1)Entity-Relationship(ER) Diagram:-

Roll.No: 04

a) Bank :

Entities :

•Banker •Loan Payment •Branch •Loan •Account •Customer •Credit Card.

Relationships :

• Banker - Branches (Manages) .

• Loan Payments - Loan (Pays).

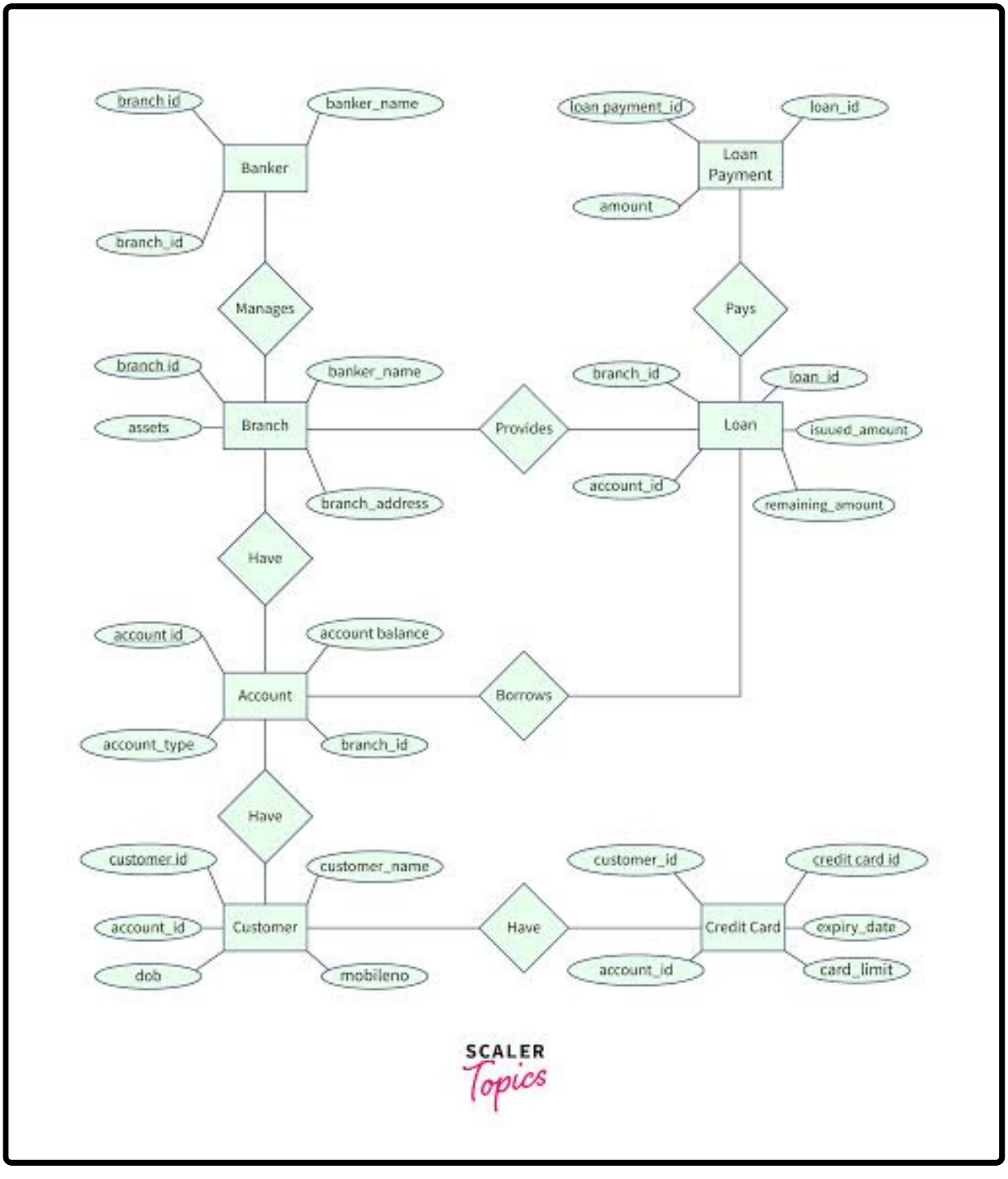
• Branch - Loan (Provides) .

• Branch - Account (Have) .

• Account - Customer (Have) .

• Loan - Account (Borrows).

• Customer - Credit Card (Have).



The "Banker" entity encapsulates information about individuals employed by the bank.

"Loan Payment" tracks payments made towards loans.

"Branch" represents the different branches of the bank, each managed by one or more bankers.

The "Loan" entity contains details pertaining to the loans provided by the bank, forming relationships with both "Loan Payments" and "Branch."

The "Account" entity holds information about bank accounts, linked to both "Branch" and "Customer" entities through relationships signifying ownership.

"Customer" represents individuals holding accounts, and the relationship with "Credit Card" illustrates their possession of credit cards issued by the bank.

Altogether, these entities and relationships intricately model the dynamics of bankers managing branches, loans being provided and repaid, and customers interacting with accounts and credit cards within the banking system.

b) College :

Entities :

• Administrator • Student • Course •Department • Sections • Exams •Attendance.

Relationship :

• Administrator - Student (Adds) .

• Administrator - Course (Enters) .

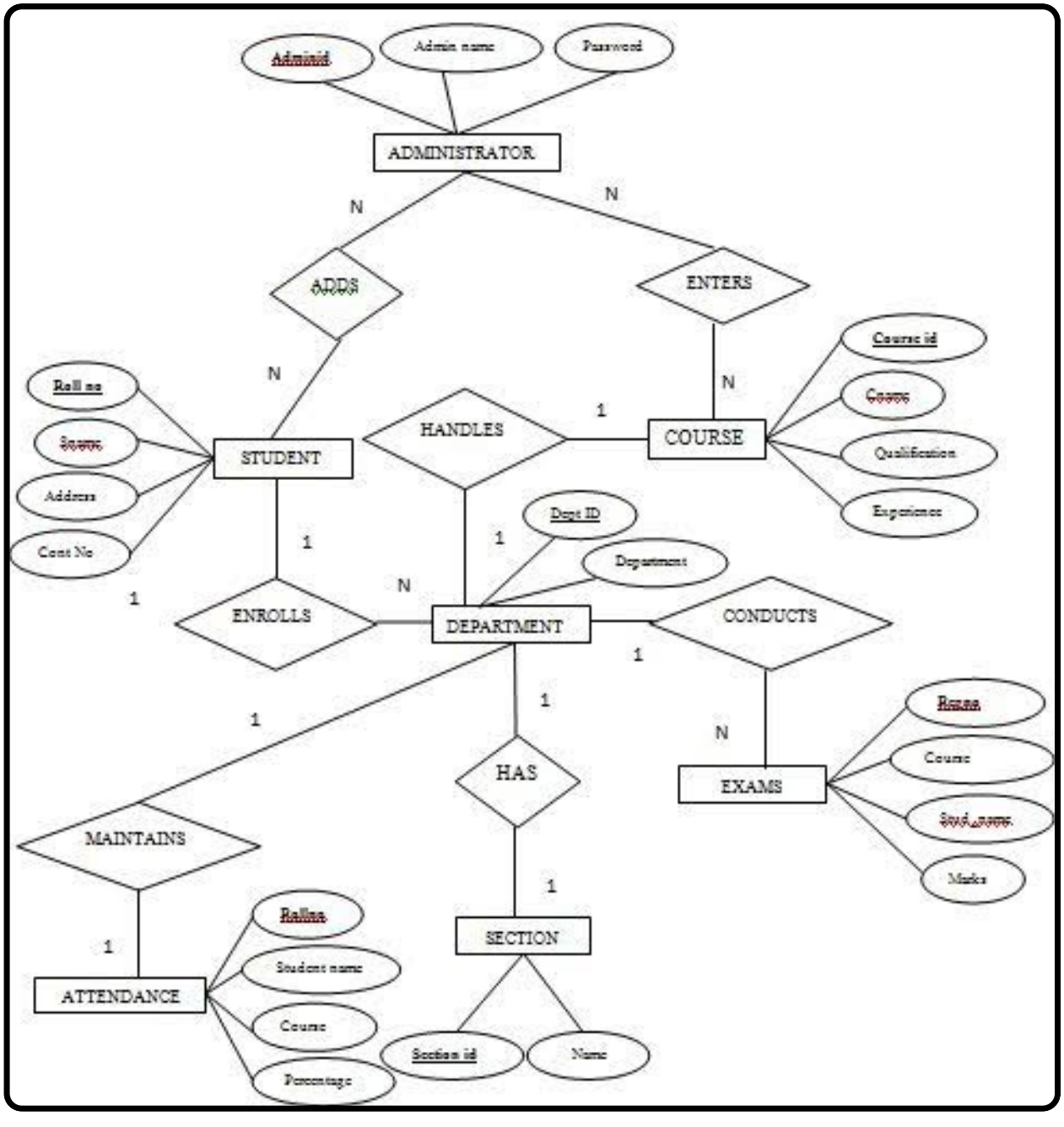
• Student - Course (Handles) .

