



CASTOR tutorial



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Introduction

- ◆ Castor is used to read / write data on data storage
- ◆ Before you were accessing your data using a tape number and file sequence ID
 - R01234
- ◆ Today you access your data using a name with a path which hides the mass media
 - `/castor/cern.ch/aleph/data/ZD2001.1.AL`



How to save your data ?

- ◆ A castor space is set for you and you can access it through the following path:

`/castor/cern.ch/user/first_letter_of_username/username`

Ex : `/castor/cern.ch/user/j/joel`

- ◆ You can generate a tree below this castor name to manage your archive
 - `/castor/cern.ch/j/joel/data`
 - `/castor/cern.ch/j/joel/hbook/2000`



Write dataset – 1st method

◆ STAGEOUT : reserve space in the stager

- `stageout -p aldataout -M /castor/cern.ch/user/j/joel/tutorial.log`

```
stageqry -p aldataout -M /castor/cern.ch/user/j/joel/tutorial.log
```

<i>File name</i>	<i>State</i>	<i>Nbacc.</i>	<i>Size</i>	<i>Pool</i>
<i>tutorial.log</i>	<i>STAGEOUT</i>	<i>1</i>	<i>0.0/200</i>	<i>aldataout</i>

◆ You have to copy or generate your file

- Program

- Rfcpl

```
stageqry -p aldataout -M /castor/cern.ch/user/j/joel/tutorial.log -P
```

```
/shift/shd18/data33/z5/stage/tutorial.log.132044
```

```
rfcp log_aldataout.pool.110199 /shift/shd18/data33/z5/stage/tutorial.log.132044
```

84249 bytes in 0 seconds through local (in) and eth0 (out)



Write dataset – 1st method (2)

◆ STAGEUPDC : copy into castor by updating the catalog

■ `stageupdc /shift/shd18/data33/z5/stage/tutorial.log.132044`

`stageqry -p aldataout -M /castor/cern.ch/user/j/joel/tutorial.log`

<i>File name</i>	<i>State</i>	<i>Nbacc.</i>	<i>Size</i>	<i>Pool</i>
<i>tutorial.log</i>	<i>CAN_BE_MIGR</i>	<i>1</i>	<i>0.1/*</i>	<i>aldataout</i>



Write dataset - 2nd method

◆ You copy your file using stagewrt

- `stagewrt -M /castor/cern.ch/user/j/joel/these.ps
/afs/cern.ch/user/j/joel/public/these.ps`



Read dataset

◆ STAGEIN : copy data from tape to disk

```
stagein -p aldataout -M /castor/cern.ch/user/j/joel/jojo.mc joel.dat
```

```
stageqry -p aldataout -M jojo.mc
```

<i>File name</i>	<i>State</i>	<i>Nbacc.</i>	<i>Size</i>	<i>Pool</i>
<i>jojo.mc</i>	<i>STAGED</i>	<i>1</i>	<i>0.6/1</i>	<i>aldataout</i>



RFCP

◆ Rfcpc source castorname

- Copy your file without knowing anything to the stager command
 - *rfcp myhisto.hbook /castor/cern.ch/user/j/joel/myhisto.hbook*
- Read your file without knowing anything to the stager command
 - *rfcp /castor/cern.ch/user/j/joel/myhisto.hbook myhisto.hbook*



Castor status

- ◆ **STAGEIN** : copy from tape to disk in progress
- ◆ **STAGED** : file is on disk
- ◆ **STAGEWRT** : copy onto the disk
- ◆ **STAGEOUT** : space allocated for a file
- ◆ **CAN_BE_MIGR** : ready for a migration on tape
- ◆ **BEING_MIGR** : migration in progress
- ◆ **PUT_FAILED** : copy on tape which failed



Check castor file

◆ Listing : `nsls -l /castor/cern.ch/user/j/joel`

- `-rwxr-xr-x ..` File not yet migrated
- `mrwxr-xr-x m` : file migrated

```
nsls -l /castor/cern.ch/user/j/joel
```

```
mrw-r--r-- 1 joel z5          647175 Mar 13 11:28 jojo.mc  
mrwxr-xr-x 1 joel z5          84249 Mar 19 09:22 these.ps  
drwxr-xr-x 1 joel z5           0 Mar 19 09:27 thesis  
-rwxr-xr-x 1 joel z5          84249 Mar 19 08:45 tutorial.log
```

◆ Check the tape associate to your file

- `nsls -T /castor/cern.ch/user/j/joel/myhisto.hbook`
- `1 P00123 /castor/cern.ch/user/j/joel/myhisto.hbook`



Check castor file (2)

◆ Create a subdirectory

- *nsmkdir /castor/cern.ch/user/j/joel/data/*

◆ Remove a file (**BE CAREFULL**)

- *nsrm /castor/cern.ch/user/j/joel/these.ps*



Documentation

- ◆ Castor Documentation on the web
 - <http://wwwinfo.cern.ch/pdp/castor>
- ◆ Castor support
 - E-mail : castor.support@cern.ch