



AGETOR®

AXT Mail Inlet

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1 Preface


This document describes the installation, configuration and workings of the AXT Mail inlet service.

The Mail inlet takes files from the Inbox in folders on POP3 servers and posts the content or one of the attachments to AXT. If the operation succeeds, the inlet can optionally forward the mail as well as the AXT response. If the operation fails, the inlet can send error messages with a description of the problem and the extracted data attached (optionally). If there is a connection error, the inlet will not delete the original message but instead re-try after a predefined period.

 If you send a mail with e.g. MS Outlook then make sure to use plain text formatting.

1.1 Typographic conventions

- Text marked with *italics* refer to other publications or definitions of concepts
- Text marked like `AbstractClassName`, `identifier`, `myCoolFunction()` and `cmd` refer to executable commands, identifiers or literal code excerpts

 Issues requiring your special attention are presented like this!

1.2 Related documents

Other documents related to AXT are

- *AXT Installation Guide*. Describes how to install AXT
- *AXT Programmers Guide*. An introduction to writing pluggable Java filters for AXT

1.3 Requirements


The Mail inlet requires the AXT basic package to be installed.

1.4 Acknowledgements

The software described in this document includes software developed by the Apache Software Foundation (<http://www.apache.org>).

2 Installation

This section gives you step-by-step information on how to install AXT Mail Inlet.

 The newest version of AXT Mail Inlet is always available at the Bording Data download center at <http://www.agetor.dk>.

Before you begin the installation of the AXT Mail Inlet, make sure you have the following prerequisites installed:

- Java Development Kit (JDK) version 1.3 or newer.
- AGETOR Development Kit (ADK) version 2.0.0 or newer.
- AXT version 2.0.0 or newer.

- Webserver with servlet runner e.g. Jakarta-Tomcat or Apache with Apache JServ.

Download the newest version of the AXT Mail Inlet and copy the package into your “AGETOR_HOME/install/packages” directory. If you are upgrading an existing installation the existing configuration will be retained.

- Open a command window with “AGETOR_HOME/bin/prompt.bat” and run “installer.bat”.
- After the AGETOR® installtool has started open a Internet browser and point to “http://localhost:8020”.
- If prompted for login and password, please type in your login and password.
- Under “Product(s) ready to install” click on “AXT Mail Inlet” and answer the questions.

Please note, that new properties might have been added and you should always consult the release.txt for any changes you might need to incorporate.

3 Starting the Mail Inlet

The Inlet can be started be using the script `mailinlet` or can be set up as a service in the `servicerunner`. A service configuration file is available in `AGETOR_HOME/conf/services/axt/mailinlet_services.cfg`.

At start-up, the Inlet will validate the configuration. If the configuration cannot be parsed, the Inlet terminates with an error message and the given configuration should be corrected before trying to start the Inlet again.

4 The configuration

Configuring the different POP3-servers, mails and attachments to fetch data from, and the way to handle the processing is done in an XML-file. The location and name of the configuration is controlled by the property `axt.mailinlet.config`, but initially Mail-Inlet comes with an example in `AGETOR_HOME/conf/axt/mailinlet/config.xml`.

```
<axt-mailemon-conf>
  <poll-frequency time='30' />
  <multipart-only value='true' />
  <reconnect-delay time='120' />
  <mailbox
    name='myuser'
    password='mypassword'
    server='myserver.mail.com'
    attachments='TestMail.txt'
    subject='xmlsimpleorder*'
    retries='3'
    banned-minutes='60'
  >

  <forward from='axt@comp.com' to='me@mycomp.com' cc='theother@othercomp.com' >
    <!-- Forward the mail to this address -->
    The following was sent to myuser@mycomp.com
  </forward>

  <!-- Post the content of the mail to the given url, included params -->
  <posturl name='http://localhost/servlet/dk.bording.axt.server.ContainerServlet'>
    <param name="mykey1" value="myval1"/>
    <param name="mykey2" value="myval2"/>
    <param name="mykey3" value="myval3"/>
  </posturl>
```

```
<replies>
  <reply from='axt@comp.com' to='me@mycomp.com' includemail='yes'>
    Here is the result of the function you sent to AXT
  </reply>
</replies>

<onerror
  from = "mailinlet@comp.dk"
  to = "me@comp.dk"
  subject = "mail inlet error"
/>

</mailbox>

</axt-maildemon-conf>
```

The configuration is divided into 4 parts, see explanation of the tags and attributes below.

