Glossary

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Action Center	The Action Center displays notifications from all apps and programs installed on the computer.
Aggregate functions	Transact-SQL provides aggregate functions to assist with the summarization of large volumes of data.
Alias data types	These are based on the system-supplied data types. Alias data types are used when more than one table stores the same type of data in a column and has similar characteristics such as length, nullability, and type.
Allocation unit	An allocation unit is a collection of data pages grouped together based on the page type. This grouping is done for efficient management of data.
Analytics	Analysis of large sets of data for use by computer software.
Atomicity	If the transaction has many operations then, all should be committed. If any of the operation in the group fails then it should be rolled back.
Attribute	Attributes are features that an entity has. Attributes help distinguish every entity from another. For example, the attributes of a student would be roll number, name, stream, semester, and so on.
Autogrow	An event through which SQL Server expands the size of a database file when it runs out of space. The expansion size is based on the file growth option settings of the database.
Azure SQL	Azure SQL can be used to store and manage data using queries and other functions that are similar to SQL Server 2019. Azure SQL also enables users to perform relational queries, search operations, and synchronize data with mobile users and remote back offices. Azure SQL can store and retrieve both structured and unstructured data.
AlwaysOn High Availability	Used for high availability and disaster recovery. It is generally used for applications that require high uptime and failure protection.
Azure SQL Database	Is the intelligent, scalable, relational database service built for the cloud. It is always up to date, with AI-powered and automated features that optimize performance.

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Base Table	A table stored permanently in a database. Base tables are referenced by views, cursors, SQL statements, and stored procedures.
Batch	A batch is a collection of one or more Transact-SQL statements sent at one time from an application to SQL Server for execution. The Transact-SQL statements in a batch are compiled into a single executable unit, called an execution plan.
Binary relationships	Relationships that exist between entities of two different entity sets are called binary relationships. For example, an employee belongs to a department.
B-tree	In SQL Server, all indexes are structured in the form of B-Trees. A B-Tree structure can be visualized as an inverted tree with the root right at the top, splitting into branches and then, into leaves right at the bottom.
Business Intelligence	The methodologies that collect, keep, report, and analyze business data that can help business decisions.
Business rule	Is the policy and standard adhered to by an organization in running its operations.
Big Data Clusters	In SQL Server 2019 Big Data Clusters allow to deploy scalable clusters of SQL Server, Spark, and Hadoop Distributed File System (HDFS) containers running on Kubernetes.

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Cardinality	The number of tuples in a relation.
Catalog Views	Built-in views that form the system catalog for SQL Server.
CHECK constraint	Defines the range and format for the values entered in a column. A CHECK constraint limits the values that can be placed in a column. Check constraints enforce integrity of data. A CHECK constraint operates by specifying a search condition, which can evaluate to TRUE, FALSE, or unknown.
Cluster	A Kubernetes cluster is a set of machines, known as nodes.
Clustered Index	A B-tree-based index in which the logical order of the key values determines the physical order of the corresponding rows in a table.
Columnstore Index	A technology used to store, retrieve, and manage data by using a columnstore, a columnar data format. Each column is stored in a separate set of disk pages rather than storing multiple rows per page.
Comment	Comments are descriptive text strings, also known as remarks, in program code that will be ignored by the compiler.
Composite	A composite attribute may itself contain two or more attributes, which represent basic attributes having independent meanings of their own.
Computed column	Computed column is a virtual column in a table whose value is calculated at run time.
CTE	A Common Table Expression (CTE) is like a temporary resultset defined within the execution scope of a single SELECT, INSERT, UPDATE, DELETE, or CREATE VIEW statement.
CUBE	CUBE is an aggregate operator that produces a super-aggregate row. In addition to the usual rows provided by the GROUP BY, it also provides the summary of the rows that the GROUP BY clause generates.
Cursor	An entity that maps over a result set and establishes a position on a single row within the result set.
Cursors	A database object that is used to retrieve data as one row at a time, from a resultset is called as cursors. Cursors are used instead of the Transact-SQL

	commands that operate on all the rows at one time in the resultset.
Custom stored procedure	Custom stored procedures are user-defined stored procedures.
Controller	Controller provides management and security for the cluster. It contains the control service, the configuration store, and other cluster-level services such as Kibana, Grafana, and Elastic Search.
Compute Pool	Compute pool provides computational resources to the cluster. It contains nodes running SQL Server on Linux pods.

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Data Control Language	Data Control Language is used to control permissions on database objects. Permissions are controlled by using the GRANT, REVOKE, and DENY statements.
Data Definition Language	DDL, which is usually part of a DBMS, is used to define and manage all attributes and properties of a database, including row layouts, column definitions, key columns, file locations, and storage strategy.
Data integrity	It implies the validity and consistency of data in the database at all times.
Data isolation	Data are scattered in various files, and files may be in a different format. Though data used by different programs in the application may be related, they reside as isolated data files.
Data Manipulation Language (DML)	DML is used to select, insert, update, or delete data in the objects defined with DDL. All database users can use these commands during the routine operations on a database.
Data model	A data model describes a container for storing data and the process of storing and retrieving data from that container.
Data modeling	The process of applying an appropriate data model to the data, in order to organize and structure it, is called data modeling.
Data page	The smallest unit of data storage and stores the data in the form of rows.
Data source	The name given to the connection established from a server to a Database.
Data Type	A data type is an attribute defining the type of data that an object can contain. Data types must be provided for columns, parameters, variables, and functions that return data values, and stored procedures that have a return code.
Data Warehouse	A huge, centralized collection of digital data collected from various units within an organization.
Database	A database is an organized form of such data. It may consist of one or more related data items called records.
Database Designer	Database Designers are responsible for identifying the data to be stored in the database and for choosing appropriate structures to represent and store this data.
Database-scoped DDL trigger	Is invoked by the events that modify the database schema.
DBA	Database Administrator is responsible for authorizing

	access to the database, for coordinating and monitoring its use and for acquiring software and hardware resources as required. DBA is accountable for problems such as breach of security or poor system response time.
DBMS	A DBMS can be defined as a collection of related records and a set of programs that access and manipulate these records. A DBMS enables the user to enter, store, and manage data.
DDL event	Includes CREATE, ALTER, or DROP operation.
DDL trigger	Data Definition Language (DDL) Trigger. It executes when a table or a view is created, modified or deleted using the CREATE, ALTER, or DROP statements.
Default value	Is defined for columns that do not accept null values.
Deferred name resolution	At the first execution, query processor reads the stored procedure statements from the sys.sql_modules catalog view. The processor then checks for the name of objects used by the procedure.
DELETE trigger	Executes when a record in a table is deleted.
Deleted table	Contains copies of records that are modified with the DELETE and UPDATE operations on the trigger table. It does not physically remain present in the database. It is created and dropped by triggering events.
Derived attribute	Derived attributes are attributes whose value is entirely dependent on another attribute and are indicated by dashed ellipses.
Dirty read	When one transaction changes a value and a second transaction reads the same value before the original change has been committed or rolled back, it is called as a dirty read.
DISTINCT	The keyword DISTINCT prevents the retrieval of duplicate records. It eliminates rows that are repeating from the resultset of a SELECT statement.
DML event	Includes insert, update, or delete operation.
DML trigger	Data Manipulation Language (DML) Trigger. It executes when data is inserted, modified, or deleted in a table or a view using the INSERT, UPDATE, or DELETE statements.
Domain	A group of computers and devices on a network.
Distributed Query Stored Procedures	Distributed stored procedures are used in the management of distributed queries. For example, the sp_indexes distributed query stored procedure returns index information for the specified remote table.

Data Lake	A storage repository that holds a huge amount of raw data in its native format. It is a scalable HDFS storage pool. This can be used to store big data, potentially ingested from multiple external data sources.
Data pool	Data pool is used for data persistence and caching. The data pool consists of one or more pods running SQL Server on Linux.

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Entity	An entity is a person, place, thing, object, event, or even a concept, which can be distinctly identified. For example, the entities in a university are students, faculty members, and courses.
Entity Set	An entity set is a collection of similar entities. For example, the employees of an organization collectively form an entity set called employee entity set.
Envelope Aggregate	It returns a bounding area for a given set of geometry or geography objects. The Envelope Aggregate exhibits different behaviors for geography and geometry types. Based on the type of object it is applied to, it returns different results.
EXCEPT Operator	The EXCEPT operator returns all of the distinct rows from the query given on the left of the EXCEPT operator and removes all the rows from the resultset that match the rows on the right of the EXCEPT operator.
Execution Plan	The Transact-SQL statements in a batch are compiled into a single executable unit, called an execution plan.
Expression	An expression is a combination of identifiers, values, and operators that SQL Server can evaluate in order to obtain a result. Expressions can be used in several different places when accessing or changing data.
Extended stored procedure	Extended stored procedures are used for performance of tasks that are unable to be performed using standard Transact-SQL statements.
Extent	A set of eight contiguous data pages is referred to as an extent.
Elastic Pool	Elastic Pool feature in Azure SQL allows you to assign a shared set of compute resources to a collection of Azure SQL databases. The benefit of this is that, a single database can be moved in and out of an elastic pool, which gives us flexibility and in turn, achieve cost efficiency.

