

Local Offline

Local Offline Overview

The local offline processes LDF into digi and uses calibrations that are installed in the SLAC database to produce reconstructed and high level data analysis files. The goal is to have a way to quick debug and characterize the beam during the set-up. If there is a copy of the database locally then we can use it to process events even when the connection to SLAC is down.

There will also be an offline monitoring running locally.

Computer names in the PS area

Cern is filtering ports below 1024! sshd is running on port 22 by default. I was setting it on 2222 temporarily, but this was not appreciated. Hence, the computers are not accessible from outside CERN.

"Socket-Gleam" PC: name **pcglast37.cern.ch**, IP **137.138.66.137**, username **online**, password ****(ask somebody!)**. Intended for online analysis using **socket-Gleam**. **BeamtestRelease installations are found in /data/users/online/builds**. The latest build is ***BR v4r0909p3** in **/data/users/online/builds/BeamtestRelease-v4r0909p3-rh9_gcc32opt**. For detailed instructions on how to use GLAST software, check the workbook (link?). Here, a quick list only to analyze data:

- `source /data/users/online/builds/BeamtestRelease-v4r0909p3-rh9_gcc32opt/BeamtestRelease/v4r0909p3/cmt/setup.sh`
- `ln -s /pathToDataDir/nameOfLdfFile.ldf file.ldf`
- `$GLEAMROOT/$CMTCONFIG/Gleam.exe $BEAMTEST06ROOT/jobOptions/ldf2digi.txt`
- `$GLEAMROOT/$CMTCONFIG/Gleam.exe $BEAMTEST06ROOT/jobOptions/readigi_runrecon.txt`

With some luck, you should have `digi.root`, `recon.root`, `merit.root`, and `calTuple.root`. For creating the beamtest tuple, check `$BEAMTESTTUPLEROOT/src/envVarOptions.dat`. Set the appropriate env variables, and execute:

- `$BEAMTESTTUPLEROOT/$CMTCONFIG/RunRootAnalyzer.exe $BEAMTESTTUPLEROOT/srv/envVarOptions.txt`
For updating the calibration database description and the external libraries, there is a simple script `~online/bin/syncWithSLAC`. It asks for your SLAC afs user name and password, runs `rsync`, and destroys the afs token again.

"Data-server" PC: name **pcglast30.cern.ch**, IP **137.138.66.138**, username **online**, password ******* (ask somebody!). Has ca. 500GB disk space. Doesn't have a monitor. Intended as data server only. Should store the root files produced in the SLAC pipeline. We need a concept how to do it.

Policy for updating calibration Database

Describes policy and steps for updating. When things become stable we will have a CCB.

Policy for Reprocessing

Describes policy and steps for reprocessing. When things become stable we will have a CCB.

Environmental Variables for Database

Setting up the environment so that one can access the ORACLE database

Source `/u/gl/glast/pdb_config/dpf_config_prod.csh` (or `.sh` if you use BASH) to run the pipeline text-mode management tools, which are installed in `$PDB_HOME` (which is set by the config script).

How to install MySQL as a server

From Leon and is currently under review by Joanne (Jul 25 2006)

How to install MySQL as a server on your own (Windows) machine, install a local copy of the database, and get Gleam running without a network connection: (Disclaimer: I did all this as a rank novice, so there are probably better ways to do some of these things. But I think they will all work.)

- 1) Download the binary from www.mysql.com/downloads. You want mysql 3.23.56 (was in April 2003, anyway)
- 2) Unzip the file into a temporary directory.

- 3) Run `setup.exe`; install into the default directory (usually `c:\mysql`). Add `c:\mysql\bin`, for example, your path.

- 4) Write a file called `my.cnf` (using notepad, for example) containing the following lines:
`mysqld`
`basedir=c:\mysql`
`datadir=c:\mysql\data`
and put it in the root directory of your boot drive (c: in our case)

- 5) Install the server service, and start it:
`cd c:\mysql\bin`

```
>mysqld --install  
>NET Start MySQL
```

(I believe that the server will restart at each subsequent boot.)

