The File System

Hands-On UNIX System Administration DeCal

Lab 2 — 30 January 2012
Due 6 February at 6:10 PM

NFS and `mount`

NFS, the Network File System, is a ubiquitous way to share data between servers. The OCF, CSUA, and EECS' Instructional Computing each have centralized NFS servers that store user data and software — because of this, it only takes a few minutes to build a Debian Lenny server that can act as a full-fledged login server for the OCF or CSUA.

1. Run `df -h` at a command prompt. (If you're working from home or on a laptop, run this command on an Instructional server, such as `nova.cs`. There's going to be a lot of output, so pipe it through `less`.) What does this command do? What can you say about where your home directory is stored?

2. How can you tell whether a particular mount is a network share or a local drive? Take a guess as to what the different network shares in `df`'s output are used for.

3. The `showmount` command gives you information about NFS servers. It's not in your PATH, though, so before you can use it you'll have to find it. (Hint: It's a non-core administrative program.)

   Once you've found it, run `showmount -e project` (again, you'll want to use `less`) to see what NFS shares are being exported from one of Instructional Computing's main servers. (You might also try `showmount -e epidemic.ocf.berkeley.edu` to look at the OCF's simpler NFS server.) What does the output of this command mean? Some of the hostnames don't look like normal hostames; what do you think they refer to?

4. The `mount` command gives you information about locally-mounted devices. (Like `showmount`, it's not in your PATH, so you'll need to find it.) What's the difference between the output of `mount` and `df -h`, and when would you want to use one over the other?