Sending E-Mail Messages
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Overview

Messaging Agent, the electronic mail component of Adobe® Central Output Server (Central), is used to send selected documents, such as PDF files, to a mailbox address or set of addresses. Messaging Agent packages together all the files identified by the user and then uses the SMTP or MAPI mail protocols to send them to the user-designated recipients.

The text messages, recipient list, and other e-mail options are user defined via Messaging Agent command line parameters and/or via specially named fields within the field-nominated transaction file. Attachment files are identified on the command line or via an attachments field within the transaction file. Any attachment can be e-mailed, regardless of file type or extension. Messaging Agent preserves the names of all user-defined attachment files included in an e-mail message. Messaging Agent also allows you to assign a more meaningful file name to attachment files generated by a Central process, where the file is generated with a arbitrary temporary file name. For more information on command line options, see “Command Line Options” on page 19. For more information on attachment file names, see “Attachment File Names Generated by Other Processes” on page 40.

Where duplicate information is supplied to Messaging Agent, that information is overridden (not augmented). For example, when both the command line and the transaction file identify a recipient To list for the e-mail message, only one list is used, depending on the order of precedence for conflicting options. The e-mail message will not be sent to both the addressees identified in the transaction file and the addressees identified on the command line.

Messaging Agent Processing

When Messaging Agent is invoked, it constructs the e-mail message depending on the options included on the command line provided by Central. Message text is placed in the body of the e-mail message. Attachment files are gathered, either from the current directory or from the specified attachments paths. The e-mail message and the attachments are then sent, via the mail protocol, to the identified recipients. For examples of Messaging Agent processing, see “Messaging Agent Examples” on page 37.
WHO SHOULD READ THIS GUIDE?

This guide is geared toward two audiences:

- A system administrator, responsible for installing, configuring, and administering Central.
- A developer, responsible for determining the requirements of each type of transaction file processed by Central, and constructing the appropriate Job Management Database entries.

RELATED DOCUMENTATION

In addition to this guide, the Working with Central guide introduces Central and its components, the Job Management Database, and the Agents. The guide describes Central processing and the interaction with the components during processing.

For Microsoft® platforms, the Working with Central guide introduces Central Control, a controller task which provides all interactive functions required by Central and its Agents. For UNIX® platforms, the guide introduces the Central Utilities, which provide the same functions.

ABOUT THIS GUIDE

As well as the new features listed in the What’s New document, there are additional changes throughout the guide. These symbols draw your attention to new and updated topics.

**New** - indicates a new topic in the guide.

**Updated** - indicates an updated topic in the guide.

In addition to the symbol, updated text within the topic is marked with change bars, like the one to the left of this text.
2 Installing and Configuring

This chapter explains how to install and configure Messaging Agent. It also details the contents of the Messaging Agent configuration file, \textit{jfemsend.ini}.

**INSTALLING**

Messaging Agent is normally installed at the same time as Central. If Messaging Agent was not selected for installation at the time of the Central installation, run the Central setup program again to select this item. For information concerning Messaging Agent system requirements, see the Central readme file. For more information on the Central installation, see the Getting Started guide.

\textbf{Note:} When installing Messaging Agent on Windows, ensure that the Mail profile is created under the account that the Adobe Central Output Server Service starts and runs with.

**CONFIGURING**

When you install Messaging Agent, you need to configure the options for your mail system. As well, you may wish to change additional configuration options to suit the needs of your organization.

To run Messaging Agent, at a minimum you will need to:

- Identify the protocol for your mail system, under the configuration file setting, \texttt{[Email] System}. The value for this setting can be one of smtp or mapi.

- If \texttt{[Email] System=smtp}, you require these entries in the configuration file:
  - \texttt{[pop3] SMTPServer} (The name or IP address of the SMTP/POP3 server)
  - \texttt{[pop3] UserEmailAddress} (The Messaging Agent return address)
  - \texttt{[pop3] SendAsMime} (Option to Mime encode attachments. By default, this option is set to \texttt{No}. When using Lotus Notes R5, this option must be set to \texttt{Yes}.)

- If \texttt{[Email] System=mapi}, you require this entry in the configuration file:
  - \texttt{[Email] User} (This is the name of the Microsoft Inbox profile for the mailbox used by Messaging Agent to send messages, \textbf{NOT} the name of the mailbox.)

For more information on determining the name of the Microsoft Inbox profile, see “\texttt{-emuser=} (Login User Id)” on page 35.
Windows Time Zone Environment Variable

Not all mail systems are compliant to standard RFC2822, which specifies a syntax for text messages that are sent between computer users, within the framework of “electronic mail” messages. One of the areas of non-compliance results in the inability of a mail system to read an acceptable time zone specification.

The environment variable, NON_RFC2822_COMPLIANT_UT_TIME_ZONE, addresses such non-compliance. Messaging Agent will check for the existence of this environment variable. If it does not exist, Messaging Agent will use UT as the time zone. If the environment variable does exist, Messaging Agent will use the value of the variable as the GMT time zone indicator. Among the acceptable time zones are UT, GMT, and +0000.

Setting the NON_RFC2822_COMPLIANT_UT_TIME_ZONE environment variable only works for mail systems that do not comply with the RFC2822 standard. The mail systems that fall into this category are Lotus Notes, Eudora, and Netscape. The environment variable should only be used when one of these mail systems is being used with Messaging Agent exclusively - the environment variable does not work in mixed mail client environments.

The NON_RFC2822_COMPLIANT_UT_TIME_ZONE environment variable must be manually set for your system, under Control Panel > System > Advanced tab.

You should reboot your system after setting the environment variable.

Messaging Agent Configuration File

The Messaging Agent configuration file, jfemsend.ini, contains settings with default values. These values determine Messaging Agent processing. You can change these values at any time by editing the configuration file. However, the change affects all Messaging Agent processing.

To determine Messaging Agent processing on a transaction by transaction basis, override the configuration file defaults:

- Using command line options, either in the ^job command or as Program options in the Task Table in the Job Management Database.
- Using reserved field names in the transaction file.

For the order of precedence for processing conflicting options, see “Command Line Options” on page 19.

The table below lists Messaging Agent configuration file settings. The settings are shown in the format [Section] setting, where Section is the section of the configuration file to which the setting belongs. The table also contains the equivalent command line options and equivalent reserved transaction file field names.
For a description of the settings which have equivalent command line options, see the chapter, "Command Line Options" on page 19. For a description of the settings for which there is no equivalent command line options, see "Configuring" on page 7.

