

EEE-data access interface

Carmelo Pellegrino and Francesco Noferini

General scheme

Aim: provide an interface for the students to request a subset of data

Constraints:

- Use as much as possible the infrastructure already present
- Minimise the effort for both the students and the researchers
- Track requests and accesses to the data

Proposed solution: ELOG+custom EEE software

ELOG can work as a user interface for both the requests and the replies.

Workflow

- The user logs into the EEE ELOG (the same used for the shifts) with usual user-name and password
- Creates a new entry in the dedicated logbook, specifying the parameters of the query and submits it
- An automatic procedure starts on query arrival (polling) and produces some output depending on the query type
- As soon as the procedure returns, the output is attached to an entry as a reply to that created by the user. All parameters are copied back in the reply (also the user name).

Data request

Request parameters

- Output format: could be either CSV or ROOT
- Telescope ID: the ID of the telescope (e.g. LAQU-01)
- Start time: initial date (day, e.g. 2017-03-15)
- Stop time: final date (day)
- Cut: a free-form string where the user can insert custom cuts (e.g. “ChiSquare < 9 && Theta < 10”)

Observables to provide in output file (boolean parameters)

- RunNumber
- Seconds
- Nanoseconds
- Theta
- Phi
- ChiSquare
- TimeOfFlight
- TrackLength
- DeltaTime

All observables can be used in the “Cut” field!

Query

Request a subset of data

Submit Preview Back

Fields marked with * are required

Entry time:	Tue Sep 5 11:00:09 2017
Author*:	Bologna 01
Output format:	ROOT
Telescope ID:	LAQU-01
Start time:	April 11 Year: 2017
Stop time:	April 12 Year: 2017
RunNumber:	<input checked="" type="checkbox"/>
Seconds:	<input checked="" type="checkbox"/>
Nanoseconds:	<input checked="" type="checkbox"/>
Theta:	<input type="checkbox"/>
Phi:	<input type="checkbox"/>
ChiSquare:	<input checked="" type="checkbox"/>
TimeOfFlight:	<input checked="" type="checkbox"/>
TrackLength:	<input type="checkbox"/>
DeltaTime:	<input type="checkbox"/>
Cut:	ChiSquare < 7.5

Current status

- Automatic post retrieval program **done**.
- Data extraction program **done**.
- The system is currently under test on EEE Cloud@CNAF infrastructure in order to catch possible bugs/scalability problems that could arise in production.
- Error reporting still missing.
- Code and documentation:
<https://github.com/centrofermi/elog-poll/>