Instructions to Login to Hornet01 & Hornet02

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Full Machine Names:
hornet01.eie.wits.ac.za, IP Address: 146.141.116.172
hornet02.eie.wits.ac.za, IP Address: 146.141.116.179
Both hosts are identical but not configured as a cluster. Memory Available oe 16GB
CPU @ 3.40GHz
Cores: $2 \times 4 = 8$, supports max of 8 current threads per hosts

Student's Loging Account

See instructions in "LabGroupAccnts.pdf" on SAKAI.
After logging in to M/C, please change your password.

```
ssh  <account>@hornet01.eie.wits.ac.za
.
.
```

Follow instructions as prompted.

The host *hornet01.eie.wits.ac.za* should be accesseble directly from outside the Wits network but *hornet02.eie.wits.ac.za* is not. Hence to get to access *hornet02* you must first login to some Wits accessible host before logging in to *hornet02*. *hornet02* is independent of *hornet01* but your directories are in relatively the same locations.

DO THIS ON YOUR FIRST LOGIN ONLY:
Change your .bashrc, .bash_profile and .bash_logout files after you login.

Replace these with the respective files in the directory /use/local/Misc_Student_Files. These are named Dot_bashrc_Stud, Dot_bash_profile_Stud and Dot_bash_logout_Stud

Using Python + Packages

To use Python and lots of it packages, install "anaconda3" in your home directory and create your projects in a virtual python environment. You should be able to do this in either *hornet01* or *hornet02*. You should setup your access to either machine with password-less SSH login.

Using MPI (MPICH3) with both machines:

1. Both machines can be used together to run MPI jobs of say 16 processes concurrently. It requires that each machine be able to access the other without ssh password.
2. To do this.
   (a) Say you are logged in to *hornet01*, use
   ssh-keygen -b 2048
   to generate your *id_rsa* and your *id_rsa.pub* keys.
   (b) Copy the public key to both *hornet01* and *hornet02* with commands like:
   ssh-copy-id $< accnt - id >$@146.141.116.172
   and
   ssh-copy-id $< accnt - id >$@146.141.116.179

   (c) Repeat key generation from *hornet02* and copy keys from *hornet02* to *hornet01* and redundantly to *hornet02*.
   (d) The first time you do an ssh login from one machine to the other it will promt you for your ssh-key only once. if you logout and login again, you will not be prompted for the password.

   If you wish to run an MPI job, make sure your executable are in the same relative directories.

Please do not abuse your access to these machines!!!!