

## FV3 Quickstart

The easy way to run an advanced finite volume dynamical core

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Very basic instructions (on Gaea, possibly out of date):

1. Copy the files:

```
/ncrc/home1/Lucas.Harris/solo_core-quickstart/scripts/HiWPP/Jablonowski_c96.j  
/ncrc/home1/Lucas.Harris/solo_core-quickstart/scripts/mk_solo_core
```

into your home directory, preferably into ~/solo\_core-quickstart/scripts

2. Run the script `mk_solo_core`. This will check out the source code for the solo core and compile the model. If it runs successfully, the last line of output will tell you where the executable is.

3. Edit the `Jablonowski_c96.j` script so that the line:

```
#PBS -o /lustre/f1/unswept/Lucas.Harris/solo_core-quickstart/stdout/
```

points to a directory that exists and that you have write permissions to. (NOTE: If you don't do this, your script won't run in batch mode, and it won't tell you why.)

4. There are two ways to run the model:

4a. Start an interactive session with the command:

```
msub -l -q debug -l size=96,walltime=1:00:00 -d $PWD
```

Then, run the script `Jablonowski_c96.j`.

4b. Submit the script `Jablonowski_c96.j` to the batch queue:

```
msub Jablonowski_c96.j
```

It should start running within a minute, and complete in about seven minutes. You can check to see if it is running using the `msub` command, or checking in the directory you specified in step 3 for output.

5. In either case, once the model runs successfully, the model output will be in the directory `$CTMP/$USER/solo_core-quickstart/ulm/Jablonowski_c96/OUTPUT`. If you give that directory as an argument to the script

```
/ncrc/home1/Lucas.Harris/solo_core-quickstart/scripts/pp.csh
```

it will combine the six cubed-sphere output files into a latitude-longitude output grid, which can then be viewed using ncview or a similar netcdf viewer.

The script will also send the output to GFDL, to \$ARCHIVE/solo\_core-quickstart/ulm/Jablonowski\_c96/ . The pp script is also available to run on analysis:

```
/home/Lucas.Harris/bin/pp.csh
```

### New instructions for git (useful for Theia)

I have updated mk\_solo\_core to check out my most recent code ("user/lmh/avec\_ulm\_nest\_merge"). Do an 'git pull origin master' to get the new version. Also copy my file:

```
/ncrc/home1/Lucas.Harris/solo_core-quickstart/scripts/site.csh
```

into your solo\_core-quickstart directory.

Then, you can run the script, and it will check out my most recent code and compile it.

To run any script with the new executable, edit the script to read:

```
set exname = avec  
set version = ""
```

Let me know if you have any problems.