

SQLServer Lab

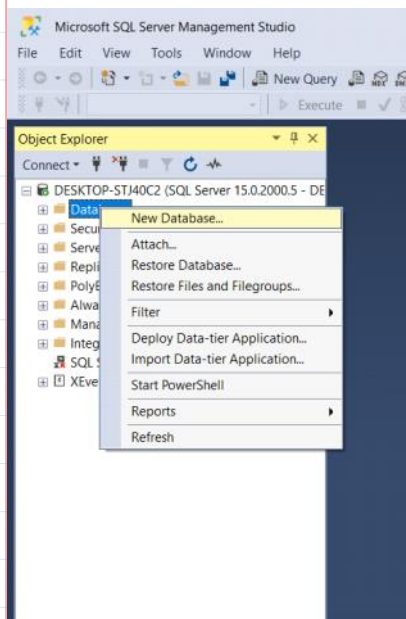
Part 1:

- a. Create the following database using wizard Consists of 2 File Groups { SecondaryFG (has two data files) and ThirdFG (has two data files) }

Database Name	SD
Location	(Default path)
Initial size for mdf	25 MB
File Group for mdf	Primary
File Growth for mdf	10%
Max. File Size for mdf	400MB
Log File Name	SD-Log
Location for Log	(Default Path)
Initial Size for Log	15 MB
File Growth	20%
Log File Max. Size	400 MB

1. Create the following tables with all the required information and load the required data as specified in each table using insert statements[at least two rows]

Tablename	Details			Comments
Department	DeptNo (PK)	DeptName	Location	1-Create it by code 2-Create a new user data type named loc with the following Criteria: <ul style="list-style-type: none"> nchar(2) default:NY create a rule for this Datatype :values in (NY,DS,KW)) and associate it to the
	d1	Research	NY	
	d2	Accounting	DS	
	d3	Markiting	KW	



New Database

Select a page

General

Options

Filegroups

Script

Help

Database name:

SD

Owner:

sa

☒ Use full-text indexing

Database files:

Logical Name	File Type	Filegroup	Initial Size (MB)	Autogrowth / Maxsize	Path
SD	ROWS Data	PRIMARY	25	By 10 percent, Limited to 400 MB	C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVE
SD_log	LOG	Not Applicable	15	By 20 percent, Limited to 400 MB	C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVE
Sec-1	ROWS Data	SecondaryFG	8	By 64 MB, Unlimited	C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVE
Sec-2	ROWS Data	SecondaryFG	8	By 64 MB, Unlimited	C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVE
Third-1	ROWS Data	ThirdFG	8	By 64 MB, Unlimited	C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVE
Third-2	ROWS Data	ThirdFG	8	By 64 MB, Unlimited	C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVE

Add

Remove

OK

Cancel

Connection

Server:

DESKTOP-STJ40C2

Connection:

DESKTOP-STJ40C2\Arabtech

View connection properties

Progress

Ready

New Database

Select a page

General

Options

Filegroups

Script

Help

Rows

Name	Files	Read-Only	Default	Autogrow All Files
PRIMARY	1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
SecondaryFG	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ThirdFG	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Filegroup

Remove

FILESTREAM

Name	FILESTREAM Files	Read-Only	Default
------	------------------	-----------	---------

Add Filegroup

Remove

MEMORY OPTIMIZED DATA

Name	FILESTREAM Files
------	------------------

Add Filegroup

Remove

OK

Cancel

Connection

Server:

DESKTOP-STJ40C2

Connection:

DESKTOP-STJ40C2\Arabtech

View connection properties

Progress

Ready

```
-- Creating a User-Defined Datatype
sp_addtype loc, 'nchar(2)';

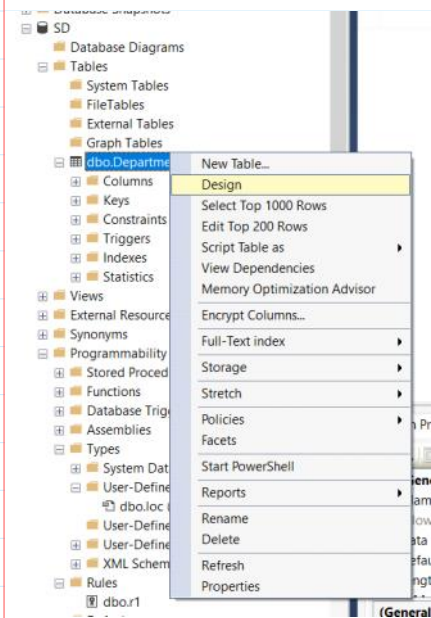
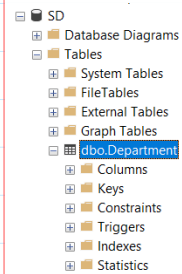
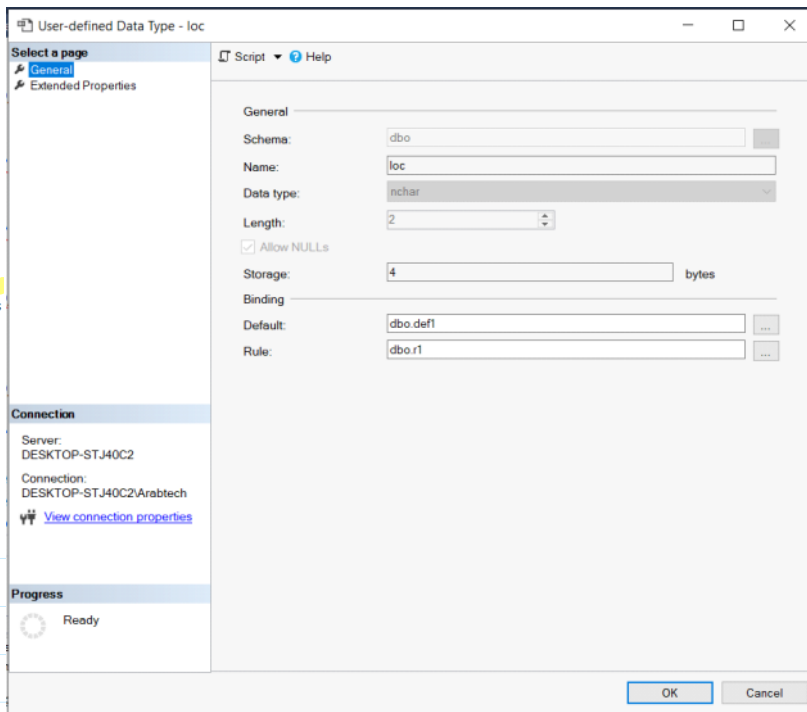
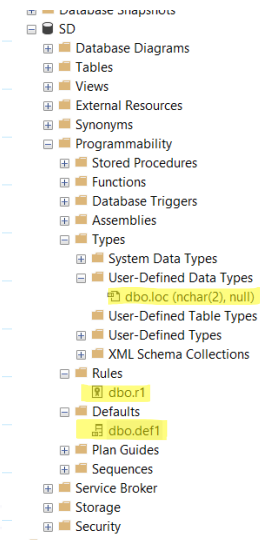
-- Creating a Rule
create rule r1 as @x in ('NY', 'DS', 'KW');

-- Creating a Default
create default def1 as 'NY';

-- Binding Rule to Datatype
sp_bindrule r1, loc;

-- Binding Default to Datatype
sp_bindefault def1, loc

create table Department
(
  Dept_No varchar(5) Primary Key,
  DeptName varchar(20),
  Location loc
)
```



DESKTOP-STJ40C2.SD - dbo.Department
SQLQuery1.sql - DE...0C2\Arabtech (73)

Column Name	Data Type	Allow Nulls
Dept_No	varchar(5)	<input type="checkbox"/>
DeptName	varchar(20)	<input checked="" type="checkbox"/>
Location	locnchar(2)	<input checked="" type="checkbox"/>

Properties
[Tbl] dbo.Department

(Identity)
(Name) Department
Database Name SD
Description
Schema dbo
Server Name desktop-stj40c2

Table Designer
Identity Column
Indexable Yes
Lock Escalation Table

Regular Data Space Specifica PRIMARY
Replicated No
Row GUID Column
Text/Image Filegroup PRIMARY

Column Properties

(General)
(Name) Dept_No
Allow Nulls No
Data Type varchar
Default Value or Binding
Length 5

(General)

DESKTOP-STJ40C2.SD - dbo.Department
SQLQuery1.sql - DE...0C2\Arabtech (73)

Column Name	Data Type	Allow Nulls
Dept_No	varchar(5)	<input type="checkbox"/>
DeptName	varchar(20)	<input checked="" type="checkbox"/>
Location	locnchar(2)	<input checked="" type="checkbox"/>

Column Properties

(General)
(Name) Location
Allow Nulls Yes
Data Type loc (nchar)
Default Value or Binding dbo.def1
Length 2

Table Designer
Collation <database default>
Computed Column Specification
Condensed Data Type locnchar(2)
Description
Deterministic Yes
DTS-published No
Full-text Specification No
Has Non-SQL Server Subscriber No
Identity Specification No
Indexable Yes
Is Columnset No
Is Sparse No
Merge-published No
Not For Replication No
Replicated No
RowGuid No
Size 4

DESKTOP-STJ40C2.SD - dbo.Department

Dept_No	DeptName	Location
D1	SAD	NY
D2	DAD	NY
D3	SSS	NY
NULL	NULL	NULL

Microsoft SQL Server Management Studio

No row was updated.

