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Long Term Archive Howto

This is a short manual on how to search for and retrieve data from the Long Term Archive.

User Access

To access the LTA you need to have an account in MoM that is enabled for the archive.

- 1. This automatically happens if you were a member of the original project proposal in MoM.
- 2. Otherwise Science Support needs to add you to the project to which you need access.
- 3. For public data you can use an anonymous account.

If you were not originally a member of the project in MoM and Science Support adds you to it, you might get an email asking you to set a new password in ASTRON Web Applications Password Self Service. Please note that this will set a new password not just for the LTA but for MoM (LOFAR/WSRT) and Northstar as well.

Finding data

Once your account is set up, you can navigate to LTA Catalog site

Login into the website by clicking in 'login' (third item in the menu):

```
Home Help login (AWANONYMOUS) project (ALL) Search Show Latest
```

Currently you can only search the LTA catalogue per project. This means you need to select a project first by clicking on the 'project' link. Projects which you do not have access to will be grayed out in the resulting list.

```
login (awsciencesupport) | project (Commissioning2012) | Search | Show Latest
```

Once you have selected your project, you can use either:

- 1. The Search screen which allows you to search by RA/Dec, ObservationId, Frequency, etc.
- 2. The *Show Latest* screen which shows you the most recently added data for this project.

The result of either query will be a list of data products or observations similar to this:

Home Help login (renting) project (Commissioning2012) Search Show Latest

Interferometric Data 1 to 256 (showing 256 of total 44709)

edit columns | stage uris

#	DataProduct Identifier	Target Name	Right Ascension [degrees]	Declination [degrees]	Central Frequency [MHz]	Chann Width [
1	3400453	3C218	139.523541667	-12.095555556	155.859375	3051.7578
2	3400408	Hercules-A	252.784166667	4.9925	156.25	3051.7578
3	3400429	3C218	139.523541667	-12.095555556	130.6640625	3051.7578
4	3400445	3C218	139.523541667	-12.095555556	146.09375	3051.7578
5	3400450	3C218	139.523541667	-12.095555556	151.171875	3051.7578
6	3400462	3C218	139.523541667	-12.095555556	165.8203125	3051.7578
7	3400442	3C218	139.523541667	-12.095555556	145.5078125	3051.7578
8	3400463	3C218	139.523541667	-12.095555556	166.015625	3051.7578
9	3400465	3C218	139.523541667	-12.095555556	166.40625	3051.7578
10	3400469	3C218	139.523541667	-12.095555556	171.2890625	3051.7578
11	3400464	3C218	139.523541667	-12.095555556	166.2109375	3051.7578

If you have a list of observations, you can navigate to the data products by clicking on the relevant link in the 'Number of Correlated/BeamFormed DataProducts' column. For navigating to data for only one particular sub-array pointing (SAP), select first the relevant SAP from the list obtained by clicking on the relevant link in the 'Number of Sub-Array Pointings' column.

Retrieving data

Once you have a list of dataproducts, you can use the check boxes to select which files you want to download. The first check box can be used to select or deselect all files on the page.

edit columns (stage uris						
#	Q	DataProduct Identifier	Target Name	Right Ascensi [degree		
1	☑	3400453	3C218	139.52354		
2	☑	3400408	Hercules-A	252.78416		
3	☑	3400429	3C218	139.52354		
4	\triangleleft	3400445	3C218	139.52354		
5		3400450	3C218	139.52354		
6	$\overline{\mathbf{v}}$	3400462	3C218	139.52354		
7		3400442	3C218	139.52354		
8	⋖	3400463	3C218	139.52354		
9	☑	3400465	3C218	139.52354		
10		3400469	3C218	139.52354		
11		3400464	3C218	139.52354		

When you have made your selection of files, you click on stage. This shows you the following

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message. It means that a request has been sent to the LTA staging service to start retrieving the requested files from tape storage and make them available. You will get an e-mail when this tape retrieval is complete.

The following file(s) are requested for download. You will receive an email when the files can be retrieved.

Size Filename
758.2 MB L75432 SAP004 SB215 uv.MS f6b663ca.tar

The e-mail that you get when the tape retrieval is complete gives you a list of files and has two attachments, html.txt and srm.txt:

Your data retrieval request with id 25 has been staged and is ready for retrieval.

List of files:

srm://lofar-srm.fz-juelich.de:8443/pnfs/fz-juelich.de/data/lofar/ops/projects/commissionin_04d3730c.tar

The attached files can be used to retrieve the staged files. For more information visit http://www.lofar.org/wiki/doku.php?id=public:lta_howto

This mail has been automatically generated by the ASTRON/LOFAR LTA staging service. Do not reply to this message. If you have any questions or remarks, please contact <u>sciencesupport@astron.nl</u> and provide the id of the request in your message.

	P
Size	Type
4KB	Message Attachment
214 Bytes	File Attachment
189 Bytes	File Attachment
	4KB 214 Bytes

There are two ways you can use this list to retrieve the files: http and srm

HTTP download

If you open html.txt this file contains a list of http links that you can feed to a unix commandline tool like wget or curl or even use in a browser.

For wget you can use the following command line:

```
wget -i html.txt
```

This will download the files in html.txt to the current directory. Do not set the username and password on the wget command line because this allows other users on the system to view them in the process list. Instead you should create a file \sim /.wgetrc with two lines according to the following example:

user=lofaruser
password=secret

Set access authorizations of the .wgetrc file to user only so that the credentials are not exposed to anybody else, e.g.:

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chmod 600 .wgetrc

There is no easy way to have wget rename the files as part of the command directly. It does not accept the -O flag inside a file it gets with -i. You can either rename files afterward, or add the -O option to each line in html.txt but then feed each line to wget separately like this: cat html.txt | xargs wget. By default the html.txt file does not contain such options.

SRM download

If you open the file srm.txt this file contains a list of srm locations which you would feed to srmcp. SRM is a GRID specific protocol that is currently supported for data at the SARA and Jülich locations. It is faster, especially if you have significantly more than 1 GB/s bandwidth. It requires a valid GRID certificate and installation of the GRID srm software. NB There is an alternative installation that does not require root privileges. Contact Science Support if you think you might need a GRID account but it can not be provided by your own institute. An example command line would be:

srmcp --server_mode=PASSIVE srm://lofar-srm.juelich.de:8443/pnfs/fzjeulich.de/data/lofar/ops/projects/commissioning2012/file.tar file:////data/files/file.tar

You only need —server_mode=PASSIVE if you are behind a firewall or on an internal network. This will result in a slower transfer speed as it will only use one instead of multiple streams.

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