

# Cheat Sheet

v0.9.5 – 2015/07/01

<http://grid5000.fr/>

## [[Cluster experiment]] [[Advanced OAR]]

Jobs states
<pre>oarstat oarstat -f -j JOB_ID oarstat -u G5K_LOGIN</pre>
Nodes states
<pre>oarnodes oarnodes --sql "cpucore='4'"</pre>
Submission : Interactive
<pre>oarsub -i env   grep OAR cat \$OAR_NODEFILE</pre>
Reserve IPs
<pre>oarsub -I -l slash_22=1 g5k-subnets</pre>
20 nodes on griffon during 2h with 20G ib cards
<pre>oarsub -I -l nodes=20,walltime=2 \ -p "cluster='griffon' and ib20G='YES'"</pre>
Submission : Passive
<pre>oarsub ~/my-script</pre>
5 nodes during 2h with 10G ib cards
<pre>oarsub -l nodes=5,walltime=2 -p "ib10G='YES'" ~/prog cat OAR.OAR_JOB_ID.std{err,out}</pre>
Connection to a running job
<pre>oarsub -C OAR_JOB_ID</pre>
on a node in your reservation
<pre>oarsh node.fqdn</pre>
Submission : Reservation (passive mode)
<pre>oarsub -r '2011-05-16 14:20:00' \ -l nodes=10,walltime=0:10:00 ~/my-script</pre>
Reservation with deploy type (interactive mode)
<pre>oarsub -t deploy -r '2011-05-16 14:30:00' \ -l nodes=5,walltime=2 -p "ib10G='YES'" -n "Prog42"</pre>
Delete a reservation
<pre>oardel OAR_JOB_ID</pre>

## Oar Grid [[Grid experiment]]

Discovering resources
<pre>disco cluster_name disco site1 site2</pre>
Jobs Grid stats
<pre>oargridstat oargridstat GRID_JOB_ID</pre>
Submission : Interactive
<pre>oargridsub -t allow_classic_ssh \ -w '0:20:00' CLUSTER1:rdef="/nodes=2",CLUSTER2:rdef="/nodes=3"</pre>
Create a node file
<pre>oargridstat -w -l GRID_JOB_ID   sed '/~\$/d' &gt; ~/nodes</pre>
Distribute node file
<pre>OAR_JOB_ID=CLUSTER_JOB_ID oarcp -i \ /tmp/oargrid/oargrid_ssh_key_LOGIN_GRID_JOB_ID~/machines \ 'head -n 1 machines':</pre>
Connect on first node
<pre>OAR_JOB_ID=CLUSTER_JOB_ID oarsh -i \ /tmp/oargrid/oargrid_ssh_key_LOGIN_GRID_JOB_ID ' head -n 1 machines'</pre>
Ending
<pre>oargriddel GRID_JOB_ID</pre>
Submission : Reservation (passive mode)
<pre>oargridsub -t allow_classic_ssh CLUSTER1:rdef="/nodes=1",\ CLUSTER2:rdef="/nodes=4" -s '2011-05-16 14:20:00' \ -w '0:10:00' -p /prog42/helloworld</pre>
View results
<pre>tail -f OAR.CLUSTER_JOB_ID.std{err,out}</pre>

