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IT Security

Module: IT Security

Course: Higher Diploma in Software Engineering/Bachelor Degree in Software Engineering

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End Date	**: June 14, 2024**
Submission Date	**: June 15, 2024**

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Enrollment ID	**: BDSE-0922-113**
Presentation Date	**:**

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THE FOLLOWING SLIDES ARE NOT YET UPDATED SO PLEASE UPDATE THEM BEFORE SUBMISSION!!!

1. Introduction

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- The main goal for this is to train Lithan Academy's Junior Staff on IT Security risks and the tools and techniques associated with identifying them to ensure maximum protection for the company's data. This presentation covers the security legislation, risks, management procedures and ways to navigate around them.

2. Security Legislation

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- ISO (International Organization for Standardization)
  - an independent, non-governmental international organization that develops standards to ensure the quality, safety and efficiency of products, services and systems.
- International Electrotechnical Commission
  - an international standards organization to ensure the safety, efficiency, reliability and interoperability of electrical, electronic and information technologies, to enhance international trade.

2. Security Legislation

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- ISO/IEC 17799

- A series of suggestions for information security management that provide guidance to those in charge of establishing, implementing, or maintaining security within a firm.

- ISO/IEC 27001

- The requirements for establishing, implementing, maintaining, and improving an IT security management system. It also includes guidelines for assessing and managing information security threats at the organizational level.

Other Legislations for data protection:

- General Data Protection Regulation (GDPR)
- Health Insurance Probability and Accountability Act (HIPAA)
- California Consumer Privacy Act (CCPA)
- Federal Information Security Management (FISM)

2. Security Legislation

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Data Protection is very important mainly because of:

- Confidentiality
  - Lithan Academy's data is full of student records, payment information, invoices and private business data which can be detrimental if leaked.
- Availability
  - This helps Lithan Academy's data be easily accessible and utilized without any risks of it falling into the wrong hands.

3. Security Risks

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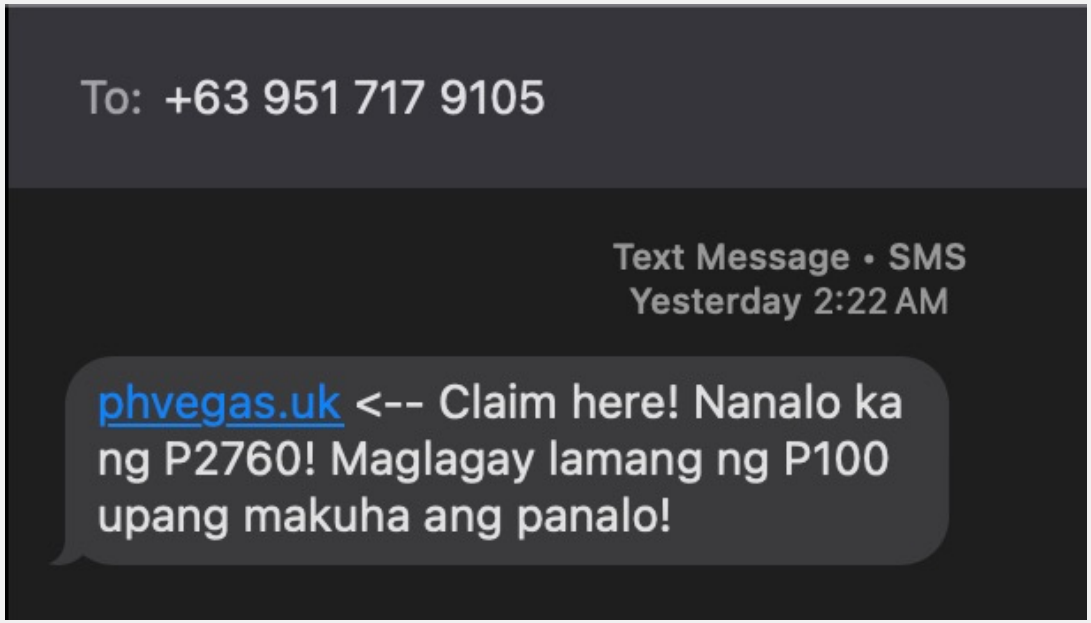
Types of Risks

- Phishing
  - Type of Cyberattack that involves the sending of fake or suspicious messages that appear to come from a legitimate source.