The data in row 2 was not committed.
 Error Source: .Net SqlClient Data Provider.
 Error Message: A column insert or update conflicts with a rule imposed by a previous CREATE RULE statement. The statement was terminated. The conflict occurred in database 'SD', table 'dbo.Department', column 'Location'.
 The statement has been terminated.

Correct the errors and retry or press ESC to cancel the change(s).

OK Help

```
-- Insert Department Table Rows
Insert into Department values ('D1','Research','NY');
Insert into Department values ('D2','Accounting','DS');
Insert into Department values ('D3','Marketing','KW');
```

Database snapshots

SD

Database Diagrams

Tables

System Tables

FileTables

External Tables

Graph Tables

dbo.Department

Views

External Resource

Synonyms

Programmability

Stored Procedure

Functions

Database Triggers

New Table...

Design

Select Top 1000 Rows

Edit Top 200 Rows

Script Table as

View Dependencies

Memory Optimization Advisor

DESKTOP-STJ40C2.SD - dbo.Department

Dept_No	DeptName	Location
D1	Research	NY
D2	Accounting	DS
D3	Marketing	KW
NULL	NULL	NULL

						location column
Employee	EmpNo (PK)	Emp Fname	Emp Lname	Dept No	Salary	1-Create it by code 2-PK constraint on EmpNo 3-FK constraint on DeptNo 4-Unique constraint on Salary 5-EmpFname, EmpLname don't accept null values 6-Create a rule on Salary column to ensure that it is less than 6000
	25348	Mathew	Smith	d3	2500	
	10102	Ann	Jones	d3	3000	
	18316	John	Barrimore	d1	2400	
	29346	James	James	d2	2800	
	9031	Lisa	Bertoni	d2	4000	
	2581	Elisa	Hansel	d2	3600	
	28559	Sybl	Moser	d1	2900	
Project	ProjectNo (PK)	ProjectName		Budget		1-Create it using wizard 2-ProjectName can't contain null values 3-Budget allow null
	p1	Apollo		120000		
	p2	Gemini		95000		
	p3	Mercury		185600		
Works_on	EmpNo (PK)	ProjectNo (PK)	Job	Enter_Date		1-Create it using wizard 2- EmpNo INTEGER NOT NULL 3-ProjectNo doesn't accept null values 4-Job can accept null 5-Enter_Date can't accept null and has the current system date as a default value[visually] 6-The primary key will be
	10102	p1	Analyst	2006.10.1		
	10102	p3	Manager	2012.1.1		
	25348	p2	Clerk	2007.2.15		
	18316	p2	NULL	2007.6.1		
	29346	p2	NULL	2006.12.15		
	2581	p3	Analyst	2007.10.15		
	9031	p1	Manager	2007.4.15		
	28559	p1	NULL	2007.8.1		

Table Employee

```
-- creating rule 2

create rule r2 as @x < 6000;

-- Creating Employee Table

create table Employee
(
EmpNo int,
Fname varchar(20) not null,
Lname varchar(20) not null,
DeptNo varchar(5),
Salary int,
constraint c1 Primary Key (EmpNo),
constraint c2 Foreign Key (DeptNo) references Department(Dept_No)
on delete set null
on update cascade,
constraint c3 UNIQUE (Salary),
);

sp_bindrule r2, 'Employee.Salary';
```

Column Name	Data Type	Allow Nulls
EmpNo	int	<input type="checkbox"/>
Fname	varchar(20)	<input type="checkbox"/>
Lname	varchar(20)	<input type="checkbox"/>
DeptNo	varchar(5)	<input checked="" type="checkbox"/>
Salary	int	<input checked="" type="checkbox"/>

SD

- Database Diagrams
- Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - dbo.Department
 - dbo.Employee
 - Columns
 - EmpNo (PK, int, not null)
 - Fname (varchar(20), not null)
 - Lname (varchar(20), not null)
 - DeptNo (FK, varchar(5), null)
 - Salary (int, null)
- Keys
- Constraints
- Triggers
- Indexes
- Statistics
- Views
- External Resources
- Synonyms
- Programmability
- Service Broker
- Storage

- New Column...
- Modify
- Encrypt Column...
- Start PowerShell
- Reports
- Rename
- Delete
- Refresh
- Properties**

Column Properties - Salary

Select a page: General, Extended Properties

Script Help

Name	Salary
Data Type	int
System Type	int
Primary Key	False
Allow Nulls	True
Is Computed	False
Computed text	
Identity	False
Identity Seed	0
Identity Increment	0
Default Binding	
Default Schema	
Rule	2
Rule Schema	dbo
Length	4
Collation	
Numeric Precision	10
Numeric Scale	0
XML Schema Namespace	
XML Schema Namespace schema	
Is Sparse	False
Is Column Set	False
Statistical Semantics	False
Is Hidden	False
GeneratedAlwaysType	None
Full Text	False
Not For Replication	False
ANSI Padding Status	False
Information Type Id	
Information Type	
Sensitivity Label Id	

Rule
Identifies a data integrity constraint, implemented by a SQL Server database rule and bound to the referenced column.

OK Cancel

EmpNo	Fname	Lname	DeptNo	Salary
40	Karim	Ali	d1	7000
NULL	NULL	NULL	NULL	NULL

Microsoft SQL Server Management Studio

No row was updated.

The data in row 1 was not committed.
Error Source: Net SqlClient Data Provider.
Error Message: A column insert or update conflicts with a rule imposed by a previous CREATE RULE statement. The statement was terminated. The conflict occurred in database 'SD', table 'dbo.Employee', column 'Salary'.
The statement has been terminated.

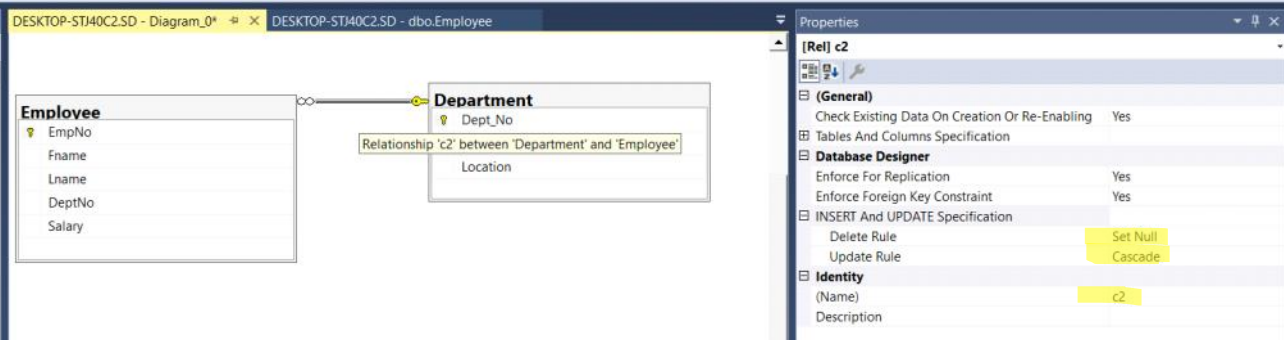
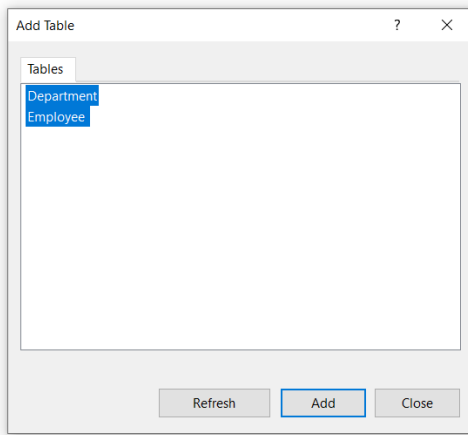
Correct the errors and retry or press ESC to cancel the change(s).

