

Project Report for Computer Networks

Networking of a Coffee Brand

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ABSTRACT

This report examines the computer network systems of leading coffee brands and the impact they have on the overall efficiency and productivity of these businesses. The coffee industry is a fast-paced and dynamic market, with many brands relying heavily on technology to manage operations and enhance customer experience. The report analyzes the different types of network systems used by coffee brands, including point-of-sale systems, inventory management systems, and customer relationship management systems. It also evaluates the benefits and limitations of these systems, as well as the security measures implemented to protect sensitive information. The report concludes with recommendations for coffee brands looking to improve their network systems and stay competitive in the industry.

The aim of this project is to design the topology of the university network using the software Cisco Packet Tracer with the implementation of wireless networking systems. This coffee brand network system consist of the following devices:

- 1) Routers
- 2) Switches
- 3) Email Server
- 4) Web server
- 5) DNS Server
- 6) DHCP server
- 7) Wireless Device(Access Point)
- 8) PCs
- 9) Laptops
- 10) Smartphones
- 11) Tablets
- 12) Printer
- 13) Television

INTRODUCTION:

The coffee industry is a highly competitive market, with many well-established brands and new entrants vying for market share. In order to stay ahead of the competition, it is crucial for coffee brands to have efficient and reliable computer network systems in place. These systems play a vital role in managing operations and enhancing customer experience. The purpose of this report is to examine the computer network systems of leading coffee brands and the impact they have on the overall efficiency and productivity of these businesses.

REQUIREMENTS & ANALYSIS:

Software Tool:

⇒ Cisco Packet Tracer

Operating System:

⇒ Windows

IP Addressing:

Head Office:

CEO Office (192.168.5.0)	
PC 22	192.168.5.1
Printer 12	192.168.5.2
Smartphone 19	DHCP
DHCP Server	192.168.5.4

Server Room (1.0.0.0)	
DNS	1.0.0.2
WEB	1.0.0.3
Email	1.0.0.4
PC 23	1.0.0.6

Sales Department (192.168.8.0)	
PC 7	192.168.8.2
PC 6	192.168.8.3
PC 19	192.168.8.4
PC 20	192.168.8.5
PC 18	192.168.8.6
PC 21	192.168.8.7
Printer 10	192.168.8.1
Printer 11	192.168.5.8
Smartphone 13	DHCP

Smartphone 18	DHCP
DHCP Server	192.168.8.9

Marketing Department (192.168.11.0)	
PC 13	192.168.11.1
PC 10	192.168.11.2
PC 11	192.168.11.4
PC 9	192.168.11.6
PC 8	192.168.11.7
PC 12	192.168.11.8
Printer 5	192.168.11.3
Printer 6	192.168.11.5
Printer 7	192.168.11.9
Smartphone 15	DHCP
Smartphone 16	DHCP
Smartphone 17	DHCP
Smartphone 24	DHCP
DHCP Server	192.168.11.22

HR Department (192.168.3.0)	
PC 4	192.168.3.6
PC 5	192.168.3.5
Laptop 2	192.168.3.1
Laptop 3	192.168.3.2
Printer 3	192.168.3.4
Printer 4	192.168.3.3
Smartphone 12	DHCP
Smartphone 9	DHCP
Smartphone 11	DHCP
Smartphone 10	DHCP
DHCP Server	192.168.3.20

Finance Department (192.168.1.0)	
PC 16	192.168.1.2
PC 15	192.168.1.3
PC 17	192.168.1.4
PC 14	192.168.1.5
Printer 8	192.168.1.1
Printer 9	192.168.1.6
Smartphone 20	DHCP
Smartphone 23	DHCP
Smartphone 21	DHCP

Smartphone 22	DHCP
DHCP Server	192.168.1.22

Branch Lahore:

