Wikiprint Book

Title: Reforecast Tutorial

Subject: TracMeteo - WRF4GWRFReforecast

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Table of Contents

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 (run 1) data are going to be used. This data can be dowloaded 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 "pgb", and other one with 2D data, labeled "grb2d". extdata_path defined in experiment.wrf4g must pint 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, and provided the extension ".grb" is appended to them, the default preprocessor will parse them correctly, since it looks for monthly files with year/month (YYYY/mm) into their names. For example, the files for December 2010 should be:

```
grb2d201001.grb
pgb.ft00.201001.grb
```

Creating a WRF experiment

How to manage WRF4G errors