OK Help

Database Diagrams

SD

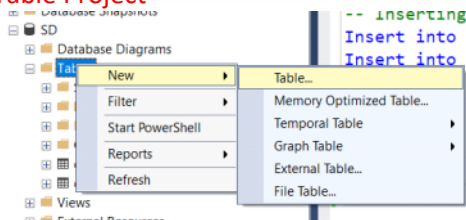
- Database Diagrams
 - New Database Diagram
 - Filter
 - Reports
 - Refresh

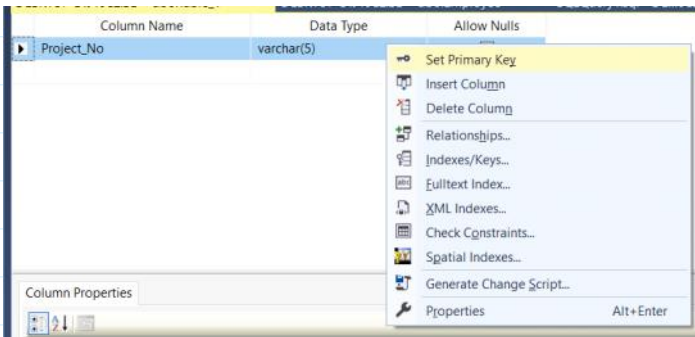


```
-- Inserting Data to Table Employee
Insert into Employee values (25348, 'Mathew', 'Smith', 'd3', 2500);
Insert into Employee values (10102, 'Ann', 'Jones', 'd3', 3000);
Insert into Employee values (18316, 'John', 'Barrimore', 'd1', 2400);
Insert into Employee values (29346, 'James', 'James', 'd2', 2800);
Insert into Employee values (9031, 'Lisa', 'Bertoni', 'd2', 4000);
Insert into Employee values (2581, 'Elisa', 'Hansel', 'd2', 3600);
Insert into Employee values (28559, 'Sybl', 'Moser', 'd1', 2900);
```

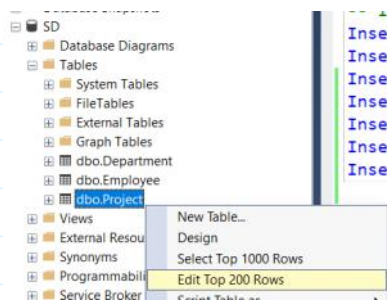
EmpNo	Fname	Lname	DeptNo	Salary
2581	Elisa	Hansel	d2	3600
9031	Lisa	Bertoni	d2	4000
10102	Ann	Jones	d3	3000
18316	John	Barrimore	d1	2400
25348	Mathew	Smith	d3	2500
28559	Sybl	Moser	d1	2900
29346	James	James	d2	2800
NULL	NULL	NULL	NULL	NULL

Table Project





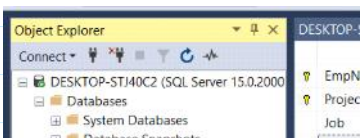
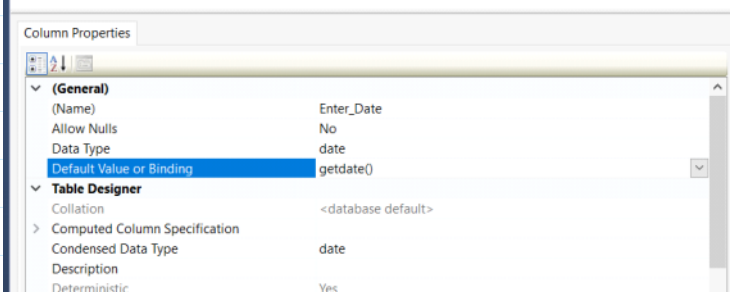
Column Name	Data Type	Allow Nulls
Project_No	varchar(5)	<input type="checkbox"/>
Project_Name	varchar(20)	<input type="checkbox"/>
Budget	int	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

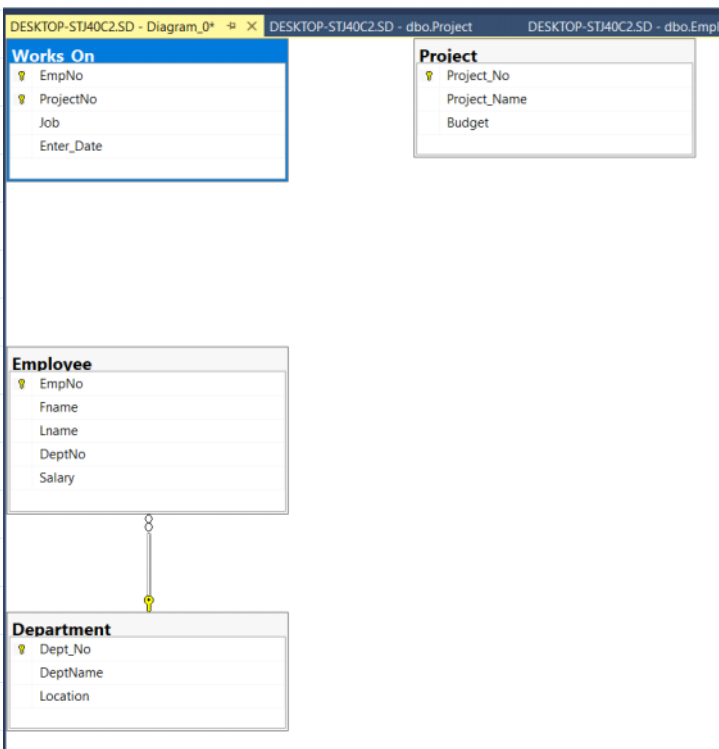
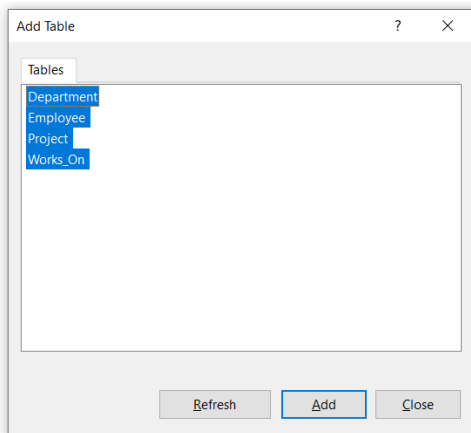
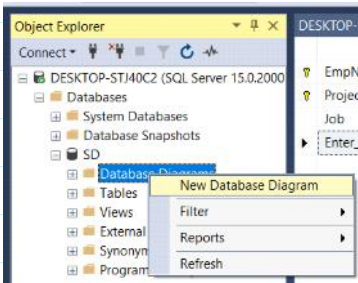


Project_No	Project_Na...	Budget
p1	Apollo	120000
p2	Gemini	95000
p3	Mercury	185600
NULL	NULL	NULL

Table Works_On

Column Name	Data Type	Allow Nulls
EmpNo	int	<input type="checkbox"/>
ProjectNo	varchar(5)	<input type="checkbox"/>
Job	varchar(50)	<input checked="" type="checkbox"/>
Enter_Date	date	<input type="checkbox"/>





Relationship name:

Primary key table: Foreign key table:

Primary key table	Foreign key table
ProjectNo	ProjectNo

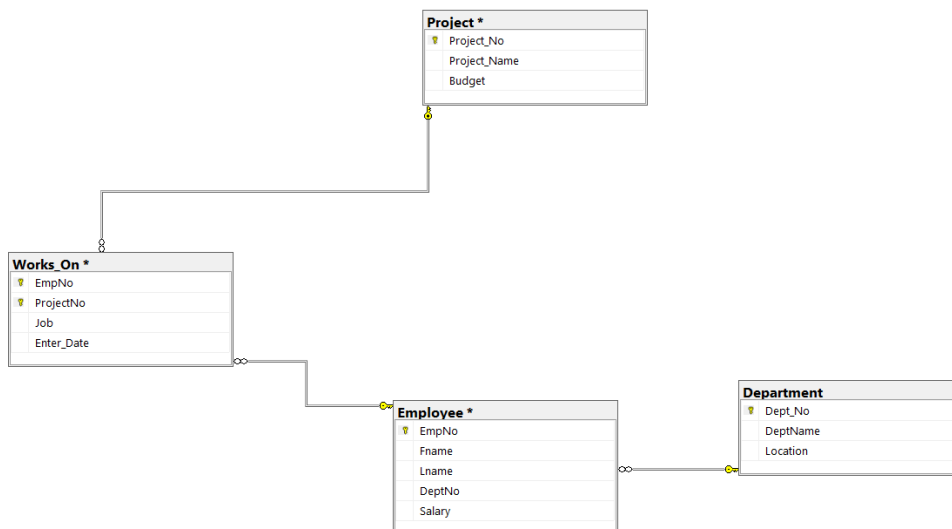
OK Cancel

Relationship name:

Primary key table: Foreign key table:

Primary key table	Foreign key table
EmpNo	EmpNo

OK Cancel



Properties

[Rel] FK_Works_On_Project

(General)

Check Existing Data On C Yes

Tables And Columns Spec

Database Designer

Enforce For Replication Yes

Enforce Foreign Key Cons Yes

INSERT And UPDATE Spec

Properties

[Rel] FK_Works_On_Employee

(General)

Check Existing Data On C Yes

Tables And Columns Spec

Database Designer

Enforce For Replication Yes

Enforce Foreign Key Cons Yes

INSERT And UPDATE Spec

Tables And Columns Spec

Database Designer

Enforce For Replication Yes

Enforce Foreign Key Cons Yes

INSERT And UPDATE Spec

Delete Rule No Action

Update Rule Cascade

Identity

(Name) FK_Works_On_Project

Description

Tables And Columns Spec

Database Designer

Enforce For Replication Yes

Enforce Foreign Key Cons Yes

INSERT And UPDATE Spec

Delete Rule No Action

Update Rule Cascade

Identity

(Name) FK_Works_On_Employee

Description

Works_On

EmpNo	ProjectNo	Job	Enter_Date
10102	p1	Analyst	2006-10-01
10102	p3	Manager	2012-01-01
25348	p2	Clerk	2007-06-01
18316	p2	NULL	2006-12-15
29346	p2	NULL	2007-10-15
9031	p1	Manager	2007-04-15
28559	p1	NULL	2007-08-01
NULL	NULL	NULL	NULL

