



Whitepaper

Exporting LISTSERV® Maestro Job Data to an XML File

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Introduction

This document describes the procedure for exporting the data of a delivered job, including tracking events, into an XML file. This feature is available in LISTSERV Maestro 4.0-12 and later.

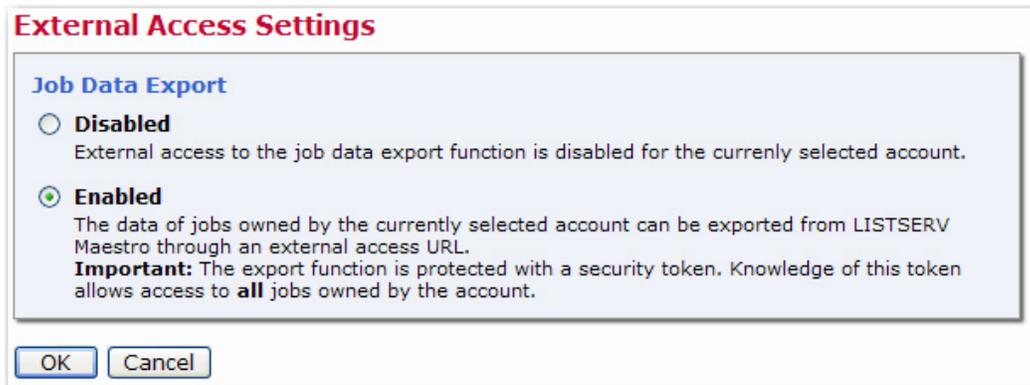
Step 1: Enabling the Job Data Export Feature

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: From the Accounts and Identities screen, select the group to enable. The Group Overview screen opens. From here, select **Group > External Access** from the Toolbar. The External Access Settings screen opens.

For a non-group user account: From the Accounts and Identities screen, select the user account to enable. The User Account Overview screen opens. From here, select **User Account > External Access** from the Toolbar. The External Access Settings screen opens.



Select the **Enabled** option and click **[OK]**. The Job Data Export feature is now enabled for the specific account or group you selected.

Step 2: 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.

User Account Overview

Account:	sample
Group:	---
Identity:	---
Change Password:	✓
Create Jobs:	✓
Create Reports:	✓
Create Sender Profiles:	✓
Create Drop-Ins:	✓
Create Content Templates:	✓
Administer Target Groups:	✓
Administer Hosted Recipient Datasets:	✓
Link Datasets to LISTSERV Web Interface:	✗
Created Jobs are Owned By:	This account.

Job Data Export

The job data export is enabled. To trigger a job data export, the external-access-URL must contain the security token.

[Show Security Token](#)

Important: Anybody who knows the security token is authorized to export the job data of **all** jobs that are owned by this user account, so make sure that no third party has access to the token.

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.

Step 3: 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/lu/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 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 specifically. See the next item for an option to export A/B-split jobs.

Example:

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

- **Export a 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/lui/externalAction.do?token=SECURITY_TOKEN&type=absplit&jobid=100912C
```

- **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 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 LUISERV Maestro is running.

Example:

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

Example 1:

```
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
```

Example 2:

```
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.

Example: Job Data Export XML File

This section contains an example of job data exported into an XML file format. The example contains the following placeholders:

- *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, period, chain, 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 xal

