

**INTERNSHIP ON INFORMATION TECHNOLOGY ADMINISTRATION**

**SUBMITTED**

**BY**

**MD.AKTARUZZAMAN SHOZIB**

**ID: 163-15-8338**

This Report Presented in Partial Fulfillment of the Requirements for the  
Degree of Bachelor of Science in Computer Science and Engineering

Supervised By

**Refath Ara Hossain**

Lecturer

Department of CSE

Daffodil International University



**DAFFODIL INTERNATIONAL UNIVERSITY**

**DHAKA, BANGLADESH**

**07 DECEMBER - 2019**

## **APPROVAL**

This Project titled "INTERNSHIP ON INFORMATION TECHNOLOGY ADMINISTRATION", submitted by Md. Aktaruzzaman shozib, ID No: 163-15-8338 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 7<sup>TH</sup> December.

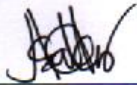
## **BOARD OF EXAMINERS**

---

**Dr. Syed Akhter Hossain**  
**Professor and Head**

Department of Computer Science and Engineering  
Faculty of Science & Information Technology  
Daffodil International University

**Chairman**



---

**Abdus Sattar**  
**Assistant Professor**

Department of Computer Science and Engineering  
Faculty of Science & Information Technology  
Daffodil International University

**Internal Examiner**



---

**Farah Sharmin**  
**Senior Lecturer**

Department of Computer Science and Engineering  
Faculty of Science & Information Technology  
Daffodil International University

**Internal Examiner**



---

**Dr. Md. Saddam Hossain**  
**Assistant Professor**

Department of Computer Science and Engineering  
United International University

**External Examiner**

## DECLARATION

I hereby declare that, this internship report is prepared by me, Md. Aktaruzzaman Shozib, ID No: 163-15-8338 to the department of Computer Science and Engineering, Daffodil International University. Under the supervision of Refath Ara Hossain, Lecturer, Department of CSE, Daffodil International University. I also declare that neither this internship report nor any part of this internship report has been submitted elsewhere for award of any Degree or Diploma. I also declare that, I collect information from EXIM Bank Limited, Data Center and Internet Service Provider (ISP) Based Company, Books and Internet.

**Supervised by:**

Refath · 28.11.2019

Refath Ara Hossain

Lecturer

Department of CSE

Daffodil International University

**Submitted by:**

Shozib  
MD: Aktaruzzaman Shozib

ID: 163-15-8338

Department of CSE

Daffodil International University

## **ACKNOWLEDGEMENT**

In the first place I express heartiest thanks and thankfulness to all-powerful God for His celestial gift makes us conceivable to finish the Final year internship effectively. I am appreciative to Mr. Shahidur Rahman, Vice President of EXIM Bank Limited. I am additionally appreciative to Mr. Mohammad Noman, In charge of IT, (Network & Training) of EXIM Bank Limited. Without their constant help I can't precede with my Internship in the organization. Different individuals from the organization helped me immensely to do my Internship.

I extremely appreciative and wish significant obligation to Refath Ara Hossain, Lecturer, Department of CSE Daffodil International University, Dhaka. Profound Knowledge and unmistakable fascination of administrator in the field of "IT and Network Administration" to do this entry level position. Her unending tolerance, insightful direction, persistent consolation, consistent and lively supervision, productive feedback, significant guidance, perusing numerous second rate draft and revising them at all stage have made it conceivable to finish this Internship.

I might want to offer heartiest thanks to Dr. Syed Akhter Hossain, Professor and Head, Department of CSE, for his kind help to finish my internship and also to other faculty member and the staff of CSE department of Daffodil International University.

## **ABSTRACT**

I need to build the quantity of PC's and trade information or data starting with one then onto the next that time I require some extraordinary PC's are called Server. If two and more PCs are interconnected and ready to trade information or data, then we call Network. There is different kind of work in the system that is the reason additionally unique sorts of server have. For Example-DSN Server, Web Server, Mail Server, Proxy Server, FTP Server, Firewall. Every one of them works contrastingly and without them it is difficult to keep up a system. I pick this subject of my report is "INTERNSHIP ON INFORMATION TECHNOLOGY ADMINISTRATION ". The report talked about the reason for the particular server utilizing on ISP, equipment necessity for the server, picking programming and establishment procedure of the product, well ordered server setup process and straightforward investigating of the server.

## TABLE OF CONTENTS

<b>CONTENTS</b>	<b>PAGE NO</b>
Approval	i
Declaration	ii
Acknowledgement	iii
Abstract	iv
Table of contents	v
List of figure	vi
<b>CHAPTER 1: INTRODUCTION</b>	<b>1-3</b>
1.1 Introduction	1
1.2 Motivations	1
1.3 Internship Objectives	1
1.4 Introduction to the Company	2
1.5 Report Layout	3
<b>CHAPTER 2: INTERNSHIP ORGANIZATION</b>	<b>4-6</b>
2.1 Company Introduction	4
2.2 Services and Market Situation	4
2.3 SWOT Analysis	5
2.4 Organizational Structure	6
<b>CHAPTER 3: EXERCISE , EVENTS AND ACTIVITIES</b>	<b>7-18</b>
3.1 Daily Task and Activities	7
3.2 Computer Networking	8
3.3 Port-Base or Port Centric VLAN	9
3.4 Switch	10

3.5 Router	11
3.6 Methodology	12
3.7 TCP/IP model initially	13
3.8 Project Task and Activities	14
3.9 Access Control List	16
3.10 Challenges	18
<b>CHAPTER 4: COMPETENCIES AND SMART PLAN</b>	<b>19-19</b>
4.1 Competencies Earned	19
4.2 Smart Plan	19
4.3 Reflections	19
<b>CHAPTER 5: CONCLUSION AND FUTURE CAREER</b>	<b>20-20</b>
5.1 Discussion and Conclusion	20
5.2 Scope for Further Career	20
<b>REFERENCES</b>	<b>21</b>
<b>APPENDICES</b>	<b>22-22</b>
Company Detail	22

