TNE20002/TNE70003 - Network Routing Principles

Portfolio Task – Scenario 1
Credit Task

Introduction

This Network Routing Principles **Scenarios** are a scaffolded approach to preparing you to succeed in your ultimate **Final Skills Assessments**. The **Scenarios** build on skills from previous **Scenarios** until all required components are covered. **Scenario 1-C** extends your configuration from **Scenario 1-P** to add support for a Wireless router and a wirelessly connected PC/device on VLAN1.

Purpose

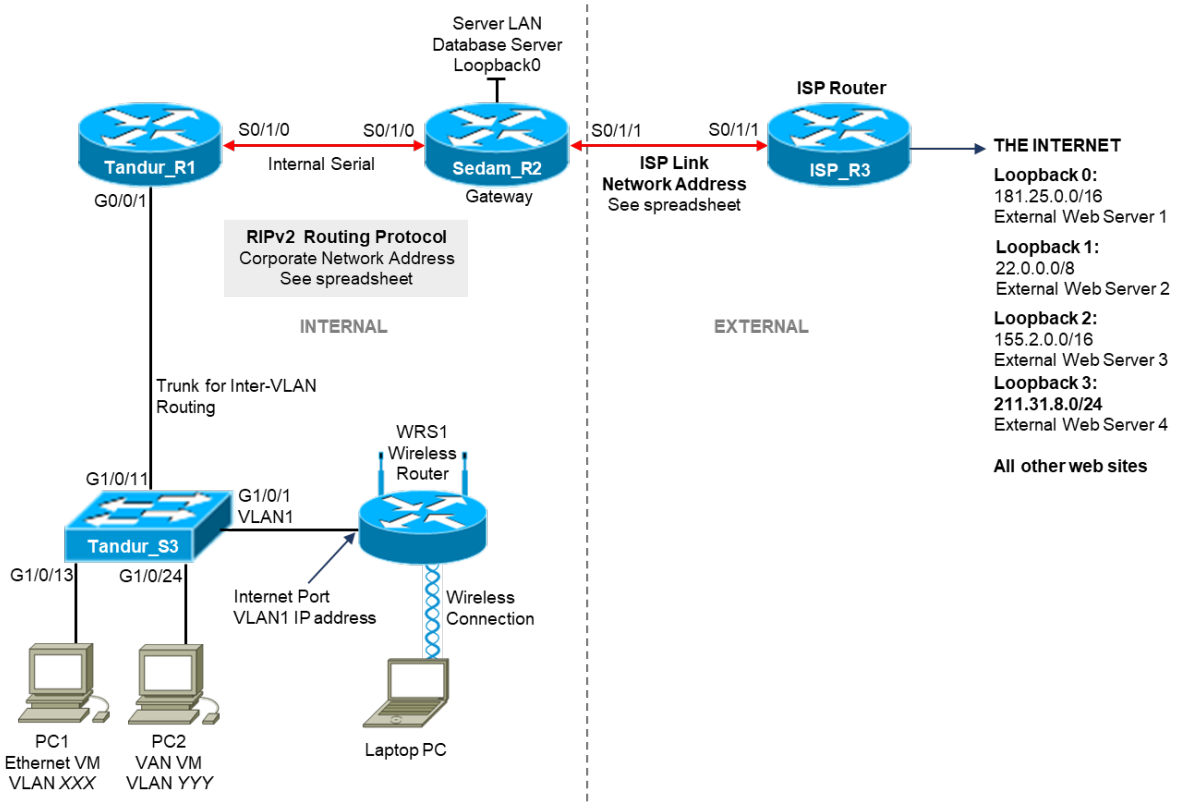
In this **Scenario** you will extend your work from the **Pass Task** by adding support for a wireless LAN.

Methodology

This portion of the handout contains the necessary information to design and build your network. Information on the assessment is at the end of the handout.

Network Topology

The Network topology is displayed in the figure below.



