**Module 5: Big Picture of DB, SSIS, SSRS, IICS - Marks 20**
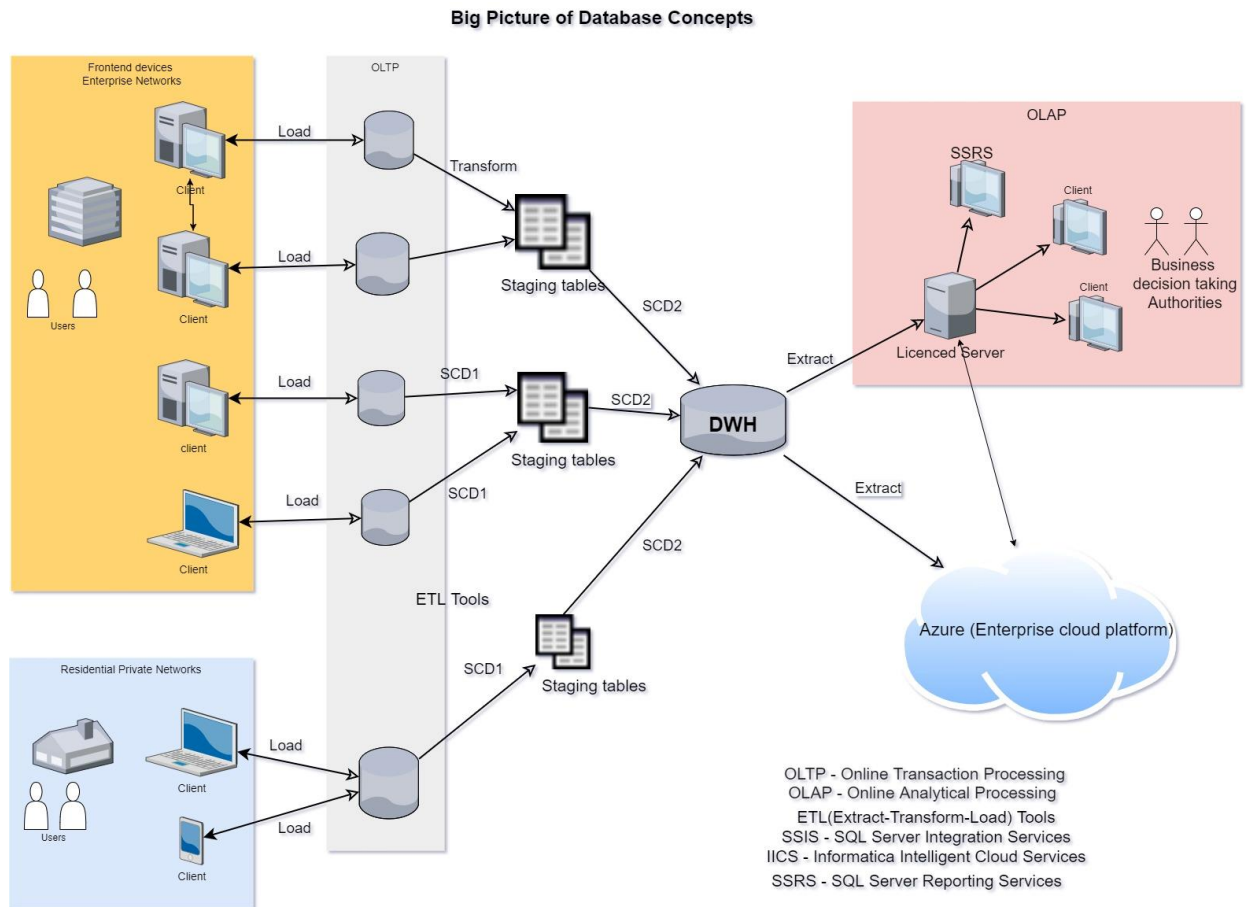
**Create a big picture of your understanding on SQL Server, SSIS, SSRS & IICS.**



**Big Picture of Database Concepts**

**Data** – It is information that can be stored and processed.

Humans have been generating and storing data since ancient times on rocks, stones, leaves, pen and paper and today most of the data is in digital form and is stored in storage units.

We are familiar with CDs, pen drives, hard disks which are available to us as local storage units, we are also familiar with cloud-based storages such as google drive and OneDrive which we can access from anywhere if we have an internet connection.

In recent times generating and storing information has increased exponentially, at the beginning of 2020 the amount of data in the world was 44 zettabytes, it is expected to reach 463 exabytes by the end of 2025.

Every company or a business needs data for all operations so the amount of data they are dealing with most of the time is huge, so they use very big data storages called as databases to store their data, to communicate with this database we use a coding language called **as SQL (Structured Query Language)**.

Many times we would need to create, insert, move, copy and alter this data for which SQL can be used, but when the amount of data we are dealing with is huge it's no longer efficient and effective to use SQL, so here **ETL (Extract Transform Load) tools** come into picture, as their name tells, they are used to Extract Transform and Load data from different sources(ex. Flat, excel, DB) to different destinations or targets (ex. Flat, excel, DB). Some examples of ETL tools are SSIS (SQL Server Integration Services) which is developed by Microsoft which runs on the on premise and IICS(Informatica Intelligent Cloud services) which is cloud based ETL tool.

**OLTP Online Transaction Processing** – It is a type of data processing that consists of executing a number of transactions occurring concurrently—online banking, shopping, order entry, or sending text messages, for example.

**SSIS**—SQL server integration services, Microsoft SQL Server Integration Services (SSIS) is a platform for building high-performance data integration solutions, including extraction, transformation, and load (ETL) packages for data warehousing.

**IICS (Informatica Intelligent Cloud Services)**— Informatica Cloud is a data integration solution and platform. It integrates **cloud-based** data with the data residing in on-premise databases and systems or between cloud applications.

**SSRS**—SQL server reporting services, it is a SQL Server subsystem that enables the creation of graphical, mobile and printed reports using SQL Server and other data sources.

**Online analytical processing (OLAP)** - is a system for performing multi-dimensional analysis at high speeds on large volumes of data.