Querying Over Encrypted Databases in a Cloud Environment
BY USING SQL_server

Abstract
The adoption of cloud computing has created a huge shift in where data is processed and stored. Increasingly, organizations opt to store their data outside of their own network to gain the benefits offered by shared cloud resources. With these benefits also come risks; namely, another organization has access to all of the data. A malicious insider at the cloud services provider could steal any personal information contained on the cloud or could use the data for the cloud service provider's business advantage. By encrypting the data, some of these risks can be mitigated. Unfortunately, encrypting the data also means that some commonly used operations, such as equality testing or search, do not work because encryption also obfuscates these properties.
This thesis proposes a system that allows for data to be encrypted with a minimal impact on data accessibility and usability in its encrypted format. This is achieved by carefully selecting the encryption methods used with the goal of preserving properties of the data that are required for the SQL server's functionality. By preserving only order, equality, and the ability to perform addition, common data operations can still be performed. The system was implemented in C# programming language as a proof-of-concept to show that the encrypted data is still operable on, and to compare it to existing systems. The impact from implementing this system on the database size, query encryption and decryption time, and data security is measured and compared to a similar system, showing that it is feasible for use.

The technologies, tools and programming languages that I am used in various phases of the development process are: -

- C# Programming language
- Asp.net
- Sql Server
- Also using Blowfish Algorithm
- Taking Email as example for solve this problem

An ideal-security protocol for order-preserving encoding in Security and Privacy.
The highlight the novelty in my study is by comparing my work with the other work that was done by others students in my colleague and pointing out the things that I discover it does which was never done before.