

# **Cybersecurity**

# **Essentials**

**The Beginner's Guide**

*Ojula Technology Innovations*

# **Cybersecurity Essentials**

## **The Beginner's Guide**



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# **Table of Contents**

## **Contents of This Sample**

How this Book can Help You

1. What is Cybersecurity?

    1.1. Learning Objectives

    1.2. Security Threats: Confidentiality, Integrity, and Availability

        1.2.1. The CIA Triad

## **Contents of Rest of Book**

    1.2.2. Regulatory Standards

    1.3. Security and Information Privacy

        1.3.1. Data and Information Assets

        1.3.2. Intellectual Property

        1.3.3. Data-driven Business Decisions

    1.4. Threats and Breaches

        1.4.1. Hardware Threats

        1.4.2. Data Threats

        1.4.3. Software Threats

    1.5. Threat Types

        1.5.1. Impersonation

        1.5.2. Snooping Attack

1.5.3. Eavesdropping Attack

1.5.4. Man in the Middle (MITM) Attack

1.5.5. Replay/Repeat Attack

1.5.6. Password Cracking: Brute Force, Dictionary & Rainbow Attacks

1.5.7. Unauthorized Information Alteration

1.5.8. Denial of Service: DoS & DDoS

## 2. Security Threats

2.1. Password Management Techniques

2.1.1. Managing Passwords

2.1.2. Password Policies

2.1.3. How to Create Strong Passwords

2.1.4 Password Confidentiality

2.1.5. Password Reuse

2.1.6. Password Expiration

2.1.7. Single-factor Authentication

2.1.8. Two-factor Authentication

2.1.9. Multifactor Authentication

2.1.10. Identification Factors

2.1.11. Single Sign-on (SSO)

2.1.12. Password Managers

## 2.2. Access Control, Authorization, and Authentication

### 2.2.1. The Three A's

### 2.2.2. How the Three A's Work Together

### 2.2.3. Digital Accounting

## 2.3. Hardening Devices

### 2.3.1. Apps & Operating Systems

### 2.3.2. Encryption

### 2.3.3. Device Lock

### 2.3.4. Disabling Features and Ports

### 2.3.5. Firewalls and VPNs

### 2.3.6. Open WI-FI vs Secure WI-FI

### 2.3.7. Default Passwords

## 2.4. Validation and Device Usage

### 2.4.1. Software Sources Validation

## 2.5. Encryption Concepts

### 2.5.1. What is Encryption?

### 2.5.2. Data at Rest

### 2.5.3. Data in Motion

### 2.5.4. Symmetric Encryption

### 2.5.5. Asymmetric Encryption

2.5.6. Public Key Infrastructure

2.5.7. Cryptographic Hashes

2.6. Managing Email and Spam

2.6.1. How to Identify & Manage Spam

2.6.2. How to Identify Suspicious Emails

3. Safe Browsing Practices

3.1. Application Ecosystem Security

3.1.1. Mobile Applications

3.1.2. Rooting & Jailbreaking

3.1.3. Desktop Software

3.1.4. Business Software

3.1.5. Corporate Network

3.2. Public Browsing Risks

3.2.1. Free & Open Networks

3.2.2. Public Browsing Risks

3.2.3. Social Networking Sites & How to Protect Yourself

3.2.4. Instant Messaging

3.2.5. Internet Browser & Versions

3.3. Browser Security Settings: Plug-ins, Extensions & Toolbars

3.3.1. Browsers

3.3.2. Security Zones & Settings

3.3.3. Browser Add-ons: Plug-ins, Extensions & Toolbars

3.3.4. Cookies

3.3.5. Security Certificates

3.3.6. Browser Updates

3.4. Safe Browsing Techniques

3.4.1. Autofill Management

3.4.2. Browser Cache & History

3.4.3. Private Browsing (Incognito Mode)

3.4.4. Malicious Websites

3.4.5. Safe Websites

3.4.6. Adware & Popups

3.4.7. Redirection

3.4.8. Warning Signs

3.5. Virtual Private Networks

3.5.1. Encrypted Tunnel

3.5.2. Site-to-site VPN

3.5.3. Host-to-Site VPN

3.5.4. Host-to-host VPN

3.5.5. VPN Hardware

### 3.5.6. Internet Protocol Security (IPSec)

4. Wrap up

5. Self-assessment Test

## How this Book can Help You

If you need to read only one book to acquire a strong foundation in cybersecurity fundamentals, make it this one. This is not just another book on cybersecurity. It is a well-illustrated *practical* guide designed for beginners to familiarize them with the latest cyber security landscape and provide the knowledge of relevant tools to assess and manage security protocols in information processing systems. It is a self-paced book that is excellent for beginners, practitioners and scholars alike.

