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WRF4G Grid Resources currently are defined by [?GridWay Drivers](#), therefore if you want to access to Grid Resources, you must configure **gwd.conf**. This file is located under `$GW_LOCATION/etc`.

WRF4G GridWay Drivers Available

The following drivers are included in WRF4G:

- Information Driver:
 - BDII (gw_im_mad_mds2_glue-bdii)
- Transfer Driver:
 - Dummy Transfer driver (gw_tm_mad_dummy)
- Execution Drivers:
 - GRAM2 (gw_em_mad_gram2)
 - CREAM (gw_em_mad_cream)

Required Middleware

The following middlewares should be installed to use the corresponding drivers:

- Globus Toolkit 2 and above, and gLite 3.1 (GRAM2-based)
- gLite UI 3.2 (CREAM-based)

Configuration options Divers

Next steps describe an specific configuration of the drivers for **Gisela Infrastructure**. However, the examples below can be applied to any VO.

In file "`$GW_LOCATION/etc/gwd.conf`":

```
# Example GT2
IM_MAD = gt2:gw_im_mad_mds2_glue-bdii:-l etc/gt2.list -q (GlueCEAccessControlBaseRule=VO\:prod.vo.eu-eela.eu) -s bdii.eela
EM_MAD = em_gt2:gw_em_mad_gram2::rsl_nsh
TM_MAD = tm_gt2:gw_tm_mad_dummy:-u gsiftp\://ui01.macc.unican.es

# Example CREAM
IM_MAD = cream:gw_im_mad_mds2_glue-bdii:-l etc/cream.list -q (GlueCEAccessControlBaseRule=VO\:prod.vo.eu-eela.eu) -s bdii.eela
EM_MAD = em_cream:gw_em_mad_cream::jdl
TM_MAD = tm_cream:gw_tm_mad_dummy:-g
```

There are three options for the configuration of the IM MAD:

- `-l`: host list file to be used.
 - Example of `gt2.list` for Gisela Infrastructure:

```
[user@ui-1]$ lcg-infosites --vo prod.vo.eu-eela.eu ce | awk 'NR>2 {print $6}'|grep jobmanager |awk -F ":" '{print $1}' | un
ce01-tic.ciemat.es
ce01.unlp.edu.ar
ce.labmc.inf.utfsm.cl
tochtli.nucleares.unam.mx
grid012.ct.infn.it
ce01.eela.if.ufrj.br
ce.cp.di.uminho.pt
ce01.macc.unican.es
ce01.up.pt
grid001.fe.up.pt
```

- Example of `cream.list` for Gisela Infrastructure:

```
[user@ui-1]$ lcg-infosites --vo prod.vo.eu-eela.eu ce | awk 'NR>2 {print $6}'|grep cream |awk -F ":" '{print $1}' | un
gantt.cefet-rj.br
```

```
ce206.cern.ch
ce204.cern.ch
ce205.cern.ch
ce207.cern.ch
ce208.cern.ch
tochtli64.nucleares.unam.mx
ce02.eela.if.ufrj.br
cream01.cecalc.ula.ve
ce.egee.di.uminho.pt
cale.uniandes.edu.co
grid001.fc.up.pt
```

- -q: it is possible to configure a GridWay instance to only use queues authorized to your VO by filtering them.
- -s: information server in a hierarchical configuration.

```
IM_MAD = gt2:gw_im_mad_mds2_glue-bdii:-l etc/gt2.list -q (GlueCEAccessControlBaseRule=VO\):prod.vo.eu-eela.eu) -s bdii.e
```

There are two options for the configuration of the TM MAD:

- -g: starts a GASS server.
- -u: specifies the URL of a GridFTP server running in the client. For example:

```
TM_MAD = tm_gt2:gw_tm_mad_dummy:-u gsiftp\://ui01.macc.unican.es
```

Running environment

After configuring an experiment in `experiment.wrf4g`, we can choose the running environment we want for it (data repositories, number of cores to use, requirements that Computing Resources must fulfill,...). This configuration is done in `resources.wrf4g`.

If `resources.wrf4g` is not present in the folder from where the experiment is submitted, the system will use the default one located in `$WRF4G_LOCATION/etc/`.

```
WRF4G_BASEPATH="gsiftp://$WRF4G_LOCATION/repository/output"
WRF4G_DOMAINPATH="gsiftp://$WRF4G_LOCATION/repository/domains"
WRF4G_INPUT="gsiftp://$WRF4G_LOCATION/repository/input"
WRF4G_APPS="gsiftp://$WRF4G_LOCATION/repository/apps"
```

Accessing the VOMS servers

To use the Grid Resources, the user should initialize the proxy through voms server:

```
[user@ui~]$ voms-proxy-init --voms prod.vo.eu-eela.eu
Cannot find file or dir: /oceanogmeteo/users/carlos/.glite/vomses
Enter GRID pass phrase:
Your identity: /DC=es/DC=irisgrid/O=unican/CN=josecarlos.blanco
Creating temporary proxy ..... Done
Contacting voms.eela.ufrj.br:15003 [/C=BR/O=ICPEDU/O=UFF BrGrid CA/O=UFRJ/OU=IF/CN=host/voms.eela.ufrj.br] "prod.vo.eu-ee
Creating proxy ..... Done
Your proxy is valid until Tue Aug 23 22:15:06 2011
```