LAB 10

TRANSACTION, LOCKING

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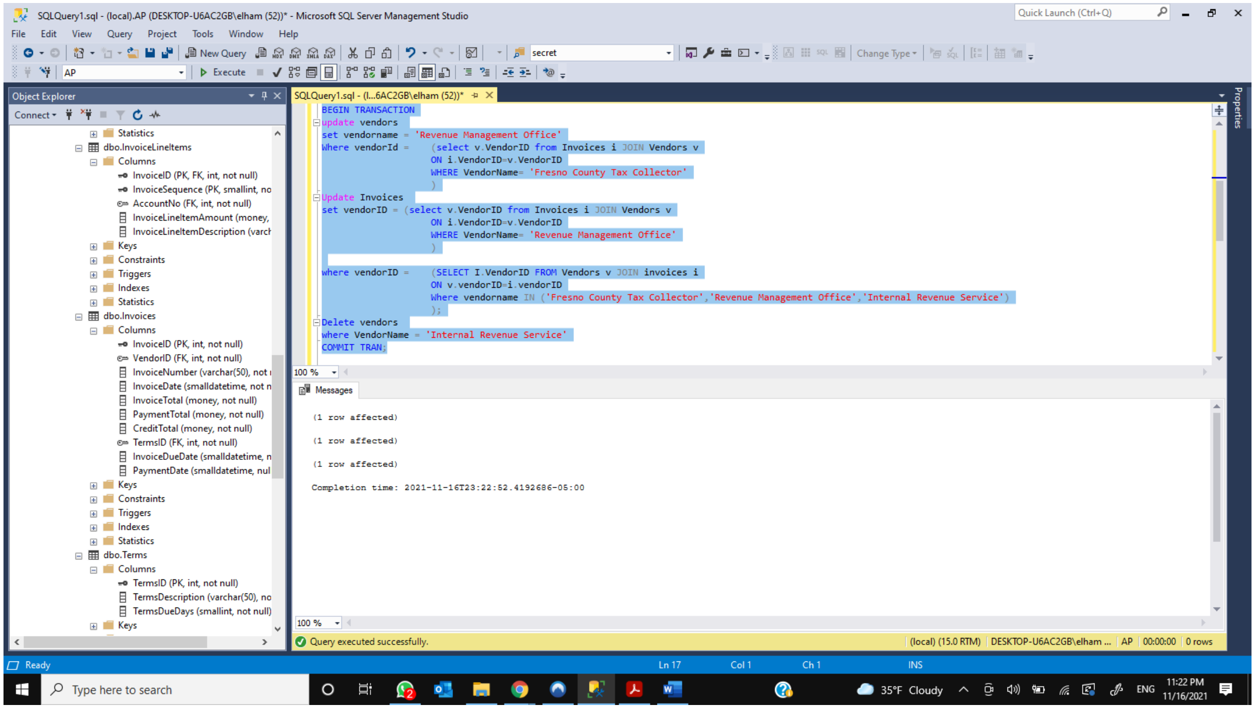
1. Write a set of action queries coded as a transaction to reflect the following change: “Internal Revenue Service” has been purchased by “Fresno County Tax Collector” and the new company is named ‘Revenue Management Office’. Rename one of the vendors and delete the other after updating the VendorID column in the Invoices table. Use SELECT statement to verify the results.

```
BEGIN TRANSACTION
update vendors
set vendorname = 'Revenue Management Office'
Where vendorId =     (select v.VendorID from Invoices i JOIN Vendors v
                           ON i.VendorID=v.VendorID
                           WHERE VendorName= 'Fresno County Tax Collector'
                           )
Update Invoices
set vendorID = (select v.VendorID from Invoices i JOIN Vendors v
                           ON i.VendorID=v.VendorID
                           WHERE VendorName= 'Revenue Management Office'
                           )

where vendorID =     (SELECT I.VendorID FROM Vendors v JOIN invoices i
                           ON v.vendorID=i.vendorID
                           Where vendorname IN ('Fresno County Tax
Collector','Revenue Management Office','Internal Revenue Service')
                           );
Delete vendors
where VendorName = 'Internal Revenue Service'
COMMIT TRAN;
```



```
BEGIN TRANSACTION
update vendors
set vendorname = 'Revenue Management Office'
Where vendorId =     (select v.VendorID from Invoices i JOIN Vendors v
                      ON i.VendorID=v.VendorID
                      WHERE VendorName= 'Fresno County Tax Collector'
                      )
Update Invoices
set vendorID = (select v.VendorID from Invoices i JOIN Vendors v
                      ON i.VendorID=v.VendorID
                      WHERE VendorName= 'Revenue Management Office'
                      )

where vendorID =     (SELECT I.VendorID FROM Vendors v JOIN invoices i
                      ON v.vendorID=i.vendorID
                      Where vendorname IN ('Fresno County Tax Collector','Revenue Management Office','Internal Revenue Service')
                      );
Delete vendors
where VendorName = 'Internal Revenue Service'
COMMIT TRAN;
```

```
(1 row affected)

(1 row affected)

(1 row affected)

Completion time: 2021-11-16T23:22:52.4192686-05:00
```

Query executed successfully.