After completing this book, you will be able to:

- Explain basic security risks, security of data and information, types of security breaches, and how to manage security threats
- Demonstrate how to configure browsers and safe browsing practices
- Identify security threats and explain how to address them in applications and shared networks

Whether you're skilling up to become a Help Desk Support Specialist, Security Specialist, Virtual Customer Service Agent, or just want to learn the basics of working in and managing security and security systems, you need a strong foundation in security fundamentals.

This course is divided into three modules:

- Common Security Threats and Risks
- Security Best Practices
- Safe Browsing Practices

You'll learn about common security risks and the importance of information privacy. You'll also learn various ways to identify and protect your organization against different types of security breaches and malware threats, and you'll discover more about confidentiality, integrity, and availability.

You'll learn about security best practices, creating effective passwords, and securing devices. You will learn about authentication, authorization, and accounting, and how these concepts help secure devices, validate devices and servers, encrypt devices, and manage email and spam.

You'll learn about safety concerns with applications and public browsing, including managing plug-ins, extensions, and toolbars. You will learn about web browser security configurations, cookies, and computer caches.

To successfully complete this guide, you should be familiar with:

- Basic computer operating skills
- Basic knowledge of computer terminology
- Knowledge of switching applications
- Familiarity with MS Windows OS

# 1. What is Cybersecurity?

Cybersecurity is the practice of protecting systems, networks, and programs from digital attacks. These attacks typically include business interruptions or the theft, tampering, or destruction of sensitive information.

Ransomware attacks are on the rise and are predicted to cost victims more than \$265 billion (USD) annually by 2031. That is just one type of threat we all need to protect against. The need for organizations to implement effective security practices has never been more important or urgent.

This module will teach you the skills you need to identify basic security threats and choose the best security practices to address those threats. In this chapter, you'll learn the difference between data, information, and insights and how companies leverage all three to help guide their business decisions. You'll learn how to maintain data integrity and keep data confidential. You'll also learn about the different types of attacks and breaches that threaten today's organizations and their data.

## 1.1. Learning Objectives

- Explain how to keep data safe, confidential, and tamper-resistant
- Define what data is, how it drives business decisions, and how companies manage it
- Identify security threats like hacking, data theft, malware, and data leaks
- List other types of attack vectors used by cybercriminals

## 1.2. Security Threats: Confidentiality, Integrity, and Availability

After studying this section, you will be able to:

- Explain what the CIA Triad is
- list concerns related to the CIA Triad
- define common regulatory standards and penalties

### 1.2.1. The CIA Triad

A comprehensive security program must include confidentiality, integrity, and availability. These are known as the CIA Triad.

Confidentiality means that data is protected from unauthorized access. Integrity means that data is protected from unauthorized changes. Availability means that you have access to your data whenever you need it.

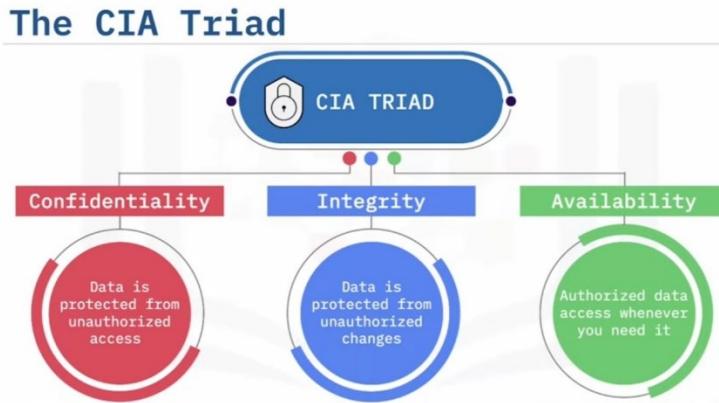


Figure 1.1: Components of the CIA Triad

#### Confidentiality

When confidential data is exposed beyond the intended audience, it causes risk. Confidential information is kept secret to prevent: identity theft, compromised accounts and systems, legal concerns, damage to reputation, and other severe consequences.

## Confidentiality



*Figure 1.2: Facts about Confidentiality*

To determine if data should be confidential, ask: Who is authorized? Do confidentiality regulations apply? Are there conditions for when data can be accessed? What would the impact of disclosure be? Is the data valuable?

Cybercriminals are always after sensitive information or personal data. To keep confidential data secure, control data access and use security tools like encryption and multifactor authentication (MFA).