

# Table of Contents

<b>Nagios WMS probe.....</b>	<b>1</b>
Installation.....	1
Dependencies.....	1
WMS Metrics.....	1
emi.wms.WMS-JobState.....	1
GoodCEs.....	1
JDL template.....	2
emi.wms.WMS-JobMonit.....	2
Test.....	2
State + Monit.....	2
State + Monit + Cancel.....	4

# Nagios WMS probe

Test WMS service with job submission to CEs. It is based on the python-GridMon library developed by the SAM team. Details about the command line parameters can be found here.

## Installation

This probe needs to be installed on a WMS User Interface because it uses wms-cli commands to monitor WMS.

## Dependencies

python	>= 2.4
python-ldap	
openssl	>= 0.9.8e-12
nagios-submit-conf	>= 0.2
python-GridMon	>= 1.1.10

About the last two rpms they can be installed using this repository:

```
[egi-sam]
name=EGI SAM repo
baseurl=http://repository.egi.eu/sw/production/sam/1/$basearch
enabled=1
gpgcheck=0
protect=1
priority=10
```

## WMS Metrics

1. **emi.wms.WMS-JobState**. Submits grid job to CE(s) via WMS under test. Accepts passive check updates from emi.wms.WMS-JobMonit.
2. **emi.wms.WMS-JobMonit**. Monitors submitted grid jobs.
3. **emi.wms.WMS-JobCancel**. Cancel grid job.
4. **emi.wms.WMS-JobSubmit**. Passive check. Holds terminal status of job submission.

### emi.wms.WMS-JobState

This metric is used to submit jobs through the WMS under test. It accepts these parameters:

```
--jdl-templ <file>           JDL template file (full path).
                             Default: <emi.wms.ProbesLocation>/WMS-jdl.template
--jdl-retrycount <val>       JDL RetryCount (Default: 0).
--jdl-shallowretrycount <val> JDL ShallowRetryCount (Default: 1).
--ces-file <file>           File with list of CEs. Two schemes [file:] or http:
                             (Default: /var/lib/gridprobes/<vo>/GoodCEs)
--prev-status <0-3>         Previous Nagios status of the metric.
```

### GoodCEs

If exists the file "GoodCEs" all CEs from the file are OR'ed in the resulting Requirements ClassAdd. Eg.

```
Requirements = (other.GlueCEInfoHostName == "ce106.cern.ch") || (other.GlueCEInfoHostName == "cre
```

This file can be automatically populated using the script gather\_healthy\_nodes from the hr.srce

grid-monitoring probes

Otherwise a very general requirement: `Requirements = true` is used for match-making.

## JDL template

This is the default jdl template used for submission:

```
Type="Job";
JobType="Normal";
Executable = "<jdlExecutable>";
StdError = "gridjob.out";
StdOutput = "gridjob.out";
OutputSandbox = {"gridjob.out"};
RetryCount = <jdlRetryCount>;
ShallowRetryCount = <jdlShallowRetryCount>;
Requirements = <jdlReqCEInfoHostName>;
```

At the moment the parameter *jdlExecutable* is hardcoded, and the script `/bin/hostname` is used.

## emi.wms.WMS-JobMonit

Monitors submitted grid jobs. Threaded implementation with one thread per monitored resource with max 10 threads. Passively updates `emi.wms.WMS-JobState` with the latest state of the job according to WMS when job is not in a terminal state. When job enters terminal state or was canceled the metric updates both `emi.wms.WMS-JobState` and `org.sam.WMS-JobSubmit` with the final job status. The latter metrics are updated (as passive checks) either via Nagios command file or NSCA. `emi.wms.WMS-JobSubmit` is the metric which goes to Metric Store Database. It accepts these parameters:

```
--timeout-job-global <sec>   Global timeout for jobs. Job will be cancelled and dropped
                             if it is not in terminal state by that time. (Default: 3600)
--timeout-job-waiting <sec>   Time allowed for a job to stay in Waiting with 'no compatible
                             resources'. (Default: 2700)
--hosts <h1,h2,..>           Comma-separated list of CE hostnames to run monitor on.
```

## Test

To test the probe you have to create a valid proxy.

