

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></job_id>	Analyse a specific job and show the reason why it is in its current state
<pre>-better-analyze <job_id></job_id></pre>	Analyse a specific job and show the reason why it is in its current state, giving extended info
-long <job_id></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> <></attr2></attr1>	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 (<u>https://htcondor-python.readthedocs.io/en/latest/</u>) 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 tables

:46

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 bin]# condo Condor Jobs Overview on t2			.ac.uk T	hursday, (94 January 2018 1
CPU Summary	8 A		uuus	2.1	
#CPUsUsed #CPUsFree			d		
2245 267			Ì		
Jobs Summary			+		
jobs completed idle	held	running	remov	+ ed	
1634 0 299				+	
++- Jobs per VO			10	10	
	Status	CPUs	#Jobs		+ 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		8	23		+
group_ATLAS_multicore	running			+ 1040	+ 90.64
group_ATLAS_pilot					
group_ATLAS_production					
group_CMS_pilot	running	1	+ 162	162	+ 55.86
group_ILC_standard					
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





condor_wn – list jobs on workernodes

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

ot@t2arc01 ndor Jobs 0						January 2018 14:5		++
VorkerNode	Status	#CPUs	%CPU	%Memory	AverageLoad	LoadEfficiency		
t2wn2	online	64	100.0	66.3	56.5	88.33	15	<pre>ALICE_admin: 10173335.0: 1: 0 day 16:47:07 ATLAS_multicore: 10176031.0: 8: 0 day 04:14:15 ATLAS_multicore: 10176042.0: 8: 0 day 04:13:35 ATLAS_multicore: 10176360.0: 8: 0 day 04:13:33 ATLAS_multicore: 10176360.0: 8: 0 day 02:14:23 ATLAS_multicore: 10176361.0: 8: 0 day 02:13:19 ATLAS_multicore: 10176362.0: 8: 0 day 02:13:00 ATLAS_multicore: 10176426.0: 8: 0 day 02:13:00 ATLAS_multicore: 10176426.0: 8: 0 day 01:18:12 CMS_pilot: 10170979.0: 1: 1 day 03:39:27 LHCB_pilot: 10161045.0: 1: 2 days 03:53:14 LHCB_pilot: 10163683.0: 1: 2 days 03:52:13 LHCB_pilot: 10163680.0: 1: 1 day 12:54:20 LHCB_pilot: 10168802.0: 1: 1 day 12:53:59 LHCB_pilot: 10168806.0: 1: 1 day 12:53:38</pre>
t2wn3	online	64	100.0	65.6	57.6	90.0 	+8 	ATLAS_multicore: 10175936.0: 8: 0 day 04:42:56 ATLAS_multicore: 10176134.0: 8: 0 day 02:54:15 ATLAS_multicore: 10176137.0: 8: 0 day 02:53:54 ATLAS_multicore: 10176146.0: 8: 0 day 02:52:54 ATLAS_multicore: 10176250.0: 8: 0 day 02:35:18 ATLAS_multicore: 10176254.0: 8: 0 day 02:34:51 ATLAS_multicore: 10176255.0: 8: 0 day 02:34:27 ATLAS_multicore: 10176338.0: 8: 0 day 02:34:07