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Filegroup	Each filegroup is used to group related files that together store a database object. Every database has a primary filegroup by default. This filegroup contains the primary data file. The primary file group and data files are created automatically with default property values at the time of creation of the database.
Foreign Key	A foreign key in a table is a column that points to a primary key or unique column in a table.
Flat-file Data Model	In this model, the database consists of only one table or file. This model is used for simple databases - for example, to store the roll numbers, names, subjects, and marks of a group of students. This model cannot handle very complex data. It can cause redundancy when data is repeated more than once.
Framing	Framing is a feature that enables you to specify a further division of rows within a window partition. This is done by assigning upper and lower boundaries for the window frame that presents rows to the window function.
Function	A function is a set of Transact-SQL statements that is used to perform some task. Transact-SQL includes a large number of functions. These functions can be useful when data is calculated or manipulated.

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GROUP BY Clause	The GROUP BY clause partitions the resultset into one or more subsets. Each subset has values and expressions in common. If an aggregate function is used in the GROUP BY clause, the resultset produces single value per aggregate.

Hash Index	Hash index consists of an array of pointers and each element of the array is called a hash bucket.
Hadoop	Hadoop is a free, Java-based programming framework that supports the processing of huge data sets in a distributed computing environment.
Heap	A heap is a table without a clustered index. This means that, in a heap structure, the data pages and records are not arranged in sorted order.
Hierarchical Data Model	In this model, different records are inter-related through hierarchical or tree-like structures. Relationships are thought of in terms of children and parents. A parent record can have several children, but a child can have only one parent.

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IAM page	Index Allocation Map (IAM) page. It maps extents in a part of database file, which are used by an allocation unit.
IDENTITY Property	The IDENTITY property of SQL Server is used to create identifier columns that can contain auto-generated sequential values to uniquely identify each row within a table.
Index	An index creates a logical order for the data rows in the table. This assists in faster location and retrieval of data during searches.
Indexed views	A view that has a unique clustered index created on it.
Inner Join	An inner join is formed when records from two tables are combined only if the rows from both the tables are matched based on a common column.
INSERT trigger	Executes when a new record is inserted in a table.
Instances	All the programs and resource allocations are saved in an instance. An instance can include memory, configuration files, and CPU.
INSTEAD OF trigger	Executes in place of the INSERT, UPDATE, and DELETE operations. It can be created on tables as well as views.
Isolation Levels	Isolation levels are provided by the transaction to describe the extent to which a single transaction must be isolated from changes made by other transactions.
Integration Services Catalogs	It stores all the objects of the project after the project has been deployed.

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JOIN	The JOIN operation is an enhancement to the product operation. It allows a selection to be performed on the product of tables.
JSON	JSON is a textual data format that is used for exchanging data in modern Web and Mobile applications. JSON is also used to store unstructured data in log files or NoSQL databases such as Microsoft Azure Cosmos DB.

Kubernetes	Kubernetes is an open source container orchestrator, which can scale container deployments according to the requirement.

Logon Trigger	Executes stored procedures when a session is established with a LOGON event.

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Many-to-Many	This kind of mapping exists when any number of entities of one set can be associated with any number of entities of the other entity set.
Many-to-One	This kind of mapping exists when many entities of one set is associated with an entity of another set. This association is done irrespective of whether the latter entity is already associated to other or more entities of the former entity set.
Memory-optimized Tables	Tables that store their data into memory using multiple versions of each row's data.
Memory-optimized tempdb metadata	One of the new features in SQL Server 2019 is memory-optimized tempdb metadata. The SQL Server team enhanced tempdb code with optimizations so that some of the metadata which could have been a bottleneck on tempdb heavy systems can now rely on memory and be optimized for RAM access.
MERGE	The MERGE statement allows you to maintain a target table based on certain join conditions on a source table using a single statement.
metadata	When an object is created in SQL Server, its properties are called metadata.
Mixed Extent	For small tables, unused pages from existing extents are allocated to the table as and when it grows. This is done till eight pages are allocated to the table, after which, an entire extent is allocated each time the table grows.
Multi-valued	A multi-valued attribute is illustrated with a double-line ellipse, which has more than one value for at least one instance of its entity. This attribute may have upper and lower bounds specified for any individual entity value.

