

**AN INTERNSHIP ON NETWORKING & TROUBLESHOOTING IN  
COMPUTING SYSTEMS**

**Submitted By**  
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A Project Report Submitted in partial fulfillment of the requirements for  
the Degree of Bachelor of Science in Computer Science & Engineering

Supervised By

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**DAFFODIL INTERNATIONAL UNIVERSITY**  
**DHAKA, BANGLADESH**  
**2020**

## Approval

This internship report of “An internship on networking & troubleshooting in computing systems ” submitted by **MD TAMIM(172-15-9978 )** to the department of Computer Science and Engineering, Daffodil International University (DIU) has been accepted as satisfaction for the partial fulfillment of the requirement for the degree of bachelor science in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 8october 2020.

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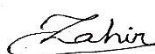
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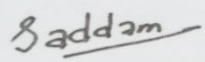
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## DECLARATION

I hereby declare that, this internship report is prepared by me, **Md Tamim**, ID No: **172-15-9978** to the Computer Science and Engineering Department, Daffodil International University. Under the supervision of **Md.Riazur Rahman**, Senior Lecturer, Department of CSE, Daffodil International University. I also declare that not this internship report or any part of this internship report has been submitted elsewhere for award of any Degree. I also declare that, I collect information from the internet and books.

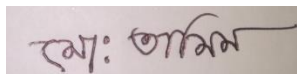
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## ACKNOWLEDGEMENT

First I express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project/internship successfully.

I really grateful and wish our profound our indebtedness to **Supervisor Riazur Rahman, Senior Lecturer**, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keep interest of our supervisor in the field of Networking” to carry out this project. He endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior draft and correcting them at all stage have made it possible to complete this project.

I would like to express our heartiest gratitude to **Dr. Syed Akhter Hossain, Professor and Head, Department of CSE**, and Head, Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

I would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, I must acknowledge with due respect the constant support and patients of parents.

## ABSTRACT

As a student of CSE, I have completed my internship report in Bank Network Connectivity Monitoring System. The report is a requirement of the internship program for my Bachelor of Science course degree. An organization is a lot of gadgets associated by correspondence joins. A hub can be a PC, printer, or some other gadget fit for sending or potentially getting information produced by different hubs on the system. Presently today an enormous number of individuals everywhere throughout the world utilization web innovation with their hesitate life. Along these lines, the systems administration is such a great amount of momentous in our advanced life. Nowadays a-days each and every individuals, business and web based business, each work station is completely relying upon programming based correspondence and web technology. Computer framework and fringe are associated with structure a system. They give different focal points, for Example- video gathering ,messaging, , and sharing data by utilizing ,utilizing dynamic website pages.

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# Chapter 1

## Introduction

### 1.1 Introduction

This is the age of information technology. Without a server, we can't do anything about internet connection.

Currently, each business deals with software-based communication and Internet technology. Security on the internet and on local area network is now at the computer related issues.

Internship Program of daffodil international university is under-Graduation requirements for the CSE students. This investigation is a fractional necessity to the entry level position program of CSE educational plan at the daffodil global college. The primary motivation behind temporary job is to get the understudy presented to the activity world. Being an understudy, the principle challenge was to make an interpretation of the hypothetical ideas into genuine experience. Network security is the very method by which digital data resources are secured, privacy protection and availability are the most important security objectives. With this in mind, to optimize a company's value, it is important that all networks are secured against threats and vulnerabilities.

### 1.2 Motivation

In the study period, mostly understudy increase hypothetical learning yet now daily, in the activity market is not a viable alternative for rule work involvement. Hence, before landing into position, understudy ought to have some certifiable work involvement in the significant field of concentrate on the profession decision that interests him/her. The information and experience are gain from working at an organization helps anybody when it comes time to achieve an all day specialist. The real focuses to offer Internship at DIU are as following, Students break free from the hypothetical universe of reading material and class courses and lead into this present reality of uses of learning.Helping understudies to express constancy, activity,

creativity and polished methodology in the undertakings they are allocated. The proficiency in working in gatherings and under higher experts is tried during this course.

### **1.3 Internship Objectives**

Internship is a program that upgrades the capacity of the alumni and a degree to do commonsense works in an association identified with the understudy's major to pick up the work involvement. Daffodil International University offers a 06-acknowledge course as Internship for the graduating understudies in its course instructive program with the objective of enabling understudies to come into contact with certifiable applications concerning the learning and aptitudes grabbed in both theoretical and rational courses of the school. As the outside world is especially engaged for anyone after graduation, Internship gives the understudy phenomenal open entryway in the organization world and to get prologue to various extensions of the organization world. The passage level position period is for at any rate three months. Collaborator understudies are coordinated under a particular worker all through their impermanent activity period. Besides, the assignment gets movement by sticking to the Supervisor's direction. Understudy exhibits a report on his/her endeavor work. A passage level position is an opportunity to get some answers concerning how a business wears down both a colossal scale and on an ordinary reason. We may find welcome us the calling and need to look for after it, or we may come to comprehend that it's not what we at first predicted, and pick we have to look for after a substitute calling. Choosing a definitive and trained choice about our job route should be a target of passage level position understanding.

### **1.4 Introduction to the Company**

In Bangladesh, Rupali Bank Ltd is a stateowned commercial bank. It is a small form of business that is public. The bank is traded as DSE: RUPALI BANK. It alls within the banking sector and is known as an institution of financial services. Rupali Bank Limited is one of Bangladesh 's oldest banks, founded 47 years ago in 1972, right after the country gained independence. Rupali Bank's headquarters are located at 34 Dilkusha Commercial Area, Motijheel, Dhaka1000. There are a total of 565 branches both within and outside the capital of Dhaka in the entire country to date. The area covered by the bank is the entire region of Bangladesh. The Chairman of Rupali Bank

Ltd. is Mr. MonjurHossain. The Managing Director of thebank is Mr. AtaurRahmanProdhan. The bank's number of current workers is over 5150.

### **1.5 Report Layout**

The organization of my report is assorted by 5 chapters.

Chapter 1: Discussion about Introduction, Motivation, Internship Objectives, Introduction to the Company and Report Layout.

Chapter 2: About Introduction to Rupali Bank Ltd (RBL), Product and Market Situation, Target Group, SWOT Analysis and Organizational Structure.

Chapter 3: Daily Task and Activities, Events and Activities, Project Task and Activities and Challenges.

Chapter 4: Competencies Earned, Smart Plan and Reflection.

Chapte5: Discussion and Conclusion and Scope for the Future Career.

## Chapter 02

### Organizational Profile



#### 2.1 About Rupali Bank Limited

Rupali Bank is a commercial bank in Bangladesh that is owned by the state. It is a restricted kind of business for the public. The bank is traded as DSE: RUPALI BANK LTD. It is regarded as a financial service institution and falls under the banking industry. Rupali Bank Ltd is one of Bangladesh's oldest banks, founded 48 years ago in 1972, just after the country gained independence.

Rupali Bank's headquarters are located at 34 Dilkusha Commercial Area, Motijheel Dhaka 1000. There are a total of 565 branches both within and outside

the capital of Dhaka in the entire country to date. Both Bangladesh and abroad are the areas served by the bank. The number of existing bank employees reaches 5150. The Chairman of Rupali Bank Ltd. is Mr. Monjur Hossain. The Managing Director of the bank is Mr. Ataur Rahman Prodhan.

#### Corporate profile of Rupali Bank:

Name of the bank : Rupali bank limited

Chairman of the bank: MP Monzur Hossain (Rtd. Senior Secretary of Govt. of the Bangladesh)

Managing Director of the bank: Mr. MD.AtaurRahmanProdhan

Secretary of the company: Zakia Sultana

Legal status of the bank: Public limited company Business

Operation of the bank: Commercial Bank

Registered office: 34 Dilskhusa commercial area, Motijheel. Dhaka – 1000

Listing in Dhaka Stock Exchange (DSE): 19- 08-1987

Listing with Chittagong Stock Exchange (CSE): 10-10-1995 VAT (value added tax)

Registration number: 9011039307

TIN certificate number: 177-200-0021- LTU/ Dhaka

ETIN certificate Number: 637043541293

SWIFT BIC: RUPBBDDH

Website of Rupali Bank:<https://www.rupalibank.org/#>

EMAIL: Info@rupalibank.org

[it@ruaplibank.org](mailto:it@ruaplibank.org)

## **2.2 Product and market situation:**

**Savings account:** It is an account with deposits. The deposits are kept at an appropriate rate by a financial institution, a retail bank, and often pay interest. In Rupali bank if the customer does not withdraw more than 25% of the deposit then the bank will pay interest from 8th day of the month from the last day of the month.