6) Try it out. You need a password, which you can get from Joanne Bogart or Leon Rochester:>mysql -u glastreader -h centaurusa.slac.stanford.edu -p calib
 Enter password: *****
 mysql> ...
 See <http://www.slac.stanford.edu/exp/glast/ground/software/calibration/docs/mysqlDirect.shtml> for some examples.

7) Import the calibration database:

"Dump" the database from the central server. I think to do this you need to be logged on to our server, which is centaurusa.slac.stanford.edu. Once logged on, the correct command seems to be:>mysqldump -u glastreader --opt calib -p > mydumpfile.sql

Enter password: *****

(We will eventually have this dumpfile on the glast ftp server.)

Move the file to your machine (ftp, mounted disk, whatever; it's an ascii file) and read it back:>mysql -u root

mysql> create database calib;

mysql> \q

mysql calib < mydumpfile.sql

mysql> use calib

Database changed

mysql> show tables;

Tables_in_calib

junk
metadata_v0
metadata_v1
metadata_v2
metadata_v2r1

5 rows in set (0.00 sec)

8) Set up users and passwords:

In order for Gleam to work, you need a glastreader user. Set it up as follows:> mysql -u root

mysql> grant usage on . to glastreader@localhost identified by 'glastpassword';

mysql> grant select on calib.* to glastreader@localhost identified by 'glastpassword';

(and maybe...)

mysql> grant usage on . to glastreader@"%" identified by 'glastpassword';

mysql> grant select on calib.* to glastreader@"%" identified by 'glastpassword';

mysql> select host, user, password from mysql.user;

host	user	password
------	------	----------

localhost	root	
%	root	
localhost		
%		
%	glastreader	xxxxxxxxxxxxxxxx
localhost	glastreader	xxxxxxxxxxxxxxxx

6 rows in set (0.00 sec)

'xxxx...' is the encrypted form of the password you just typed in... Actually, it's not 'xxxx...' but I x'ed it out so you wouldn't see it. It's what MySQL uses to check the plaintext password. The password 'glastpassword' is the same one that you got from Leon or Joanne, above.

You also want to protect your 'root' user with a password: mysql> set password for root@localhost = password('mynewpassword');
 Query OK...
 mysql> set password for root@"%" = password('mynewpassword');
 Query OK...
 mysql> select host, user, password from mysql.user;

host	user	password
------	------	----------

localhost	root	xxxxxxxxxxxxxxxx
%	root	xxxxxxxxxxxxxxxx
localhost		
%		
%	glastreader	xxxxxxxxxxxxxxxx
localhost	glastreader	xxxxxxxxxxxxxxxx

6 rows in set (0.00 sec)

The "password('mynewpassword')" is very important... it does the encryption. If you leave it out, mysql> set password for root@"%" = 'mynewpassword';
 ok...
 it doesn't get encrypted, and MySQL won't recognize it when you try to login.

Finally, if you see a blank user, you should get rid of it: mysql> delete from mysql.user where host='localhost' and user="";
 Query OK...
 mysql> delete from mysql.user where host="%" and user="";
 Query OK...
 mysql> select host, user, password from mysql.user;

host	user	password
------	------	----------

localhost	root	4e6064b31f46ea95
%	root	4e6064b31f46ea95
%	glastreader	03559aa07ca50006
localhost	glastreader	03559aa07ca50006

4 rows in set (0.00 sec)

That's better!

9) Copy enough calibration files to satisfy Gleam:

Not a problem for now, since all the necessary files are in cvs, hence in calibUtil.

10) Modify the requirements file in calibUtil to point to the local database. (This will be handled from the jobOptions file eventually.): set MYSQL_HOST localhost
 set MYSQL_METATABLE metadata_v2r1
 10) Push the button!