JAIDA

(FreeHEP AIDA)

- Java implementation of AIDA
- Based on FreeHEP toolkit
- Usable from Java, C++, Python, PNuts
- Accessible via JAS3 GUI
- Supports Ascii, XML, HBook, Root, SQL(LAL),... storage
- Available as a JSP Web Service
- Hosted at SLAC
- Illegal in LCG/CERN

http://java.freehep.org/jaida
http://jas.freehep.org/jas3
http://java.freehep.org/aidajni
http://java.freehep.org
http://aidatld.freehep.org

Distributed Data

```
// Prepare Factories
IAnalysisFactory af = IAnalysisFactory.create();
ITreeFactory trf = af.createTreeFactory();

// Open local Tree
ITree tree1 = trf.create("localFile.aida", "xml");

// Open remote Root Tree
ITree tree2 = trf.create("root://rootsrv.some.where/remoteFile.root", "root");

// Open remote SQL Tree
ITree tree3 = trf.create("jdbc:mysql://mysqlsrv.some.place/Database", "sql");

// Find NTuple in remote SQL Tree
ITuple inTuple = tree3.find("myInputTuple");

// Prepare factory for output NTuple
ITupleFactory tf = af.createTupleFactory(tree1);

// Define cut
IFilter filter = tf.createFilter("Pt > 6.0");

// Apply cut on remote (SQL) Ntuple and write resulting Ntuple into local file
ITuple outTuple = tf.createFiltered("myOutputTuple", inTuple, filter);
```

Root analysis objects are interpreted as AIDA objects (e.g. TH1 -> IHistogram1D)

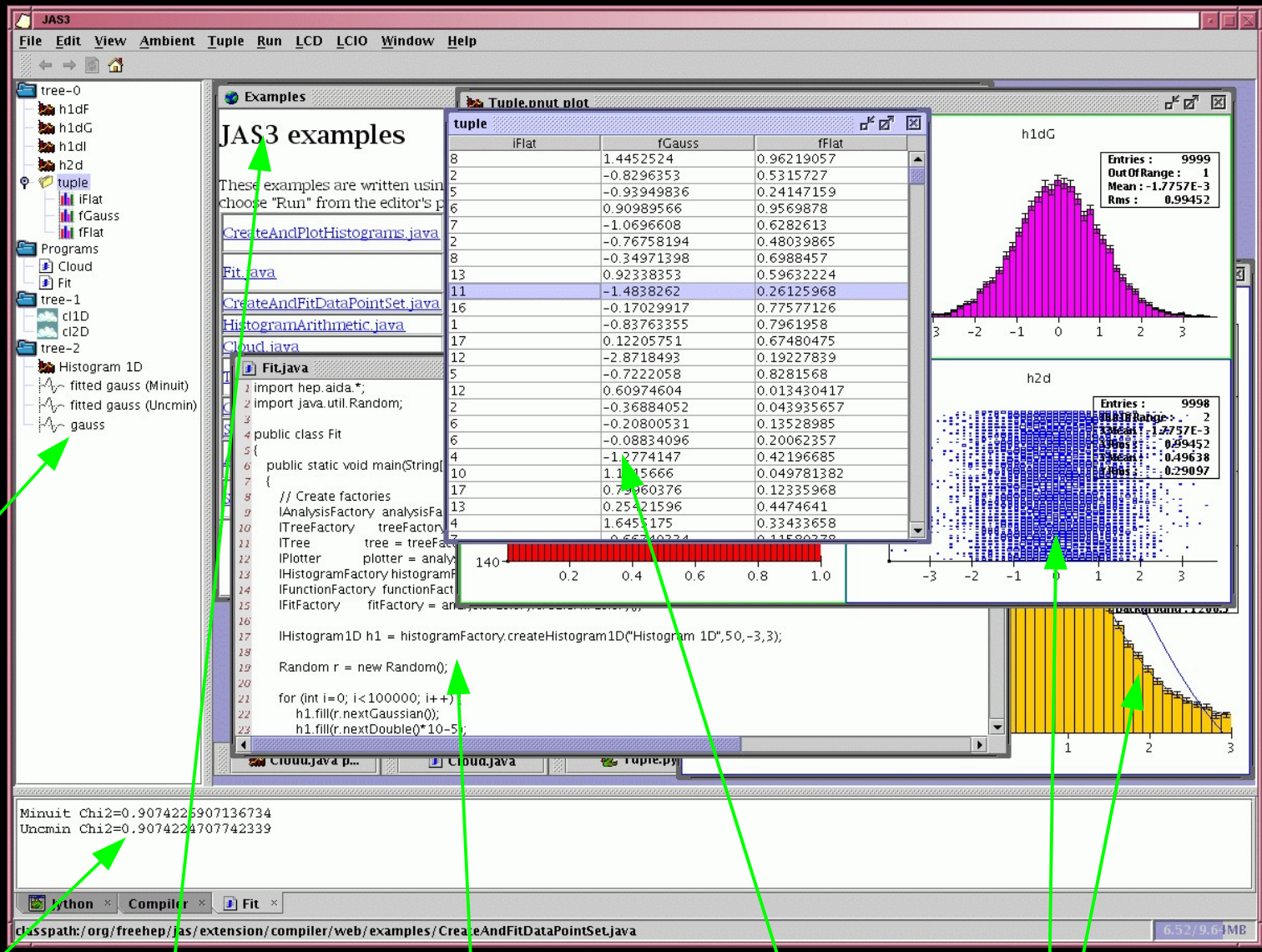
SQL Works with LCGPool AttributeLists.