• Student - Department (Handles) .

• Course - Department (Handles) .

• Department - Exams (Conducts) .

• Department -Attendance (Maintain).



The Administrator entity plays a pivotal role by adding students and entering courses.

Administrators are connected to students through the "Adds" relationship and to courses through the "Enters" relationship.

The Student entity is linked to courses and departments through the "Handles" relationship, signifying their involvement in managing specific courses and departments.

Courses, entered by administrators, are associated with departments through the "Handles" relationship.

The Department entity emerges as a central hub, conducting exams ("Conducts" relationship) and maintaining attendance ("Maintain" relationship).

It serves as a bridge between courses, exams, and attendance, orchestrating the academic flow within the college management system.

The Overall Diagram Represent the management of college .

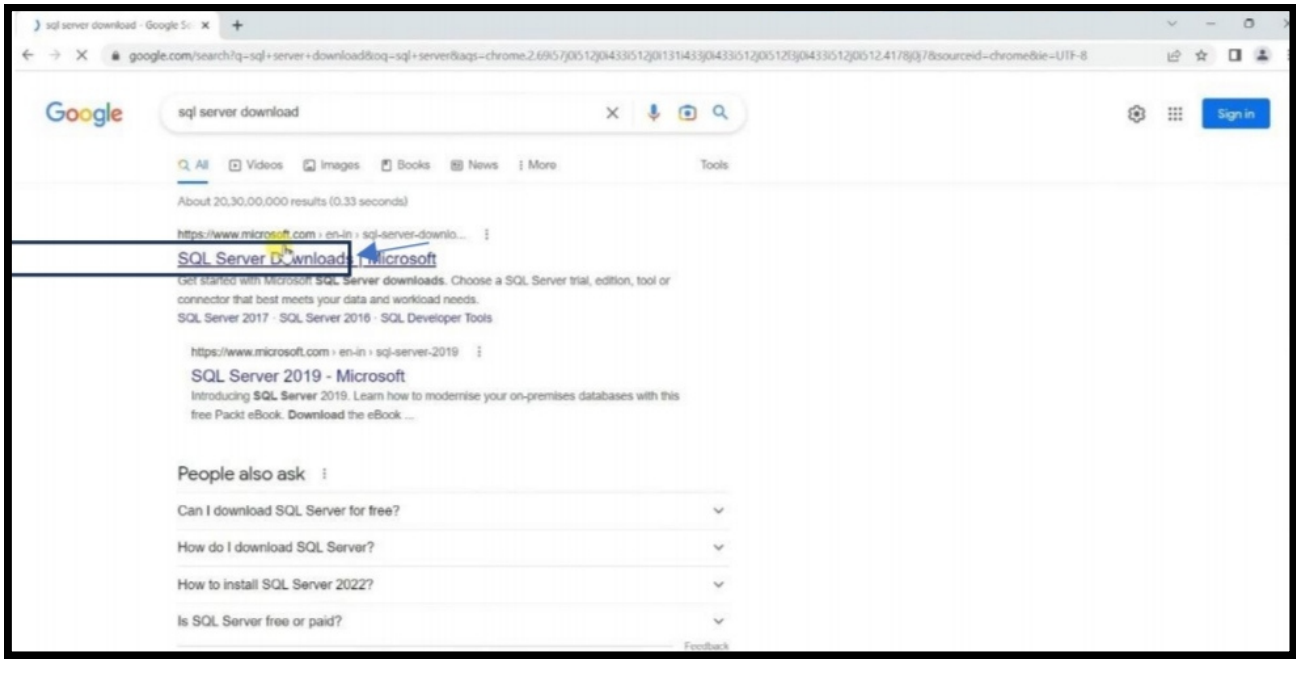
2) Installation of SSMS 2019 :- *-Roll.No: 04*

To Install the SSMS 2019 SQL server, do the following Steps :

Step 01 :-

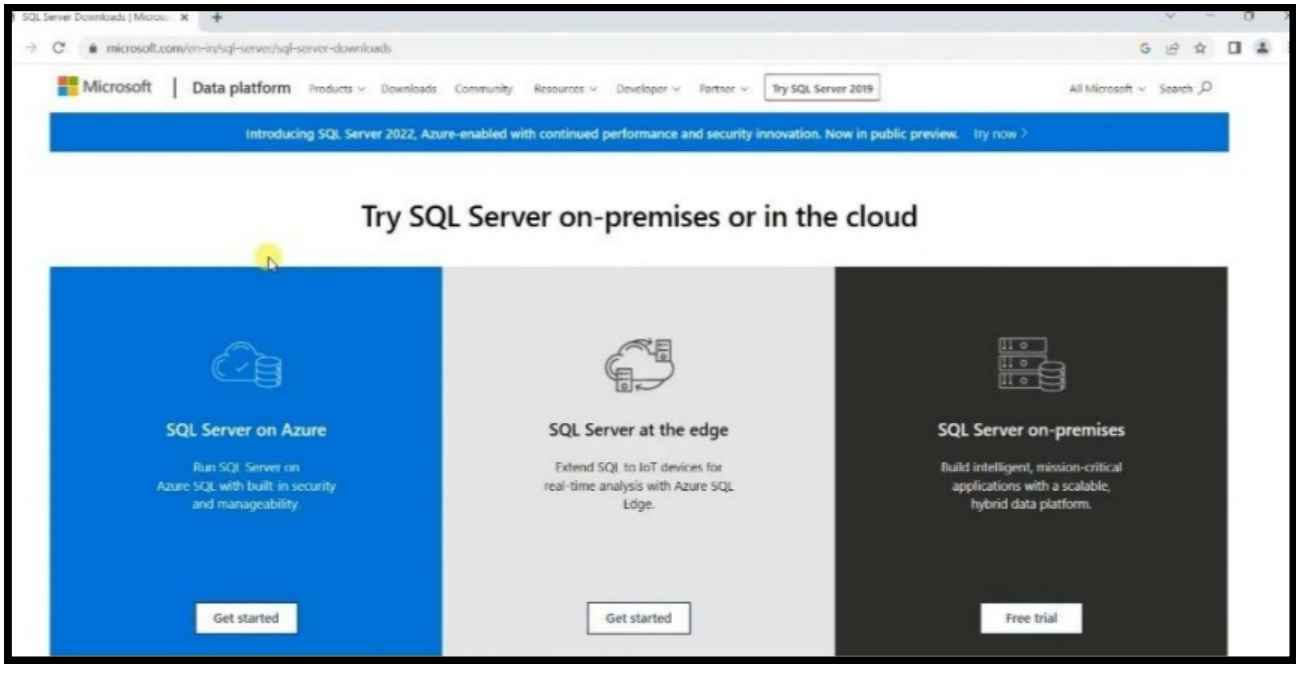
Go to Chrome of your PC or Laptop and Search "Ms SQL server Download".

Then Click on the first link of Microsoft.



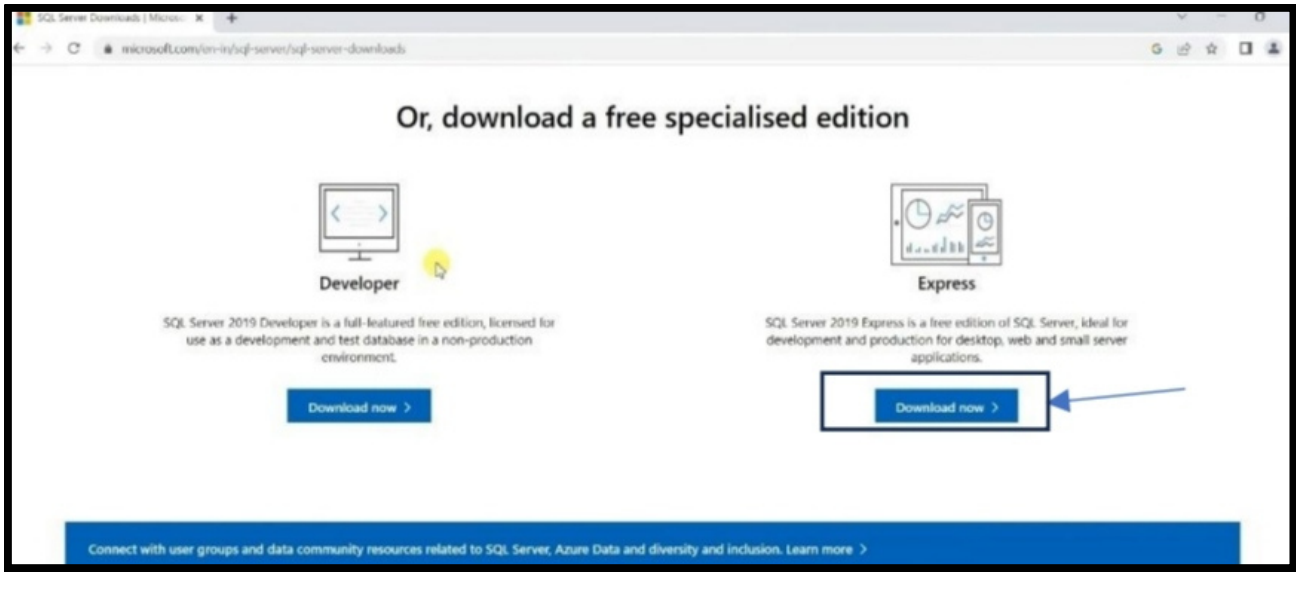
Step 02 :-

Click on " SQL Server on-primises" (the one with the black background color)

