TAG Data Base and ELSSI

ATLAS DESY NAF and FDR
Tutorial, May 13, 2008

O U T L I N E:

❑ Relational TAG Data Base

❑ Event Level Selection Service Interface

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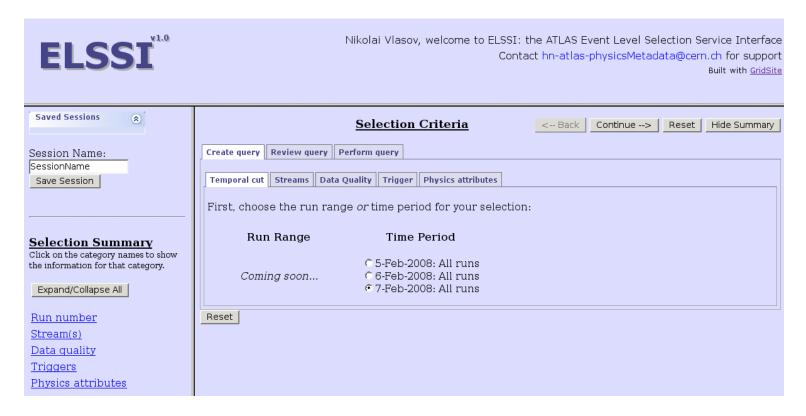universität**bonn**

Relational TAG Data Base

TAG data is stored in two formats – ROOT and Relational. Relational database (MySQL, Oracle)

➢ TAGs in distributed analysis using GANGA – see next talk from Johannes

➢ **ELSSI** is the web interface to the ATLAS TAG Database
https://twiki.cern.ch/twiki/bin/view/Atlas/ELSSIDevelopersManual

➢ **ELSSI** generates new TAG collections in ROOT file format, according to user's selection

➢ **ELSSI** provide skimming service which runs Athena via Ganga on generated TAG collection to make new AOD files containing only selected events

It is recommended to use **FireFox** browser; **ELSSI** will not work with Internet Explorer. Your Grid Certificate must be loaded – import into **FireFox** (fie that ends with `.p12` or `.pfx`)
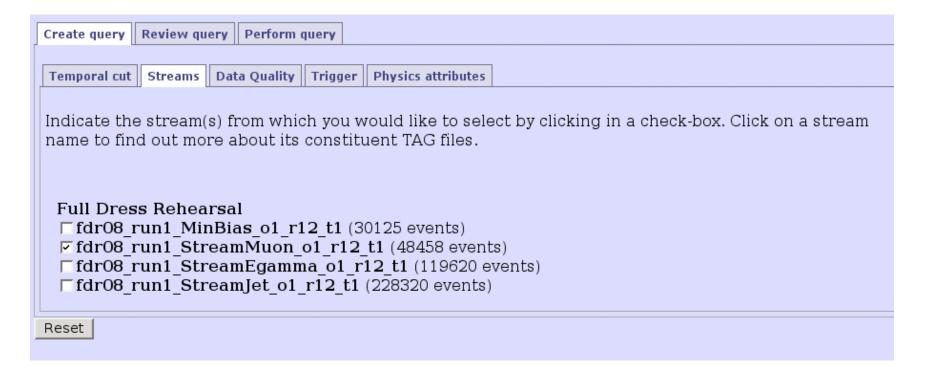
ELSSI Interface

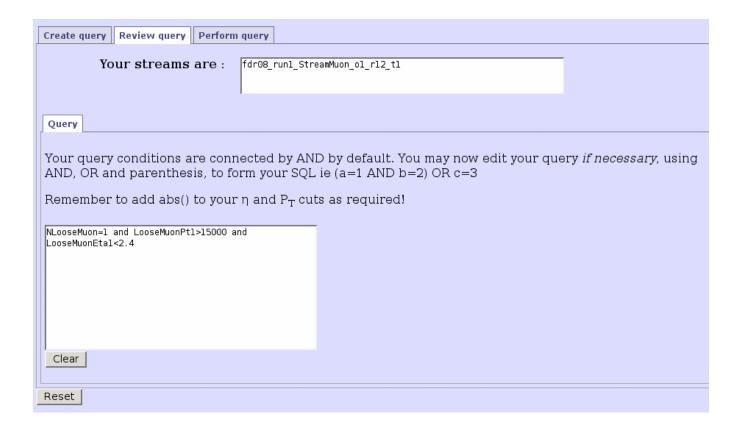https://atldbdev01.cern.ch/tagservices/fdr/index.htm

- The FDR browser released ~ 2 months ago

- Essential to use FireFox browser with valid user GRID certificate loaded

Create a Query


```
Create query   Review query   Perform query

  Temporal cut   Streams   Data Quality   Trigger   Physics attributes

  Indicate the stream(s) from which you would like to select by clicking in a check-box. Click on a stream
  name to find out more about its constituent TAG files.


    Full Dress Rehearsal
    ☐ fdr08_run1_MinBias_o1_r12_t1 (30125 events)
    ☑ fdr08_run1_StreamMuon_o1_r12_t1 (48458 events)
    ☐ fdr08_run1_StreamEgamma_o1_r12_t1 (119620 events)
    ☐ fdr08_run1_StreamJet_o1_r12_t1 (228320 events)

  Reset
```

- **Temporal cut** as a time (run) range corresponding to a period of data taking
- **Streams** sub-tab shows physics streams from which selections can be made
- **Data Quality** allows to choose between query on **all** luminosity blocks or on only **complete** luminosity blocks
- **Trigger** sub-tab with two trigger levels plus additional **Event Filter** like in FDR and real data

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- **Review Query** tab allows you to manually edit query prior to sending it to the TAG database

Perform Query

- **Perform Query** tab provides interface for submitting your query to TAG database
- **Count** sub-tab allows to know number of events to be selected. Must be prior to submitting your query
- **Display results** to get a subset of your events attributes

Retrieve Event Collection

- On the **Results** page which one get to after pressing **Retrieve**, there are instructions about generating an AOD skim. This uses Ganga to :

  ➢ pick up the TAG file which was generated with your events in it
  ➢ see which AOD files contain events and which DQ2 datasets they are in
  ➢ split job up so there is one sub-job for each AOD file
  ➢ tries to send the sub-jobs to sites where their file is present and run there
  ➢ output AOD files with selected events are registered in a new dataset. Because jobs (probably) ran at various sites, dataset will be registered as 'incomplete' at several sites
  ➢ one can then collect it with `dq2_get` as usual

- Monitoring loop then checks the status of existing jobs and updates the web status page for that user. This page is kept in https://atldbdev01.cern.ch/tagservices/dev/tagexsrv/USERNAME/status.html where "USERNAME" extracted from certificate DN (Distinguished Name)
- User receives two emails, when the job started and finished. One can read the TAG query definition and name of the AOD output set from those emails

Delegation of GRID Certificate

- First time you use it (and once a week after that) you will need to delegate your grid proxy to skimming service by pressing the **Delegate Proxy** button. This uses the **Acacia** proxy delegation service

- **Acacia** is a tool which allows grid proxy certificates to be uploaded to VOMS server, allowing user to be authenticated as an ATLAS member

- Need to have a **Java** installation (might require a help from sysadmin to modify a centrally installed). It might require to download also "*Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files*" from

    http://java.sun.com/javase/downloads/index_jdk5.jsp

- For **Acacia** certificate manager one should choose the `.p12` form of grid certificate, that is loaded in the browser. One choose duration of 1 week