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

	/erview or	1 t2arc0	l.physics	s.ox.ac.uk	Thursday, 04	n 6descending January 2018 15:03		+
WorkerNode						LoadEfficiency		
t2wn3	online	64	100.0	65.6	56.9	88.86	8	ATLAS multicore: 10175936.0: 8: 0 day 04:51:10 ATLAS multicore: 10176134.0: 8: 0 day 03:02:28 ATLAS multicore: 10176137.0: 8: 0 day 03:02:08 ATLAS multicore: 10176146.0: 8: 0 day 03:01:08 ATLAS multicore: 10176250.0: 8: 0 day 02:43:32 ATLAS multicore: 10176254.0: 8: 0 day 02:43:05 ATLAS multicore: 10176255.0: 8: 0 day 02:42:41 ATLAS multicore: 10176338.0: 8: 0 day 02:42:21
t2wn2	online	64	100.0	66.3	56.4	88.12		<pre>ALICE_admin: 10173335.0: 1: 0 day 16:55:20 ATLAS_multicore: 10176031.0: 8: 0 day 04:22:29 ATLAS_multicore: 10176042.0: 8: 0 day 04:22:08 ATLAS_multicore: 10176043.0: 8: 0 day 04:21:47 ATLAS_multicore: 10176360.0: 8: 0 day 02:22:36 ATLAS_multicore: 10176361.0: 8: 0 day 02:21:32 ATLAS_multicore: 10176362.0: 8: 0 day 02:21:13 ATLAS_multicore: 10176426.0: 8: 0 day 02:21:13 ATLAS_multicore: 10176426.0: 8: 0 day 01:26:25 CMS_pilot: 10170979.0: 1: 1 day 03:47:40 LHCB_pilot: 10163680.0: 1: 2 days 04:01:27 LHCB_pilot: 10163683.0: 1: 2 days 04:00:26 LHCB_pilot: 10168798.0: 1: 1 day 13:02:34 LHCB_pilot: 10168802.0: 1: 1 day 13:02:13 LHCB_pilot: 10168806.0: 1: 1 day 13:01:51</pre>





condor_wn – online/offline worker nodes

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

🛇 🖨 🗐 root@t2arc0):/usr/local/	/bin (on	pplxint9.p	hysics.ox.a	c.uk)			
File Edit View Sea	rch Termir	nal Hel	р					
								LHCB_pilot: 16003.0: 1: 0 day 08:49:14 LHCB_pilot: 16017.0: 1: 0 day 07:06:56
[root@t2arc00 bin]# [root@t2arc00 bin]# offlining worker node [root@t2arc00 bin]# d	τzwn1	6.pnys1	cs.ox.ac.	uk		→ o	ffline t2	wn16 Iist all offline workernodes
Condor Jobs Overview CPU Summary	on t2arc00	.physic	s.ox.ac.u	ık Thursda	y, 04	January 2018 15	:18:41	
#CPUsUsed #CPUsFr	ee #CPUs							
9 15	24	ļ	37					
Jobs Summary								
jobs completed	idle hel	d run	ning re	emoved				
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lobs per VO	, +	·						
VO	Status	CPUs	#Jobs	#Cores	CPU E	Efficiency		
group_GRIDPP_pilot	running	1	1	1		0.47		
group_LHCB_pilot	, running	1	8	8		64.77		
Jobs per Workernode		·	·				+	
WorkerNode Statu	s #CPUs	, %CPU	%Memory	/ Averag	eLoad	LoadEfficienc	y #Jobs	Jobs
t2wn16 offlir	e 16	12.5	i second	1.	0	6.4	2	GRIDPP_pilot: 16103.0: 1: 0 day 00:03:32 LHCB_pilot: 15589.0: 1: 1 day 14:41:01
[root@t2arc00 bin]# c onlining worker node			t2wn16	-		→ ,	online t	2wn16
[root@t2arc00 bin]# c Condor Jobs Overview					y, 04	January 2018 15	:20:17	list jobs on t2wn16
WorkerNode Status	#CPUs	%CPU	%Memory	Average	Load	LoadEfficiency	#Jobs	Jobs
t2wn16 online	16	6.2	4.2	1.0		6.25	1	LHCB_pilot: 15589.0: 1: 1 day 14:42:37
[root@t2arc00 bin]#		+		+			-+	*****





