mail](#) during the conversion process, notably adding watermarks. It does not affect your [source mail](#) in any way. For details see the [Trial mode](#) topic.

### Unallocated space

Space on disk that is not referenced in the operating system's file table or has been flagged as deleted. In other words, space that is currently unused and whose data is inaccessible to most applications. However, it may contain remnants of previous data or even whole [double-deleted files](#).

### Unpurged mail

Hidden emails that have been deleted or moved to another location.

When you delete an email, it's not immediately removed. Instead, it's flagged as *DELETED* and hidden from display. The email is only deleted permanently when the folder containing it is *purged* (or *compacted* or *expunged*, depending on the terminology used).

When an email is moved from one folder to another in your email client, a copy of the email is placed in the destination folder. The original is flagged as *DELETED*, and hidden, but not deleted permanently until the containing folder is purged.

For more information about unpurged mail, and how you can collect it with Aid4Mail, see the [Searching unpurged mail](#) topic.

### USB program folder

The folder in which Aid4Mail is installed if you're running it from a USB drive. It's location depends on your system's configuration but is typically:

`U:\Aid4Mail5\`

*U:* represents the root folder of the USB drive.

### Wildcard

A special token that stands in for one or more [characters](#) or [words](#). Some wildcards operate within a single word while others span a [sentence](#) or [paragraph](#). Some span a specified number of words to offer [proximity searching](#). Please refer to the [Wildcards](#) topic for details.

### Word

A sequence of [characters](#) preceeded and followed by either of the following:

- Any character that is not a letter, digit or underscore character.
- Nothing (i.e. the first/last character of the word is the first/last character of the whole text).

## 9 Technical support

If you have a question that is not answered in this guide, please consult our [online knowledge base](#) for a solution.

If you can't find an answer in the knowledge base, or have pre-sales questions, we're here to help. You can contact our support team by submitting a support ticket.

### Submitting a support ticket

Aid4Mail's technical support uses an email ticketing system. When contacting technical support, please provide all the information below as this will improve our ability to diagnose and address your issue:

- Version / build of Aid4Mail being used (found in the main menu under [Help > About Aid4Mail](#)).
- Version of Windows (or other operating system) being used.
- Aid4Mail activation code / license key.
- Progress log for the Aid4Mail session that encountered the issue. You'll find the [location of this file](#) on the [Progress log](#) screen.
- Error log (if one was created) for the Aid4Mail session that encountered the issue. You'll find the [location of this file](#) on the [Error log](#) screen. The error log is only created if errors were produced.

Once you have this information, please [submit a support ticket](#).

### Business hours

We provide customer support on business days from Monday to Friday. We usually reply within 24 hours (priority support) but it may take up to 2 business days for users of [Aid4Mail Converter](#).

If you don't hear back from us, please check if our reply got caught by your spam protection tool, or was automatically moved to your Junk folder.



## 10 Company information

# FOOKES® Software

Developers of the award-winning **Aid4Mail** and **NoteTab**. We have been creating email-processing software for over two decades – longer than the lifespan of any email forensics and discovery tool! (See our [History](#).) Our clients include government and law enforcement agencies, Fortune 500 companies, law firms, top universities, international organizations, and individuals in over 100 countries worldwide.

### Business Details

Fookes Software Ltd is registered in Switzerland and owned by its parent company Fookes Holding Ltd:

- Reference Number: [2420/2008](#)
- Federal Number: CH-217-3540396-6

Trade Register details:

*Service du registre du commerce du Canton de Fribourg, Switzerland*  
Website: [www.fr.ch/rc/](http://www.fr.ch/rc/)

IRS Employer Identification Number (EIN): 98-0604274

### Websites

[www.aid4mail.com](http://www.aid4mail.com)  
[www.fookes.com](http://www.fookes.com)

### Address

Fookes Software Ltd  
La Petite Fin 27  
1637 Charmey (en Gruyère)  
Switzerland

Email: [helpdesk@fookes.net](mailto:helpdesk@fookes.net)

If you have a technical support question, please refer to the [Technical support](#) topic.

## Policies

1. We are perfectionists and strive to develop reliable and efficient software solutions.
2. We listen to our users and try to implement feature suggestions that benefit them.
3. We are committed to providing excellent customer support.
4. We are upfront about our services and products (no “small print”) so that you can make an informed buying decision.

## Privacy

Fookes Software respects each individual’s right to personal privacy. We collect information through our website, including registration forms and inquiry forms, and use it only in the ways disclosed in our [privacy policy](#).

## 10.1 Company history

We started developing software in 1989 and then incorporated Fookes Software seven years later in Geneva, Switzerland. In 2008, it became a Limited (Ltd) company owned by its parent, Fookes Holding Ltd. Eric Fookes is the founder and CEO of both companies, now based in Charmey in the beautiful Swiss Prealps.

Fookes Software received its first prestigious award in 1998 for the NoteTab Pro programmable text editor. A groundbreaking product at the time, NoteTab Pro won best application at the PC Magazine Shareware Awards (USA), multiple SIAF "People's Choice" awards, and distinctions from PC World, Microsoft, and WUGNET.

In 1999, Fookes Software's focus shifted to email processing. In 2002, we released E-mail Examiner, our first email tool for the forensics community. Aid4Mail followed in 2005 and quickly became a must-have tool for email. In 2016, Aid4Mail won a European IT and Software Excellence Award and is now an industry leader in email recovery, collection, and conversion.

Our experience processing email data spans over two decades – longer than any other email forensics and discovery tool! Our clients include government and law enforcement agencies, Fortune 500 companies, law firms, top universities, international organizations, and individuals in over 100 countries worldwide.

## 11 EULA

You can [download](#) the latest version of the End User License Agreement (EULA) from the Aid4Mail website. A local PDF copy is also available in your Aid4Mail [program folder](#).

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