



Centre de Calcul de l'Institut National de Physique Nucléaire et de Physique des Particules

Beautiful Batch Tests

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Edinska





- Perform functional tests on batch system to ensure :
 - Batch controller nodes are up
 - Batch services are running
 - Batch configuration is OK (Partitions, QOS...)
 - Special users (Admins and Operators) are properly registered
 - User, Operator and Admin commands are OK
 - All kind of jobs run correctly (htc, hpc, gpu, interactive...)





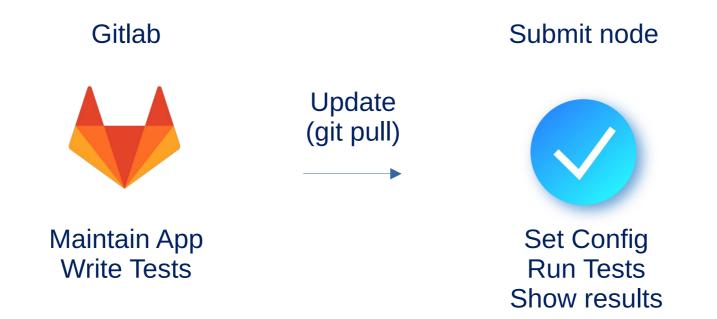
- Functional tests are welcome:
 - Each time we detect a problem on the cluster
 - On software upgrade: during test phase and production

Implies something quick and easy to run





- Using a gitlab repo to maintain easily and share with team members
- Using a friendly client web app (easy to launch, easy to use)







Let's see it in action !







Python

- flask to manage web server
- pexpect to deal with shell commands returns
- pyyaml to deal with yaml format
- asyncio to deal with concurrent code
- Goss (https://github.com/goss-org/goss#introduction)
 - System Administrator tool used to validate server's configuration (ports, services, users, process...)
 - Used in this context only for shell commands launching python's scripts



Test example in Goss

command:	
contro	ller ping:
exec	: python cluster/controller ping.py
exit	-status: 0
skip	: false
stde	rr: []
stdo	ut:
- Te	st OK
time	out: 30000
titl	e: CONTROLLER PING
job ht	c:
exec	: python job/job.pyscriptfile job htc.sh
exit	-status: 0
skip	: false
stde	rr: []
stdo	ut:
- Te	st OK
time	out: 300000
titl	e: JOB HTC



- Adding tests (of course)
- Do the same for our grid cluster (HTCondor)



Questions?

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Thanks for your attention.

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Seautiful Batch Tests	Home Results Reset	*
Home		
Config		^
Tests		
Cluster		~
 CONTROLLER PING Perform scontrol ping command to see if slurm controllers are UP PARTITION LIST Check that all PARTITIONS are set QOS LIST Check that all QOS are set 		
Account		~
Rest API		~
Јор		^
Select All Unselect All Launch Tests		

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Home Results Reset

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Tests in progress...

running tests 10/10

Force Refresh

Refreshing page in 5 seconds

Current Jobs

	ACCOUNT	USER	JOBID	NAME	PARTITION	NODELIST	STATE	REASON
0	ccin2p3	brigaud	47382	bbt_job_profiling_gpu_575	дри	ccwgslurm0109	RUNNING	NaN
1	ccin2p3	brigaud	47386	bbt_slurm_profiling_47382_575	htc	NaN	PENDING	Dependency
2	ccin2p3	brigaud	47384	bbt_job_out_of_mem_575	htc	ccwtbslurm02	RUNNING	NaN
3	ccin2p3	brigaud	47387	bbt_job_htc_575	htc	ccwtbslurm02	RUNNING	NaN
4	ccin2p3	brigaud	47383	bbt_htc_interactive_575	htc_interactive	ccwtbslurm03	RUNNING	NaN

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S	Beautiful Batch Tests	Home	Results Reset		*
Results successful tests 8 / 10					
controller_ping exit-status	True stdout: True				
get_diag exit-status: True	itdout: True				
get_accounts exit-status: T	rue stdout: True				
get_node exit-status: True					
partition_list exit-status: Tr	ue stdout: True				
job_gpu exit-status: True s	tdout: True				
2024-01-30 15:24:30.45758 sbatchjob-name bbt_job sbatch: INFO: Account: ccin7 sbatch: INFO: Feature list: x sbatch: INFO: Submission no sbatch: INFO: Partition set t sbatch: INFO: Time limit set Submitted batch job 47385	gpu_575output=/pbs/throng/ccin2p3/calcul/batch/b 2p3 86_64,el7 ode: ccosvms0432 o: gpu to: 0-00:01 (1 minutes)	vbt/log/job_gpu-%j.outerror=/pbs/t	hrong/ccin2p3/calcul/batch/bbt/lo	og/job_gpu-%j.err job/job_gpu	ı.sh
jobid: 47385					
jobid: 47385 jobstatus: RUN jobid: 47385 jobstatus: RUN jobid: 47385 jobstatus: RUN jobid: 47385 jobstatus: COM	NING NING				
jobOK: 1 => totalJob:1					
job_out_of_mem exit-statu	s: True stdout: True				
job_htc exit-status: True st					

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