### Messaging Agent Configuration File Settings

<table>
<thead>
<tr>
<th>Configuration File Setting</th>
<th>Equivalent Command Line Option</th>
<th>Equivalent Reserved Field Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>[JetForm] LogFile</td>
<td>-all</td>
<td>N/A</td>
</tr>
<tr>
<td>[JetForm] MsgDateStampFormat</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The MsgDateStamp Format setting is used to format the date and time setting in the log file. For details, see the guide Working with Central</td>
</tr>
<tr>
<td>[JetForm] TraceLevel</td>
<td>-n</td>
<td>N/A</td>
</tr>
<tr>
<td>[Email] User</td>
<td>-emuser=</td>
<td>jf_email_user</td>
</tr>
<tr>
<td>[Email] Password</td>
<td>-empassword=</td>
<td>jf_email_password</td>
</tr>
<tr>
<td>[Email] System</td>
<td>-emsys=</td>
<td>jf_email_system</td>
</tr>
<tr>
<td>[Email] attachsplit</td>
<td>-emattsplit=char</td>
<td>N/A</td>
</tr>
<tr>
<td>[Message] to</td>
<td>-emto=</td>
<td>to - or - jf_to</td>
</tr>
<tr>
<td>[Message] cc</td>
<td>-emcc-</td>
<td>cc</td>
</tr>
<tr>
<td>[Message] bcc</td>
<td>-embcc=</td>
<td>bcc</td>
</tr>
<tr>
<td>[Message] subject</td>
<td>-emsub=</td>
<td>subject</td>
</tr>
<tr>
<td>[Message] text</td>
<td>-emtext=</td>
<td>text_message</td>
</tr>
<tr>
<td>[Message] attachments</td>
<td>Not necessary.</td>
<td>attachments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note: See &quot;Attachment Files&quot; on page 40 for specific details about including attachment files with e-mail messages.</td>
</tr>
<tr>
<td>[Message] type</td>
<td>-emtype=</td>
<td>jf_email_type</td>
</tr>
<tr>
<td>[Message] priority</td>
<td>-empri=</td>
<td>priority</td>
</tr>
<tr>
<td>[Message] readreceipt</td>
<td>-emrcpt=</td>
<td>read_receipt</td>
</tr>
<tr>
<td>[Message] savesend</td>
<td>-emsave=</td>
<td>save_send</td>
</tr>
</tbody>
</table>
### Configuration File Setting

<table>
<thead>
<tr>
<th>Setting</th>
<th>Equivalent Command Line Option</th>
<th>Equivalent Reserved Field Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Options] SkipLines</td>
<td>-asl</td>
<td>N/A</td>
</tr>
<tr>
<td>[Options] SkipCharacters</td>
<td>-asc</td>
<td>N/A</td>
</tr>
<tr>
<td>[Special] FieldSymbolSet</td>
<td>-ass</td>
<td>N/A</td>
</tr>
<tr>
<td>[Special] UsePC850</td>
<td>-em850=</td>
<td>N/A</td>
</tr>
<tr>
<td>[Files] DataPref</td>
<td>-datapref=</td>
<td>jf_email_data_pref</td>
</tr>
<tr>
<td></td>
<td>- or -</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-emdatapref=</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** It is recommended that you use `-emdelete=` instead of `-delete=`. See the Caution text on page 23 for details.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Equivalent Command Line Option</th>
<th>Equivalent Reserved Field Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Files] Delete</td>
<td>-delete=</td>
<td>jf_email_delete</td>
</tr>
<tr>
<td></td>
<td>- or -</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-emdelete=</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** It is recommended that you use `-emdelete=` instead of `-delete=`. See the Caution text on page 24 for details.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Equivalent Command Line Option</th>
<th>Equivalent Reserved Field Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Paths] AttachPath</td>
<td>-emattpath=</td>
<td>jf_email_attach_path</td>
</tr>
<tr>
<td>[Paths] PreambleFile</td>
<td>-apr</td>
<td>N/A</td>
</tr>
<tr>
<td>[pop3] SMTPServer</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>[pop3] UserEmailAddress</td>
<td>-emfrom</td>
<td>from - or - jf_from</td>
</tr>
<tr>
<td>[pop3] SendAsMime</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>[pop3] uttimezone</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>[pop3] usebarelinefeeds</td>
<td>-emblf=</td>
<td>N/A</td>
</tr>
<tr>
<td>[pop3] dateFormat</td>
<td>-N/A</td>
<td>jN/A</td>
</tr>
</tbody>
</table>

**Note:** This option is not included by default and must be added under the [pop3] section. See Modifying the Date Format on page 11 for details.
Configuring Messaging Agent

If you have access to Central Control, you can use that application to configure Messaging Agent.

➤ To configure Messaging Agent with Central Control

1. Click Configuration > Configure Central and Agents.
2. In the Available Processes box, select Messaging Agent.
3. Click Edit File.
4. The configuration file, jfemsend.ini, appears. You can change the value of any entry.
5. Click the Save command to write your changes to the configuration file.

If you do not have access to Central Control, you configure Messaging Agent from the command prompt.

➤ To configure Messaging Agent from the command prompt

1. Open the configuration file, jfemsend.ini, using a text editor.
2. You can change the value of any entry.
3. Save the configuration file.

Configuration File Location

When editing the existing JFEMSEND Task Table entry or creating new entries, you must include the -aii@IniFileName option in the Program options for the task. Central uses this option to inform Messaging Agent of the location of its configuration file. Messaging Agent cannot run without its configuration file.

Modifying the Date Format

To modify the default date format used for an e-mail message you must edit the Messaging Agent configuration file, jfemsend.ini, and add the dateFormat option and settings under the [pop3] section. The dateFormat should contain the format that the date will be displayed in by using special tags (% followed by some character) to specify date components as follows:

dateFormat="%value %value"

The table below list the tags that can be used with the dateFormat option.
<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%a</td>
<td>Abbreviated weekday name</td>
</tr>
<tr>
<td>%A</td>
<td>Full weekday name</td>
</tr>
<tr>
<td>%b</td>
<td>Abbreviated month name (localized name: not recommended with SMTP)</td>
</tr>
<tr>
<td>%B</td>
<td>Full month name (localized name: not recommended with SMTP)</td>
</tr>
<tr>
<td>%c</td>
<td>Date and time representation appropriate for locale</td>
</tr>
<tr>
<td>%d</td>
<td>Day of month as decimal number (01-31)</td>
</tr>
<tr>
<td>%f</td>
<td>English 3 letter month name (Jan, Feb, Mar, etc.: recommended with SMTP)</td>
</tr>
<tr>
<td>%F</td>
<td>English 3 letter uppercase month name (JAN, FEB, MAR, etc.: recommended with SMTP)</td>
</tr>
<tr>
<td>%g</td>
<td>Abbreviated weekday name in English</td>
</tr>
<tr>
<td>%H</td>
<td>Hour in 24-hour format (00-23)</td>
</tr>
<tr>
<td>%I</td>
<td>Hour in 12-hour format (01-12)</td>
</tr>
<tr>
<td>%j</td>
<td>Day of year as decimal number (001-366)</td>
</tr>
<tr>
<td>%m</td>
<td>Month as decimal number (01-12)</td>
</tr>
<tr>
<td>%M</td>
<td>Minute as decimal number (00-59)</td>
</tr>
<tr>
<td>%p</td>
<td>Current locale’s A.M./P.M. indicator for 12-hour clock</td>
</tr>
<tr>
<td>%S</td>
<td>Second as decimal number (00-59)</td>
</tr>
<tr>
<td>%U</td>
<td>Week of year as decimal number, with Sunday as first day of week (00-53)</td>
</tr>
<tr>
<td>%w</td>
<td>Weekday as decimal number (0-6; Sunday is 0)</td>
</tr>
<tr>
<td>%W</td>
<td>Week of year as decimal number, with Monday as first day of week (00-53)</td>
</tr>
<tr>
<td>%x</td>
<td>Date representation for current locale</td>
</tr>
<tr>
<td>%X</td>
<td>Time representation for current locale</td>
</tr>
<tr>
<td>%y</td>
<td>Year without century, as decimal number (00-99)</td>
</tr>
<tr>
<td>%Y</td>
<td>Year with century, as decimal number</td>
</tr>
<tr>
<td>%z,%Z</td>
<td>Time-zone name or abbreviation; no characters if time zone is unknown (for example, Eastern Saving Time)</td>
</tr>
<tr>
<td>%%</td>
<td>To include a literal percent sign</td>
</tr>
</tbody>
</table>
For example, to achieve the date in the following format (unlocalized):

```
Tue, 24 Jan 2006 13:14:49 -0800
```

Set dateFormat to:

```plaintext
[pop3]
dateFormat="%g, %d %f %Y %H:%M:%S -0800"
```

**Note:** When the `%z` or `%Z` options are used the time zone information will only be printed if it can be determined and it will be dependant on your operating system and its settings. For more information refer to documentation for the C++ function “strftime”

The Windows Time Zone Environment Variable does not apply when you specify the dateFormat because it lets you specify the whole format string instead of just the time zone specified with that environment variable.

