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Getting and RDO file and running on it

Grid certificate

First we need to move the grid certificate files from the Glasgow machine to the lxplus machines (only needs to be done once). Use the ppelx machine at Glasgow, as it is the only one that can talk directly with the outside world.

```
scp -r ppelx.physics.gla.ac.uk:~/globus .
```

Setting up dq2-get

Then we need to setup the dq2-file command, but we should do it in a new xterm, so that it does not damage the athena setup.

```
xterm
```

We have to copy the file to an a-priori chosen lxplus machine, to know to ssh to the same machine later to recover the file. I chose it as lxplus422. If you had not done this in the setup command, do it now.

```
ssh -Y lxplus422
```

Now we setup the dq2-get, the command that will allow us to retrieve the file we want.

```
source /afs/cern.ch/atlas/offline/external/GRID/ddm/DQ2Clients/setup.sh  
voms-proxy-init -voms atlas
```

The destination folder

The RDO files are big, so better to use the personal tmp space. One should know that every week at an unknown time and day, this folder is cleaned. This is so that people do not consider it a long time storage area.

```
cd /tmp/abuzatu
```

To see how much space is available

```
df -h
```

You will see something like this

```
/dev/sda7          190G  148G   32G  83% /tmp
```

which means 32 G are available for me and others.

By the way, to see how much space one has in the home area, one does

```
fs lq
```

Choosing the desired dataset

For this we have to use <http://lpsc.in2p3.fr/ami/> [AMI]. In order to log in to AMI we have to export the .p12 file of the grid certificate to the browser that is used to open AMI. AMI is the database of files accessible, both data and MC, both RDO, ESD, D3PD, etc. We can search in the database. Go here [AMI search](#). We choose the dataset "mc11_7TeV.105200.T1_McAtNlo_Jimmy.digit.RDO.e835_s1272_s1274_d580". It is a collection of RDO files, since we want to run trigger code and on ESD or AOD files the trigger code is already run. This dataset is a ttbar simulation with MC@NLO that includes the semileptonic and dileptonic decays of the ttbar system (but not the all hadronic decays).

Copying the file locally

```
dq2-get -n 1 mc11_7TeV.105200.T1_McAtNlo_Jimmy.digit.RDO.e835_s1272_s1274_d580/
```

Note that there are actually many files and the option "-n 1" means only a number of 1 file is chosen from the many files in the dataset. The file is chosen randomly. The next time you run this command, another file is copied.

Also note the slash "/" necessary at the end of the command.

The command creates a folder with the name of the dataset plus a suffix and inside copies our file with a quite complex name. For simplicity, we will create a symbolic link with a more simple name, which name will be in the python configuration file to tell us what file to run.

```
ln -s mc[tab]/RDO[tab] RDO.pool.root
```

Again, remember that the path of this file is in /tmp/abuzatu/RDO.pool.root, but it can be accessed only from lxplus422.

Preparing the job options to run athena.py on this file

We want to be able to run on this file from any athena setup or test area. Therefore we create a file called "TriggerOptions.py" in the home area.

```
cd
emacs -nw TriggerOptions.py
```

And inside we add the following information

```
from AthenaCommon.AthenaCommonFlags import athenaCommonFlags
from RecExConfig.RecFlags import rec
from RecExConfig.RecAlgsFlags import recAlgs

athenaCommonFlags.FilesInput = ["/tmp/abuzatu/RDO.pool.root"]

rec.readAOD = False
rec.readESD = False
rec.readRDO = True

rec.doCBNT=False
rec.doTrigger=True

rec.doWriteAOD=False
rec.doWriteESD=False
rec.doWriteTAG=False

rec.doAOD=False
rec.doESD=False
rec.doDPD=False

rec.doTruth=False

include("RecExCommon/RecExCommon_topOptions.py")

theApp.EvtMax = 10

from AthenaCommon.AlgSequence import AlgSequence
job = AlgSequence()

print theApp.TopAlg
print "ADRIAN from .py"
```

Running Athena on this file

First open a new xterm. Make sure you are on the same lxplus machine that stores the RDO file (lxplus422), then choose the athena version and the name of the test area folder, then create the folder, cd to it and setup athena.

Follow the instructions from AdrianBuzatuAthenaSetup.

```
cd ~/$TEST_AREA/$ATHENA_VERSION  
athena.py ~/TriggerOptions.py >& test_trigger.log
```

Major updates:

-- AdrianBuzatu - 09-Feb-2012

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