2. Test Facility
2.5 NI-SCS Database

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On menu today…

- Database ? To do What ?
- Database Structure
- Database access
- HDF5 to Database (Processing)
- Database Structure (in detail)
  - Data Acquisition Part
  - User Part
  - Analysis Part
  - Elog Part
- Summary

Why made DataBase for Euclid's Data

- Euclid's Data That's :
  - ~250Gb of HDF5 file by acquisition run
  - ~40 files by detector
  - 20 detectors

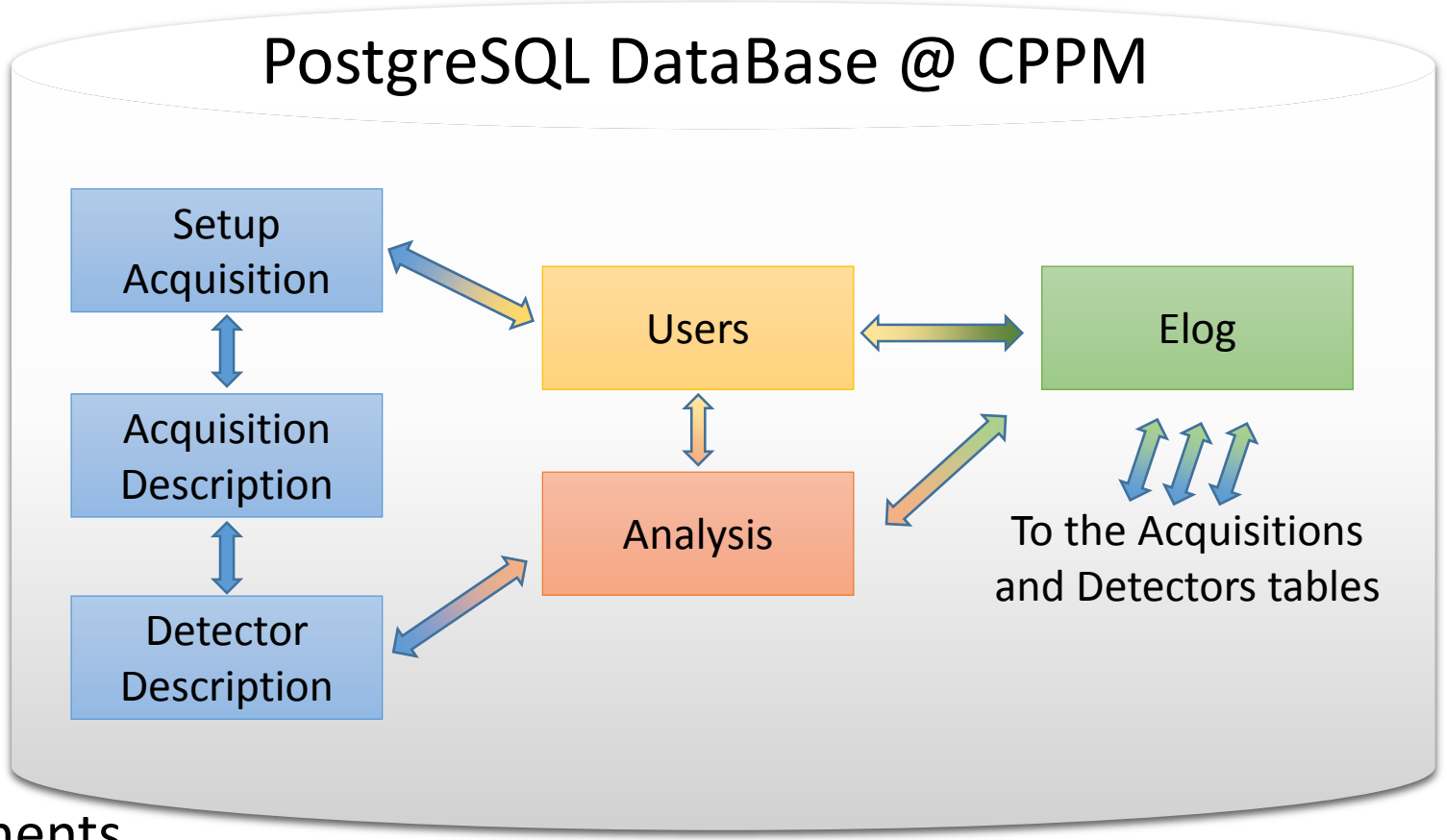
} ~ 10Tb By detector