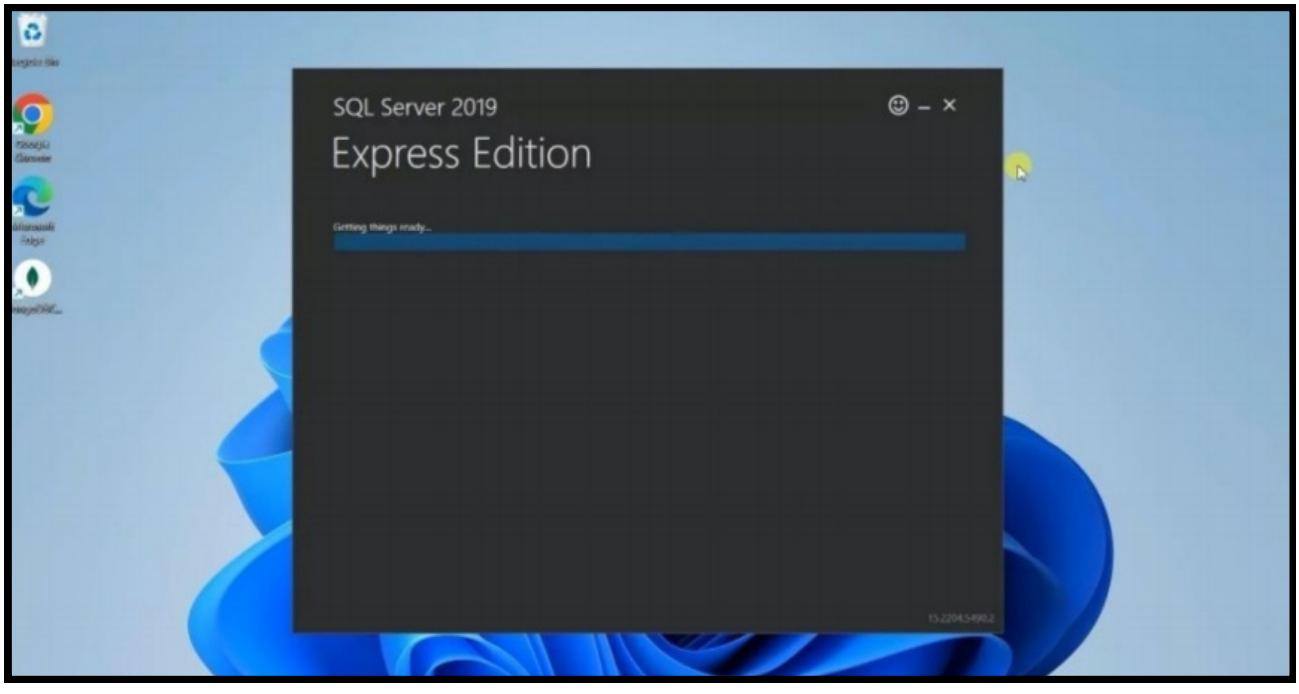


Step 03 :-

On the Right hand side, you will see "Express". Click on Download Now.

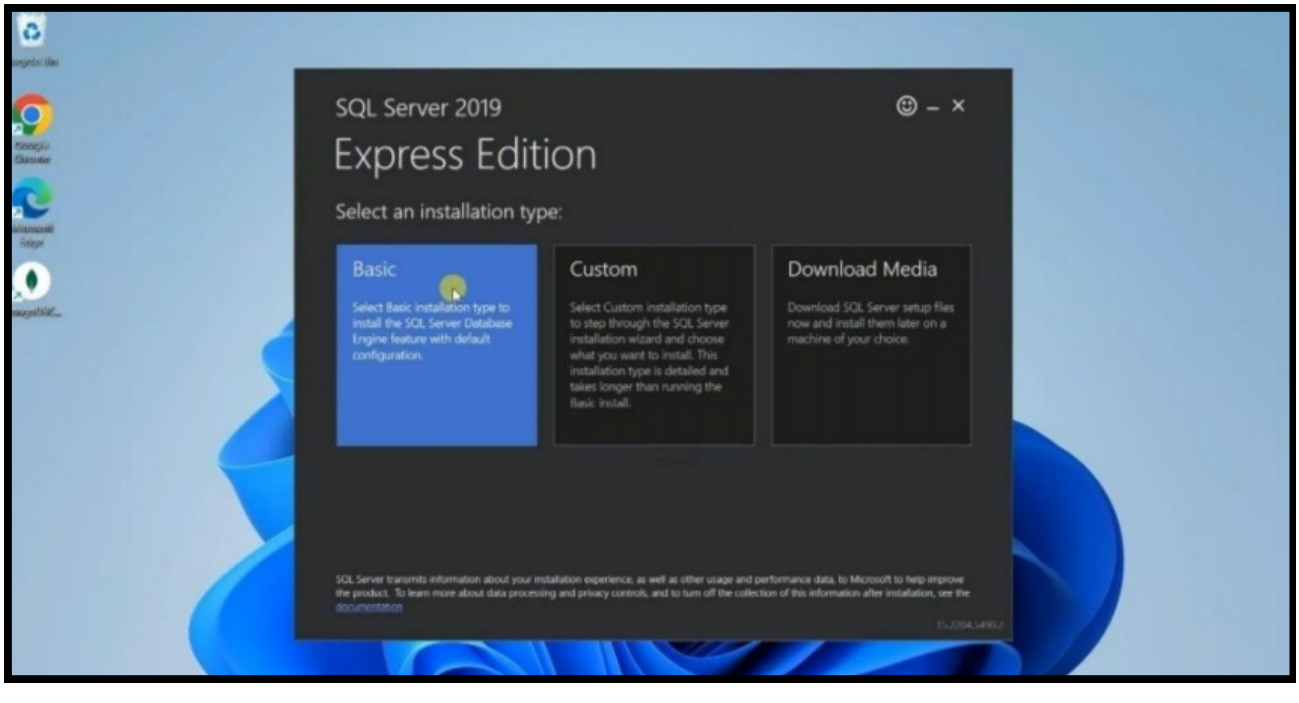


After that, you will see the following interface. Wait until the download is done



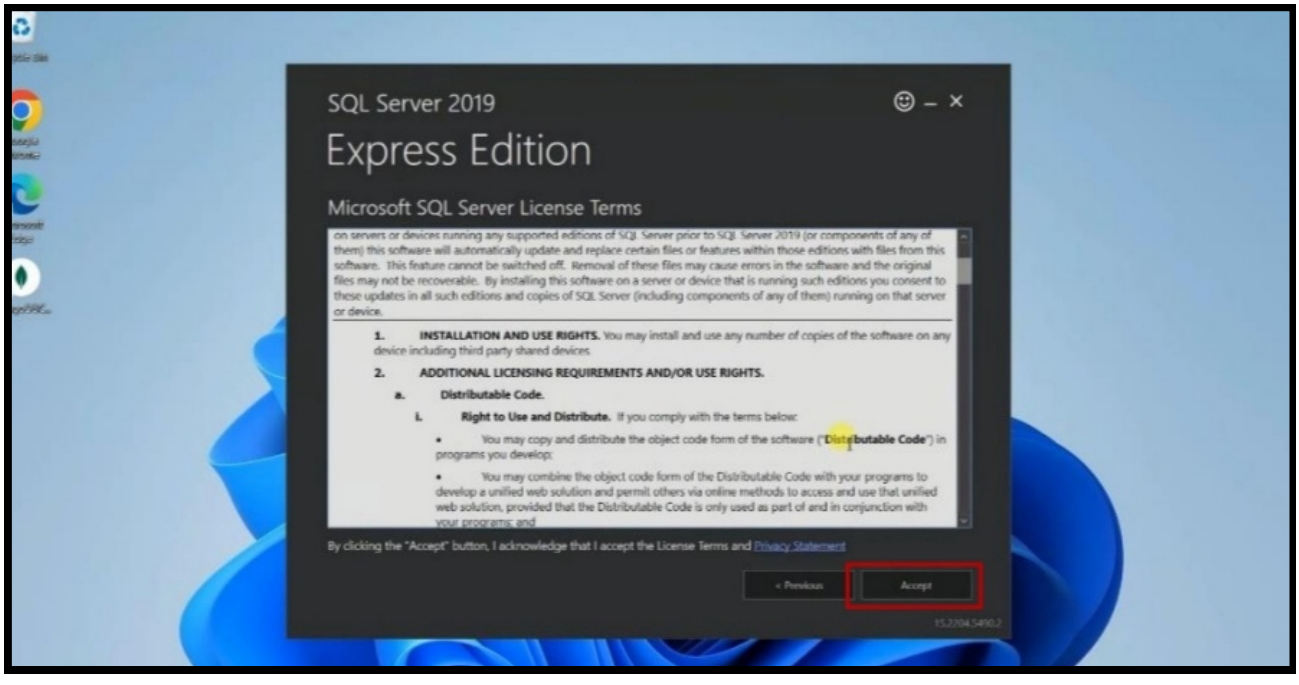
Step 04 :-

After the Download is completed. You will see "SQL Server 2019 EXPRESS EDITION". In select an installation type, Click on "Basic".



