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

Ssh [[External_Access]]

```
# ~/.ssh/config
Host g5k
  Hostname access.lille.grid5000.fr
  User g5k_login
  IdentityFile ~/.ssh/id_dsa

Host *.g5k
  User g5k_login
  ProxyCommand ssh g5k "nc -q 0 `basename %h .g5k` %p"
```

Use it

```
ssh nancy.g5k
ssh edel-1.grenoble.g5k
scp ~/foo rennes.g5k:bar/
```

Text in color MUST to be substitued by appropriate values

Oar Cluster [[Cluster_experiment]]

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
```

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"
```

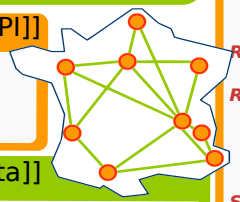
Delete a reservation

```
oardel OAR_JOB_ID
```

API [[API_Main_Pratical]] [[API]]

API Sid
- https://api.grid5000.fr/sid/ui/index.html

Grid'5000 Nodes API
- https://api.grid5000.fr/2.0/ui/nodes.html



Sync data [[Syncing_data]]

```
rsync --dry-run --delete -avz ~/synced site.grid5000.fr

for site in bordeaux lyon toulouse; do
  rsync --delete -avz ~/synced ${site}.grid5000.fr:~;
done
```

Open for comments :: support-staff@lists.grid5000.fr

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}
```

Hardware Overview [[Special:G5KHardware]]

Bordeaux	***#nodes***	***cpu*** Intel | Amd	***memory***	***disk***	***GPU***	***network***
Bordeplage	51	2x1cores @3.0Ghz	2GB	61GB	-	ib10g ddr
Bordereau	93	2x2cores @2.6Ghz	4GB	69GB	-	-
Borderline	10	4x2cores @2.6Ghz	32GB	520GB	-	{mx,ib}10g
Grenoble						
Adonis	12	2x4cores @2.26Ghz	24GB	217GB	C1070	ib40g qdr
Edel	72	2x4cores @2.27Ghz	24GB	52GB	-	ib40g qdr
Genepi*	34	2x4cores @2.5Ghz	8GB	139GB	-	ib20g ddr
Lille						
Chicon	26	2x2cores @2.6Ghz	4GB	69GB	-	mx10g
Chimint	20	2x4cores @2.4Ghz	16GB	260GB	-	-
Chinqchint	46	2x4cores @2.83Ghz	8GB	217GB	-	mx10g
Chirloutte	8	2x4cores @2.4Ghz	8GB	260GB	M2050	-
Lyon						
Capricorne*	56	2x1core @2.0Ghz	2GB	69GB	-	mx10g
Sagittaire*	79	2x1core @2.4Ghz	2GB	63GB	-	-
Nancy						
Griffon	92	2x4cores @2.5Ghz	16GB	278GB	-	ib20g ddr
Graphene	144	1x4cores @2.6Ghz	16GB	278GB	-	ib20g ddr
Orsay						
Gdx	310	2x1core @2.0, 2.4Ghz	2GB	69GB	-	mx10g
Netgdx	30	2x1core @2.0Ghz	2GB	69GB	-	-
Reims						
Stremi	44	2x12cores @1.7Ghz	48GB	232GB	-	-
Rennes						
Paradent	64	2x4cores @2.5Ghz	32GB	139GB	-	-
Paramount	33	2x2cores @2.33Ghz	8GB	520GB	-	mx10g
Parapide	25	2x4cores @2.93Ghz	24GB	434GB	-	ib20g ddr
Parapluie	40	2x12cores @1.7Ghz	48GB	232GB	-	ib20g ddr
Sophia						
Helios	56	2x2cores @2.2Ghz	4GB	63GB	-	mx10g
Sol	50	2x2cores @2.6Ghz	4GB	217GB	-	-
Suno	45	2x4cores @2.26Ghz	32GB	519GB	-	-
Toulouse						
Pastel	80	2x2cores @2.61Ghz	8GB	217GB	-	-
Violette*	52	2x1core @2.19Ghz	2GB	63GB	-	-

Deploy [[Deploy_environment-OAR2]]

Locate a suitable image

```
kaenv3 -l
kaenv3 -l -u LOGIN
kaenv3 -p squeeze-x64-base -u deploy
```

Use deploy type for your job

```
oarsub -I -t deploy -l nodes=2
  cat $OAR_NODE_FILE
```

Deploy an environment

```
kadeploy3 -e squeeze-x64-base -m node.site.grid5000.fr
kadeploy3 -e squeeze-x64-base -f $OAR_NODE_FILE
```

with your ssh key *(for a connection without password)*

```
kadeploy3 -e lenny-x64-base -f $OAR_NODE_FILE -k ~/.ssh/key.pub
kadeploy3 -e squeeze-x64-min -f $OAR_NODE_FILE -k
```

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 squeeze-x64-base -u deploy > image.env
```

(edit file image.env to update with your values)

Deploy

```
kadeploy3 -f $OAR_NODE_FILE -a image.env
```

Save your image

```
kaenv3 -a image.env
```

Multi-sites deployment

```
kadeploy3 -e squeeze-x64-base -f ~/grid_nodes\
  --multi-server -k
```

Easy use with public share

```
kadeploy3 -f $OAR_NODE_FILE\
  -f http://public.nancy.grid5000.fr/~login/image.env -k
```

Links https://www.grid5000.fr/

DrawGantt (Nodes states in a temporal diagram)
https://helpdesk.grid5000.fr/oar/Site/drawgantt.cgi

Monika (Nodes states with properties)
https://helpdesk.grid5000.fr/oar/Site/monika.cgi

Ganglia (Nodes metrics)
https://helpdesk.grid5000.fr/ganglia/

Grid'5000 API
https://api.grid5000.fr/

UMS (Account, quotas extensions)
https://api.grid5000.fr/ui/account

Grid'5000 Software
[Grid5000:Software] on wiki.

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 share (populate your own public share)
drop files in your ~/public/ folder (see README in there)

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

#3679 -- version 0.8