



MODULAR PROGRAMME
ASSESSED COURSE-WORK SPECIFICATION

Module Details:

Module Code: UFEEJB-3	Module Title: Advanced Systems Administration	
Module Leader:	Nigel Gunton	
Module Tutors: Nigel Gunton		
Assignment CW1	Element Number: Weighting 1 : 50%	Total Assignment Time: 24 hrs + lab time

Dates:

Date assignment issued to students: w/b 29th Oct.07	Date for return of marked work: w/b 15th May 08
Submission Place: post-box in N foyer, below the North stairs	Date of Submission: 17th April.08
	Time of Submission: 14.00

Deliverables:

As listed on the Assignment spec sheet

Overview:

The assignment requires that you attempt and/or complete a number of exercises as detailed on the module web site. The exercises are intended to reflect some of the tasks that a systems administrator would be expected to do. A log must be kept of the activities; the success or failure of the activities and any solutions that are arrived at.

The work will be undertaken in small teams of up to 4 people. It is up to the individual team members to ensure that they participate equally in the activities. The later network related exercises will require cooperation between more than one team.

Task Summary :

- Obtain root access to the system provided.
- Minimise, as far as is reasonable, the possibility of others using the same techniques to obtain root access. You should justify your decisions.
- Reconfigure the system to provide the ability to customise the kernel and permit recompilation.
- Patch and configure the ext2 or ext3 filesystems to provide ACLs.
- Provide distributed services through a combination of NFS and NIS.

One or more tasks from the following should also be attempted. The exact number will be discussed with your lab tutor as the tasks vary in complexity. In brief, one complex problem is equivalent to two or three simpler problems.

- Build a network with public and private sections, implement appropriate filtering and masquerading rules on the routers through the use of iptables.
- Develop a written set of policies and procedures for users, backups, security and disaster recovery.
- Install an LDAP server and populate a database to be queried.
- Provide network printing facilities.
- Install a mail server and provide a mail service
- Install and provide an smb server to allow for the implementation of heterogeneous networks. Investigate the installation of the remote access/vnc system 'NX'
- Anything else of interest, with the agreement of your lab tutor.

Deliverables :

A single hand-in per group. It should contain the policies, procedures and the key information from the logs.

When selecting material for inclusion you should consider its usefulness for a successor in your job. It is important to include the failures, their symptoms and the solutions as this is useful diagnostic information.

There is no set minimum or maximum page count, apply common sense, you do not need to give a blow by blow account of every key press.

The information should be separated by task and clearly headed in order to make it easy to find entries on a particular topic.

You will still achieve marks even if you did not succeed at some of the tasks, provided that the steps taken, the symptoms and the attempted solutions are documented as this will enable another systems administrator to repeat and/or solve the task.

You may include scripts and configuration files where needed.

Marking Criteria :

- Quality of the delivered document, spelling, layout etc. will affect the mark by up to 10%
- A minimal pass (40%) will be achieved by completing the initial three exercises and providing adequate documentation.
- A pass in the range 41% - 69% will be achieved by completing and documenting the tasks up to and including the configuration of NIS/NFS or tasks of equivalent complexity. It is expected that exported filesystems etc. will be integrated with the extended networking exercises.
- A pass in the range 70% - 100% will be achieved by attempting and documenting one or more of the more complex tasks from the list of additional exercises or their equivalents along with high quality documentation.