HTCondor Command Line Monitoring Tool

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condor_q displays information about jobs in the HTCondor job queue.

Useful options:

-global	**Show jobs submitted to all the schedulers**
-wide	**Do not truncate long lines.**
-analyze <job_id>	**Analyse a specific job and show the reason why it is in its current state**
-better-analyze <job_id>	**Analyse a specific job and show the reason why it is in its current state, giving extended info**
-long <job_id>	**Show all information of the job.**
-run	**Show information about running jobs.**
-hold	**Show only jobs in the "on hold" state.**
-af <attr1> <attr2> <...>	**List specific attributes of jobs, using automatic formatting.**

To offline a worker node:

```
condor_config_val –name <worker node> -startd –set "StartJobs = False"
sleeps 2
condor_reconfig –name <worker node>
```

To online a worker node:

```
condor_config_val –name <worker node> -startd –set "StartJobs = True"
sleeps 2
condor_reconfig –name <worker node>
```

To list online worker nodes:

```
condor_status –server –wide|grep slot1@|awk '{print $1}'|awk –F@ '{print $2}'|sort
```

To list offline worker nodes:

???

To list jobs on a worker node:

```
condor_q -constraint 'RemoteHost == "slot1@<worker node>"'
```

condor_wn

a python script which gives a snapshot view of what is running on the cluster.

Uses the below additional python modules:

* **htcondor and classad** – (https://htcondor-python.readthedocs.io/en/latest/) **to look at the inventory in the pool**

* **prettytable - to get the pretty output**

* **yaml - to read values from a configuration file**

condor_wn --summary

displays summary tables:

- **CPU Summary**
- **Number of Jobs**
- **Jobs per VO**
- Idle Jobs (displayed if the jobs in the idle queue are more than 1 day old)*
- Held Jobs (displayed if the jobs in the held queue are more than 1 day old)*
- Long Running Jobs (displayed if the jobs in the running queue are more than 4 days old)*

* The default value can be changed in the condor_wn.yaml config file

```
root@t2arc01:/usr/local/bin (on pplxint9.physics.ox.ac.uk)

File  Edit  View  Search  Terminal  Help
[root@t2arc01 bin]# condor_wn --summary
Condor Jobs Overview on t2arc01.physics.ox.ac.uk Thursday, 04 January 2018 14:21:46
CPU Summary
+-----------+-----------+-------+-----------+
| #CPUsUsed | #CPUsFree | #CPUs | %CPUsUsed |
+-----------+-----------+-------+-----------+
|    2245   |    267    | 2512  |    89     |
+-----------+-----------+-------+-----------+
Jobs Summary
+------+-----------+------+------+---------+---------+
| jobs | completed | idle | held | running | removed |
+------+-----------+------+------+---------+---------+
| 1634 |     0     | 299  |  0   |  1335   |    0    |
+------+-----------+------+------+---------+---------+
Jobs per VO
+-----------------------+---------+------+-------+--------+----------------+
| VO                    | Status  | CPUs | #Jobs | #Cores | CPU Efficiency |
+-----------------------+---------+------+-------+--------+----------------+
| group_ALICE_admin     | idle    |   1  |   17  |   17   |                |
+-----------------------+---------+------+-------+--------+----------------+
| group_ALICE_admin     | running |   1  |  500  |  500   |      88.91     |
+-----------------------+---------+------+-------+--------+----------------+
| group_ALICE_standard  | idle    |   1  |    2  |    2   |                |
+-----------------------+---------+------+-------+--------+----------------+
| group_ATLAS_multicore | idle    |   8  |   23  |  184   |                |
+-----------------------+---------+------+-------+--------+----------------+
| group_ATLAS_multicore | running |   8  |  130  | 1040   |      90.64     |
+-----------------------+---------+------+-------+--------+----------------+
| group_ATLAS_pilot     | running |   1  |    7  |    7   |      85.34     |
+-----------------------+---------+------+-------+--------+----------------+
| group_ATLAS_production | running |  1  |    1  |    1   |      54.35     |
+-----------------------+---------+------+-------+--------+----------------+
| group_CMS_pilot       | running |   1  |  162  |  162   |      55.86     |
+-----------------------+---------+------+-------+--------+----------------+
| group_ILC_standard    | running |   1  |    1  |    1   |      97.59     |
+-----------------------+---------+------+-------+--------+----------------+
| group_LHCB_pilot      | running |   1  |  233  |  233   |      97.82     |
+-----------------------+---------+------+-------+--------+----------------+
| group_NA62_pilot      | idle    |   1  |  257  |  257   |                |
+-----------------------+---------+------+-------+--------+----------------+
| group_NA62_pilot      | running |   1  |  300  |  300   |      96.26     |
+-----------------------+---------+------+-------+--------+----------------+
| group_SNOPLUS_pilot   | running |   1  |    1  |    1   |      98.19     |
+-----------------------+---------+------+-------+--------+----------------+
[root@t2arc01 bin]#
```

