SQL

Structured Query Language

What is SQL?

SQL is structured Query Language which is a computer language for storing, manipulating and retrieving data stored in relational database.

SQL is the standard language for Relation Database System. All relational database management systems like MySQL, MS Access, Oracle, SQL Server uses SQL as standard database language
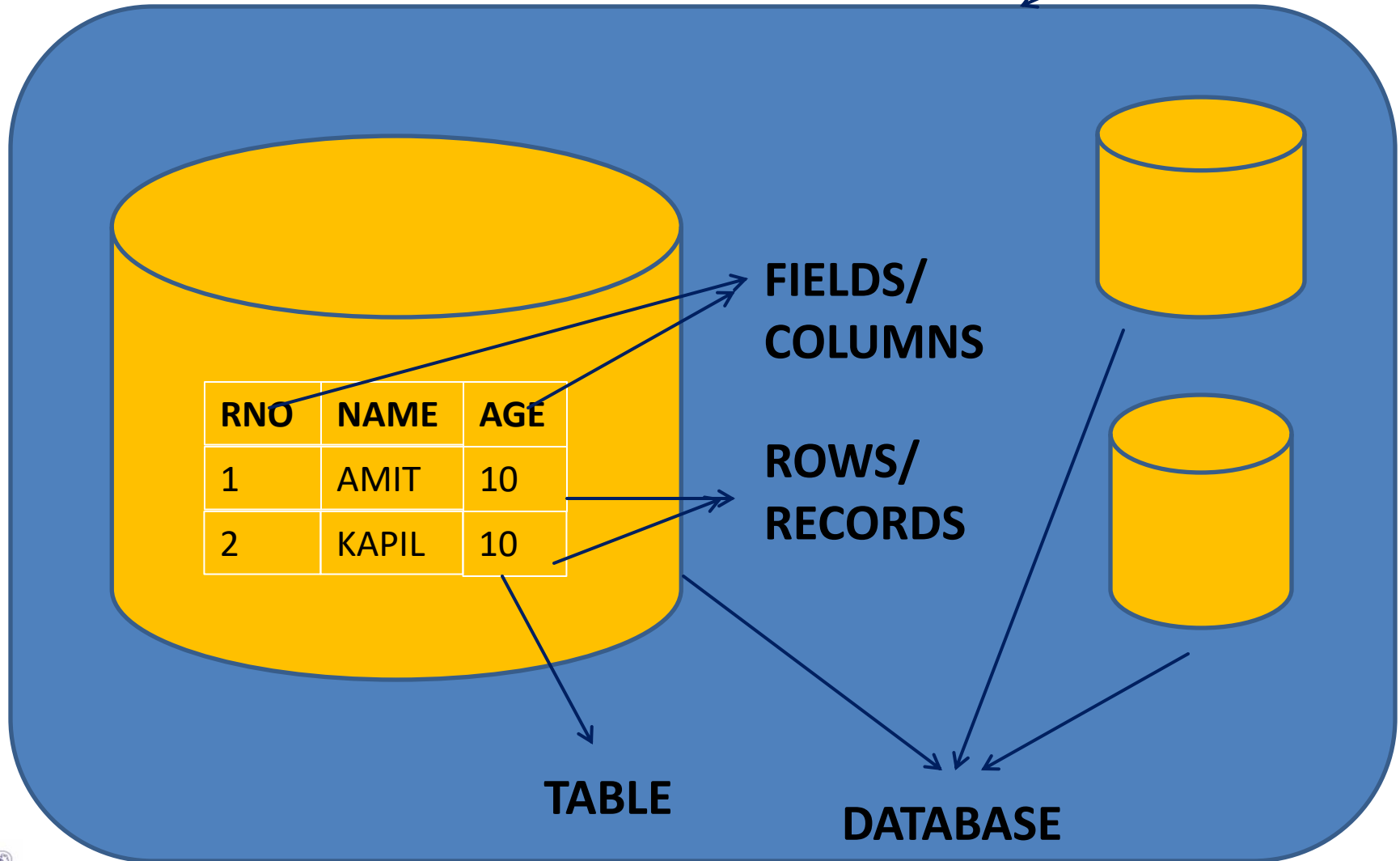
Why SQL?

• Allow users to access data in relational database management systems.

• Allow users to describe the data.

• Allow users to define the data in database and manipulate that data.

