

Tutorial for CMS Users: CRAB Exercises

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Exercise Preparations

1. Login to the NAF

2. Create your own directory on the lustre space:

```
mkdir /scratch/current/cms/user/<your username>
```

3. Set up a CMSSW 3.1.2 project area:

```
cd /scratch/current/cms/user/<your username>
ini cmssw
cmsrel CMSSW_3_1_2
```

4. Get the code for our examples from CVS:

```
cd CMSSW_3_1_2/src
cmsenv
kinit -5 username@CERN.CH
addpkg PhysicsTools/PatAlgos
```

5. Try to execute `cmsRun`

```
PhysicsTools/PatAlgos/test/patLayer1_fromAOD_full_cfg.py
```

Inspect the output file with the ROOT browser.

If you never worked with the PAT before you can have a look at

<https://twiki.cern.ch/twiki/bin/view/CMS/SWGuidePAT>

CRAB exercises I

1. Find datasets located at german Tier-2 site, reconstructed with CMSSW 3.1.0 or newer.

2. Set up the grid user interface:

```
ini glite
export VO_CMS_SW_DIR=/afs/naf.desy.de/group/cms/sw
cmsenv
```

3. Set up the CRAB environment:

```
ini crab
```

4. Copy the `$CRABDIR/python/crab.cfg` template and edit it to run the PAT example `PhysicsTools/PatAlgos/test/patLayer1_fromAOD_full_cfg.py` on one of the datasets you found.
 - ▶ store the output on the DESY dCache storage element.

CRAB exercises II

5. Copy an output file to a local direcorey and check it in the ROOT browser. Use the dctools on the NAF:

```
ini dctools
dcls /pnfs/desy.de/cms/tier2/store/<hypernews name>/... dcget
/pnfs/desy.de/cms/tier2/store/user/.... myfile.root
```

6. Run a new CRAB job using the local batch system. (Delete the old output files beforehand: `dcdel /pnfs/...`)
7. Submit jobs wih the PAT example again and publish the output in DBS.

CRAB exercises III

8. Now you could use CRAB to analyze the published output. Create a CRAB project to test this. (Do not submit the jobs.)
9. Clean up your directory on the SE.
10. Remove the DBS entry.