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Get SINGLE EVENT data

WorkBook 9.6 How to Pick Events (Interactive and CRAB3)

To avoid the current (Aug 2016 onwards) edmPickEvents.py issues (it doesnt seem to parse correctly), do the output lines directly with edmCopyPickMerge ie:

```
edmCopyPickMerge outputFile=pickevents.root eventsToProcess=248038:12714964,XXX:YYYY,MMM:ZZZZ inp
```

27 Sep 2016

```
edmCopyPickMerge outputFile=pickevents.root eventsToProcess=278817:66:3428691 inputFiles=/store/d
```

Gave:

```
27-Sep-2016 17:22:59 CEST Initiating request to open file root://eoscms.cern.ch//eos/cms/store/d
[2016-09-27 17:23:01.081517 +0200][Error ][XRootD ] [eoscms.cern.ch:1094] Handling er
%MSG-w XrdAdaptorInternal: file_open 27-Sep-2016 17:23:01 CEST pre-events
Failed to open file at URL root://eoscms.cern.ch:1094//eos/cms/store/data/Run2016G/DoubleEG/RECO/
%MSG
[2016-09-27 17:23:01.082416 +0200][Error ][XRootD ] [eoscms.cern.ch:1094] Handling er
%MSG-w XrdAdaptorInternal: file_open 27-Sep-2016 17:23:01 CEST pre-events
Failed to open file at URL root://eoscms.cern.ch:1094//eos/cms/store/data/Run2016G/DoubleEG/RECO/
%MSG
27-Sep-2016 17:23:01 CEST Fallback request to file root://xrootd-cms.infn.it//store/data/Run2016
%MSG-w XrdAdaptor: file_open 27-Sep-2016 17:23:05 CEST pre-events
Data is served from gridpp.rl.ac.uk instead of original site infn.it
%MSG
27-Sep-2016 17:23:08 CEST Successfully opened file root://xrootd-cms.infn.it//store/data/Run2016
Begin processing the 1st record. Run 278817, Event 3428691, LumiSection 66 at 27-Sep-2016 17:23:1
27-Sep-2016 17:23:16 CEST Closed file root://xrootd-cms.infn.it//store/data/Run2016G/DoubleEG/RE
```

=====

MessageLogger Summary

type	category	sev	module	subroutine	count	total
1	XrdAdaptor	-w	file_open		1	1
2	XrdAdaptorInternal	-w	file_open		2	2
3	fileAction	-s	file_close		1	1
4	fileAction	-s	file_open		3	3

type	category	Examples: run/evt	run/evt	run/evt
1	XrdAdaptor	pre-events		
2	XrdAdaptorInternal	pre-events	pre-events	
3	fileAction	PostEndRun		
4	fileAction	pre-events	pre-events	pre-events

Severity	# Occurrences	Total Occurrences
Warning	3	3
System	4	4

with output file in /afs/cern.ch/user/d/davec/CMSSW_8_0_17/src/Reco/RecoAnalyzer as:

```
-rw-r--r--. 1 davec zh 2.7M Sep 27 17:23 pickevents.root
```

NOTE: would not run edmCopyPickMerge in /afs/cern.ch/user/d/davec/CMSSW_7_4_7/src/ since data created with later version of CMSSW (CMSSW_8_0_17).

23 Aug 2016

edmPickevents.py with CRAB3 works (must use CMSSW_7_4_7 or higher), BUT the output file now gets stored at a web address given by the job log file.

INFO 2016-08-22 12:28:09,431:

Log file is /afs/cern.ch/user/d/davec/CMSSW_7_4_7/src/crab_pickevents_20160819_160735/crab_pickEv

Output dataset: /SinglePhoton/davec-crab_pickEvents-260540-27375c23c7a5bb979eff0a77ed96ed

Output dataset DAS URL:

https://cmsweb.cern.ch/das/request?input=%2FSinglePhoton%2Fdavec-crab_pickEvents-260540-27375c23c7a5bb979eff0a77ed96ed1b/USER

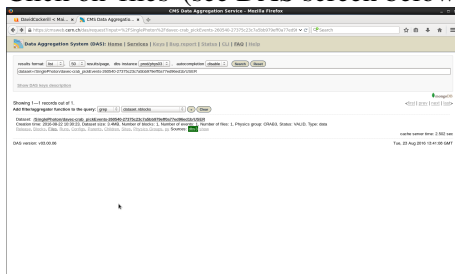
Enter, into DAS, the output dataset url:

dataset=/SinglePhoton/davec-crab_pickEvents-260540-27375c23c7a5bb979eff0a77ed96ed1b/USER

or, into the web page url locator

https://cmsweb.cern.ch/das/request?input=%2FSinglePhoton%2Fdavec-crab_pickEvents-260540-27375c23c7a5bb979eff0a77ed96ed1b/USER

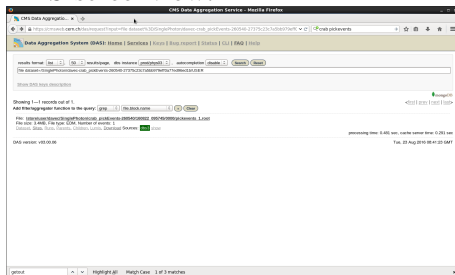
Click on 'files' (see DAS screen below)



Get new screen for:

/store/user/davec/SinglePhoton/crab_pickEvents-260540/160822_095745/0000/pickevents_1.root

DAS-screenview:



Comments from DAS page

CMS provides several ways to download individual LFNs:

using xrootd CMS tool. Here is an example how you can do it (you may use any CMSSW release):

```
source /afs/cern.ch/cms/cmsset_default.sh
source /afs/cern.ch/cms/LCG/LCG-2/UI/cms_ui_env.sh ==> NOT NEEDED with CRAB3
cmsrel CMSSW_6_0_0
cd CMSSW_6_0_0
cmsenv
xrdcp root://cms-xrd-global.cern.ch//store/user/davec/SinglePhoton/crab_pickEvents-260540/160822_095745/0000/pickevents_1.root
```

opened directly in CMSSW with:

```
fileNames = cms.untracked.vstring('root://cms-xrd-global.cern.ch//store/user/davec/SinglePhoton/crab_pickEvents-260540/160822_095745/0000/pickevents_1.root')
```

My commands to get file:

23 Aug 2016

```
In area CMSSW_7_4_7/src/
bash
source /afs/cern.ch/cms/cmsset_default.sh
csh ====> since cmsenv not set up as an alias in bash but only in csh
cmsenv
xrscp root://cms-xrd-global.cern.ch//store/user/davec/SinglePhoton/crab_pickEvents-260540/160822_
[3.226MB/3.226MB][100%][=====] [550.6kB/s]

/<2>work/d/davec $ ls *pick*.root
-rw-r--r--. 1 davec zh 3.3M Aug 23 11:02 pickevents_1.root
```

22 Aug 2016

Using the interactive version of edmPickEvents.py does not work. However using the edmPickEvents.py expected screen output format does work !

```
WorkBook comments:
To run the script interactively do the following, for example
edmPickEvents.py "/MET/Run2015A-PromptReco-v1/RECO" 248038:25:12714964
where
*/MET/Run2015A-PromptReco-v1/RECO = is the dataset you want to pick events from. You can only do
248038:25:12714964 is one event you want to pick. The syntax is Run:Lumi:Event
(one could also put more than one event by separating the different events with a comma: Run1:Lumi
or
edmPickEvents.py "/MET/Run2015A-PromptReco-v1/RECO" events.txt
where events.txt is a text file that contains = 176163:41:69046624 = ( and others if desired, but
```

```
The screen output would look like this:
edmCopyPickMerge outputFile=pickevents.root \
eventsToProcess=248038:12714964 \
inputFiles=/store/data/Run2015A/MET/RECO/PromptReco-v1/000/248/038/00000/546E74FC-5D14-E511-9DCE-
```

In this case, the user can either paste the above edmCopyPickMerge output
or
run edmPickEvents.py with the --runInteractive flag which will run it for you (warning, this can

This will create a ROOT file called pickevents.root in the same directory you executed the command
Also note that edmCopyPickMerge script locates edmPickEvents.py configuration file and then uses

Pre Aug 2016

Use single-event.txt with pickEvent_cfg.py.txt

NOTE NOTE - may need to run the single-event.txt file more than once if trying to get events from CASTOR, staging issue perhaps???

more single-event.txt:

```
cmsRun pickEvent_cfg.py \
inputFiles=/store/data/Run2010B/Photon/RAW/v1/000/146/944/2CB08BA6-34CC-DF11-99F8-003048F118AC.ro
eventsToProcess=146944:254:200578359,146944:254:200582259,146944:255:201078861,146944:255:2010788
outputFile=/afs/cern.ch/user/d/davec/scratch0/Run146944-Lumi255-ev78861.root
```

- This picks three events using the format run:lumi:event with each event separated by a comma.
- change '/store/' which is for castor data to 'file:full....afs...address' for local files

more pickEvent_cfg.py:

```
import FWCore.ParameterSet.Config as cms
from FWCore.ParameterSet.VarParsing import VarParsing

options = VarParsing ('analysis')
```

```
# add a list of strings for events to process
options.register ('eventsToProcess',
                 '',
                 VarParsing.multiplicity.list,
                 VarParsing.varType.string,
                 "Events to process")

options.parseArguments()

process = cms.Process("PickEvent")
process.source = cms.Source ("PoolSource",
                             fileName = cms.untracked.vstring (options.inputFiles),
                             eventsToProcess = cms.untracked.VEventRange (options.eventsToProcess)
)

process.Out = cms.OutputModule("PoolOutputModule",
                               fileName = cms.untracked.string (options.outputFile)
)

process.end = cms.EndPath(process.Out)
```

To run single-event.txt and get the data:

```
chmod u+x single-event.txt  <= to make it an executable
./single-event.txt          <= to run and get single event data
```

Locating files to access a single event or lumi section

Use command line syntax on lxplus, ie:

```
dbsql "find file where dataset=/Photon/Run2011A-May10ReReco-v1/RECO and run=163657 and lumi=34"
```

Answer:

```
Using DBS instance at: http://cmsdbsprod.cern.ch/cms_dbs_prod_global/servlet/DBSServlet file
```

```
-----
/store/data/Run2011A/Photon/RECO/May10ReReco-v1/0000/A6E40CC1-987C-E011-85F6-001A6478A824.root
```

Old DBS data search methods

DBS notes on searching for data

-- DavidCockerill - 2016-09-29

This topic: Main > DavecPickevents

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