---

**MESSAGING AGENT LOG**

Your principal source of information for resolving any problems that occur when running Messaging Agent is its log file. By analyzing the contents of the log file, you can reconstruct the sequence of events performed before and after the problem. The default configuration for Messaging Agent records all log messages to the *jfserver.log* file. For more information on *jfserver.log*, see the guide *Working with Central*. 

Central invokes Messaging Agent using the same mechanisms it employs for all other Agents, that is, using job definitions contained in the Central Job Management Database. Typically a user (most likely a System Administrator) edits the Job Management Database to set up enterprise-standard transaction processing rules. End users then submit data to the Central collector directory. Central examines the submitted transactions and matches their contents with the job definitions given in the Job Management Database. When a match is found, the steps defined for that job are run on the supplied transaction data. One potential step in a job is the invocation of Messaging Agent.

The Job Management Database is comprised of a set of tables. Of specific importance to Messaging Agent (and all Agents) are the Task Table and the Job Table. Each job in the Job Table identifies a series of one or more tasks to be run. Each task in the Task Table identifies the actual Agent executable name to run, and potentially supplies many system/standard parameters to that Agent.

CENTRAL TABLE ENTRIES

The Task Table defines the tasks Central processes. Central launches a task from a job step defined in the Job Table. In order to use Messaging Agent within Central, you require a Task Table entry and a Job Table entry. When shipped, the Job Management Database contains a default Task Table entry for Messaging Agent. You can change this entry, if required, and add a Job Table entry.

For Microsoft platforms, you make changes to the Job Management Database by accessing the tables in Central Control, the graphical user interface to Central.

For UNIX platforms, you make changes to the Job Management Database by using a text editor to edit the Job Management Database file, jfsserver.jmd. By default, at installation, jfsserver.jmd resides in the directory /usr/local/adobe/central/server. When editing the Job Management Database file, Central requires a value for each option. Where you do not need a value for an option, enter an “*” (asterisk) as a placeholder. If the option contains spaces or non-alphanumeric characters, surround the option with “ ” (quotation marks).

Messaging Agent Task Table Entry

A Task Table entry can be used by many different job definitions. For most installations, it is likely that only one Task Table entry will be required for Messaging Agent. The only reason for having multiple Task Table entries for Messaging Agent would be to supply variations in the standard parameters.
When you install Central, the installation process adds the default task JFEMSEND to the Task Table. If you need additional Task Table entries for Messaging Agent, use this task as a guideline for creating your own entries.

**JFEMSEND Messaging Agent Task (as viewed in Central Control)**

```
JFEMSEND Messaging Agent Task (as viewed in Central Control)

<table>
<thead>
<tr>
<th>Task Id:</th>
<th>JFEMSEND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program name:</td>
<td>jfemsend</td>
</tr>
<tr>
<td>Program options:</td>
<td>@MDFName.&quot;@InFile.&quot; -apr&quot;@PreambleName.&quot; -all&quot;@LogFileName.&quot; -asl@SkipLines @OtherJobTokens. -aii&quot;@IniFileName.&quot; &quot;Used to run the Messaging Agent.</td>
</tr>
</tbody>
</table>
```

- or -

**JFEMSEND Messaging Agent Task (as viewed in jfserver.jmd)**

```
!x JFEMSEND * jfemsend ""@MDFName."" ""@InFile."" -apr"@PreambleName."" -all"@LogFileName."" -asl@SkipLines @OtherJobTokens. -aii"@IniFileName."" "Used to run the Messaging Agent."
```

The default task JFEMSEND contains these entries:

**Task Id** is JFEMSEND. This is a user supplied logical task id, which is referenced in the Job Table. The value is case-insensitive, it cannot contain blanks, and the maximum length is nine characters.

**Program name** is jfemsend. This is the name of the Messaging Agent executable file. If this executable is kept in a location other than the default location specified during installation, a fully qualified path is required. The maximum length is 255 characters. This value is case-sensitive on operating systems where case-sensitivity rules apply.

**Program options** are @MDFName @InFile -apr@PreambleName -all@LogFileName -asl@SkipLines @OtherJobTokens. -aii@IniFileName. These are the parameters that Central supplies to Messaging Agent. By making use of Central supported substitution variables, a single generic set of parameters can be defined to meet most Messaging Agent invocation needs. For the supported substitution variables, see the guide Working with Central.

**Program options** are case-insensitive, and their maximum length is 1023 characters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>@MDFName</td>
<td>The name of the form file used by the current job step, from the Job Table. Although Messaging Agent does not require a form file, this entry is required as a placeholder.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>@InFile</td>
<td>The name of the temporary file that is input to the current job step, from the Job Table entry Input file. If the Job Table contains a relative reference, the default of @InFile is the output file from the previous job step. If the Job Table contains an &quot;*&quot; (asterisk), the default for @InFile is the original transaction file name. Although Messaging Agent may not require a transaction file, this entry is required as a placeholder.</td>
</tr>
<tr>
<td>-apr@PreambleName</td>
<td>For Messaging Agent processing, the preamble file is used only if the message type is data. In that case, the transaction file that gets attached to the message is actually a new (temporary) file consisting of the contents of the preamble file, followed by the contents of the transaction file. Messaging Agent does not process commands contained in the preamble file.</td>
</tr>
<tr>
<td>-all@LogFileName</td>
<td>The file name of the file containing the history of the activity of Messaging Agent. Before Central initiates Messaging Agent, it substitutes the log file name, jfserver.log, for the substitution variable @LogFileName. It then passes the resulting command line option, -alljfserver.log, to Messaging Agent. For additional information, see “-emtype= (Message Type)” on page 34.</td>
</tr>
<tr>
<td>-asl@SkipLines</td>
<td>Tells Messaging Agent whether to skip the first line of the transaction file. If the transaction file contains a ^job command on its first line, Central substitutes 1 for @SkipLines; otherwise it substitutes 0. It then passes the resulting command line option to Messaging Agent as -asl1 or -asl0. -asl1 tells Messaging Agent to ignore the first line of the transaction file; -asl0 tells Messaging Agent to process the first line of the transaction file.</td>
</tr>
<tr>
<td>@OtherJobTokens</td>
<td>Tells Central to pass any command line options on the ^job command, excluding -z, -aji and -axx, to Messaging Agent.</td>
</tr>
<tr>
<td>-aii@IniFileName</td>
<td>The file name of the Messaging Agent configuration file. Before Central initiates Messaging Agent, it substitutes the Messaging Agent configuration file name, jfemsend.ini, for the substitution variable @IniFileName. It then passes the resulting command line option, -aiijfemsend.ini, to Messaging Agent.</td>
</tr>
</tbody>
</table>

Comments, “Used to run the Messaging Agent.”, is the descriptive explanation of the information in this record. The value is case-insensitive and the maximum length is 81 characters.

