Grid'5000 Cheat Sheet

Text between double brackets are wiki pages.
See https://www.grid5000.fr/

For events and maintenance on platform
See https://www.grid5000.fr/status/

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[[Cluster_experiment]]   [[Advanced_OAR]]

Jobs states
```
oarstat
oarstat -f -j JOB_ID
oarstat -u G5K_LOGIN
```

Nodes states
```
oarnodes
oarnodes --sql "cpucore='4'"
```

Submission : Interactive
```
oarsub -I
  env | grep OAR
  cat $OAR_NODE_FILE
```

Reserve IPs
```
oarsub -I -l slash_22=1
g5k-subnets
```

20 nodes on griffon during 2h with 20G ib cards
```
oarsub -I -l nodes=20,walltime=2 \
  -p "cluster='griffon'" -p "ib20G='YES'"
```

Submission : Passive
```
oarsub ~/my-script
```
5 nodes during 2h with 10G ib cards
```
oarsub -l nodes=5,walltime=2 -p "ib10G='YES'"~/prog
  --> cat OAR.OAR_JOB_ID.std{err,out}
```

Connection to a running job
```
oarsub -C OAR_JOB_ID
```
on a node in your reservation
```
oarsh node.fqdn
```
Delete a reservation
```
oardel OAR_JOB_ID
```

Submission : Reservation (passive mode)
```
oarsub -r '2011-05-16 14:20:00' \
  -l nodes=10,walltime=0:10:00 ~/my-script
```
Reservation with deploy type (interactive mode)
```
oarsub -t deploy -r '2011-05-16 14:30:00' \
  -l nodes=5,walltime=2 -p "ib10G='YES'" -n "Prog42"
```

Hardware Overview   [[Special:G5KHardware]]

		Nodes	Cpu Intel / Amd	Memory	Disk	GPU/PHI	Network
Grenoble							
Adonis	(10)	10	2x4cores @2.26Ghz	24GB	217GB	C1060	IB40G QDR
Edel	(08)	72	2x4cores @2.27Ghz	24GB	52GB	-	IB40G QDR
Genepi	(08)	34	2x4cores @2.50Ghz	8GB	139GB	-	IB20G DDR
Lille							
Chimint	(11)	20	2x4cores @2.40Ghz	16GB	260GB	-	-
Chinqchint	(08)	46	2x4cores @2.83Ghz	8GB	217GB	-	MX 10G
Chirloutte	(11)	8	2x4cores @2.40Ghz	8GB	260GB	M2050	-
Luxembourg							
Granduc	(11)	22	2x4cores @2.00Ghz	16GB	146GB	-	10G Ether
Lyon							
Hercule	(12)	4	2x6cores @2.00Ghz	32GB	2TB	-	10G Ether
Orion	(12)	4	2x6cores @2.30Ghz	32GB	600GB	M2075	10G Ether
Sagittaire	(06)	79	2x1cores @2.40Ghz	2GB	73GB	-	-
Taurus	(12)	16	2x6cores @2.30Ghz	32GB	600GB	-	10G Ether
Nancy							
Griffon	(09)	92	2x4cores @2.50Ghz	16GB	320GB	-	IB20G DDR
Graphene	(11)	144	1x4cores @2.60Ghz	16GB	320GB	-	IB20G DDR
Graphite	(13)	4	2x8cores @2.00Ghz	256GB	300GB	7120P	10G Ether
Nantes							
econome	(14)	18	2x8cores @2.20Ghz	64GB	2TB	-	10G Ether
Reims							
Stremi	(11)	44	2x12cores @1.70Ghz	48GB	232GB	-	-
Rennes							
Paradent	(09)	64	2x4cores @2.50Ghz	32GB	139GB	-	-
Parapide	(10)	25	2x4cores @2.93Ghz	24GB	434GB	-	IB20G DDR
Parapluie	(10)	40	2x12cores @1.70Ghz	48GB	232GB	-	IB20G DDR
Paranoia	(14)	8	2x10cores @2.20Ghz	128GB	500GB	-	10G Ether
Sophia							
Sol	(07)	56	2x2cores @2.60Ghz	4GB	217GB	-	MX 10G
Suno	(10)	45	2x4cores @2.26Ghz	32GB	519GB	-	-
Toulouse							
Pastel	(07)	140	2x2cores @2.61Ghz	8GB	217GB	-	-

[[Deploy_environment-OAR2]] [[Advanced_Kadeploy]]

Locate a suitable image
```
kaenv3 -l
kaenv3 -l -u LOGIN
kaenv3 -p wheezy-x64-min -u deploy
```

Use deploy type for your job
```
oarsub -I -t deploy -l nodes=2
  cat $OAR_NODEFILE
```

