



LBT Archive Troubleshooting Guide

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1 Quick overview

- To amend the values of already archived FITS files → refer to Sec. 2
- To check the status of the archiving system → refer to Sec. 3
- To change a file ingestion/delivery point → refer to Sec. 4
- To check the troubleshooting archive → refer to Sec. 5

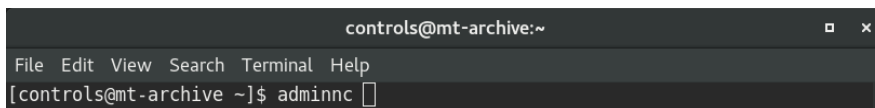
2 Administration interface

This is a short section that illustrates how to use the administration interface on the machine that is dedicated to data ingestion. The interface was developed by the IA2 group in Trieste to support archive administrators and astronomers in case one or more archived files need to be amended. By using this interface it is possible to modify the FITS files when metadata values are wrong or completely missing. This tool operates a change on the file content and on the related information on the database. The same change is propagated to all the remote archiving sites.

The administration interface relies on the *ncurses* libraries which allow to create text-based user interfaces in a terminal-independent manner and to optimize screen changes in order to reduce the latency experienced when using remote shells. This last point is crucial since the archiving machines may be accessible only through the SSH tunnel. Therefore it is important to work with graphical interfaces that are available also in case of reduced bandwidth capacity.

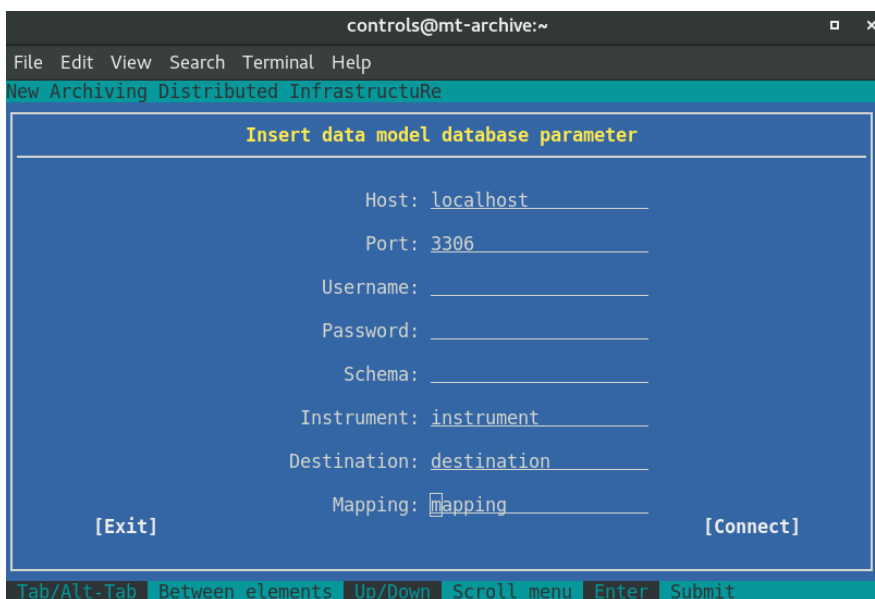
The administration interface has already been installed on the server that is in charge of image archiving at the astronomical site. You only need to follow carefully the procedure described below in order to make effective the changes you want to introduce in your files. The screenshots for this manual were taken for the LBT archiving server, however, the procedure described here can be easily applied to any other case.

