

# Table of Contents

<b>9.6 How to Pick Events (Interactive and CRAB3)</b> .....	<b>1</b>
Goals of this page:.....	1
Contents.....	1
How to setup the environment to run edmPickEvents.py.....	1
How to Run edmPickEvents.py.....	1
Run edmPickEvents.py Interactively.....	1
Run edmPickEvents.py with CRAB.....	2
Review Status.....	3

## 9.6 How to Pick Events (Interactive and CRAB3)

Complete:   
Detailed Review status

### Goals of this page:

The goal of this page is to help the users get a copy of a subset of events from a dataset. This utility is a python script called `edmPickEvents.py` and can run an interactive job for a small number of events (now user can use additional command-line option to pick more than 20 events when running interactively), or can set up a CRAB job.

As a recent improvement, this script will allow you access events from data that is **not local** by using `xrootd` and CRAB3.

If you plan on making very large "skims" (*e.g.*, all W candidates), please consider collaborating with others as to minimize the number of identical collections we have.

### Contents

#### How to setup the environment to run `edmPickEvents.py`

**Note that `edmPickEvents` in CMSSW versions before 8\_3\_0 is broken. Please use recent CMSSW.**

The script `edmPickEvents.py` is part of the `PhysicsTools/Utilities` package. The version that uses DAS instead of the outphased DBS2 is integrated into CMSSW\_5\_3\_18 and later and the version that uses CRAB3 instead of CRAB2 is integrated into CMSSW\_5\_3\_29 and later (CMSSW\_5\_3\_X release cycle) and CMSSW\_7\_4\_7 and later.

```
ssh lxplus.cern.ch
cmsrel CMSSW_10_2_14
cd CMSSW_10_2_14/src/
cmsenv
```

#### How to Run `edmPickEvents.py`

**This script doesn't work on simulation due to a limitation in DAS client, see [this thread](#).**

The script `edmPickEvents.py` can be run interactively or via a CRAB job. If you have few events to pick, run it interactively. Now you can pick more than 20 events interactively using the new command line option :

```
edmPickEvents.py --maxEventsInteractive=30 "/Charmonium/Run2018C-17Sep2018-v1/AOD" events.txt
```

In case you have a lot of events to pick, submit a CRAB job. This version of script is compatible with CRAB3 and produces a `crabConfig` which can be directly used by the user to submit the jobs. One can change some of the crab parameters (if needed, like site to store the output files, num of lumi etc).

#### Run `edmPickEvents.py` Interactively

To run the script interactively do the following, for example

```
edmPickEvents.py "/Charmonium/Run2018C-17Sep2018-v1/AOD" 319337:60:30203079
```

where

`*/Charmonium/Run2018C-17Sep2018-v1/AOD=` is the dataset you want to pick events from. You can only do one per job.

- `319337:60:30203079` 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:Lumi1:Event1, Run2:Lumi2:Event2`).

or

```
edmPickEvents.py "/Charmonium/Run2018C-17Sep2018-v1/AOD" events.txt
```

where

- `events.txt` is a text file that contains `= 319337:60:30203079 =` ( and others if desired, but one by line )

and the screen output would look like this:

```
edmCopyPickMerge outputFile=pickevents.root \  
  eventsToProcess=319337:60:30203079 \  
  inputFiles=/store/data/Run2018C/Charmonium/AOD/17Sep2018-v1/60000/FFE6BEB2-BE6C-5A4F-A6D0-41999
```

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 take a long time).

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

## Run `edmPickEvents.py` with CRAB

BEWARE AS THE CRAB CONFIG THAT `edmPickEvents` puts out might still be `crab2` if you use releases before `CMSSW_7_4_7!!!`

If you are running over a large number of event, if you just don't want to wait for a long job to finish, you can use `edmPickEvents.py` to setup a CRAB job for you.

To run a CRAB job:

- First setup the Crab environment following the instructions at [SWGGuideCrab](#)
- Then run the script as follows ( In this case we are running the two events via a CRAB job ) :

```
edmPickEvents.py "/Charmonium/Run2018C-17Sep2018-v1/AOD" events.txt --crab
```

When you run this it gives the following screen output

```
Please visit CRAB twiki for instructions on how to setup environment for CRAB:  
https://twiki.cern.ch/twiki/bin/viewauth/CMS/SWGGuideCrab
```

```
Setup your environment for CRAB and edit pickevents_crab.py to make any desired changed. Then ru
```

```
crab submit -c pickevents_crab.py
```

Run `edmPickEvents.py` Interactively

This will create the configuration file called `pickevents_crab.config` for you

- If desired, you can modify the contents of `pickEvents_crab.config`. Most people should find the defaults sufficient.
- nota bene: if you use CMSSW versions before than `CMSSW_10_4_X`, you will need to enable this option `config.JobType.allowUndistributedCMSSW = True`.
- Then submit a Crab job

```
crab submit -c pickevents_crab.py
```

- It will create a CRAB working directory according to current time. `YYMMDD_HHMMSS`.
- You can check the status of your job via

```
crab status
```

At the moment of run this example it was:

```
crab status -d crab_pickevents_20201029_184718/crab_pickEvents
```

Once the CRAB job finishes successfully, you can get the output `ROOT` file in the `craboutput /res` directory:

```
crab -getoutput
```

To merge the output of CRAB, you can follow the easy instructions here:

```
ls -l pick*root | perl -ne 'print "file:$_" > myFiles.txt'
edmCopyPickMerge inputFiles_load=myFiles.txt outputFile=pickevents_merged.root      maxSize=1000000
```

where `maxSize=1000000` means 1 million Kb (or 1 Gb).

(In `cmsRun`, local files must be noted with the prefix `file:.`)

## Review Status

Editor/Reviewer and date	Comments
DinkoFerencek - 22 June 2015	No longer necessary to merge a branch from the cms-analysis-tools <a href="#">GitHub</a> area
RamanKhurana - 8 July 2015	Added instructions for <code>CMSSW_7_4_X</code> compatible with CRAB3
DinkoFerencek - 12 July 2015	Updated instructions indicating that the version compatible with CRAB3 is now integrated in CMSSW
JhovannyMejia - 29 October 2020	Added instructions for <code>CMSSW_10_2_X</code> compatible with CRAB3

-- SudhirMalik - 09-Sep-2010 Added instructions for `CMSSW_7_4_X` compatible with CRAB3

This topic: CMSPublic > WorkBookPickEvents

Topic revision: r26 - 2020-10-30 - JhovannyMejia



Copyright &© 2008-2021 by the contributing authors. All material on this collaboration platform is the property of the contributing authors.

or Ideas, requests, problems regarding TWiki? use Discourse or Send feedback