# CSC 7700: Scientific Computing
## Module D: Simulations and Application Frameworks
### Homework 1: Get started with the Einstein Toolkit

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# Homework

## Homework

Your homework for this week will be to checkout (using GetComponents) the Einstein Toolkit, compile and run a simulation on Super Mike II (using Simfactory). You should (mostly) follow the tutorial at:
https://docs.einsteintoolkit.org/et-docs/Tutorial_for_New_Users

As this tutorial was written for the machine Queen Bee, there is a few differences in setting up Simfactory so the tutorial has to be modified as follows:

Log into mike.hpc.lsu.edu and start following the tutorial in your home directory with the following modifications.

- The git, python and svn clients are already available so skip the commands:
  ```
  soft add +python-2.6.4-gcc-4.3.2
  soft add +git
  soft add +subversion-1.8.3-gcc-4.3.2
  ```

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- When you get to the section "Configure the Simulation Factory": replace the first command `mkdir scratch/simulations` with `mkdir /work/<username>/simulations`. Here, replace "username" with your username on Mike.

- Execute the next two commands.

- When asked to edit the file `simfactory/etc/defs.local.ini`: change "YOUR_LOGIN", "YOUR@EMAIL.ADDRESS" and "YOUR_THORNLIST" as described but skip changing "YOUR_ALLOCATION" and instead add a mike specific section at the end of the file containing:

```
[mike]
allocation      = hpc_startup_<username>
sourcebasedir   = /home/<username>
```

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- Continue with the tutorial (i.e. compile and running) and wait until the run has finished before continuing.
- When you get to the "Look at Results" part of the tutorial: Log into Mike (of course) instead of Queen Bee (don't forget forwarding of X). To change to the output directory do:

  `cd /work/<username>/simulations/static_tov/output-0000/static_tov`
- Do not continue with the additional examples.

Your homework will consist of the standard output from the simulation as well as your versions of the gnuplot plots.

Commit the standard output file located in

`/work/<username>/simulations/static_tov/output-0000/static_tov.out`

and postscript or pdf files with the plots to coursework/D2/ in your personal subversion repository for CSC7700.

Due date: November 22, 2013.