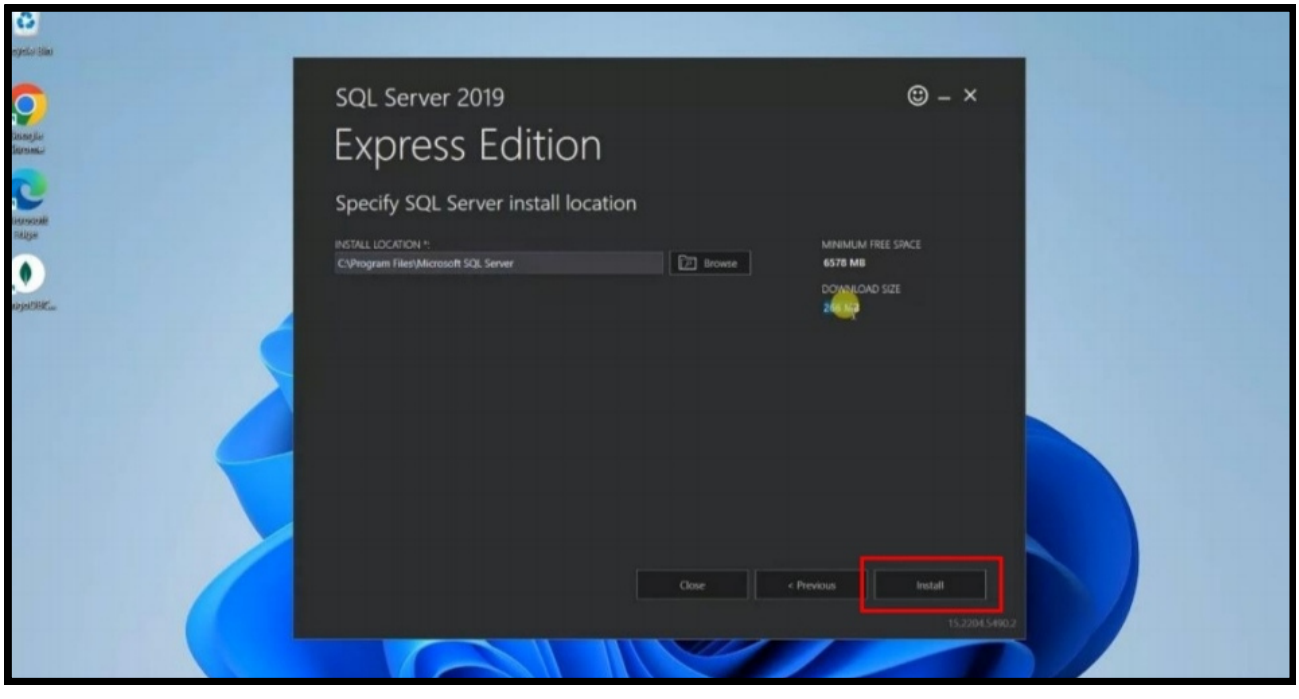
Step 05 :-

Click on "Accept"



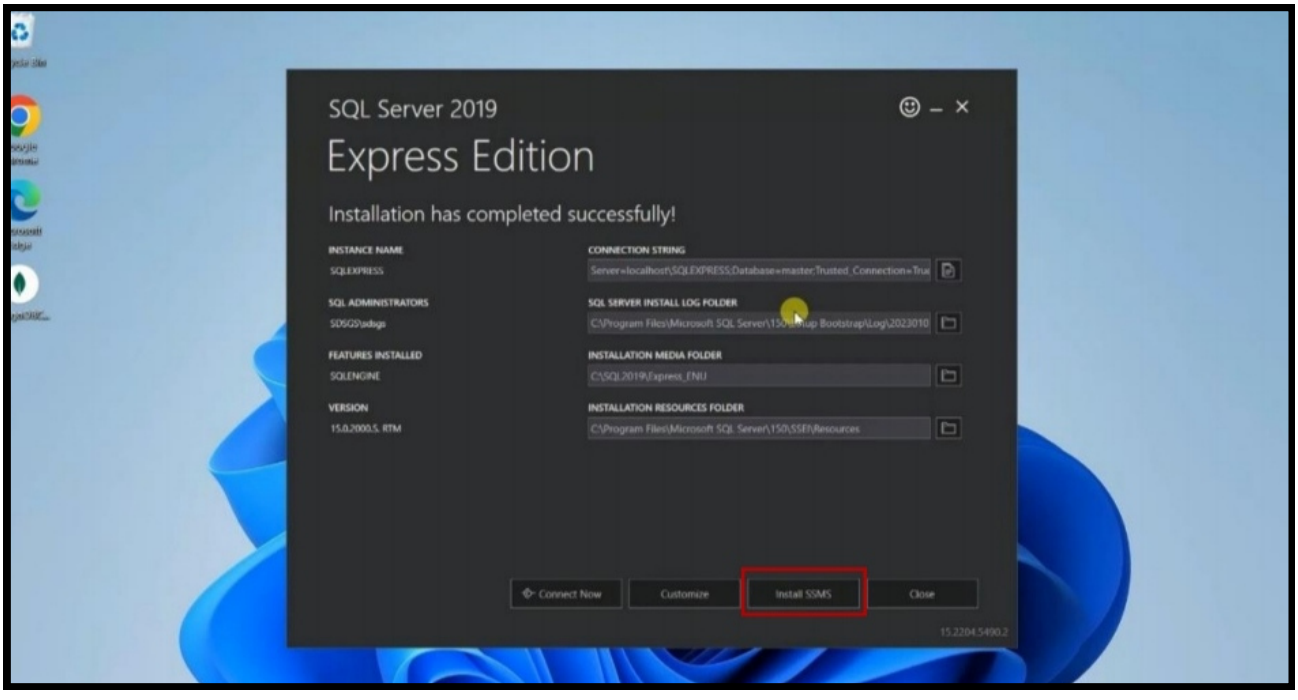
Step 06 :-

Click "Install" to install the SSMS.



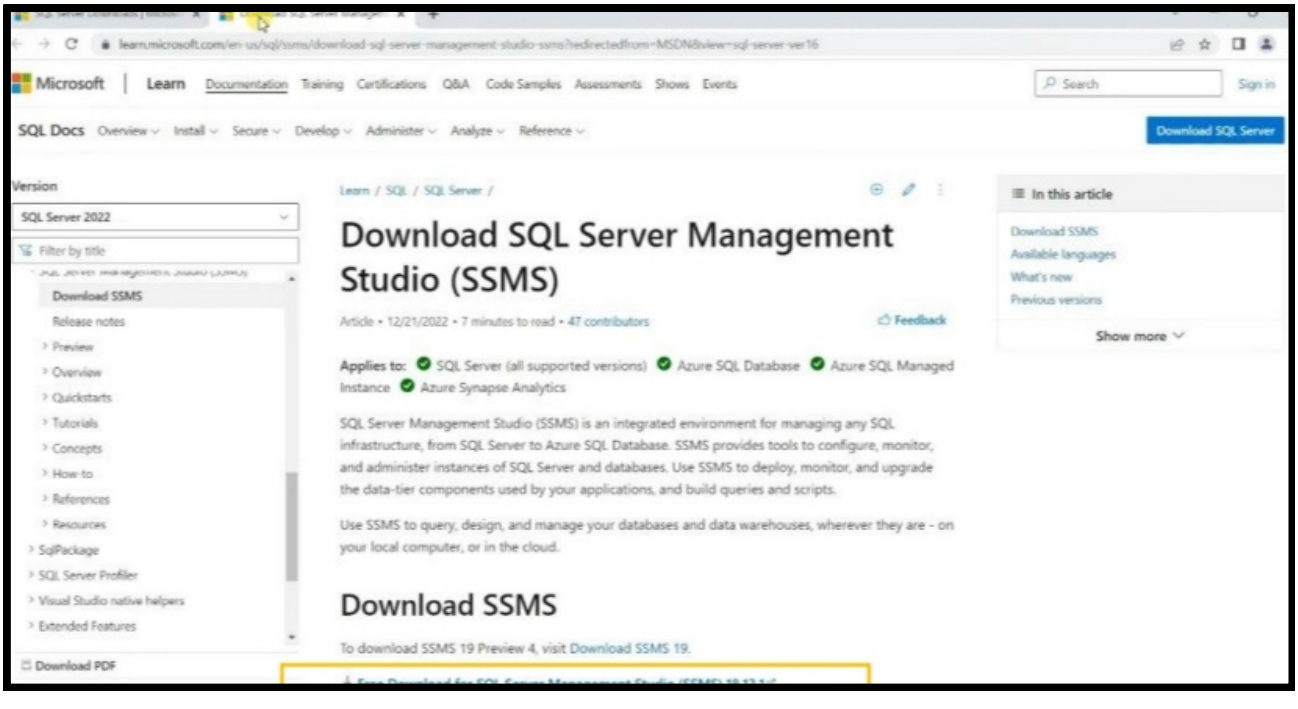
Step 07 :-

After this, the download will start. Once the download is completed Click on "Install SSMS" option.