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Native Compiler	A compiler that produces machine code for the computer on which it is running, as opposed to a cross-compiler, which produces code for another type of computer. Most compilers are native compilers.
Nested Subquery	A subquery that is defined inside another subquery is called a nested subquery.
Network Data Model	This model is similar to the Hierarchical Data Model. The hierarchical model is actually a subset of the network model. However, instead of using a single-parent tree hierarchy, the network model uses set theory to provide a tree-like hierarchy with the exception that child tables were allowed to have more than one parent.
Node	A node runs containerized applications. It can be either a physical machine or a virtual machine.
Non-clustered index	This index is defined on a table or view that has data in either a clustered structure or on a heap. Each index row in the non-clustered index contains nonclustered key value and a row locator.
Normalization	Normalization is the process of removing unwanted redundancy and dependencies. Initially, Codd (1972) presented three normal forms (1NF, 2NF, and 3NF), all based on dependencies among the attributes of a relation. The fourth and fifth normal forms are based on multi value and join dependencies and were proposed later.
Nullability	The nullability feature of a column determines whether rows in the table can contain a null value for that column. In SQL Server, a null value is not same as zero, blank, or a zero length character string (such as ' ').

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One-to-Many	This kind of mapping exists when an entity of one set can be associated with more than one entity of another entity set.
One-to-One	This kind of mapping exists when an entity of one entity set can be associated with only one entity of another set.
ORDER BY Clause	It specifies the order in which the columns should be sorted in a resultset. It sorts query results by one or more columns. A sort can be in either ascending (ASC) or descending (DESC) order. By default, records are sorted in an ASC order.
Outer Join	Outer joins are join statements that return all rows from at least one of the tables specified in the FROM clause, as long as those rows meet any WHERE or HAVING conditions of the SELECT statement.

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Parameters	Parameters are used to pass data between stored procedures and the application that calls the procedures.
Partitioning	Partitioning is a feature that limits the window of the recent calculation to only those rows from the resultset that contains the same values in the partition columns as in the existing row. It uses the PARTITION BY clause.
Predicate logic	Predicate logic is a mathematical framework that consists of logical tests that gives a result. The results are always displayed as either true or false.
Predicates	Predicates are used to evaluate whether an expression is TRUE, FALSE, or UNKNOWN.
PRIMARY KEY constraint	The PRIMARY KEY constraint is used to create a primary key and enforce integrity of the entity in the table.
PRODUCT	The PRODUCT operator, denoted by 'x' helps combine information from two relational tables.
PROJECT	The PROJECT operator is used to project certain details of a relational table. The PROJECT operator only displays the required details leaving out certain columns.
Pod	A pod is the atomic deployment unit of Kubernetes. A pod is a logical group of one or more containers-and associated resources-required to run an application.
Polybase	The PolyBase feature provides seamless integration with external data sources, such as Hadoop or Azure Blob Storage.

Query Optimization	To determine the most efficient way to execute a given query by considering the possible query plans. This is enabled by the query optimizer.
Query Window	Query window is the area where you can type Transact-SQL (T-SQL) queries.
Query Store	Query Store is a built-in tool to improve performance by maintaining historical information of every query and execution plan.

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Ranking functions	Tasks such as creating arrays, generating sequential numbers, finding ranks, and so on can be implemented in an easier and faster way by using ranking functions.
RDBMS	An RDBMS is a software program that helps to create, maintain, and manipulate a relational database. A relational database is a database divided into logical units called tables, where tables are related to one another within the database.
Relational Data Model	The term 'Relation' is derived from the set theory of mathematics. In the Relational Model, unlike the Hierarchical and Network models, there are no physical links. All data is maintained in the form of tables consisting of rows and columns. Data in two tables is related through common columns and not physical links. Operators are provided for operating on rows in tables.
Relationship	A relationship is an association or bond that exists between one or more entities. For example, belongs to, owns, works for, saves in, purchased, and so on.
Replication	Used to copy and distribute data and database objects from one database to another, and then, to synchronize between databases to maintain consistency.
Relationship Set	A collection of similar relationships between two or more entity sets is called a relationship set. For example, employees work in a particular department. The set of all 'work in' relations that exists between the employees and the department is called the 'work in' relationship set.
Return code	The procedure performs the required task using these values and, by default, returns a zero or non-zero integer.
Remote stored procedure	Stored procedures that are run on remote SQL Servers.
ROLLUP	In addition to the usual rows that are generated by the GROUP BY, it also introduces summary rows into the resultset. It is similar to CUBE operator but generates a resultset that shows groups arranged in a hierarchical order.
Rowset functions	In Transact-SQL, the rowset function is used to return an object that can be used in place of a table reference.
Rule	A constraint that can be applied in order to control the data values being entered in a table.

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Scalar functions	In scalar functions, the input is a single value and the output received is also a single value.
Scale-out data mart	SQL Server Big Data Clusters provide scale-out compute and storage to improve the performance of analyzing any data.
Schemas	A schema is a collection of database entities that form a single namespace.
Script	A script is a chain of Transact-SQL statements stored in a file that is used as input to the SSMS code editor or sqlcmd utility.
Script file	Script files are files that contain a set of SQL commands. A script file can contain one or more SQL statements.
SELECT	The SELECT operator is used to extract data that satisfies a given condition. The lowercase Greek letter sigma, 'σ', is used to denote selection.
Self-join	A self-join is used to find records in a table that are related to other records in the same table. A table is joined to itself in a self-join.
Self-relationships	Relationships between entities of the same entity set are called self-relationships. For example, a manager and his/her team member, both belong to the employee entity set.
Server-scoped DDL trigger	Is invoked by DDL events at the server level.
Storage pool	Storage pool consists of storage pool pods comprised SQL Server on Linux, Spark, and HDFS.
SSMS	SSMS stands for Server Management Studio. It is a tool used for creating, querying, and managing the databases.
Stretch Database	Stretch Database is a new feature built into SQL Server that facilitates storage of a part of a database in the cloud.
Set Theory	Set theory is a mathematical foundation used in relational database model. A set is a collection of distinct objects considered as a whole.
SQL Server	SQL Server is an RDBMS developed by Microsoft. It provides an enterprise-level data management platform for an organization. SQL Server includes numerous features and tools that make it an outstanding database and data analysis platform. It is also targeted for large-scale Online Transactional Processing (OLTP), data warehousing, and e-commerce applications.
SQL Server Instance	Multiple SQL Server services, each with their own ports, logins, and databases can be run on a server. Each of these services is called an 'instance' of SQL Server.

Stored procedure	A stored procedure is a group of TRANSACT-SQL statements executed as a single unit.
Strong entity sets	Entity sets that have enough attributes to establish a primary key are called strong entity sets.
Synonyms	Synonyms are database objects that offer another name for a different database object, also called as the base object, which may exist on a remote or local server. Also, they present a layer of abstraction that guards a client application from the modifications made to the location and the name of the base object.
Syntax error	Syntax errors are the errors that occur when code cannot be parsed by SQL Server.
System Analysts	System Analysts determine the requirements of end users, and develop specifications for pre-determined transactions that meet these requirements.
System stored procedures	It is commonly used for interacting with system tables and performing administrative tasks such as updating system tables.
System tables	When an object is created in SQL Server, its properties are called metadata and they are stored in special System tables.
System view	System views are predefined Microsoft created views. They are used for extracting metadata.

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Table	An object in a database used to hold or store data. A table contains a group of related entities that is an entity set. The terms entity set and table are often used interchangeably. A table is also called a relation.
Temporary stored procedure	Stored procedures created for temporary use within a session.
Ternary relationships	Relationships that exist between three entities of different entity sets are called ternary relationships. For example, an employee works in the accounts department at the regional branch.
Transaction	A transaction is a sequence of operations that works as a single unit.
Transaction Log	A transaction log in SQL Server records all transactions and the database modifications made by each transaction. The transaction log is one of the critical components of the database. It can be the only source of recent data in case of system failure.
Trigger	Is a piece of code made up of Transact-SQL statements that automatically executes when specified events occur. Unlike standard system stored procedures, triggers cannot be executed directly, nor do they pass or receive parameters.
Trigger definition	Includes the trigger name, the table on which the trigger is created, the triggering actions and the SQL statements that are executed.
Trigger table	A table on which the trigger is defined.
Tuple	A row or a record in a relation.

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Union Aggregate	It performs a union operation on a set of geometry objects. It combines multiple spatial objects into a single spatial object, removing interior boundaries, where applicable.
UNIQUE constraint	Ensure that only unique values are entered in a column or set of columns.
Unique Index	Unique index ensures index key columns do not contain any duplicate values.
UPDATE Trigger	The UPDATE trigger copies the original record in the Deleted table and the new record into the Inserted table when a record is updated.

Variable	A variable is an object that can hold a data value. In Transact-SQL, variables can be classified into local and global variables.
View	A virtual table in a database that is created using one or more columns from one or more tables.
Verbose Truncation Warnings	It is one of the greatest features launched in SQL Server 2019. It saves a lot of time while importing, inserting, and updating huge amount of data.

Weak entity sets	Entity sets that do not have enough attributes to establish a primary key are called weak entity sets.

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