



Tecnológico de Estudios Superiores de Ecatepec

**División de Ingeniería en Sistemas
Computacionales**

Academia en Ciencias de la Ingeniería

Materia

Administración de Base de Datos

Grupo 5701

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Practica 5 - Transacciones

Practica 5 – Transacciones.

Tendremos que descargar y restaurar el archivo ClassNorthwind.bak que se nos proporcionó para así poder trabajar con las instrucciones solicitadas. Una vez descargado el archivo insertamos los comandos que vienen en el archivo Tran1 y ejecutamos y mostramos los resultados obtenidos. Utilizamos las instrucciones *BEGIN TRANSACTION* y *COMMIT TRANSACTION* para controlar como se procesa la instrucción *UPDATE* sobre la tabla *Customers*.

Después tendremos que usar el comando *ROLLBACK TRANSACTION* para comprender el efecto que tiene la forma en la que se modifican los datos dentro de una transacción. Tendremos que ejecutar distintas transacciones al mismo tiempo para determinar el efecto de dicha actividad sobre bloqueos. Abrimos varias conexiones con el Analizador de Consultas SQL para hacer una simulación de que varios usuarios están enviando transacciones a SQL Server.

Para finalizar utilizamos varias opciones de bloqueo de SQL Server para determinar cómo afectan a la forma en que se procesan transacciones.

Código

```
Use ClassNorthwind
```

```
--Ejercicio 1--
```

```
--Transaccion 1--
```

```
Begin Tran
```

```
Print 'trancount Value:'
```

```
Select @@trancount
```

```
Print 'Before update:'
```

```
Select ContactName From Customers Where CustomerID = 'GREAL'
```

```
Update Customers Set ContactName = 'Howard Snyder_Updated' Where CustomerID = 'GREAL'
```

```
Print 'After update:'
```

```
Select ContactName From Customers Where CustomerID = 'GREAL'
```

```
Print 'trancount Value:'
```

```
Select @@trancount
```

```
Select ContactName From Customers Where CustomerID = 'GREAL'
```

```
--Ejercicio 2--
```

```
--Transaccion 2--
```

```
Begin Tran
```

```
Print 'trancount Value:'
```

```
Select @@trancount
```

```

Print 'Before Update:'
Select ContactName From Customers Where CustomerID = 'GREAL'
Update Customers Set ContactName = 'Howard Snyder_Updated' Where CustomerID =
'GREAL'
Print 'After Update:'
Select ContactName From Customers Where CustomerID = 'GREAL'
Print 'trancount Value:'
Select @@trancount

```

RollBack Tran

```

Print 'RollBack issued'
Select ContactName From Customers Where CustomerID = 'GREAL'
Print 'trancount Value:'
Select @@trancount

```

--Ejercicio 3--

```

Begin Tran
Update Customers
    Set ContactName = 'Howard Snyder'
    Where CustomerID = 'GREAL'

```

```

Print 'Server Process ID (spid)'
Select @@SPID

```

Execute sp_lock

--Ejercicio 4--

Set Transaction Isolation Level Serializable

```

Begin Tran
    Select * From Customers Where CustomerID = 'GREAL'
    Update Customers Set ContactName = 'Giovanni Rovelli' Where CustomerID = 'GREAL'

```

```

Print 'Server Process ID (spid)'
Select @@SPID

```

Execute sp_lock

```

Begin Tran
    Select * From Customers (TABLOCKX) Where CustomerID = 'GREAL'