**FDR product:** The fixed deposit amount is for minimum 3 months but less than 6 months will get 8% percent interest. The amount deposited is for minimum 6 months but less than 1 year will get 8.5 % interest. Again if the fixed deposit amount is for minimum 1 year but maximum 3 year will get 9% interest. All Fixed deposit receipt holders will get minimum 5% interest even they don't keep their money in the bank for that long

**RFDS Product:** Rupali festival deposit scheme is a savings for festival and religious festival such as EID, PUJA, PahelaBaishakh, Buddha purnima, Christmas. It gives 0.50% more interest than savings account.

**SND Product:**

In fact, short notice deposits are the regular accumulation of money in the bank. SND offers interest twice a year (June and December) and provides interest at a rate of 3 percent.

**RSSA Product:** A student can open an account in Rupali Bank with only 100 taka and no service charge will be taken for maintaining the account .4% interest will be given for twice a year. After opening the account the customer will get some gifts from the Rupali Bank.

**RMES Product:** RMES is also known as Rupali monthly earning scheme. It is an earning scheme for employees ranging about 3 and 5 years. It gives interest about 8% and 8.5% based on the savings of the customers

**Rupali ATM service:** Like other banks Rupali bank has offered ATM services for their customer 24 hours a day to withdraw money from any branch of the Rupali bank

## 2.3 Target group

### 2.3.1 Bank's Mission

- ❖ Establish a longterm partnership that helps to achieve financial success for our clients.
- ❖ Offer satisfying job prospects and cultivate contributions from workers.
- ❖ Uphold ethical standards to satisfy the financial needs of their customers in the quickest and most suitable way and continue groundbreaking work to achieve superior human capital, technical infrastructure and service packages.
- ❖ Maintain strong technical infrastructure to recruit and maintain workers of greater professional consistency.

### 2.3.2 Bank's Vision

- ❖ Expand our loyal client base by being regarded as the chosen financial partner that consistently exceeds customer expectations.

- ❖ Rupali Bank Limited. dream poverty free Bangladesh, where sports & athletics, science and education, healths and hygiene, clean and pollutions free environment and above all a society based on morality make all our lives worth living.

## 2.4 SWOT analysis:

SWOT analysis is the short form of the Strength, weakness, opportunity, threat. SWOT is a factual, pragmatic approach. SWOT analysis strategic technique used by companies to understand their strength, opportunity over companies and threat, weakness that they are facing now and what they may face in the future and to target their appropriate niche. It also elaborates the factors that are advantageous and disadvantageous to the company. SWOT analysis also helps the organization by measuring the current performance of the organization. To run the SWOT analysis precisely and properly the SWOT analysis have to be kept away from previous established beliefs and values. By analyzing internal factors we can know about strength and weakness and also by analyzing external we can know about the threat and opportunity. But the organization can use it a manual and not as a necessity.



2.4 Figure SWOT Analysis

## **STRENGTHS:**

- ❖ Highly skilled and competent manpower
- ❖ A veteran bank in the financial sector
- ❖ Extensive loyal customer base
- ❖ A large number of branches (568) and customer-friendly access.
- ❖ Deposit Collection Items from Rupali Bank Limited 31 Funding from the government as a public bank
- ❖ Successful communication and collaboration between workers and employers
- ❖ Experienced management at the top
- ❖ Good regulatory performance
- ❖ Successful educational programs
- ❖ Introduction of the online banking industry

## **WEAKNESSES:**

- ❖ Less focus on customer service efficiency.
- ❖ employees who are less inspired.
- ❖ Inadequate technical capital.
- ❖ Low workers wage structure.
- ❖ Lack of promotional events and advertisements.
- ❖ Influences in politics.
- ❖ More focused on the task of a bank.
- ❖ Activities guided manually are lengthy

## **OPPORTUNITIES:**

- ❖ Ensuring quicker services was the advent of online banking.
- ❖ Focusing on the rising number of SME business owners will create solid, loyal customers.
- ❖ Market solution plan for corporate customers in order to optimize such solutions
- ❖ Partners in business.
- ❖ It can be supported by extending the product line to achieve global recognition.



- ❖ A big source of ensuring better services is SMS banking and mobile banking.
- ❖ Expansion of new areas of investment can be beneficial to the bank's business growth.
- ❖ Deposit selection Rupali Bank Limited's goods 32

**THREATS:**

- ❖ Private and foreign banks are newly established.
- ❖ Lack of attraction to the rich and potential clients.
- ❖ Less versatile for some kind of abrupt change.
- ❖ Higher structure of other banks' wages.
- ❖ Improper activities in relation to regulations and policies.
- ❖ Rising technological costs in order to succeed in the industry.

**2.4.1 Advantage of SWOT analysis:**SWOT analysis is mainly used for strategy building for the organization to achieve its stated mission. SWOT is so easy that it can be implemented in a condition or any organization and also it can be used in broad situations in an organization. Most other evaluation system can only appraise one situation at a time while SWOT analysis can appraise four situations at a time. SWOT does not cost too much because it does not have to use any costly software. SWOT analysis is a multi-level analysis it helps to block multiple elements and comes up best answer. SWOT analysis combines the both qualitative and quantative data to make the process of decision making more easily. Gives information on how to integrate its assets and capacity in the competitive territory the organization performs. SWOT analysis can bring out new ideas for the organization. SWOT analysis can be used for individuals to develop their career by understanding and identifying their strength, weakness, opportunities and threats.

**2.4.2 Limitations of SWOT analysis:**SWOT analysis is one of the many steps of business planning. It is not wise to depend on SWOT deeply. There are four categories in SWOT analysis they are strength, weakness, opportunity and threats. But it does not provide the importance of these hierarchal. So sometimes. It creates confusion among managers in which they should give importance. SWOT analysis is a subjective analysis sometimes its result are biased by the person who is in the charge of collecting information about SWOT analysis and also the ones who participates in brainstorming period. SWOT analysis does not provide a clarification about if a factor is considered both strength and weakness. During the SWOT analysis process the top level managers often involves the middle level managers, officers and sometimes lower level employees it is not possible for the top level managers to include all idea, point of view include in the SWOT analysis. Because of SWOT analysis does not have an actual limit sometimes it creates problem in the primary steps.