## LIST OF FIGURES

<b>FIGURES</b>	<b>PAGE NO</b>
Figure 2.1: Organizational Structure	6
Figure 3.1: Port-Based or Port Centric	9
Figure 3.2: Switch	10
Figure 3.3: Router	11
Figure 3.4: The OSI reference model	12
Figure 3.5: TCP/IP model initially	13
Figure 3.6: Static Router configure	14
Figure 3.7: ACLs work in Router	16
Figure 3.8: Virtual Local Area Network	17



# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Day by day our country is moving toward improvement and our country has become a digital country. And the biggest contributor to making this digital country is e-commerce, online shopping business. The online shopping or e-commerce is most needed in the banking sector, and bank offers many services such as banking online transaction, ATM, debit card, credit card access etc. Bank admits all their candidates through training exams and hard work. So that is why the officials of the bank members are very expert. Bank jobs are lot of gorgeous and smart so that is why everyone likes the bank job

### 1.2 Motivation

The Banking sector is a very challenging sector for career. The Internship teaches me how I can work in the banking sector. And internship teaches me weather I am perfect in the banking sector or any others corporate sector. The internship gives me eight (8) to ten (10) hours working experience and that will at a lot to my end of study. Internship is a one kind of a job. This four-month internship will teach me something that will benefit me a lot for my next job life. This internship teaches me how to become a skilled employer and skilled leadership and how to get off the teamwork. I always try to get something good from an internship that will take me to the forefront and help me do something better.

### 1.3 Internship objective

Main objective of the Report:

- ✓ Get a better understanding of how networking works in the banking sector.
- ✓ Brief understanding about the banking sector.

- ✓ Types of banks operating in Bangladesh
- ✓ Brief understanding about various departments of bank.
- ✓ Knowing the responsibilities of an IT officer.
- ✓ Comparative study about the differences between Shariah Based Banking and Conventional Banking
- ✓ Customers' expectations and satisfaction levels on services provided by banks.

## **1.4 Introduction to the Company**

Export Import Bank of Bangladesh Limited is one of the leading private commercial Bank in Bangladesh. EXIM Bank well believes in their work and business policy. They make their business smaller. EXIM bank is an example of great leadership and teamwork. EXIM bank always takes care of their employer, partner, government investor and customer. EXIM Bank was first recognized as an Islamic bank in 2004. Exim bank is always involved in their social activities. EXIM bank always helps poor talented students by their education. EXIM bank established their foundation in 2006. EXIM Bank always strives to spend their money and good work. Their customers are increasing day by day for better service of EXIM bank.

## **1.5 Report Layout**

In the chapter (1) I showed in chapter 1 introduction, inspiration of internship, internship object and foreword to the association.

In the chapter (2) I showed in chapter 2 the company introduction, bank organization and banking weakness, strangeness and threats.

In the chapter (3) I showed in chapter 3 how to exercises, Events and work of internship.

In the chapter (4) I showed in chapter 4 expertness earned, Smart Plan, and Reflections.

In the chapter (5) I showed in chapter 5 Conclusion and Future Scope

## **CHAPTER 2**

### **INTERNSHIP ORGANIZATION**

#### **2.1 Company introduction**

After our independence from Pakistan, apart from the foreign Banks all the commercial Banks were nationalized. In 1983, the government of Bangladesh gave permission to establish private Banks in this country. After this regulation most of these nationalized Commercial Banks were shifted into the private sector. Many private Banks were established in this country. EXIM BANK emerged as Islamic Bank on 1st July 2004. The Banks rules and procedures are based on” ISLAMIC SHARIAH” of course; the DHANMONDI Branch was Islamic Branch from its opening. Recently the EXIM Bank offered shares.

#### **2.2 Service and Market Situation**

EXIM Bank has introduced the following schemes:

- ✓ Deposit Account.
- ✓ Saving Scheme-Money Grower
- ✓ Income Scheme-Steady Money
- ✓ Super Savings-Double in 6 Years.
- ✓ Multiple Savings-More than Triple in 10 Years.
- ✓ Credit Card
- ✓ Currency Deposit A/C.
- ✓ Investment scheme
- ✓ Hire purchase bankroll
- ✓ Real Estate fund

## 2.3 SWOT Analysis

SWOT Analysis has been guided for Export Import Bank of Bangladesh Ltd. This investigation summarizes the original of expression from the business situation and the skillful capability of EXIM bank Ltd, those are more impact on strategy development.

### STRENGTHS:

- Earned good reputation among customers and regulators within a very short period.
- Get elevated quite quickly in all orbit of banking services.
- Gives relatively higher return on freezing in protecting system than other banks.

### WEAKNESSES:

- Moderate announcement and propagation of bank's manufacture and activities.
- Does not provide proper customer care compared to competitor.
- Lacks experienced competent as well as proficient manpower in some departments.

### OPPORTUNITIES:

There are 7s framework for business success of Exim Bank Bangladesh Ltd.

The part three elements-

- Strategy
- Structure
- System

### THREATS:

- Sate has been regulating manufactured exploit
- The picking of Taka against US dollar is a high impendence to alien exchange agreement and profitability.
- The action of making struggle in the handicraft.