The jfserver.jmd depiction shows two additional items:

- The text “!x” is a literal, identifying the string that follows it as a Task Table entry.
- The “*” following JFEMSEND is a mandatory placeholder.
Messaging Agent Job Table Entry

Transaction files submitted to Central typically begin with a `^job` command. The `^job` command takes the form:

```
^job jobname [jobtokens]
```

The `jobname` is a user supplied logical job name for the transaction. It is the key used by Central to find the related Job Table entry in the Job Management Database. Typically, you create at least one entry in the Job Table for the job name defined for each transaction file. Each entry is a job step, and each step performs a separate function in the processing of the transaction file.

### Job Step (as viewed in Central Control)

![Job Step as viewed in Central Control](image)

- or -

### Job Step (as viewed in jfserver.jmd)

```
!f <Job name> <Printer name> <Form file> <Preamble file> <Macro number> <Load flag> <Task id> <Input file> <Output file> <On error> <Comments>
```

Only a number of the fields on the Job Table are applicable to job steps for Messaging Agent. As noted earlier, when editing the `jfserver.jmd` file, where you do not need a value for an option, enter an `*` (asterisk) as a placeholder.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job name</td>
<td>A logical job name that maps to the transaction's <code>^job</code> command.</td>
</tr>
<tr>
<td>Task id</td>
<td>A logical task id identifying an entry in the Task Table. For Messaging Agent, the Task id is JFEMSEND.</td>
</tr>
</tbody>
</table>
**Input file**
The transaction file that Messaging Agent uses. Usually this value is an "*" (asterisk), which means to use the original transaction file. In some cases, the output from a previous job step will be used as the input file here. In those cases, specify the value as a relative reference only, such as A, B, or C.

**On error**
A flag to control processing if the task for this step returns an error code. There are two values for this flag:
- **C** tells Central to continue processing, even if an error is encountered.
- **S** tells Central to stop processing when an error is encountered.

**Preamble file**
The fully qualified name of a file containing commands or data. If the message type is Data, Messaging Agent includes the preamble file as part of the transaction file attachment. Messaging Agent does not process commands contained in the preamble file.

For more information, see "-emtype= (Message Type)" on page 34.

**Comments**
An optional descriptive text for the job step.

The **jfserver.jmd** depiction shows an additional item, the text "!f". This is a literal, identifying the string that follows it as a Job Table entry.

By putting multiple Job Table entries with the same job name in the Job Management Database, Central will execute the task/Agent referenced by each job step in turn (depending on the error flag setting). For example, it is quite usual for one job step to transform legacy data into field-nominated format and then have subsequent job steps invoke other Agents to print or e-mail.
This chapter details the command line options recognized by Messaging Agent. They can be supplied either in the `^job` command or as **Program options** in the Task Table. Central will then include them as part of the command line it constructs to call Messaging Agent.

Command line options are case-insensitive. Where keywords are required, such as High, Medium, Low, the values are also case-insensitive. In addition, keyword values are language-fixed, that is they must not be translated from English.

Each command line option has an equivalent setting in the Messaging Agent configuration file, `jfemsend.ini`. This setting is noted in the descriptions of the command line options, and is shown in the format:

```
[Section] setting
```

where `Section` is the section of the configuration file to which the `setting` belongs.

Messaging Agent uses this order of precedence when processing command line options:

- Options included in the `^job` command take precedence over options included as Program options in the Task Table.
- Options included in the `^job` command or as **Program options** in the Task Table take precedence over options in the Messaging Agent configuration file.

### RESERVED FIELD NAMES

Messaging Agent recognizes a number of reserved field names. Including these fields in the transaction file provides another means, in addition to command line options, of supplying values for inclusion into e-mail messages. Only a single occurrence of a field in a transaction file is valid. For example, if there are two `To` fields, it is an error and the message is not sent. However, you can include multiple values in one field. For example, to send a message to more than one recipient, the value of the `To` field can be `user1;user2`. For more information on including fields in the transaction file, see "Messaging Options in the Transaction File" on page 41.

Only certain command line options have equivalent reserved field names. Where applicable, this information is noted in the descriptions of the command line options.

When you include conflicting options both in the transaction file and on the command line, Messaging Agent uses the `-datapref=` option to determine the order of precedence. The default is to have values in the transaction file take precedence over options on the command line. For more information on setting the precedence, see "-datapref= (Data Precedence)" on page 23.
-all (Log File Name)

Specifies the name of the log file to use for processing messages. By default, Messaging Agent records all log messages to the `jfserver.log` file, which is located in the same directory as the instance of Central under which you installed Messaging Agent.

Syntax  
`-all filename`

`filename` is the log file name. It must be fully qualified.

Example  
`-allmylogfile.log`

Config File Setting  
[JetForm] LogFile

-apr (Preamble File)

Specifies a preamble file, an optional file of commands or data. The preamble file is used only if the message type is data. For more information on setting the message type, “-emtype= (Message Type)” on page 34.

Messaging Agent does not process the commands contained in the preamble file. Instead, it creates a new, temporary file consisting of the contents of the preamble file, followed by the contents of the transaction file. It gives this new file a unique name, such as `jf_ffe0_0002.dat`, and it is this new file that accompanies the message as an attachment.

Syntax  
`-apr preamblefile`

`preamblefile` is the preamble file name. It must be fully qualified.

Example  
`-apr preamble.pre`

Config File Setting  
[Paths] PreambleFile
-asc (Skip Characters)

Specifies the number of characters to skip at the start of the transaction file. This option applies only if the message type is `data`. For more information on setting the message type, see “-emtype= (Message Type)” on page 34.

Messaging Agent creates a new, temporary file consisting of the contents of the transaction file, less the skipped characters. If there is a preamble file, its contents are then added to the beginning of the new file. It gives this new file a unique name, such as `jf_ffe0_0002.dat`, and it is this new file that accompanies the message as an attachment.

**Syntax**

```
-asc nn
```

`nn` is the number of characters to skip.

**Example**

```
-asc14
```

**Comments**

When the command line includes both the `-asc` and `-asl` options, Messaging Agent processes the `-asl` option first, then the `-asc` option.

**Config File Setting**

[Options] SkipCharacters

-asl (Skip Lines)

Specifies the number of lines to skip at the start of the transaction file. This option applies only if the message type is `data`. For more information on setting the message type, see “-emtype= (Message Type)” on page 34.

Messaging Agent creates a new, temporary file consisting of the contents of the transaction file, less the skipped lines. If there is a preamble file, its contents are then added to the beginning of the new file. It gives this new file a unique name, such as `jf_ffe0_0002.dat`, and it is this new file that accompanies the message as the attachment.

**Syntax**

```
-asll nn
```

`nn` is the number of lines to skip.