Cut/Query is performed inside remote SQL database. Results are available localy.

Data and intensive processing distributed, Client local.

JAS3 (Java Analysis Studio)

- GUI
- Dynamic class re-loading
- Grid integration
- Easily extensible via plugins (many exist)
  - AIDA objects
  - Programs
  - Cuts



- Program outputs
- Compiler outputs
- Python command-line
- PNuts command-line

Web Browser

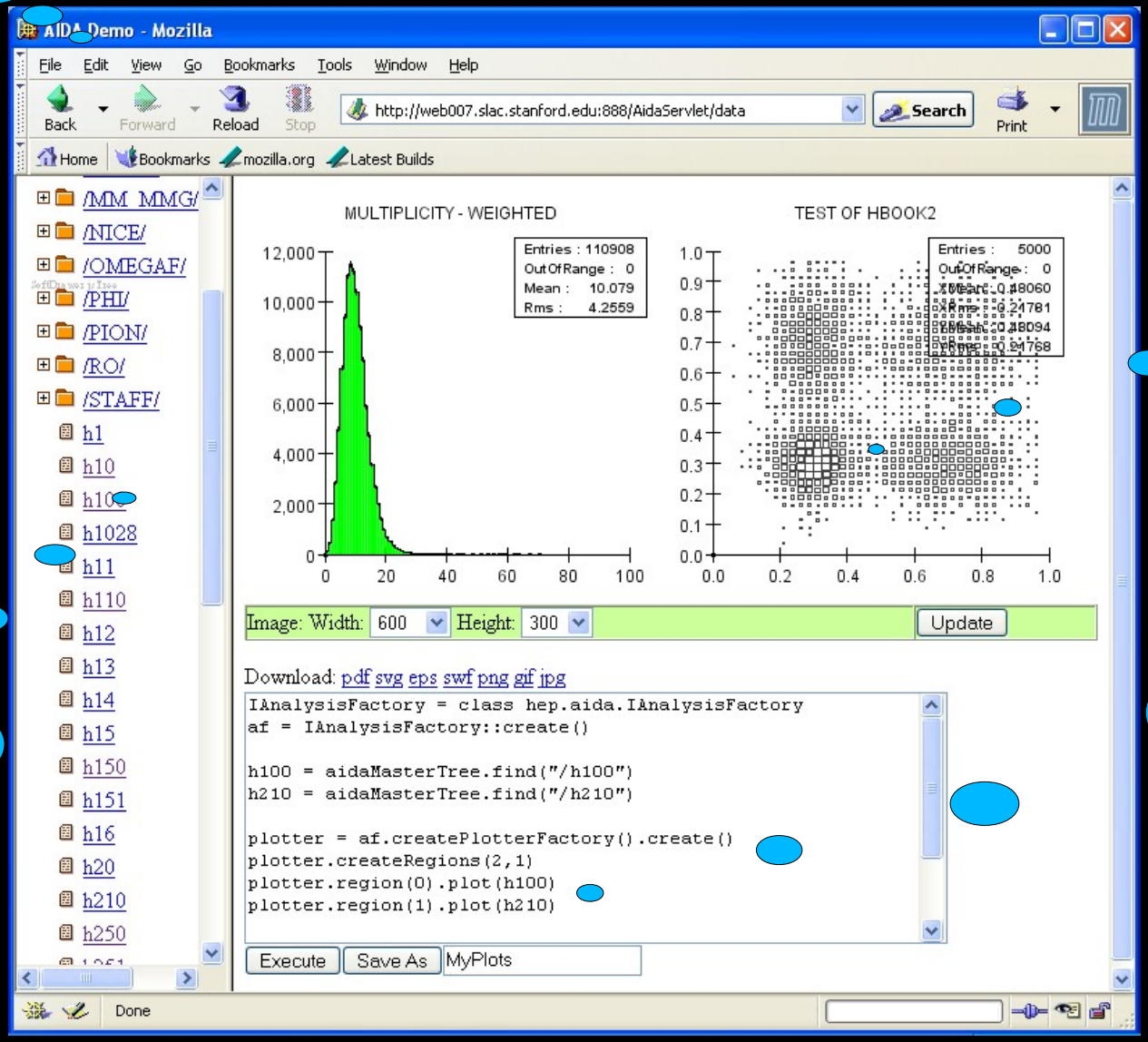
- Java source
- Python source
- PNuts source

Table view

Graphical output

Web Service (JSP)

Web Browser



Results

Data on the Server

Scripting, runs on the Server

- Can be used together with other Web Services – distributed Analysis.
- Can be used directly from Client code (i.e. without Web Browser).

SQLTuple

- SQL table accessed as JAIDA ITuple
- Compatible with
  - Other AIDA implementations
  - LCG Pool AttributeList
- No SQL in the code, read from text file
- Available also as JAS3 plugin and Web Service
- Any DB with JDBC driver can be supported
  - MySQL, PostgreSQL, Oracle, McKoi included; Cloudscape (now Apache Derby) and HSQLDB tested
- Used in Atlas DC2
- Developed in LAL