CM30078 Networking
Coursework Overview

There are two assignments for this course.

1. **Individual — worth 15%**
   The details of this are overleaf. Note that this assignment is still being developed, as the laboratory in which it will be run is still being finished. Watch your e-mail, and the web site at [http://staff.bath.ac.uk/masjhd/CM30078.html](http://staff.bath.ac.uk/masjhd/CM30078.html), for amendments. Note that the due date *may* (do *not* count on it) have to be postponed, but will not be made earlier.

2. **Group — worth 10%**
   Groups of (about) 4 will be formed by the Director of Studies, and announced via Moodle. This coursework will ask each group to construct a “deep learning” question on the lines of some of those I will give using the Audience Response System (also known as “Ask the Audience” or “clickers”).

The coursework component of this unit will be supported by Moodle: the course will be released as soon as the Director of Studies has approved the group allocation.

**Outline Schedule for the Semester**

27 October 2009: 17:15  This sheet (version 1) and assignment 1 issued.
20 November 2009: 16:00  Assignment 1 due. **Note postponement**
17 November 2009: 17:15  Assignment 2 set, and groups pick their topics via sealed envelopes.
4 December 2009: 16:00  Each group hands in their question via Moodle.
8 December 2009: 17:15  First group of questions asked to the class.
15 December 2009: 17:15  Second group of questions asked to the class.
The aim of this assignment is to produce a networked version of the “Linux on a CD”. You have each been allocated a sequence number, known as $N$, which is to be thought of as a two-digit number: 00–56. The corresponding IP address is 172.18.78.$N$, and the DNS name will be

\[\text{cm30078-}N\cdot\text{cs.bath.ac.uk}\].

If you want a second IP address to check connectivity, use 172.18.78.100 + $N$.

This assignment is worth 15% of the total marks for the course. It is due in by* 16.00 on Friday 20 November 2009. Submission will consist of uploading to Moodle a properly commented shell script, named `userid-$N$` that, when executed as root, will properly network the machine, with the IP address listed above. Assuming the script is on a mounted device (e.g. a USB-stick) as `/mnt`, I would simply execute `/mnt/userid-$N$`. Note that “properly commented” means that it is easy and obvious how to change the script to network in a different environment. Should the script require other files, then

- Make sure the files are called `userid-whatever`, and are to be accessed as `/mnt/userid-whatever`.
- Upload a ZIP called `userid-$N$.zip`, containing all the files, instead of just the script to Moodle.

The machine on tables 3, 4 and 5 (the three nearest the door) have been configured to be on the 172.18.78 network and these and only these should be used for the exercise. They each boot off a CD containing the Linux version against which your distribution will be tested. The root password for these machines is `toor`. The router address is 172.18.255.254, and therefore your netmask is $0xffff0000 = 255.255.0.0$. The DNS servers your resolvers can talk to are 138.38.32.{45 and 46 and 47}. Note that the router will only allow this DNS traffic and ICMP (ping) traffic.

The precise allocation of marks is as follows.

- 20% Basic functionality: ping other machines on the 172.18.78 network.
- 20% Ping machines by number outside the network.
- 30% Ping machines by name (fully qualified or not)
- 30% Commenting and style of solution

‡ See the list on my Door — 1West 2.2.

* Note that extensions may only be granted by the Director of Studies.