### 2.4.3 framework of swot analysis

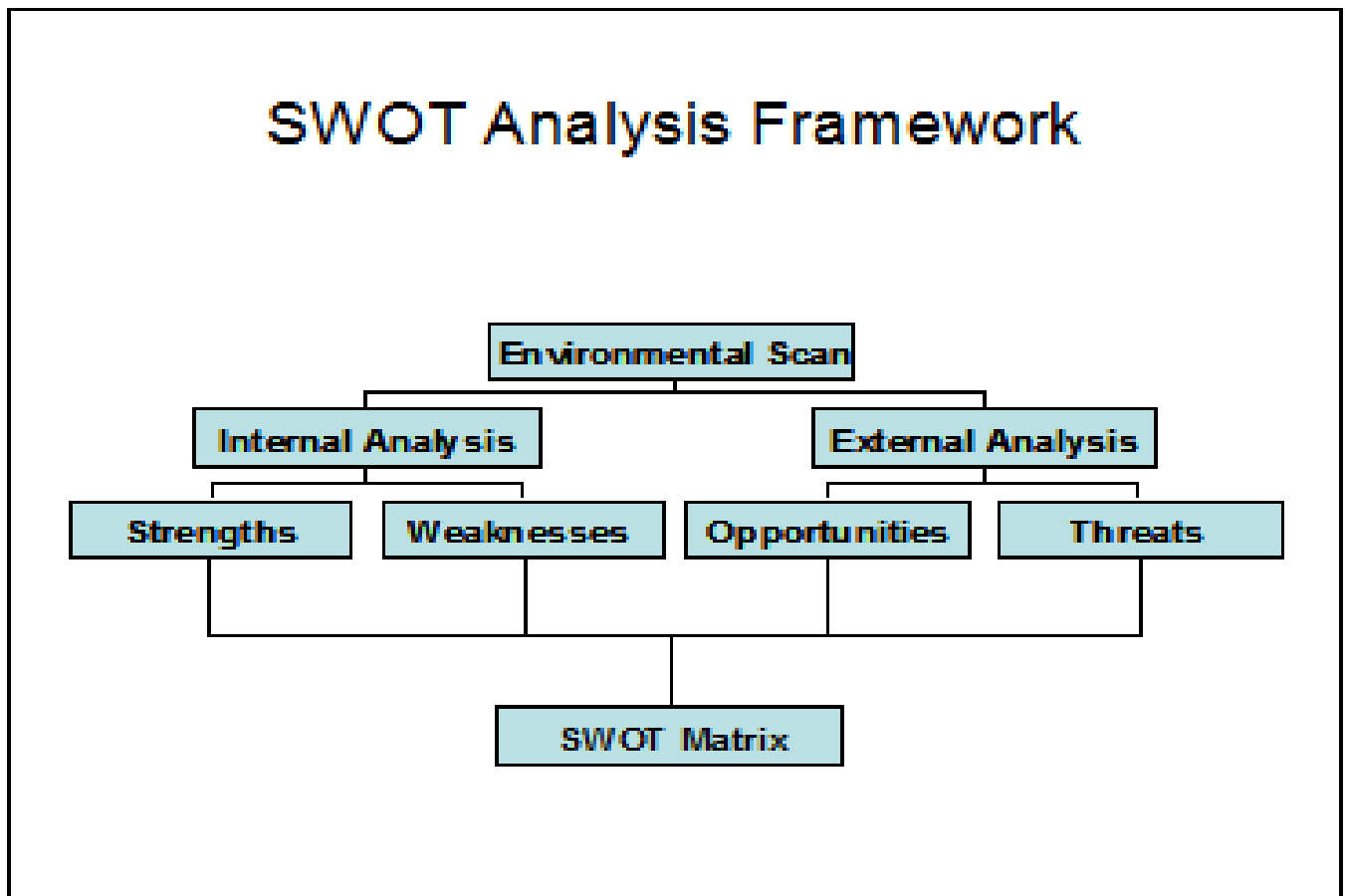
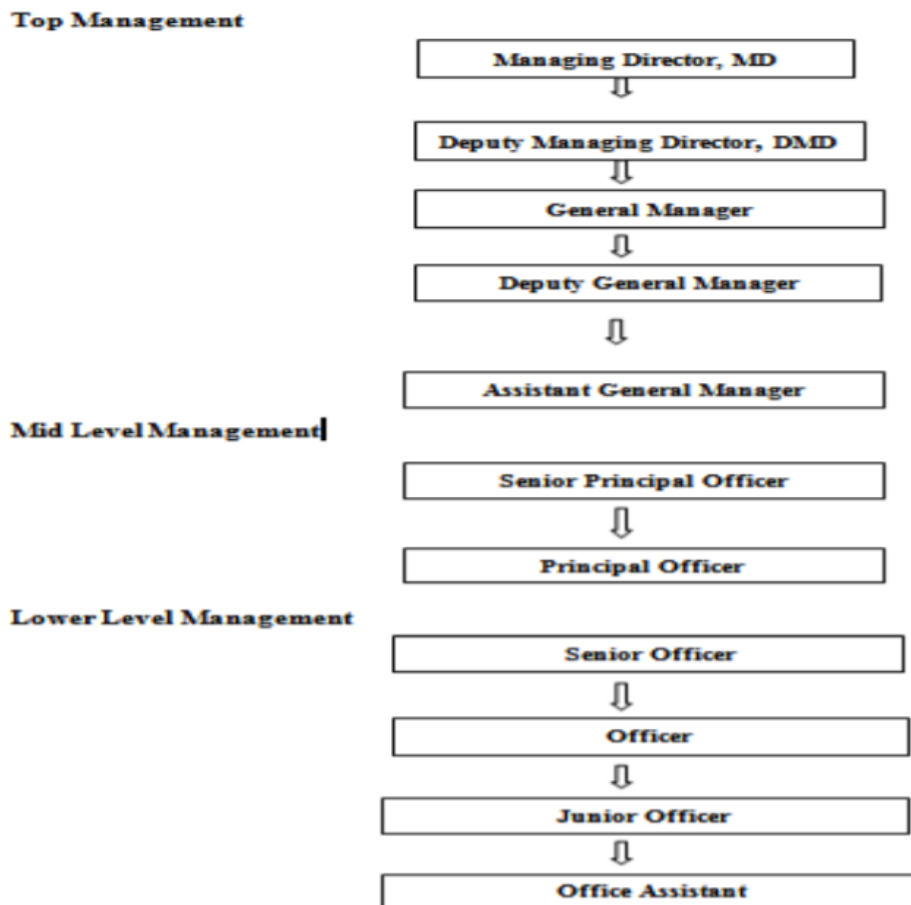


Figure 2.4.3 framework of swot analysis

## 2.5 Organization structure of Rupali Bank Ltd:



2.6 Figure Organization structure of Rupali Bank Ltd:

## 2.6 Strategic Objectives:

- ❖ Establish a culture of customer focused service.
- ❖ Focus on the treatment of customers.
- ❖ Increase market share with an efficient strategy for growth.
- ❖ Cost-efficient practices and efficient MIS.
- ❖ Create products and services that are creative.
- ❖ Attract target clients and win segments of the target market.
- ❖ Maintain a portfolio of highquality assets to achieve higher returns and

generate value for shareholders.

- ❖ Explore new growth opportunities by diversifying the loan portfolio through structured finance and retail and SME financing expansion.

### **2.7 Types of IT Support:**

- ❖ Networks Setup.
- ❖ Networks Security.
- ❖ Database Managements.
- ❖ Cloud Computing.
- ❖ Software Support.
- ❖ Data Storage.
- ❖ On Demand IT.

## 2.8 Divisions of Rupali Bank Limited:

Rupali Bank Limited has some major divisions comprising of various Departments, The major divisions are as follows:

- ❖ **Investment Division:** This division has the authority to determine of the parties or the client who will get the credit facility from the bank. The credit clients are selected according to the criteria of credit policy.
- ❖ **Financial Administration Division:** This division can handle the credit proposal, , monitoring, disbursement and credit recovery position that is given by all branches.
- ❖ **Audit and Inspection Division:** This division can control all the financial position, activities of overall organization. They provide the total budgetary limitation to every department for the respective year.
- ❖ **Marketing and Public Relation Division:** This division mainly works for improving the marketing network, implementing the marketing strategies and the concept of Trade Marketing.
- ❖ **Common Service Division:** This division can handle all the general activities except the credit and financial sector.

### **Human Resource Division (HRD):**

These divisions deal with workers as the organization's core asset.

- ❖ **Computer (IT) Division:** This division can handle the IT activities. Each branch has their own IT divisions and all branch-wise activities are reported to the head office IT division.

## CHAPTER 3

### Tasks , Events And Activities

#### 3.1 Daily Tasks and Activities

I am completing my internship from **Rupali Bank Ltd(RBL)**in **Network operation Center (NOC)** under their **Informaton Technology(IT)**department.They treated me as like their employee.IT Department maintain their works and activities with 5 dayes in a week from Sunday to Thursday.Workinghoure in IT Division is 10:00 AM – 6:00 PM. Basically, my intern time was same10:00 AM – 6:00 PMfrom Sunday to Thursday. I have started my internship from 1 fabruary 2020 and going on.

Make Future IT information Technology monitoring, maintenance and IT trained me on their

- ❖ Network Management System (NMS)
- ❖ Infrastructure- Data Center (DC) and Disaster Recovery Site (DRS) sites
- ❖ Channel management system (CSM)
- ❖ Application support system
- ❖ Information security and Service Management (ISSM)
- ❖ Application solution system

Every Day needs to send a fault report when they started duty and Every Evening shift also provide a fault report before ending their duty. Fault report contains all sites down list of whole country under Rupali bank limited(RBL). A database that named NOC\_Database is use for sites details.