4.1 Poll frequency

The poll frequency defines how often the Mail-inlet checks for new files on a POP3 server. This interval is used for all the mailboxes.

4.2 Content format

By default, the Mail Inlet will expect content to be sent in multipart format, which is the normal way of sending attachments. If, for some reason, this doesn't work, you can configure the Mail Inlet to try reading the content in other formats.

The result of reading content in other formats than multipart may, however, vary between different mail servers and different Java implementations. When the result is sent to AXT for processing you may have to configure your transformations for a specific mail server and a specific Java implementation.


4.3 Reconnecting to a mail server

If the Mail Inlet is unable to connect to a mail server or open a specific mailbox it will automatically try again later after a while. This delay can be specified in the configuration.

Please notice, that the reconnection delay is the minimum time between attempts, and that it cannot be smaller than the poll frequency.

4.4 The POP3-server(s) to contact

This part tells which POP3-server, message and attachment to get the document from. For every message and/or attachment on a given POP3-server, you need to add a new "mailbox" tag and provide the information needed to access it.

 If the *attachments* attribute is missing then the *mail content* is sent to AXT.

4.5 The post URL and parameters

The `post-url` attribute determines where the data fetched should be sent to (HTTP posted). Additionally you can add parameters to the URL sent. These parameters are sent to AXT and used by AXT to decide which transformation to use (keys).

4.6 Forward and replies

When the data has been sent to AXT, a reply is sent back to the Mail-inlet. Additionally a copy of the original data can be forwarded.

Element /subelement	Subelement /attribut	Type	Description
Axt-maildemon-conf	poll-frequency	Optional	The time in seconds the Inlet should sleep between checking all of the configured folders. Default is 30 seconds.
	multipart-only	Optional	The expected format of the contents of a mail. If true, the Mail Inlet will only expect the multipart format. Default is true.
	reconnect-delay	Optional	The delay before reconnecting to mailbox in case of failure (in seconds). Default is 120 seconds.
mailbox	name	Required	The user connecting to the ftp server.
	password	Required	The password of the user.
	server	Required	The POP3 server to connect to.
	From	Optional	If this attribute is given, it determines what messages are fetched from the mail server. A <i>like</i> comparison is made with the from field of each mail. This attribute may be used in conjunction with the subject attribute. If so, both criteria must be met for a mail to be fetched. E.g. “ <i>john@ibm.com</i> ”, “ <i>*bording.dk</i> ”
	subject	Optional	If this attribute is given, it determines what messages are fetched from the mail server. A <i>like</i> comparison is made with the from field of each mail. This attribute may be used in conjunction with the from attribute. If so, both criteria must be met for a mail to be fetched. Only the messages with the subject matching this entry will be handled. E.g. “ <i>*.order</i> ”, “ <i>*order*</i> ” or “ <i>orderno%%%</i> ”. Where % is one wild character and * is one or more wild characters.
	Retries	Optional	The number of times to retry processing of a mail on a non-severe error. Default is 3.
	Banned-minutes	Optional	The number of minutes a failed mail is excluded before a retry is attempted. Default is 30.
	attachments	Optional	Only the attachment in the given message, that matches this file name will be handled. E.g. “ <i>*.order</i> ”, “ <i>*order.txt</i> ” or “ <i>orderno%%%.txt</i> ”. Where % is one wild character and * is one or more wild characters.
Mailbox	name	Required	The name of the URL to post the content

Element /subelement	Subelement /attribut	Type	Description
/posturl			of the received files to.
	param/name	Required	Any number of parameters can be added to the posting of the contents of the file. These parameters are used by AXT to find the best matching configuration to process. By default the file name is set as a parameter.
	param/value	Required	
Mailbox/forward		Optional	The text to write in the mail
	from	Optional	The mail address of the sender.
	to	Required	The mail address of the receiver.
	cc	Optional	The mail address of the carbon copy receiver.
mailbox/replies/reply			The text to write in the mail. NB reply is the AXT response.
	from	Optional	The mail address of the sender.
	to	Required	The mail address of the receiver. NB reply is the AXT response.
	cc	Optional	The mail address of the carbon copy receiver. NB reply is the AXT response.
	includemail	Required	If 'yes' then the original message is appended to the mail.
mailbox/onerror	from	required	The mail address of sender.
	to	required	The mail address of the receiver.
	cc	Optional	The mail address of the carbon copy receiver.
	errors-per-mail	Optional	Number of error messages (and included original data) per mail sent on error. Default is 10.
	Includemail	Optional	If true, the data posted to AXT is attached to the error mail along with a job-description. The job description contains the parameters used on AXT invocation as well as any error encountered during processing of the data.

