



LISTSERV Maestro Admin Tech Doc 10

Mail Job Data XML Export

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This document is a LISTSERV Maestro Admin Tech Doc. Each admin tech doc documents a certain facet of the LISTSERV Maestro administration on a technical level. This document is number 10 of the collection of admin tech docs and explains the topic "Mail Job Data XML Export".

Last updated for LISTSERV Maestro 11.0-1 on April 26, 2023. The information in this document also applies to later LISTSERV Maestro versions, unless a newer version of the document supersedes it.

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1 Introduction

This LMA Admin Tech Doc describes the procedure for exporting the data of a delivered job, including tracking events, into an XML file.

2 Enabling the Job Data Export Feature

The Job Data Export feature is disabled by default. Therefore, before you can export job data, you need to enable this feature. To enable, you must enable it for the group or non-group user account that is the owner of the job(s) that you want to export.

To enable the Job Data Export feature, log in to the HUB with the admin account.

For a group: Go to **Main Menu** → **Accounts and Identities**, select the **User Accounts** tab, then select the group to enable, then select **Main Menu** → **Group Settings** → **External Access**.

For a non-group user account: Go to **Main Menu** → **Accounts and Identities**, select the **User Accounts** tab, then select the account to enable, then select **Main Menu** → **Account Settings** → **External Access**.

3 Accessing the Security Token

To protect against unauthorized access during the export process, the export request must include a secret security token. Every group, and every non-group account, has its own security token. The token is displayed on the “Group/Account Overview” screen, once the job data export feature is enabled.

To display the security token, click on the **Show Security Token** link. Make note of the security token and keep it secure; you will need it for the export process.

Once displayed, you can also generate a new token if the old security token has been compromised. To do this, simply click on the **Create New Security Token** link.

Important: Knowledge of this security token gives access to all jobs that are owned by the account or group. This also means that any team collaboration settings in a group that define who is and who is not allowed to access a given job are ignored. Therefore, it is important to make sure that the security token does not get into the wrong hands. If there is a possibility that the token has been compromised, you should generate a new token, which automatically invalidates the old token.

4 Exporting Data to an XML File

Once the Job Data Export feature is enabled, then it is possible to export a specific job, or a range of jobs, depending on the access parameters. The export is triggered by making a request to an external access URL, with the corresponding parameters. The result is an export file in XML format (optionally zipped).

The access URL for a job data export has the following form:

```
http://SERVER_NAME/loi/externalAction.do?token=SECURITY_TOKEN&more_parameters...
```

- where `SERVER_NAME` is replaced with the name of your LISTSERV Maestro server. (If a non-standard HTTP port is used, also include the port, separated with a colon ":". If access to your LISTSERV Maestro is protected with HTTPS, you need to specify "https://" instead of "http://".)
- where `SECURITY_TOKEN` is replaced with the security token for the job data export.
- where `more_parameters...` is replaced with further request parameters, specifying the type of the report and other details, see below.

To specify which jobs will be included in the export, you need to supply additional parameters. You can:

- **Export a Single Specific Job** – This exports a specific job, with a known job-ID.

Specify the additional request parameters `type=single` and `jobid=JOB_ID`, where you replace `JOB_ID` with the ID of the job you want to export (only the bare ID, without any id-prefix). The ID that is specified must be the ID of a normal "completed" job. The referenced job must not be an "ongoing" or "open" job, and also not an A/B-split parent job. However, it can be one of the variants of an A/B-split job, if you want to export this variant job specifically. See the next item for an option to export A/B-split jobs.

Example:

```
http://SERVER_NAME/loi/externalAction.do?token=SECURITY_TOKEN&
type=single&jobid=100817A
```

- **Export a Single Specific A/B-Split Job** – This exports a specific A/B-split job, with a known job-ID. The export will contain all "completed" variants of this A/B-split job ("ongoing" or "open" variants are not included)

Specify the additional request parameters `type=absplit` and `jobid=JOB_ID`, where you replace `JOB_ID` with the ID of the A/B-split job you want to export (only the bare ID, without any id-prefix). The ID must be the ID of the A/B-split parent job, not of one of its variants.

Example:

```
http://SERVER_NAME/loi/externalAction.do?token=SECURITY_TOKEN&
type=absplit&jobid=100912C
```

- **Export Multiple Specific Jobs or A/B-Split Jobs** – This exports several specific jobs, either normal jobs or A/B-Split jobs, with known job-IDs.

