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MINI PROJECT 2021

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Topic: -SQL vulnerability assessment using SSMS and others

MOTIVATION

As we all know databases are very useful in organizing information in terms of data, this data can be easily accessed and managed and updated, many businesses use databases to store their user data in the database in terms of their login details and other credential information about how their employees are related with their company or business firms.

Database act as a centralised place to store data, with a recent survey In 2018, the total amount of data created, captured, copied and consumed in the world was 33 zettabytes (ZB) – the equivalent of 33 trillion gigabytes. This grew to 59ZB in 2020 and is predicted to reach a mind-boggling 175ZB by 2025. from this I got an idea about how data security is very important but now the question arises in what ways SQL databases are vulnerable?

This database can be vulnerable to SQL injection, data breaches, data exposure and many more.

With the help of my current semester knowledge through my subjects that are Database management systems and agile software engineering. Many development tools are predefined already to solve this problem with my peculiar knowledge about coding and all I choose this project and learnt many things about organizing data in correct way which can be visualised as a perfect asset for many big companies.

BASIC IDEAS

**What is an SQL database?**

SQL stands for Structured Query Language. Used for updating, insertion and deletion in the relational database. A SQL database works on the collection of tables that store a specific set of structured data(data that is not in clustered form and have labels so that operation can be performed on it).

SQL have become a trend for the American countrywide requirements Institute (ANSI) in 1986, and the worldwide company for Standardization (ISO) in 1987.

**What Can SQL do?**

* SQL can query towards a website
* SQL can retrieve information from a website
* SQL can add facts to a website
* SQL can update records on an internet site
* SQL can delete statistics on an internet site
* SQL can create new information
* SQL can create new tables on an internet site
* SQL can create tactics stored on an internet site
* SQL can create an internet site view
* SQL can set permissions for tables, methods, and perspectives

**what is SQL vulnerability assessment?**

SQL vulnerability evaluation or assessment is a service that provides visibility into your safety nation in the context of the database you have created. Vulnerability evaluation includes actionable steps to solve security problems and improve your database protection. It will let you display a dynamic database environment where changes are tough to music and enhance your square safety posture.

**WHAT ARE THE SOFTWARE I HAVE USED?**

**SQL SERVER MANAGEMENT STUDIO**

SQL Server Management Studio (SSMS) is an incorporated surrounding for managing any SQL infrastructure, from SQL Server. SSMS gives equipment to configure, display, and administer instances of SQL Servers and databases. Use SSMS to install, monitor, and upgrade the many-tier components used by your packages, and build queries and scripts.

Use SSMS to query, design, and manipulate your databases and statistics warehouses, wherever they may be - for your nearby pc, or inside the cloud.

SSMS presents a single comprehensive application that combines an extensive institution of graphical tools with some of the wealthy script editors to offer to get entry to SQL Server for builders and database directors of all skill levels.

**AZURE DATA STUDIO**

Azure records Studio is a move-platform database tool for statistics professionals using on-premises and cloud records structures on home windows, macOS, and Linux.

Azure information Studio offers a present-day editor enjoy with IntelliSense, code snippets, supply control integration, and an included terminal. it is engineered with the information platform user in thoughts, with the integrated charting of question result sets and customizable dashboards. The source code for Azure records Studio and its facts companies is available on GitHub under a source code EULA that gives rights to alter and use it.

**DATABASE AND THEIR DIAGRAM**

The database we have created in this project are of relational database type the two databases created are named as

1.car\_company

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2. People

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3.sales\_of\_parts

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**REPORT EVALUATION BY BOTH THE SOFTWARES**

**1.CAR\_COMPANY**

BY SSMS

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BY ADS

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**2. people**

By SSMS

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By ADS

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**3.sales\_of\_parts**

By SSMS

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By ADS

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Conclusion about project

These vulnerabilities are there then looked after by the team and are looked after if we want to make them baseline or not. The baseline simply means that no changes are needed in that as that service is needed to be operated in that way only, these baseline threats are majorly consisting of medium or low-risk chances and can be ignored in fully mannered.

Other than these baselines to counter other vulnerabilities the remedies are already explained and pre-defined within the software. the software through which I run the Microsoft defenders mechanism is run is from Microsoft. Moreover, if we talk about database it consists of different scenarios like the car sale is showing the working of car sales from different showroom and relation of order delivery and customer details, then people showroom is showing details of employees working in the company with their images which can be used to as biometrics system to see if that employee was present on that day or not. The next database(sales\_of\_parts) is taken from my database management system assignment about product and client master details about sell of computer hardware parts and other peripherals.

I enjoyed working on this project as it makes me industrial ready as I have gotten to groom myself with the very basics of DBMS and how azure data studio works.

Acknowledgement

<https://towardsdatascience.com/azure-data-studio-or-ssms-which-should-i-use-1db49824a39> <https://www.youtube.com>

<https://docs.microsoft.com/en-us/sql/?view=sql-server-ver15>