```

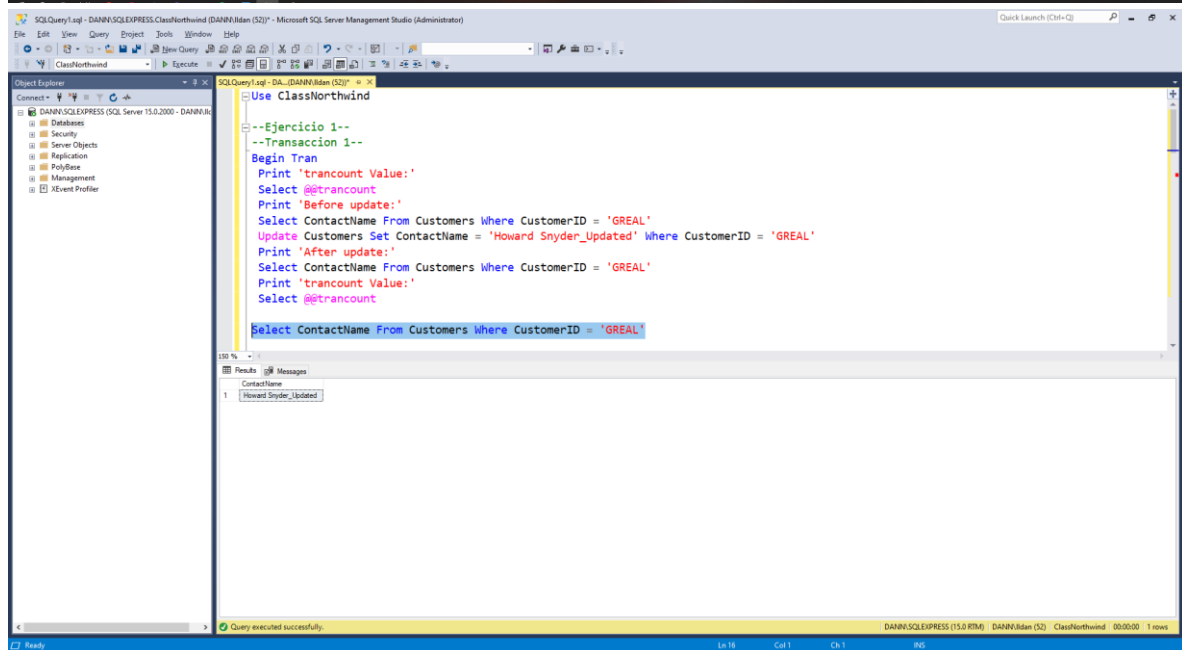
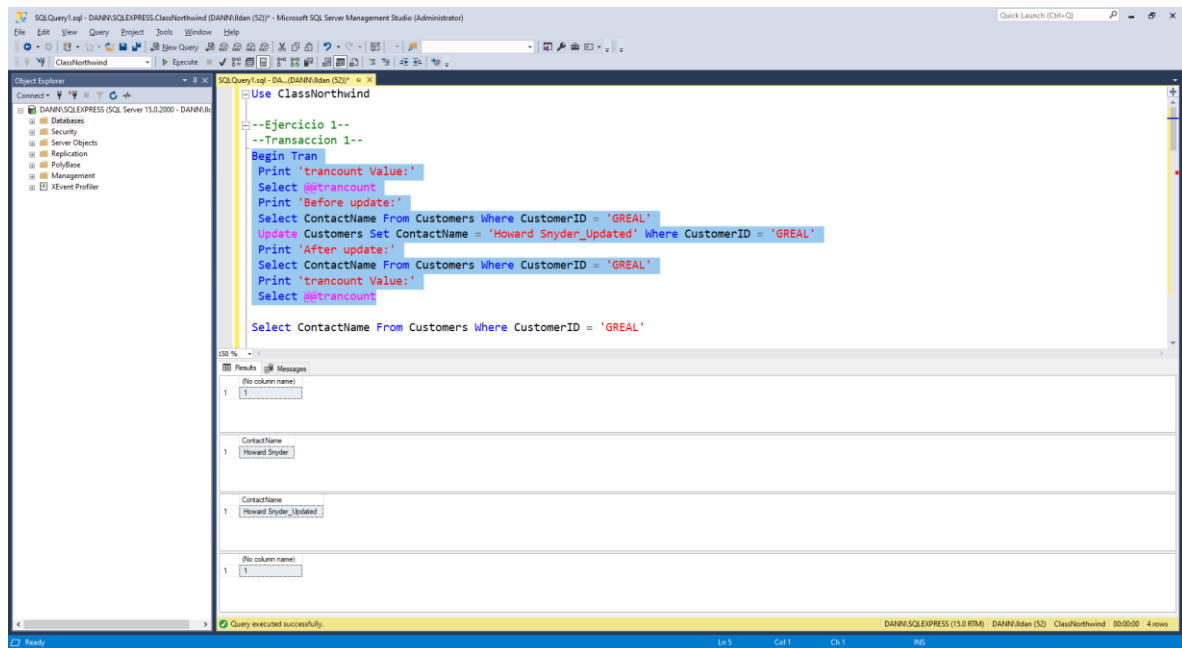
```

Print 'Server Process ID (spid)'
Select @@SPID

```

Capturas

Ejercicio 1



Ejercicio 2

The screenshot shows the SQL Server Enterprise Manager interface. The left pane displays the Object Explorer with the 'DANN\SQLEXPRESS' server selected. The right pane shows a SQL query window with the following script:

```
--Ejercicio 2--
--Transaction 2--
Begin Tran
Print 'trancount Value:'
Select @@trancount
Print 'Before Update:'
Select ContactName From Customers where CustomerID = 'GREAL'
Update Customers Set ContactName = 'Howard Snyder_Updated' where CustomerID = 'GREAL'
Print 'After Update:'
Select ContactName From Customers where CustomerID = 'GREAL'
Print 'trancount Value:'
Select @@trancount
RollBack Tran
Print 'RollBack issued'
Select ContactName From Customers where CustomerID = 'GREAL'
Print 'trancount Value:'
Select @@trancount
```

The bottom pane shows the Results tab with the following output:

trancount Value:
1

ContactName
Howard Snyder_Updated

ContactName
Howard Snyder_Updated

trancount Value:
2

ContactName
Howard Snyder

trancount Value:
0

The status bar at the bottom indicates 'Query executed successfully'.

Ejercicio 3

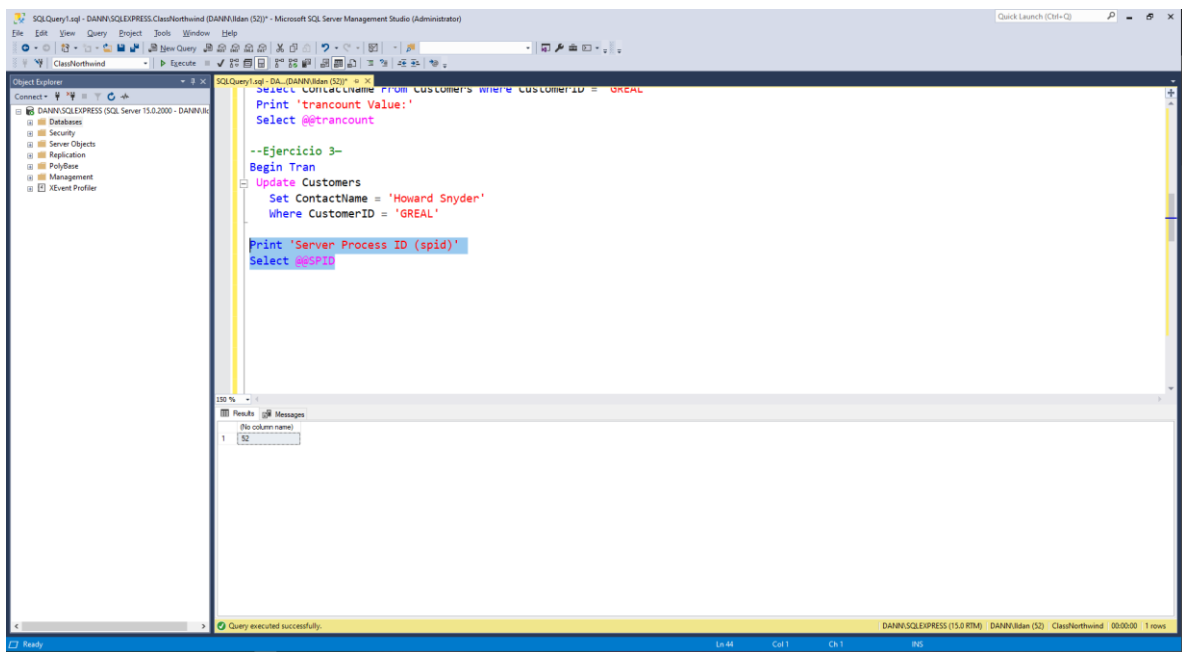
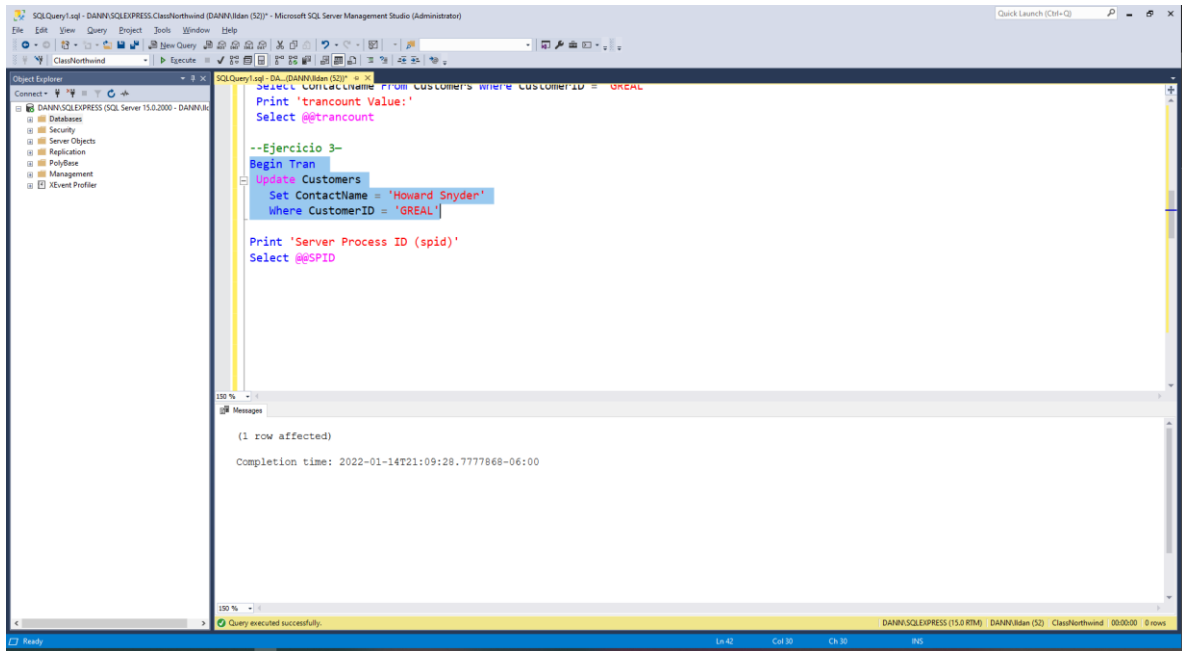
The screenshot shows the SQL Server Enterprise Manager interface. The left pane displays the Object Explorer with the 'DANN\SQLEXPRESS' server selected. The right pane shows a SQL query window with the following script:

```
Execute sp_lock
```

The bottom pane shows the Results tab with the following output:

spid	dbid	ObjId	IndId	Type	Resource	Mode	Status
1	52	20	0	DB		S	GRANT
2	52	20	202056250	0	PAG	1.85	IX GRANT
3	52	20	202056250	0	RIO	1.85	X GRANT
4	52	20	202056250	0	TAB		IX GRANT
5	52	1	1707153412	0	TAB	IS	GRANT
6	52	32767	571204056	0	TAB	Sch-S	GRANT

The status bar at the bottom indicates 'Query executed successfully'.



SQL Query: sql - DANN\SQLEXPRESS:ClassNorthwind (DANN\Bdan (S2)) - Microsoft SQL Server Management Studio (Administrator)

Object Explorer: DANN\SQLEXPRESS SQL Server 15.0.2000 - DANN\Bdan (S2)

Query: `Execute sp_lock`

Results:

rowid	dbid	Objid	Indid	Type	Resource	Mode	Status
1	52	20	0	0	DB	S	GRANT
2	52	20	202058200	0	PAG	IX	GRANT
3	52	20	202058200	0	ROW	X	GRANT
4	52	20	202058200	0	TAB	X	GRANT
5	52	1	1787153412	0	TAB	IS	GRANT
6	52	32767	571204856	0	TAB	Sch-S	GRANT

Query executed successfully.

SQL Query: sql - DANN\SQLEXPRESS:ClassNorthwind (DANN\Bdan (S2)) - Microsoft SQL Server Management Studio (Administrator)

Object Explorer: DANN\SQLEXPRESS SQL Server 15.0.2000 - DANN\Bdan (S2)

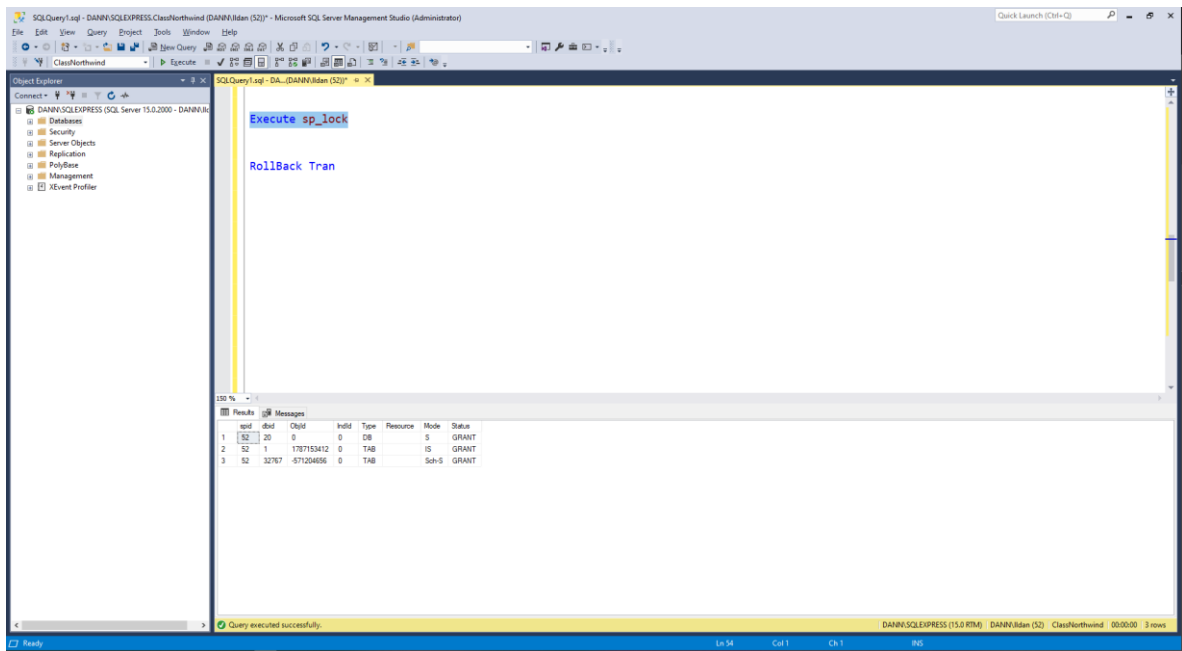
Query: `Rollback Tran`

Messages:

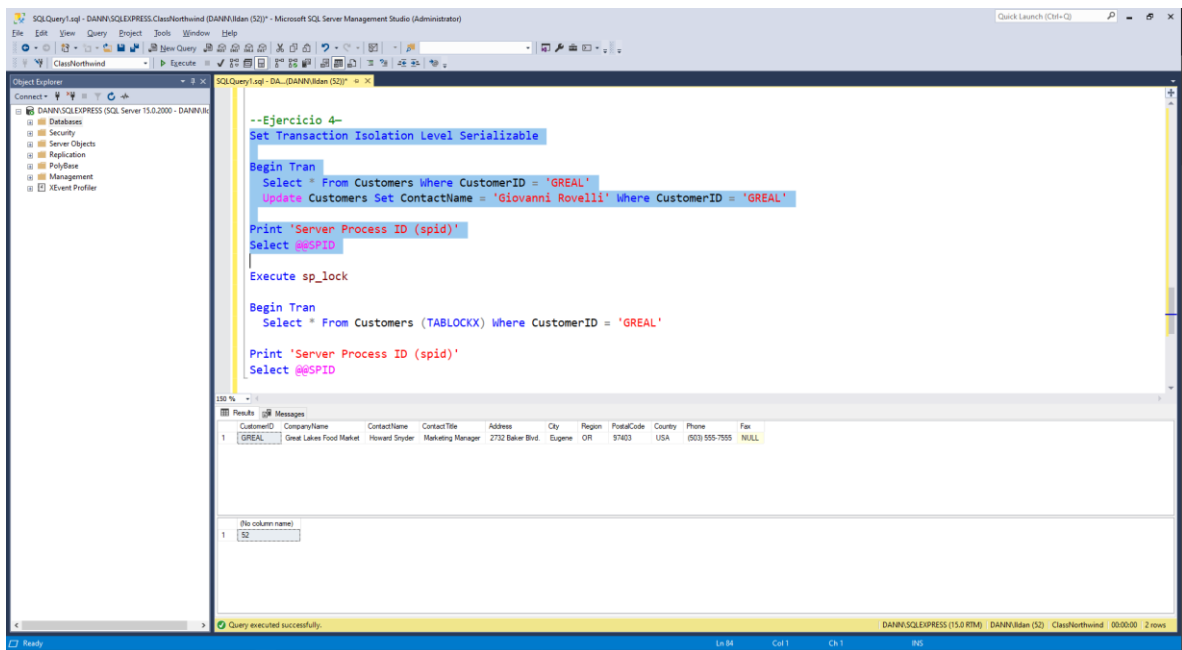
Commands completed successfully.