3. Security Risks

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Mitigate the Risk

- Phishing
  - Employ a robust email filtering system which can detect and separate suspicious emails before they reach the user.
  - Educating users through training to look out for Phishing scams with examples.
  - Implement a Multi-Factor Authentication System for your account.

3. Security Risks

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- Malware
  - Also known as Malicious Software, is a type of software mainly designed to harm the victim's computer.

3. Security Risks

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Mitigate the Risk

- Malware
  - Use a trusted antivirus software and keep it updated.
  - Implement and utilize a strong firewall system configuration and keep it updated as well.
  - Educate users about safe browsing habits, avoiding suspicious links or downloads, and the importance of exercising caution with email attachments.

3. Security Risks

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- Data Breaches
  - A type of Security Risk that involves an attacker having unauthorized access with the intention of stealing information.

3. Security Risks

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Mitigate the Risk

- Data Breaches
  - Conduct regular security audits and vulnerability assessments to find security issues early.
  - Implement strict access controls and encryption protocols for sensitive data to limit unauthorized access.
  - Develop and enforce robust data breach response and notification procedures to minimize the impact.

4. Organizational Security Procedures

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Risk Management

4. Organizational Security Procedures

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Access Controls

- Authentication and Authorization
- Regular Audits
- Physical and Logical Controls

4. Organizational Security Procedures

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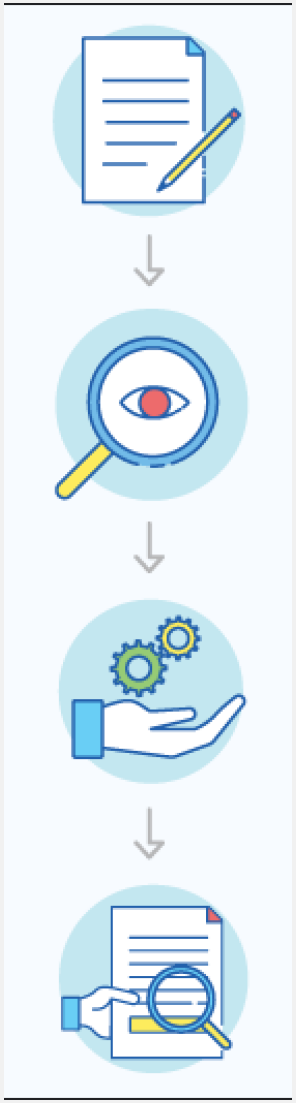

- **Preparation**: Form an incident response team and assign roles and tasks. Create and disseminate incident response policies and procedures.
- **Detecting and Analysis**: Set up monitoring mechanisms to detect security problems. Analyze and classify incidents according to their severity and impact.
- **Containment, Eradication, and Recovery**: Take urgent steps to limit the issue, eliminate the cause, and restore affected systems and data.
- **Review**: Conduct a post-mortem analysis to identify the root cause, enhance response protocols, and apply lessons to prevent future events.