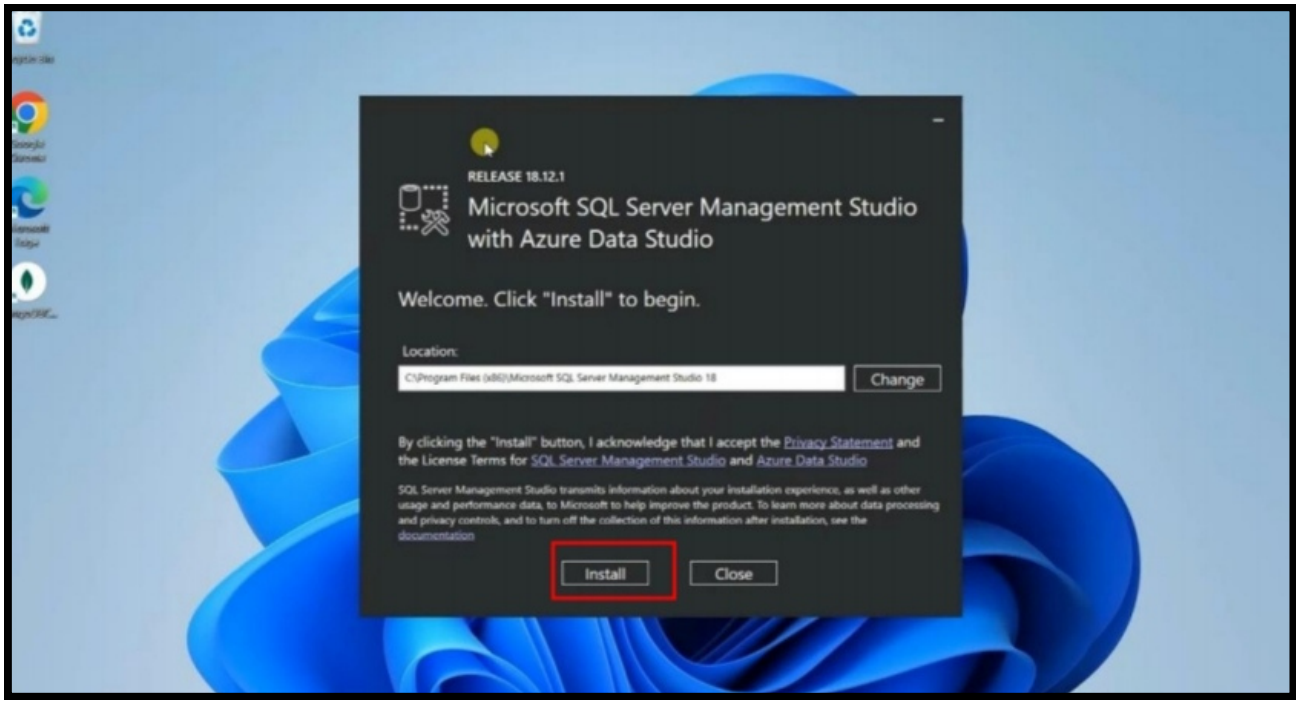
Step 08 :-

Once you click on Install SSMS. It will bring you to the website. Scroll down and you will see an link "free download for SQL Management Studio (SSMS) 18.12v". Click on it to continue.

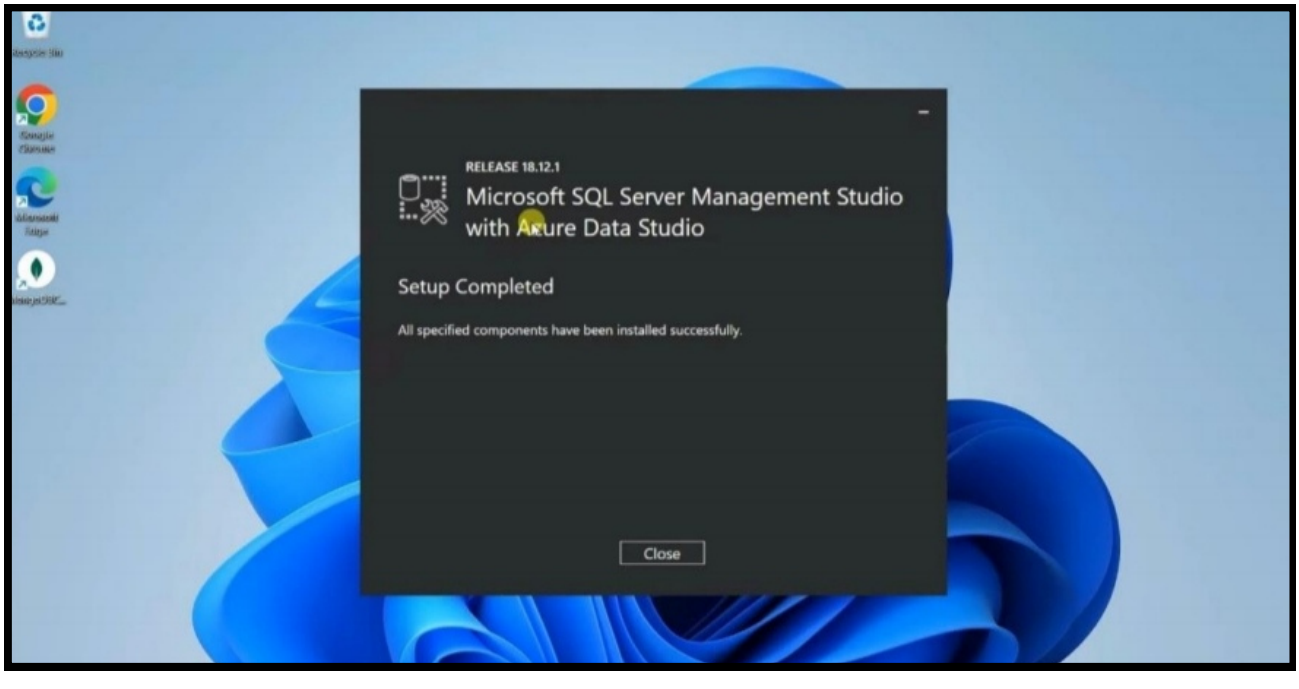


Step 09 :-

After that, you will see the following interface. Click on "Install" to continue the downloading.



The downloading will start. Once the download is completed, the installation process is completed. Click on close.



3) Defining Data : *-Roll.No: 04*

a) Using CREATE statement :

It is used to create new DATABASE and new TABLE in database.

Syntax :

CREATE DATABASE database_name;

USE database_name;