Specify the additional request parameters `type=multiple` and `jobids=JOB_ID_LIST`, where you replace `JOB_ID_LIST` with a comma separated list of the IDs of all jobs that you

want to export (only the bare IDs, without any id-prefixes). Each specified ID can either be the ID of a normal "completed" job (including IDs of variant jobs of an A/B-split job, if you want to export a variant job specifically), or it can be the ID of an A/B-split parent job. In the latter case, all "completed" variants of this A/B-split job will be exported. The two ID types (i.e. IDs of normal jobs and IDs of A/B-split parent jobs) can also be mixed in the same comma separated list.

Example:

```
http://SERVER_NAME/loi/externalAction.do?token=SECURITY_TOKEN&
type=multiple&jobids=100817A,100817B,100817C,100912C
```

- **Export All Jobs in a Folder** – This exports all "completed" jobs that are located in a specific mail job folder and optionally all sub-folders.

Specify the additional request parameters `type=folder` and `folder=FOLDER_PATH`, where you replace `FOLDER_PATH` with a textual description of the name and path of the folder that contains the jobs that you want to export. Optionally, you can also include the parameter `recursive=true`. With this parameter set to "true", all jobs in the specified folder and all its sub-folders are exported. With this parameter set to "false", which is also the default if the parameter is left out, only the jobs that are located directly in the specified folder are exported.

The folder path must be specified in the following format, starting with a slash `</>` character to denote the root folder and also as a separator between folder names:

```
/FolderName1/FolderName2/FolderName3
```

If a folder name contains the slash `</>` character, then the name (not the whole path!) must be enclosed in double-quotes. Similarly, if a folder name contains the double-quote character `<">`, then the name must be enclosed in double-quotes too, and the quotes in the name itself must be escaped by doubling them, i.e. a single double-quote `<">` becomes a double double-quote `<"">`. Note, that it is not necessary to use quotes for folder names that contain spaces.

Examples:

The root folder would be specified as a single slash:

```
/
```

The top-level folder "My Jobs" would be specified as:

```
/My Jobs
```

The second-level folder "April" that is located in the top-level folder "Year 2014" would be specified as:

```
/Year 2014/April
```

The third-level folder "Urgent "Last-Minute" Jobs" contains quotes that must be escaped. It is located in the second-level folder "Years 2012/2013" that contains a slash `</>` and that therefore also must be enclosed with quotes. It is in turn located in the first level folder "Special Jobs". The whole folder path would be specified as:

```
/Special Jobs/"Years 2012/2013"/"Urgent ""Last-Minute"" Jobs"
```

Of course when you specify such a folder path as a parameter of the request URL, you must remember to URL-encode the path. So the paths from the examples above would look like the following if included in a full request URL:

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=folder&recursive=false&folder=%2F
```

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=folder&recursive=false&folder=%2FMy+Jobs
```

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=folder&recursive=true&folder=%2FYear+2014%2FApril
```

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=folder&recursive=true&folder=%2FSpecial+Jobs%2F%22Years+2012%2F2
013%22%2F%22Urgent+%22%22Last-Minute%22%22+Jobs%22
```

- **Export a Specific Auto-Repeat Chain** – This exports all “completed” jobs in a specific chain of auto-repeat jobs.

Specify the additional request parameters `type=chain` and `jobid=JOB_ID`, where you replace `JOB_ID` with the ID of any of the jobs in the auto-repeat chain. The result will contain all jobs from the same auto-repeat chain that are in the "completed" state.

Example:

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=chain&jobid=101004D
```

- **Export All Jobs from a Specific Time Period** – This exports all “completed” jobs with a delivery date/time that falls into the given time period.

Specify the additional request parameter `type=period` and specify the period with the parameters `from=FROM_DATE_TIME` and `to=TO_DATE_TIME`, where you replace `FROM_DATE_TIME` with the start date/time of the period, and `TO_DATE_TIME` with the end date/time of the period. For both, you must use the following format: `YYYY-MM-DD-hh-mm`.

Note: These date and time values are interpreted relative to the default time zone settings of the server where the LUI component of LISTSERV Maestro is running.

Example:

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=period&from=2010-08-01-00-00&to=2010-08-07-23-59
```

- **Export All Jobs from the Most Recent Days** – This exports all “completed” jobs with a delivery date/time during one of the most recent days, where the number of days is configurable.

Specify the additional request parameter `type=period` and specify the period with the parameter `recentdays=DAYS`, where you replace `DAYS` with the number of full days in the past that shall define the period. The period is defined as follows: It begins at 00:00h of the day that is `DAYS` many days in the past, where "1" means "1 day in the past", i.e. "yesterday", so "2" means "the day before yesterday", etc. And the period always ends at 24:00h yesterday, i.e. jobs from today are never included in the export.