1. On the server in charge of data ingestion open a shell and type `adminnc`:



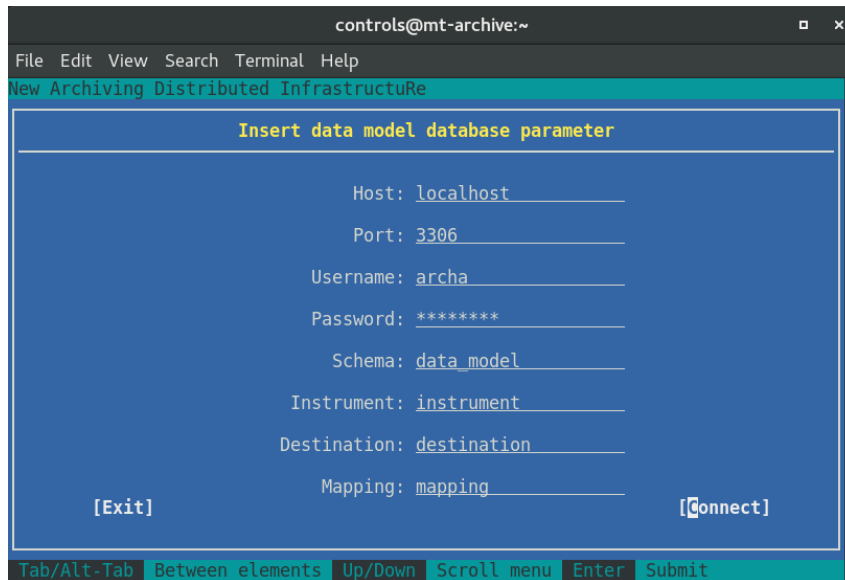
```
controls@mt-archive:~  
File Edit View Search Terminal Help  
[controls@mt-archive ~]$ adminnc
```

This graphical interface will immediately appear:

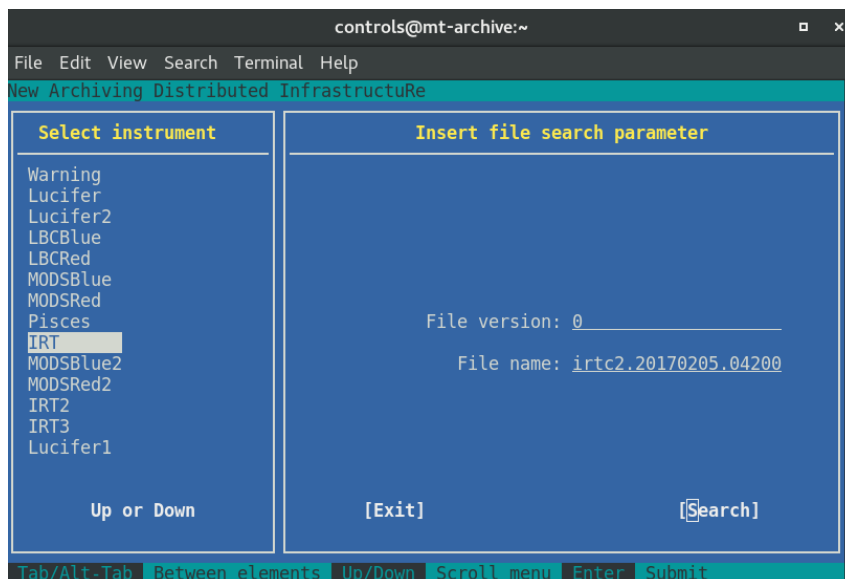


```
controls@mt-archive:~  
File Edit View Search Terminal Help  
New Archiving Distributed InfrastructuRe  
Insert data model database parameter  
Host: localhost  
Port: 3306  
Username: _____  
Password: _____  
Schema: _____  
Instrument: instrument  
Destination: destination  
Mapping: mapping  
[Exit] [Connect]  
Tab/Alt-Tab Between elements Up/Down Scroll menu Enter Submit
```

