



University of the  
West of England

## MODULAR PROGRAMME ASSESSMENT SPECIFICATION

### Module Details

<b>Module Code</b> UFCEHX-20-2	<b>Run</b> 09SEP/1 AY	<b>Module Title</b> Computer Networks & O/S
<b>Module Leader</b> Ian Johnson	<b>Module Tutors</b> Ian Johnson, John Counsell, Laurence O'Brien	
<b>Component and Element Number</b> B1		<b>Weighting: (% of the Module's assessment)</b> 25%
<b>Element Description</b> Coursework - 1		<b><u>Total Assignment time</u></b> 12 hours + lab time

### Dates

<b>Date Issued to Students</b> 20 <sup>th</sup> October 2009	<b>Date to be Returned to Students</b> 18th January 2010
<b>Submission Place</b> <b>PROJECT ROOM - 2Q30</b> (Help Desk open 9.00 - 6.00pm)	<b>Submission Date</b> 10th December 2009
	<b>Submission Time</b> <b>2.00 pm</b>

### Deliverables

As per the attached specification

### Module Leader Signature

*Ian Johnson*

## Overview:

This assignment is based on the Gnu/Linux installation worksheet available from [http://www.cems.uwe.ac.uk/~ngunton/worksheets/slackware\\_jaz.pdf](http://www.cems.uwe.ac.uk/~ngunton/worksheets/slackware_jaz.pdf) and the example logbook/question sheet from <http://www.cems.uwe.ac.uk/~ngunton/worksheets/mannheim.pdf>.

The assignment is a group assignment with group size being no larger than 4. This is a hard limit. **Larger groups will be penalised 20% per member over 4.** Whilst it is recommended that you work in a group, you may work alone if you wish.

Group membership **MUST** be finalised before the 31<sup>st</sup> October. After that date nobody may join an existing group, but will need to start a new group (of at least 1).

## Requirements:

Each team must complete a log book based on the worksheet. All team members must participate in keeping the log and in completing the activities. The log should contain dated entries showing:

- i) which team members were present,
- ii) what was attempted,
- iii) what the results were. Brief additional comments or explanations of the activities will be beneficial.

**You must ensure that your lab tutor signs your log book each week as evidence that each phase has been demonstrated. The lab tutor should indicate *the degree to which the task was completed.***

This will provide you with weekly feedback on your progress and performance. It will also provide evidence of non-attendance by group members in the event of any dispute within the group.

You **MUST** use a **Slackware linux** distribution for this assignment.

## Deliverables:

- 1) A well presented group log that identifies the team, the machine name and IP address. The log should also include the root password. This log should also identify the relative contribution of team members where there has been unequal support and a group majority may request that marks are assigned in proportion to each individual's contribution. **Maximum words 5000 excluding headings and titles etc..** The word count must be stated on the front sheet. 4% will be deducted if the word count is not shown.

### **The following tasks must be completed and recorded in the logbook.**

- a) Installation of the base, bootable, system that provides login, the minimal set of tools for system administration and the tools and drivers to permit use of the network interface. Marks will be deducted for installing more than this at this stage. To include documentation of disk partitions, file system table and hardware.

Install log

- 40 marks

b) setup of network interface and testing of the interface by the use of

`ifconfig, ping, arp, route`

to verify the network activity. use of the above to change the IP address, editing of the hosts file. Manually taking the network interface down and back up to establish the new address whilst the machine is running. This should be followed by further testing to show the new IP address. Enabling access to a name server.

Initial testing - 5 marks  
New IP test - 5 marks

c) Creation of user accounts and the testing of them

Evidence in logs - 5 marks

d) NFS

- i) mounting remote file systems and installing packages from the remote filesystem.
- ii) Set up nfsd and export part of your file system to another team. Import from another team. Edit the exports file correctly and use restrictions on the exports. Do not use promiscuous mode.

log reports - 10 marks  
Exports file - 5 marks

**One of the following must also be attempted and documented**

**Either**

- e) Installation and setup of the X windowing system with a choice of at least 2 window managers as well as the use of a display manager for login. Default configuration files must be provided for each user account as well as evidence of the use of customisation through the use of Xresources.

or

- f) Httpd with web pages to export.

The above options must include the setting up of automatic logging of access attempts. The log-files should be included in your log book.

Logs, config files etc. - 30 marks

The use of appropriate unix tools throughout should be documented

**Guidance Notes:**

- The installation is performed by selecting the utilities, libraries and applications from 'disk sets' which are presented as containing 'packages' of related items. The installation process allows you a choice of
  - Installing everything; Don't, you don't have enough disk space. Choosing disk-sets and installing everything within a disk set; Maybe ...
  - Choosing disk-sets and then choosing packages from within each disk-set; Preferred, but requires some thought.

- Your initial installation should only include the basic components required to administer the system. Typically this will be the
  - [a]** : base disk set.
  - [ap]** : command line applications and utilities. You will need most of these.
  - [e]** : The Emacs editor. You will need an editor of some sort in order to edit files and configuration scripts. It's a good idea to install at least one version of the 'vi' editor as well.
  - [n]**: network tools etc. You will need your network access to add further packages at a later date.
- You should endeavour to complete the basic installation within one lab session.
- There is an excellent and detailed guide to the installation and administration of a Slackware Linux distribution at <http://www.slackware.org>
- There is a very useful command-line utility called `script`. This captures everything that you type on the command-line plus the output and saves it to a text file. `man script` for the details.
- There are many programs for capturing screenshots. I still use `xv`.
- A walk through of the install process is available from <http://www.cems.uwe.ac.uk/~irjohnso/courses/ehx-20-2/LinuxInstall.pdf>