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`condor_wn --workernode t2wn2,t2wn3` – **displays jobs on worker node(s)**

`condor_wn --workernode t2wn2,t2wn3 –column 6 --descending` - **displays jobs on worker nodes, sorted by column 6 (AverageLoad) and descending order.**

condor_wn --offline t2wn16
offline worker node t2wn16

condor_wn --list offline
list all offline worker nodes

condor_wn --online t2wn16
online worker node t2wn16

Putting All worker nodes
online/offline

condor_wn --offline ALL
Are you sure that you want to put ALL
workernodes offline [y/N] y
Are you REALLY sure that you want to put ALL
workernodes offline [y/N] N

condor_wn --list offline
list all offline worker nodes

condor_wn --list online
list all online worker nodes

condor_wn --list multicore
list all multicore jobs

condor_wn --list all
list all worker nodes

condor_wn --list all --html

list all worker nodes and create an html output

- If you don't like the layout of the tables, the template for the output is defined in condor_wn.yaml file

To avoid copying the html file to a webserver

- Install HTCondor RPMs on the webserver
- Copy configuration files:
  - pool_password
  - condor_config
  - condor_config.local
  - 10_security.config

Make sure:

- SCHEDD_HOST is defined in 10_security.config
  SCHEDD_HOST = <scheduler server>

- Do not start any htcondor daemons

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Condor Jobs Overview on t2arc01.physics.ox.ac.uk — Google Chrome

Condor Jobs Overview on t2arc01.physics.ox.ac.uk
Thursday, 04 January 2018 15:50:42

Jobs per VO

VO	Status	CPUs	#Jobs	#Cores	CPU Efficiency
group_ALICE_admin	idle	1	17	17	
group_ALICE_admin	running	1	500	500	88.33
group_ATLAS_multicore	idle	8	9	72	
group_ATLAS_multicore	running	8	151	1208	89.73
group_ATLAS_pilot	running	1	10	10	55.56
group_ATLAS_production	running	1	4	4	53.42
group_CMS_pilot	running	1	161	161	53.96
group_ILC_standard	running	1	1	1	97.71
group_LHCB_pilot	running	1	221	221	97.82
group_NA62_pilot	idle	1	309	309	
group_NA62_pilot	running	1	300	300	95.63
group_SNOPLUS_pilot	running	1	1	1	98.26

