CONNECTING DETECTIVES

# Expanding ARENA's Forensic Network Branch In Johor

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# What's this about?

**Howdy!**

So, this project aims to design and configure a LAN (Local Area Network) for a new branch of ARENA Technology Sdn Bhd, a forensic company in Kuala Lumpur, Malaysia. This branch is located in a building with two blocks, "DRAGON block" and "PYTHON block," each having two floors. The network design involves both wired and wireless components, including the setup of network devices such as routers and switches. The goal is to create an efficient network layout, along with IP address allocation using subnetting.

**Let me simplify a bit...**

Imagine there's a cool detective company called ARENA, and they're opening a new office. This office has two big buildings with two floors each. One building, called DRAGON, has offices for people who do paperwork and important work stuff. The other building, PYTHON, is where the super-smart tech people work on cool detective stuff. The detective's office needs computers and stuff to talk to each other. So, our job is to figure out how to connect all these computers, phones, and gadgets in the best way. We count how many computers are in each room and decide how they can talk to each other. We also plan the special numbers (like secret phone numbers) for each computer. We draw a map to show where everything goes and explain why we put things where they are. Then, we make a colorful picture on a computer to show everyone how it's going to work.

So, we make sure all the computers in the detective office can talk nicely to each other, and we draw a picture to show how we did it!

# Introduction

- **ARENA Technology Sdn Bhd** : A Forensic Company in KL Sentral, Kuala Lumpur, Malaysia, Since 2015

- **New Branch in JOHOR** : Expansion to Meet Growing Demand

- **Project Overview** : Designing an Optimized Network for the New Branch

# Project Goals

- Design and configure LAN Topology

- Implement Wired and Wireless Network

- Configuration of Network Devices (Routers, Switches)

- Create IP Addressing Scheme with Subnetting

# Scenario Overview

**Infrastructure Overview** : Two Blocks: DRAGON Block and PYTHON Block

: A total of 4 Floors

: Facilities Include Administrative, Forensic Lab, Server Room, and More

**IoT Infrastructure** : CCTV for Security

: Wi-Fi for Connectivity

# Dragon Block Network Design

**Dragon Block First Floor** : Administrative Areas, Reception, Waiting Area and Cafeteria

**Dragon Block IoT** : CCTV Cameras, and Wi-Fi Access Points

**Network Layout** : Configuration of Network Devices (Routers, Switches) & Topology

**WiFi** : Coverage for Administrative Areas

# Python Block Network Design

**Python Block First Floor** : Investigations, Meeting Room, Library, Technical Assistant Room

**Security Focus** : Restricted Second Floor (Forensic Lab & Server Room)

**Network Layout** : Detailed Configurations of Network Design

**Security Measures** : Ensuring Secure Access to 2nd Floor

# IP Addressing Scheme

**IP Scheme** : Utilizing Subnetting, and Efficient Allocation of IP Addresses

**Subnetting in Detail** : Variable Length Subnet Masking (VLSM)

**Subnetting in Detail** : Assignments for Different Floors and Departments

# Design Implementation

- **Network Implementation** : Procurement of Equipment and Devices

- **Network Implementation** : Phases for Deployment

- **Using Stimulation** : Cisco Packet Tracer for Testing and Proof of Concept

# Benefits of Optimized Design

**Network Design**
: Enhanced Connectivity

: Efficient Resource Utilization

: Scalability and Enhanced Security

**Preparing for Growth**
: Meeting Current and Future Needs

# NOTE

These slides you've just seen are like the tip of the iceberg, giving you a sneak peek into our project. But hold on tight because the real adventure lies within the comprehensive documentation attached!

As engaging as these project components are, they are just the beginning. To truly immerse yourself in the depths of our work, and to appreciate the effort that went into optimizing the network for ARENA Technology Sdn Bhd, we invite you to delve into the attached documentation. It's a journey through innovation, resourceful planning, and diligent execution. You'll find detailed insights, real-world challenges, and innovative solutions that make our project come to life.

So, whether you're an expert in the field or someone entirely new to this realm, the documentation is your backstage pass to uncover the magic that makes this project extraordinary.

Read the attached document, and let us know what you think of it.

# Expanding ARENA's Forensic Network Branch In Johor

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