	28559	p2	Clerk	2012.2.1	EmpNo,ProjectNo)
	9031	p3	Clerk	2006.11.15	7-there is a relation between
	29346	p1	Clerk	2007.1.4	works_on and employee,
					Project tables
Testing Referential Integrity	1-Add new employee with EmpNo =11111 In the works_on table [what will happen] 2-Change the employee number 10102 to 11111 in the works on table [what will happen] 3-Modify the employee number 10102 in the employee table to 22222. [what will happen] 4-Delete the employee with id 10102				
Table modification	1-Add TelephoneNumber column to the employee table[programmatically] 2-drop this column[programmatically] 3-Bulid A diagram to show Relations between tables				

2. Create the following schema and transfer the following tables to it
 - a. Company Schema
 - i. Department table (Programmatically)
 - ii. Project table (using wizard)
 - b. Human Resource Schema
 - i. Employee table (Programmatically)
3. Write query to display the constraints for the Employee table.
4. Create Synonym for table Employee as Emp and then run the following queries and describe the results
 - a. Select * from Employee
 - b. Select * from [Human Resource].Employee
 - c. Select * from Emp
 - d. Select * from [Human Resource].Emp
5. Increase the budget of the project where the manager number is 10102 by 10%.
6. Change the name of the department for which the employee named James works.The new department name is Sales.

Testing Referential Integrity

1.

Works_On

Employee

DESKTOP-STJ40C2.SD - dbo.Works_On

EmpNo	ProjectNo	Job	Enter_Date
10102	p1	Analyst	2006-10-01
10102	p3	Manager	2012-01-01
25348	p2	Clerk	2007-06-01
18316	p2	NULL	2006-12-15
29346	p2	NULL	2007-10-15
9031	p1	Manager	2007-04-15
28559	p1	NULL	2007-08-01
11111	p2	NULL	2017-03-09
*	NULL	NULL	NULL

Microsoft SQL Server Management Studio

No row was updated.

The data in row 8 was not committed.
 Error Source: .Net SqlClient Data Provider.
 Error Message: The INSERT statement conflicted with the FOREIGN KEY constraint "FK_Works_On_Employee". The conflict occurred in database "SD", table "dbo.Employee", column "EmpNo".
 The statement has been terminated.

Correct the errors and retry or press ESC to cancel the change(s).

OK Help

	EmpNo	Fname	Lname	DeptNo	Salary
▶	2581	Elisa	Hansel	d2	3600
	9031	Lisa	Bertoni	d2	4000
	10102	Ann	Jones	d3	3000
	18316	John	Barrimore	d1	2400
	25348	Mathew	Smith	d3	2500
	28559	Sybl	Moser	d1	2900
	29346	James	James	d2	2800
*	NULL	NULL	NULL	NULL	NULL

2.

DESKTOP-STJ40C2.SD - dbo.Works_On

EmpNo	ProjectNo	Job	Enter_Date
11111	p1	Analyst	2006-10-01
10102	p3	Manager	2012-01-01
25348	p2	Clerk	2007-06-01
18316	p2	NULL	2006-12-15
29346	p2	NULL	2007-10-15
9031	p1	Manager	2007-04-15
28559	p1	NULL	2007-08-01
*	NULL	NULL	NULL

Microsoft SQL Server Management Studio

No row was updated.

The data in row 1 was not committed.
 Error Source: .Net SqlClient Data Provider.
 Error Message: The UPDATE statement conflicted with the FOREIGN KEY constraint "FK_Works_On_Employee". The conflict occurred in database "SD", table "dbo.Employee", column "EmpNo".
 The statement has been terminated.

Correct the errors and retry or press ESC to cancel the change(s).

OK Help

3.

DESKTOP-STJ40C2.SD - dbo.Works_On

EmpNo	ProjectNo	Job	Enter_Date
22222	p1	Analyst	2006-10-01
10102	p3	Manager	2012-01-01
25348	p2	Clerk	2007-06-01
18316	p2	NULL	2006-12-15
29346	p2	NULL	2007-10-15
9031	p1	Manager	2007-04-15
28559	p1	NULL	2007-08-01

Microsoft SQL Server Management Studio

No row was updated.

The data in row 1 was not committed.
 Error Source: .Net SqlClient Data Provider.
 Error Message: The UPDATE statement conflicted with the FOREIGN KEY constraint "FK_Works_On_Employee". The conflict occurred in database "SD", table "dbo.Employee", column 'EmpNo'.
 The statement has been terminated.

Correct the errors and retry or press ESC to cancel the change(s).

OK Help

4.

DESKTOP-STJ40C2.SD - dbo.Employee* DESKTOP-STJ40C2.SD - dbo.Works

EmpNo	Fname	Lname	DeptNo	Salary
2581	Elisa	Hansel	d2	3600
9031	Lisa	Bertoni	d2	4000
10102	Ann	Jones	d3	3000
			d1	2400
			d3	2500
			d1	2900
			d2	2800
			NULL	NULL

Execute SQL Ctrl+R
 Cut Ctrl+X
 Copy Ctrl+C
 Paste Ctrl+V
 Delete Del
 Pane
 Clear Results
 Properties Alt+Enter

DESKTOP-STJ40C2.SD - dbo.Employee* DESKTOP-STJ40C2.SD - dbo.Works

EmpNo	Fname	Lname	DeptNo	Salary
2581	Elisa	Hansel	d2	3600
9031	Lisa	Bertoni	d2	4000
10102	Ann	Jones	d3	3000

Microsoft SQL Server Management Studio

No rows were deleted.

A problem occurred attempting to delete row 3.
 Error Source: .Net SqlClient Data Provider.
 Error Message: The DELETE statement conflicted with the REFERENCE constraint "FK_Works_On_Employee". The conflict occurred in database "SD", table "dbo.Works_On", column 'EmpNo'.
 The statement has been terminated.

Correct the errors and attempt to delete the row again or press ESC to cancel the change(s).

OK Help

Table Modification

1.

```
-- Table Modification
--1.Add Column TelephoneNumber to Employee Table
Alter Table Employee
Add TelephoneNumber int;
```

Employee Table

DESKTOP-STJ40C2.SD - dbo.Employee DESKTOP-STJ40C2.SD - dbo.Works_On

EmpNo	Fname	Lname	DeptNo	Salary	Telephone...
2581	Elisa	Hansel	d2	3600	NULL
9031	Lisa	Bertoni	d2	4000	NULL

DESKTOP-STJ40C2.SD - dbo.Employee DESKTOP-STJ40C2.SD - dbo.Employee

Column Name	Data Type	Allow Nulls
EmpNo	int	<input type="checkbox"/>
Fname	varchar(20)	<input type="checkbox"/>
Lname	varchar(20)	<input type="checkbox"/>
DeptNo	varchar(5)	<input checked="" type="checkbox"/>

	EmpNo	Fname	Lname	DeptNo	Salary	Telephone...
▶	2581	Elisa	Hansel	d2	3600	NULL
	9031	Lisa	Bertoni	d2	4000	NULL
	10102	Ann	Jones	d3	3000	NULL
	18316	John	Barrimore	d1	2400	NULL
	25348	Mathew	Smith	d3	2500	NULL
	28559	Sybl	Moser	d1	2900	NULL
	29346	James	James	d2	2800	NULL
*	NULL	NULL	NULL	NULL	NULL	NULL

Fname	varchar(20)	<input type="checkbox"/>
Lname	varchar(20)	<input type="checkbox"/>
DeptNo	varchar(5)	<input checked="" type="checkbox"/>
Salary	int	<input checked="" type="checkbox"/>
TelephoneNumber	int	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

2.

