

Data Communications and Networking

Practical Approach



Nazrulazhar Bahaman :: Erman Hamid

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Preface

Overview

Data communication and networking are one of the fastest growing technologies in our culture today. In a world in which computer networks are involved in nearly every facet of business and personal life, it is paramount that each of us understand the basic features, operations and limitations of different types of computer networks. This understanding will make us better managers, better employees and simply better computer users.

Students wanting to understand the concepts and mechanism underlying data communication and networking come from a variety of academic and professional backgrounds. However, this module is suitable for any student without basic technical knowledge but provides a comprehensive content.

By doing the lab activity, the student will more understand the concept and principle of this subject and get an experience, skills and confidence to create, configure and troubleshooting the basic network using guided and unguided media and some network equipment. The tutorial gives a student opportunity to discuss with their instructor about the topic that they don't understand. Lab test session is to test the student about their knowledge and skills based on what they have done in the lab activity.

Approach

This book is aimed primarily for students who will be taking subjects related to this field. All lab activities are divided into four subtopics which are learning outcomes, introduction, hands-on exercises with step-by-step instruction and self-review questions. This will give the student knowledge about the theoretical background of the lab activity and how to implement the activity by following the procedures.

Chapter Layout

Each chapter begins with a list of objectives. These include the important concepts to be mastered within the chapter. Extensive self-review questions are included at the end of the chapter for self-study. They provide the student with a chance to build confidence with the lab exercises. This book contains 12, Decimal, Binary and Hexadecimal, IPv4 Addressing, IPv4 Subnets, Network Models, Cable Construction, Cable Testing, Workstations, Peer-to-peer Connection, Null Modem Cable Construction, and Basic IPv6