

difxdb

The difxdb package is a collection of tools developed at MPIfR for storing an administrating correlation related information in a relational database. There is a NRAO specific package with the same name which you can find in the sites/NRAO section of the SVN repository.

The difxdb programs can be used to keep track of experiments processed at your correlator, as well as keep track of disk modules currently located at the correlator center. Some of the difx programs can communicate with the database, e.g. genmachines can tell you the location of a disk module when it is needed for correlation. Also the difx gui interacts with the database to schedule correlation jobs and to keep track of the correlation state and progress.

Note: difxdb is a convenience package and is purely optional. It is not required in any way in order to correlate.

DB server

difxdb will need access to a relational database server in order to run. Difxdb supports a large number of different database systems including MySQL, PostgreSQL, Oracle, and many others (see http://docs.sqlalchemy.org/en/rel_0_8/dialects/index.html).

Installing the DB server

MPIfR is using a MySQL based system. So if you do not have a different DB server running already or have other preferences installing MySQL might be the best option as this is well tested to work. All examples below are for the MySQL case and might differ when using a different system.

For installation instruction of the DB server please consult the various sites on the web (e.g. <http://dev.mysql.com/doc/refman/5.1/en/installing.html>).

Importing the difxdb database into the DB server

The DB schema and some table contents must be imported into the DB server. The relevant sql files are located under: *utilities/trunk/difxdb/database*.

To import the initial schema (version 1.0) and data issue the following commands (machine must have mysql client installed and have access to the database server):

```
mysql -h <DBSERVER> -u root -p < difxdb_mysql_full_1_0.sql
mysql -h <DBSERVER> -u root -p < difxdb_data.sql
```

where <DBSERVER> refers to the IP adress of your DB server. root is the mysql root user (not the system root) and you will be asked for the database root user password accordingly.

Now you must import all schema updates later than version 1.0:

```
mysql -h <DBSERVER> -u root -p < difxdb_mysql_update_1_1.sql
mysql -h <DBSERVER> -u root -p < difxdb_mysql_update_1_2.sql
...
```

Make sure you import all update scripts in ascending version order. For more details about schema versions please take a look at the README file located under *utilities/trunk/difxdb/database*.

Configuration of the DB server

Please make sure to consult your local system administrator for details about the DB configuration as there might be security issues involved. In any case you should not access the difxdb using the DB root user but rather create a dedicated user with minimal access rights. This user should have SELECT,INSERT,UPDATE and DELETE privileges on the difxdb database only! Make a note of the user name and the password as you will need this later.

Installation of difxdb

The home of the difxdb source code in the SVN repository is: *utilities/trunk/difxdb*

Normally the difxdb utilities do not get installed by default when running `install_difx`. In order to manually install difxdb go to *utilities/trunk/difxdb* and run:

```
aclocal
autoconf
autoheader
automake -a
./configure --prefix=${DIFXROOT}
make install
```

Installation of the python libraries

difxdb imports various python site packages which need to be manually installed. Go to: *libraries/python/trunk* and issue:

```
aclocal
autoconf
autoheader
automake -a
./configure --prefix=${DIFXROOT}
make install
```

This will copy the python packages to: `$(DIFXROOT)/lib/python`

In order for the difxdb programs to run you need to include `$(DIFXROOT)/lib/python` in your

\$PYTHON_PATH environment variable.

Other difxdb dependencies

the difxdb programs are implemented in python and require a few python packages to be installed. The package names below are for RHEL based systems and might differ for other linux distributions:

```
tkinter
python-imaging
python-sqlalchemy
MySQL-python (or relevant package for a different DB server)
```

==== pybarcode ==== pybarcode is typically not included in linux distros by default and must be installed manually if you plan to use the comedia tool (see below). Download pybarcode from <https://pypi.python.org/pypi/pyBarcode/> after unpacking run (as root): `python setup.py install`

TO BE CONTINUED

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