## Hardware Overview [[Sneal:G5KHardware]]

	Nodes	Cpu Intel   AMD	Memory	Disks	GPU	Network
<b>Grenoble</b>						
adonis (2010)	10	2x4cores @2.27Ghz	24Gb	233GB HDD	2xTesla-C1060	IB40G QDR
edel (2008)	72	2x4cores @2.27Ghz	24Gb	119GB SSD		IB40G QDR
genepi (2008)	34	2x4cores @2.5Ghz	8Gb	153GB HDD		IB20G DDR
<b>Lille</b>						
chimint (2011)	20	2x4cores @2.4Ghz	16Gb	272GB HDD	4xTesla-S2050	
chingchint (2007)	46	2x4cores @2.83Ghz	8Gb	232GB HDD		
chirloute (2011)	8	2x4cores @2.4Ghz	8Gb	279GB HDD		
<b>Luxembourg</b>						
granduc (2011)	22	2x4cores @2.0Ghz	16Gb	136GB HDD		1x10G
petitprince (2013)	16	2x6cores @2.0Ghz	31Gb	232GB HDD		2x10G
<b>Lyon</b>						
hercule (2012)	4	2x6cores @2.0Ghz	31Gb	3x1863GB HDD	1xTesla-M2075	1x10G
orion (2012)	4	2x6cores @2.3Ghz	31Gb	557GB HDD		1x10G
sagittaire (2006)	79	2x1cores @2.4Ghz	2Gb	68GB HDD		
taurus (2012)	16	2x6cores @2.3Ghz	32Gb	557GB HDD		1x10G
<b>Nancy</b>						
graoully (2016)	16	2x8cores @3.2Ghz	126Gb	2x558GB HDD	2xGTX 980	IB56G FDR 1x10G
graphene (2011)	144	1x4cores @2.53Ghz	16Gb	298GB HDD		IB20G DDR
graphique (2015)	6	2x6cores @3.2Ghz	63Gb	278GB HDD		1x10G
graphite (2013)	4	2x8cores @2.8Ghz	252Gb	2x279GB SSD		IB56G FDR 1x10G
griffon (2009)	32	2x4cores @2.5Ghz	16Gb	298GB HDD		
grimoire (2016)	8	2x8cores @3.2Ghz	126Gb	5x558GB HDD, 186GB SSD	IB56G FDR 4x10G	IB56G FDR 4x10G
grisou (2016)	51	2x8cores @3.2Ghz	126Gb	2x558GB HDD		4x10G
talc (2009)	134	2x4cores @2.5Ghz	16Gb	298GB HDD		
<b>Nantes</b>						
econome (2014)	22	2x8cores @2.2Ghz	63Gb	1863GB HDD		1x10G
<b>Reims</b>						
stremi (2011)	44	2x12cores @1.7Ghz	47Gb	232GB HDD		
<b>Rennes</b>						
paranoia (2014)	8	2x10cores @2.2Ghz	126Gb	5x558GB HDD		1x10G
parapide (2010)	25	2x4cores @2.93Ghz	24Gb	465GB HDD		IB20G DDR
parapluie (2010)	40	2x12cores @1.7Ghz	47Gb	232GB HDD		IB20G DDR
parasilo (2015)	28	2x8cores @2.4Ghz	126Gb	5x558GB HDD, 186GB SSD		2x10G
paravance (2015)	72	2x8cores @2.4Ghz	126Gb	2x558GB HDD		2x10G
<b>Sophia</b>						
sol (2007)	50	2x2cores @2.6Ghz	4Gb	232GB HDD		
suno (2010)	45	2x4cores @2.26Ghz	32Gb	557GB HDD		

## API [[API Main Pratical]] [[API]]

API Sid
<ul style="list-style-type: none"><li><a href="https://api.grid5000.fr/sid/ui/index.html">https://api.grid5000.fr/sid/ui/index.html</a></li></ul>
Grid'5000 Nodes API
<ul style="list-style-type: none"><li><a href="https://api.grid5000.fr/stable/ui/nodes.html">https://api.grid5000.fr/stable/ui/nodes.html</a></li></ul>
Tutorials
<ul style="list-style-type: none"><li><a href="http://grid5000.github.io/tutorials/">http://grid5000.github.io/tutorials/</a></li></ul>

## KaVLAN [[Kavlan]]

Submission
<pre>oarsub -t deploy -l {"type='kavlan'"}vlan=i+nodes=2\ walltime=2 -I</pre>
Deploy
<pre>kadeploy3 -f \$OAR_NODEFILE -e env -k --vlan 'kavlan -V'</pre>
Find out in which vlan is a node
<pre>kavlan -g -m node.fqdn.fr</pre>
List nodes (kavlan fqdn of a reservation)
<pre>kavlan -l -j jobid</pre>
Resources
<ul style="list-style-type: none"><li>kavlan-local not routed (1..3)</li><li>kavlan routed locally (4..9)</li><li>kavlan-global routed (one per site)</li></ul>