5. Security Technologies

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5. Security Technologies

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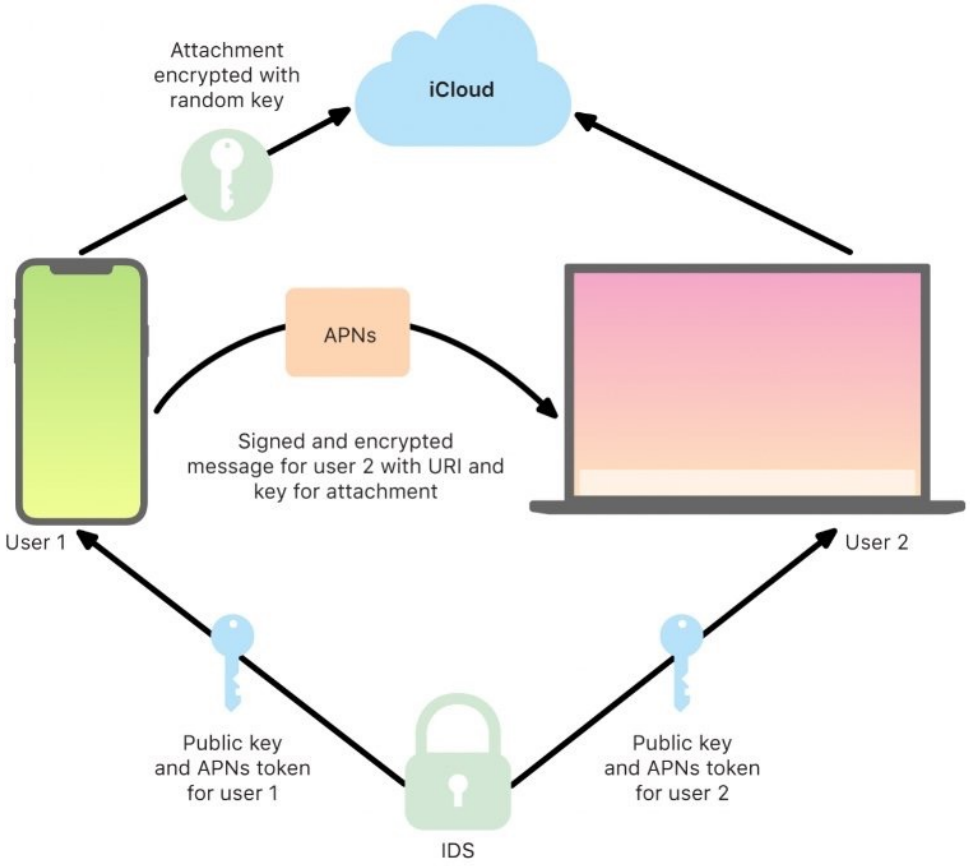
Encryption



5. Security Technologies

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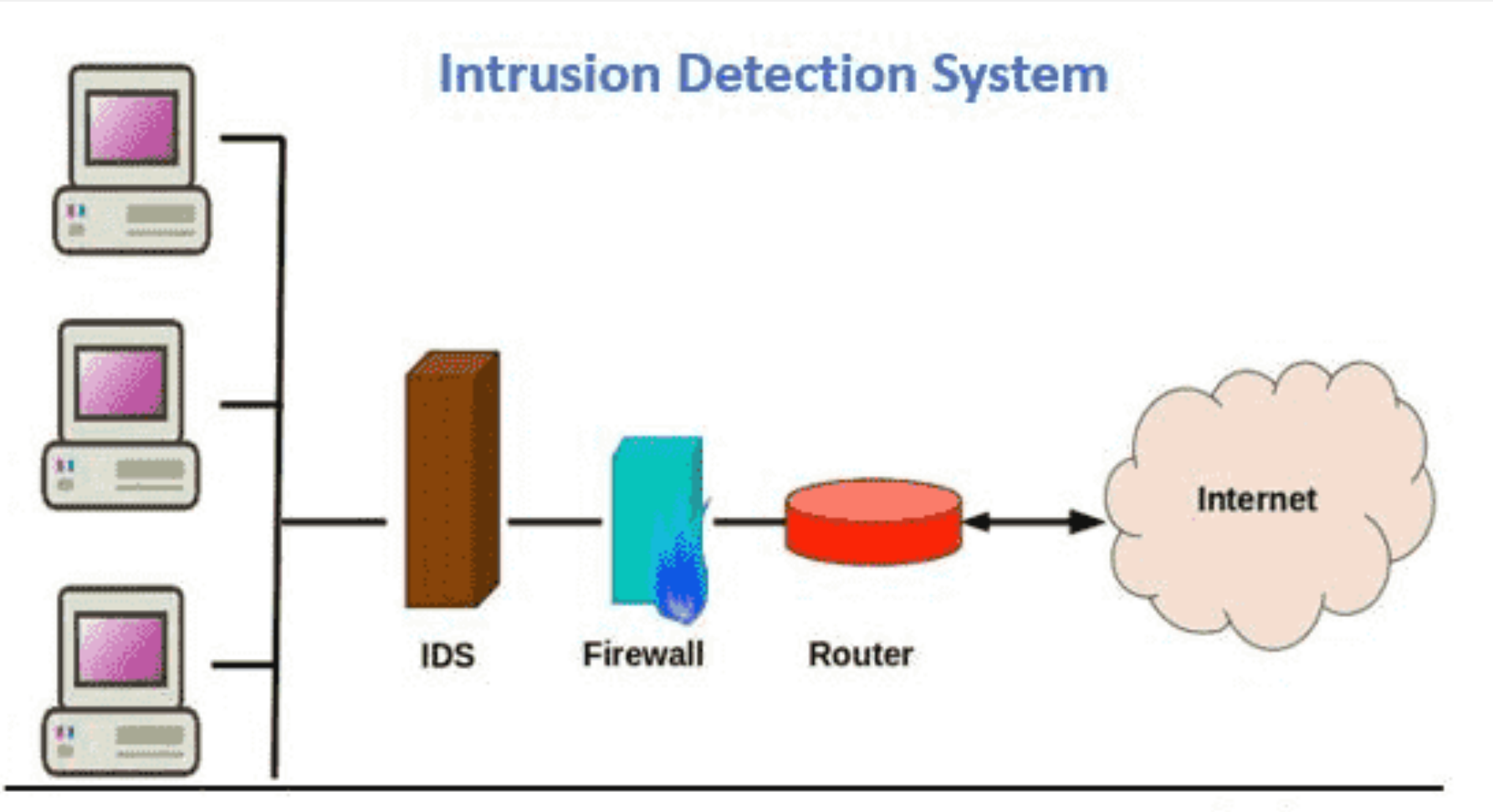