**Example**

```
-asl2
```

**Comments**

When the command line includes both the `-asc` and `-asl` options, Messaging Agent processes the `-asl` option first, then the `-asc` option.

**Config File Setting**

[Options] SkipLines
-ass (Select Symbol Set)

Specifies the symbol set used to read the To, CC, and BCC addresses, the subject line, and the message body of an e-mail.

**Syntax**

\[-ass \texttt{nn}\]

\(\texttt{nn}\) is the set number from the table below, which details the defined symbol sets:

<table>
<thead>
<tr>
<th>Set</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>IBM/PC-850 (This is the default.)</td>
</tr>
<tr>
<td>5</td>
<td>Windows ANSI (Windows Latin 1)</td>
</tr>
<tr>
<td>10</td>
<td>Shift-Jis</td>
</tr>
<tr>
<td>20</td>
<td>KSC5601-87</td>
</tr>
<tr>
<td>30</td>
<td>Big-Five</td>
</tr>
<tr>
<td>35</td>
<td>GB2312-80</td>
</tr>
<tr>
<td>36</td>
<td>GBK</td>
</tr>
<tr>
<td>37</td>
<td>ANSI CP 950 (Taiwan)</td>
</tr>
<tr>
<td>60</td>
<td>ISO-8859-2 (Windows Latin 2)</td>
</tr>
<tr>
<td>61</td>
<td>ISO-8859-5 (Russian)</td>
</tr>
<tr>
<td>63</td>
<td>ISO-8859-7 (Greek)</td>
</tr>
<tr>
<td>64</td>
<td>ISO-8859-9 (Turkish)</td>
</tr>
<tr>
<td>65</td>
<td>ISO-8859-8 (Hebrew)</td>
</tr>
</tbody>
</table>

**Comments**

The symbol set can also be specified in the data file, using the `^symbolset` command. However, be aware that Messaging Agent loads part of its configuration file upon start-up and loads the command line options associated with a job before reading the contents of the data file. Therefore, before it encounters the `^symbolset` command in the data file, it will have already processed (created) the relevant command line and configuration file options using the default symbol set, or the symbol set as defined by either the `-ass` command line option or the FieldSymbolSet configuration file setting.

Messaging Agent uses this order of precedence to determine the symbol set:

- FieldSymbolSet configuration file setting, if defined.
- An `-ass` option overrides the FieldSymbolSet configuration file setting.
- A `^symbolset` command in the data file overrides both the `-ass` command line option and the FieldSymbolSet configuration file setting. Note that a `^symbolset` command in the data file affects subsequent data only. Any data that preceded the `^symbolset` command would not be affected by the command.
If a symbol set is not defined using one of the above methods, the default is PC-850 or the system code page, depending on the setting of the `-em850` option. For more information on changing the PC-850 symbol set, see "-em850= (Use PC-850 Symbol Set)" on page 25.

---

**Caution:** The Print Agent supports a wider list of symbol sets than does the Messaging Agent. Be aware of this difference when constructing job steps that invoke the Print Agent and then the Messaging Agent. If the data file for the job steps uses a symbol set that is not supported by the Messaging Agent, the Print Agent step will succeed but the Messaging Agent step will fail with the message:

```
Code Page: <Set #> not supported
```

---

**Example**

```
-ass60
```

**Config File Setting**

```
[Special] FieldSymbolSet
```

---

**-datapref= (Data Precedence)**

Specifies the order of precedence for conflicting values that exist both in the transaction file and on the command line.

---

**Caution:** Use of the `-datapref=` command line option causes problems when used with a `^job` command that includes options for both Print Agent and Messaging Agent. Print Agent mistakes the `-datapref=` option as an instruction to treat the data as comma-delimited format, with the `a` character as the delimiter. All `a` characters are stripped from the data, resulting in invalid output by both Print Agent and Messaging Agent.

It is recommended that the `-emdatapref=` command line option be used instead of the `-datapref=` command line option. The options are functionally equivalent. For more information on the `-emdatapref=` command, see "-emdatapref= (Data Precedence)" on page 29.

---

**Syntax**

```
-datapref=primary|secondary
```

**primary** indicates that values in the transaction file have precedence over values on the command line. This is the default.

**secondary** indicates that values on the command line have precedence over values in the transaction file.

---

**Example**

```
-datapref=secondary
```

**Comments** If the command line explicitly states that the transaction file is secondary, the transaction file cannot make itself primary.
-delete= (Delete Files After Send)

Specifies a “;” (semicolon) separated list of types of files to delete, after successfully sending an e-mail message.

**Caution:** Use of the -delete= command line option causes problems when used with a ^job command that includes options for both Print Agent and Messaging Agent. Print Agent mistakes the -delete= option as an instruction to treat the data as comma-delimited format, with the e character as the delimiter. All e characters are stripped from the data, resulting in invalid output by both Print Agent and Messaging Agent.

It is recommended that the -emdelete= command line option be used instead of the -delete= command line option. The options are functionally equivalent. For more information on the -emdatapref= command, see "-emdelete= (Delete Files After Send)" on page 29.

**Syntax**

`-delete=template;data;text;attachments;all`

- `template` indicates the form.
- `data` indicates the transaction file.
- `text` indicates the text source file.
- `attachments` indicates attachment files.
- `all` indicates all files listed above.

**Example**

`-delete=data;attachments`

**Comments** Failure of the deletion of one file does not stop the attempted deletion of others.

**Config File Setting** [Files] delete

**Reserved Field Name** jf_email_delete
-em850= (Use PC-850 Symbol Set)

When Messaging Agent finds the To, CC, and BCC addresses, the subject line, and the message body of an e-mail in the data file, by default it uses the PC-850 symbol set to read the data. You can use the -em850= option to have the Messaging Agent use your system code page rather than the PC-850 symbol set when reading this data.

**Syntax**  
-em850=yes|no

**Example**  
-em850=yes

**Comments**  
When the value for -em850= is yes, the PC-850 symbol set is used when reading the To, CC, and BCC addresses, the subject line, and the message body of the e-mail from the data file. This is the default. When the value for -em850= is no, your system code page is used to read the To, CC, and BCC addresses, the subject line, and the message body of the e-mail from the data file.

If you supply both the -em850= and the -ass command line options, the -ass option takes precedence. For more information on the -ass command, see “-ass (Select Symbol Set)” on page 22.

**Config File Setting**  
[Special] UsePC850

-emattpath= (Attachment Path)

Specifies a list of directories that Messaging Agent is to search for the location of attachment files.

**Note:** All examples provided for this option are shown with Microsoft Windows pathing, immediately followed by a version with UNIX pathing.

**Syntax**  
-emattpath=directory

**Example**

-emattpath=\server1\finance  
-emattpath=/server1/finance

**Comments**  
Messaging Agent first attempts to locate an attachment file with the information supplied with the file name:

- When the file name contains an absolute path reference, Messaging Agent ignores the -emattpath= option.

For example, with absolute paths of:

\server1\attach\attach2.txt  
/server1/attach/attach2.txt

Messaging Agent attempts only to locate the files with the name as given.
When the file name does not contain an absolute path reference, Messaging Agent searches the current folder for the name as given.

For example, if the file names provided are:

```
attach\attach2.txt
attach/attach2.txt
```

Messaging Agent searches for `attach2.txt` in the `attach` subfolder of the current folder.