- Database is the most useful and easiest way to find a specific data set.
  - To find all dataset for a specific detector
  - To made correlation between dataset for particular metadata (slow control setting)
  - Find the name and the localization of the files of data useful for analysis

- Especially compared with risk and time which it would be necessary if we looked for the same data directly in HDF5 files

DataBase Structure

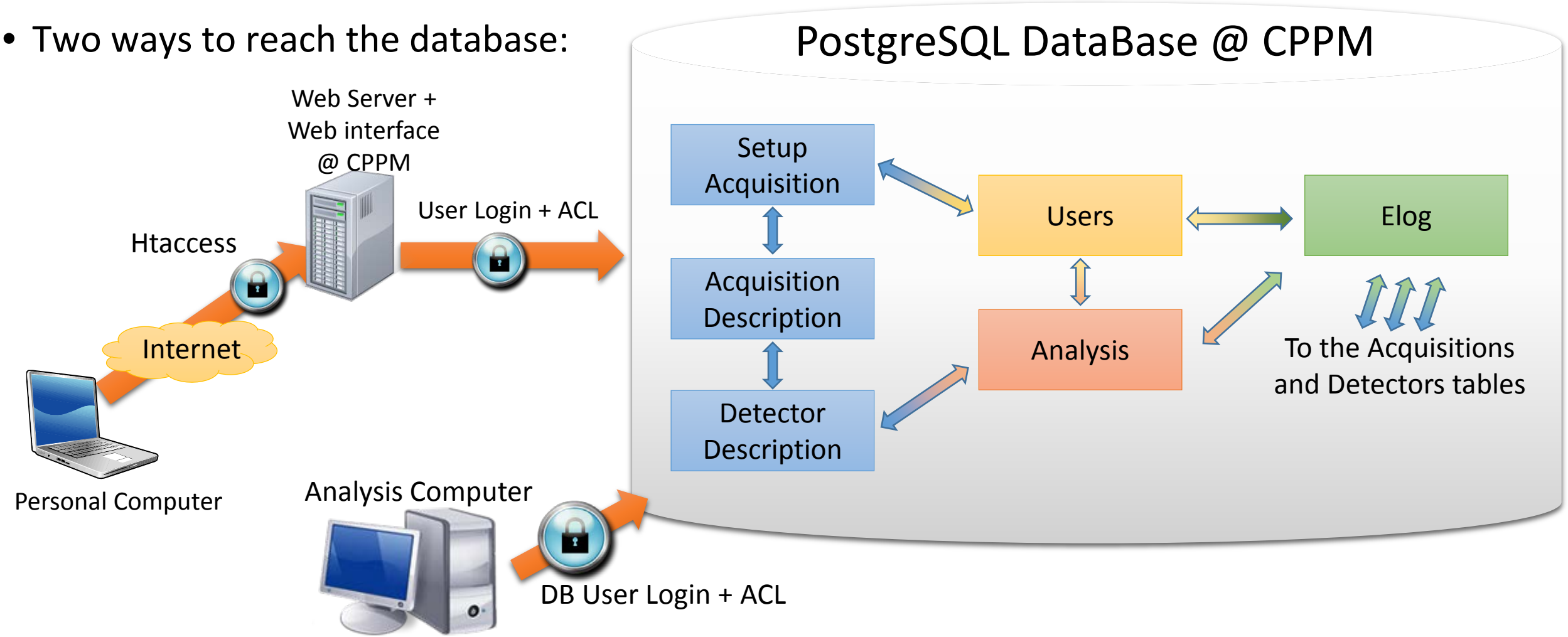
- The database consists of several modules
  - Acquisition part
  - Analysis part
  - Users part
  - Elog part



