

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>, 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.

CM30078 Networking
Assignment 1 — Individual
Version 3a — 3 November 2009

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

`cm30078- N .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 $138.38.32.\{45 \text{ and } 46 \text{ and } 47\}$. 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.