PHCDC

PUSAT PEMBANGUNAN MODAL INSAN PERAK

BIG DATA ANALYTICS

Learning Objectives

- Able to know what is RDBMS?
- Features of SQL SERVER 2019
- How to install SQL Server 2019
- Able to create Database on SQL Server 2019
- Able to create Table and manipulate Data on the table.

What is database?

- A database is a systematic collection of data. They support electronic storage and manipulation of data. Databases make data management easy.

What is RDBMS?

- **RDBMS** stands for Relational Database Management System.
- RDBMS is a program that helps to create, update and manage database.

Example of RDBMS

RDBMS is the basis for SQL, and for all modern database systems like

- MS SQL Server,
- IBM DB2,
- Oracle,
- MySQL,
- PostgreSQL
- Microsoft Access etc...

Example of RDBMS

- In this series we are handling with MS SQL Server 2019 database.

What is RDBMS? *Cont..*

- The data in an **RDBMS** is stored in database objects which are called as tables.
- A table is a collection of related data entries and contains rows and columns to store data.

What is RDBMS? *Cont..*

- A field is a column in a table that maintains specific information about every record in the table.
- A row of table is called record. It contains the specific information of each individual entry in the table. A column is a vertical entity in the table which contains all information associated with a specific field in a table.

Installation of SQL Server?

- Installation of SQL Server in Windows.
  - https://www.microsoft.com/en-us/sql-server/sql-server-downloads
  - Download Express Edition

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Version

SQL Server 2019

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Download SQL Server Management Studio (SSMS)

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Applies to: SQL Server (all supported versions) Azure SQL Database Azure SQL Managed Instance Azure Synapse Analytics

SQL Server Management Studio (SSMS) is an integrated environment for managing any SQL infrastructure, from SQL Server to Azure SQL Database. SSMS provides tools to configure, monitor, and administer instances of SQL Server and databases. Use SSMS to deploy, monitor, and upgrade the data-tier components used by your applications, and build queries and scripts.

Use SSMS to query, design, and manage your databases and data warehouses, wherever they are - on your local computer, or in the cloud.

Download SSMS

Download SQL Server Management Studio (SSMS) 18.9.2

SSMS 18.9.2 is the latest general availability (GA) version. If you have a previous GA version of SSMS 18 installed, installing SSMS 18.9.2 upgrades it to 18.9.2.

- Release number: 18.9.2
- Build number: 15.0.18386.0
- Release date: July 15, 2021

If you have comments or suggestions, or you want to report issues, the best way to contact

Is this page helpful? Yes No

In this article

- Download SSMS
- Available languages
- What's new
- Previous versions
- Unattended install
- Installation with Azure Data Studio
- Uninstall
- Supported SQL offerings
- SSMS System Requirements
- Get help for SQL tools
- Next steps
- Contribute to SQL documentation

What is SQL?

- SQL is a standard language for storing, manipulating and retrieving data in databases.
- We will teach you how to use SQL in: MySQL, SQL Server, MS Access, Oracle, Sybase, Informix, Postgres, and other database systems.

What is SQL? Cont..