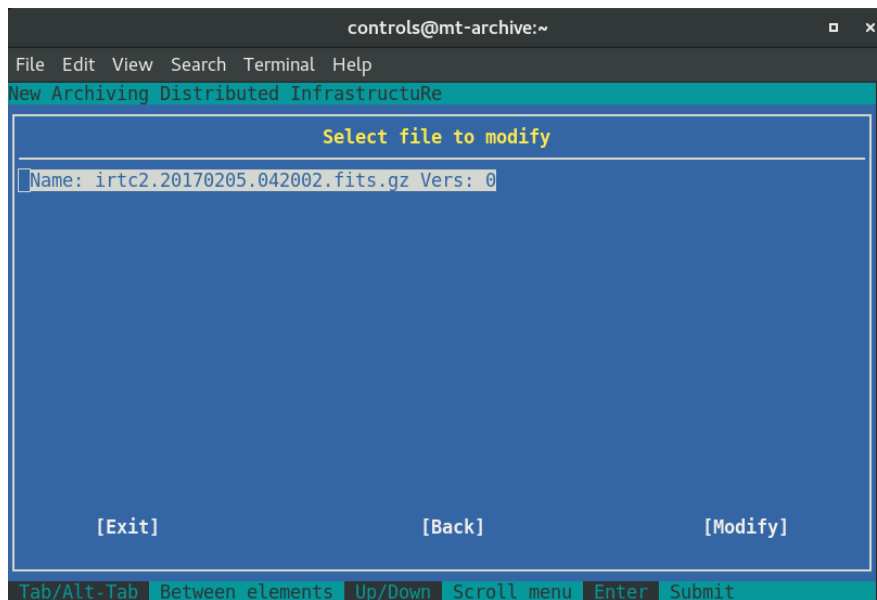
- Use the Tab key to move between entries. The access credentials (**Username** and **Password**) to the MySQL database hosting the archive need to be specified. Fill in the schema name of the datamodel used to organize the ingestion process (**Schema**). If you do not know the information required, please contact your database administrator. When you are done, move the cursor to **Connect** and press the Enter key on your keyboard.



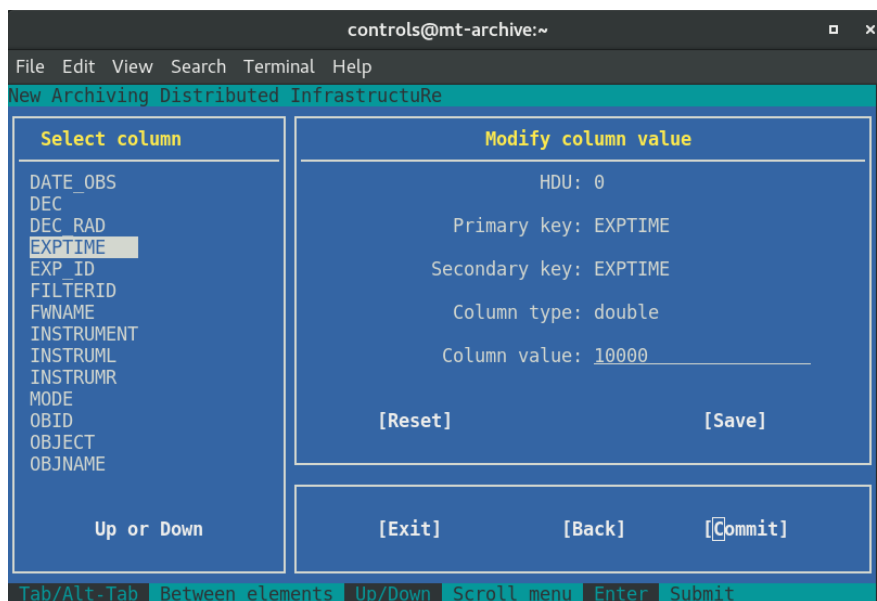
- On the left side of the window, under **Select instrument** you find a list of the instrument database tables. By using the Up/Down arrows select the instrument that was used to produce the file you want to modify. Then press Tab on your keyboard and fill in the version and the name of the file you are going to modify. Finally move the cursor to **Search** and press the Enter key:



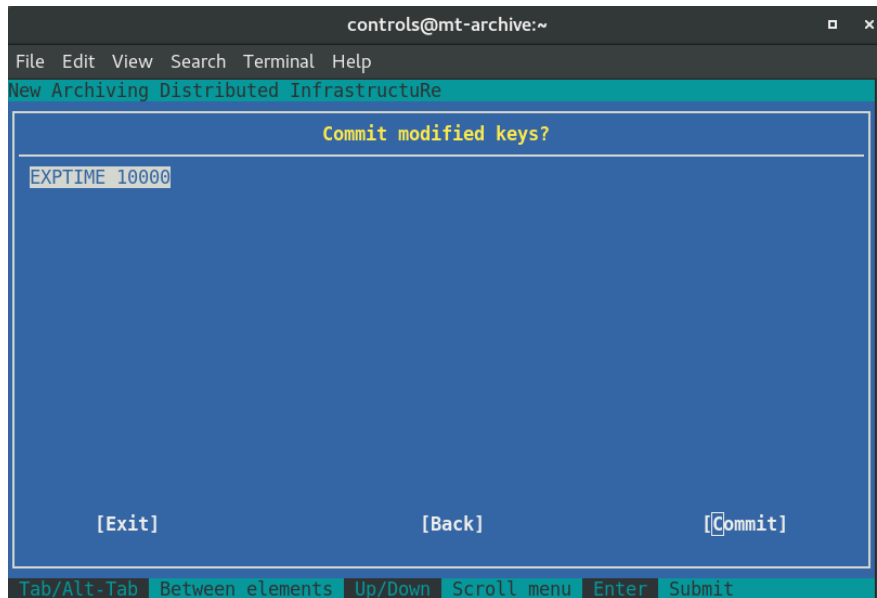
4. A screen showing the file name and the file version will open up. Check carefully that this is really the file you want to change then move the cursor to Modify and press Enter on your keyboard.



5. On the left side of the window, under Select column you find a list of the metadata keys contained in the FITS file. By using the Up/Down arrows select the metadata key you want to modify. Then press Tab on your keyboard and change the metadata value (next to Column value). When done, move the cursor to Save and press the Enter key. Move the cursor to Commit and press the Enter key.



6. A screen with the metadata key and its modified value will open up. Make sure that the metadata value has been modified in the proper way. **Attention! The next action writes to the file and on the database!** If you are sure, move the cursor to `Commit` and press the Enter key.



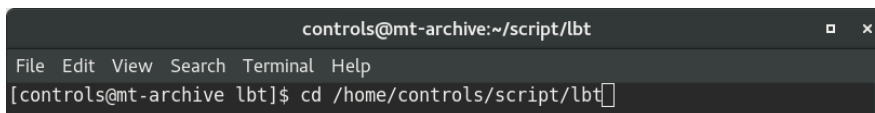
7. Now the file has been changed. If this was the only file you wanted to change move the cursor to `Exit` and press the Enter key. If you want to search for more files move the cursor to `Back`, press the Enter key and search for a new file.

Attention! Currently this graphical interface cannot be used to modify files under the Warning instrument.

3 NADIR status

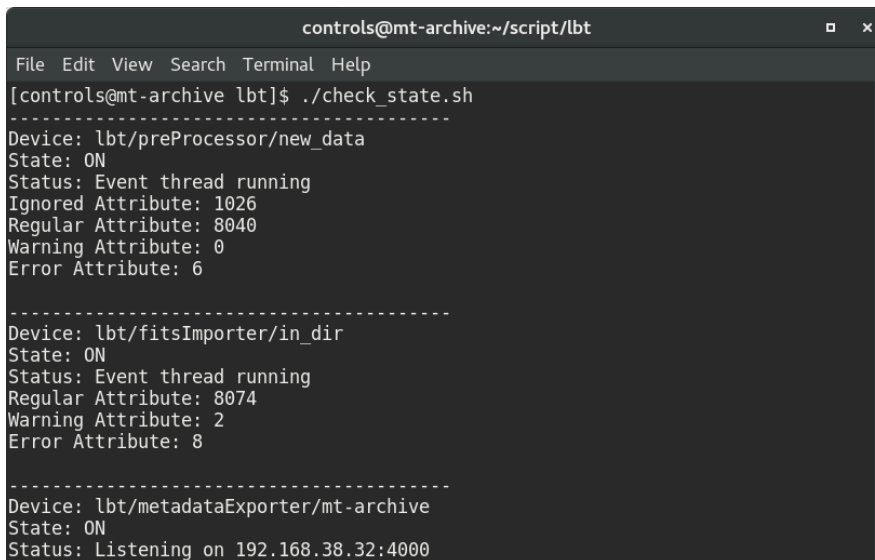
NADIR (New Archiving Distributed InfrastructuRe) is the software in charge for data ingestion and data transfer to the remote sites. It was developed by the IA2 group in Trieste. It is composed by a number of TANGO [1] servers each responsible for a different archiviatiion task. The smooth functioning of the archive depends on the correct functioning of these servers. In order to check the status of these devices:

1. Go to the following folder:



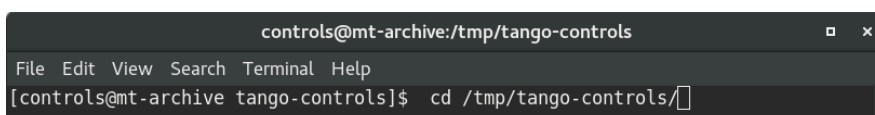
```
controls@mt-archive:~/script/lbt
File Edit View Search Terminal Help
[controls@mt-archive lbt]$ cd /home/controls/script/lbt
```

2. Execute the `check_state.sh` script. A list of the devices will appear together with their State and Status:



```
controls@mt-archive:~/script/lbt
File Edit View Search Terminal Help
[controls@mt-archive lbt]$ ./check_state.sh
-----
Device: lbt/preProcessor/new_data
State: ON
Status: Event thread running
Ignored Attribute: 1026
Regular Attribute: 8040
Warning Attribute: 0
Error Attribute: 6
-----
Device: lbt/fitsImporter/in_dir
State: ON
Status: Event thread running
Regular Attribute: 8074
Warning Attribute: 2
Error Attribute: 8
-----
Device: lbt/metadataExporter/mt-archive
State: ON
Status: Listening on 192.168.38.32:4000
```

3. If the devices are working correctly they are in **ON** state. If not, try to understand the problem from the Status description.
4. If the Status description is not clear enough, change directory as shown in the figure and access the folder corresponding to the server that does not work correctly. Inspect the `info.log` file.



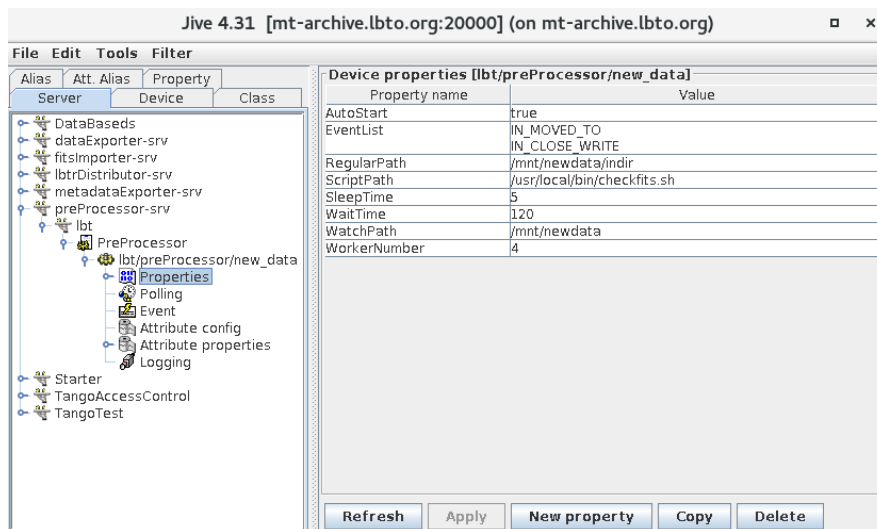
```
controls@mt-archive:/tmp/tango-controls
File Edit View Search Terminal Help
[controls@mt-archive tango-controls]$ cd /tmp/tango-controls/
```