If Messaging Agent cannot locate the file using the information supplied with the file name, it examines the `-emattpath=` option:

- When the path supplied with the `-emattpath=` option contains an absolute path reference, Messaging Agent prefixes that path to the file name and searches the resultant location.

For example, if the file names provided are:

```
attach\attach2.txt
attach/attach2.txt
```

and the paths provided with the `-emattpath=` option are:

```
-emattpath=\server1\finance
-emattpath=/server1/finance
```

Messaging Agent searches for `attach2.txt` in the `\server1\finance\attach` folder or the `server1/finance/attach` folder.

- When the path supplied with the `-emattpath=` option is not an absolute path reference, the Messaging Agent prefixes that path to the file name and searches the current folder.

For example, if the file names provided are:

```
attach\attach2.txt
attach/attach2.txt
```

and the path provided with the `-emattpath=` option is:

```
-emattpath=finance
```

Messaging Agent searches for `attach2.txt` in the `...\finance\attach` subfolder or `.../finance/attach` subfolder of the current folder.

When the path provided with the `-emattpath=` option contains multiple directories, Messaging Agent searches each directory in turn, until it locates the file or fails. Multiple directories can be specified using by setting the `-emattsplit` setting and using that character as a delimiter, see "`-emattsplit=` (Attachment Split Character)" on page 27.
-emattspli= (Attachment Split Character)

Specifies a user-defined character that allows a more meaningful file name to be associated with an e-mail attachment generated by a Central process. For more information on associating files, see “Attachment File Names Generated by Other Processes” on page 40.

**Note:** The split character must not appear in any new meaningful name or any existing attachment file names.

**Syntax**
- emattspli=char

**Comments**
char is the character to use as the attachment split character. The default is “=” (equal sign).

**Example**
- emattspath==
- emattspath=|

**Config File Setting**
[Email] attachsplit

**Reserved Field Name**
N/A

-embcc= (BCC Address)

Specifies the mail id to receive a blind carbon copy of the e-mail message.

**Syntax**
- embcc=bcc_address

**Comments**
bcc_address is the mail id to receive a blind carbon copy of the e-mail message. When sending a blind carbon copy to multiple destinations, separate the mail ids using “;” (semicolons).

Messaging Agent will attempt to send an e-mail message if any of the To, CC and BCC lists contain addresses. For example, if only a BCC address is provided, the e-mail message is sent to that address. In this case, the absence of an address in the To field does not constitute an error.

For more information on the -emcc= and -emto= commands, see “-emcc= (CC Address)” on page 28 and “-emto= (To Address)” on page 34.

**Example**
- embcc="AUser"
- embcc="AUser;BUser;CUser;DUser"

**Config File Setting**
[Message] bcc
Reserved Field Name  bcc

-emblf= (Use Bare Line Feeds)

Specifies the line termination character when using the SMTP protocol to communicate with an Exchange or Domino Server. With -emblf=no, Messaging Agent processes CR/LF line termination characters. With -emblf=yes (the default), Messaging Agent processes LF line termination characters.

Syntax  -emblf=yes|no

Example  -emblf=yes

Config File Setting [pop3] usebarelinefeeds

-emcc= (CC Address)

Specifies the mail id to receive a carbon copy of the e-mail message.

Syntax  -emcc=cc_address

cc_address is the mail id to receive a carbon copy of the e-mail message. When sending a carbon copy to multiple destinations, separate the mail ids using ";" (semicolons).

Messaging Agent will attempt to send an e-mail message if any of the To, CC and BCC lists contain addresses. For example, if only a BCC address is provided, the e-mail message is sent to that address. In this case, the absence of an address in the To field does not constitute an error.

For more information on the -embcc= and -emto= commands, see "-embcc= (BCC Address)" on page 27 and "-emto= (To Address)" on page 34.

Example  -emcc="AUser"
          -emcc="AUser;BUser;CUser;DUser"

Config File Setting [Message] cc

Reserved Field Name cc
-emdatapref= (Data Precedence)

Specifies the order of precedence for conflicting values that exist both in the transaction file and on the command line.

**Syntax**
- `emdatapref=primary|secondary`

`primary` indicates that values in the transaction file have precedence over values on the command line. This is the default.

`secondary` indicates that values on the command line have precedence over values in the transaction file.

**Example**
- `emdatapref=secondary`

**Comments**
If the command line explicitly states that the transaction file is secondary, the transaction file cannot make itself primary.

**Config File**

- [Files] DataPref

- Reserved Field Name
  - jf_email_data_pref

-emdelete= (Delete Files After Send)

Specifies a “;” (semicolon) separated list of types of files to delete, after successfully sending an e-mail message.

**Syntax**
- `emdelete=template;data;text;attachments;all`

`template` indicates the form.
`data` indicates the transaction file.
`text` indicates the text source file.
`attachments` indicates attachment files.
`all` indicates all files listed above.

**Example**
- `emdelete=data;attachments`

**Comments**
Failure of the deletion of one file does not stop the attempted deletion of others.

**Config File**

- [Files] delete

- Reserved Field Name
  - jf_email_delete
-emfrom= (From Address)

Specifies the mail id of the sender of the e-mail message.

**Syntax**
- emfrom=from_address

**Example**
- emfrom=AUser

**Comments**
The `-emfrom` option applies only to the SMTP mail protocol.

**Config File Setting**
[pop3] UserEmailAddress=

Reserved Field Name
- or -

jf_from

-empassword= (Login Password)

The password to be used by Messaging Agent when logging into the e-mail system.

**Syntax**
- empassword=password

**Example**
- empassword=summer

**Config File Setting**
[Email] Password

Reserved Field Name
jf_email_password

-empri= (Message Priority)

Specifies the priority of the e-mail message, subject to the supported features of your mail system. The default is medium.

**Syntax**
- empri=high|medium|low

**Example**
- empri=low

**Comments**
Check your mail system to verify that it supports message priority. This feature is not supported using SMTP protocol.

**Config File Setting**
[Message] priority

Reserved Field Name
priority
-emrcpt= (Read Receipt)

Specifies whether the reading of the e-mail triggers a read receipt, subject to the supported features of your mail system.

Syntax  
-emrcpt=yes|no

Example  
-emrcpt=yes

Comments  
When the value for -emrcpt= is yes, a read receipt confirmation is returned to the id specified by -emuser=. The default is no.

Check your mail system to verify that it provides read receipt confirmation. This feature is not supported using SMTP protocol.

Config File Setting  
[Message] readreceipt

Reserved Field Name  
read_receipt

-emsave= (Save Sent Mail)

Specifies whether sent messages are saved, subject to the supported features of your mail system.

Syntax  
-emsave=yes|no

Example  
-emsave=no

Comments  
When the value for -emsave= is yes, the mail system saves copies of sent messages. The default is no.

Check your mail system to verify that it supports the saving of sent messages. This feature is not supported using SMTP protocol.

Config File Setting  
[Message] savesend

Reserved Field Name  
save_send
-emsub= (Subject)

Specifies a description of the e-mail message.

Syntax

```
-emsub=subject
```

subject is a description of the e-mail message. If the description contains spaces, enclose the subject in " " (quotation marks).

Example

```
-emsub=computer
-emsub="computer parts"
```

Config File Setting

Reserved Field Name

subject

-emsys= (Mail System Protocol)

Specifies the e-mail protocol used by your mail system. The default for Windows platforms is the protocol for the mail system selected at installation. The default for UNIX platforms is smtp.