6. Tools and Software

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Antivirus Software

- McAfee
- Sophos
- Kaspersky

6. Tools and Software

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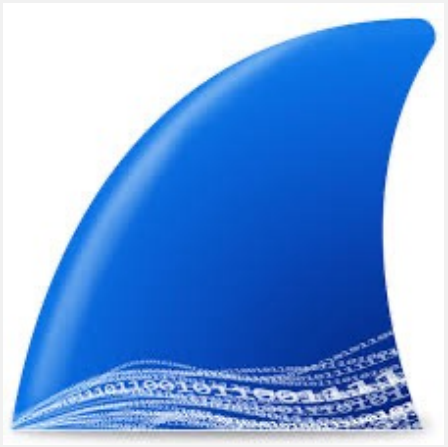
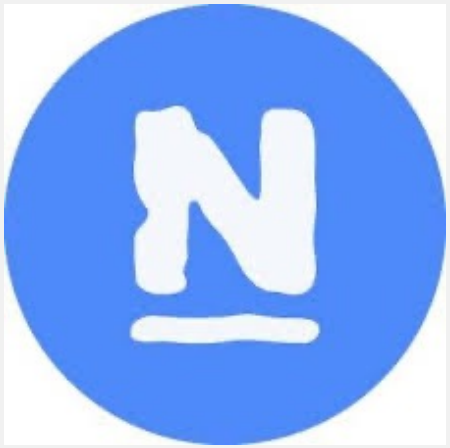
Network Monitoring Tools

- Wireshark
- Zabbix
- Nagios





6. Tools and Software

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Security Information and Event Management Systems