- Why use Postgre software ? :
  - Legendary reliability and stability
  - Extensible
  - Cross platform
  - Designed for high volume environments
  - GUI database design and administration tools
  - Free…

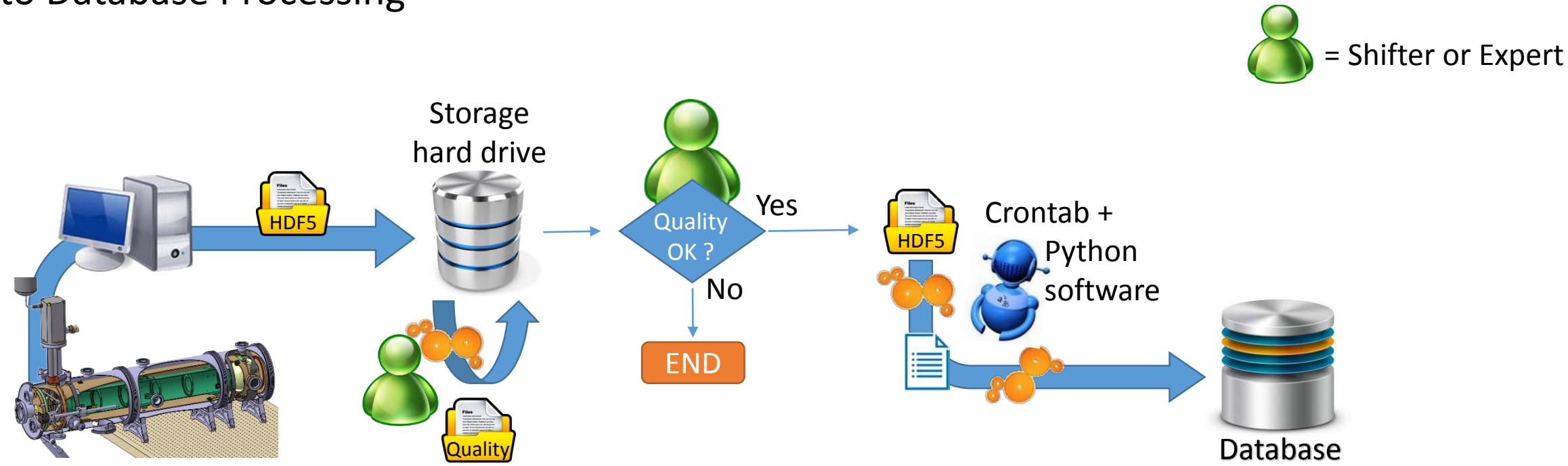
DataBase access

- Two ways to reach the database:



HDF5 to Database

- HDF5 to Database Processing



Database Structure (in detail)

