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Reforecast Tutorial

How to get WRF4G

The latest official version can get it by direct download [?WRF4G.tar.gz](#). Before you get it, you have to check the WRF4G requirements:

x86_64 Linux

```
[user@localhost ~]$ uname -p
x86_64
```

?Python, version ≥ 2.4 and < 3.0

```
[user@localhost ~]$ python -V
Python 2.7.3
```

See the [installation guide](#) for moreover information.

Quick deploy guide

Deploy WRF4G

Download and unpack the distribution file into the deployment directory (e.g. \$HOME directory).

```
[user@localhost ~]$ cd
[user@localhost ~]$ wget http://www.meteo.unican.es/work/WRF4G.tar.gz
[user@localhost ~]$ tar xzvf WRF4G.tar.gz
```

Setup the WRF4G environment.

```
[user@localhost ~]$ export PATH=$HOME/WRF4G/bin:$PATH
```

In order to avoid typing the export command every time you open a terminal, you should copy it into \$HOME/.bashrc.

```
[user@localhost ~]$ echo "export PATH=$HOME/WRF4G/bin:$PATH" >> $HOME/.bashrc
```

Verifying

You can verify if WRF4G has been deployed properly by running the following command:

```
[user@localhost ~]$ wrf4g_framework start
Starting DRM4G (GridWay) .... OK
Starting WRF4G_DB (MySQL) ... OK
```

If the answers are not satisfactory ("OK"), you should check out the log files:

- \$HOME/WRF4G/opt/drm4g_gridway/var/gwd.log for DRM4G (GridWay)
- \$HOME/WRF4G/var/mysql.log for WRF4G_DB (MySQL).

How to configure computing resources

By default, WRF4G is going to use the local machine as FORK system.

```
[user@localhost ~]$ wrf4g_resources
HID PRI OS          ARCH    NODES(U/F/T) LRMS          HOSTNAME
0   1  GNU/Linux3.8.9  x86_64      0/1/1 FORK          mycomputer
```

How to use WRF4G CLI

How to use wrf4g_prepare command

How to use wrf4g_submit command

How to use wrf4g_kill command

How to get driving model (NCEP) data.

In this example, the publicly available NCEP Reanalysis data are going to be used. This data can be downloaded from <http://nomad3.ncep.noaa.gov/pub/reanalysis-1/6hr> in GRIB format. These are monthly files that get updated each month nearly in real time. Two files are needed for each month, one with the pressure level data, labeled "pbg", and other one with 2D data, labeled "grb2d". extdata_path defined in experiment.wrf4g must point to the folder where these files are located. Alternatively, it is possible to write a [preprocessor](#) that downloads the data itself. Note that the file names must be parsed by the [preprocessor](#). In this case, if both files are located into the same folder, the default [preprocessor](#) will parse them correctly, since it looks for monthly files with year/month (YYYY/mm) into their names.

Creating a WRF experiment

How to manage WRF4G errors