

## resources.wrf4g file

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

If `resources.wrf4g` file is not present in the directory where the experiment is prepared, the system will use the default one, located in `$WRF4G_LOCATION/etc/`.

```
WRF4G_VERSION="1.0beta"
WRF_VERSION="3.1.1_r832INTEL_OMPI"
WRF4G_BASEPATH="$WRF4G_LOCATION/repository/output"
WRF4G_DOMAINPATH="$WRF4G_LOCATION/repository/domains"
WRF4G_INPUT="$WRF4G_LOCATION/repository/input"
WRF4G_APPS="$WRF4G_LOCATION/repository/apps"
NP=8
REQUIREMENTS = 'HOSTNAME = "mycomputer" '
```

The following is a complete list of the available options:

### WRF4G\_VERSION

WRF4G version to use. A file `WRF4G-[WRF4G_VERSION].tar.gz` must exist under `WRF4G_APPS`.

### WRF\_VERSION

WRFbin version to use. A file `WRFbin-[WRF_VERSION].tar.gz` must exist under `WRF4G_APPS`.

### WRF4G\_BASEPATH

Under this path one must find the following hierarchy to find the domain files and to save the `output/restart/realout` data

```
WRF4G_BASEPATH/
+-- domains
`-- experiments
    |-- [experiment_name]
        |-- [realization_name]
            +-- output
            +-- restart
            |   |-- wrfst_d01_1990-01-01_12:00:00
            |-- realout
```

This path can be local or remote. Local paths look like `/path/to/base/path` or `file:///path/to/base/path`. Additionally, the following protocols are supported (in general, any protocol supported by `vcp`) `GSIFTP` and `RSYNC`.

### WRF4G\_INPUT

This path can be used in `wrf.input` to set the `global_path` to access the input data. It supports the same access protocols as `WRF4G_BASEPATH`.

### WRF4G\_APPS

This is the path for the application binaries. Here you must find the files `WRF4G-[WRF4G_VERSION].tar.gz` and `WRFbin-[WRF_VERSION].tar.gz`. It supports the same access protocols as `WRF4G_BASEPATH`.

### NP

Number of cores to request in a parallel job. Note that it has to be enough resources to run. For example, if we only configure 1 core of a computer in `framework4g.conf`, `WRF4G` can't submit an experiment demanding `NP=2`.

### REQUIREMENTS

Requirements asked to the CRs where the experiment is going to run (for more information see [advanced configuration](#)). For example, `REQUIREMENTS = 'HOSTNAME = "mycomputer"'`.

### ENVIRONMENT

Experiment environment variables are configuration options for the jobs (for more information see [advanced configuration](#)). For example, `ENVIRONMENT = 'MAXWALLTIME = 3600'` (one hour of max wall time).

## Running environment

To use **WRF4G** on Grid resources or via `ssh` `WRF4G_BASEPATH`, `WRF4G_DOMAINPATH`, `WRF4G_INPUT` and `WRF4G_APPS` must be updated. New supported URL syntaxes will be:

- On Grid resources

```
gsiftp://host[:port]/file
```

- On resources via ssh

```
rsync://host[:port]/file
```

The examples below show two possible `experiment.wrf4g` files to use WRF4G on different environments:

- Grid environments

```
WRF4G_VERSION="1.0beta"
WRF_VERSION="3.1.1_r832INTEL_OMPI"
WRF4G_BASEPATH="gsiftp://ui01.macc.unican.es/home/user/WRF4G/repository/output"
WRF4G_DOMAINPATH="gsiftp://ui01.macc.unican.es/home/user/WRF4G/repository/domains"
WRF4G_INPUT="gsiftp://ui01.macc.unican.es/home/user/WRF4G/repository/input"
WRF4G_APPS="gsiftp://ui01.macc.unican.es/home/user/WRF4G/repository/apps"
NP=1
REQUIREMENTS = 'HOSTNAME = "ce01.macc.unican.es" '
```

- SSH environments

```
WRF4G_VERSION="1.0beta"
WRF_VERSION="3.1.1_r832INTEL_OMPI"
WRF4G_BASEPATH="rsync://mycomputer/home/user/WRF4G/repository/output"
WRF4G_DOMAINPATH="rsync://mycomputer/home/user/WRF4G/repository/domains"
WRF4G_INPUT="rsync://mycomputer/home/user/WRF4G/repository/input"
WRF4G_APPS="rsync://mycomputer/home/user/WRF4G/repository/apps"
NP=1
REQUIREMENTS = 'HOSTNAME = "anothercomputer" '
```