

**Project Based Learning:
Design, and Simulating a Network Environment**
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Project Overview:

Any good network needs continuous monitoring and maintenance. For this purpose, a complete procedure has to be designed. In this project your team will be working in a IT department of a school, college, hospital, bank or any organization. And at the end of the project you will be able to design, and simulate a network system of your chosen organization. (Samples will be provided in the website)

Objectives:

A network upgrade or implementation project affects your budget and your operations, so you want to make sure that you're considering all necessary components and enabling a smooth undertaking with a provider that's fully equipped to meet your needs. The best way to prepare for this effort is to educate yourself on the key aspects of a solid network design.

In this project, you'll learn and get a clear picture of what you need to consider as you assess each problem, and learn how to select one that's poised to return the positive results you're seeking. You will also learn how to design a network and run the simulation to check whether the design is okay or not. Consult this outline of key network design inclusions to determine which design can deliver the most value and fulfill all of your requirements.

Group size:

Your group can have **maximum of 5 people**. But if you are comfortable doing your project alone, you are welcome to do so.

Marks distribution:

Your entire project and presentation contains **15 marks** (Project 15 marks + Presentation 5 marks). So be sure to do your project paper sincerely to achieve a good grade. I will be there always if your group need any help. Just ask for a group meeting schedule on my office room or skype.

Project submission deadline:

Your project submission tentative deadline and presentation day is:

- April 17th, 2019 (Wednesday) – For section A (Class before the last class)
- April 16th (Tuesday) – For section B (Class before the last class)

Requirements of Project paper:

- Chapter 1: Discuss about an IT department and discuss each of your role in the department
- Chapter 2: Overview of your project, definition of networking, need for networking in your chosen sector, why you have chosen your preferred sector? Challenges on your chosen sector, goal of this project.
- Chapter 3: Network Architecture (You can describe existing architectures in other organizations similar to your chosen one)
- Chapter 4: Implementation
- Chapter 5: The design (Planning, Building the network, the final network)
Provide screenshots of each steps of your building the network and screenshot of the final network.
- Chapter 6: Network testing (Real time and simulation both on packet tracer)
Provide screenshots of each steps of your Real time and simulation step. And conclude the results of testing
- Chapter 7: Conclusion and future work.
- **Submit the project paper** (Both hard copy and softcopy with ppt) and **Present the project with your group**

***** Selected papers will be later used for journal publication. I will bear the cost of publication and put all the group members name of the selected papers on the published paper. So I expect your sincerity.***

Samples:

