

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING  
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**CSE6001: Advanced Database Systems**  
**Database Privacy and Security: Concepts, Risks and Practices**

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# Introduction

## Common Database Security Issues

Data corruption due to the entering invalid data and or commands, also mistake in the database can result weakness in database or repository systems. According to the NCC Group Study, UK following are the common database security issues.[1]

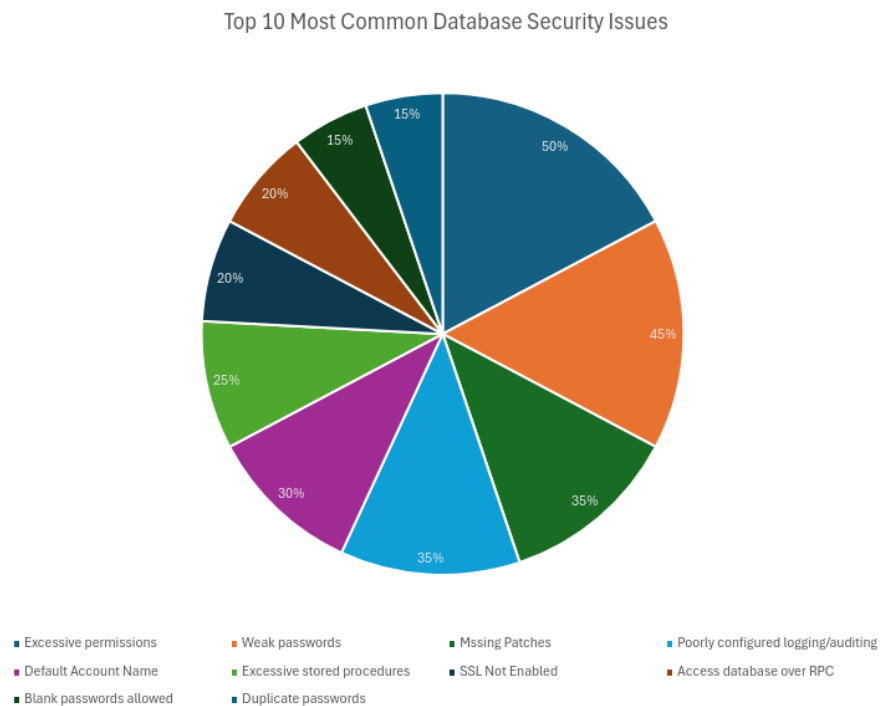
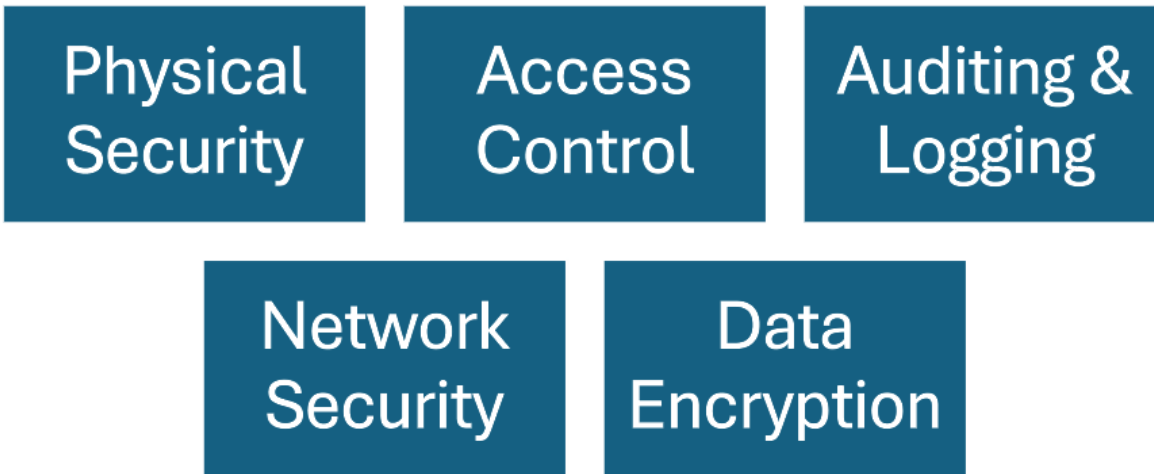


Figure 1: Some of the common Database Security Survey (NCC Group Survey, UK)

## Types of Database Security



- **Physical Security:** Physical Security means protecting database from unauthorized access physical level. This means applying security in server rooms, monitoring who has privileges and enter the data center, and also using enough security cameras and alarming systems.
- **Access control:** Access control states that Implementing restrictions database access to authorized users only. It includes several key components, authentication, authorization.
- **Network Security:** Network Security implies preventing harm to the database from unauthorized access and keeping the database safe from network-based threats.

There are several Key measures we can take like firewalls, intrusion detection systems, encryption, Virtual Private Networks, Access Control, Network Segmentation, Patch Management, Secure Network Protocols, DDoS Protection, Network Monitoring, User Education and Awareness, Zero Trust Security and so on.

# References

- [1] Database Security: An Overview and Analysis of Current Trend