## 2.4 Organizational Structure

EXIM Bank is organized as per the existing business locations. In below fig 2.1 shows the organizational structure

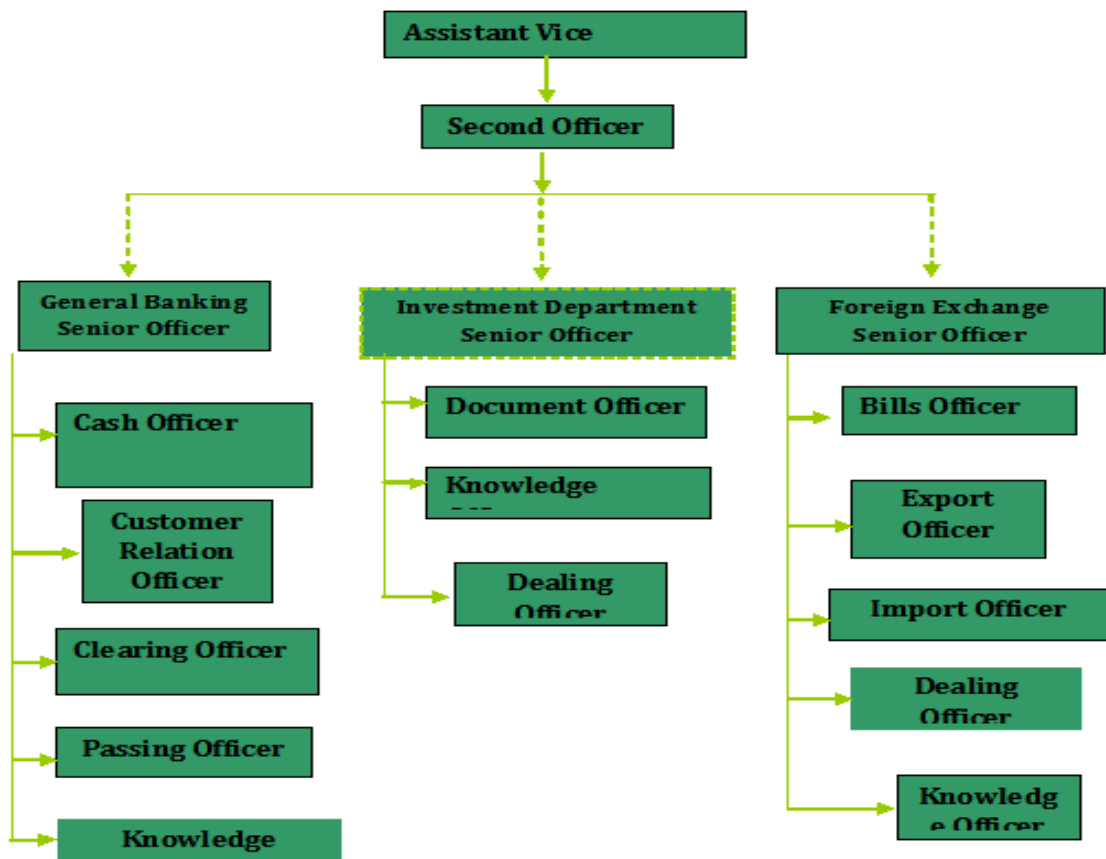


Figure 2.1: Organizational Structure of EXIM Bank

## CHAPTER: 3

### EXERCISE , EVENTS AND ACTIVITIES

#### 3.1 Daily Task and Activities

##### Basic Router Configurations:

Set router clock to the current date and time

```
Router#clock set 03:35:00 13 mar 2019
```

```
Router#show clock
```

```
*3:35:3.965 UTC Wed mar 13 2019
```

- Configuring the router hostname to NB1

```
Router(config)#hostname NB1
```

- Set Banner Message of the Day to *Unauthorized Access Prohibited!*

```
NB1(config)#banner motd #Unauthorized Access Prohibited! #
```

- Newly-entered passwords must have a minimum length of 6 characters.

```
NB1(config)#security passwords min-length 6
```

- Protect device configurations from unauthorized access with the encrypted password. Set the password to Ars@321.

```
NB1(config)#enable secret Ars@321
```

- Secure all the ways to access the router. Set the passwords to Ars@321.

- Prevent all passwords from being viewed in clear text in device configuration files.

```
NB1(config)#service password-encryption
```

- Prevent device status messages from interrupting command line entries at the device console.

#### 3.1.1 Review of relevant literature

A conferred network be able to separate by the pattern of data inspiration term in use on it by if it bearing voice data or both manner of signals by who can conduct the network by the current substance of its conjunction.

The streaming system to be conventional way of repeated:

- ✓ Transition send branch office to head office by manually.
- ✓ Requirement extra charge for inspiration because of manually dispatch.
- ✓ Period based inspiration.
- ✓ Subordinate safety system.
- ✓ Data bearing or shifting by human.
- ✓ User unrelated because of clam method.
- ✓ Too much complex to sustain.

## 3.2 Computer Networking

A computer network is a group of inter connection computers to share resources, exchange files or allow communication. A computer network is a system in which two or more computers are connected using cable or wireless technology to sending and receiving data for the purpose of communication. In the computer network, we share our resources and these resources can be in the form of hardware and software.

## 3.3 Port-Based or Port Centric VLAN

Configure Trunking on SB1DLSW, SB1ALSW1 and SB1ALSW2 Trunking ports for SB1DLSW, SB1ALSW1 and SB1ALSW2 are all ports attached to another switch or router. Set all trunking ports to trunk mode, and assign VLAN 6 as the native VLAN. On SB1DLSW, configure port Fa0/1-4 and Gig1/1 as trunk port. The range command greatly reduces the amount of repetitive commands you must enter when configuring the same commands on multiple ports.

```
SB1DLSW(config)#int range g1/1, f0/1-4
```

```
SB1DLSW(config-if-range) #switchport mode trunk
```

```
SB1DLSW(config-if-range) #switchport trunk native vlan 6
```

```
SB1DLSW(config-if-range) #exit
```

On SB1ALSW1, configure port Fa0/1-4 as trunk port. SB1ALSW1(config)#int range f0/1-4

```
SB1ALSW1(config-if-range) #switchport mode trunk
```



```
SB1ALSW1(config-if-range) #switchport trunk native vlan 6
```

```
SB1ALSW1(config-if-range) #exit
```

On SB1ALSW2, configure port Fa0/1-4 as trunk port. SB1ALSW2(config)#int range f0/1-4

```
SB1ALSW2(config-if-range) #switchport mode trunk
```

```
SB1ALSW2(config-if-range) #switchport trunk native vlan 6
```

```
SB1ALSW2(config-if-range) #exit [1]
```

In below fig 3.1 shows the Port Based or Port centric VLAN.

