

# TAG Data Base and ELSSI

## OUTLINE:

ATLAS DESY NAF and FDR  
Tutorial, May 13, 2008

- ☐ Relational TAG Data Base
- ☐ Event Level Selection Service Interface

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## 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** (file that ends with [.p12](#) or [.pfx](#))

# ELSSI Interface

<https://atldbdev01.cern.ch/tagsservices/fdr/index.htm>

**ELSSI** v1.0

Nikolai Vlasov, welcome to ELSSI: the ATLAS Event Level Selection Service Interface  
Contact [hn-atlas-physicsMetadata@cern.ch](mailto:hn-atlas-physicsMetadata@cern.ch) for support  
Built with [GridSite](#)

**Saved Sessions**

Session Name:

**Selection Summary**  
Click on the category names to show the information for that category.  
  
[Run number](#)  
[Stream\(s\)](#)  
[Data quality](#)  
[Triggers](#)  
[Physics attributes](#)

**Selection Criteria** <-- Back > Continue --> > Reset > Hide Summary

> Create query > Review query > Perform query

> Temporal cut > Streams > Data Quality > Trigger > Physics attributes

First, choose the run range or time period for your selection:

Run Range	Time Period
Coming soon...	<input type="radio"/> 5-Feb-2008: All runs
	<input type="radio"/> 6-Feb-2008: All runs
	<input type="radio"/> 7-Feb-2008: All runs

> Reset

- The FDR browser released ~ 2 months ago
- Essential to use FireFox browser with valid user GRID certificate loaded

## Create a Query

Create queryReview queryPerform query

Temporal cutStreamsData QualityTriggerPhysics 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

## Review Query

Create query

Review query

Perform query

Your streams are :

fdr08\_run1\_StreamMuon\_o1\_r12\_t1

Query

Your query conditions are connected by AND by default. You may now edit your query *if necessary*, using AND, OR and parenthesis, to form your SQL ie (a=1 AND b=2) OR c=3

Remember to add abs() to your  $\eta$  and  $P_T$  cuts as required!

NLooseMuon=1 and LooseMuonPt1>15000 and  
LooseMuonEta1<2.4

Clear

Reset

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

## Perform Query

Create query Review query **Perform query**

Your streams are : fdr08\_run1\_StreamMuon\_01\_r12\_t1

Your query is : NLooseMuon=1 and LooseMuonPt1>15000 and LooseMuonEta1<2.4

Count Display results **Retrieve event collection**

Retrieve your event collection.

You may now build a list of qualifying events for your query and return these in a ROOT file

Retrieve

(This may take a moment--CMT and ATLAS environments must be initialized, a relational database queried and your results transferred to AFS space)

Reset

- **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/tagervices/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](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