- Splunk
- ArcSight
- IBM Radar

7. Trusted Networks

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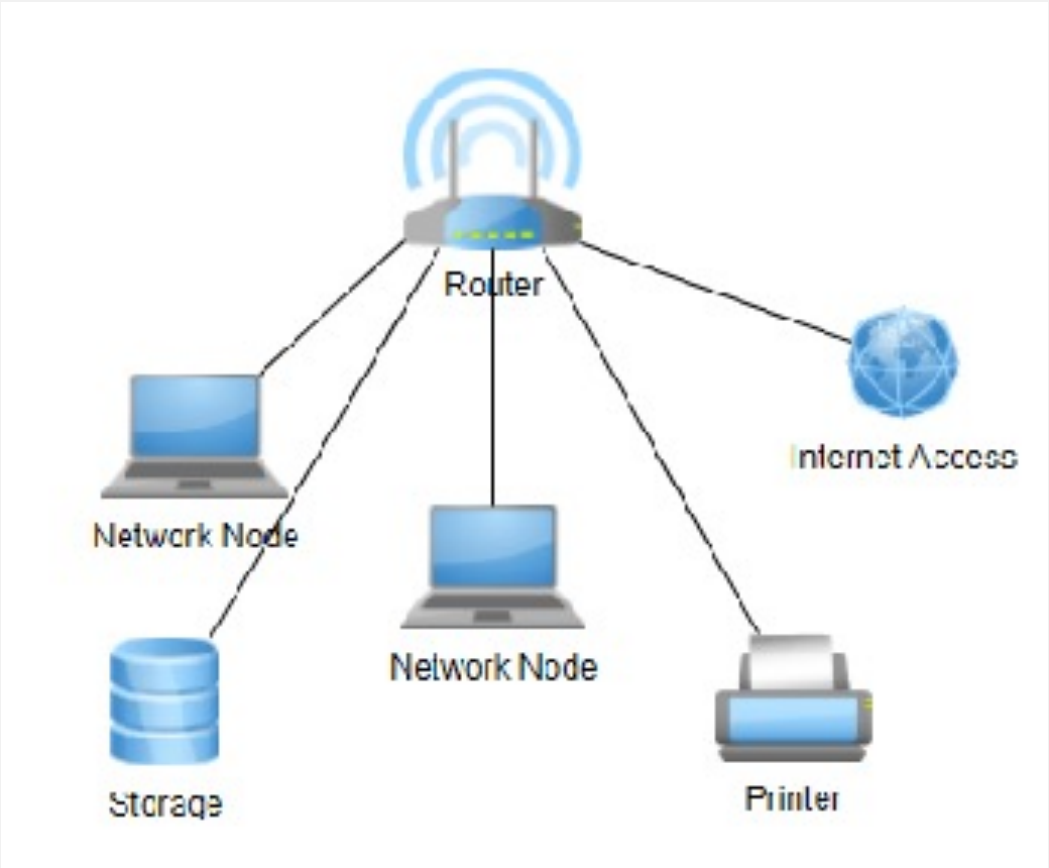
Is a network of devices that are connected to each other, open only to authorized users, and allows for only secure data to be transmitted.



7. Trusted Networks

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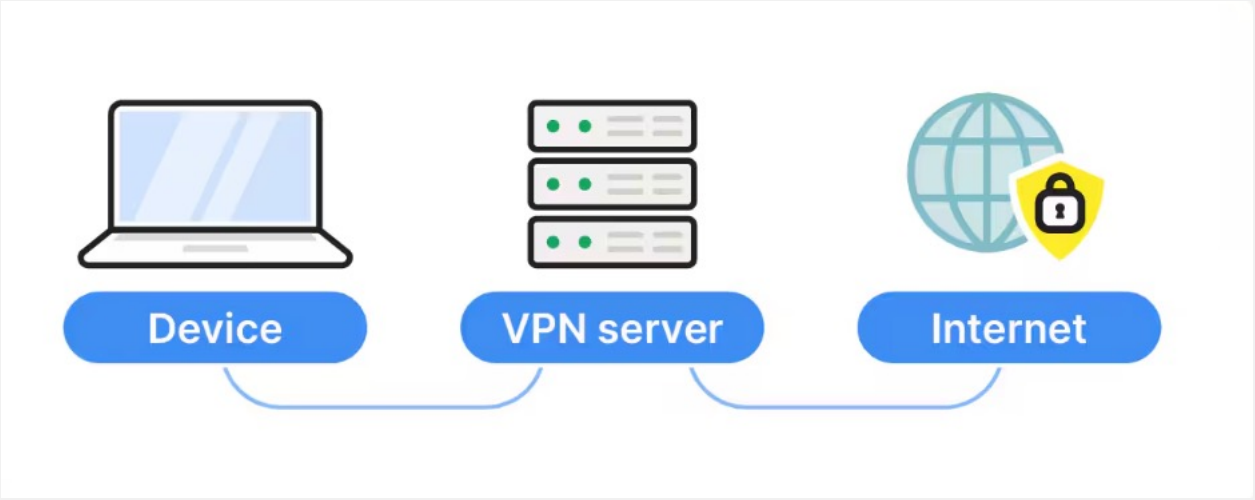
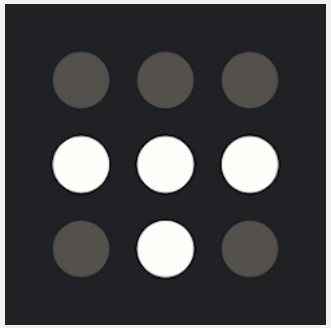
Virtual Private Networks