In internship period I had to do this type of works which assigned by the authority.

- ❖ Help to Network team
- ❖ Monitoring sites (for assign terminals)
- ❖ SMS Sending (for fault sites, and Transmission to individuals zone of UCB)
- ❖ Mail Sending (for fault sites to Vendor/Third parties), and
- ❖ Support phone call for help maintenance work.

- ❖ Creating and sending Fault Report..
- ❖ Configure Cisco Branch Router
- ❖ Configure cisco ATM Router

### 3.2 Events and Activities

By all of this easily, I may complete my internship works. The work environment It is an evaluation of the monitoring and logically maintenance work to maintain InformationTechnology system.

Planning is basic for transitory positioning is the primary place, when a companyshandel some parts in the midst of passage level positions, by then it is required to offer getting ready to address the issue. Issue has been identified , planning can be handling it. Planning can be delineated aptitudes, thoughts, improved execution in brief position condition. In this temporary job on daffodil online constrained I have learned and played out the accompanying errands:

- ❖ Network Management System (NMS)
- ❖ Learning and comprehension About Network Components.
- ❖ DiscausIP address for all class of IP with Subnet.

### 3.3 Project Task and Activities

I have lot of achieve fromRupali Bank Limited. it is a beautiful It was a chancetojob with NOC team. I can waction some ceperateproject with them and helped the team.

Here is some:

- ❖ Update some existing project.
- ❖ Configure cisco ATM Router
- ❖ Help to Network team.
- ❖ Create Summary report.
- ❖ Update Network Component inventory.



- ❖ Create group on Internet SMS.
- ❖ Configure Cisco Branch Router
- ❖ GSM Configure sisco router

### **3.4 Challenges:**

To Competencies Earned I would like to suggest the following things:-

- ❖ Server falls flat for long time
- ❖ New programming named CBS (center Banking Software) is currently running for couple of months. So on the off chance that somebody needs the announcement or any information identified with exchange multiple months then the past programming named Baxibank is required.
- ❖ Electronic token framework isn't in utilized.
- ❖ PCs are not state-of-the-art

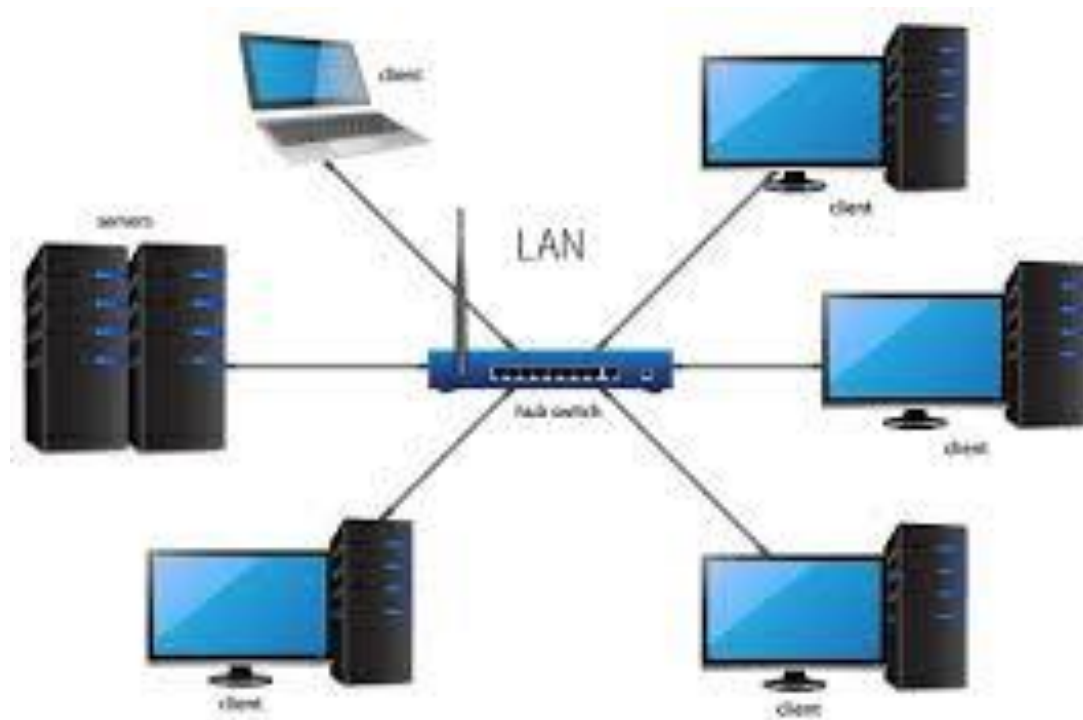
### **3.5 Type of networking**

#### **3.5.1 Local Area Network**

In general, a computer network spread within a building and operated under a single administrative system is referred to as a Local Area Network ( LAN).

In general, LAN includes departments, schools , colleges or universities of an entity. The number of LANconnected systems can vary from at least two to as many as 16 million. LAN provides a convenient way for end users to share resources.Computers can easily share tools, such as printers, file servers, scanners, and the internet. Cheap networking and routing equipment consists of LANs. This could involve local servers supporting file storage and other programs that are shared locally. It operates mainly on private IP addresses and does not require heavy routing. LAN operates in its own local and centrally managed domain. LAN uses hardware that is either Ethernet or Tokenring.Ethernet is the LAN technology most commonly used and uses Star

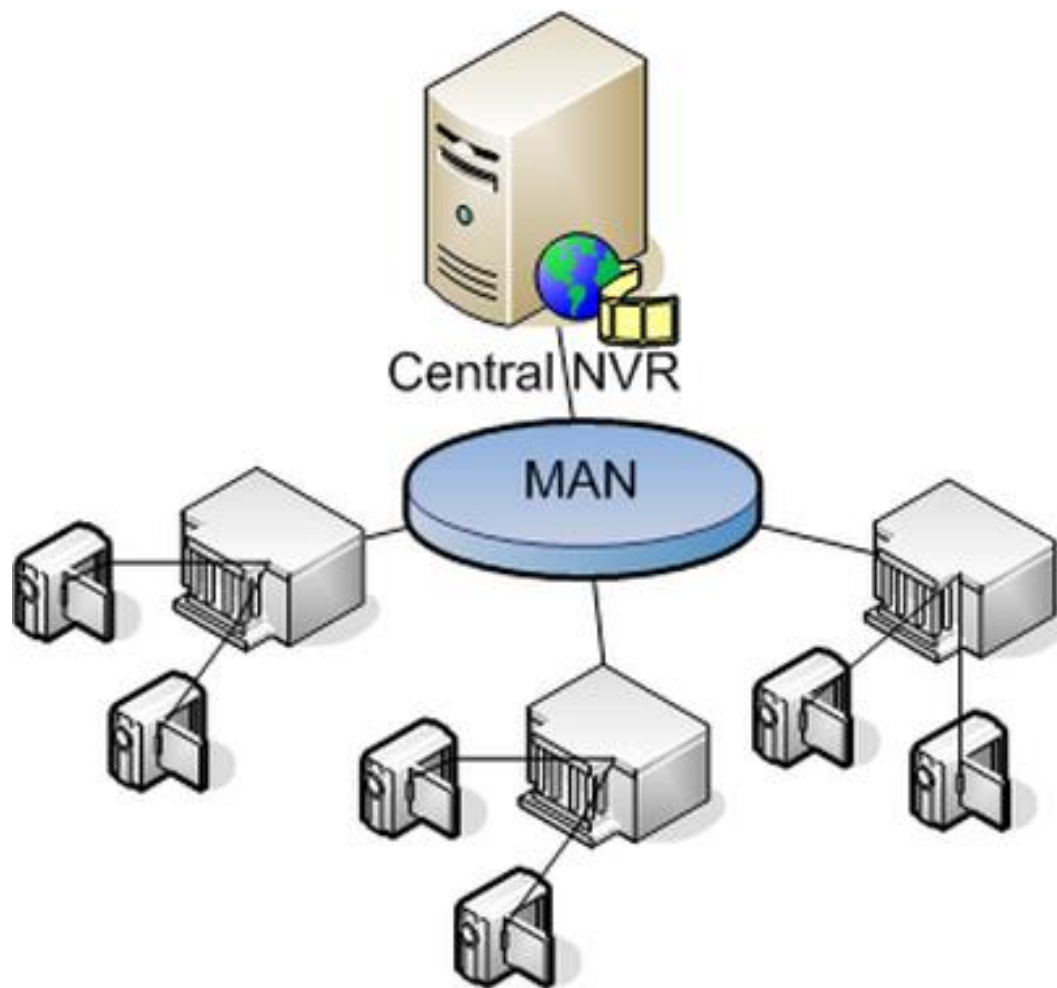
topology, although Tokenring is seldom seen. Wired, wireless, or all types of LAN may be used at once.