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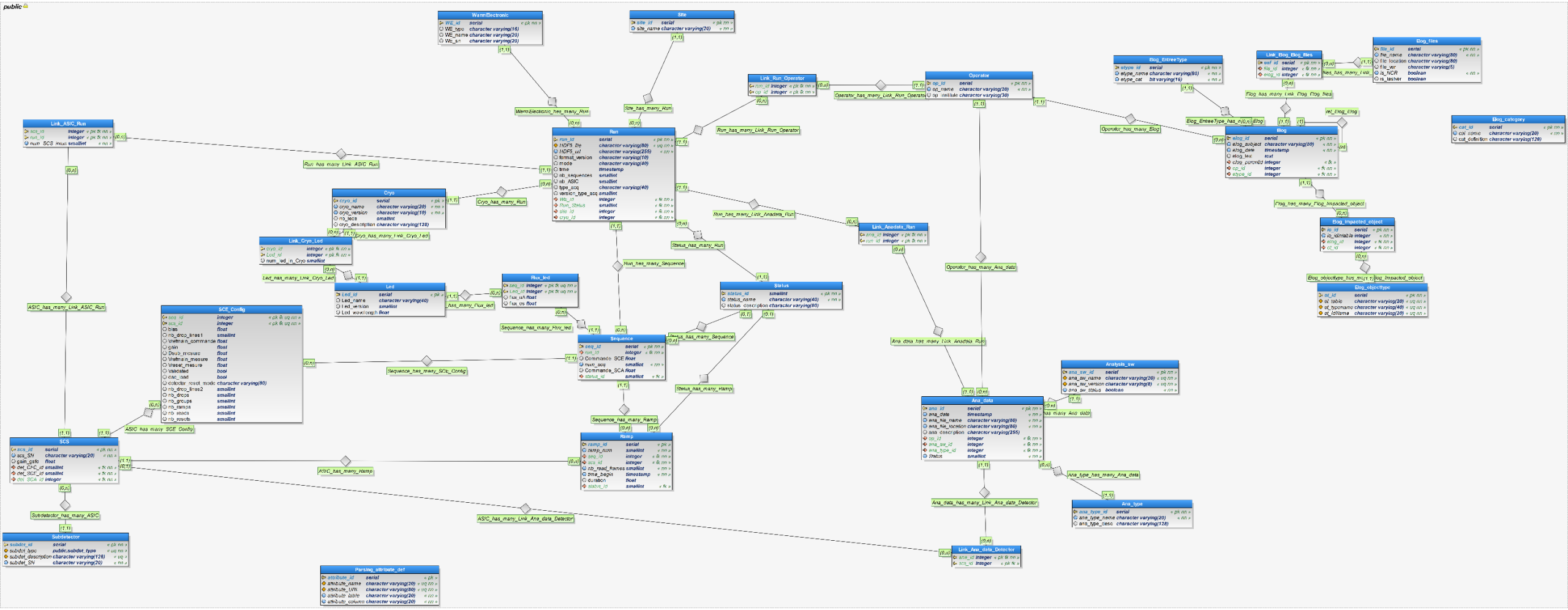