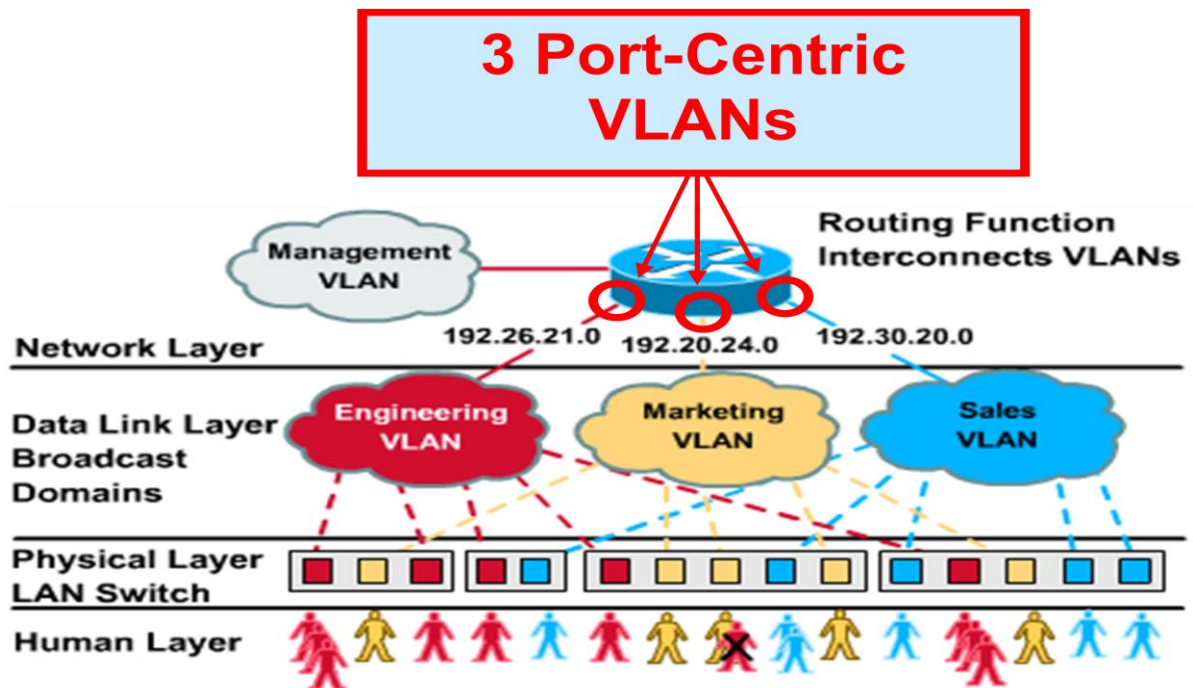


Figure 3.1: Port-Based or Port Centric VLAN

### 3.4 Switch

A Network switch is used to connect the network devices or network segment. It is such kind of telecom device which receives message and then sends them to the targeted receivers. A network switch is networking hardware that connects devices on a computer network by using packet switching to receive and forward data to the destination devices. A network switch is a multiport network bridge that uses media access control addressing to forward data at the data link layer of OSI model. [2] In below fig 3.2 shows the switch.

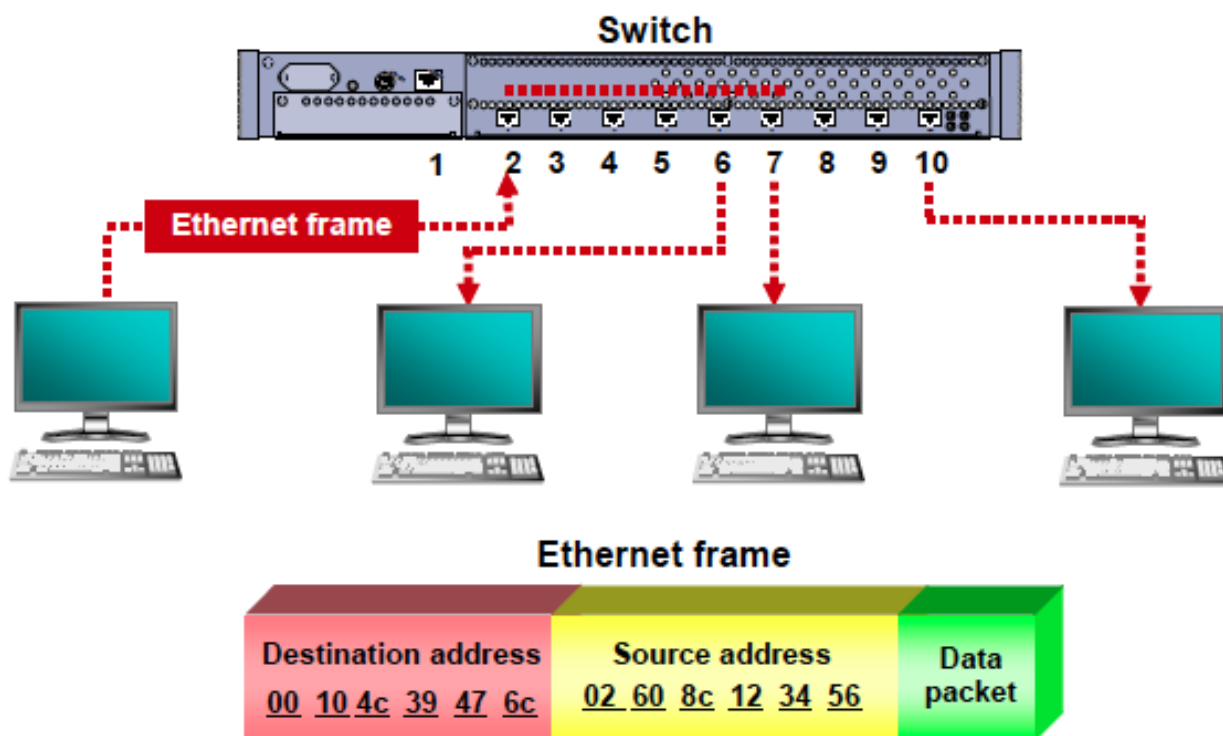


Figure 3.2: Switch

### 3.5 Router

Router is a device which makes communication possible between two or more different networks present in different geographical location.