5. If this fails as well, contact the archive administrators in Trieste.

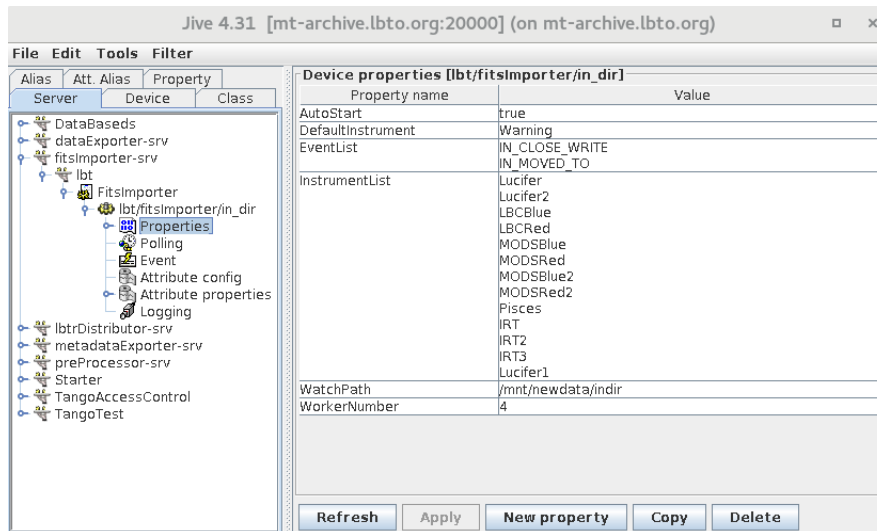
4 Jive interface

Jive is a standalone JAVA application designed to browse and edit the Tango [1] database. By using Jive it is possible to create Tango devices (corresponding here to the archivation servers), properties and classes. In this document we focus essentially only on the task of changing an ingestion/delivery point. Never add or remove properties to the already existing devices!

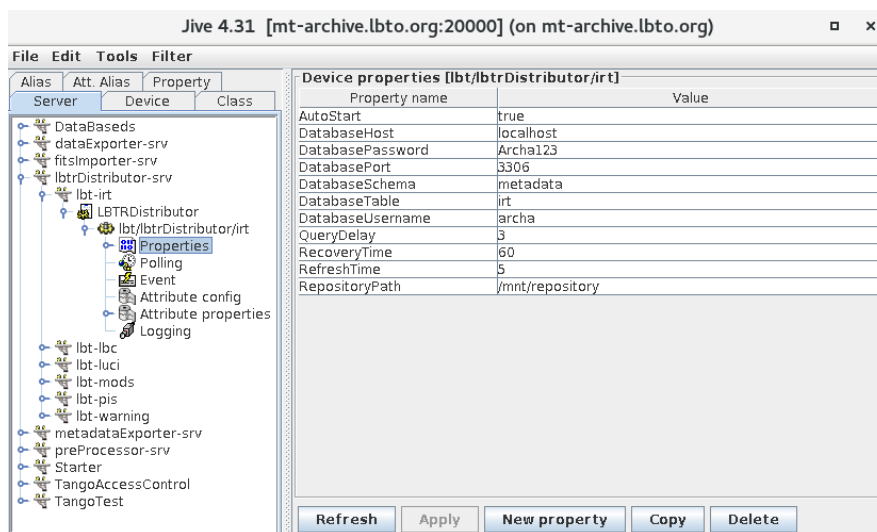
1. Open a shell and type `jive`. A graphical interface will appear. On the left side you find a list of all the Tango archiving servers active on that machine.
2. Assume you want to change the folder where the FITS files are first copied on the archiving machine `mt-archive`. Select the server `preProcessor-srv` and unfold the three until you reach the `Properties` entry. At this point the properties of the device are listed on the right. Change the `WatchPath` string to the new path. The property `RegularPath` can also be changed but beware that it has always to coincide with the `WatchPath` property set among the `fitsImporter-srv` server properties.



3. Assume you want to change the position of the folder from which the `fitsImporter` server takes the files for archivation (and to which the `preProcessor` server copies the FITS files) on `mt-archive`. Select the server `fitsImporter-srv` and unfold the three until you reach the `Properties` entry. At this point the properties of the device appear on the right side of the window. Change the `WatchPath` string to the desired path.



- Assume you want to change the folder to which the distributor copies the files. Select the server `lbtDistributor-srv` and subsequently choose the instrument you are interested in. Unfold the three until you reach the `Properties` entry. At this point the properties of the device appear on the right-hand side. Change the property `RepositoryPath` to the desired path.



5 Solved issues

- 15.11.2017:** `lbtDistributor/mods` got stuck because it was trying to copy a file to `/mnt/repository/20160405/` which was not accessible. Solved by changing the permissions on the folder and restarting the `lbtDistributor/mods` server.

References

- [1] <http://www.tango-controls.org/>