For example, if you specify `recentdays=1`, then you will get all jobs that were delivered yesterday (between 00:00h and 24:00h).

A value of "7" means "7 day in the past". So if you specify `recentdays=7`, then you will get all jobs that were delivered during the last 7 days (but not today). If for example the current

day is a Saturday, then the period specified by this will begin at 00:00h on the previous Saturday and will end at 24:00h yesterday (Friday).

Note: When determining the beginning and end of the relevant days, the system uses the default time zone settings of the server where the LUI component of LISTSERV Maestro is running.

Example:

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=period&recentdays=3
```

- **Combination of Folder and Specific Period** – It is possible to combine the parameters to select all jobs from a specific folder (optionally recursively) and a specific time period. As a result, the report will contain not all "completed" jobs from the selected folder (and optionally its sub-folders), but only those that were delivered during the specified period.

The period can be specified by both methods explained above: Either as a specific time period with given "from" and "to" date/time values, or as a relative time period with a given number of "recent days".

Examples:

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=folder&recursive=true&folder=%2FYear+2014%2FApril&
from=2010-08-01-00-00&to=2010-08-07-23-59
```

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=folder&recursive=false&folder=%2FYear+2014%2FApril&
recentdays=3
```

- **Combination of Auto-Repeat Chain and Specific Period** – It is possible to combine the parameters to select a specific auto-repeat chain and a specific time period. As a result, the report will contain not all "completed" jobs from the selected auto-repeat chain, but only those that were delivered during the specified period.

The period can be specified by both methods explained above: Either as a specific time period with given "from" and "to" date/time values, or as a relative time period with a given number of "recent days".

Examples:

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=chain&jobid=100917E&from=2010-08-01-00-00&to=2010-08-07-23-59
```

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&
type=chain&jobid=100722B&recentdays=3
```

By default, the result is returned as an UTF-8 encoded XML file (content type "text/xml").

Optionally, you can also request that the result is returned as a ZIP file. To do so, simply include the parameter zip as part of the access URL. For example:

```
http://SERVER_NAME/lui/externalAction.do?token=SECURITY_TOKEN&type=single&jobid=100817A&zip
```

This zip parameter can be combined with any of the parameters described above. If specified, then the downloaded file will be a ZIP archive file that contains one single "inner" file. The inner file is called "export.xml" and contains the same UTF-8 encoded XML data that you would also get directly if you do not specify the zip parameter.

5 Export Format (XML)

In the description of the XML format below, the following placeholders are used:

- *TEXT*: Any text string, of any length (XML encoded where necessary)
- *NUM*: Any non-negative integer number (consisting only of the digits 0-9)
- *DATE*: The date and time, expressed as milliseconds since 1-Jan-1970, 00:00h, GMT
- *BOOL*: Any of the following two texts: true or false
- *EXPORTTYPE*: Any of the following four texts: single, multiple, period, chain, folder or absplit
- *JOBTYPE*: Any of the following two texts: html or plain
- *JOBSTATE*: Any of the following two texts: successful or failed
- *TRACKINGTYPE*: Any of the following four texts: blind, unique, anonymous or personal
- *CONTENTPART*: Any of the following three texts: html, alt, plain or xaol

Please see also the endnotes for further information about the XML format.

```
<?xml version="1.0" encoding="UTF-8"?>
<export type="EXPORTTYPE" time="DATE" jobid="TEXT"1 jobids="TEXT"2
    folder="TEXT"3 recursive="BOOL"4 from="DATE" to="DATE"5>
<job6>
  <id>TEXT</id>
  <title>TEXT</title>
  <subject>TEXT</subject>
  <owner>TEXT</owner>
  <type>JOBTYPE</type>
  <state>JOBSTATE</state>
  <contentvariant>TEXT</contentvariant>7
  <deliverytime>DATE</deliverytime>8
  <recipients>NUM</recipients>
  <folder path="TEXT">TEXT</folder>9
  <absplit>BOOL</absplit>
  <autorepeat>BOOL</autorepeat>
  <sender>
    <address>TEXT</address>
    <name>TEXT</name>10
    <replyto>TEXT</replyto>11
  </sender>
```