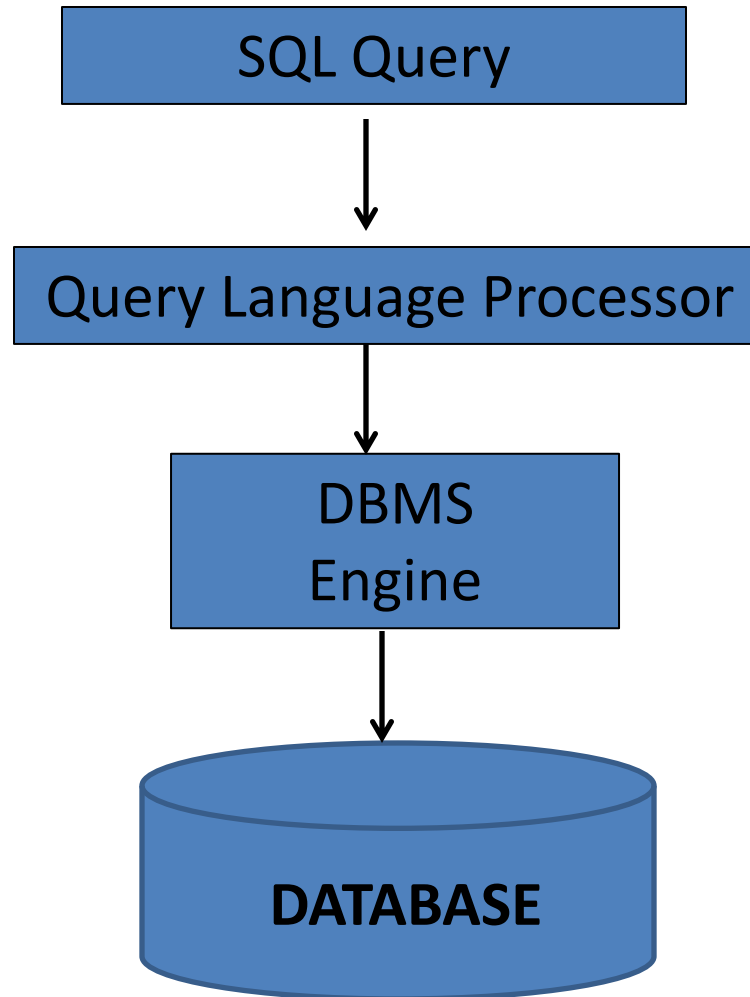• Allow users to create and drop databases and tables.