Deploy an environment
```
kadeploy3 -e wheezy-x64-base -m node.site.grid5000.fr -k
kadeploy3 -e wheezy-x64-base -f $OAR_NODEFILE -k ssh_key.pub
```

Save your deployed environment with tgz-g5k
(available on gforge, or installed on environments)
```
tgz-g5k login@frontend:image.tgz (from node)
ssh root@node tgz-g5k > image.tgz (from frontend)
```

Connection to the deployed environment
```
ssh root@node.site.grid5000.fr (password "grid5000")
```
with console (useful if network doesn't work)
```
kaconsole -m node.site.grid5000.fr
```

Deploy and save your environment
Generate a desciption file
```
kaenv3 -p wheezy-x64-base -u deploy > image.env
```
(edit file image.env to update with your values)
Deploy
```
kadeploy3 -f $OAR_NODEFILE -a image.env
```
Save your image
```
kaenv3 -a image.env
```

Multi-sites deployment
```
kadeploy3 -e wheezy-x64-base -f ~/gridnodes --multi-server -k
```
Easy use with public share
```
kadeploy3 -f $OAR_NODEFILE\
  -f http://public.nancy.grid5000.fr/~login/image.env -k
```

Oar Grid   [[Grid_experiment]]

Discovering resources
```
disco cluster_name
disco site1 site2
```

Jobs Grid stats
```
oargridstat
oargridstat GRID_JOB_ID
```

Submission : Interactive
```
oargridsub -t allow_classic_ssh \
  -w '0:20:00'CLUSTER1:rdef="/nodes=2",CLUSTER2:rdef="/nodes=3"
```
Create a node file
```
oargridstat -w -l GRID_JOB_ID | sed '/^$/d' > ~/nodes
```
Distribute node file
```
OAR_JOB_ID=CLUSTER_JOB_ID oarcp -i\
  /tmp/oargrid/oargrid_ssh_key_LOGIN_GRID_JOB_ID~/machines \
  `head -n 1 machines`:
```
Connect on first node
```
OAR_JOB_ID=CLUSTER_JOB_ID oarsh -i \
  /tmp/oargrid/oargrid_ssh_key_LOGIN_GRID_JOB_ID ` head -n 1 machines`
```

Ending
```
oargriddel GRID_JOB_ID
```
Submission : Reservation (passive mode)
```
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
```
View results
```
tail -f OAR.CLUSTER_JOB_ID.std{err,out}
```

API   [[API_Main_Pratical]] [[API]]

Grid'5000 API
  https://api.grid5000.fr/
Grid'5000 Nodes API
  https://api.grid5000.fr/3.0/ui/visualizations/nodes.html
Tutorials
  http://grid5000.github.io/tutorials/
UMS (Account, quotas extensions)
  https://api.grid5000.fr/ui/account

KaVLAN   [[Kavlan]]

Submission
```
oarsub -t deploy -l {"type='kavlan'"}/vlan=1+nodes=2\
  walltime=2 -I
```
Deploy
```
kadeploy3 -f $OAR_NODEFILE -e env -k --vlan `kavlan -V`
```
Find out in which vlan is a node
```
kavlan -g -m node.fqdn.fr
```
List nodes (kavlan fqdn of a reservation)
```
kavlan -l -j jobid
```
  Resources
  - kavlan-local: not routed (1..3)
  - kavlan: routed locally (4..9)
  - kavlan-global: routed (one per site)

Links   https://www.grid5000.fr/

DrawGantt (Nodes states in a temporal diagram)
  https://intranet.grid5000.fr/oar/site/drawgantt.cgi
Monika (Nodes states with properties)
  https://intranet.grid5000.fr/oar/site/monika.cgi
Ganglia (Nodes metrics)
  https://helpdesk.grid5000.fr/ganglia/
Energy Monitoring
  https://www.grid5000.fr/w/Kwapi
DrawGanttGlobal
  https://www.grid5000.fr/gridstatus/oargridgantt.cgi
MonikaGlobal
  https://www.grid5000.fr/gridstatus/oargridmonika.cgi
Public share access from outside g5k (with http auth)
  https://api.grid5000.fr/sid/grid5000/sites/site/public/login/
Public share access from inside g5k
  https://public.site.grid5000.fr/~login/
Public nodes acccces from outside g5k (with http auth)
  https://mynode.mysite.grid5000.fr/
Public share (populate your own public share)
  drop files in your ~/public/ folder (see README in there)
Restfully, g5k-campaign
  http://github.com/crohr/restfully/   http://g5k-campaign.gforge.inria.fr/
Grid'5000 software
  https://www.grid5000.fr/w/Grid5000:Software