# INFO 3605 – Fundamentals of LAN Technologies (2023/2024 Semester I)

## Assignment 2

Date Given: **2022/10/25**

Percentage towards coursework: **10%**

This is an individual assignment, no group work. Discussions and questions can be done in the forum.

This assignment is out of **100** marks.

The assignment is due midnight **Monday 13th November 2023**

Create a word document matching the question format below to record **ALL** ip addresses and commands used.

1) Create a close representation of your home network in **GNS3** called **PRIMARY**.
   a) Plan out your network ip addresses, interfaces, masks and gateway. Fill out the network table below.                                                             **[5 marks]**
   You can use generic computer and device names, not your actual computer device names.

## Network 1 (PRIMARY) - IP Addressing and Networks

IP Addresses on interfaces for computers and routers facing the computer networks.

| Name | Interface | IP Address | Subnet Mask | Network Address | Broadcast Address | Gateway |
|------|-----------|------------|-------------|-----------------|-------------------|---------|
|      |           |            |             |                 |                   |         |
|      |           |            |             |                 |                   |         |
|      |           |            |             |                 |                   |         |
|      |           |            |             |                 |                   |         |

IP Addresses on interfaces for the router (some information will be duplicated from above).

| Name | Interface | IP Address | Subnet Mask | Network Address | Broadcast Address | Comments |
|------|-----------|------------|-------------|-----------------|-------------------|----------|
|      |           |            |             |                 |                   |          |
|      |           |            |             |                 |                   |          |
|      |           |            |             |                 |                   |          |
|      |           |            |             |                 |                   |          |

   b) Ensure there is at least one router with the interfaces configured (at least two interfaces are required, one will be used for your network, and the other will be used to connect to the intermediate router).                              **[10 marks]**
   c) Add, connect and configure your network switches and wireless access points
      A wireless access point can be represented as a network switch.            **[10 marks]**
   d) Add, connect and configure ALL your computers and devices.                 **[10 marks]**

2) Create a duplicate of your network, which will be called **SECONDARY**:

a) Plan your **SECONDARY** network ip addresses, interfaces, masks and gateway. It will be a different subnet from PRIMARY.
Fill out the network table below. **[5 marks]**

## Network 2 (SECONDARY) - IP Addressing and Networks

IP Addresses on interfaces for computers and routers facing the computer networks.

| Name | Interface | IP Address | Subnet Mask | Network Address | Broadcast Address | Gateway |
|------|-----------|------------|-------------|-----------------|-------------------|---------|
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

IP Addresses on interfaces for the router (some information will be duplicated from above).

| Name | Interface | IP Address | Subnet Mask | Network Address | Broadcast Address | Comments |
|------|-----------|------------|-------------|-----------------|-------------------|----------|
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

b) Connect and configure devices with IP addresses. **[10 marks]**

3) Both networks, through their router, will be connected to a common router,
   a) The common router will then be connected to the Internet
      The "**Internet**" can be a single router device.
      **[5 marks]**

## Additional Router Tables

IP Addresses on interfaces for the router (some information will be duplicated from above).

| Name | Interface | IP Address | Subnet Mask | Network Address | Broadcast Address | Comments |
|------|-----------|------------|-------------|-----------------|-------------------|----------|
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

**[5 marks]**

b) Use dynamic routing between the routers so that devices on both PRIMARY and SECONDARY can communicate with one another AND communicate with the Internet.
**[10 marks]**

4) Ensure you:
   a) Include a screenshot of your final network diagram.          **[10 marks]**
   b) Save your configurations on the equipment.                   **[10 marks]**
   c) Have a working export of your GNS3 project.                  **[10 marks]**

# Commands Used

[*Use this as an example to place your commands*]

*Don't forget to use a text file to plan and place all your commands for each device.*

# Assignment Notes

- The assignment is expected to contain a large number of pages due to screenshots.
- The assignment is due **two weeks** from the date of issue.
- All files (word document, GNS3 project file, other files) should be **zipped** with the filename in the following format: **INFO3605 - Assignment 2 – [id number].zip**. Submission is done via **My e-learning** Assignment submission
- Full internet research may be required and be sure to cite your sources using http://www.citationmachine.net/ (recommended for this assignment) or https://www.zotero.org/ (more complex) or EndNote (http://libguides.uwi.edu/endnotex7, also complex) and also to create your list of references and/or bibliography.
- Plagiarism will **NOT** be tolerated:
  - https://sta.uwi.edu/resources/policies/Anti-Plagiarism.pdf .
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