- It is an internetworking device used to connect to or more different networks.

- It works on layer 3 i.e. network layer
- It acts as a Gateway
- It has an operating system

In below fig 3.3 shows the Router.

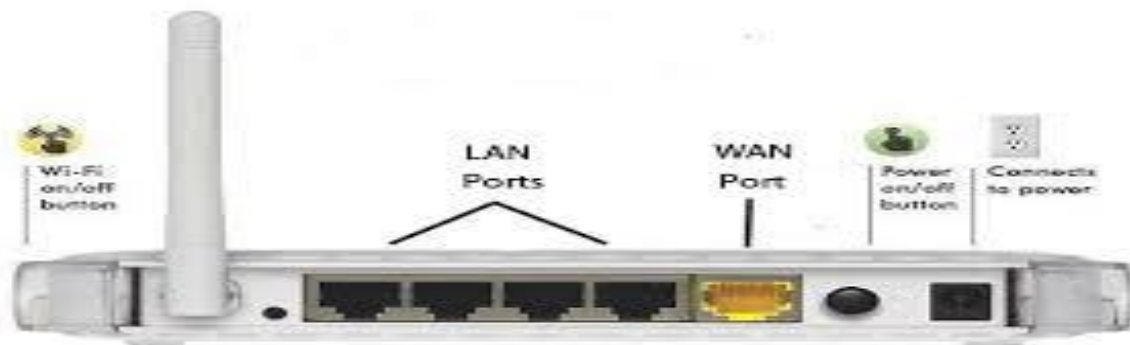
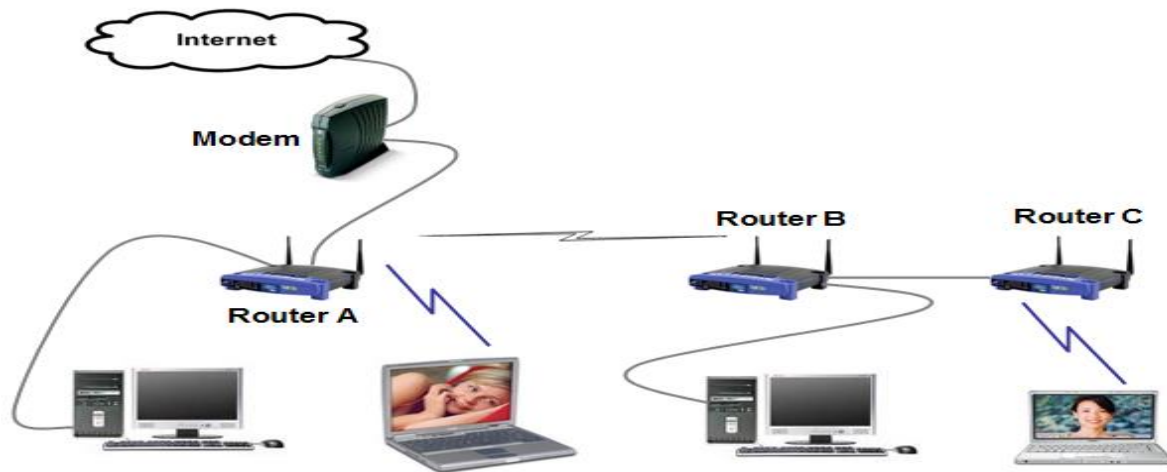


Figure 3.3: Router

### Features of Router

- ✓ Path to destination
- ✓ Network traffic & Collision free protocol
- ✓ Data rate/transmission cost
- ✓ Working in Network layer & Creates broadcast domain
- ✓ Usually Big Network.

### 3.6 Methodology

In this project “Network Structure & Security of Banking System” consult the whole banking network constitution and several security protectors. We are observation in the various bank and gather some data or knowledge.

The Open System Interconnection (OSI) layer was initiated by the International Organization for Standardization in 1984. In command to provide a mention model to make sure manufacture of different counterman would interoperation in networks. Open System Interconnection (OSI) is summarized for unclose Systems Interconnection. Data dispatched between software project permission all 7 layers. [3] In below fig 3.4 shows the OSI reference model.

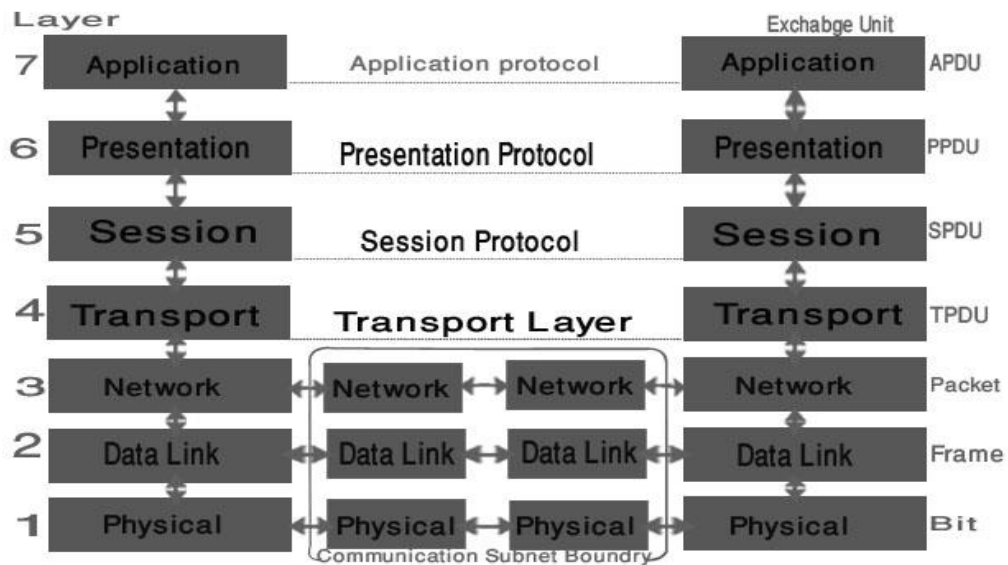


Figure 3.4: The OSI reference model.