--2.Drop this Column

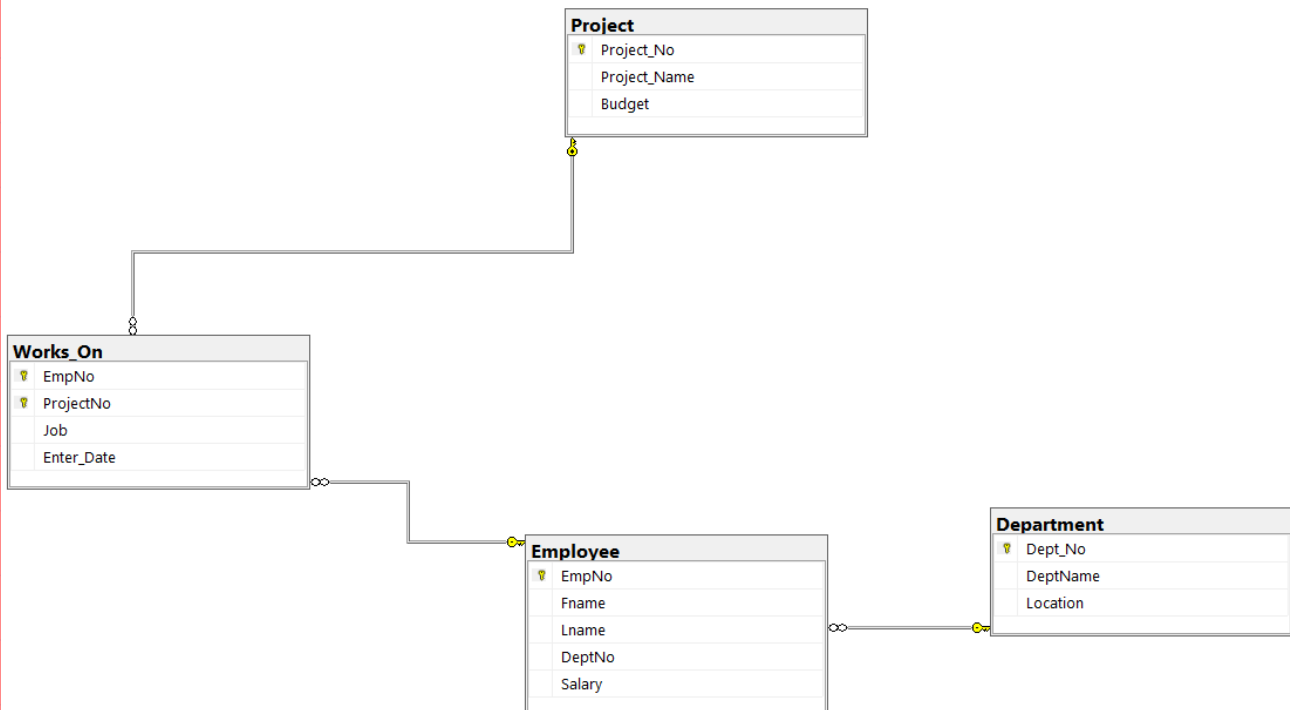
Alter Table Employee

Drop Column TelephoneNumber;

	EmpNo	Fname	Lname	DeptNo	Salary
▶	2581	Elisa	Hansel	d2	3600
	9031	Lisa	Bertoni	d2	4000
	10102	Ann	Jones	d3	3000
	18316	John	Barrimore	d1	2400
	25348	Mathew	Smith	d3	2500
	28559	Sybl	Moser	d1	2900
	29346	James	James	d2	2800
*	NULL	NULL	NULL	NULL	NULL

Column Name	Data Type	Allow Nulls
EmpNo	int	<input type="checkbox"/>
Fname	varchar(20)	<input type="checkbox"/>
Lname	varchar(20)	<input type="checkbox"/>
DeptNo	varchar(5)	<input checked="" type="checkbox"/>
Salary	int	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

3. Diagram



3

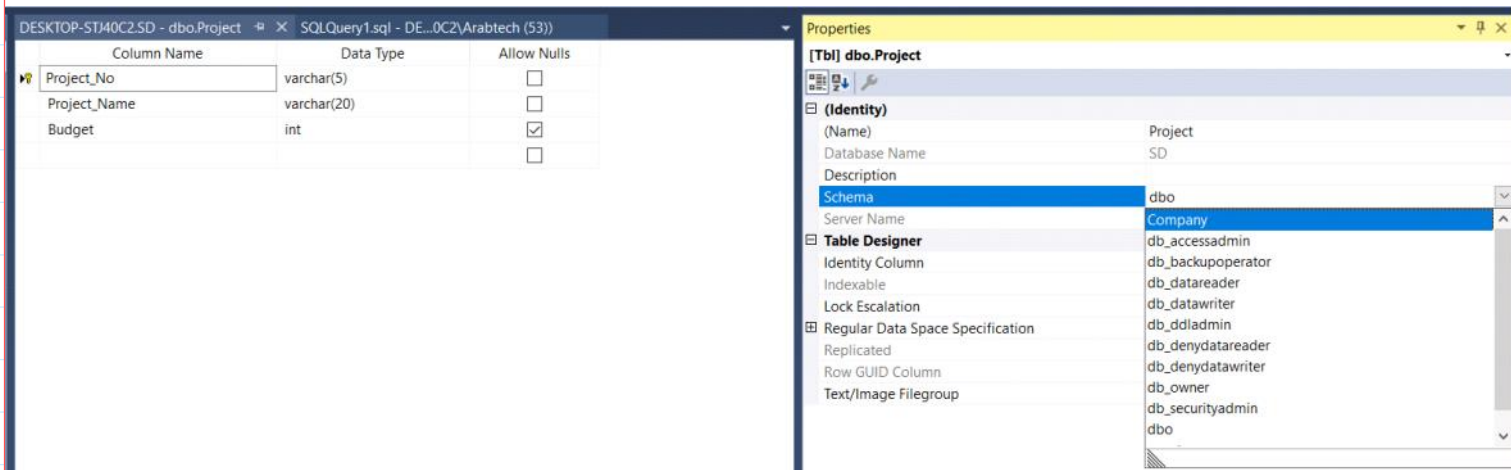
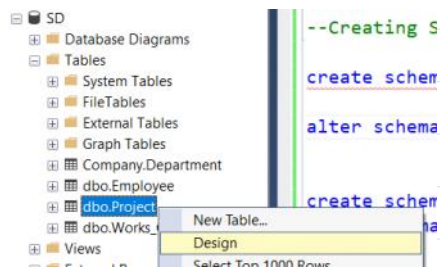
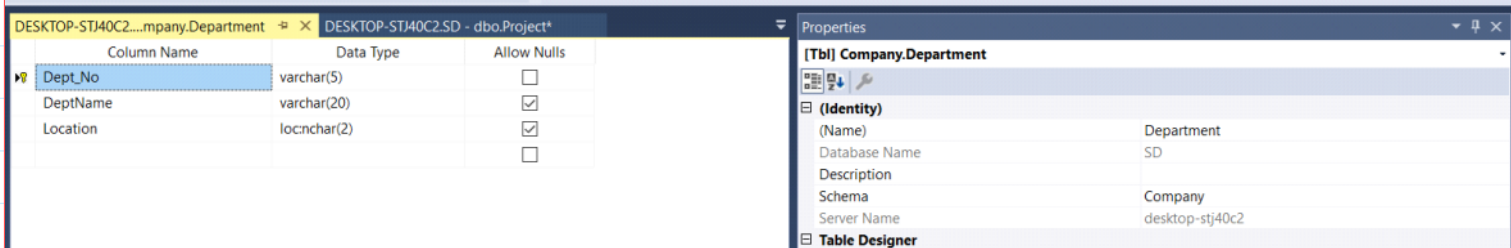
Saturday, February 18, 2023 9:24 PM

Point 2.

(a)

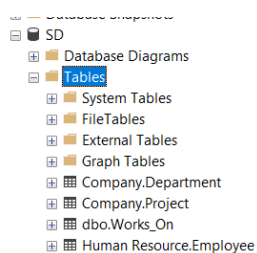
```
--Point 2
-----
--Creating Schema

create schema Company
alter schema Company transfer Department
```



(b)

```
create schema "Human Resource"
alter schema "Human Resource" transfer Employee
```



DESKTOP-STJ40C2...Resource.Employee x DESKTOP-STJ40C2...mpany.Department

Column Name	Data Type	Allow Nulls
EmpNo	int	<input type="checkbox"/>
Fname	varchar(20)	<input type="checkbox"/>
Lname	varchar(20)	<input type="checkbox"/>
DeptNo	varchar(5)	<input checked="" type="checkbox"/>
Salary	int	<input checked="" type="checkbox"/>

Properties

[Tbl] Human Resource.Employee

(Identity)

(Name)	Employee
Database Name	SD
Description	
Schema	Human Resource
Server Name	desktop-stj40c2

Table Designer

3

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Point 3.

<https://bhaveshgpatel.wordpress.com/2009/11/04/sql-server-list-all-constraints-of-database-or-table/>

```
-- Point 3
-- View Constraints of table Employee

SELECT * FROM INFORMATION_SCHEMA.TABLE_CONSTRAINTS
WHERE TABLE_NAME='Employee'
```

	CONSTRAINT_CATALOG	CONSTRAINT_SCHEMA	CONSTRAINT_NAME	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	CONSTRAINT_TYPE	IS_DEFERRABLE	INITIALLY_DEFERRED
1	SD	Human Resource	c1	SD	Human Resource	Employee	PRIMARY KEY	NO	NO
2	SD	Human Resource	c3	SD	Human Resource	Employee	UNIQUE	NO	NO
3	SD	Human Resource	c2	SD	Human Resource	Employee	FOREIGN KEY	NO	NO

Point4.

```
--Point 4
-- Create synonym Emp for Table Employee

create synonym Emp for Employee;
```

156 %
Messages
Commands completed successfully.

```
select * from Employee;
```

```
select * from [Human Resource].Employee;
```

156 %
Messages
Msg 208, Level 16, State 1, Line 111
Invalid object name 'Employee'.

	EmpNo	Fname	Lname	DeptNo	Salary
1	2581	Elisa	Hansel	d2	3600
2	9031	Lisa	Bertoni	d2	4000
3	10102	Ann	Jones	d3	3000
4	18316	John	Barrimore	d1	2400
5	25348	Mathew	Smith	d3	2500
6	28559	Sybl	Moser	d1	2900
7	29346	James	James	d2	2800

```
select * from Emp;
```

Msg 5313, Level 16, State 1, Line 113
Synonym 'Emp' refers to an invalid object.

```
select * from [Human Resource].Emp;
```

Msg 208, Level 16, State 1, Line 115
Invalid object name 'Human Resource.Emp'.

```
alter synonym Emp for [Human Resource].Employee; ✗ Incorrect syntax near 'synonym'.
```

```
create synonym Emp1 for [Human Resource].Employee; ✓
```

```
select * from Empl;
```

	EmpNo	Fname	Lname	DeptNo	Salary
1	2581	Elisa	Hansel	d2	3600
2	9031	Lisa	Bertoni	d2	4000
3	10102	Ann	Jones	d3	3000
4	18316	John	Barrimore	d1	2400
5	25348	Mathew	Smith	d3	2500
6	28559	Sybl	Moser	d1	2900
7	29346	James	James	d2	2800

Point5

```
--Point 5
```

```
UPDATE Company.Project
SET Budget = 1.1 * Budget
FROM Works_On W , [Human Resource].Employee E , Company.Project P
WHERE W.EmpNo = E.EmpNo
AND W.ProjectNo = P.Project_No
AND W.Job = 'Manager'
```

(2 rows affected)

	Project_No	Project_Na...	Budget
▶	p1	Apollo	132000 ✓
	p2	Gemini	95000
	p3	Mercury	204160 ✓
*	NULL	NULL	NULL

Point6

```
--Point 6
```

```
UPDATE Company.Department
SET DeptName = 'Sales'
FROM Company.Department D , [Human Resource].Employee E
WHERE E.DeptNo = D.Dept_No AND E.Fname = 'James'
```

(1 row affected)

	EmpNo	Fname	Lname	DeptNo	Salary
1	2581	Elisa	Hansel	d2	3600
2	9031	Lisa	Bertoni	d2	4000
3	10102	Ann	Jones	d3	3000
4	18316	John	Barrimore	d1	2400
5	25348	Mathew	Smith	d3	2500
6	28559	Sybl	Moser	d1	2900
7	29346	James	James	d2	2800

	Dept_No	DeptName	Location
1	D1	Research	NY
2	D2	Sales	DS
3	D3	Marketing	KW

7. Change the enter date for the projects for those employees who work in project p1 and belong to department 'Sales'. The new date is 12.12.2007.
8. Delete the information in the works_on table for all employees who work for the department located in KW.
9. Try to Create Login Named(ITIStud) who can access Only student and Course tables from ITI DB then allow him to select and insert data into tables and deny Delete and update .(Use ITI DB)

Point 7

```
-- Point 7
UPDATE W
SET W.Enter_Date = '12/12/2007'
FROM Company.Project P , [Human Resource].Employee E , Company.Department D , Works_On W
WHERE W.EmpNo = E.EmpNo AND W.ProjectNo = P.Project_No AND E.DeptNo = D.Dept_No AND D.DeptName = 'Sales'
```

(2 rows affected)

EmpNo	ProjectNo	Job	Enter_Date
1	9031	p1	Manager
2	10102	p1	Analyst
3	10102	p3	Manager
4	18316	p2	NULL
5	25348	p2	Clerk
6	28559	p1	NULL
7	29346	p2	NULL

EmpNo	Fname	Lname	DeptNo	Salary
1	2581	Elisa	Hansel	d2
2	9031	Lisa	Bertoni	d2
3	10102	Ann	Jones	d3
4	18316	John	Barrimore	d1
5	25348	Mathew	Smith	d3
6	28559	Sybl	Moser	d1
7	29346	James	James	d2

Dept_No	DeptName	Location
1	D1	Research
2	D2	Sales
3	D3	Marketing

Point 8

```
select * from Works_On
select * from [Human Resource].Employee
```

Point 8

EmpNo	ProjectNo	Job	Enter_Date
1	9031	p1	Manager
2	10102	p1	Analyst
3	10102	p3	Manager
4	18316	p2	NULL
5	25348	p2	Clerk
6	28559	p1	NULL
7	29346	p2	NULL

EmpNo	Fname	Lname	DeptNo	Salary
1	2581	Elisa	Hansel	d2
2	9031	Lisa	Bertoni	d2
3	10102	Ann	Jones	d3
4	18316	John	Barrimore	d1
5	25348	Math	Smith	d3
6	28559	Sybl	Moser	d1
7	29346	James	James	d2

Dept_No	DeptName	Location
1	D1	Research
2	D2	Sales
3	D3	Marketing

```
select * from Works_On
select * from [Human Resource].Employee
select * from Company.Department
```



-- Point 8

```
DELETE FROM W
FROM Works_On as W INNER JOIN [Human Resource].Employee as E ON W.EmpNo=E.EmpNo INNER JOIN
Company.Department as D ON E.DeptNo = D.Dept_No
WHERE D.Location = 'KW'
```

(3 rows affected)

EmpNo	ProjectNo	Job	Enter_Date
1	9031	p1	Manager
2	18316	p2	NULL
3	28559	p1	NULL
4	29346	p2	NULL

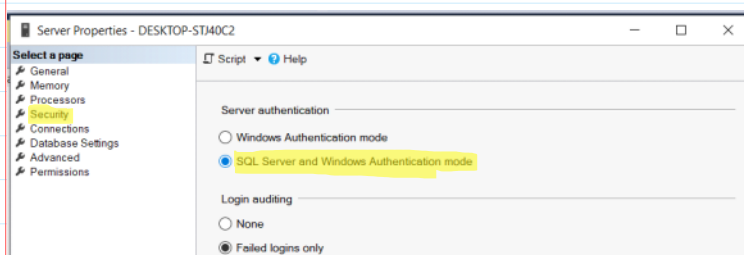
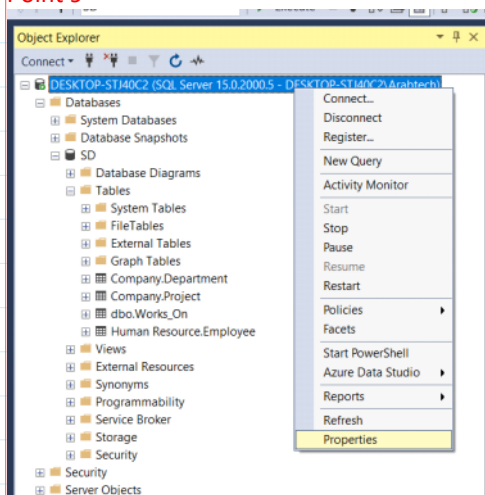
EmpNo	Fname	Lname	DeptNo	Salary
1	2581	Elisa	Hansel	d2
2	9031	Lisa	Bertoni	d2
3	10102	Ann	Jones	d3
4	18316	John	Barrimore	d1
5	25348	Mathew	Smith	d3
6	28559	Sybl	Moser	d1
7	29346	James	James	d2

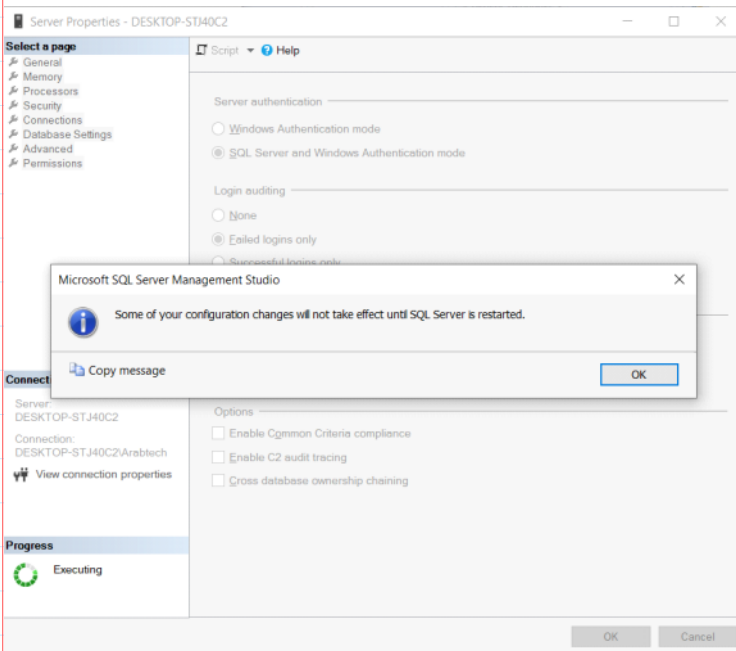
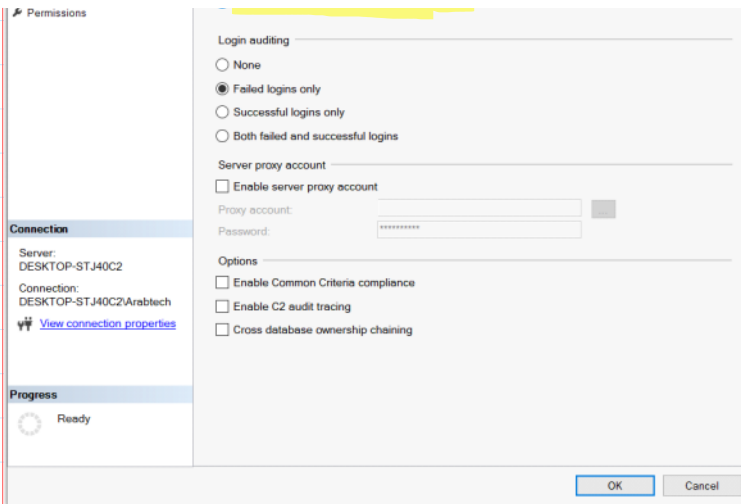
Dept_No	DeptName	Location
1	D1	Research
2	D2	Sales
3	D3	Marketing

```
select * from Works_On
select * from [Human Resource].Employee
select * from Company.Department
```

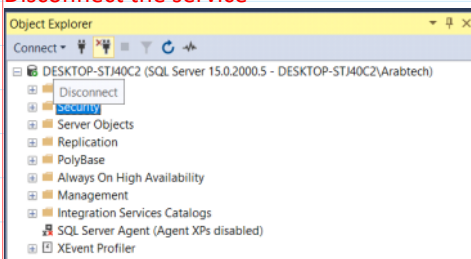


Point 9

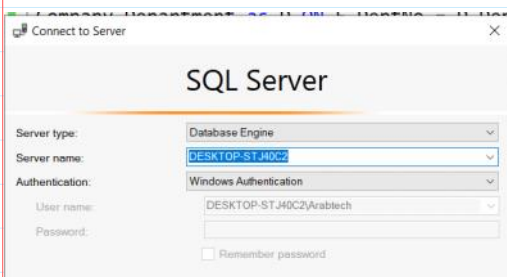
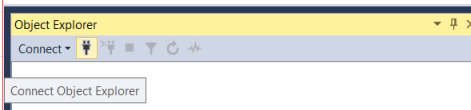




Disconnect the service

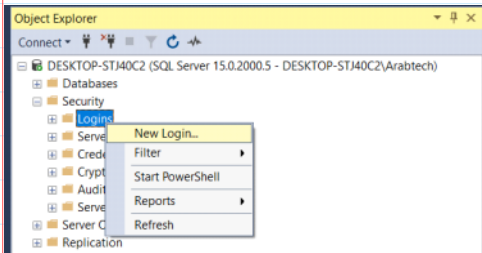


Connect



User name: DESKTOP-STJ40C2\Arabtech
Password:
☐ Remember password
Connect Cancel Help Options >>

CREATE A NEW LOGIN



Login - New

Select a page: General, Server Roles, User Mapping, Securables, Status

Script Help

Login name: KarimAli Search...

☐ Windows authentication
☒ SQL Server authentication

Password:
Confirm password:
☐ Specify old password
Old password:
☐ Enforce password policy
☐ Enforce password expiration
☐ User must change password at next login

☐ Mapped to certificate
☐ Mapped to asymmetric key
☐ Map to Credential

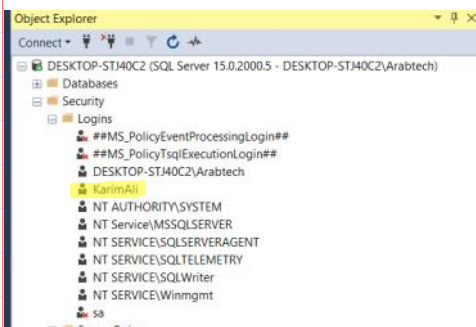
Mapped Credentials

Credential	Provider
------------	----------

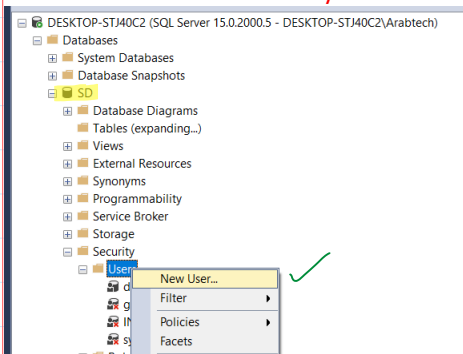
Default database: master
Default language: <default>

Remove

OK Cancel



ADD THE LOGIN as a USER to you DATABASE



Database User - New

Select a page

- General
- Owned Schemas
- Membership
- Securables
- Extended Properties

Script Help

User type: SQL user with login

User name: KarimAli

Login name: KarimAli

Default schema:

Connection

Server: DESKTOP-STJ40C2

Connection: DESKTOP-STJ40C2\Arabtech

View connection properties

Progress

Ready

OK Cancel

Disconnect then Connect

Connect to Server

SQL Server

Server type: Database Engine

Server name: DESKTOP-STJ40C2

Authentication: SQL Server Authentication

Login: KarimAli

Password: ****

Remember password

Connect Cancel Help Options >>

Connect to Server

Cannot connect to DESKTOP-STJ40C2.

Additional information:

- A connection was successfully established with the server, but then an error occurred during the login process. (provider: Shared Memory Provider, error: 0 - No process is on the other end of the pipe.) (Microsoft SQL Server, Error: 233)
- No process is on the other end of the pipe

Help Copy message Show details OK

Sql Server Configuration Manager

File Action View Help

Name	State	Start Mode	Log On As	Process ID	Service Type
SQL Server Integration Services 15.0	Running	Automatic	NT Service\MsDtsSe...	4276	
SQL Full-text Filter Daemon Launcher (MSSQLSERVER)	Running	Manual	NT Service\MSSQLF...	7612	
SQL Server (MSSQLSERVER)	Running	Automatic	NT Service\MSSQLS...	5184	SQL Server
SQL Server Analysis Services (MSSQLSERVER)	Running	Automatic	NT Service\MSSQLS...	5352	Analysis Server
SQL Server Browser	Stopped	Other (Boot, System...	NT AUTHORITY\LOC...	0	
SQL Server Agent (MSSQLSERVER)	Stopped	Manual	NT Service\SQLSERV...	0	SQL Agent

Sql Server Configuration Manager

File Action View Help

SQL Server Configuration Manager (Local)

- SQL Server Services
- SQL Server Network Configuration (32bit)
- SQL Native Client 11.0 Configuration (32b...
- SQL Server Network Configuration
- SQL Native Client 11.0 Configuration

Protocol Name Status

Shared Memory Enabled

Named Pipes

TCP/IP

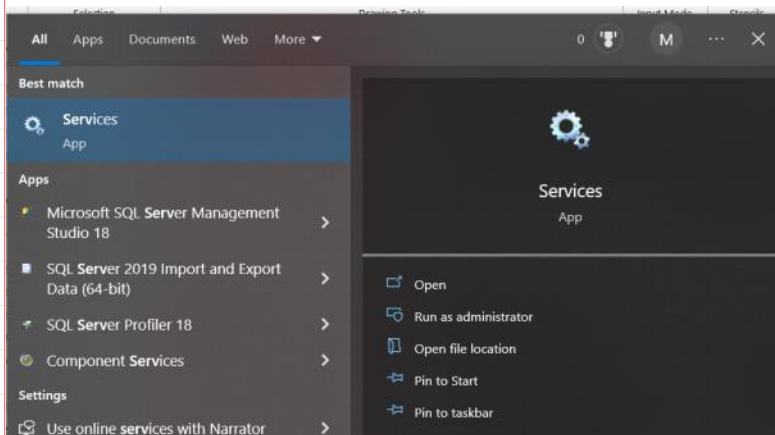
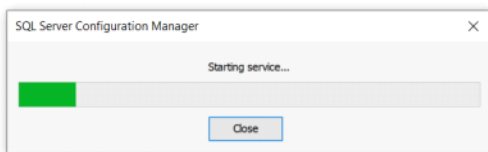
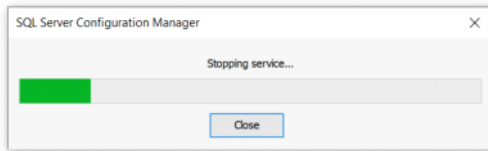
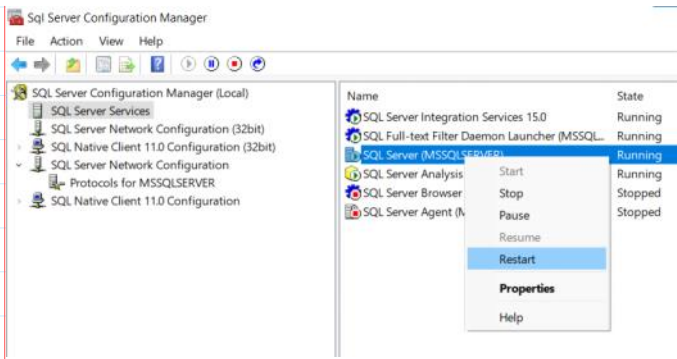
Enable

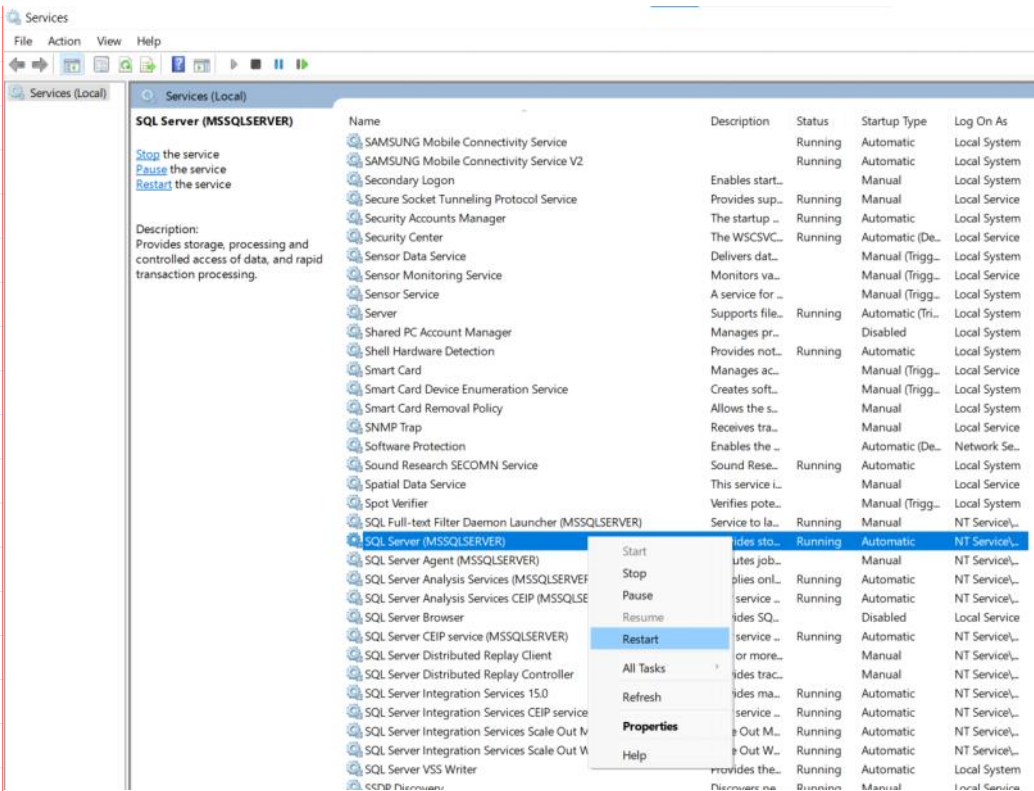
Disable

Properties

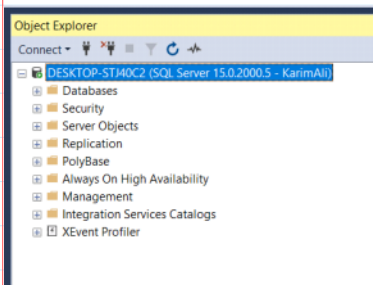
Help

Stop the service and restart it

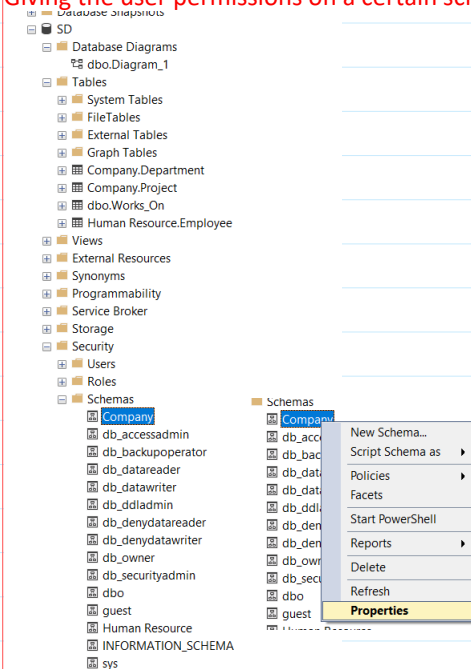


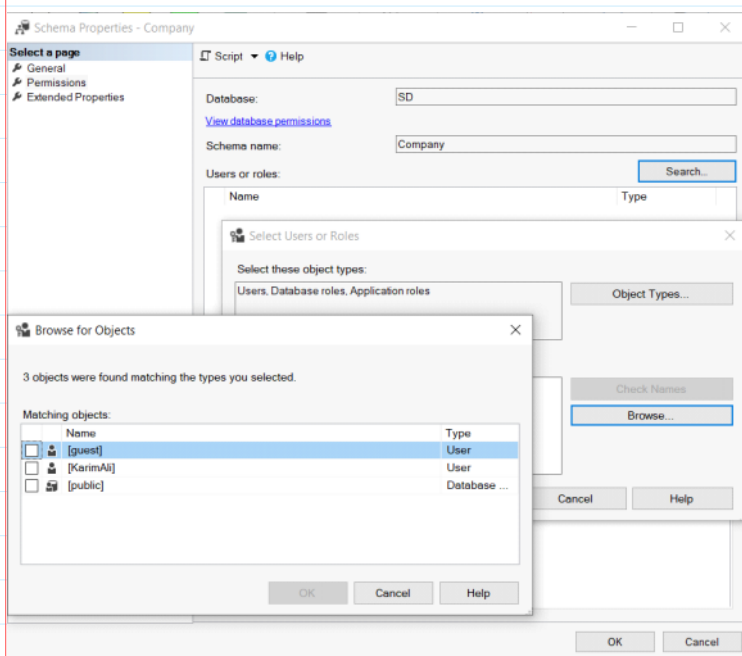
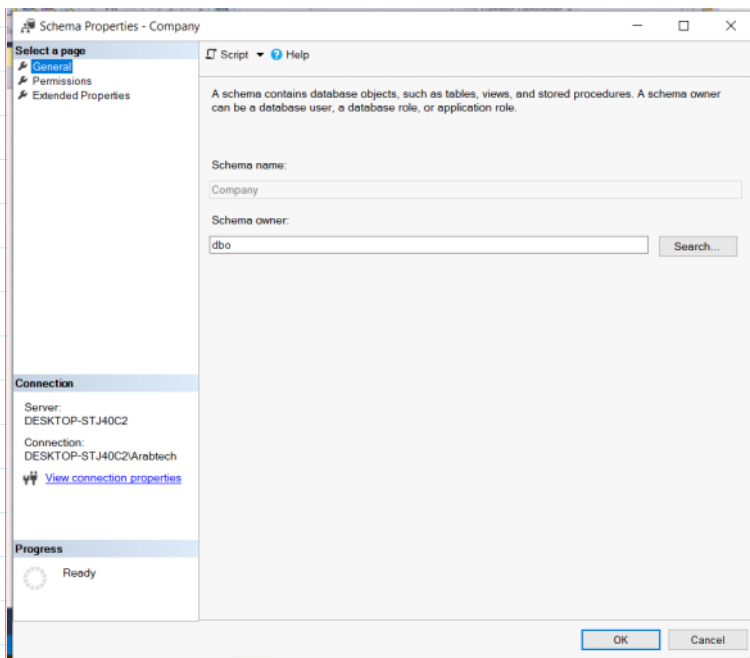


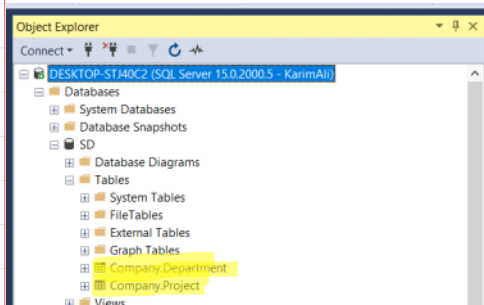
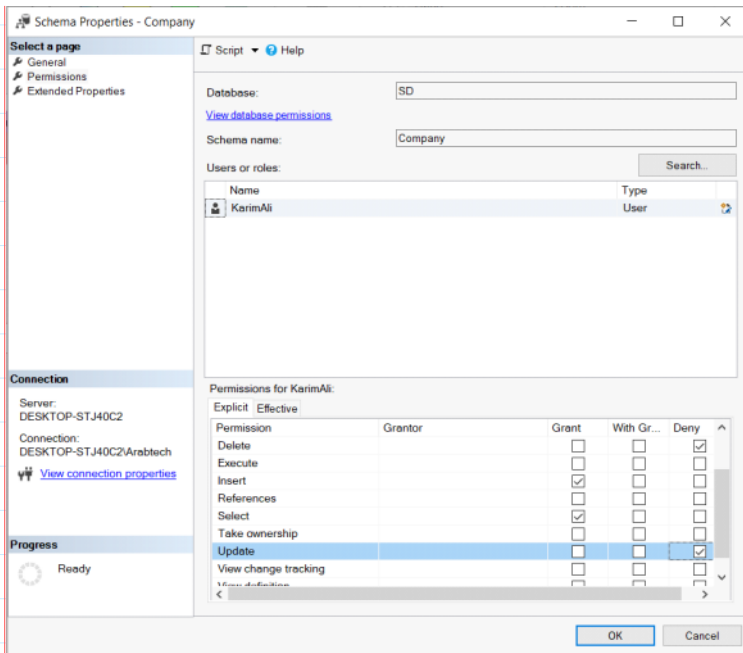
Connected..



Giving the user permissions on a certain schema







User can only see the schema Company (According to his permission)

Configurations

Saturday, February 18, 2023 5:00 PM