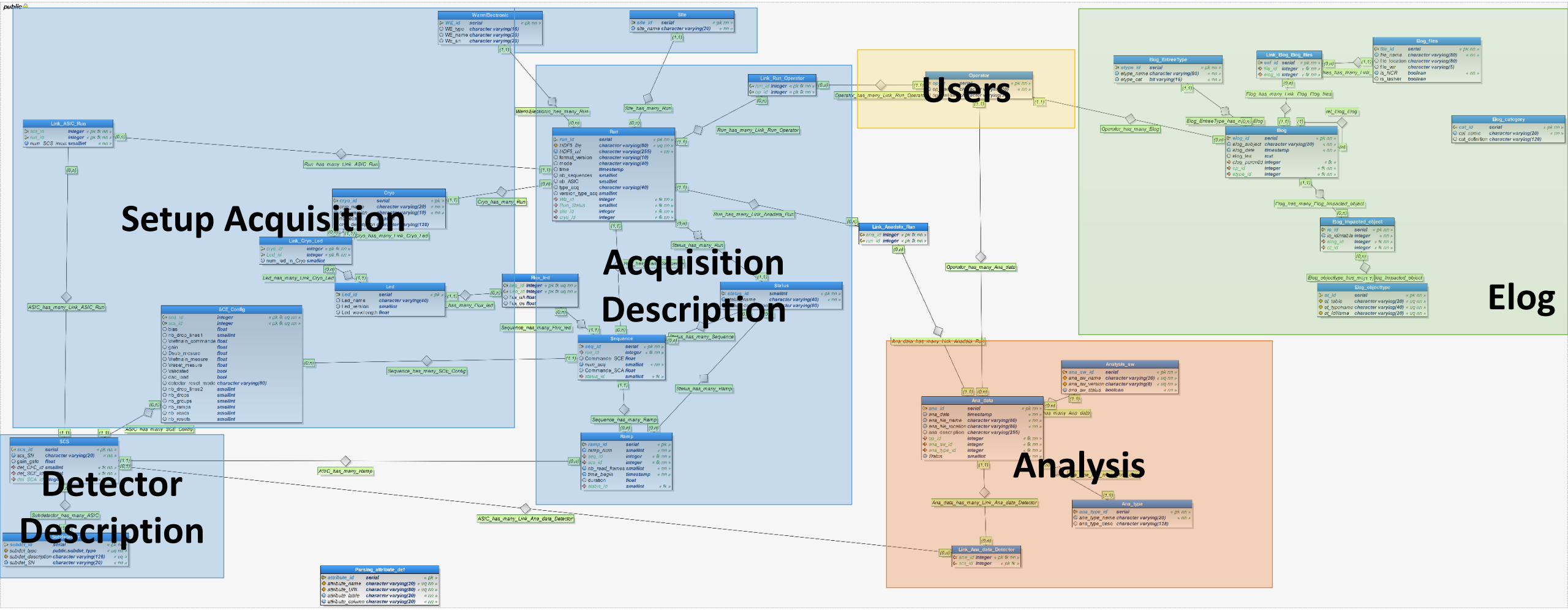
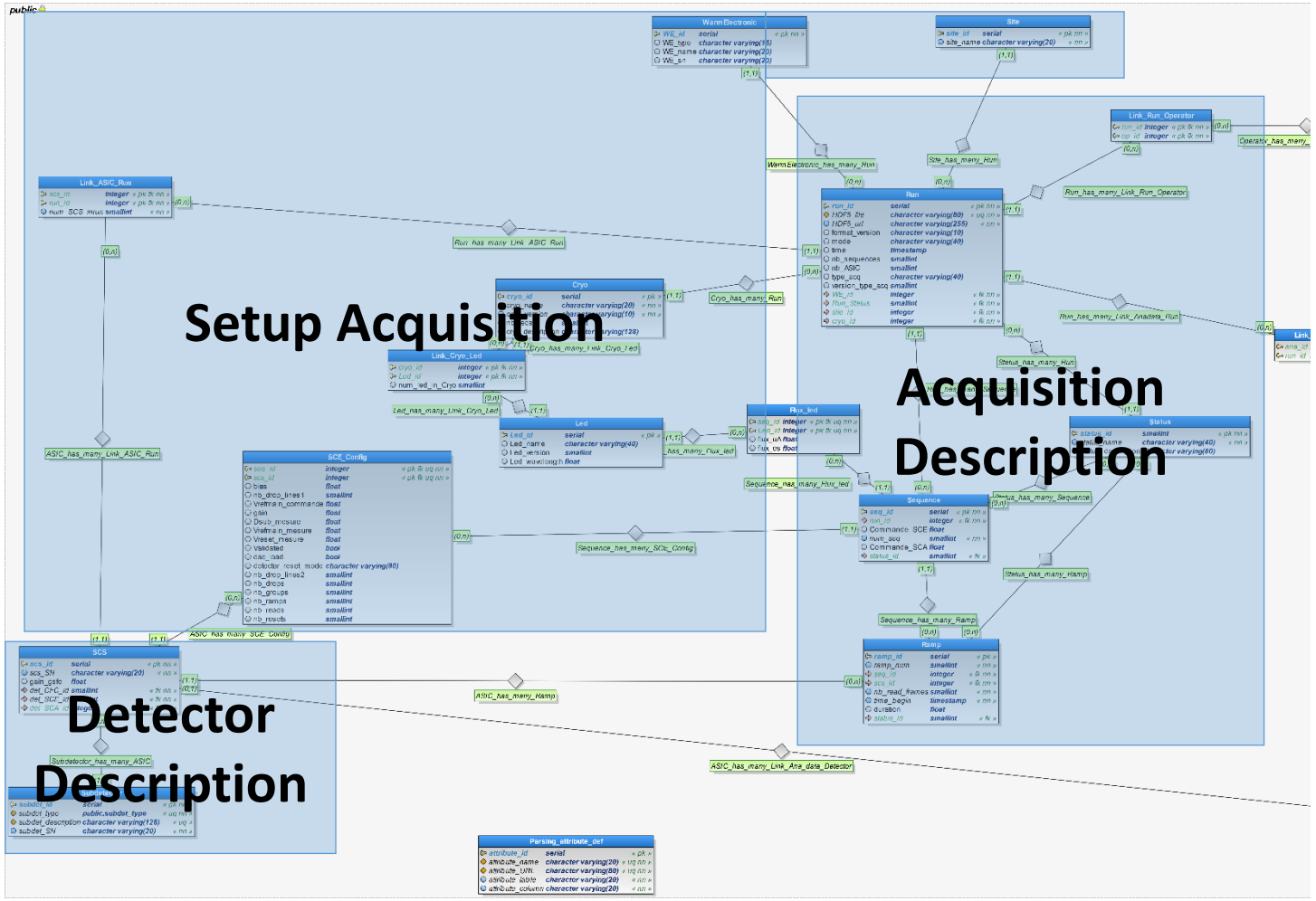


Database Structure (in detail)



Data Acquisition Part

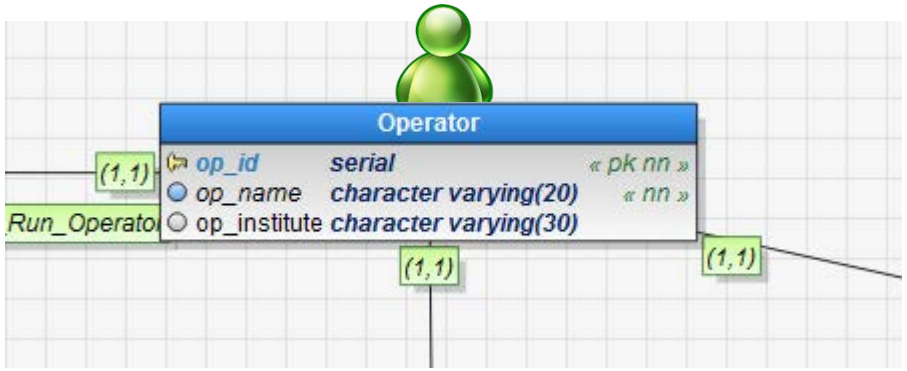
- Detector description tables :
  - SCS description
  - SCA, SCE and CFC description
  - DB Constraint to ensure unicity of SCS structure
- Setup Acquisition tables :
  - Dump of SCE Config information
  - Information on the Electronic used
  - Illumination and Cryostat configuration
- Acquisition description tables :
  - All information about Run, Sequence and Ramp
  - A *Status* table is dedicated to quality check



User Part

- For the moment, only one table is used to define Who have made a Run or particular analysis or entry in Elog.