## [[Deploy environment-OAR2]] [[Advanced Kadenlov]]

Locate a suitable image
<pre>kaenv3 -l kaenv3 -l -u LOGIN kaenv3 -p wheezy-x64-min -u deploy</pre>
Use deploy type for your job
<pre>oarsub -I -t deploy -l nodes=2 cat \$OAR_NODEFILE</pre>
Deploy an environment
<pre>kadeploy3 -e wheezy-x64-base -m node.site.grid5000.fr -k kadeploy3 -e wheezy-x64-base -f \$OAR_NODEFILE -k ssh_key.pub</pre>
Save your deployed environment with tgz-g5k (available on gforge, or installed on environments)
<pre>tgz-g5k login@frontend:image.tgz (from node) ssh root@node tgz-g5k &gt; image.tgz (from frontend)</pre>
Connection to the deployed environment
<pre>ssh root@node.site.grid5000.fr # password "grid5000"</pre>
with console (useful if network doesn't work)
<pre>kaconsole3 -m node.site.grid5000.fr</pre>
Deploy and save your environment Generate a descpion file
<pre>kaenv3 -p wheezy-x64-base -u deploy &gt; image.env</pre>
(edit file image.env to update with your values) Deploy
<pre>kadeploy3 -f \$OAR_NODEFILE -a image.env</pre>
Save your image
<pre>kaenv3 -a image.env</pre>
Multi-sites deployment
<pre>kadeploy3 -e wheezy-x64-base -f ~/gridnodes --multi-server -k</pre>
Easy use with public share
<pre>kadeploy3 -f \$OAR_NODEFILE\ -f http://public.nancy.grid5000.fr/~login/image.env -k</pre>

## Links

DrawGantt (Nodes states in a temporal diagram)
<ul style="list-style-type: none"><li><a href="https://intranet.grid5000.fr/oar/site/drawgantt.cgi">https://intranet.grid5000.fr/oar/site/drawgantt.cgi</a></li></ul>
Monika (Nodes states with properties)
<ul style="list-style-type: none"><li><a href="https://intranet.grid5000.fr/oar/site/monika.cgi">https://intranet.grid5000.fr/oar/site/monika.cgi</a></li></ul>
Ganglia (Nodes metrics)
<ul style="list-style-type: none"><li><a href="https://helpdesk.grid5000.fr/ganglia/">https://helpdesk.grid5000.fr/ganglia/</a></li></ul>
Grid'5000 API
<ul style="list-style-type: none"><li><a href="https://api.grid5000.fr/">https://api.grid5000.fr/</a></li></ul>
UMS (Account, quotas extensions)
<ul style="list-style-type: none"><li><a href="https://api.grid5000.fr/ui/account">https://api.grid5000.fr/ui/account</a></li></ul>
Grid'5000 Software
<ul style="list-style-type: none"><li>[Grid5000:Software] on wiki.</li></ul>
DrawGanttGlobal
<ul style="list-style-type: none"><li><a href="https://www.grid5000.fr/gridstatus/oargridgantt.cgi">https://www.grid5000.fr/gridstatus/oargridgantt.cgi</a></li></ul>
MonikaGlobal
<ul style="list-style-type: none"><li><a href="https://www.grid5000.fr/gridstatus/oargridmonika.cgi">https://www.grid5000.fr/gridstatus/oargridmonika.cgi</a></li></ul>
Public share access from outside g5k (with http auth)
<ul style="list-style-type: none"><li><a href="https://api.grid5000.fr/sid/grid5000/sites/site/public/login/">https://api.grid5000.fr/sid/grid5000/sites/site/public/login/</a></li></ul>
Public share access from inside g5k
<ul style="list-style-type: none"><li><a href="https://public.site.grid5000.fr/~login/">https://public.site.grid5000.fr/~login/</a></li></ul>
Public share (populate your own public share)
<ul style="list-style-type: none"><li>drop files in your /public/ folder (see README in there)</li></ul>
Restfully, g5k-campaign
<ul style="list-style-type: none"><li><a href="http://github.com/crohr/restfully/">http://github.com/crohr/restfully/</a></li><li><a href="http://g5k-campaign.gforge.inria.fr/">http://g5k-campaign.gforge.inria.fr/</a></li></ul>
Grid'5000 software
<ul style="list-style-type: none"><li><a href="https://www.grid5000.fr/mediawiki/index.php/Grid5000:Software">https://www.grid5000.fr/mediawiki/index.php/Grid5000:Software</a></li></ul>

\* With electrical consumption. See <https://helpdesk.grid5000.fr/supervision/lyon/wattmetre/>