

UNIVERSITY OF TECHNOLOGY, SYDNEY
31338 Network Servers

Project – Network Design, Implementation, and Troubleshooting
Assessment 3: Project

Due Date **Softcopy Due by ---- 29/10/2021 (23:59PM) AEST.**

Submission: Individual Report

Report: Each student will submit a softcopy (Microsoft Word File or PDF) of the assignment project report via Turnitin.
Use the Assessment task 3: Assignment on Canvas for submitting your assignment.

File format: Your activity–student ID (.pdf or .docx)

For instance, if you are enrolled in activity Cmp01 and your student ID is 999999; then you should name your project file as:
Cmp01-999999.pdf or Cmp01-999999.docx

You may submit your report to Turnitin many times before the submission due date. Final Turnitin reports can be used as evidence by the teaching staff if plagiarism is suspected in an assignment and will be dealt as per University rules.

Do not allow anyone to copy your solution – this is considered misconduct; all miscreants will receive a mark of 0, at best for the assignment and will be dealt as per University rules. You may be required to provide the hard or soft copy of the assignment anytime during the semester.

Marks: 40%

Word Limits: This is a technical report, thus there is no compulsory minimum and maximum word limit. Word limit will be regarded as recommended rather than compulsory, and no student will be disadvantaged by being under or over the recommended word limit.

Method: The assignment will be completed individually. The provides an opportunity for students to practice and demonstrate their network design, implementation and troubleshooting skills. It is important that you read and understand each requirement and complete all tasks. **There will be zero tolerance for any academic and non-academic misconduct. See University Rules, Subject Outline and Academic Misconduct section of this brief for details.**

Objectives: Assignment objectives: 1, 2, 3, 4 and 5
1. Disk management and partitioning.
2. Network design.
3. Network setup and NFS services configurations.
4. DNS server setup and configurations
5. Web server setup and configurations

Type: Report

Assessment: Individually assessed

Tasks Weight: The assignment tasks are as follows:

Task	Description	Weight
1	Create partitions	10 Marks
2	Set up static networking	5 Marks
3	Set up NFS service	5 Marks
4	Set up DNS server	10 Marks
5	Set up Web server	10 Marks
Total	40 Marks	

Tasks Requirements:

Given the new virtual machine files, students are expected to complete the following tasks in the VMs. The report tasks should include:

- Executed commands in each task.
- Screenshot the NAMES of the files updated for each task.
- Setup and configuration details for each task.
- Testing procedures for each task.
- Troubleshooting and record keeping for each task.

Task 1: Create partitions (10 marks)

Please add a **second** hard disk on both VMs. Create the following partitions on these drives and mount them accordingly. They both **MUST** be **Master Boot Record (MBR)** formatted.

	Linux	Windows server
Disk	/dev/sdb	disk 0 (NOT disk 1!)
Partition1	Primary swap , 100MB	primary partition 200MB, FAT32
Partition2	Primary EXT4 , 100MB	primary partition 100MB NTFS
Mount partition 1 as:	swap	S:
Mount partition 2 as	/www	H:

Make sure you demonstrate that the swap partition is **mounted** and is **visible** to the operating system.

Task 2: Set up static networking (5 marks)



Set up static networking for your Linux Centos and Windows server servers given the following parameters:

	Our network	Linux server	Windows server
Network:	1.2.3.0/24	.254	.250
Ethernet:		ens37	Ethernet1
DNS Domain:	feit.edu	feit.edu	feit.edu
Hostname		firstname	surname
Gateway:			

Replace “**surname**” and “**firstname**” in the table with your real name. For example, if your name is “Peter Griffin”, then the hostname for Linux server is “peter” (lower case) and the hostname for Windows Server is “griffin” (lower case). **This rule applies for all the following tasks.**

Choose the appropriate gateway and network parameters so they can **ping** each other and make sure the configuration is permanent. You **MUST** test your configuration.

Task 3: Set up NFS service (5 marks)

Configure your Linux server as an NFS server. Create a new directory called /public, and export this directory to all machines on your local subnet. The directory should be both readable and writable to NFS clients. Ensure that users can create new files in the NFS-mounted directory.

Make sure the configuration is permanent.

Task 4: Set up DNS server (10 marks)

- 1) Configure your Windows server (**surname**) as the master DNS server for the domain **feit.edu**
- 2) Create host entries for the **firstname** and **surname** servers in this domain as mentioned in question 1.
- 3) Create an entry for the main name server, **ns** which will reside on the **surname** server.
- 4) Create an alias for **www.feit.edu** which points to **firstname.feit.edu**.
- 5) Create a mail server entry such that all email addressed to **@feit.edu** is forwarded to **surname.feit.edu**.
- 6) Configure **both** Linux and Windows servers to use **surname** as their main DNS resolver and **feit.edu** as the default search domain.
- 7) Create a reverse lookup zone for our subnet.

Task 5: Set up Web server (10 marks)

- 1) On the Linux server, create a web server and **index.html** file in the default httpd web directory. This file should ONLY contain the exact case sensitive word **HELLO**
- 2) Create a virtual host for **http://www.feit.edu** and this should reside in the /www directory. Create this directory if necessary. Create an **index.html** file in this directory which should ONLY contain the exact case sensitive word **UTS**

NOTES:

(a) Do **not** use Default.htm or index.htm as the home page;

(b) you should ensure that the alias for www in previous tasks is working BEFORE you attempt part (2)

(c) The index.html files do not have to be HTML-valid – only have the exact word as required

(d) You should test both **http://firstname.feit.edu** and **http://www.feit.edu** from each server (Linux Server and Windows Server) and they should display different web pages!