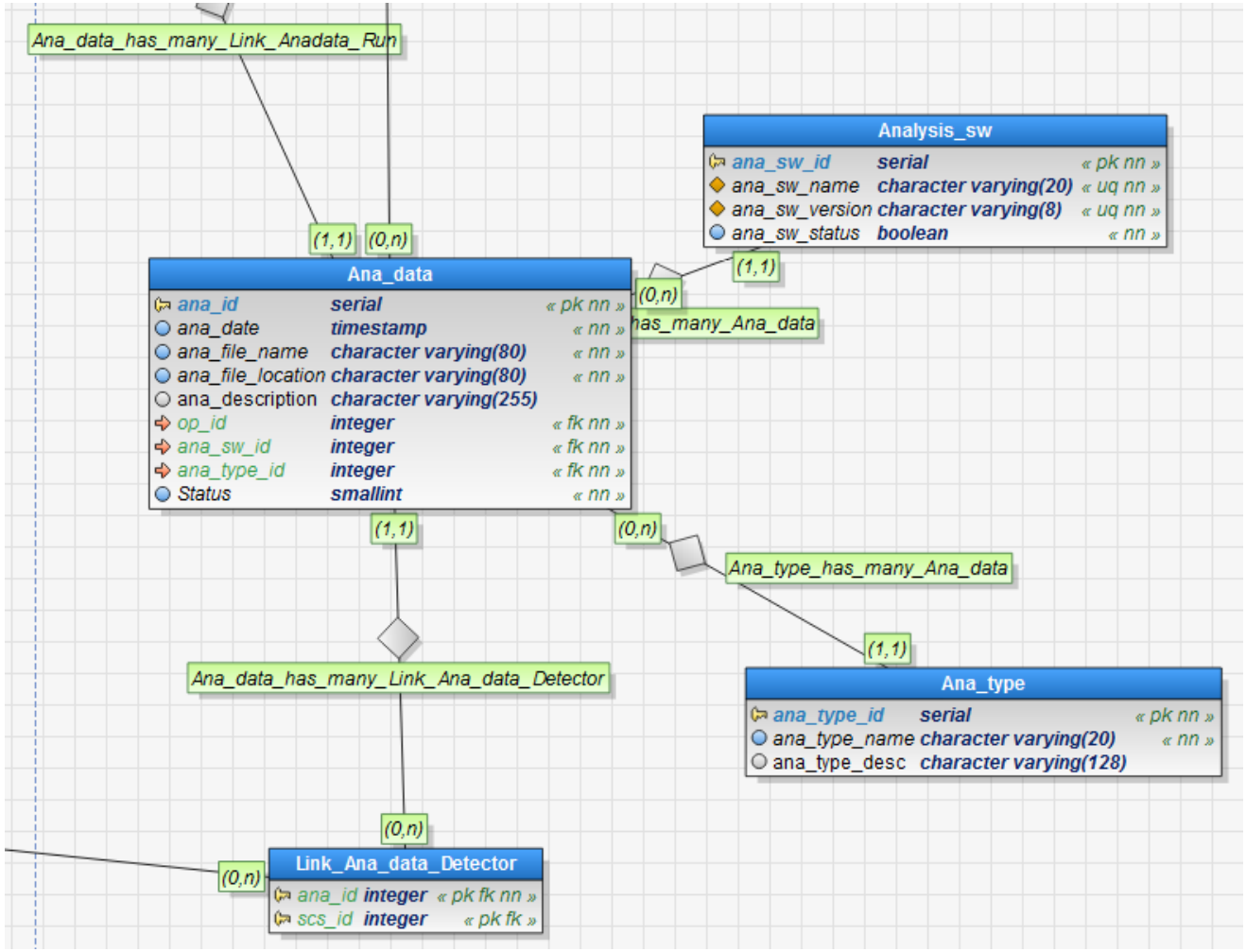
  Specially to know who is the shifter



Analysis Part

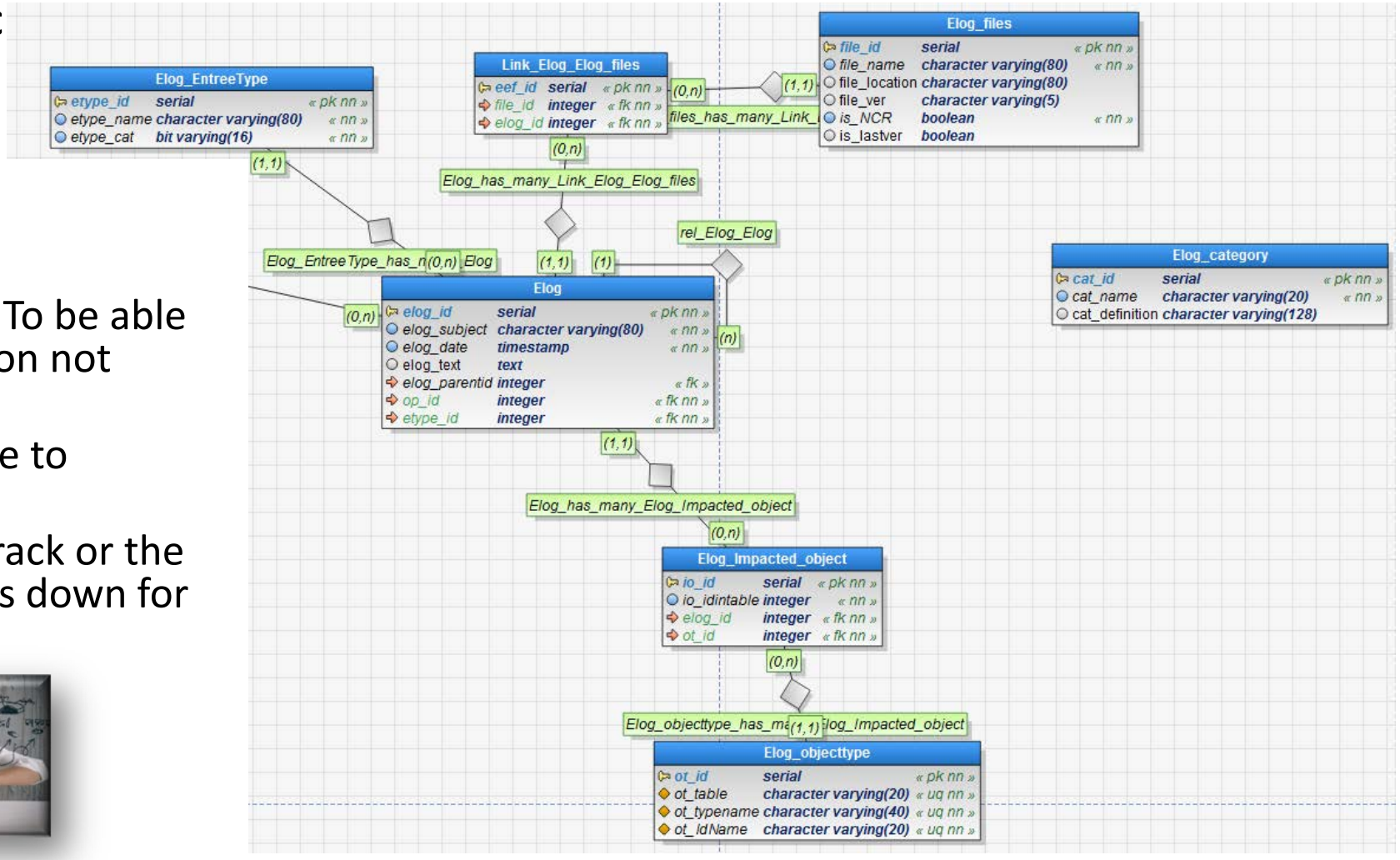
- This part will be dedicated to Analysis results and Analysis development.
- Goal :
  - Easy way to find the analysis made for particular SCS or Run, made cross check…
  - Direct access to characterization map.

- This part could still be implemented as required…



Elog Part

- We wish made an Electronic Logbook for the Data Acquisition Team and Euclid Community.
- Goals :
  - <u>For the shifter in acquisition</u> : To be able to write all relevant information not stored in HDF5.
  - <u>For a team of analysis :</u> A place to exchange information
  - <u>For all :</u> A solution to keep a track or the history of everything that goes down for each detectors.
- Web interface
  is under development…



Summary

- **DataBase Acquisition Part** : is in test and debugging with real HDF5 file of data acquisition.

- **DataBase Analysis Part** : a minimal version exist but it can be updated with your requirement…

- **DB Elog and web interface** : is under development…