```

<xheaders>12
  <header name="TEXT">13TEXT</header>
</xheaders>
<shareURLs>14
  <url media="TEXT">15TEXT</url>
</shareURLs>
<bounces handled="BOOL" count="NUM" time="Date"16>
  <bounce address="TEXT" code="TEXT">17TEXT</bounce>
</bounces>
<tracking enabled="BOOL">18
  <type>TRACKINGTYPE</type>
  <activities>
    <profile19 id="TEXT" address="TEXT"20 bounced="BOOL"21>
      <fields>22
        <field name="TEXT">23TEXT</field>
      </fields>
      <events>24
        <openup time="DATE" mobile="BOOL" level="NUM"
          media="TEXT" ip="TEXT" recipientid="NUM"/>25
        <click time="DATE" mobile="BOOL" level="NUM" url="TEXT"
          alias="TEXT" part="CONTENTPART" ip="TEXT"
          recipientid="NUM"/>26
        <action time="DATE" mobile="BOOL" level="NUM" tag="TEXT"
          ip="TEXT" recipientid="NUM"/>27
        <forward time="DATE" mobile="BOOL" level="NUM" ip="TEXT"
          recipientid="NUM"/>28
        <shareclick time="DATE" mobile="BOOL" level="NUM"
          media="TEXT" part="CONTENTPART" ip="TEXT"
          recipientid="NUM"/>29
        <subscribe time="DATE" mobile="BOOL" level="NUM" media="TEXT"
          part="CONTENTPART" ip="TEXT" recipientid="NUM"/>30
        <unsubscribe time="DATE" mobile="BOOL" part="CONTENTPART"
          ip="TEXT" recipientid="NUM"/>31
      </events>
    </profile>
  </activities>
</tracking>
</job>
</export>

```

¹ The `jobid` attribute is only present for (`type="single"`), (`type="chain"`) or (`type="absplit"`). It is not present for the other types.

² The `jobids` attribute is only present for (`type="multiple"`). It is not present for the other types.

³ The `folder` attribute is only present for (`type="folder"`). It is not present for the other types.

⁴ The `recursive` attribute is only present for (`type="folder"`). It is not present for the other types.

⁵ The `from` and `to` attributes are always present for (`type="period"`) and they can or cannot be present for (`type="folder"`) or (`type="chain"`). They are not present for the other types.

⁶ The `<job>` tag, with all its sub-tags, is repeated once for each job in the export. There can be just one `<job>` tag, or there can be several, or there can even be no `<job>` tag at all (if no jobs were delivered in the specified export period).

⁷ The `<contentvariant>` tag appears only if the job has more than one content variant. In this case, the whole `<job>` tag and its subtags (like `<deliverytime>`, `<recipients>`, `<bounce>` and `<tracking>`) describe only the most recent content variant of the job and its recipients. The `<contentvariant>` tag itself then contains the name of this most recent content variant. For a job with only one content variant, the tag does not appear at all.

⁸ The `<deliverytime>` tag may be empty if the job has the state "failed" (was not delivered successfully).

⁹ The `<folder>` tag contains the job folder in which the job is located. The "path" attribute and the tag body both describe the same folder: The tag body contains the folder path in human readable form (that may however be imprecise) and the "path" attribute contains the folder path in the same specific format that was described above in the "Export All Jobs in a Folder" bullet. For the root folder, the tag body is empty and the "path" attribute contains only a single slash `</>`.

¹⁰ The `<name>` tag is optional. It only appears if a sender name was defined for the mail job.

¹¹ The `<replyto>` tag is optional. It only appears if a reply-to address was defined for the mail job.

¹² The `<xheaders>` block is optional. It only appears if there were any X-headers defined for the mail job.

¹³ The `<header>` tag is repeated once for each X-header in the mail job.

¹⁴ The `<shareURLs>` block is optional. It only appears if there were any share links enabled for the mail job.

¹⁵ The `<url>` tag is repeated once for each enabled share link in the mail job. The "media" attribute contains the name of the social media and the tag body contains the share URL.

¹⁶ The "count" and "time" attributes in the `<bounces>` tag appear only if (`handled="true"`). They do not appear if (`handled="false"`).

¹⁷ The `<bounce>` tag is repeated once for every bounce that was registered for the mail job. If there were no bounces (`count="0"`) or if bounces were not handled by Maestro (`handled="false"`), then there are no `<bounce>` tags at all inside of the `<bounces>` parent tag.

¹⁸ The `<tracking>` tag contains the sub-tags `<type>`, `<openup>`, `<click>`, `<action>`, `<social>` and `<activities>` only if (`tracking enabled="true"`). If (`enabled="false"`), then there are no sub-tags and the `<tracking>` tag is empty.

¹⁹ The <profile> tag is repeated once for every recipient profile in the mail job, depending on tracking type and recipient type:

Personal tracking with recipient types HRL, Dataset, CSV or Select from DB: There is one <profile> tag for every recipient, even for recipients that did not trigger any events.

Personal tracking with recipient types LISTSERV List and LISTSERV select from DB: There is one <profile> tag for every recipient that triggered at least one event. Recipients that did not trigger any events are not listed.

Anonymous tracking: There is one <profile> tag for every anonymous profile, even for profiles that did not trigger any events.

Unique tracking: There is one <profile> tag for every unique recipient who triggered at least one event. Recipients that did not trigger any events are not listed.