## State + Monit

First you have to "submit" a jdl:

```
/usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo <vo> -x <path of the proxy> -H <WMS
hostname> -m emi.wms.WMS-JobState
```

```
[ale@cream-48 ~]$ /usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo dteam -x /tmp/x509up
OK:
OK:
Testing from: cream-48.pd.infn.it
DN: /C=IT/O=INFN/OU=Personal Certificate/L=Padova/CN=Alessio Gianelle/CN=proxy
VOMS FQANs: /dteam/Role=NULL/Capability=NULL, /dteam/NGI_IT/Role=NULL/Capability=NULL
```

```
Connecting to the service https://cream-45.pd.infn.it:7443/glite_wms_wmproxy_server
```

```
===== glite-wms-job-submit Success =====
```

## WmsProbe < WMS < TWiki

The job has been successfully submitted to the WMPProxy  
Your job identifier is:

```
https://cream-45.pd.infn.it:9000/o9ELufQPdtyIxxJ0_YGuKQ
```

The job identifier has been saved in the following file:  
/var/lib/gridprobes/dteam/emi.wms/WMS/cream-45.pd.infn.it/jobID

Then you can "monitor" the job:

**/usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo <vo> -x <path of the proxy> -H <WMS hostname> -m emi.wms.WMS-JobMonit --pass-check-dest active**

```
[ale@cream-48 ~]$ /usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo dteam -x /tmp/x509up
metric results >>> <cream-45.pd.infn.it,emi.wms.WMS-JobState-dteam>
OK: [Scheduled] https://cream-45.pd.infn.it:9000/o9ELufQPdtyIxxJ0_YGuKQ
OK: [Scheduled] https://cream-45.pd.infn.it:9000/o9ELufQPdtyIxxJ0_YGuKQ
glite-wms-job-status https://cream-45.pd.infn.it:9000/o9ELufQPdtyIxxJ0_YGuKQ
```

```
===== glite-wms-job-status Success =====
```

BOOKKEEPING INFORMATION:

```
Status info for the Job : https://cream-45.pd.infn.it:9000/o9ELufQPdtyIxxJ0_YGuKQ
Current Status:      Scheduled
Status Reason:      unavailable
Destination:        cccreamceli09.in2p3.fr:8443/cream-sge-long
Submitted:          Mon Nov  7 16:38:01 2011 CET
=====
```

```
OK: Jobs processed - 1
```

```
OK: Jobs processed - 1
```

```
[Scheduled] : 1|jobs_processed=1;; DONE=0;; RUNNING=0;; SCHEDULED=1;; SUBMITTED=0;; READY=0;; WAITING=0
```

If you execute again the *emi.wms.WMS-JobState* metrics you can have as output the last status see by the metrics *emi.wms.WMS-JobMonit*

```
[ale@cream-48 ~]$ /usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo dteam -x /tmp/x509up
OK: Active job - Scheduled [2011-11-07T15:38:28Z]
OK: Active job - Scheduled [2011-11-07T15:38:28Z]
Testing from: cream-48.pd.infn.it
DN: /C=IT/O=INFN/OU=Personal Certificate/L=Padova/CN=Alessio Gianelle/CN=proxy
VOMS FQANS: /dteam/Role=NULL/Capability=NULL, /dteam/NGI_IT/Role=NULL/Capability=NULL
Active job - Scheduled [2011-11-07T15:38:28Z]
```

At the end when job finished the execution of the *emi.wms.WMS-JobMonit* metrics should trigger also a *get\_output*

```
[ale@cream-48 ~]$ /usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo dteam -x /tmp/x509up
metric results >>> <cream-45.pd.infn.it,emi.wms.WMS-JobSubmit-dteam>
OK: success.
```

```
glite-wms-job-output --noint --nosubdir --dir /var/lib/gridprobes/dteam/emi.wms/WMS/cream-45.pd.infn.it
```

```
Connecting to the service https://cream-45.pd.infn.it:7443/glite_wms_wmproxy_server
```

```
Warning - option --nosubdir specified:
output files with same name will be overridden
```

```
Warning - Directory already exists:
```

## WmsProbe < WMS < TWiki

```
/var/lib/gridprobes/dteam/emi.wms/WMS/cream-45.pd.infn.it/jobOutput
```

```
=====
JOB GET OUTPUT OUTCOME
```

```
Output sandbox files for the job:
https://cream-45.pd.infn.it:9000/o9ELufQPdtyIxxJ0_YGuKQ
have been successfully retrieved and stored in the directory:
/var/lib/gridprobes/dteam/emi.wms/WMS/cream-45.pd.infn.it/jobOutput
```

```
=====
metric results >>> <cream-45.pd.infn.it,emi.wms.WMS-JobState-dteam>
OK: success.
```

```
OK: Jobs processed - 1
```

```
OK: Jobs processed - 1
```

```
Done : 1|jobs_processed=1;; DONE=1;; RUNNING=0;; SCHEDULED=0;; SUBMITTED=0;; READY=0;; WAITING=0;
```

You can verify that it works correctly checking the status of the job.

```
[ale@cream-48 ~]$ glite-wms-job-status https://cream-45.pd.infn.it:9000/o9ELufQPdtyIxxJ0_YGuKQ
```

```
===== glite-wms-job-status Success =====
BOOKKEEPING INFORMATION:
```

```
Status info for the Job : https://cream-45.pd.infn.it:9000/o9ELufQPdtyIxxJ0_YGuKQ
Current Status:      Cleared
Status Reason:       user retrieved output sandbox
Destination:         cccreamceli09.in2p3.fr:8443/cream-sge-long
Submitted:           Mon Nov  7 16:38:01 2011 CET
=====
```