condor_wn – list

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

File Edit Vi	ew Sear	ch Termir	nal Help)					
CPU Summary	verview o	on t2arc00	.physic	s.ox.ac.u	ık Thursda	ay, 04	January 2018 15:4	7:50	
++ #CPUsUsed		e #CPUs	16						
14	10	24	1.1	58					
++ Jobs Summary		+		+					
++ jobs comp		.dle hel	Statistics and see and	a di ser se se de la se se se					
15	0	1 0		14	0				
+ Jobs per VO	+	+	+	+	+		12		
VO		Status	CPUs	#Jobs	#Cores	CPU E	fficiency		
group_ILC_s	tandard	running	1	6	6		0.39		
group_LHCB_	pilot	idle	1	1 (Sec.)	1				
group_LHCB_	pilot	running	1		202010-0		64.12		
Jobs per Work	ernode								
WorkerNode	Status	#CPUs	%CPU	%Memory	/ Avera	geLoad	LoadEfficiency	#Jobs	Jobs
t2wn16	online 	16 	37.5	25.5	2	1	13.1	6 	ILC_standard: 16125.0: 1: 0 day 00:06:45 ILC_standard: 16127.0: 1: 0 day 00:06:00 ILC_standard: 16129.0: 1: 0 day 00:04:00 ILC_standard: 16130.0: 1: 0 day 00:02:03 ILC_standard: 16131.0: 1: 0 day 00:01:03 LHCE_pilot: 15589.0: 1: 1 day 15:10:10
t2wn41	online 		100.0	70.0	6 	7	84.2	8 	<pre>ILC standard: 16126.0: 1: 0 day 00:06:00 LHCE_pilot: 15086.0: 1: 3 days 01:26:42 LHCB_pilot: 15573.0: 1: 1 day 17:17:43 LHCB_pilot: 15750.0: 1: 1 day 04:53:39 LHCB_pilot: 15879.0: 1: 0 day 19:39:43 LHCB_pilot: 15968.0: 1: 0 day 13:54:23 LHCB_pilot: 16003.0: 1: 0 day 09:19:08 LHCB_pilot: 16017.0: 1: 0 day 07:36:50</pre>







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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		group_ALICE_admin	idle	1	17	17		1							
		group_ALICE_admin	running	1	500	500	88.33	CPU Su	immary	<u></u>					
		group_ATLAS_multicore	idle	8	9	72		#CPUsUsed #CPUsFree #CPUs %CPUsUsed							
		group_ATLAS_multicore	running	8	151	1208	89.73	240	04	2	36	2640	91		
		group_ATLAS_pilot	running	1	10	10	55.56]							
		group_ATLAS_production	running	1	4	4	53.42	Jobs Su	mmarv						
		group_CMS_pilot	running	1	161	161	53.96	jobs		oleted	idle	held	running	remov	bal
		group_ILC_standard	running	1	1	1	97.71	-					0		cu
		group_LHCB_pilot	running	1	221	221	97.82	1684		0	335	0	1349	0	
		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								

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 19:30:3 ATLAS_multicore: 10175121.0: 8: 0 day 07:02:1 ATLAS_multicore: 10175195.0: 8: 0 day 07:02:2 ATLAS_multicore: 10175195.0: 8: 0 day 05:29:4 ATLAS_multicore: 10176013.0: 8: 0 day 05:28:4 ATLAS_multicore: 10176157.0: 8: 0 day 03:44:2 ATLAS_multicore: 10176183.0: 8: 0 day 02:50:0 CMS_pilot: 10166126.0: 1: 1 day 22:51:09 LHCB_pilot: 101688005.0: 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: 10173216.0: 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:: CMS pilot: 1016648.0: 1: 1 day 21:52:46
t2wn100	online	32	87.5	58.7	26.9	84.2	14	ALICE admin: 10170078.0: 1: 1 day 06:20:19 ALICE admin: 10170076.0: 1: 1 day 04:46:29 ALICE admin: 10170113.0: 1: 1 day 04:46:29 ALICE admin: 10170113.0: 1: 1 day 04:42:37 ALICE admin: 10170115.0: 1: 1 day 02:28:47 ALICE admin: 1017015.10: 1: 1 day 02:01:54 ALICE admin: 10171714.0: 1: 1 day 02:01:54 ALICE multicore: 1017476.0: 8: 0 day 10:10: ATLAS multicore: 1017476.0: 8: 0 day 10:10: ATLAS multicore: 1017476.0: 8: 0 day 10:25:58 NA62 pilot: 1017495.0: 1: 0 day 10:01:05 NA62 pilot: 1017495.0: 1: 0 day 09:57:13 NA62 pilot: 1017495.0: 1: 0 day 09:57:13 NA62 pilot: 1017495.0: 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: 1017275.0: 1: 0 day 21:22:39 ALICE admin: 10173262.0: 1: 0 day 19:20:44 ALICE admin: 10173262.0: 1: 0 day 19:20:44 ALICE admin: 10174927.0: 1: 0 day 08:14:48 ALICE admin: 10176903.0: 1: 0 day 08:14:48 ALICE admin: 10176903.0: 1: 0 day 00:143:41 ATLAS multicore: 10177395.0: 8: 0 day 00:03: CMS pilot: 10165426.0: 1: 1 day 01:25:37 CMS pilot: 10165570.0: 1: 1 day 01:25:37 CMS pilot: 10165570.0: 1: 1 day 23:41:17 CMS pilot: 10166500.0: 1: 1 day 23:41:17 CMS pilot: 10166501.0: 1: 1 day 20:40:19 CMS pilot: 10170548.0: 1: 1 day 05:05:59