Syntax

```
-emsys=smtp|mapi
```

Example

```
-emsys=mapi
```

Config File Setting

Reserved Field Name

jf_email_system
-emtext= (Message Text)

Specifies the message text for the body of the e-mail message.

Syntax

- emtext=text

- or -

- emtext=@filename

`text` is the message text to include in the e-mail message. If the text contains spaces, enclose the `text` in " " (quotation marks). `text` is appropriate for short, one-line strings of text.

`filename` is a fully qualified file name. When you specify a file name, Messaging Agent copies the contents of the file into the body of the e-mail message. `filename` is appropriate for formatted text. For example:

Folks:

Please update the attached spreadsheet. All data must be received in Accounting by 4PM on the 5th.

Regards

Chris

Example

- emtext="Please update the attached spreadsheet."

- emtext=c:\temp\mail.txt

- emtext=/temp/mail.txt

Config File Setting

[Message] text

Reserved Field Name

text_message
-emto= (To Address)

Specifies the mail id to receive an e-mail message.

Syntax

- emto=to_address

*to_address* is the mail id to receive the e-mail message. When sending the e-mail message to multiple destinations, separate the mail ids using “;” (semicolons).

Messaging Agent will attempt to send an e-mail message if any of the To, CC and BCC lists contain addresses. For example, if only a BCC address is provided, the e-mail message is sent to that address. In this case, the absence of an address in the To field does not constitute an error.

For more information on the -emcc= and -embcc= commands, see “-emcc= (CC Address)” on page 28 and “-embcc= (BCC Address)” on page 27.

Example

- emto=“AUser”
- emto=“AUser;BUser;CUser;DUser”

Config File

Setting

[Message] to

Reserved Field Name

to

- or -

jf_to

-emtype= (Message Type)

Specifies whether to include the transaction file as an attachment to the e-mail message.

Syntax

- emtype=normal|data

*normal* indicates to send the e-mail message without the transaction file as an attachment. This is the default.

*data* indicates that the e-mail message includes the transaction file as one of the attachments.

Example

- emtype=data

Config File

Setting

[Message] type

Reserved Field Name

jf_email_type
-emuser= (Login User Id)

Specifies the user name to be used by Messaging Agent when logging into the e-mail system.

**Syntax**
- emuser=login_id

**Example**
- emuser=Cental

**Comments**
When the value of `-emsys=` is `mapi`, the name required here is the name of the Microsoft Inbox profile for the mailbox used by Messaging Agent to send messages. To determine the name of the profile, click **Start > Settings > Control Panel > Mail > Show Profiles**.

**Config File Setting**
[Email] User

**Reserved Field Name**
jf_email_user

-n (Trace Level)

Specifies the level of informational messages, in addition to the error messages, recorded in the log file.

**Syntax**
- nnn

**nn** can be one of these values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Message Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>None - Only error messages are recorded.</td>
</tr>
<tr>
<td>1</td>
<td>Minimal - this is the default. Logging includes all elements from level <strong>None</strong>, plus the following:</td>
</tr>
<tr>
<td></td>
<td>● A message summary for each e-mail message, listing the following:</td>
</tr>
<tr>
<td></td>
<td>● All addressees (<strong>To</strong>, <strong>CC</strong> and <strong>BCC</strong>)</td>
</tr>
<tr>
<td></td>
<td>● Subject line</td>
</tr>
<tr>
<td></td>
<td>As the message summary is logged just before the message is sent, it will appear even if there is a send error (which will also be logged).</td>
</tr>
</tbody>
</table>
### Value | Message Level
--- | ---
25 | Low - logging includes all elements from level **Minimal**, plus the following:
  - Form name, if present
  - Transaction file name, if present
  - Message type (normal or data)
  - A list of all attachments, with their locations resolved through the attachment path
  - The following items added to the message summary
    - Message priority (if not medium)
    - Save send status, if set on
    - Read receipt status, if set on
    - An end of operation line that provides some visual separation of the logs for this e-mail message from those for the next (logged even if there is an error)

50 | Medium - logging includes all elements from level **Low**, plus the following:
  - A list of all command line files
  - A list of all command line options
  - The name of the Messaging Agent e-mail driver DLL file to be loaded
  - An entry for each file to be deleted (just before the deletion is attempted)

75 | High - logging includes all elements from level **Medium**, plus the following:
  - Information on the pre-processing of the transaction file, if required
    - Temporary file name
    - Number of lines to skip
    - Number of characters to skip
    - Preamble file name
  - Name of `-emtext=@file` file name, if specified
  - An entry for each preference as it is looked up. Each preference look-up is recorded in terms of [Section] and Name, even if the result is found on the command line or in the transaction file. The entry will indicate where the preference was actually found. Note, however, that the following preference look-ups will not appear in the log file, as they are processed before the system identifies the need to log the preferences:
    - Serial number
    - Data preference primary/secondary/disabled
    - Trace level

---

**Example**  
-n25

**Config File Setting**  
[JetForm] TraceLevel
This chapter provides two examples of using the Messaging Agent.

- The first example, Multistep Job, demonstrates the setting up of a Messaging Agent task and job step, as one of the steps to be performed in a multistep job. This example demonstrates the ease with which you can create the table entries in the Job Management Database to utilize the capabilities of the Messaging Agent.

- The second example, Specifying Message Options in the Transaction File, uses the same scenario as example one, but shows another method of providing parameters to the Messaging Agent.

**MULTISTEP JOB**

This example demonstrates the e-mailing of a PDF file, output by Print Agent, to a designated list of recipients. This example builds on the PDF Output example detailed in the *Print Agent Reference* guide.

This example has two steps:

- In step 1, a copy of all purchase orders issued on a monthly basis are printed to PDF for archival purposes. The name of the PDF is the same each month, `p_order.pdf`. Step 1 is handled by Print Agent.

- In step 2, a copy of the PDF is included as an attachment to e-mail messages sent to both the vice president of Finance and to an off-site archival facility. Step 2 is handled by Messaging Agent.

**Messaging Agent Processing**

At a minimum, Messaging Agent requires the following information in order to send the PDF to the intended recipients:

- The e-mail address for each of the recipients

- The name of the attachment file, in this case the PDF

As noted earlier, this information can be provided to Messaging Agent:

- In the transaction file, using reserved fields.

- As command line options, provided either in the `$job` command or as Program options in the Task Table.

- In the Messaging Agent configuration file.

For information on configuring Messaging Agent to use your mail system, see “Configuring” on page 7.
Because we are building on an existing job which has the transaction file and its included \^job command already in place, it is easier not to modify either. Likewise, we would not modify the configuration file to include parameters specific to one job. Therefore, for this example, we will provide the information to Messaging Agent as **Program options** in the Task Table. We will use the JFEMSEND task entry shipped with Central as a guide to create a custom task, specific to this requirement.

For more information on Messaging Agent program options, see "[Messaging Options in the Transaction File](#)" on page 41.