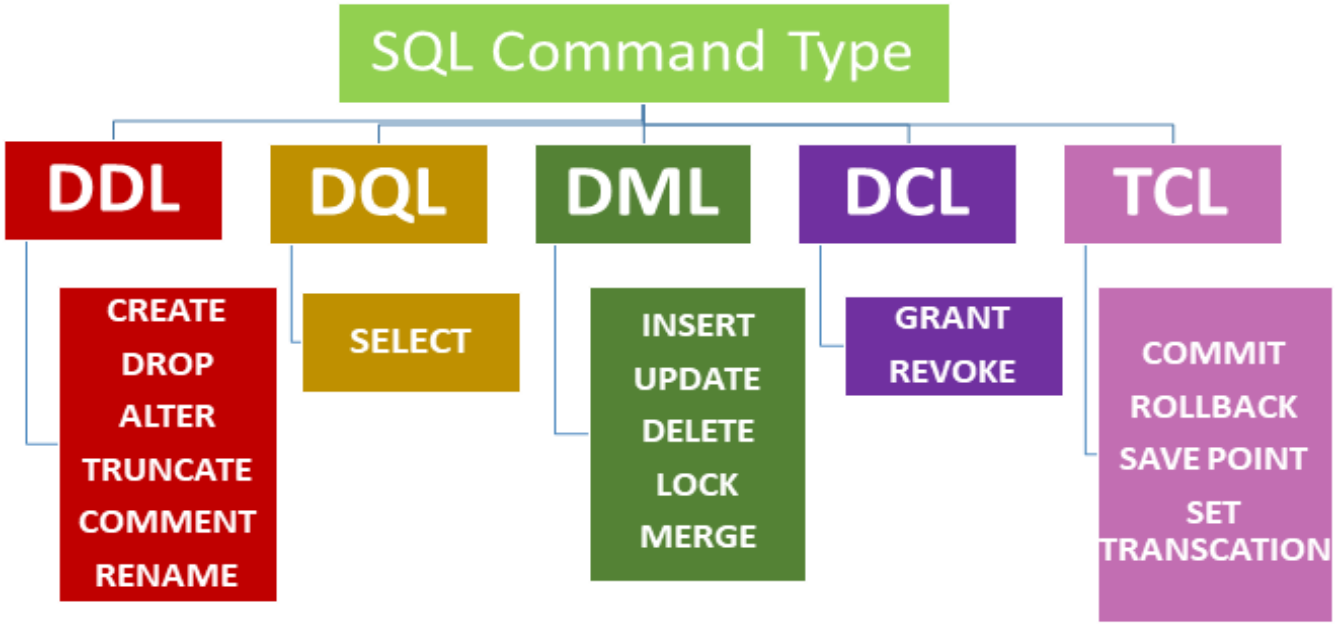
- SQL stands for Structured Query Language
- SQL lets you access and manipulate databases
- SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987

What can SQL do? Cont..

- SQL can execute queries against a database
- SQL can retrieve data from a database
- SQL can insert records in a database
- SQL can update records in a database
- SQL can delete records from a database
- SQL can create new databases
- SQL can create new tables in a database
- SQL can create stored procedures in a database
- SQL can create views in a database
- SQL can set permissions on tables, procedures, and views

Types of SQL

SQL commands are mainly categorized into five



Types of SQL Cont..

- DDL – Data Definition Language
- DQl – Data Query Language
- DML – Data Manipulation Language
- DCL – Data Control Language
- TCL – Transaction Control Language

Data Definition Language

- DDL or Data Definition Language actually consists of the SQL commands that can be used to define the database schema.
- It simply deals with descriptions of the database schema and is used to create and modify the structure of database objects in the database.

Examples of DDL commands

- **CREATE** – is used to create the database or its objects (like table, index, function, views, store procedure and triggers).
- **DROP** – is used to delete objects from the database.
- **ALTER**-is used to alter the structure of the database.
- **TRUNCATE**–is used to remove all records from a table, including all spaces allocated for the records are removed.
- **COMMENT** –is used to add comments to the data dictionary.
- **RENAME** –is used to rename an object existing in the database.

Data Query Language

- **DQL** statements are used for performing queries on the data within schema objects. The purpose of the DQL Command is to get some schema relation based on the query passed to it.

Example of DQL:

- **SELECT** – is used to retrieve data from the database.

Data Manipulation Language

- The SQL commands that deals with the manipulation of data present in the database belong to DML or Data Manipulation Language and this includes most of the SQL statements.

Examples of DML:

- **INSERT** – is used to insert data into a table.
- **UPDATE** – is used to update existing data within a table.
- **DELETE** – is used to delete records from a database table.

Data Control Language

- DCL includes commands such as GRANT and REVOKE which mainly deal with the rights, permissions and other controls of the database system.

Examples of DCL commands:

- **GRANT**-gives users access privileges to the database.
- **REVOKE**-withdraw user's access privileges given by using the GRANT command.

Transaction Control Language

- TCL commands deal with the transaction within the database.

Examples of TCL commands:

- **COMMIT**– commits a Transaction.
- **ROLLBACK**– rollbacks a transaction in case of any error occurs.
- **SAVEPOINT**–sets a savepoint within a transaction.
- **SET TRANSACTION**–specify characteristics for the transaction.

Q & A

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Thank
You