### 3.5.1 Local Area Network

### 3.5.2 Metropolitan Area Network

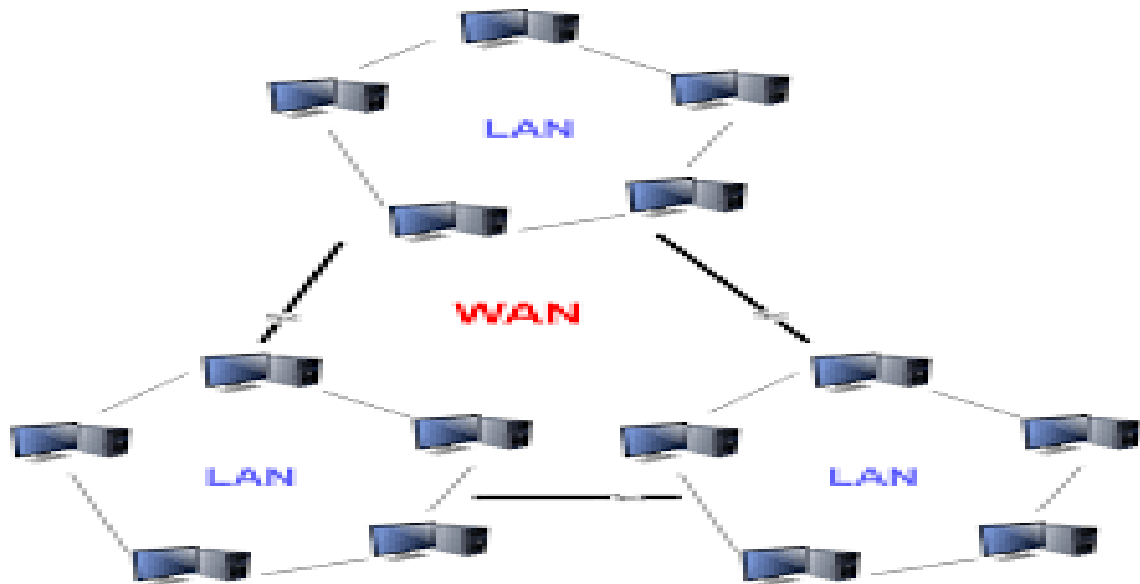
As a cable TV network, the Metropolitan Area Network (MAN) typically extends across a region. It may be in the form of Fiber Distributed Data Interface (FDDI) or Ethernet, Tokenring, ATM. A service that is supported by ISPs is Metro Ethernet. This service helps its users to extend their networks in the local area. For instance, MAN may assist an organization in connecting all its offices in a city. Highcapacity and highspeed fiber optics form the backbone of MAN. MAN operates between the Local Area and Wide Area Network networks. MAN has an uplink to WANs or the Internet for LANs.



### 3.5.2 Metropolitan Area Network

### 3.5.3 Wide Area Network

The Wide Area Network (WAN) covers a wide area, as the name implies, which can stretch through provinces and even a whole nation. Telecommunications networks are typically Wide Area Networks. Those networks provide MANs and LANs with connectivity. Because they are fitted with a very high speed backbone, very costly network equipment is used for WANs. Advanced technologies like Asynchronous Transfer Mode (ATM), Frame Relay, and Synchronous Optical Network (SONET) can be used by WAN. WAN can be handled by different administration processes.



3.5.3 Wide Area Network

## 3.6 Network Lan Technology

Let us go through various LAN technologies in brief:

### 3.6.1 Ethernet

Ethernet is a widely deployed LAN technology. This technology was invented by Bob Metcalfe and D.R. Boggs in the year 1970. It was standardized in IEEE 802.3 in 1980. Ethernet shares media. Network which uses shared media has high probability of data collision. Ethernet uses Carrier Sense Multi Access/Collision Detection (CSMA/CD) technology to detect collisions. On the occurrence of collision in Ethernet, all its hosts roll back, wait for some random amount of time, and then re-transmit the data. Ethernet connector is network interface card equipped with 48-bits MAC address. This helps other Ethernet devices to identify and communicate with remote devices in Ethernet. Traditional Ethernet uses 10BASE-T specifications. The number 10 depicts 10MBPS speed, BASE stands for baseband, and T stands for Thick Ethernet. 10BASE-T Ethernet provides transmission speed up to 10MBPS and uses coaxial cable or Cat-5 twisted pair cable with RJ-5 connector. Ethernet follows Star topology with segment length up to 100 meters. All devices are connected to a hub/switch in a star fashion.

### 3.6.2 Fast-Ethernet

To encompass need of fast emerging software and hardware technologies, Ethernet extends itself as Fast-Ethernet. It can run on UTP, Optical Fiber, and wirelessly too. It

can provide speed up to 100MBPS. This standard is named as 100BASE-T in IEEE 803.2 using Cat-5 twisted pair cable. It uses CSMA/CD technique for wired media sharing among the Ethernet hosts and CSMA/CA (CA stands for Collision Avoidance) technique for wireless Ethernet LAN. Fast Ethernet on fiber is defined under 100BASE-FX standard which provides speed up to 100MBPS on fiber. Ethernet over fiber can be extended up to 100 meters in half-duplex mode and can reach maximum of 2000 meters in full-duplex over multimode fibers.

### **3.6.3 Giga-Ethernet**

After being introduced in 1995, Fast-Ethernet retained its high speed status only for three years till Giga-Ethernet introduced. Giga-Ethernet provides speed up to 1000 mbits/seconds. IEEE802.3ab standardizes Giga-Ethernet over UTP using Cat-5, Cat5e and Cat-6 cables.

### **3.6.4 Virtual LAN**

LAN utilizes Ethernet, which operates on shared media in turn. Ethernet shared media creates a single Broadcast Domain and a single Collision Domain. The implementation of Ethernet switches has eliminated the problem of a common collision domain, and each switch linked system operates in its separate collision domain. But even switches are unable to split a network into different broadcast domains. Virtual LAN is a solution to divide a single Broadcast domain into multiple Broadcast domains. Host in one VLAN cannot speak to a host in another. By default, all hosts are placed into the same VLAN

## **3.7 Router Configuration**

- ❖ Step 1: Resetting and Connect the power cord.
- ❖ Step 2: Cable Setup and Connect your computer (PC or MAC) to the WAN port.
- ❖ Step 3: Accessing router.
- ❖ Step 4: Default Screen.
- ❖ Step 5: Configure of Wireless SSID.
- ❖ Step 6: Configure of Wireless with WPA Security Key.
- ❖ Step 7: Final Cable Setup.
- ❖ Step 8: Verification.