CPU Summary

#CPUsUsed	#CPUsFree	#CPUs	%CPUsUsed
2404	236	2640	91

Jobs Summary

Jobs	completed	idle	held	running	removed
1684	0	335	0	1349	0

Jobs per Workernode

WorkerNode	Status	#CPUs	%CPU	%Memory	AverageLoad	LoadEfficiency	#Jobs	Jobs
t2wn1	online	64	92.2	60.9	58.0	90.6	10	ATLAS_multicore: 10171748.0: 8: 0 day 19:30:32 ATLAS_multicore: 10175121.0: 8: 0 day 07:10:16 ATLAS_multicore: 10175195.0: 8: 0 day 07:02:29 ATLAS_multicore: 10175996.0: 8: 0 day 05:29:40 ATLAS_multicore: 10176003.0: 8: 0 day 05:28:40 ATLAS_multicore: 10176157.0: 8: 0 day 03:44:27 ATLAS_multicore: 10176383.0: 8: 0 day 02:50:05 CMS_pilot: 10166126.0: 1: 1 day 22:51:09 LHCB_pilot: 10168800.0: 1: 1 day 13:49:39 LHCB_pilot: 10168805.0: 1: 1 day 13:49:18
t2wn10	online	16	68.8	45.9	4.0	24.9	4	ALICE_admin: 10173316.0: 1: 0 day 18:15:55 ALICE_admin: 10173727.0: 1: 0 day 16:55:50 ATLAS_multicore: 10171642.0: 8: 0 day 21:10:50 CMS_pilot: 10166488.0: 1: 1 day 21:52:46
t2wn100	online	32	87.5	58.7	26.9	84.2	14	ALICE_admin: 10170076.0: 1: 1 day 06:20:19 ALICE_admin: 10170112.0: 1: 1 day 04:46:29 ALICE_admin: 10170113.0: 1: 1 day 04:42:37 ALICE_admin: 10170146.0: 1: 1 day 02:28:47 ALICE_admin: 10170151.0: 1: 1 day 02:01:54 ALICE_admin: 10171714.0: 1: 1 day 01:37:04 ATLAS_multicore: 10174776.0: 8: 0 day 10:10:44 ATLAS_multicore: 10176009.0: 8: 0 day 05:25:31 LHCB_pilot: 10168075.0: 1: 1 day 15:13:18 LHCB_pilot: 10169582.0: 1: 1 day 10:25:58 NA62_pilot: 10174943.0: 1: 0 day 10:01:05 NA62_pilot: 10174958.0: 1: 0 day 09:59:20 NA62_pilot: 10174983.0: 1: 0 day 09:57:13 NA62_pilot: 10175319.0: 1: 0 day 08:06:53
t2wn101	online	32	100.0	71.8	14.9	46.7	25	ALICE_admin: 10171708.0: 1: 1 day 01:46:42 ALICE_admin: 10172775.0: 1: 0 day 21:22:39 ALICE_admin: 10173262.0: 1: 0 day 19:20:44 ALICE_admin: 10173946.0: 1: 0 day 14:39:55 ALICE_admin: 10174297.0: 1: 0 day 08:14:48 ALICE_admin: 10176903.0: 1: 0 day 01:43:41 ATLAS_multicore: 10177395.0: 8: 0 day 00:03:42 CMS_pilot: 10165426.0: 1: 1 day 01:25:37 CMS_pilot: 10165574.0: 1: 2 days 00:20:14 CMS_pilot: 10165709.0: 1: 1 day 23:41:17 CMS_pilot: 10166500.0: 1: 1 day 01:27:36 CMS_pilot: 10166631.0: 1: 1 day 20:40:19 CMS_pilot: 10170548.0: 1: 1 day 06:25:04 CMS_pilot: 10170735.0: 1: 1 day 05:05:59 CMS_pilot: 10170890.0: 1: 1 day 04:44:50 CMS_pilot: 10170966.0: 1: 1 day 04:37:48

If a "Long Running Jobs" criteria is met, a table listing the jobs ids will be displayed.

Condor Jobs Overview on t2arc01.physics.ox.ac.uk

Monday, 08 January 2018 09:00:33

Jobs per VO

VO	Status	CPUs	#Jobs	#Cores	CPU Efficiency
group_ALICE_admin	idle	1	13	13	
group_ALICE_admin	running	1	499	499	49.66
group_ALICE_standard	idle	1	1	1	
group_ATLAS_multicore	idle	8	24	192	
group_ATLAS_multicore	running	8	96	768	84.68
group_ATLAS_pilot	running	1	9	9	71.87
group_ATLAS_production	running	1	3	3	56.44
group_CMS_pilot	idle	1	56	56	
group_CMS_pilot	running	1	500	500	93.36
group_LHCB_pilot	running	1	214	214	97.82
group_NA62_pilot	idle	1	616	616	
group_NA62_pilot	running	1	300	300	94.30
group_PHENO_pilot	running	1	249	249	97.97

CPU Summary

#CPUsUsed	#CPUsFree	#CPUs	%CPUsUsed
2541	131	2672	95

Jobs Summary

jobs	completed	idle	held	running	removed
2580	0	710	0	1870	0

Long Running Jobs

JobID	Job Owner	CPUs	Time
10169847.0	ALICE_admin	1	5 days 01:57:21
10169848.0	ALICE_admin	1	5 days 01:57:19
10170061.0	ALICE_admin	1	5 days 00:27:13
10170069.0	ALICE_admin	1	5 days 00:00:08
10170070.0	ALICE_admin	1	5 days 00:00:12
10170071.0	ALICE_admin	1	5 days 00:00:11
10170073.0	ALICE_admin	1	4 days 23:49:17
10170102.0	ALICE_admin	1	4 days 22:46:33
10170109.0	ALICE_admin	1	4 days 22:12:12
10170112.0	ALICE_admin	1	4 days 21:56:18
10170114.0	ALICE_admin	1	4 days 21:50:25
10170130.0	ALICE_admin	1	4 days 21:03:59
10170139.0	ALICE_admin	1	4 days 20:03:24
10170149.0	ALICE_admin	1	4 days 19:33:21
10170153.0	ALICE_admin	1	4 days 19:07:25
10171776.0	ALICE_admin	1	4 days 17:27:53
10171810.0	ALICE_admin	1	4 days 16:13:30
10171828.0	ALICE_admin	1	4 days 16:07:47
10171836.0	ALICE_admin	1	4 days 15:58:31

QUESTIONS?