condor_wn – html

		Condor Jobs Ov	verview of ×															
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		group ALICE ac	dmin	idle	1	13	13		-									
		group ALICE ad		running	1	499	499	49.66	CDUC									
		group ALICE st		idle	1	1	1		CPU Su									
		group_ATLAS_n		idle	8	24	192		#CPUs	100 A 4	#CPUs	1997 (1997) 1997 - 1997 (1997)	#CPUs	 And Section 1 	UsUsed			
		group_ATLAS_n		running	8	96	768	84.68	254	1	13	1	2672	9	95			
		group_ATLAS_p	ilot	running	1	9	9	71.87										
		group_ATLAS_p		running	1	3	3	56.44	Jobs Su	nmary								
		group_CMS_pilo		idle	1	56	56		jobs	comp	leted	idle	held	running	removed			
	: -	group_CMS_pilo		running	1	500	500	93.36	2580	()	710	0	1870	0			
La	lS	group_LHCB_pil		running	1	214	214	97.82										
-		group_NA62_pil		idle	1	616 300	616	94.30	-									
ls		group_NA62_pile		running	1	249	300 249	94.30	-									
		group_PHENO_1	pilot	running	1	249	249	97.97										
		Long Running	g Jobs															
		JobID	Job Ow	ner C	PUs	Time												
		10169847.0	ALICE_a	dmin	1 5	days 01:57:	21											
		10169848.0	ALICE_a		7268	days 01:57:												
		10170061.0	ALICE_a		2043 - Yest	days 00:27:	20 / A 2											
		10170069.0	ALICE_a	1946 P. 1977 P	2768 10 10 10 10	days 00:00:												
		10170070.0	ALICE_a		- NA 10	days 00:00:												
		10170071.0	ALICE_a	- 194 (CON (CONS)	7100	days 00:00:												
		10170073.0	ALICE_a			days 23:49:												
		10170102.0	ALICE_a			days 22:46:												
		10170109.0 10170112.0	ALICE_a			days 22:12:												
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		10170114.0	ALICE_a		$\frac{1}{1}$ 4	days 21:30: days 21:03:	50											
		10170130.0	ALICE_a			days 21:03: days 20:03:												
		10170139.0	ALICE a		2243	days 20:03. days 19:33:												
		10170149.0	ALICE a		27.63	days 19:05: days 19:07:	S. S. 198											
		10171776.0	ALICE a		1943	days 17:27:	202 W											
		10171810.0	ALICE a			days 17:27: days 16:13:												
		10171828.0	ALICE a			days 16:07:												
		10171836.0				days 15.58.												

See OXFORD

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





QUESTIONS?