### 3.7 TCP/IP Network Model

- Application
- Transport
- Network
- Data link
- Physical

In below fig 3.5 shows the TCP/IP Network Model

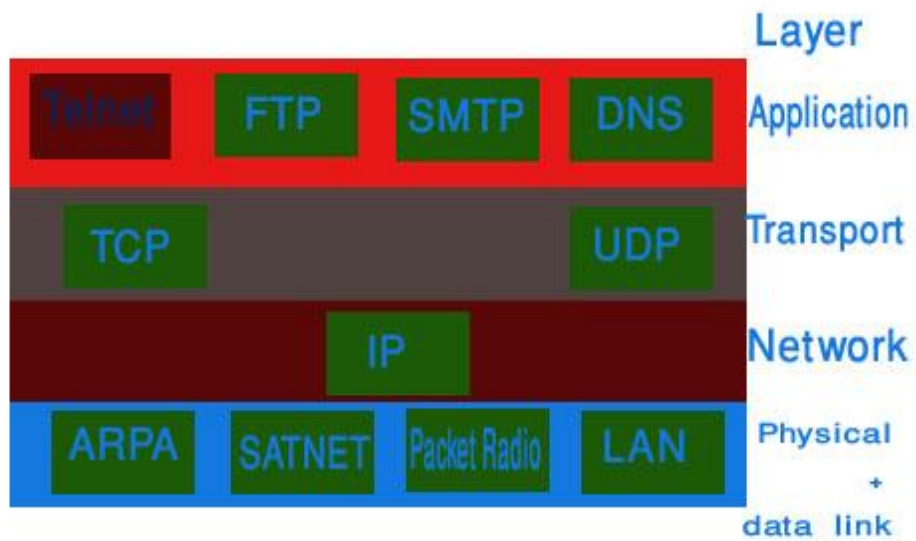


Figure 3.5: Protocol and networks in the TCP/IP model initially.

### 3.8 Project Task and Activities

Static router configuration:

In below fig 3.6 shows the Static router configuration

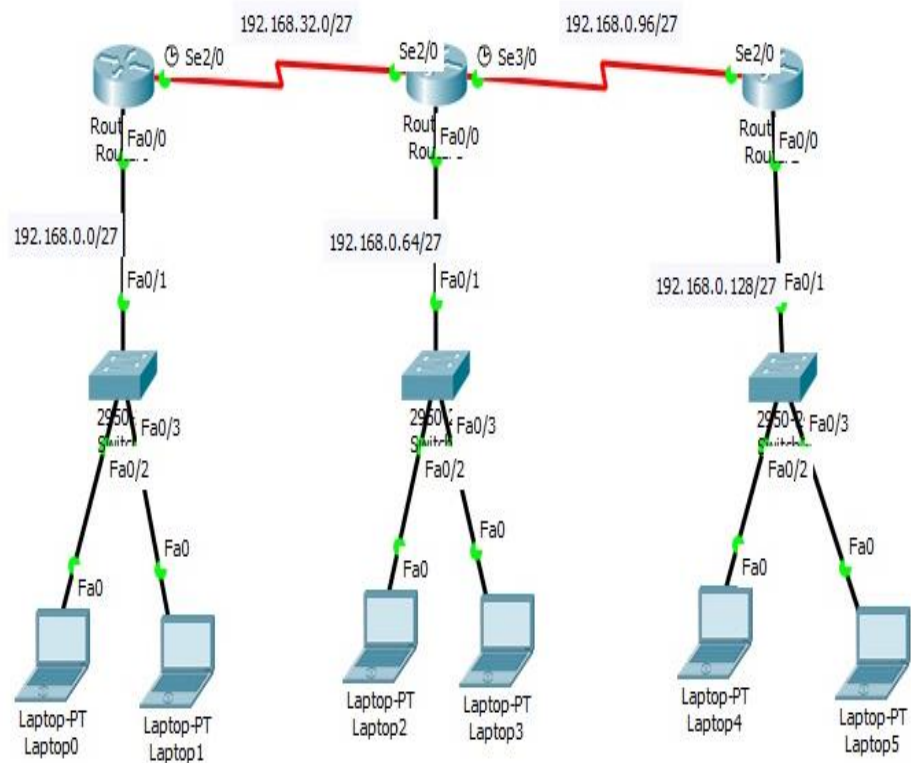


Figure 3.6: Static Router configure

```
Rashedul.1>
Rashedul.1>ena
Rashedul.1#
Rashedul.1#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Rashedul.1(config)#
Rashedul.1(config)#
Rashedul.1(config)#int fa0/0
Rashedul.1(config-if)#ip add 192.168.0.1 255.255.255.224
Rashedul.1(config-if)#no shut
Rashedul.1(config-if)#int se2/0
Rashedul.1(config-if)#ip add 192.168.0.33 255.255.255.224
Rashedul.1(config-if)#clock rate 64000
Rashedul.1(config-if)#no shut
Rashedul.1#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Rashedul.1(config)#ip rout 192.168.0.64 255.255.255.224 192.168.0.34
Rashedul.1(config)#ip rout 192.168.0.96 255.255.255.224 192.168.0.34
Rashedul.1(config)#ip rout 192.168.0.128 255.255.255.224 192.168.0.34
Rashedul.1(config)#^Z
Rashedul.1#copy run start
Destination filename [startup-config]?
```

```
Rashedul.2>ena
Rashedul.2#
Rashedul.2#
Rashedul.2#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Rashedul.2(config)#int se2/0
Rashedul.2(config-if)#
Rashedul.2(config-if)#ip add 192.168.0.34 255.255.255.224
Rashedul.2(config-if)#no shut
Rashedul.2(config-if)#int fa0/0
Rashedul.2(config-if)#ip add 192.168.0.65 255.255.255.224
Rashedul.2(config-if)#no shut
Rashedul.2(config-if)#int se3/0
Rashedul.2(config-if)#ip add 192.168.0.97 255.255.255.224
Rashedul.2(config-if)#clock rate 64000
Rashedul.2(config-if)#no shut

Rashedul.2(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
Rashedul.2(config-if)#^Z
```

---

### 3.9 Access Control List

An access control list (ACL) with respect to a computer file system, a list of permissions attached to an object.