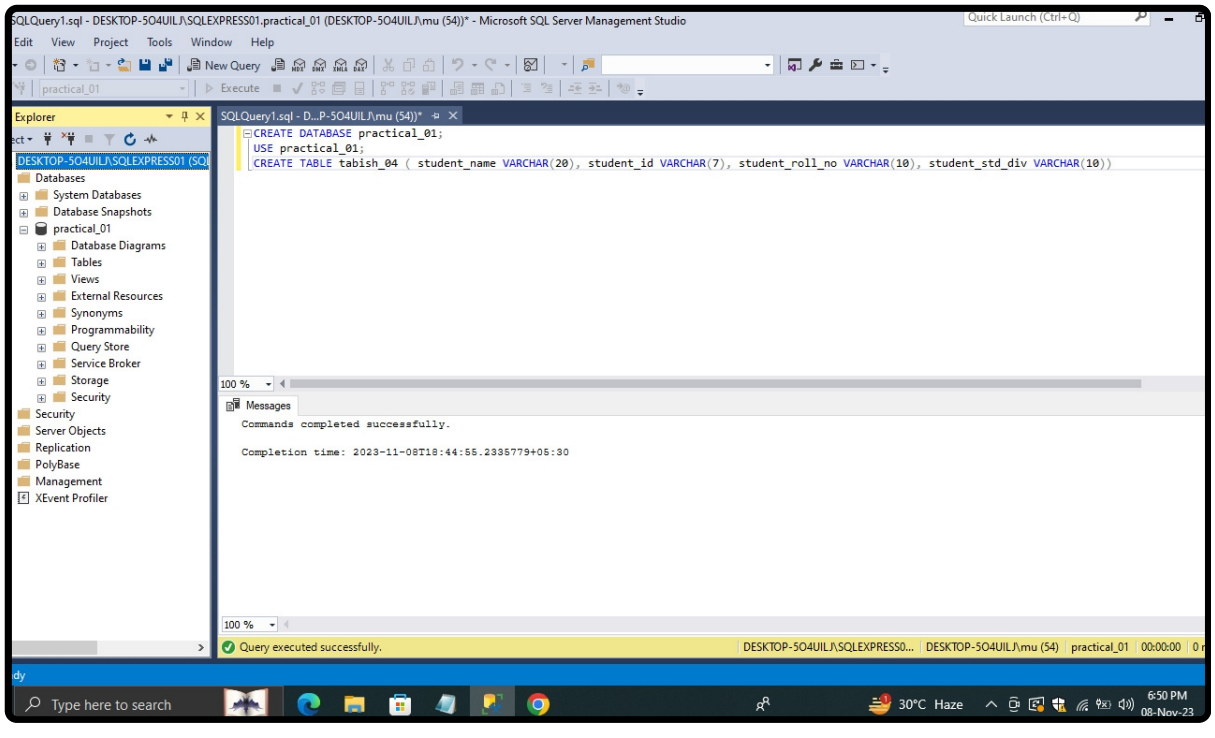
CREATE TABLE table_name (COLUMN NAME DATATYPE(..) ;

Example :

CREATE DATABASE practical_01;

USE practical_01;

CREATE TABLE tabish_04 (student_name VARCHAR(20), student_id VARCHAR(7), student_roll.no VARCHAR(10), student_std&div VARCHAR(10))



b)Using ALTER statement:

Its is used to Alter the structure of Database. Either to modify datatypes and attributes or add a new column and attribute.

Syntax:

ALTER TABLE table_name

ADD (column_name datatypes(..)) ;

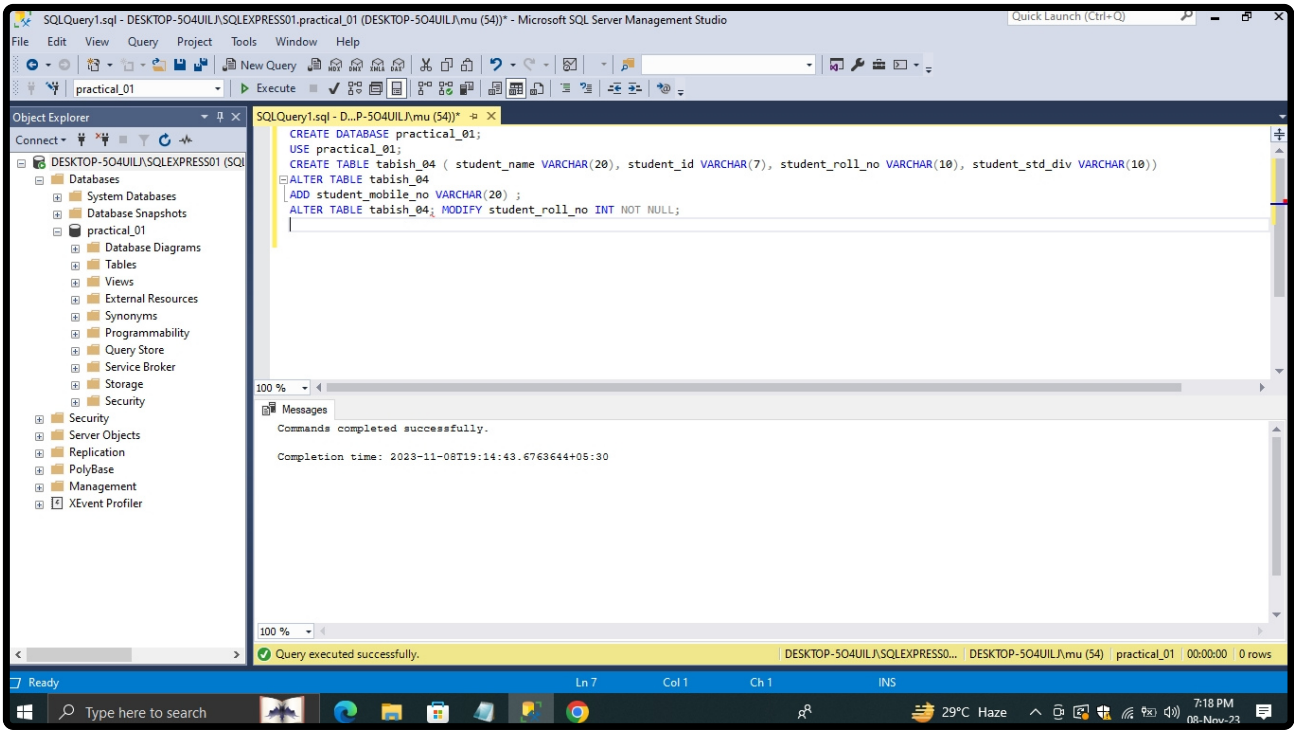
ALTER TABLE table_name

MODIFY (column_name datatypes(..)) ;

Example :

ALTER TABLE tabish_04

ADD (student_mobile_no VARCHAR(20)) ;



c) Using DROP Statement :

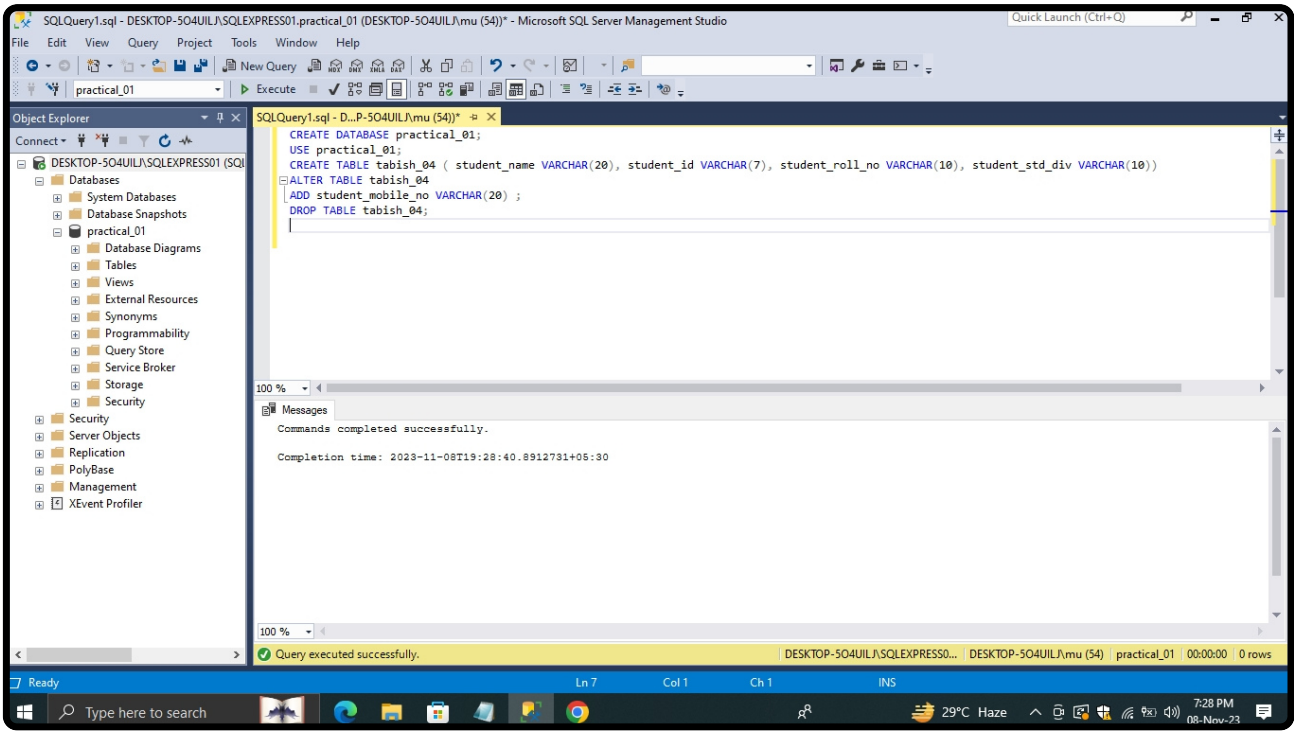
It is used to delete the table in database.