## State + Monit + Cancel

First you have to "submit" a jdl:

```
/usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo <vo> -x <path of the proxy> -H <WMS  
hostname> -m emi.wms.WMS-JobState
```

```
[ale@cream-48 ~]$ /usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo dteam -x /tmp/x509up
OK:
```

```
Testing from: cream-48.pd.infn.it
```

```
DN: /C=IT/O=INFN/OU=Personal Certificate/L=Padova/CN=Alessio Gianelle/CN=proxy
```

```
VOMS FQANs: /dteam/Role=NULL/Capability=NULL, /dteam/NGI_IT/Role=NULL/Capability=NULL
```

```
Connecting to the service https://cream-45.pd.infn.it:7443/glite_wms_wmproxy_server
```

```
===== glite-wms-job-submit Success =====
```

```
The job has been successfully submitted to the WMPProxy
Your job identifier is:
```

```
https://cream-45.pd.infn.it:9000/apDagqvKXls1HNLFrxPO0A
```

```
The job identifier has been saved in the following file:
```

```
/var/lib/gridprobes/dteam/emi.wms/WMS/cream-45.pd.infn.it/jobID
```

```
=====
State + Monit + Cancel
```

As before you can "monitor" the job:

**/usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo <vo> -x <path of the proxy> -H <WMS hostname> -m emi.wms.WMS-JobMonit --pass-check-dest active**

```
[ale@cream-48 ~]$ /usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo dteam -x /tmp/x509up
metric results >>> <cream-45.pd.infn.it,emi.wms.WMS-JobState-dteam>
OK: [Scheduled] https://cream-45.pd.infn.it:9000/apDagqvKXls1HNLfRxPO0A
OK: [Scheduled] https://cream-45.pd.infn.it:9000/apDagqvKXls1HNLfRxPO0A
glite-wms-job-status https://cream-45.pd.infn.it:9000/apDagqvKXls1HNLfRxPO0A
```

```
===== glite-wms-job-status Success =====
BOOKKEEPING INFORMATION:
```

```
Status info for the Job : https://cream-45.pd.infn.it:9000/apDagqvKXls1HNLfRxPO0A
Current Status:      Scheduled
Status Reason:      unavailable
Destination:        t2-ce-01.lnl.infn.it:8443/cream-lsf-cert1
Submitted:          Mon Nov  7 16:51:29 2011 CET
=====
```

```
OK: Jobs processed - 1
OK: Jobs processed - 1
[Scheduled] : 1|jobs_processed=1;; DONE=0;; RUNNING=0;; SCHEDULED=1;; SUBMITTED=0;; READY=0;; WAITING=0
```

Before it finishes you can "cancel" it:

**/usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo <vo> -x <path of the proxy> -H <WMS hostname> -m emi.wms.WMS-JobCancel**

```
[ale@cream-48 ~]$ /usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo dteam -x /tmp/x509up
OK: job cancelled
OK: job cancelled
Testing from: cream-48.pd.infn.it
DN: /C=IT/O=INFN/OU=Personal Certificate/L=Padova/CN=Alessio Gianelle/CN=proxy
VOMS FQANs: /dteam/Role=NULL/Capability=NULL, /dteam/NGI_IT/Role=NULL/Capability=NULL
Job cancellation request sent:
glite-wms-job-cancel --noint -i /var/lib/gridprobes/dteam/emi.wms/WMS/cream-45.pd.infn.it/jobID
Job bookkeeping files deleted.
[ale@cream-48 ~]$ /usr/libexec/grid-monitoring/probes/emi.wms/WMS-probe --vo dteam -x /tmp/x509up
OK: no active jobs [2011-11-07T16:51:53Z]
OK: no active jobs [2011-11-07T16:51:53Z]|jobs_processed=0;;
```

You can verify that it works correctly checking the status of the job.

```
[ale@cream-48 ~]$ glite-wms-job-status https://cream-45.pd.infn.it:9000/apDagqvKXls1HNLfRxPO0A
```

```
===== glite-wms-job-status Success =====
BOOKKEEPING INFORMATION:
```

```
Status info for the Job : https://cream-45.pd.infn.it:9000/apDagqvKXls1HNLfRxPO0A
Current Status:      Cancelled
Destination:        t2-ce-01.lnl.infn.it:8443/cream-lsf-cert1
Submitted:          Mon Nov  7 16:51:29 2011 CET
=====
```

This topic: WMS > WmsProbe

Topic revision: r6 - 2011-11-07 - AlessioGianelle



Copyright © 2008-2021 by the contributing authors. All material on this collaboration platform is the property of the contributing authors.

Ideas, requests, problems regarding TWiki? Send feedback