An ACL specifies which users or system processes are granted access to object, as well as what operation are allowed on given object.

Each entry in a typical ACL specifies a subject and an operation. [4] In below fig 3.7 shows the ACLs work in Router Interfaces.

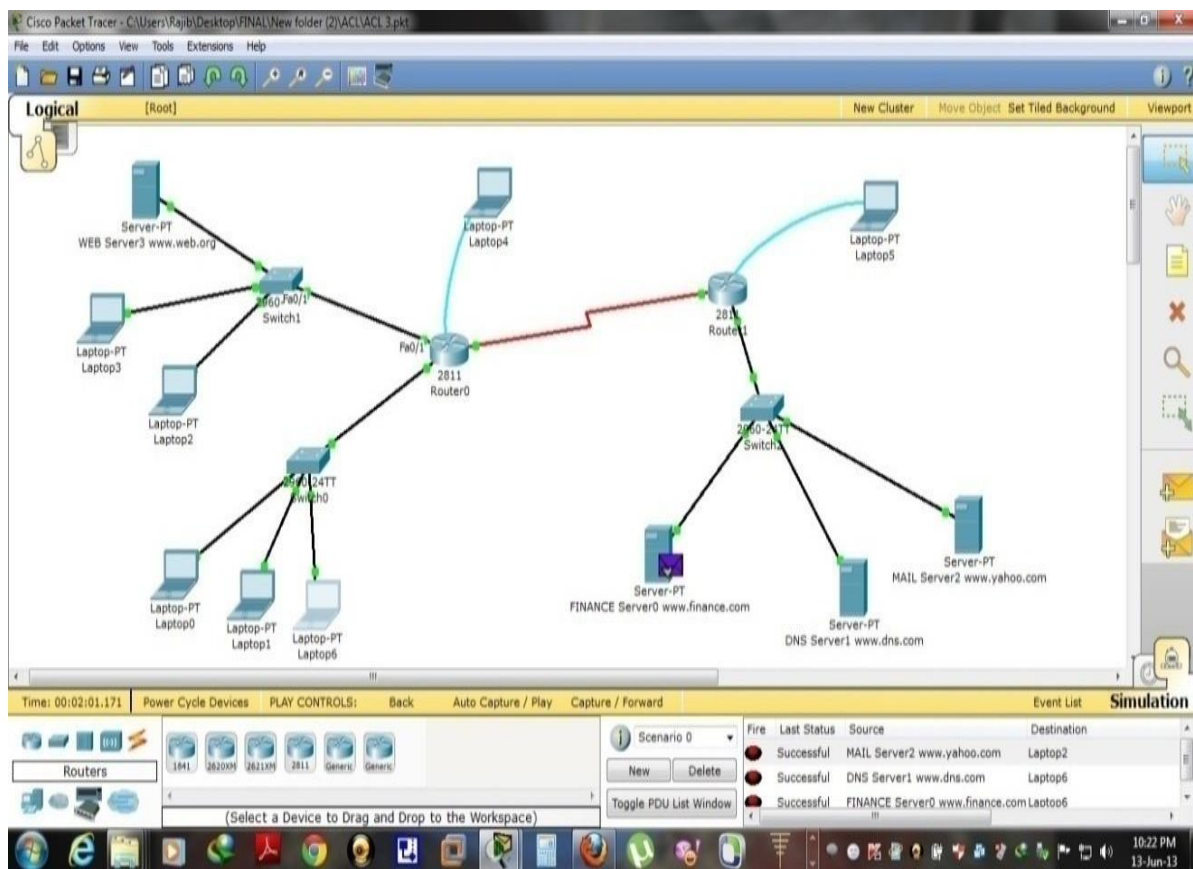


Figure 3.7: ACLs work in Router Interfaces



### 3.9.1 Virtual Local Area Network (VLAN)

- Static membership VLANs are called port-based or port centric membership VLANs.
- As a device enters the network, it automatically assumes the VLAN membership of the port to which it is attached.
- The firm administration can manually change that port assignment on switch that employee assign a VLAN.
- All other ports on the switch may be reassigned to alternate VLANs. [5]

In below fig 3.8 shows the Virtual Local Area Network.