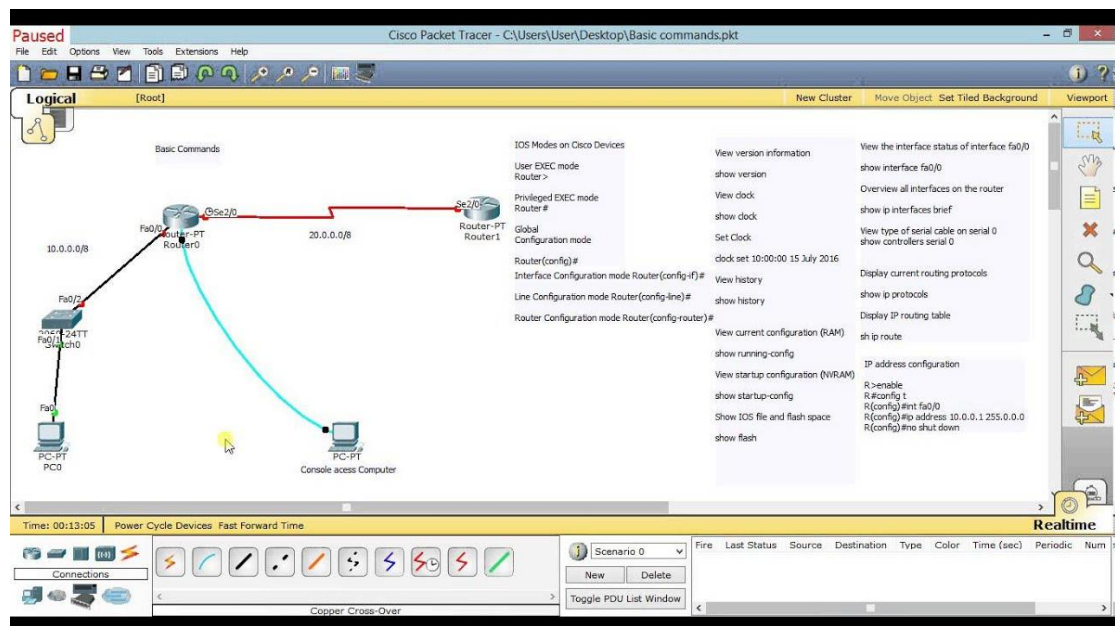


Figure 3.7 Router Configuration command screensort

### 3.8 Switch Configuration

- ❖ Step 1: Cabling a network.
- ❖ Step 2: Clear the configuration on the switch
- ❖ Step 3: Enter the privileged mode
- ❖ Step 4: Examine of the current switch configuration
- ❖ Step 5: Display of Cisco IOS information
- ❖ Step 6: Examine of the Fast Ethernet interfaces
- ❖ Step 7: Examine of VLAN information
- ❖ Step 8: Examine of flash memory

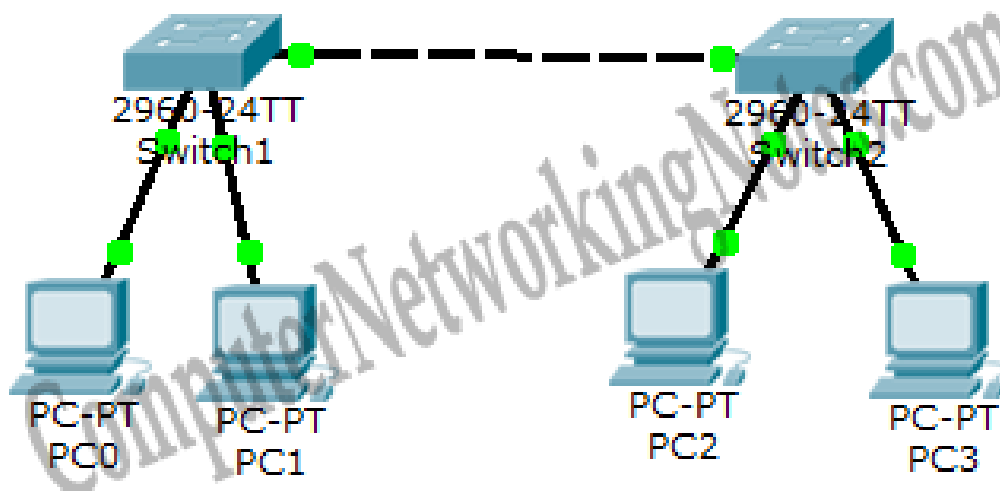
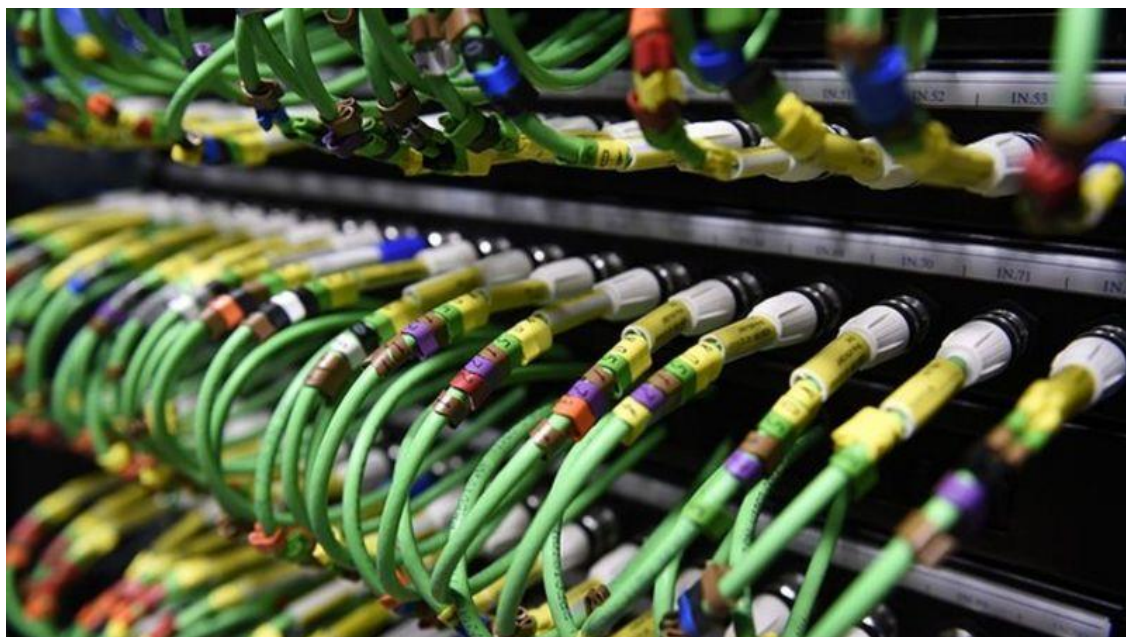


Figure 3.8 Switch Configuration screensort

### 3.9 Networking policy



Rupali Bank Limited is responsible for protecting its networking systems from unauthorized access, while at the same time making them available for legal and

administrative use. This role involves advising and promoting the implementation of anticipated standards of behavior to individuals that use network systems. In computer activities, it is crucial for the user to exercise ethical conduct because the user has access to many valuable and sensitive resources and the user's computer practices may adversely affect others' work.

To link one information system with another information system, prior approval from the Head of IT and Manager, IT Protection is required. The protection level of the related information system must not be downgraded.

- ❖ Maintenance agreement / agreement to be made at least one calendar month before the expiry of the free service and warranty period with the supplier / seller or some other third party.
- ❖ Preference must be given to the suppliers / vendors for the maintenance arrangement / agreement.
- ❖ Internal configuration and arrangement for assistance, facilities, and maintenance to be ready.
- ❖ Sufficient expertise / professionals for the above to be hired / trained.
- ❖ Required facilities / machinery to be procured / purchased for the above.
- ❖ Regional Offices / Branches can be approved by any third party getting authorization from the Head Office to complete / solve minor network issues.
- ❖ Electronic and manual log book for support service and maintenance records to be kept by the Head Office, Regional Office and Branches.
- ❖ Regional Offices / Branches should send all non-repairable / out-of-order equipment / machinery to the Head Office.
- ❖ For immediate support of the Head Office, Regional Office and Branches, necessary support devices / items to be stored / procured / purchased.
- ❖ Configuring network implementation according to specifications and maintaining documentation and standards.

### **3.9.1 Scope:**

- ❖ Network (Router, Switch to be configured) devices in a secure environment. Networks are segregated into categories of information providers, users, and information systems, e.g. Uh VLAN.
- ❖ Unauthorized access and computer tampering must be strictly regulated.



- ❖ For any external communication, a firewall must be in place on the network.
- ❖ For WAN, redundant communication links must be used.
- ❖ A device is in place to identify an unwanted attacker on the network.
- ❖ The personal laptop connection to the office LAN or any personal wireless modem to the office laptop / desktop must be protected.

### 3.9.2 Networking and Hardware Procurement/Purchase Policy

Requirements / Requirements to be created by the appropriate channel. Job Instructions to be given with the authorisation of the competent authority. Along with the Challan / Delivery Memo, items / components must be obtained. Data / information must be entered into the Computerized Inventory Management System / Registers in detail and the items / components must be transferred / located accordingly. Certification / comments of the status of the item

/ component must be received before enabling bill payments.

Warranty coverage and followup with maintenance plans should be maintained.