4.7 Properties

A number of properties have relevance for the Mail inlet's functionality and debug tracing. These properties are typically set in the `mailinlet.properties` file.

4.7.1 General properties

Property	Description	Default
<code>axt.mailinlet.configuration</code>	Gives the name of the configuration file to be used. May be overridden by command line parameter <code>-c</code> . The base directory is <code>\$AGETOR_HOME/configuration</code>	<code>axt/mailinlet/config.xml</code>

AXT.mailinlet.log	Name of the configuration file. Base directory is \$AGETOR_HOME/logs. May be overridden by command line parameter -l.	mailinlet.log
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4.7.2 Debug properties (from v. 2.0.1)

To facilitate debug and execution tracing, the following debug related properties might be set as well. Each `trace.mailinlet.<realm>` property below will provide realm-related debug output if enabled.

Property	Description	Default
<code>debug.mailinlet</code>	Controls if overall tracing is activated. This must be the case for the <code>trace.XXX</code> properties below to take effect.	true
<code>debug.mailinlet.protocol</code>	Detailed POP3 protocol information is sent to the trace output stream (<code>tracefile.mailinlet</code>). Beware that huge amounts of data may be dumped when this property is set!	false
<code>tracefile.mailinlet</code>	Set the file to which trace output should be written	<code>\${AGETOR_HOME}/logs/mailinlet.tr</code>
<code>trace.mailinlet.flow</code>		false
<code>trace.mailinlet.connection</code>		false
<code>trace.mailinlet.listMessages</code>		false
<code>trace.mailinlet.run</code>		false
<code>trace.mailinlet.fileHandling</code>		false
<code>trace.mailinlet.attachment</code>		false
<code>trace.mailinlet.forward</code>		false
<code>trace.mailinlet.reply</code>		false
<code>trace.mailinlet.listBoxContent</code>		false

5 Error handling

When errors occur, they are written to the Mail Inlet log file. Errors related to the processing of a mail on a remote mail server may be more or less severe. I.e. some errors can be recovered from by

retrying later while other errors are fatal requiring manual interaction. If, for example, the AXT server is unavailable, a later submission of the mail data may succeed. If, on the other hand, AXT reports a fatal error in the data submitted, retrying makes no sense until the input data has been corrected.

5.1 Retrying mail processing

If the error is deemed recoverable (AXT does not answer, Mail box is inaccessible) the inlet will retry processing of the mail in question at a later time. The number of retries are determined by the `mailbox/retries` attribute. The minimum time interval before the mail is re-processed may be given in `mailbox/banned-minutes`. The mail will be excluded for processing until the time has elapsed. Note that this period may be longer than the poll-frequency for the mailbox.

5.2 Data and job files

In case of fatal errors, the mail-inlet will store a copy of the data in the original mail before deleting the mail in the remote mailbox. Besides a description of the meta-data accompanying the bulk data (keys for AXT, URL etc.) are stored in a job-file. Both data and job description may be located in directory `${AGETOR_HOME}/data/mailinlet/failed`. The stored files are given a name containing a job id for reference. The job file is an XML-file (`.xml`) containing the AXT-parameters as well as error descriptions. The data file contains data as they were extracted from the original mail (and sent to AXT). The file has the extension `.dat`.

5.3 Error notification


Besides storing failed data and logging the problems, the mail inlet may be configured to send an error mail when processing fails. The `onerror` tag specifies recipient, subject and other properties of the error mail. It may be specified that the original data should be attached on error. Such attachments include both the original data and the job description file. However data are only attached when the delivery finally fails. If the inlet chooses to retry later, the data and job file are not provided.

When processing a configured mailbox, the inlet will batch all errors encountered in one or more mails. The `errors-per-mail` attribute on the `onerror` tag determines how many errors are packed (at most) into one mail.

5.4 Re-processing

In face of fatal processing errors it may be necessary to modify the data submitted, the URL or the keys provided for AXT-processing or correct some other configuration problem in the system at large.

One solution may involve having the originator of the data re-send the mail with some corrections. Since the inlet stores the data and job description you may also solve problems by modifying the data input and submit the data with the stored keys (`.job-file`) to AXT e.g. through the web-based AXT server-entry.

 From version 2.0.2 of the inlet, the job and data files have formats compatible with AXT DocDeliver (v. 2.0.10+). By moving the files to the delivery directory of DocDeliver, redelivery to AXT is performed.