Lahore (10.0.0.0)	
PC 1	10.0.0.1
PC 2	10.0.0.3
PC 3	10.0.0.5
Printer 0	10.0.0.2
Printer 1	10.0.0.4
Printer 2	10.0.0.6
Smartphone 0	DHCP
Smartphone 1	DHCP
Smartphone 2	DHCP
Laptop 5	11.0.0.1
Lahore DHCP	10.0.0.11

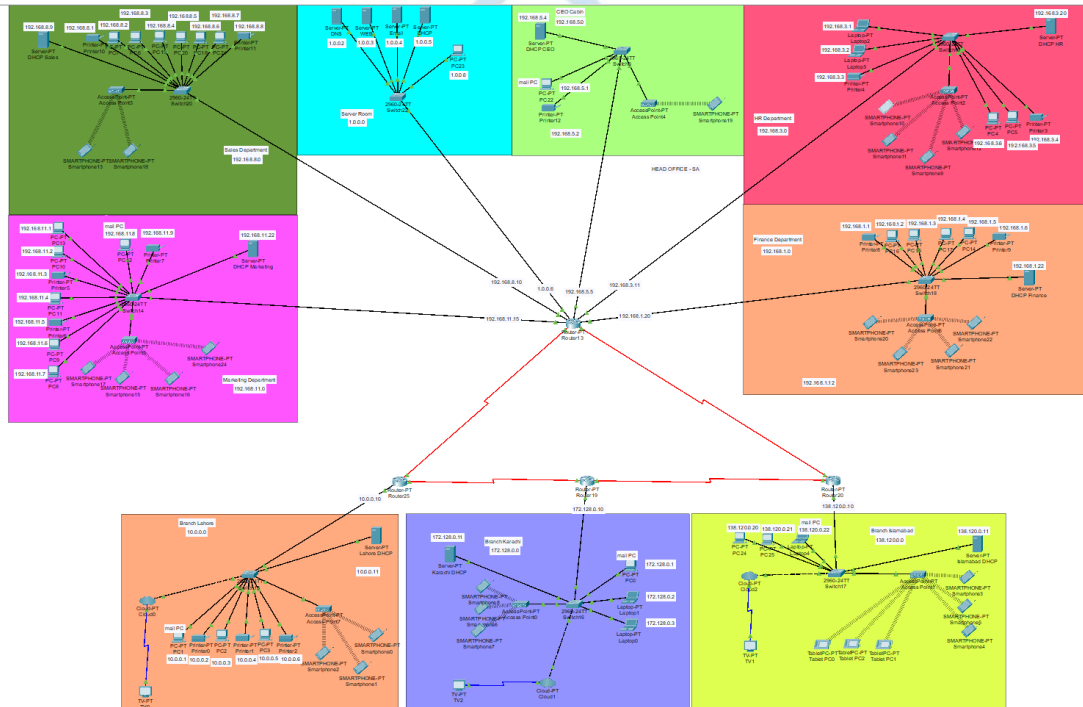
Branch Karachi:

Karachi (172.128.0.0)	
PC 0	172.128.0.1
Laptop 1	172.128.0.2
Laptop 0	172.128.0.3
Smartphone 6	DHCP
Smartphone 7	DHCP
Smartphone 8	DHCP
Karachi DHCP	172.128.0.11

Branch Islamabad:

Islamabad (138.120.0.0)	
PC 24	138.120.0.20
PC 25	138.120.0.21
Laptop 4	138.120.0.22
Smartphone 6	DHCP
Smartphone 7	DHCP
Smartphone 8	DHCP
Karachi DHCP	138.120.0.11
Tablet PC 0	DHCP
Tablet PC 0	DHCP
Tablet PC 0	DHCP