Operation agreement, to be arranged where necessary.

### 3.9.3 Network Design

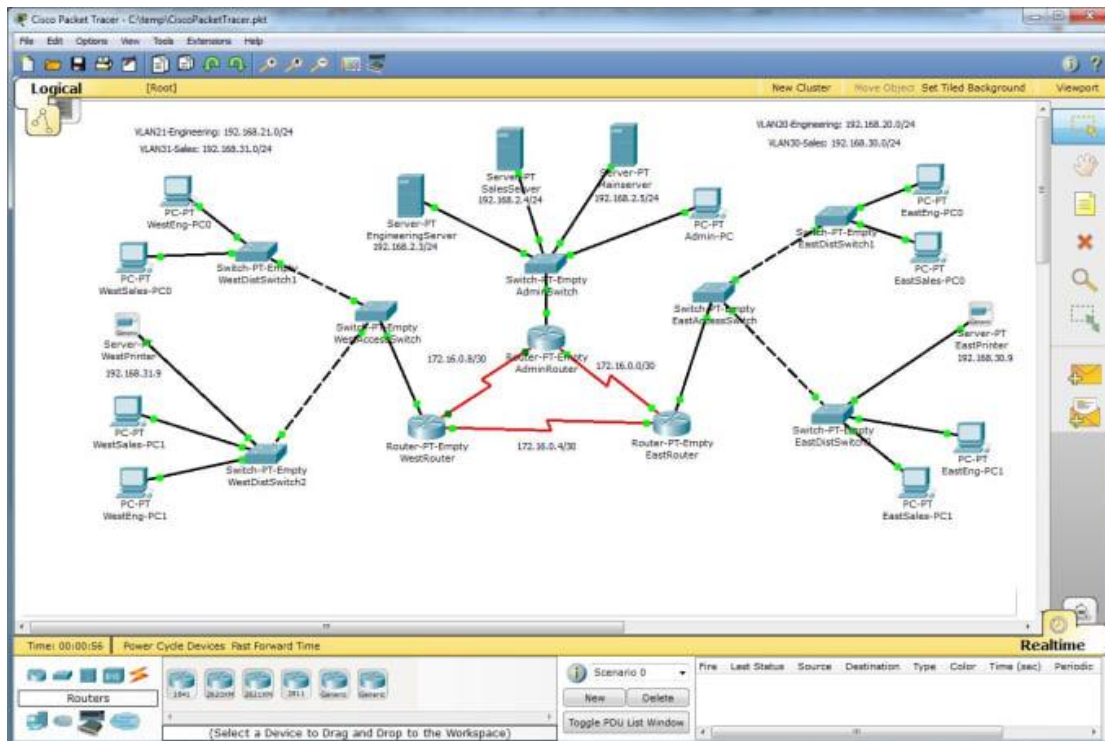


Figure 3.5.3 Network Designscreensort

Following a standardized series of steps in the creation and implementation of the network, security can help to resolve the complex issues that play a role in the design

of security. Many security techniques have been implemented in a haphazard manner and have not been successful in protecting properties and achieving the primary safety objectives of the customer. Breaking the security design process into the following phases will help to prepare and enforce a security strategy effectively:

- ❖ PARY Recognize network properties.
- ❖ Pillow Evaluate safety risks.
- ❖ No Examine security criteria and tradeoffs.
- ❖ Nope Develop a protection plan.
- ❖ No Establish a security policy.
- ❖ Establish protocols for the execution of security policies.
- ❖ Develop a plan of technological execution.
- ❖ Achieve buy-in from consumers, leaders, and technical employees.
- ❖ Train consumers, executives and professional workers.
- ❖ Implement the technological strategy and plan of defense.
- ❖ Test the protection and update if any issues are observed.
- ❖ Maintaining safe.

### 3.9.4 Control & Monitoring of LAN & WAN functionalities

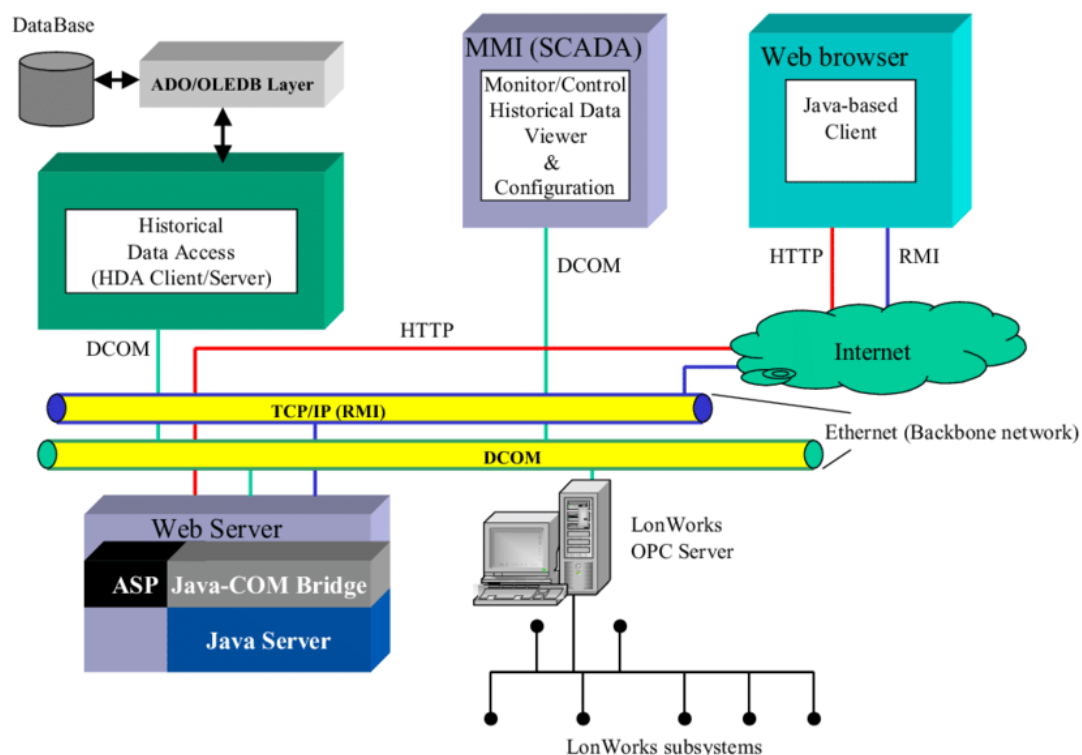


Figure 3.5.4 Control & Monitoring of LAN & WAN functionalities

- ❖ Bandwidth study of usage.
- ❖ Control of bandwidth.
- ❖ Management Load Balancing.

### **3.9.5 Local Area Networks (LAN) Policy :**

- ❖ Cabling should be coordinated. For LAN cabling, fiber optic cable is preferred; Cat5 / Cat6 cable can initially be used.
- ❖ In conjunction with LAN setup, the rack, patch bar, cable management unit, patch wire, drop cable, face plate, RJ45 etc. should be used.
- ❖ A separate domain (VLAN) must be set up in the Switch for each department / division.
- ❖ The IPbased network should be optimized for nodes and all IPs must be kept confidential.
- ❖ Network policies to be determined for each domain on the server.

### **3.9.6 Wide Area Networks (WAN) Policy :**

- ❖ For WAN setup within HO and Branch LANs, physical Fiber optic cable connectivity should be preferred.
- ❖ For the complete setup of online banking, primary connectivity should be physical and wireless can be redundant.
  
- ❖ Data should be transmitted using cryptography technology via the WAN.

### **3.9.7 Upgrade design, setup, and security levels of LAN & WAN**

- ❖ WAN setup update in an ISO certification standard manner.
- ❖ Upgrade and implementation planning of Key products.
- ❖ Upgrade the branch equipment and schedule deployment.
- ❖ Security measures should be evaluated exclusively before any new node within the network is introduced
- ❖ **Maintain log records of LAN & WAN status.**
- ❖ Network monitoring program design and approval with log / report option
- ❖ Supervision and monitoring of applications for network monitoring with log / report option
- ❖ Planning records with logs / reports.

