**Install SQL Server**

1. **With the help of google, find the links of 2014, 2016, 2017 and 2019 Sql Server Developer edition.**

All the legacy SQLs can be downloaded from here:

https://visualstudio.microsoft.com/dev-essentials/

1. **Install sql server 2019 (not 2022)**

I will download it doay

**Write notes about the topics:**

1. **Difference between Basic Installation and Custom Installation**

* Basic installation installs only basic features with standard settings.
* Custom installation allows us to choose what features to install. It also allows us to choose settings and other configurations.

1. **What is “zeroing out a new space” mean? What does Instant File Initialization (or INI) mean?**

Zeroing means the operation system will do low level formatting writing zeros on the storage that it wants to allocate to the database files.

When SQL Server wants to allocate space for database operations like creating/restoring a database or data files, it fills the needed space with zeros.

Instant file initialization (IFI) is a setting that allows SQL Server to skip the zero-writing step on that space that it wants to use for database files. There is a check mark during SQL server installation where we can decide whether we want this IFI or not. We can also change this permission if when we want.

1. **Windows Authentication vs Mixed Mode Authentication**

Windows Authentication uses windows credentials to access databases. Any client having access or connected to the windows can access the database without having database credentials. Window uses certificate-based security mechanism.

Mixed Mode, SQL Authentication Mode, uses a SA account. This mode requires a username and password to authenticated and connect to the SQL server.

We can choose this option during server installation and latter if we want, we can change editing windows registry key.

1. **What is “trusted connection = true” in connection string?**

When it set to true, sspi and, yes, it uses the current windows credentials for server authentication. And if set to false or no, it requires SA username and password.

To use ‘trusted connection = true’, the user/windows credentials must be registered to the domain that has SQL server and the users must have necessary permissions.

1. What are NT accounts for SQL Server and SQL Server Agent?
2. What are the minimum permissions of those two NT Accounts?
3. Database engine (What is it and what is its role? In bookish defintion and layman’s term)
4. Buffer manager (What is it and what is its role? In bookish defintion and layman’s term)
5. Query Optimizer (What is it and what is its role? In bookish defintion and layman’s term)
6. Query Plan (What is it and what is its role? In bookish defintion and layman’s term)
7. Record a video where you would walk me through the architecture the moment someone executes a query. Also, add a real-life reference in explaining each piece of architecture.

**What to commit in Github:**

*Under your name folder, create new folder and name it as Chapter 1.*

*Post screenshots of the links in a word document. Name it as SqlServerLinks.docx and save it inside Chapter 1.*

*Post the screenshot of management studio with sql server instance in the same word document.*

*Post notes for the topics to research about in ArchitectureFlowExplained.docx*

*Upload the recorded video in youtube as private video and post the link in the Jira task comment box.*

*Mark it as Peer Review once comitted to Github*