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Steve's Notes

Installing & Running Athena (Release 15.6.4.3)

Athena | VP1 | DQ2 | Wire Sag | UM Cluster

Introduction

This is an informal summary of notes on installing and running Athena. It currently works for CERN (lxplus) and UMT3 (University of Michigan Tier 3 Cluster). It is complementary to the existing documentation found on the WorkBook with a focus on providing a set of cut & paste examples. Please send comments and corrections to Steven.Goldfarb@cern.NOSPAMPLEASE.ch.

Set Up the CMT Environment

Here we define and export variables for CMT. The correct version of CMT to use for any particular release is found on the [Offline Release Status Page](#). In this example, we will use Release 15.6.4. The corresponding version of CMT is **v1r20p20090520**.

1. Login to the appropriate machine (*the "-Y" option passes the necessary X-Window information*)

```
CERN> ssh -Y myusername@lxplus.cern.ch
UMT3> ssh -Y myusername@umt3int03.physics.lsa.umich.edu (can also use umt3int01 or u
```

2. Setup the cmt environment corresponding to the release (*do whenever there is a new version of CMT*)

```
CERN> source /afs/cern.ch/sw/contrib/CMT/v1r20p20090520/mgr/setup.sh
UMT3> source /atlas/data08/OSG/APP/atlas_app/atlas_rel/15.6.4/CMT/v1r20p20090520/mgr
```

Set Up the Athena Environment

This sets up the Athena working environment. More details at [WorkBookSetAccount](#).

1. Create a directory structure (*do this once for the release*)

```
mkdir -p ~/TestArea/15.6.4.3/cmthome
cd ~/TestArea/15.6.4.3/cmthome
```

2. Download the appropriate requirements file:

- ◆ requirements-cern (save as requirements)
- ◆ requirements-umt3 (save as requirements)

3. Configure cmt (creates the scripts for setting up the environment):

```
cmt config
```

4. Setup the Athena environmental variables: (*every time you login*)

```
source ~/TestArea/15.6.4.3/cmthome/setup.sh
```

5. Check the CMT variables:

```
echo $CMTCONFIG
CERN> i686-slc4-gcc34-opt
UMT3> i686-slc5-gcc43-opt
echo $CMTPATH
```

```
CERN> ~/TestArea/15.6.4.3:/afs/cern.ch/atlas/software/releases/15.6.4/AtlasProduction
UMT3> ~/TestArea/15.6.4.3:/atlas/data08/OSG/APP/atlas_app/atlas_rel/15.6.4/AtlasProduction
```

Check Out the UserAnalysis Package

Analysis is typically run from within this package. Here we do a quick test with Hello World.

1. If not done already, set up the environmental variables.

```
cd ~/TestArea/15.6.4.3
source cmthome/setup.sh
```

2. Find out which version of UserAnalysis to checkout (in this case UserAnalysis-00-14-03):

```
cmt show versions PhysicsAnalysis/AnalysisCommon/UserAnalysis
```

3. On UMT3, get kerberos permission (using CERN afs password):

```
UMT3> source ~/daits/setups/svn_cvsg.sh
```

4. Checkout, configure and build the package.

```
cmt co -r UserAnalysis-00-14-03 PhysicsAnalysis/AnalysisCommon/UserAnalysis
cd PhysicsAnalysis/AnalysisCommon/UserAnalysis/cmt
source setup.sh
gmake
```

Test the UserAnalysis Package

See more detailed instructions at [WorkBookReconstruction](#) . This example will create ESD and AOD files from a simulated RDO file.

1. Set up Athena and UserAnalysis environments: (*once per login*)

```
cd ~/TestArea/15.6.4.3
source cmthome/setup.sh
cd PhysicsAnalysis/AnalysisCommon/UserAnalysis/run
source ../cmt/setup.sh
```

2. See what options you can run with:

```
athena -h
```

3. Try running Hello World: (*See WorkBookRunAthenaHelloWorld for explanation of output*)

```
get_files -jo HelloWorldOptions.py
athena HelloWorldOptions.py
```

4. Copy some example files to the run area:

```
RecExCommon_links.sh
```

5. Run the default jobOptions: (*the -s option gives output from all included jobOptions*)

```
athena -s | tee athena.log
```

Run Reconstruction on a Stripped Cosmic Bytestream Data File (only Muon data)

1. Set up Athena and UserAnalysis environments: (*once per login*)

```
cd ~/TestArea/15.6.4.3
source cmthome/setup.sh
cd PhysicsAnalysis/AnalysisCommon/UserAnalysis/run
source ../cmt/setup.sh
```

2. Download a small stripped bytestream data file and some example jobOption files from this wiki page:

- ◆ mdaq.ATLAS.0091060.physics.CosmicMuons.LB0001.SFO-1._0001.data (save with same name)
- ◆ makeESD_align.py.txt (save as makeESD_align.py)
- ◆ makeESD_noalign.py.txt (save as makeESD_noalign.py)

3. Create an ESD (with alignment correction on) from the bytestream file:

```
athena -s makeESD_align.py | tee makeESD_align.log
```

4. Create an ESD (w/o alignment correction on) from the bytestream file:

```
athena -s makeESD_noalign.py | tee makeESD_noalign.log
```

Note: Output is visible on the screen and is written to the log file.

Find data sets with DQ2 at CERN

See my notes at StevenGoldfarbDQ2 for details.

Install and View Data with VP1

See my notes at StevenGoldfarbVP1 for details.

References

- Workbook - ATLAS Workbook for Computing
- WorkbookReconstruction - ATLAS Workbook Reconstruction Recipe
- AGLT2.MuonReco - Muon Cosmic Reconstruction Tutorial (Dec 2008)
- RecExCommonFlags - Flags to be set for Reconstruction
- MuonDataRec_myTopOptions.py - Latest Top jobOptions for Muon Reconstruction

Major updates:

StevenGoldfarb - 29 Jan 2009 (creation) -- StevenGoldfarb - 02 Feb 2009 (updated for demo) --

StevenGoldfarb - 04 Feb 2009 (updated to 14.5.1) -- StevenGoldfarb - 21-Mar-2010 (updated to 15.6.4.3)

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