Network Information

As this is an extension of the **Pass Task**, you will not need to recalculate any network addresses of change the basic configuration of your network, you are extending the existing configuration only.

NOTE: Do NOT attempt the Credit Task until you complete the Pass Task

Wireless Configuration Information

This section contains information about how to configure the wireless router and connected devices. You should also refer Wireless Supporting Material A and B

1. Power UP wireless router (get a wireless router from your tutor)
2. Reset it to factory default – push reset button and hold until blue symbols flash
3. Start up PC Ethernet VM, configure to obtain ip address automatically
4. Ethernet Connection – plug blue UTP cable from your PC into any Ethernet port (1 to 4) on the wireless router
5. Open DOS Command Window – type ipconfig /all to confirm PC Ethernet has been obtained an ip address from wireless router
6. Use a Browser to connect to factory default ip address 192.168.1.1 on the wireless router
7. Authentication – username: admin, password: admin

Wireless Router Setup

1. Ensure you always click save at the bottom of each screen
2. Internet Setup
    a. Internet Connection type: static IP
    b. Assign an ip address from VLAN 1 address range
3. Network Setup - DHCP
    a. For Wireless PCs
    b. Use address space for wireless LAN
4. Disable/Enable PC Ethernet LAN connection to pick up a new ip address from Wireless LAN address space
5. Use a Browser to re-connect to new (default gateway) ip address on the wireless router
6. Security
    a. Disable Firewall
7. Wireless Wi-Fi Protected Setup
    a. Wireless Configuration: manual
    b. SSID: student Id

Use a Wireless End Device to connect to the Wireless Router refer below:

1. Look for the wireless tray icon – bottom right, click
2. Associate with the wireless LAN broadcasting your student ID as its SSID
3. Open DOS Command Window – type ipconfig /all to confirm an ip address has been obtained from wireless router
4. From your Laptop PC Ping default gateway on the wireless router to confirm connection is working
5. Wireless Router - Remove blue UTP cable from your PC, get a new blue UTP cable, plug into Internet Port
6. Connect new blue UTP cable to Desk Top coloured enclosure port, then patch from patch panel to appropriate physical port on the required Switch
7. From your Laptop PC Ping to default gateway for VLAN 1 to confirm the connection is working

Wireless Requirements for Scenario

Use the information above to configure the Wireless Router as per the network diagram and the following settings:

1. On WRS1 Wireless Router configure:
    a. Internet Port with VLAN 1 IP address
    b. SSID as W<student id>
    c. DHCP to provide addresses for Wireless LAN PCs and your Mobile Phone
    d. allow inbound ping requests v) Do not configure wireless security

2. Connect a straight through UTP cable between Tandur Switch S3 G1/0/1 (port in VLAN1) and Internet Port (in VLAN1) on Wireless Router
3. VLAN 1 will carry wireless traffic
4. On ISP Router use – debug ip icmp
5. Configure a wireless end device to ping the Internet
6. From Wireless End Device, Ping the Internet

Testing and Evaluation

Once everything is complete, all PCs, switches, and routers should be able to successfully ping all other devices in the network and in the ISP. You should also be able to successfully repeat all these connectivity tests from your wireless device. All tests and requirements from the corresponding **Pass Task** should also function.

Assessment

The Scenario is assessed in class by your Lab Supervisor. When you have successfully configured and tested the Scenario, you will need to demonstrate functionality to your Supervisor. Upon successful demonstration, the Supervisor will ask you 1 or 2 questions about the Scenario in order to confirm that you completed the work and not another student. Upon successfully answering these questions, the Scenario will be marked as complete.

The due date for Scenario 1 is at the start of the Lab in Week 3. As a credit task, you are expected to complete this task on time unless you have a valid extension.

What Happens if I Fail

Failure in this task will result in the maximum possible Base Mark for your Portfolio being 30. Coupled with possible Bonus Marks, non completion will result in an absolute maximum Portfolio mark of 36/60.