Syntax:

DROP TABLE table_name;

Example :

DROP TABLE tabish_04;



d) Using TRUNCATE Statement :

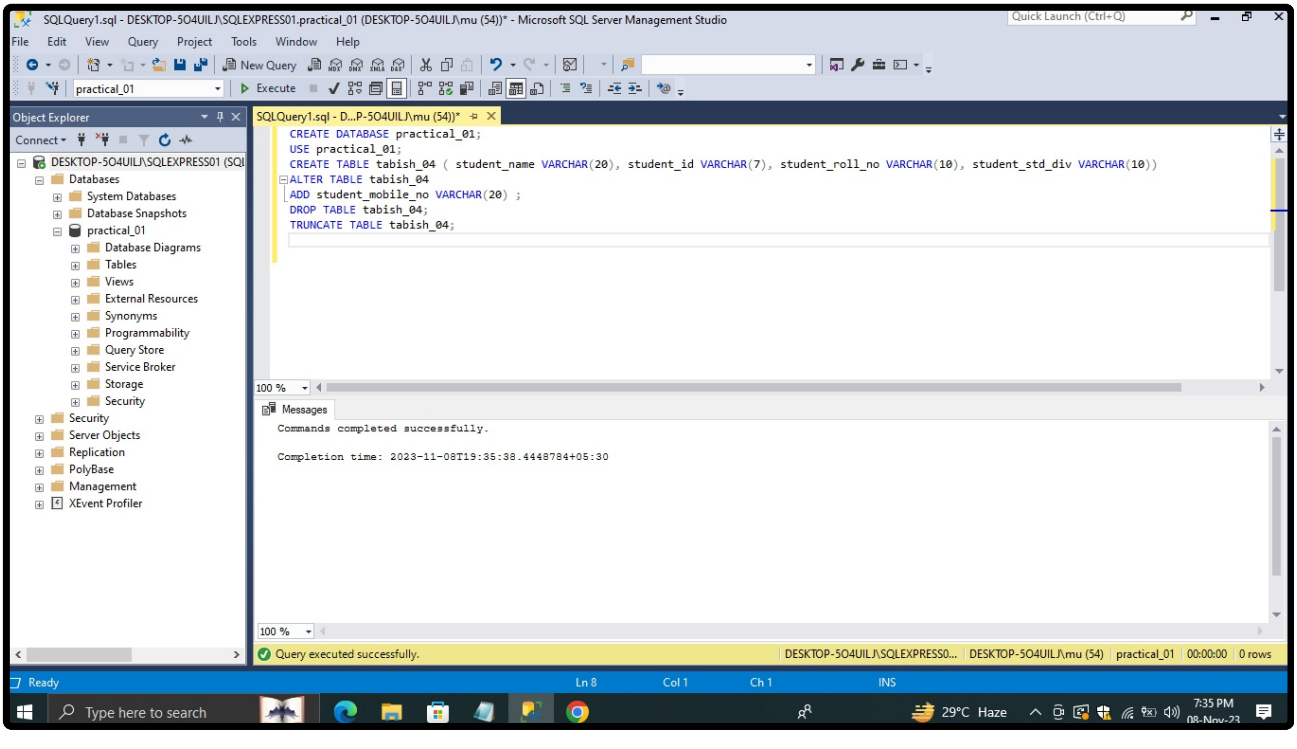
It is used to delete all rows in a table in database.

Syntax:

TRUNCATE TABLE table_name;

Example:

TRUNCATE TABLE tabish_04;



e) Using RENAME Statement:

It is used to Rename statement in database.

Syntax:

RENAME TABLE old_table_name TO new_table_name;

Example:RENAME TABLE tabish_04 TO md_tabish_04;

4) Manipulating Data:

-Roll.No: 04

a) Using INSERT Statement :

It is used to add Data in row of a table.

Syntax:

INSERT INTO table_name(Col1, Col2, Col3.....ColN) ;

VALUES (Val1, Val2, Val3.... ValN) ;

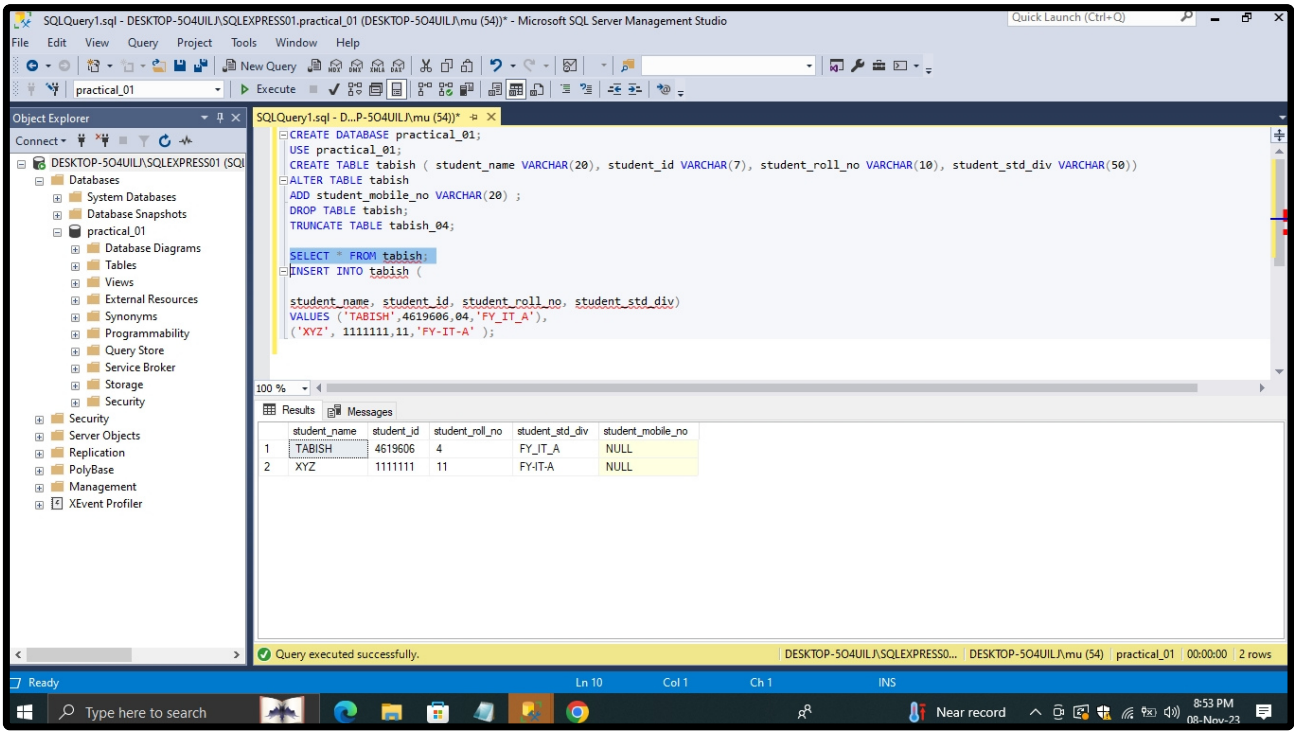
Example:

INSERT INTO tabish_04

(student_name, student_id, student_roll_no, student_std_div)

VALUES('Tabish', 4619606,04,'FY IT (A)'),

('XYZ', 1111111,11,'FY IT (A)') ;



b) Using Update Statement:

It is used to Modify the current records in table.

Syntax:

UPDATE table_name

SET column_name=values

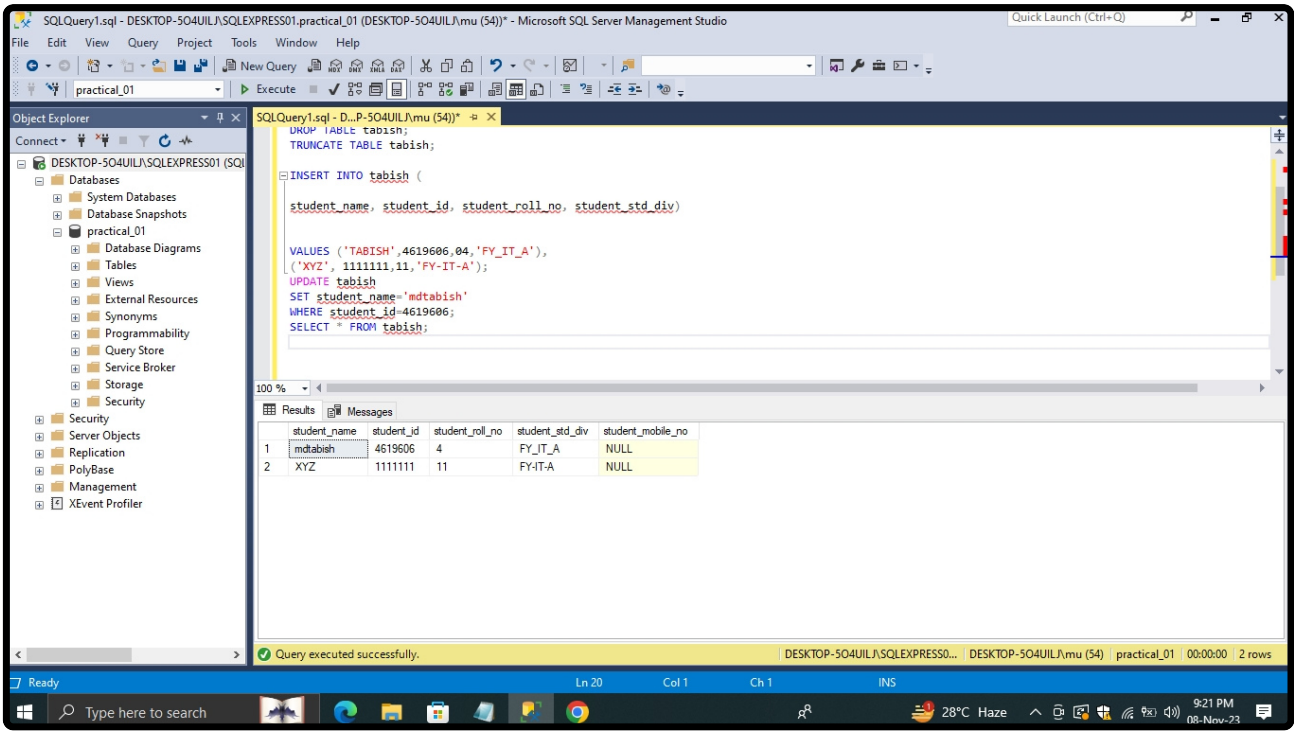
WHERE condition;