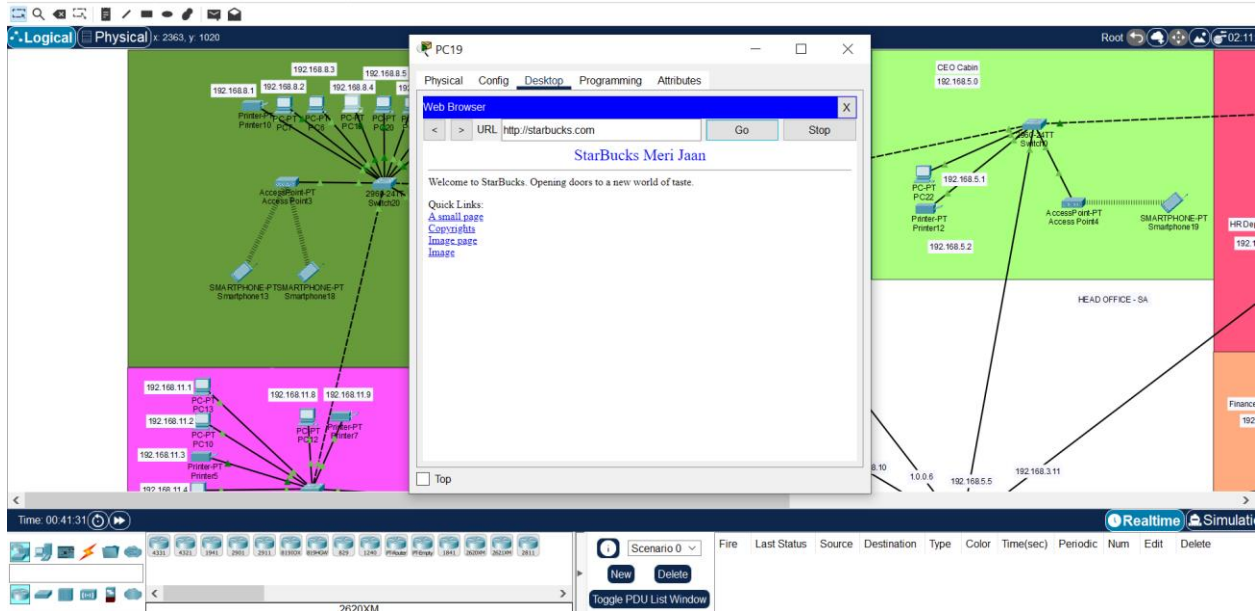
ARCHITECTURE & DESIGN:



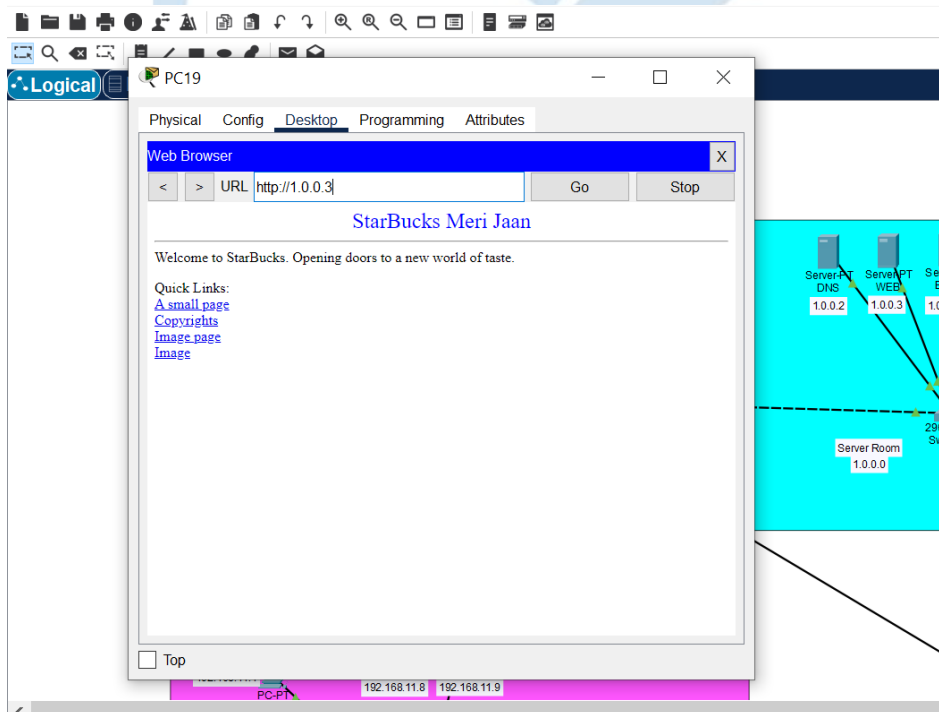
- The Use of RIP routing on Routers.
- Use of Firewall in DHCP server in Branch Islamabad.
ICMP is denied, and IP is allow.