Completion time: 2022-01-14T21:10:24.4952391-06:00

Query executed successfully.



Ejercicio 4



SQLQuery1.sql - DANN\SQLEXPRESS:ClassNorthwind (DANN\Bidan (32)) - Microsoft SQL Server Management Studio (Administrator)

Object Explorer

- Database
- Security
- Server Objects
- Replication
- PolicyBase
- Management
- Event Profile

```
--Ejercicio 4-
Set Transaction Isolation Level Serializable

Begin Tran
Select * From Customers Where CustomerID = 'GREAL'
Update Customers Set ContactName = 'Giovanni Rovelli' Where CustomerID = 'GREAL'

Print 'Server Process ID (spid)'
Select @@SPID

Execute sp_lock

Begin Tran
Select * From Customers (TABLOCKX) Where CustomerID = 'GREAL'

Print 'Server Process ID (spid)'
Select @@SPID
```

100 %

pid	spid	dbid	lckid	lcktype	lckmode	lckstatus
1	52	20	0	DB	S	GRANT
2	52	20	202050520	TAB	X	GRANT
3	52	1	1787153412	TAB	S	GRANT
4	52	32767	571204058	TAB	Sch-S	GRANT

Query executed successfully.

DANN\SQLEXPRESS (15.0 RTM) - DANN\Bidan (32) - ClassNorthwind - 00:00:00 - 4 rows

SQLQuery1.sql - DANN\SQLEXPRESS:ClassNorthwind (DANN\Bidan (32)) - Microsoft SQL Server Management Studio (Administrator)

Object Explorer

- Database
- Security
- Server Objects
- Replication
- PolicyBase
- Management
- Event Profile

```
--Ejercicio 4-
Set Transaction Isolation Level Serializable

Begin Tran
Select * From Customers Where CustomerID = 'GREAL'
Update Customers Set ContactName = 'Giovanni Rovelli' Where CustomerID = 'GREAL'

Print 'Server Process ID (spid)'
Select @@SPID

Execute sp_lock

Begin Tran
Select * From Customers (TABLOCKX) Where CustomerID = 'GREAL'

Print 'Server Process ID (spid)'
Select @@SPID
```

100 %

CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax	
1	GREAL	Great Lakes Food Market	Giovanni Rovelli	Marketing Manager	2732 Baker Blvd.	Eugene	OR	97403	USA	(503) 555-7055	NULL

Query executed successfully.

DANN\SQLEXPRESS (15.0 RTM) - DANN\Bidan (32) - ClassNorthwind - 00:00:00 - 1 rows

SQL Query Editor - DANN\SQLEXPRESS:ClassNorthwind (DANN\Bidan (32)) - Microsoft SQL Server Management Studio (Administrator)

Object Explorer: DANN\SQLEXPRESS:SQL Server 11.0.2000 - DANN\Bidan (32) > Databases > ClassNorthwind

```
--Ejercicio 4-
Set Transaction Isolation Level Serializable

Begin Tran
  Select * From Customers Where CustomerID = 'GREAL'
  Update Customers Set ContactName = 'Giovanni Rovelli' Where CustomerID = 'GREAL'

Print 'Server Process ID (spid)'
Select @@SPID

Execute sp_lock

Begin Tran
  Select * From Customers (TABLOCKX) Where CustomerID = 'GREAL'

Print 'Server Process ID (spid)'
Select @@SPID
```

Results: 1 row(s) affected

File column name(s)
52

Query executed successfully.

Status bar: DANN\SQLEXPRESS (11.0 RTM) - DANN\Bidan (32) - ClassNorthwind - 00:00:00 - 1 rows