### Task Table

The custom task created for this requirement is:

**Task Table (as viewed in Central Control)**

![Task Table Image](#)

- or -

**Task Table (as viewed in jfserver.jmd)**

```
!x P_ORDER * JFEMSEND """"@MDFName."
""""@InFile."fullyqualifiedpathp_order.pdf
-emto=archives@archivefirm.com;vp_fin@thisfirm.com -emsub="Purchase Order PDF for June" -all""""@LogFileName"""" -asl""""@OtherJobTokens
-aii""""@IniFileName"""" """"E-mail monthly PO PDF to Archives and Finance"
```

The task id, P_ORDER, calls the Messaging Agent executable, JFEMSEND, with these **Program options**:

- @MDFName  
- @InFile  
- fullyqualifiedpathp_order.pdf  
- emto=archives@archivefirm.com;vp_fin@thisfirm.com -emsub="Purchase Order PDF for June" -all""@LogFileName"" -asl""@OtherJobTokens
- aii""@IniFileName""  

where:

- @MDFName is the name of the form file used by the current job step, from the Job Table. Although Messaging Agent does not require a form file, this entry is required as a placeholder.

- @InFile is the **Input file** specified in the Job Table.

- fullyqualifiedpathp_order.pdf is the attachment file, including its fully qualified path. For more information on attachment files, see "[Attachment Files](#)" on page 40.
-emto=archives@archivefirm.com;vp_fin@thisfirm.com includes the e-mail addresses to receive the PDF attachment.

-emsu="Purchase Order PDF for June" is the subject line to be included in the e-mail message.

-all@LogFileName tells Messaging Agent the name of the log file to use to write messages. Before Central initiates Messaging Agent, it substitutes the log file name for @LogFileName and passes the command line option, -alljserver.log, to Messaging Agent.

@OtherJobTokens tells Central to pass any command line options on the ^job command to Messaging Agent.

-aii@IniFileName tells Messaging Agent the name of its configuration file. Before Central initiates Messaging Agent, it substitutes the configuration file name for @IniFileName and passes the command line option, -aijfemsend.ini, to Messaging Agent.

Job Table

The Job Table entry created for processing the PDF now requires a second step for Messaging Agent e-mail message:

The new job step has these parameters:

**Job Step for Job P_ORDER (as viewed in Central Control)**

<table>
<thead>
<tr>
<th>New Job Step</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job name:</strong></td>
</tr>
<tr>
<td><strong>Task</strong></td>
</tr>
<tr>
<td><strong>Task id:</strong></td>
</tr>
<tr>
<td><strong>Input file:</strong></td>
</tr>
<tr>
<td><strong>Form file:</strong></td>
</tr>
<tr>
<td><strong>Preamble file:</strong></td>
</tr>
<tr>
<td><strong>Printer</strong></td>
</tr>
<tr>
<td><strong>Printer name:</strong></td>
</tr>
<tr>
<td><strong>Macro number:</strong></td>
</tr>
<tr>
<td><strong>Comments:</strong></td>
</tr>
</tbody>
</table>

- or -

**Job Step for Job P_ORDER (as viewed in jfserver.jmd)**

!f P_ORDER * * * 1 T P_ORDER * * C "E-mail monthly PO PDF to Archives and Finance."
Central Processing

When Central detects the transaction file, `p_order.dat`, in its collector directory, it matches the job name from the `^job` command to the Job Table of the Job Management Database. When Central finds a match, in this case on the job `P_ORDER`, it calls its Agents to perform the job steps specified for the job.

- Central calls Print Agent to output a PDF file.
- Central calls Messaging Agent to send e-mail messages, with a copy of the PDF file included as an attachment, to the Finance department and to an off-site archival facility.

Attachment Files

You do not require a specific command line option to include attachments on the command line. Just include the attachment file names, either in the Program options section of the Task Table, or in the `^job` command. When Messaging Agent reads the command line passed to it by Central, it takes the first file name found to be the form file, the second file name found to be the transaction file, and any additional file names to be attachment files. The attachment file names can be interspersed anywhere throughout the Program options, as long as they follow the form and transaction files. For example, to add three attachment files to the JFEMSEND task included with Messaging Agent, the Program options could read:

```
@MDPName @InFile -apr@PreambleName myfirstfile.pdf mysecondfile.txt -all@LogFileName mythirdfile.abc ...........
```

If you do not require a form file or a transaction file, ensure you include “*” (asterisk) as placeholders. For example, if you do not require a form file in the above example, the Program options would be:

```
* @InFile -apr@PreambleName myfirstfile.pdf mysecondfile.txt -all@LogFileName mythirdfile.abc ............
```

Attachment files can be included anywhere after the job name on the `^job` command. There is no need to include placeholders for the form and data files. Central appends `^job` command parameters to the Program options when it creates the command line; therefore, attachment files from the `^job` command will always follow the form and transaction files.

You can also provide attachment file names to Messaging Agent using the reserved field name attachments in the transaction file.

Attachment File Names Generated by Other Processes

Messaging Agent maintains the file names of user-defined e-mail attachments when sending e-mail messages. However, automated processes such as Central often generate temporary file names. When a file with a temporary file name is sent as e-mail attachment, the file name will not be recognizable. This can happen, for example, when Messaging Agent is performing a subsequent step in a Central job, and the previous step involved the creation of a file with a temporary file name.
Messaging Agent provides a mechanism for assigning a more meaningful file name to these attachment files, as e-mail messages are sent. Because the file created by the previous job step will always be the input file for the Messaging Agent job step, you can use the attachment split character to update the Messaging Agent job step to reference a more meaningful file name. Simply update the **Program options** @InFile option to prefix it with the meaningful file name and the attachment split character.

For example, using an attachment split character of “=“ (equal sign), the **Program options** could read:

```markdown
@MDFName cover.html=@InFile -apr@PreambleName body.html
-all@LogFileName trailer.html ............
```

For more information on the attachment split character, see “**-emattsplit= (Attachment Split Character)**” on page 27.

**Attachment Pathing Information**

It is recommended that you include fully qualified paths with all attachment file names. If this is not possible, you can use the **-emattpath=** command line option to provide a list of directories that Messaging Agent is to search for the location of attachment files. For information on the **-emattpath=** command, see “**-emattpath= (Attachment Path)**” on page 25.

**MESSAGING OPTIONS IN THE TRANSACTION FILE**

As noted in the chapter, “**Command Line Options**” on page 19, many of the command line options have equivalent reserved field names. This means that you can include some or all of the Messaging Agent requirements in the transaction file.

This example uses the same files as example one. However, rather than creating a Task Table entry to handle the messaging options, in this example they are included in the transaction file.

When including options in the transaction file, there are a number of considerations to keep in mind:

- Messaging Agent recognizes only the reserved field names outlined in the section, “**Messaging Agent Configuration File**” on page 8.
- Only single instances of fields with messaging options are supported. If the transaction file contains two or more fields with the same reserved field name, it will result in an error and no message will be sent.
In example one, Multistep Job. there were three Messaging Agent options included in the Task Table entry. These options specified the attachment file, the To addresses and the message Subject. To include these options in the transaction file, reference them with their reserved field names:

```
^field attachments
  fullyqualifiedpath p_order.pdf

^field to
  archives@archivefirm.com;vp_fin@thisfirm.com

^field subject
  Purchase Order PDF for June
```

The example above shows the attachment file with its fully qualified path. However, you could also just include it as:

```
^field attachments
  p_order.pdf

^field jf_email_attach_path
  directoryname;directoryname;directoryname
```

In this way, Messaging Agent will search the named directories for the file specified in the attachments field.
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