Example :

UPDATE tabish

SET student_name='Md_Tabish'

WHERE student_id= 4619606;



c) Using DELETE Statement:

It is used to delete columns within the given condition.

Syntax:

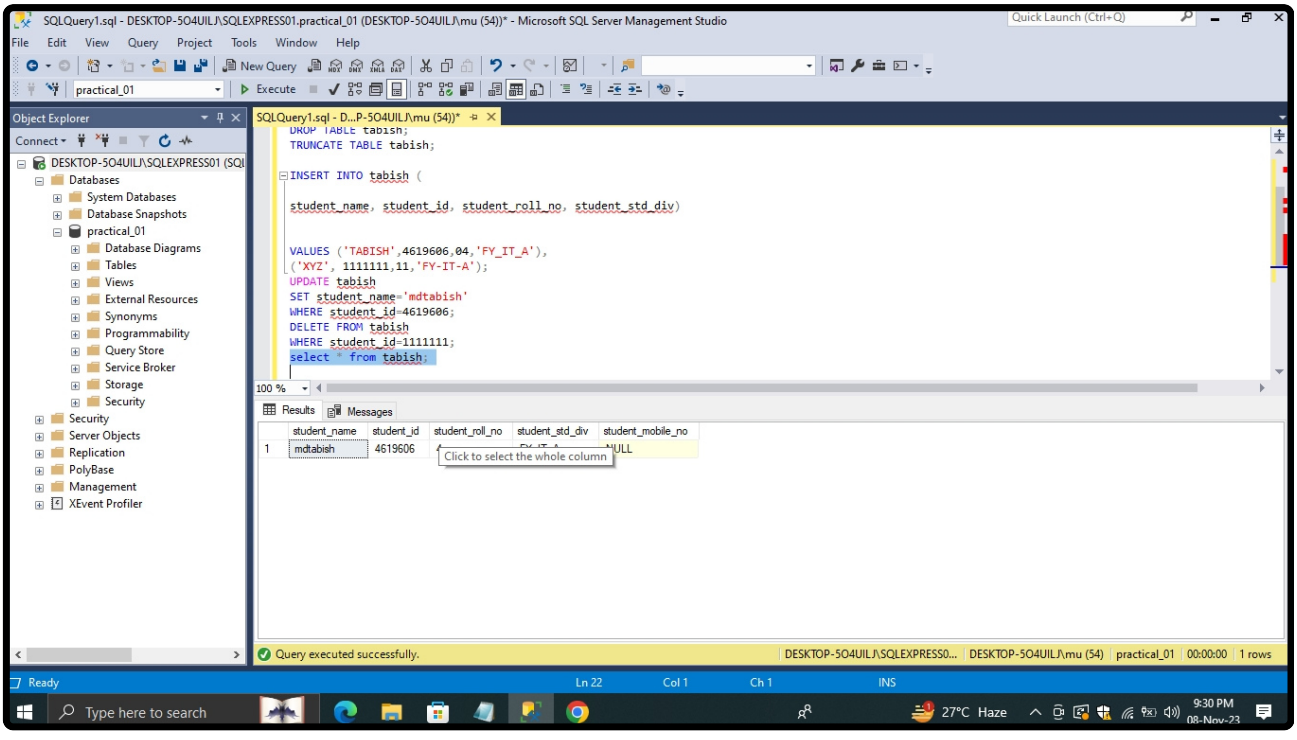
DELETE FROM table_name

WHERE condition;

Example:

DELETE FROM tabish

WHERE student_id=1111111;



d) Using SELECT statement:

It is used to get a particular column for the given Conditions.

Syntax:

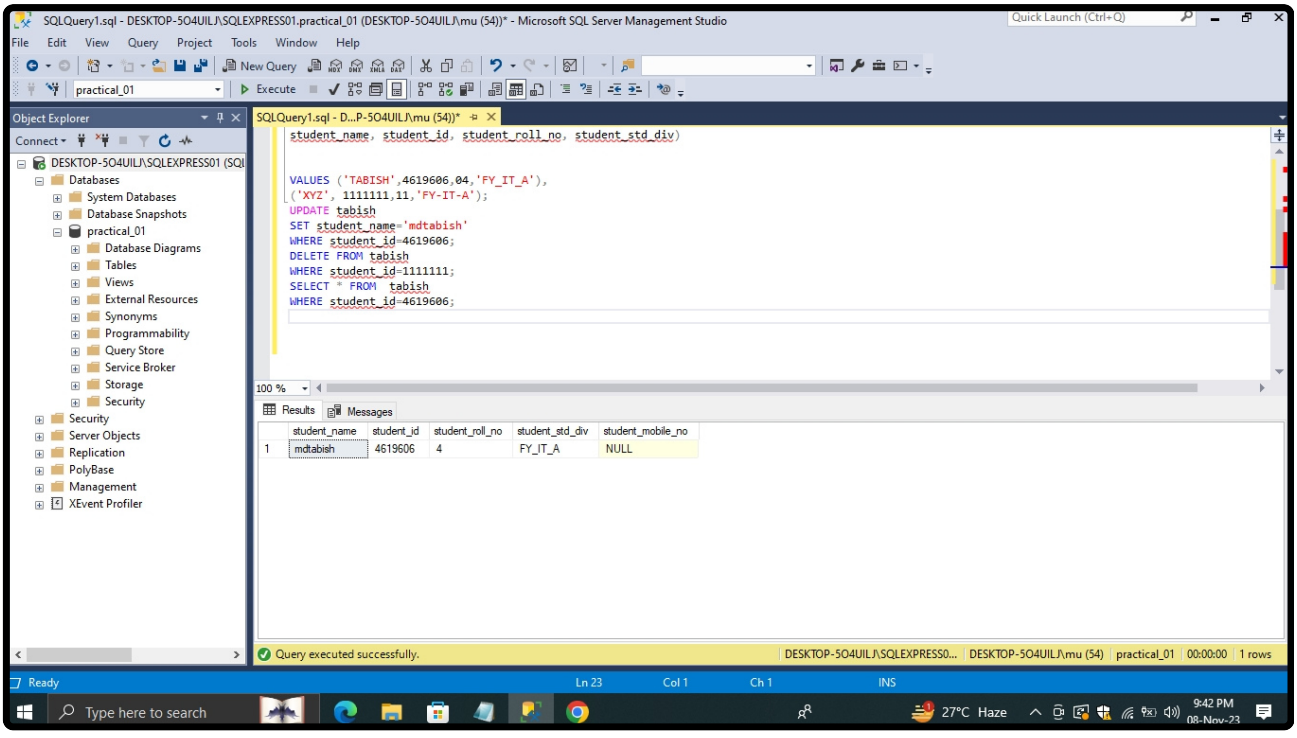
SELECT * FROM table_name

WHERE condition;

Example:

SELECT * FROM tabish

WHERE student_id=4619606;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Storage
Security
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Server Objects
Replication
PolyBase
Management
XEvent Profiler
SQLQuery1.sql - D...P-5O4UILJ\mu (54))*
student_name, student_id, student_roll_no, student_std_div)
VALUES ('TABISH',4619606,04,'FY_IT_A'),
('XYZ', 1111111,11,'FY-IT-A');
UPDATE tabish
SET student_name='mdtabish'
WHERE student_id=4619606;
DELETE FROM tabish
WHERE student_id=1111111;
SELECT * FROM tabish
WHERE student_id=4619606;
100 %
Results
Messages
student_name student_id student_roll_no student_std_div student_mobile_no
1 mdtabish 4619606 4 FY_IT_A NULL
Query executed successfully.
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Ln 23
Col 1
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27°C Haze
9:42 PM
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