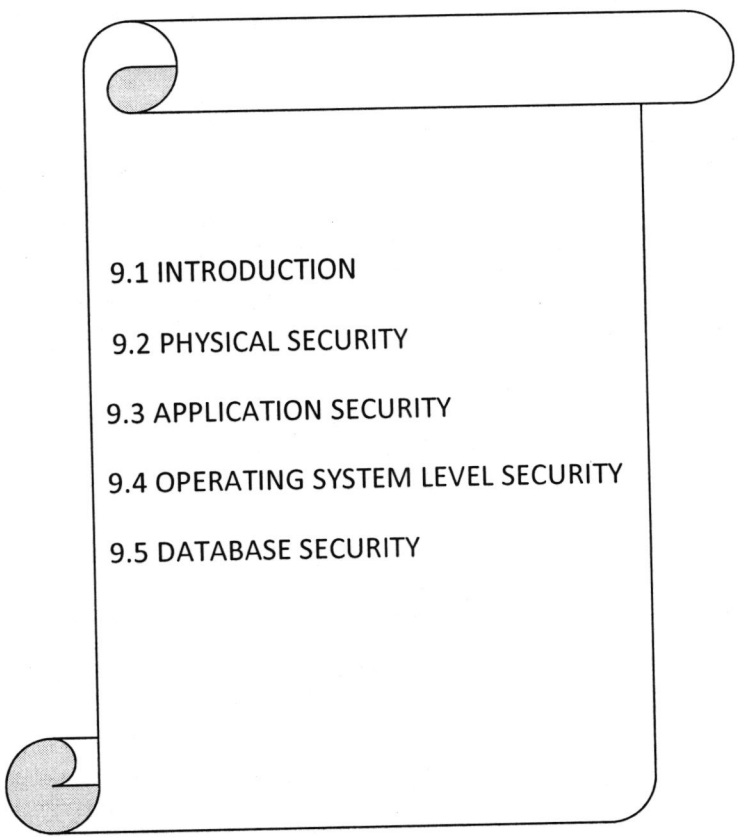
# CHAPTER 9: SECURITY OF THE SYSTEM



# CHAPTER 9: SECURITY OF THE SYSTEM

## 9.1 INTRODUCTION

The system security problem can be dived into four related issues: **security, integrity, privacy, and confidentiality**. They determine the files structures, data structure and access procedures.

System security refers to the technical innovations and procedures applied to the hardware and operating systems to protect against deliberate or accidental damage from a defined threat.

System integrity refers to the proper functioning of the hardware and programs, appropriate physical security, and safety against external threats.

Privacy defines the rights of the users or organizations to determine what information they are willing to share with or accept from others and how the organization can be protected against unfair or excessive dissemination of information about it.

The term confidentiality is a special status given to sensitive information in a database to minimize the possible invasion of privacy.

## 9.2 PHYSICAL SECURITY

Security means the protection of data against the unauthorized access. Programs and data can be secured by issuing Login name, password and the Server name. The program is run through the Standard EXE and other programmers can't make changes to the procedures and module. But there is hazard of proxy User. If anyone knows the password and login name of the system he can easily access the data and changes. So, the users are advised to change the password very frequently.

## 9.3 APPLICATION SECURITY

In case of my project I have designed one login form for the application security. The administrator must know the correct **userid** and **password** to access the whole software; otherwise it is no possible to run the system. Keeping the security of the password will be the responsibility of the individual user.

## 9.4 OPERATING SYSTEM LEVEL SECURITY

Windows Server 2008 introduces a new and improved firewall; the Windows Firewall with Advanced Security. The new Windows firewall introduces many improvements and is very similar to the firewall that was included with Windows Vista. Features included with the new Windows Firewall with Advanced Security include:

- Granular inbound access control
- Granular outbound access control
- Tight integration with the Windows Server 2008 Server Manager, with automatic configuration of the firewall when services are installed using the Server Manager
- Highly improved IPsec policy configuration and management, and a name change. IPsec policies are now referred to as **Connection Security Rules**
- Improved monitoring of firewall policy
- Improved monitoring of IPsec policies (now called Connection Security Rules)
- Improved centralized monitoring of Main and Quick Mode Security Associations

There are many configuration options included with the Windows Firewall, so this article will be split into three parts, this first part is about basic general configuration options for the firewall and for IPsec policies. The second part will focus on how to create inbound and outbound rules, and the third part will hone in how to create connection security rules.

## 9.5 DATABASE SECURITY

The data should be secured from access of the unauthorized access and modification; the management system software is developed. SQL server is scalable, high-performance database management system with build-in replication capabilities, Internet integration, open system architecture, and powerful graphic-based management tools that are designed specifically for distributed client/server computing. It has highly dedicated security system. The database cannot be accessed by the user other than database administrator or data owner. The data can be accessed from application by other users only if she/he has access privileges. So, it is DBA's responsibility to maintain a secure database. He gives the users different roles and different privileges to maintain private data from other users. The DBA can backup and restore database to provide an important safeguard for protecting critical data stored in SQL server databases.

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