- it's a service that protects your online privacy and internet connection. VPNs encrypt your data and mask your IP address, which hides your identity, location, and browsing activity.





7. Trusted Networks

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Zero Trust Security

- a security model based on the principle of maintaining strict access controls and not trusting anyone by default, even those already inside the network perimeter.

7. Trusted Networks

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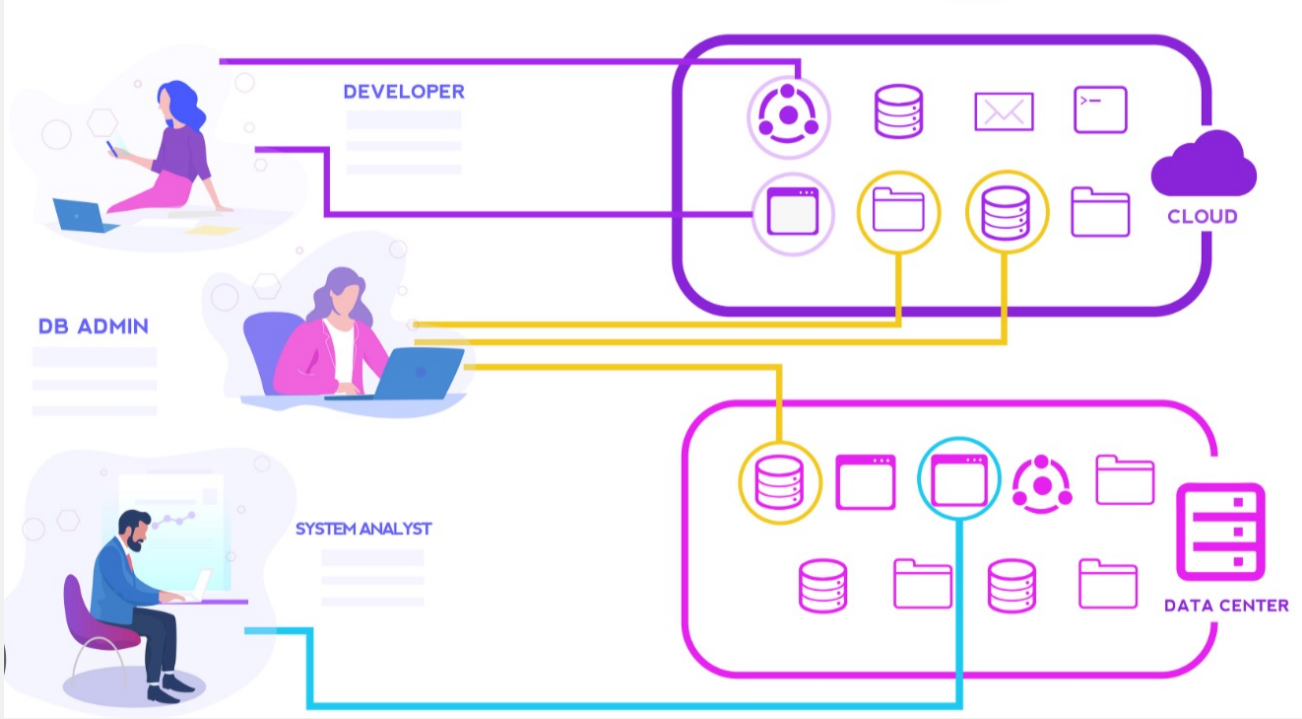
Software Defined Perimeter

- a way to hide Internet-connected infrastructure (servers, routers, etc.) so that external parties and attackers cannot see it, whether it is hosted on-premise or in the cloud.



