VISHNU - SLURM - Tests report

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	TITLE : VISHNU - SLURM - Tests report		
ACTION	*NAME*	*DATE*	*SIGNATURE*
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Contents

Chapter 1

Introduction

Author of the test code : Ibrahima CISSE and Daouda Traoré

Author of the test report : Daouda Traoré

The tests which follows have been done in the following environment:

- Database used : PostgreSQL 8.4
- OS used for the test : Ubuntu 10.10
- Cmake version : V2.6
- gcc version : V4.3.3
- DIET version : V2.7.1
- Batch scheduler : SLURM V2.2.1
- RAM memory : 4Gb

Chapter 2

Functional tests

2.1 T1.1 - Submit a job

API command: submitJob

ID test	Description of the test cases	Output expected	Output gotten	Error
T1.1-B	Normal execution of submitJob	The job identifier is returned	The job identifier is returned	0
T1.1-E1	Bad session key	VishnuException	VishnuException	0
T1.1-E2	Bad machine Identifier	VishnuException	VishnuException	0
T1.1-E3	Bad script content	VishnuException	VishnuException	0
T1.1-E4	Bad script path	VishnuException	VishnuException	0

2.2 T2.2 - Cancel a job

API command: cancelJob

ID test	Description of the test cases	Output expected	Output gotten	Error
T2.2-B	Normal execution of cancelJob	The job is cancelled	The job is cancelled	0
T2.2-E1	Bad session key	VishnuException	VishnuException	0
T2.2-E2	Bad machine Identifier	VishnuException	VishnuException	0
T2.2-E3	Bad job identifier	VishnuException	VishnuException	0
T2.2-E4	Job canceling by a user who is not an administrator and not the owner of the job	VishnuException	VishnuException	0

2.3 T2.1 - Get job information

API command: getJobInfo

ID test	Description of the test cases	Output expected	Output gotten	Error
T2.1-B	Normal execution of getJobInfo	The job object is returned	The job object is returned	0
T2.1-E1	Bad session key	VishnuException	VishnuException	0
T2.1-E2	Bad machine Identifier	VishnuException	VishnuException	0
T2.1-E3	Bad job identifier	VishnuException	VishnuException	0

2.4 T2.5 - Get jobs progression

API command: getJobProgress

ID test	Description of the test cases	Output expected	Output gotten	Error
T2.5-B	Normal execution of getJobProgress	The job progression object is returned	The job progression object is returned	0
T2.5-E1	Bad session key	VishnuException	VishnuException	0
T2.5-E2	Bad machine Identifier	VishnuException	VishnuException	0
T2.5-E3	Bad job identifier	VishnuException	VishnuException	0

Remarks T2.5-B : when the job is not on running state, there is no progression.

2.5 T2.6 - Get one job outputs

API command: getJobsOutput

ID test	Description of the test cases	Output expected	Output gotten	Error
T2.6-B	Normal execution of getJobsOutput	The job output files are returned	The job output files are returned	0
T2.6-E1	Bad session key	VishnuException	VishnuException	0
T2.6-E2	Bad machine Identifier	VishnuException	VishnuException	0
T2.6-E3	Bad job identifier	VishnuException	VishnuException	0
T2.6-E4	Identifier of job not terminated	VishnuException	VishnuException	0

2.6 T2.7 - Get all completed jobs outputs

API command: getCompletedJobsOuput

ID test	Description of the test cases	Output expected	Output gotten	Error
T2.7-B	Normal execution of getCompletedJobsOuput	The job output files of all completed jobs are returned	The job output files of all completed jobs are returned	0
T2.7-E1	Bad session key	VishnuException	VishnuException	0
T2.7-E2	Bad machine Identifier	VishnuException	VishnuException	0

2.7 T2.3 - List job queues

API command: listQueues

ID test	Description of the test cases	Output expected	Output gotten	Error
T2.3-B	Normal execution of listQueues	The list of queues is returned	The list of queues is returned	0
T2.3-E1	Bad session key	VishnuException	VishnuException	0
T2.3-E2	Bad machine Identifier	VishnuException	VishnuException	0

Remarks T2.3-B : to make this test, you must have administrator rights on the batch scheduler for adding a new queue.

2.8 T2.4 - List jobs

API command: listJobs

ID test	Description of the test cases	Output expected	Output gotten	Error
T2.4-B	Normal execution of listJobs	The list of jobs is returned	The list of jobs is returned	0
T2.4-E1	Bad session key	VishnuException	VishnuException	0
T2.4-E2	Bad machine Identifier	VishnuException	VishnuException	0

Chapter 3

Stress tests

ID test	Date	Test description	Command(s) tested	Results
STR-SERV-DOWN	09/08/11	The tms sed is stopped and restarted	submitJob	Success - normal job submission
STR-AGENT-DOWN	09/08/11	The SysFera-DS Agent is stopped and restarted		failure
STR-BATCH-DOWN	09/08/11	The batch scheduler is stopped and the command submitJob is launched	submitJob	Success - the corresponding error message is returned

Chapter 4

Load tests

ID test	Date	Test description	Command(s) tested	Results
LOAD-2.1-submitJob	09/08/11	Simultaneous launch of 100 commands	submitJob	Success - normal execution of all commands launched
LOAD-2.1-listJobs	09/08/11	Success - Simultaneous launch of 100 commands	listJobs	Success - normal execution of all commands launched
LOAD-2.1-listQueues	09/08/11	Simultaneous launch of 100 commands	listQueues	Success - normal execution of all commands launched

LOAD-2.1-submitJob : To allow 100 simultaneous ssh connexion, we have changed the default value of *MaxStartups* to *50:50:200* in /etc/ssh/sshd_config.

Chapter 5

Performance tests

ID test	Test description	Command(s) tested	VISHNU execution time	SSH execution time	Results
CDP-3.1-submitJob	comparison with " ssh localhost sbatch "	submitJob	0,28s	0,18s	Failure
CDP-3.1-cancelJob	comparison with " ssh localhost scancel "	cancelJob	0,36s	0,18s	Failure
CDP-3.1-listJobs	comparison with " ssh localhost squeue "	listJobs	0,09s	0,18s	Success
CDP-3.2.1-listQueues	execution time less than "ssh localhost scontrol show partition"	listQueues	0,09s	0,17s	Success

ID test	Test description	Command(s) tested	Memory comsumption	Results
CDP-3.2.2-submitJob	CPU consumption	submitJob	5% of the CPU used	Success
CDP-Memserver	Memory consumption of tms server running during 24 hours	tms server	0,5% of the RAM memory	Success