

Tutorial 3

From ACE Lab

Team Name: _____

Part 0 - Create a User account (Only if you do not have LDAP working)

1. On both the headnode and compute node execute:

```
yum install sudo
adduser <name>
passwd <name>
```

2. Edit /etc/sudoers and at the bottom of the file add:

```
<name>    ALL=(ALL)    ALL
```

3. Login to your cluster with the new users: `ssh <name>@<headnode>` 4. To execute a command as root put "sudo" before the command 5. To drop to a root shell execute "sudo su"

Part 1 - NFS

NFS enables you to easily share filesystems over the network. This tutorial will show you how to export a filesystem on the head node and mount it through the network on the compute nodes. With the shared file system in place it is easy to enable key base ssh authentication. This will allow you to ssh into all the computers in your cluster without requiring you to type your password each time.

1. Install, start and enable nfs service

2. On the head node edit /etc/sysconfig/nfs and add:

```
MOUNTD_NFS_V3="yes"
RPCNFSDARGS="-N 4"
```

3. On the head node edit the exports file and add this line

```
/home    *(rw,async,insecure,no_root_squash)
```

4. Restart the NFS service

QUESTION 1:

Explain the parameters of the above filesystem export?

5. On the compute nodes edit fstab and add:

```
headnode.cluster.scc:/home /home nfs _netdev,intr 0 0
```

6. Execute mount -a to mount the filesystems

7. To enable passwordless login generate a certificate

```
ssh-keygen
```

8. Add the public key to the authorized keys file

```
cp id_rsa.pub authorized_keys
```

9. Test passwordless login by sshing into another machine

Part 2 - Ganglia Server Setup

Ganglia is a useful tool for monitoring clusters. Ganglia displays information on the utilisation of your cluster which you can use to ensure the cluster is operating optimally.

1. Install the EPEL repository

```
sudo yum install epel-release
```

QUESTION 2:

What is a repository?

2. Install Ganglia dependencies:

```
sudo yum install apr-devel rrdtool-devel libconfuse-devel pcre-devel expat-devel gcc zlib-devel make httpd
```