Systems Integration Assignment2: How To

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A client/server setup with the following installed:

* DHCP server
* DNS server
* FTP server
* NFS server

The DHCP server provides IP address to clients connected to the server within the range of 192.168.1.150 - 192.168.1.200.

The DNS server provides forward and reverse lookup to the site www.example.lan.

The FTP server allows the client to send files to the server.

The NFS server allows the client to share files from the server.

Before setting up the client or the server you must ensure that they can communicate to each other.

Ensure that they can ping between each other by finding out each IP address and using the ping command.

You can continue the setup if the pings are sucessful.

DHCP:

On the server, install the DHCP server by running the command "sudo apt-get install isc-dhcp-server".

Once this is installed edit the files "/etc/default/isc-dhcp-server" and "/etc/dhcp/dhcpd.conf" with the relevent information to your machines.

On the client, edit the "/etc/network/interfaces" file and make one of the eth's dhcp. (I suggest eth1).

DNS:

On the server, install bind9 with the command "sudo apt-get install bind9".

Open the file "/etc/bind/named.conf.options" and add the lines "8.8.8.8" and "8.8.4.4" to the forwarders.

Restart bind with the command "sudo service bind9 restart".

In the file "/etc/resolv.conf" change the first nameserver line to the IP of your server machine.

Now use the dig command with the site "www.example.org" as in the command "dig www.example.org".

Run this command a second time and ensure that the query time drops as this shows it's coming locally.

Edit the files "/etc/bind/db.krizna.com" and "/etc/bind/db.192" with the relevent server information for your server machine.

Restart the service using the command "sudo service bind9 restart".

Test the lookup with the command "nslookup www.example.com".

FTP:

On the server, install FTP using the command "sudo apt-get install vsftpd".

On the client, install FTP using the command "sudo apt-get install ftp".

Edit the "/etc/vsftpd.conf" file and add a links the server IP address to the client and so the client can access directories in the server.

Use the client machine + the username anonymous to login to FTP.

NFS:

Install nfs on the client and server by running the commands "sudo apt-get install nfs-kernel-server" and "sudo apt-get install nfs-common".

Create an NFS directory on the server.

In the file "/etc/exports" on the server add the line "/home 192.168.1.150(rw,sync,no\_root\_squash,no\_subtree\_check)" to allow the IP address of the client to access the directories on the server.

Run the command "sudo exportfs -a" and restart the NFS service with the command "sudo service nfs-kernel-server start".

Moving the client we need to mount the server with the following commands; "sudo mount 1.2.3.4:/home /mnt/nfs/home" and "sudo mount 1.2.3.4:/var/nfs /mnt/nfs/var/nfs".