EXPERIMENTAL RESULTS:

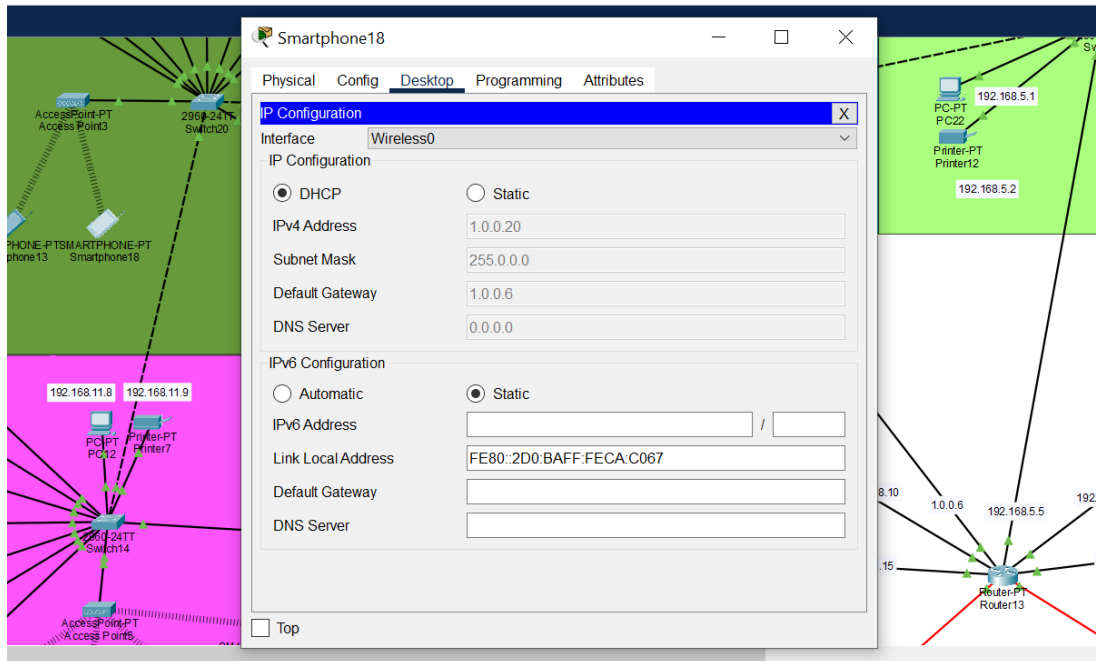
DNS Server Working:



Web Server Working:



DHCP Server Working:



- After Checking all the PCs, Laptops, Smartphones they are pinging with each other.

CONCLUSION:

It is clear that computer network systems play a critical role in the coffee industry, and that it is crucial for coffee brands to have efficient and reliable systems in place to stay competitive in the market. However, it's also important to note that along with the benefits, these systems also come with certain limitations and challenges. Brands need to be aware of these challenges and address them proactively to ensure the smooth functioning of their systems.

In summary, coffee brands that invest in advanced computer network systems and keep them up to date, will be well-positioned to manage their operations more efficiently, enhance customer experience and increase their chances of success in the industry. This report provides valuable insights for coffee industry professionals and those looking to improve their network systems.

END OF REPORT