8. Logical Diagram

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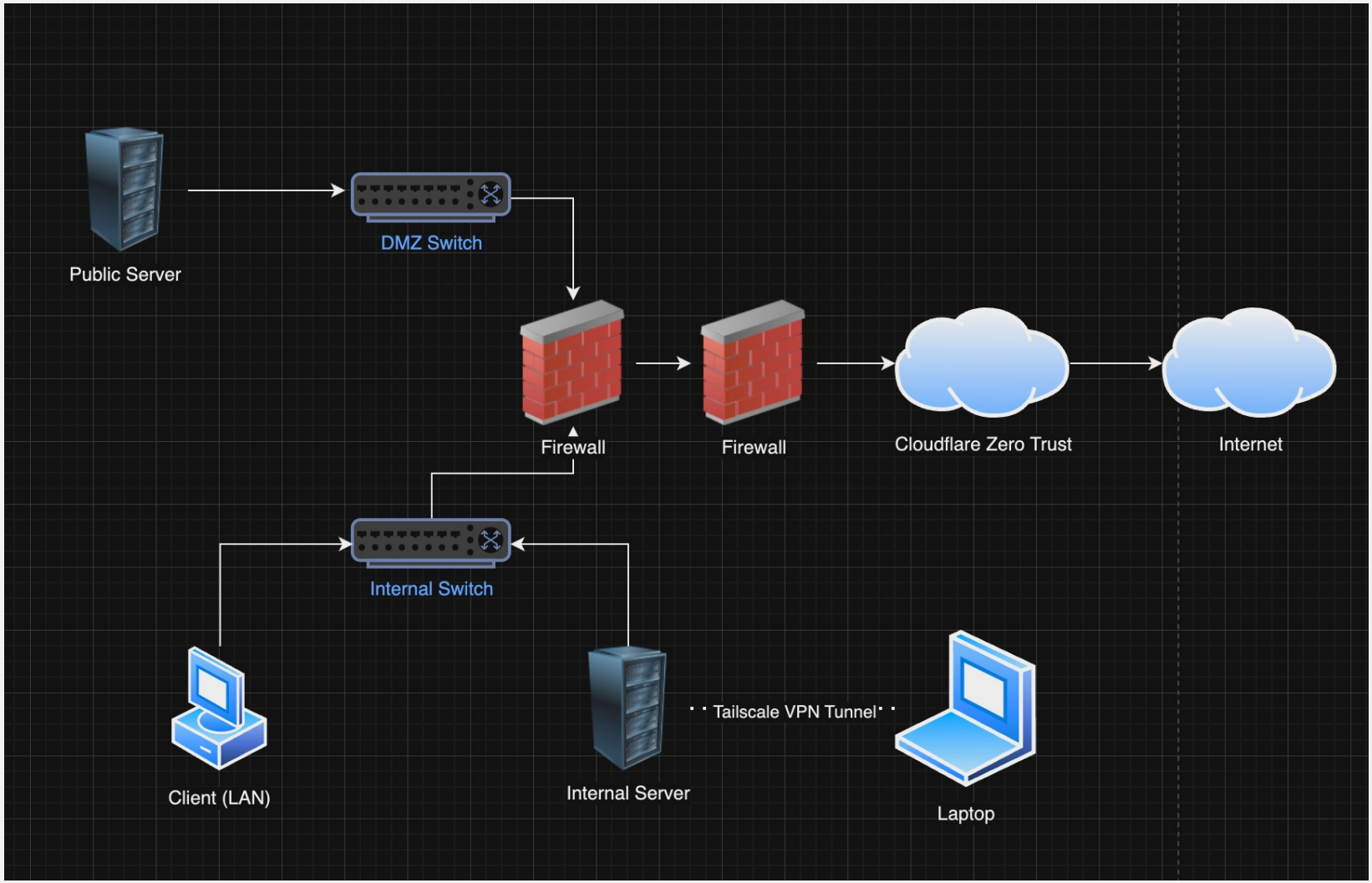

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