

**PROJECT REPORT**

**CN LAB**

**Design and Implementation of Network Infrastructure for Company’s Branch**

**GROUP MEMBERS:**

**FARIS SAJJAD - 22K4776**

**BILAL ARAIN - 22K4779**

**ISMAIL AHMED - 22K4792**

**ABSTRACT:**

A company has three main departments such as Administration, Analysis and Development departments having separate network implementation in each. These departmental networks are interconnected through routers. Least ips are being used to satisfy demands of all departments devices using subnets. Also different services like SMTP, FTP, HTTP/HTTPS, DNS, DHCP and Dynamic routing protocols such as RIP2 or OSPF are used.

**INTRODUCTION:**

Cisco packet tracer is a utility that provides time and money intensitive network practice with latest devices and protocols. There are three subnets, each representing a different department. All of the departments have their servers such as HTTPS, FTP, SMTP and DNS servers stored inside the Admin department. These servers are accessible for each end device.

**NETWORK REQUIREMENT:**

Basic requirements for the network are:

3 routers

7 switches

3 server devices

35 PCs

Serial and Ethernet wires

**CONFIGURATION:**

Each department has separate configuration:

**ADMIN DEPARTMENT**

Network ip : 192.168.0.48

4PCs with DHCP

3 Servers DNS, SMTP, HTTP+FTP all with Static ip

SMTP client id is "ismail@bcy4a.pk"

FTP client id is "ismail" password "k224792"

**ANALYSTS' DEPARTMENT**

Network ip : 192.168.0.32

11PCs with Static ip

SMTP client id is "bilal@bcy4a.pk"

FTP client id is "bilal" password "123"

**DEVELOPERS' DEPARTMENT**

Network ip : 192.168.0.0

20 PCs with Static ip

SMTP client id is "faris@bcy4a.pk"

FTP client id is "faris" password "123"

**CONCLUSION:**

The network topology created in this project has flexibility along with fast and efficient resources and time consuming.