**LISTSERV Maestro Admin Tech Doc 13**

# Sharing a Server with IIS

This document is a LISTSERV Maestro Admin Tech Doc. Each admin tech doc documents a certain facet of the LISTERV Maestro administration on a technical level. This document is number 13 of the collection of admin tech docs and explains the topic "Sharing a Server with IIS".

Last updated for LISTSERV Maestro 10.0-1 on September 29, 2021. The information in this document also applies to later LISTSERV Maestro versions, unless a newer version of the document supersedes it.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

If you want to install LISTSERV Maestro on a server where already an IIS web server is running, then most likely the default HTTP port 80 is already in use by this web server. You therefore need to configure LISTSERV Maestro to use a different HTTP port (see "LMA Admin Tech Doc 6 – IP Addresses and Ports").

The unfortunate side-effect of this is, that users of LISTSERV Maestro will then not be able to access Maestro with a nice "clean" URL, like `http://myhost.domain.com/lui`, but they have to include the non-standard HTTP port in the URL, like `http://myhost.domain.com:8080/lui`.

While this may be acceptable in many cases, in some cases it is not. In these cases, it is possible to "share" the standard port 80 with IIS.

Or more precisely: IIS acts as a reverse-proxy in such a way, that the requests from the clients are made to IIS (on the default port), and IIS then dispatches the requests to LISTSERV Maestro as the backend server. LISTSERV Maestro's response is then passed back to IIS, which forwards it to the client. To the client this looks as if it is communicating directly with LISTSERV Maestro on the standard port, when in reality it is communicating with IIS, which however does not process the requests itself, but passes them on to LISTSERV Maestro, and the responses back to the client.

The following describes how to configure LISTSERV Maestro and IIS for such a scenario.

**Note:** The web site that is to be used for the proxy must not have any root folders with the names "lui", "hub", "list", "trk" or "z", i.e. before configuring the web site as described below, make sure that the following URLs are **not** in use (and also not any sub-URLs that start with these URLs):

```
http://YOURSERVER/lui

http://YOURSERVER/help

http://YOURSERVER/hub

http://YOURSERVER/list

http://YOURSERVER/trk

http://YOURSERVER/.well-known
```

# 2 Configure LISTSERV Maestro

Edit the file

```
[install_folder]/conf/tomcat.ini
```

and add the following entry:

```
AJPConnector=IP_ADDRESS:PORT
```

where you replace `IP_ADDRESS` with one of the IP-addresses of the server (usually the main address) and `PORT` with a free port, that is not used by any other application (for example 8009). You can specify an IPv4 or IPv6 address, but an IPv6 address must be enclosed in brackets "[" and "]", with the port following after the brackets. (In LMA 5.0-25 and before, the `IP_ADDRESS` **must** be an IPv4 address. IPv6 addresses are not supported in these older versions.)

Examples:

```
AJPConnector=192.168.1.1:8009

AJPConnector=[fe80::7026:d336:94f8:74c7]:8009
```

Create a folder on the server, in a suitable location, with a suitable name. The account under which the web server is running must have read and write access to this folder. In the following, we will use `[connector_folder]` to depict this folder.

Create a text file with the following name:

```
[connector_folder]/workers.properties
```

Edit this file with a text editor and set its content to the following four lines:

```
worker.list=maestro

worker.maestro.type=ajp13

worker.maestro.host=HOSTNAME

worker.maestro.port=PORT
```

where you replace `HOSTNAME` and `PORT` according to the values that you used for the `AJPConnector` setting in the `tomcat.ini`. The `HOSTNAME` must be a host name that maps to the IP-address that you used for the `AJPConnector` (but not the IP-address itself), and the `PORT` must be the same port as in the `AJPConnector`.

Create a text file with the following name:

```
[connector_folder]/uriworkermap.properties
```

Edit this file with a text editor and set its content to the following five lines:

```
/lui|/*=maestro

/help|/*=maestro

/hub|/*=maestro

/list|/*=maestro

/trk|/*=maestro

/.well-known|/*=maestro
```

# 3 Configure IIS

Download the latest stable version of the ISAPI Redirect DLL. Unfortunately we cannot quote a URL for this download, because this download is not hosted on a specific server, but on a set of mirrors, which vary over time, as does the exact location (and filename) on these mirrors. So you will have to find it yourself. The entry to find this is usually the "Tomcat Connectors (mod_jk)" page of the Apache Tomcat project.

At the time of writing (September 2021), the latest version is 1.2.48 and can be downloaded as follows:

Got to http://tomcat.apache.org/download-connectors.cgi, then in the section "Tomcat Connectors JK 1.2", click on "Binary Releases", then "windows/".

Then download "tomcat-connectors-1.2.48-windows-x86_64-iis.zip" (for 64-bit Windows). This ZIP-file contains the required `isapi_redirect.dll`.