Blind tracking: There is only one single <profile> tag.

²⁰ The "address" attribute is only included for personal tracking with recipient types HRL, Dataset, CSV or Select from DB. For other tracking types or recipient types, this attribute is not included.

²¹ The "bounced" attribute is only included if (handled="true") in the <bounces> tag above, and also only for personal tracking with recipient types HRL, Dataset, CSV or Select from DB. This attribute is not included if (handled="false") or for other tracking types or recipient types.

²² The <fields> block appears only if there was at least one additional profile field in the mail job, in addition to the recipient ID and email address. If there were no such additional profile fields, then the whole <fields> block (with its <field> sub-tags) will not appear at all.

²³ The <field> tag is repeated once for every field in the profile, except for the recipient ID and email address. Profile fields are for example fields like "Name", "Street Address", "Hobbies", etc.

²⁴ The <events> block contains all events triggered by the profile into which the block is nested. Inside of the <events> block, the sub-tags <openup>, <click>, <action>, <forward>, <shareclick> and <subscribe> may be repeated several times, in any order (i.e. they can also appear mixed up between the different types).

²⁵ The <openup> tag is repeated once for every open-up event that was registered for this profile. If there are several open-up events for this profile, then there will be several such tags, which may appear in any order and may also appear in mixed order with tags of other event types.

The "mobile" attribute is "true" for events that have originated from a mobile device (only for jobs sent with LMA 10.0 or later), or "false" for all other events.

The "level" attribute is not present if the tracking type is "blind". For other tracking types, it is present and describes the forwarding level of the person that triggered the event: level="0" means that the original recipient triggered the event. If this recipient forwards the message to a second person (using Maestro's built-in forward-to-a-friend feature) or shares it via a social media, and this second person also triggers an open-up event, then this event will appear listed under the original recipient, but with level="1". If this second person forwards or shares again, to a third person, then events from this third person will have level="2", and so on.

The "media" attribute shows the media (email or a social media) on which the event was triggered.

The "ip" attribute is only present for personal tracking. It contains the IP address of the person that triggered the event.

The "recipientid" attribute is only present for jobs sent with LMA 6.0-11 or later that use anonymous tracking. It contains an anonymous recipient ID that makes it possible to discern if the events that were triggered by a profile were triggered by the same or by different recipients, without actually making the recipients identifiable.

²⁶ The <click> tag is repeated once for every click event that was registered for this profile. If there are several click events for this profile, then there will be several such tags, which may appear in any order and may also appear in mixed order with tags of other event types.

The "alias" attribute only appears if an alias was actually defined for this URL.

See the endnote for the <openup> tag for an explanation of the "mobile", "level", "ip" and "recipientid" attributes.

²⁷ The <action> tag is repeated once for every action event that was registered for this profile. If there are several action events for this profile, then there will be several such tags, which may appear in any order and may also appear in mixed order with tags of other event types.

See the endnote for the <openup> tag for an explanation of the "mobile", "level", "ip" and "recipientid" attributes.

²⁸ The <forward> tag is repeated once for every forward-to-a-friend event that was registered for this profile. If there are several forward-to-a-friend events for this profile, then there will be several such tags, which may appear in any order and may also appear in mixed order with tags of other event types.

See the endnote for the <openup> tag for an explanation of the "mobile", "level", "ip" and "recipientid" attributes.

²⁹ The <shareclick> tag is repeated once for every share-icon-click event that was registered for this profile. If there are several share-icon-click events for this profile, then there will be several such tags, which may appear in any order and may also appear in mixed order with tags of other event types.

See the endnote for the <openup> tag for an explanation of the "mobile", "level", "media", "ip" and "recipientid" attributes.

³⁰ The <subscribe> tag is repeated once for every subscribe event that was registered for this profile. If there are several subscribe events for this profile, then there will be several such tags, which may appear in any order and may also appear in mixed order with tags of other event types.

See the endnote for the <openup> tag for an explanation of the "mobile", "level", "media", "ip" and "recipientid" attributes.

³¹ The <unsubscribe> tag is repeated once for every unsubscribe event that was registered for this profile. The unsubscribe event for this profile, if any, may appear in any order with tags of other event types.

See the endnote for the <openup> tag for an explanation of the "mobile", "ip" and "recipientid" attributes.