

EX.NO: 2
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SECURITY PRINCIPLES


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Aim:

To understand the **CIA triad, security models, Defense-in-Depth, Zero Trust, and threat vs. risk** in cybersecurity.

Procedure:

1. **Learn the CIA Triad**
Study the core principles of cybersecurity: Confidentiality, Integrity, and Availability.
2. **Understand DAD Threats**
Explore how Disclosure, Alteration, and Destruction impact security and data protection.
3. **Explore Security Models**
Understand security models such as Bell-LaPadula, Biba, and Clark-Wilson, and their role in defining access control and integrity.
4. **Apply Defense-in-Depth**
Learn how to implement multiple layers of security to protect systems and data at various levels.
5. **Study ISO/IEC 19249 Security Framework**
Review the international standard that defines security design principles for IT systems.
6. **Compare Zero Trust vs. Trust but Verify**
Analyze the Zero Trust model which assumes no inherent trust, versus the traditional "Trust but Verify" approach.
7. **Differentiate Threats from Risks**
Understand the difference between threats (potential harm) and risks (likelihood and impact of harm).



Security Principles

Learn about the security triad and common security models and principles.

Easy 90 min

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Room completed (100%)

- Task 1 Introduction
- Task 2 CIA
- Task 3 DAD
- Task 4 Fundamental Concepts of Security Models
- Task 5 Defence-in-Depth
- Task 6 ISO/IEC 19249
- Task 7 Zero Trust versus Trust but Verify
- Task 8 Threat versus Risk
- Task 9 Conclusion

TASK 2 : CIA:

Click on "View Site" and answer the five questions. What is the flag that you obtained at the end?

THM{CIA_TRIAD}

✓ Correct Answer

💡 Hint

TASK 3 : DAD:

The attacker managed to gain access to customer records and dumped them online. What is this attack?

Disclosure

✓ Correct Answer

A group of attackers were able to locate both the main and the backup power supply systems and switch them off. As a result, the whole network was shut down. What is this attack?

Destruction/Denial

✓ Correct Answer

TASK 4 : FUNDAMENTAL CONCEPTS OF SECURITY MODELS

Click on "View Site" and answer the four questions. What is the flag that you obtained at the end?

THM{SECURITY_MODELS}

✓ Correct Answer

TASK 5 : DEFENCE-IN-DEPTH

Make sure you have read the above.

No answer needed

✓ Correct Answer

TASK 6 : ISO/IEC 19249

Which principle are you applying when you turn off an insecure server that is not critical to the business?

2

✓ Correct Answer

Your company hired a new sales representative. Which principle are they applying when they tell you to give them access only to the company products and prices?

1

✓ Correct Answer

While reading the code of an ATM, you noticed a huge chunk of code to handle unexpected situations such as network disconnection and power failure. Which principle are they applying?

5

✓ Correct Answer

TASK 7 : ZERO TRUST VERSUS TRUST BUT VERIFY

Make sure you have read the above.

No answer needed

✓ Correct Answer

TASK 8 : THREAT VERSUS RISK

We should use a removable drive on systems **without** a TPM version 1.2 or later. What does this removable drive contain?

startup key

✓ Correct Answer

🔍 Hint

Result:

TryHackMe platform **Security Principles** tasks have been successfully completed.