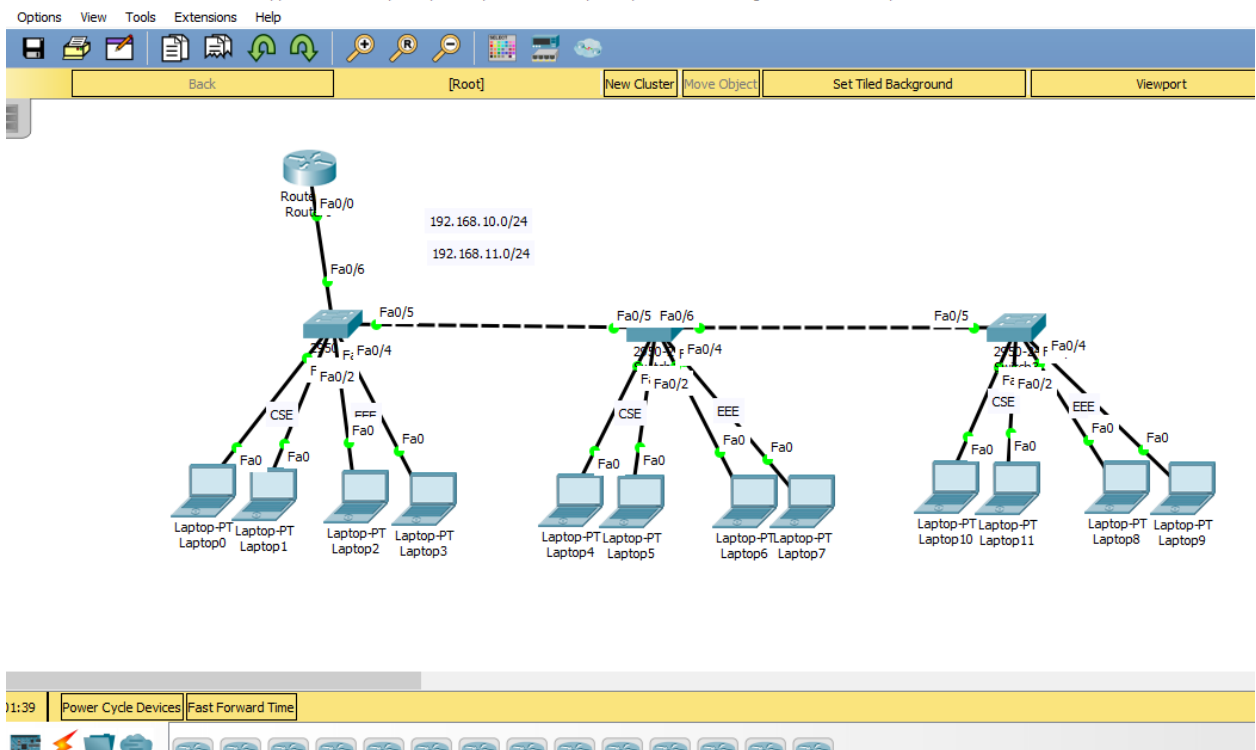


Figure 3.8: Virtual Local Area Network

### 3.9.2 VLSM

- ❖ VLSM stands for variable length subnet mask.

- ❖ VLSM is also a technique as same to sub-netting.
- ❖ VLSM allows network engineers to divide an IP address space into a hierarchy of subnets of different size.
- ❖ Making it possible to create subnet with very different host counts without wasting large number.

### 3.10 Challenges

Network Address Translation (NAT) is a widely-used solution to the shortage of IP addresses. NAT introduces the concept of a "private" IP address that is valid only within a Local Area Network (LAN) and must be translated to the "public" IP address that's used on the Internet. With NAT, we can have multiple private IP addresses share a single public IP address, thus delaying the need to deploy long-term solutions to the shortage of IP addresses. A related but somewhat different concept to NAT is Port Address Translation (PAT). PAT allows incoming sessions, that are initiated from an external host, to map to a specific internal host and port.

#### ➤ Configuration of NAT

- ✓ Define an access-list named NAT-SOURCE that will match the inside private IP addresses

- ✓ Configure PAT

About Wireless Router: A wireless router is a device that performs the functions of a router and also includes the functions of a wireless access point. It is used to provide access to the Internet or a private computer network. Depending on the manufacturer and model, it can function in a wired local area network, in a wireless-only LAN, or in a mixed wired and wireless network.

## **CHAPTER 4**

### **COMPETENCIES AND SMART PLAN**

#### **4.1 Competencies Earned**

Learning expected Outcomes Introduce and Configure programming establish design and test organize Employer serving. Besides, firm with the learning outcome, the Internship playing Supervisor will allow introduction regarding documentary contrivance and methodology.

#### **4.2 Smart Plan**

Networking internships are a must of all organization to work well in networking. If all the organizations work well with smart plan, they will go out and more towards brilliant arrangement. The smart plan is to use all the experience and more ahead efficiently.

#### **4.3 Reflections**

They operate with numerous typical program and international confederation and acquire the frame. They are managing the latest technologies and upgrading the services wherever it is necessary. They are Collective Network Solution department is efficient to bargain state of art network and telecommunication solutions with an extremely expert technical sagacity community.

## **CHAPTER 5**

### **CONCLUSION AND FUTURE CAREER**

#### **5.1 Discussion and Conclusion**

I have discovered that one of the principle issues and time administration aptitudes and in addition self-inspiration. When I initially began I worked eight hours per day. Better to learn how to configure computer programming routers, router configuration, network configuration, and networking operating system under gains expertise about everything. Internship skills are achieved in the networking sector.

#### **5.2 Scope for Further Career**

Career opportunities are approachable in several zones underneath Linux. The occupational inception in Linux accents not just the Linux stage, it depth part of several regions kind of. Desktop Appeal Development, Nucleus and a Device Drivers improvement nowadays their cannibalistic request tile source programming's and the shard source programming planner and system engineers.

## REFERENCES

- [1] “CCNA Study” <https://www.cisco.com/c/en/us/training-events/training-certifications/certifications/associate/ccna-routing-switching.html> [last accessed: August 10, 2019 at 10.00 pm].
- [2] “Computer Network Device” <http://basic-networking.blogspot.com/2007/08/computer-network-devices-and-component.html#HDR3> [last accessed: August 17, 2019 at 09.00 pm].
- [3] “Stuttgart” <http://www.ba-stuttgart.de/~schulte/html/55771.html#HDR3> [last accessed: September 27, 2019 at 07.00 pm].
- [4] “Cisco network” [http://cisco.com/univercd/cc/td/doc/cisintwk/ito\\_doc/ethernet.htm](http://cisco.com/univercd/cc/td/doc/cisintwk/ito_doc/ethernet.htm) [last accessed: October 12, 2019 at 11.30 pm].
- [5] “Virtual Local Area Network” <http://virtual-networking.blogspot.com/2007/08/computer-network-devices-and-component.html> [last accessed: November 10, 2019 at 11.00 pm].

## APPENDICES

### Bank Details:



Name	Export Import Bank of Bangladesh Limited
Address	Ring Tower, Industrial Plot No. 06/A, Ring Road, Mohammadpur , Dhaka
Telephone	02 9129421, 9129504, 017 7776340
Routing Number	100263976
Fax	02 9129341
E-mail	ringroad@eximbankbd.com
Website	www.eximbank.com

