Information about Practical Exam (Internal Students)

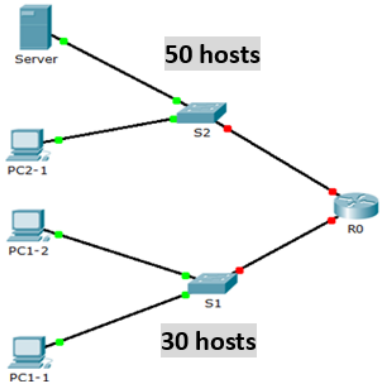
General information

- The practical exam will be conducted in week 13's **practical** class.
- Each student must attend their own enrolled practical class to do the practical exam.
- Zero marks will be given if a student is absent from their own practical class in Week 13 without course coordinator's approval at least a day before the class.
- Make sure you arrive at your class on time. A student who arrives late will be required to submit the practical exam when the class finishing time is reached even if the time limit of the quiz the student is working on has not been reached.
- The practical exam will be conducted in class in a similar fashion to the prac-test in week 5, i.e. using the Learnonline quiz environment, but students will also need to answer some questions in addition to completing Packet Tracer activities. You will be given the descriptions, requirements, and Packet Tracer activity files etc. via the online quiz environment. You will need to follow the instructions to provide your answers to the questions. You will also need to upload the completed Packet Tracer activity files within the environment BEFORE the quiz timer expires. Packet Tracer files submitted outside the quiz will NOT be accepted.
- The practical exam will comprise two parts:
    - **Part 1**: Develop the IPv4 Addressing Scheme based on the given network topology and requirements and answer the relevant questions.
    - **Part 2**: Configure devices as required, test and verify IPv4 end-to-end connectivity; and troubleshoot the given network to fix the problems described
- The duration of the practical exam will be 100 minutes.
- This is an open book assessment. Printing and online materials are allowed, but discussions and communications with others are not allowed.
- Before the practical exam, make sure that you have Packet Tracer (version 7.3.0) installed and tested on the computer in the lab, that you will use for the practical exam.
- During the practical exam, make sure that you follow the instruction by your tutor and the instructions provided in the quiz.
- A student may be given the opportunity to re-sit the practical exam if the student fails the practical exam initially, but the maximum marks a student can get from the re-sit will be 50 out of 100. If such a re-sit is granted, the student will receive an email notification about the details of the arrangement of the re-sit.

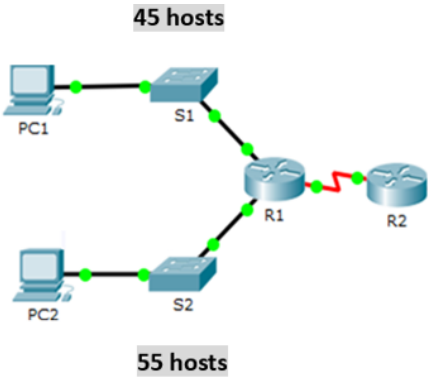
More details of the practical exam

Part 1 (written tasks):

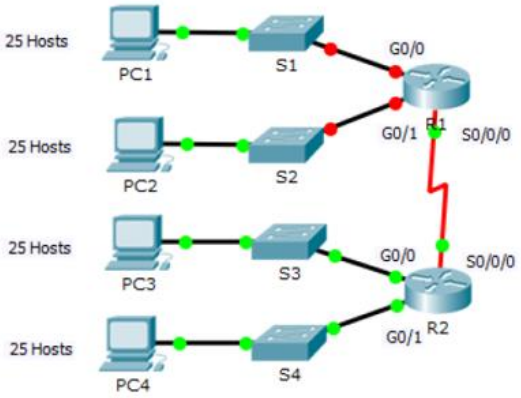
In Part 1 of the practical exam, you will be given a topology diagram of a network similar to one of the networks you've seen in slides and practicals during the study period, such as the examples shown on the next page:



Example 1



Example 2



Example 3

You will also be given a base network address, e.g. 192.168.10.0/24 to subnet based on the given network topology and other requirements such as number of hosts in each subnet.

For the subnetting task, you will be asked to do basic subnetting, i.e. to create equal-sized subnets. VLSM subnetting is NOT required.

Following the subnetting task, you will be asked to assign the subnets to the LANs and possibly WAN links and assign addresses and devices/interfaces respectively according to the given network topology and the requirements,

You may be asked to complete a series of tables and/or answer a series of questions to record the details of your designed subnets and IP address scheme and answer the questions to demonstrate your understanding of IPv4 addressing and subnetting IPv4 networks. (Refer to Week 11 practical and computer practical lab/activities for similar tables and going through the questions asked there will be helpful too.)

Part 2 (mostly PT related tasks):

In the 2nd part of the practical exam, you will be firstly given a Packet Tracer file with a network built in it. Then your task will be configuring the network. This could include configuring the PCs, switch

SVIs and router interfaces with the IPv4 addressing information and configuring the routers and switches with their other settings such as host names and various passwords.

After the configuration, you will be asked to test the connectivity of the devices/interfaces.

Next you will be given another Packet Tracer file that contains a network implementation. You will be required to troubleshoot the network implementation. The description of the problems will be provided, and you will need to identify the causes of the problems and fix the issues.

You may also be asked some questions related to the configurations and troubleshooting and possibly questions about commonly used Cisco IOS CLI commands, such as the various **show** commands.

Note that the Packet Tracer files given to you will have the Check Results button disabled, therefore you will be expected to identify by yourself any issues with your configurations and fix the issues, by using strategies such as checking the configuration against given addressing information, using ping and tracert to test connectivity and locate the problems.

Getting ready for the practical exam

The following suggestions may be helpful for you to get prepared for the practical exam:

1. Practice subnetting using the examples given above. You are encouraged to do more practice using different topologies (which may require different number of subnets and have different requirements on number of hosts in each subnet) and using different base networks for the subnetting. Refer to slides, readings, practicals and computer practicals for more example topologies.
2. Use Packet Tracer to create the networks and configure the networks according to your designed addressing schemes.
3. While you are running through the examples, refer to slides and previous practicals to review how to do the tasks, and collect useful OSI CLI commands and related information, sort them out and write them down.

   Notes: Reviewing all the practicals and computer practicals related to IPv4 addressing and subnetting, especially week 10 and week 11 practicals and computer practicals, as well as week 10 and week 11 slides and readings (particularly the examples on subnetting), could be very useful**. Additionally,** although the practical exam is open book, you will find it very useful to have had some notes in hands when doing the practical exam as you won't have enough time to search the Internet or practical instructions for all information during the practical exam.

4. To familiarise yourself with troubleshooting type of tasks, make sure that you have done the troubleshooting Packet Tracer activities given as part of previous practicals/computer practicals.
5. Ask for help during your preparation, including:
   a. attend the Help Desk session.
   b. see Ronald during his consultation hours, or email him (ronald.mulinde@unisa.edu.au)
   c. post your questions on Course Discussion Forum.