

# 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
  Use it
  ssh nancy.g5k
  ssh edel-1.grenoble.g5k
  scp ~/foo rennes.g5k:bar/

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

Text in **color** MUST to be substituted 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
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

```
oardele 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](mailto: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]]

	#nodes	cpu	Intel   Amd	memory	disk	GPU	network
<b>Bordeaux</b>							
Bordepage	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
<b>Grenoble</b>							
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
<b>Lille</b>							
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	-
<b>Lyon</b>							
Capricorne*	56	2x1core @2.0Ghz		2GB	69GB		mx10g
Sagittaire*	79	2x1core @2.4Ghz		2GB	63GB		-
<b>Nancy</b>							
Griffon	92	2x4cores @2.5Ghz		16GB	278GB		ib20g ddr
Graphene	144	1x4cores @2.6Ghz		16GB	278GB		ib20g ddr
<b>Orsay</b>							
Gdx	310	2x1core @2.0, 2.4Ghz		2GB	69GB		mx10g
Netgdx	30	2x1core @2.0Ghz		2GB	69GB		-
<b>Reims</b>							
Stremi	44	2x12cores @1.7Ghz		48GB	232GB		-
<b>Rennes</b>							
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
<b>Sophia</b>							
Helios	56	2x2cores @2.2Ghz		4GB	63GB		mx10g
Sol	50	2x2cores @2.6Ghz		4GB	217GB		-
Suno	45	2x4cores @2.6Ghz		32GB	519GB		-
<b>Toulouse</b>							
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 description 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/>

**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. #3679 -- version 0.8  
See <https://helpdesk.grid5000.fr/supervision/lyon/wattmetre/>