Important: The XML description below contains highlighted text with endnotes. These endnotes contain information that is pertinent to your understanding of this example and feature. Please be sure to read them carefully.

```

<?xml version="1.0" encoding="UTF-8"?>
<export type="EXPORTTYPE" time="DATE" jobid="TEXT"1 from="DATE" to="DATE"2>
  <job>3
    <id>TEXT</id>
    <title>TEXT</title>
    <subject>TEXT</subject>
    <owner>TEXT</owner>
    <type>JOBTYPE</type>
    <state>JOBSTATE</state>
    <deliverytime>DATE</deliverytime>4
    <recipients>NUM</recipients>
    <folder>5TEXT</folder>
    <absplit>BOOL</absplit>
    <autorepeat>BOOL</autorepeat>
    <sender>
      <address>TEXT</address>
      <name>TEXT</name>6
      <replyto>TEXT</replyto>7
    </sender>
    <xheaders>8
      <header name="TEXT">9TEXT</header>
    </xheaders>
    <bounces handled="BOOL" count="NUM" time="Date"10>
      <bounce address="TEXT" code="TEXT">11TEXT</bounce>
    </bounces>
    <tracking enabled="BOOL">12
      <type>TRACKINGTYPE</type>
      <openup enabled="BOOL"/>
      <click enabled="BOOL"/>
      <action enabled="BOOL"/>
      <forward13 enabled="BOOL" forwards="NUM" conversions="NUM"14>
        <level number="NUM" forwards="NUM" conversions="NUM"/>15
      </forward>
      <activities>
        <profile16 id="TEXT" address="TEXT"17 bounced="BOOL"18>
          <fields>19
            <field name="TEXT">20TEXT</field>
          </fields>
          <events>21
            <openup time="DATE" level="NUM"/>22
            <click time="DATE" level="NUM"
              url="TEXT" alias="TEXT" part="CONTENTPART"/>23
            <action time="DATE" level="NUM" tag="TEXT"/>24
          </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 `(type="period")`.

² The `from` and `to` attributes are not present for `(type="single")` or `(type="absplit")`. They are always present for `(type="period")` and they can or can not be present for `(type="chain")`.

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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).

⁴ The `<deliverytime>` tag may be empty if the job has the state "failed" (was not delivered successfully).

⁵ Added in version 4.0-13, the `<folder>` tag contains the category of the job. It is empty if the job does not have a category.

⁶ The `<name>` tag is optional. It only appears if a sender name was defined for the mail job.

⁷ The `<replyto>` tag is optional. It only appears if a reply-to address was defined for the mail job.

⁸ The `<xheaders>` block is optional. It only appears if there were any X-headers defined for the mail job.

⁹ The `<header>` tag is repeated once for each X-header in the mail job.

¹⁰ The "count" and "time" attributes in the `<bounces>` tag appear only if `(handled="true")`. They do not appear if `(handled="false")`.

¹¹ 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.

¹² The `<tracking>` tag contains the sub-tags `<type>`, `<openup>`, `<click>`, `<action>`, `<forward>`, and `<activities>` only if `(tracking enabled="true")`. If `(enabled="false")`, then there are no sub-tags and the `<tracking>` tag is empty.

¹³ The `<forward>` tag contains the sub-tag `<level>` only if `(forward enabled="true")` and if there actually were some forwards. If `(enabled="false")`, or if there were no forwards at all, then there will be no sub-tags and the `<forward>` tag is empty.

¹⁴ The `<forward>` tag contains the "forwards" and "conversions" attributes only if `(enabled="true")`. In this case, these two attributes contain the total forward count and the total conversion count. The separate counts per level are listed with the nested `<level>` tags.

¹⁵ The `<level>` tag is repeated once for every forwarding level on which there was at least one forward or one conversion. The first level will have `(number="1")`, the second level will have `(number="2")`, and so on.

¹⁶ 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.

¹⁷ 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.

¹⁸ 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.

¹⁹ 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.

²⁰ 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.

²¹ The <events> block appears only if at least open-up, click, or action-tracking was enabled for the mail job. If none of these three types was enabled, then the <events> block (with its sub-tags) will not appear at all.

Inside of the <events> block, the sub-tags <openup>, <click>, and <action> may be repeated several times, in any order (i.e. they can also appear mixed up between the three types).

²² 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 <click> or <action> tags.

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), 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 again, to a third person, then events from this third person will have level="2", and so on.

²³ 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 <openup> or <action> tags.

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

See the comment for the <openup> tag for an explanation of the "level" attribute.

²⁴ 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 <openup> or <click> tags.

See the comment for the <openup> tag for an explanation of the "level" attribute.