SQL Structure

RDBMS

FIELDS/ COLUMNS

RNO	NAME	AGE
1	AMIT	10
2	KAPIL	10

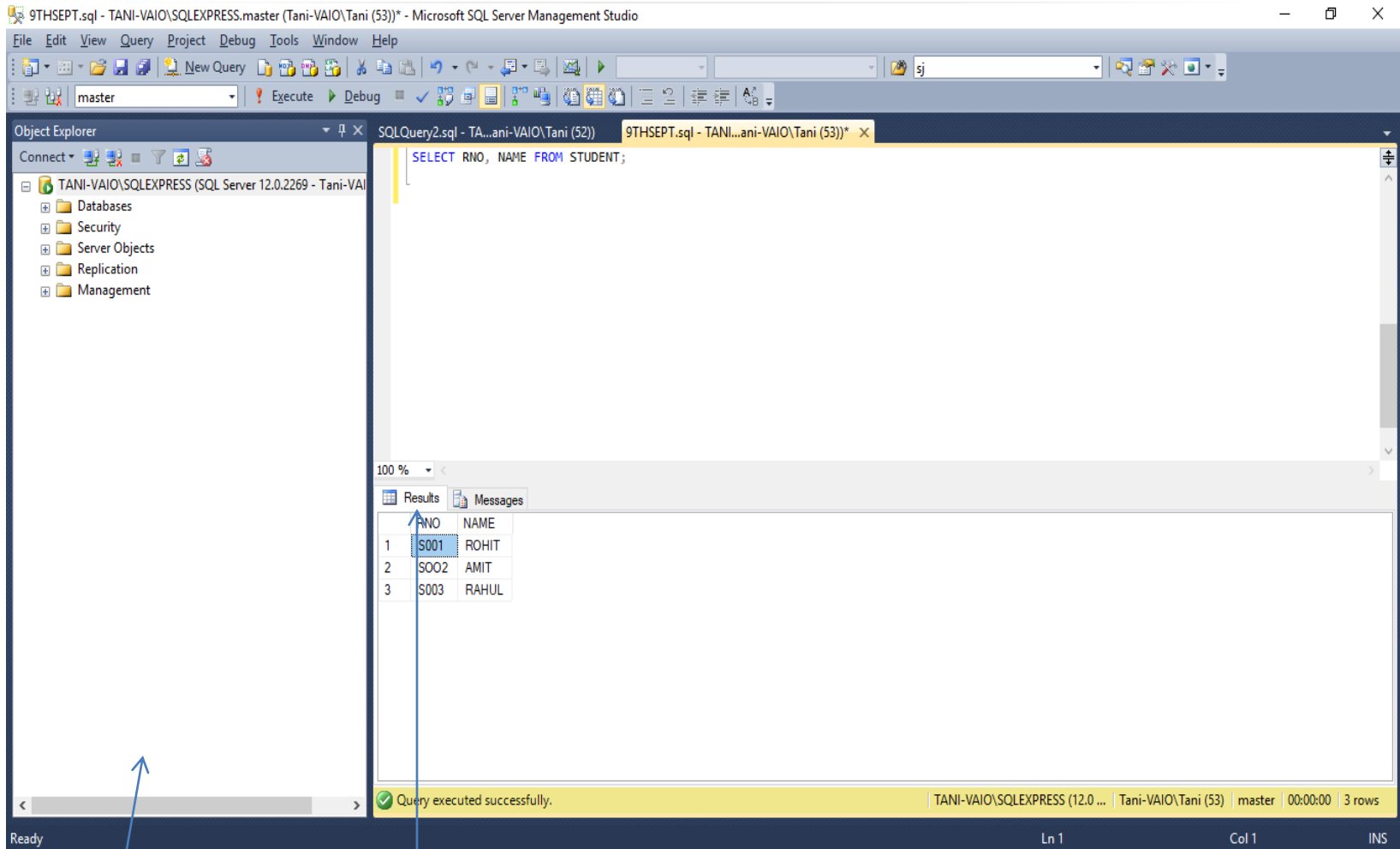**ROWS/ RECORDS**

TABLE

DATABASE

SQL Process

Introduction

- Data

- DataBase

- RDBMS

- SQL

SQL Environment

- Editor
- Result
- Message
- Object Explorer

SQL Environment

Object Explorer   **Result Tab**

Categories of SQL Statements

Data Definition Language (DDL)	→ CREATE, ALTER, DROP
Data Manipulation Language (DML*)	→ INSERT, UPDATE, DELETE
Data Query Language (DQL)	→ SELECT
Data Control Language (DCL)	→ GRANT , REVOKE

RDBMS Concepts

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Ahmedabad	2000.00
2	Khilan	25	Delhi	1500.00
3	kaushik	23	Kota	2000.00
4	Chaitali	25	Mumbai	6500.00
5	Hardik	27	Bhopal	8500.00
6	Komal	22	MP	4500.00
7	Muffy	24	Indore	10000.00

Create Statement

CREATE DATABASE Statement

CREATE DATABASE <DATABASE EID>;

create database test;
use test;

Create Statement

CREATE TABLE Statement

CREATE TABLE table_EID(
column1 datatype (Size),
column2 datatype (Size),
column3 datatype,
.....
columnN datatype);

Create Statement

CREATE TABLE Statement

```
CREATE TABLE EMP (
    RNO char (5),
    EID CHAR (20),
    AGE INT ,
    CLASS CHAR(10),
);
```

INSERT Statement

- INSERT INTO table_EID (column1, column2....columnN) VALUES (value1, value2....valueN);

- INSERT INTO TABLE_EID VALUES (value1,value2,value3,...valueN);

SQL SELECT Statement

- SELECT column1, column2….columnN FROM table_EID

- SELECT * FROM table_EID;

SQL Data Types

Numeric Data Types:

DATA TYPE	FROM	TO
Int	-2,147,483,648	2,147,483,647
Small Int	-32,768	32,767
Decimal	$-10^{38}+1$	$10^{38}+1$
Money	-922,337,203,685,477.5808	+922,337,203,685,477.5807
Float	$-1.79E+308$	$1.79E+308$

Character Data Types:

DATA TYPE	FROM	TO
Char	Char	Maximum length of 8,000 characters.
Varchar	Varchar	Maximum length of 8,000 characters.
Text	text	maximum length of 2,147,483,647 characters.

SQL Data Types

Date & Time Data Types:

DATA TYPE	FROM	TO
Datetime	Jan 1, 1753	Dec 31, 9999
smalldatetime	Jan 1, 1900	Jun 6, 2079
Date	Stores a date like June 30, 1991	
Time	Stores a time of day like 12:30 P.M.	

Misc Data Types:

DATA TYPE	FROM	TO
Image	Maximum length of 2,147,483,647 bytes. (Variable length Binary Data)	

- Table creation

- Inserting data

- Verifying the data

ASSIGNMENT - 1

Create a database DEMO

Create table EMP with the following fields:

EID NAME ADDR CITY DOB PHONE EMAIL id should be like 'E0001'

Insert 10 appropriate records in the Emp table

Use SELECT command to view the contents of emp table

Installing SQL Server

Click [SQL Server 2014](#) to download SQL Server 2014

Check the below two files from the list:

SERVER File: **Express 64BIT\SQLEXPR_x64_ENU.exe**

MANAGEMENT STUDIO File: MgmtStudio 64BIT\SQLManagementStudio_x64_ENU.exe

Click on NEXT the download will start automatically.

Once downloaded first install the Server file and then Management Studio file.

The installation wizard is simple you just need to follow on screen instructions.

Download link : https://www.microsoft.com/en-in/download/details.aspx?id=42299