### **3.9.8 Router -Switch Data Backup & Restoration Policy :**

- ❖ Data means all kinds of information kept at Rupali Bank Limited in printed or electronic format.
- ❖ The backup log sheet is preserved, reviewed and signed by the Team Leader.
- ❖ In our assigned FTP server (Hard Disk), PC for Network Administrator & removable disks (e.g. CD / DVD), data should be stored in a safe way.
- ❖ Removable disks should be kept in secure custody under lock and key outside the (geographically separate) location of the associated office (Head Office or Branch Office).
- ❖ Backup media must be accurately labelled, showing content, date, etc.
- ❖ For time-critical distribution, there should be at least one backup copy kept on-site.
- ❖ Network-related details such as router images & settings on our FTP server and the PC of the Network Administrator on a weekly basis should be maintained by branches and headquarters.
- ❖ The ability to recover from backup media is reviewed at least on a quarterly basis.
- ❖ In a Fungus & Dust Free, Fireproof Data Safe / Vault, backup CDs / DVDs should be stored at the head office.

### **3.9.9 Redundant Access Policy from Branch to Head Office :**

If both the connection goes down & unable to recover longer than 6 hours, the Branch would consider a disaster branch. Hence, the measures will be taken as instructed by the Device Support Team in that situation.

### **3.10IT Operation Management Policy :**

The complexities of technology operations management, including change management, asset management, operating procedures and request management, are protected by IT Operation Management. The aim is to achieve the highest standards of quality of technology service by minimal operating risk.

#### **3.10.1IT Asset Types**

The categories of assets subject to disposal were classified by this section..

- ❖ Desktop (CPU, Monitor, Key Board, Mouse) workstations
- ❖ Laptop
- ❖ Multifunction computers, Scanners, Projectors
- ❖ UPS-UPS
- ❖ Scanners
- ❖ Servers
- ❖ Storage
- ❖ Tape Library
- ❖ Firewalls
- ❖ Routers
- ❖ Switches
- ❖ Shelves
- ❖ Equipment helping DC and DRS IT
- ❖ Memory modules

#### **3.10.2Guidelines**

The Hardware Team of the IT Division will centrally oversee and organize the disposal procedures of all IT properties and equipment. The Hardware Team is also responsible for backing up and then cleaning all Its assets scheduled for disposal of RBL data, as well as removing RBL tags and/or label identification. The Hardware Team is responsible for selecting and authorizing external agents before shipment to

landfills through the correct channel for recycling hardware and/or sanitizing harmful toxin hardware.

### **3.10.3 Practices**

- ❖ Appropriate IT asset disposal strategies are as follows:
- ❖ Sold in a platform for the public.
- ❖ Online auction.
- ❖ Sold to a licensed dealer as scrap.
- ❖ Used as a trade-in against substitute component prices.
- ❖ Reassigned to a less-critical feature in company operations.
- ❖ Donated to colleges, charities and other organisations that are not profit-making.
- ❖ Recycled and/or refurbished to take advantage of further use (within acceptable repair limits).
- ❖ Discarded as garbage following chemical sanitization in a landfill

### **3.11 About IP address**

An Internet Protocol address (IP address) is a numerical name demonstrated every gadget related with a PC makes that uses the Internet Protocol for correspondence. An IP address serves two rule limits: host or structure interface ID and zone tending to. Web Protocol structure 4 (IPv4) depicts an IP addresses aa 32-bit number. Regardless, in light of the headway of the Internet and the exhaustion of open IPv4 addresses, another change of IP (IPv6), utilizing 128 bits made in 1995, and sorted out as RFC 2460 out of 1998. IPv6 affiliation has been relentless since the mid-2000s

About IP address

### **3.12 Mail and Phone call Support**

After sending the SMS bank team to the liable vendor for mailing to take action. If the site / sites / transmission down for POWER problem or TBL own site, then there is no need to send mail, but if the alarm says there is no power problem and the vendor is like that summit, Fiber@ home, Banglaphone and Citycell, then the bank team must mail this to;

## **CHAPTER 4**

### **Competencies and Smart Plan**

#### **4.1 Competencies Earned**

Networking market dependent on quality and rivalry so as to increase higher achievement, you need to win capabilities. For instance, on the off chance that anybody gives system and observing data yet their data isn't responsive enough. That implies they have not great skills in this division. In the event that you need to hold your situation in the systems administration advertise, at that point you should need to increase high possibility else you lost your incentive on the systems administration showcase. What's more, for earned incredible abilities one needs to become familiar with some fundamental and specialized level work that bring them achievement. What's more, for doing as such one needs to buckle down in light of the fact that as we as a whole realize diligent work is a key to any effective history.

#### **4.2 Smart Plan**

- ❖ Most prominently learn about NOC Monitoring system.
- ❖ It is critical to to monitoring all the terminals if you want to performance better.
- ❖ Check out many devices and smart technology for unique screen resolutions and ideas.
- ❖ Release/gain idea in a unique way.

### **4.3 Reflections**

I get the open door for entry level position here and working with them to help specialized side for system observing reason for make an impression of my work, assurance and stranded. My very much orchestrated portfolio is a feature of my imaginative work and another key to my prosperity

Then again, if need to chip away at the top notch stage as a consultant one must have need portfolio which is the reflection of his work. Each specialized designer and supporter has prerequisite of a system portfolios. It shows out your best work before your office the executives/organization that capable them to choose your legitimacy. The majority of the organization absolute first take care of a person portfolio reflection so as to choose is the individual is appropriate for work or not

## **CHAPTER 5**

### **Conclusion and Future Career**

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

From that entry level position, I will pick up a great deal of experience that will be useful in my future works. I will ready to make a ton of task regarding a matter of system observing and furthermore support to create it in an effective way. In general, I need to state that this entry level position is useful for my observing and system the executives transporter that make me fruitful in wherever in system segment. I have taken in the part of valuable and potential actualize that again help me to do work in a system base organization. Each experience I gather structure the temporary position will most likely be profited me in my not so distant future.



## **5.2 Scope for Further Career**

Internship goals provide a very good clear of concept about practical and semantic about network base system. My internship implemented a proof of concept for a decision making system using imitated knowledge. Finding a great of work can be a real challenge,

- ❖ Good communication.
- ❖ Ability to team work.
- ❖ Work at as a Network Engineer.
- ❖ Work at as a specialized help and security supervisor.
- ❖ Work as a network monitoring concern.
- ❖ Work in ISP based stage.
- ❖ Work at as an IT supervisor of an organization.
- ❖ To be work network company.
- ❖ Data and information Collection.

## **Appendix A: Internship Reflection**

The main purpose of my practice in the expert environment is the specific answer to the certification topic, which is the knowledge that is applied in the classroom. I am a live demonstration of clients, experts and experienced leaders, as well as representatives of the various representatives who benefit from an understanding of behavior and increased links. In order to meet my internship requirements, I practiced legal business practices. They are the central goal/vision of informed connections, how to communicate with the partners, how to control, how to organize, how to choose, how to the understand the lifestyle of the expert union and the level of responsibility and contribution to the union.

## **Appendix B: Company Detail**



# রূপালী ব্যাংক লিমিটেড

উত্তম সেবার নিশ্চয়তা

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[www.rupalibank.org](http://www.rupalibank.org)

As the country's economic growth progresses, banks and other financial institutions have become highly crucial. One of the most prospective banks in our country is Rupali Bank Ltd. In order to face any volatility, the bank has an enlarged portfolio along with its huge assets. RBL is able to adapt rapidly to a sudden change in the

climate. For example, RBL has recently updated the online banking and computerized system in a very short period of time. The deposit product schemes have a significant influence on Rupali Bank Ltd. moving on to the project topic. Therefore, RBL should make more effort to improve its product schemes for deposits. There are no marketing or promotion policies for RBL. It really does cause this segment to be missing. The bank must move forward to build a positive reputation by promoting the product schemes provided by its deposits. They will update their policies and facilities related to the collection of deposits. In addition, some specialists who can consult on goods can be employed to achieve the target. With a ideal combination of professional and knowledgeable workers, an efficient team should be formed to do research on deposit collection products and to track the efficiency and contribution of these deposit product schemes to the overall business. Rupali Bank Ltd. is well placed within Bangladesh's banking sector. Rupali Bank Limited's workers worked tremendously to achieve its aims and vision. The bank's core values will make it stand on standards along with growing assets through ethical banking and its implementation in the future.

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