(If the DLL filename contains a version number or similar, rename it to the plain name "`isapi_redirect.dll`".)

Put this DLL file into the `[connector_folder]`.

Create a text file with the following name:

    [connector_folder]/isapi_redirect.properties

Edit this file with a text editor and set its content to the following five lines:

    extension_uri=/jakarta/isapi_redirect.dll

    log_file=[maestro_install_folder]\logs\isapi_redirect.log

    log_level=info

    worker_file=[connector_folder]\workers.properties

    worker_mount_file=[connector_folder]\uriworkermap.properties

where you replace `[maestro_install_folder]` and `[connector_folder]` (two occurrences of the latter) with the correct values for your system.

## 3.1 Configure IIS 6

- Open the IIS Manager.

- In the Manager, open the node for the local computer.

- Right-click on the "Web Service Extension" node.

- Select "Add a new Web service Extension…" from the popup menu. In the dialog that opens:

    - Enter a meaningful name for the extension (for example "LISTSERV Maestro").

    - Add a required file: Click the "Add" button, then the "Browse" button, then select the file `[connector_folder]\isapi_redirect.dll`

    - Check the "Set extension status to Allowed" checkbox.

    - Click [OK].

- Still in the Manager, open the "Web Sites" node.

- Determine the web site that you want to use to act as a "proxy" for LISTSERV Maestro and right click on the node for this web site.

- Select "New" -> "Virtual Directory" from the popup menu. In the wizard create a new virtual directory with the following settings:

    - Alias: Must be "jakarta" (without the quotes).

    - Path: Select the [connector_folder]

    - Permissions: Grant both "Read" and "Execute".

- Again, in the Manager, right click on the node for this web site.

- Select "Properties" from the popup menu. In the properties dialog:

  - Go to the "ISAPI Filters" tab.

  - Click "Add".

  - Enter a meaningful filter name (for example "LISTSERV Maestro").

  - Click browse to select the executable. Select the file
    `[connector_folder]\isapi_redirect.dll`

## 3.2 Configure IIS 7 or greater

In the Server Manager:

- Both "ISAP Filters" and "ISAPI Extensions" must be installed as role services.

- Determine the web site that you want to use to act as a "proxy" for LISTSERV Maestro.

- Right click on the node for this web site.

- Select "Add Application" from the popup menu. In the dialog, enter the following settings:

  - Alias: Must be "`jakarta`" (without the quotes).

  - Physical path: Select the `[connector_folder]`.

- Select the web site node again, then in the right pane, double click the "ISAPI Filters" symbol, then right click in the right pane.

- Select "Add" from the popup menu. In the dialog:

  - Give the filter a meaningful name (for example "LISTSERV Maestro").

  - For the executable, select the file
    `[connector_folder]\isapi_redirect.dll`

- Select the web site node again, then in the right pane, double click the "Handler Mappings" symbol, then right click in the right pane.

- Select "Add Module Mapping" from the popup menu. In the dialog:

  - Request path: Must be "`*.dll`" (without the quotes).

  - Module: `IsapiModule`

  - Executable: . Select the file
    `[connector_folder]\isapi_redirect.dll`

  - Name: Specify a meaningful name (for example "LISTSERV Maestro").

  - After you click [OK] in the dialog, you are asked if you want to allow this ISAPI extension. You must answer with "Yes".

# 4 Completing the Configuration

After the configuration steps above, you have to restart LISTSERV Maestro. Most likely, you will also have to restart IIS, to activate the changes you made there.

If everything is configured correctly, you should then be able to access LISTSREV Maestro through IIS. For example, if the web site for which you configured the proxy above is called "www.mycorp.com", then you can now access LISTSERV Maestro with the following URL:

```
http://www.mycorp.com/lui
```

As a last step, you should now login to the Administration Hub and configure the access URLs to reflect, that access to Maestro is now via the default port, i.e. the access URLs must now no longer include the port element.

For example, if your LISTSERV Maestro is running on port 8080, then before you performed the above proxy configuration, your access URLs will look something like "`http://SERVERNAME:8080`". You now need to change these to plain URLs without a port element, like "`http://SERVERNAME`".

If you are configuring a fresh installation of LISTSERV Maestro, then that is all you need to do. But if you are configuring a LISTSERV Maestro instance that has already been in use for a while with the non-standard port (for example 8080), then people might already have bookmarks to the LISTSERV Maestro access pages with this non-standard port.

After you have now changed the access URLs to no longer contain the non-standard port, users will no longer be allowed to log in to LISTSERV Maestro if they access it via these bookmarks. You should therefore set the old access URLs (the ones with the non-standard port) as access URL aliases. With such an alias, if a user accesses LISTSERV Maestro with the old URL (through an old bookmark), he will still be allowed to login, and after login, he is automatically redirected to the new URL (with the standard port).