SQLQuery1.sql - (local).AP (DESKTOP-U6AC2GB\elham (52))* - Microsoft SQL Server Management Studio
Object Explorer
Messages
(local) (15.0 RTM) | DESKTOP-U6AC2GB\elham ... | AP | 00:00:00 | 0 rows
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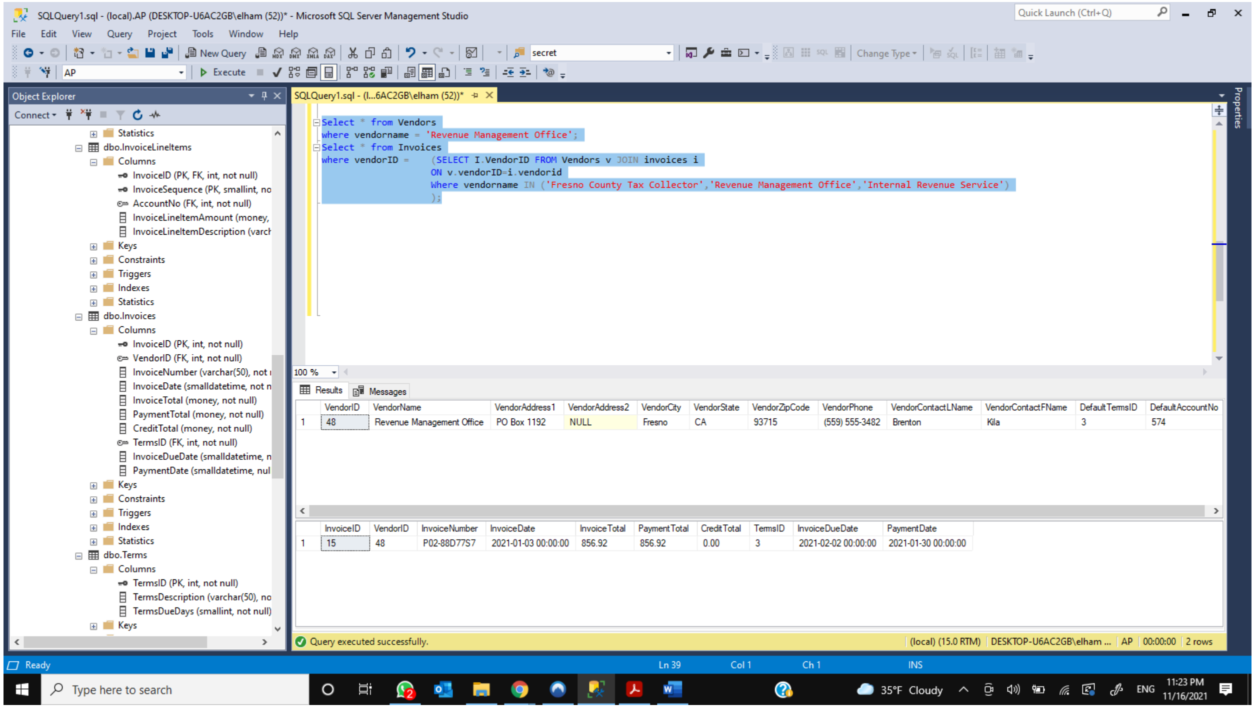
REMARK: this transaction changes the name of the vendor and delete the extra one.

```
Select * from Vendors
where vendorname = 'Revenue Management Office';
Select * from Invoices
where vendorID =      (SELECT I.VendorID FROM Vendors v JOIN invoices i
                             ON v.vendorID=i.vendorid
                             Where vendorname IN ('Fresno County Tax
Collector','Revenue Management Office','Internal Revenue Service')
                             );
```



```
Select * from Vendors
where vendorname = 'Revenue Management Office';
Select * from Invoices
where vendorID =        (SELECT I.VendorID FROM Vendors v JOIN invoices i
                        ON v.vendorID=i.vendorid
                        Where vendorname IN ('Fresno County Tax Collector','Revenue Management Office','Internal Revenue Service')
                        );
```

	VendorID	VendorName	VendorAddress1	VendorAddress2	VendorCity	VendorState	VendorZipCode	VendorPhone	VendorContactLName	VendorContactFName	DefaultTermsID	DefaultAccountNo
1	48	Revenue Management Office	PO Box 1192	NULL	Fresno	CA	93715	(559) 555-3482	Brenton	Kila	3	574

	InvoiceID	VendorID	InvoiceNumber	InvoiceDate	InvoiceTotal	PaymentTotal	CreditTotal	TermsID	InvoiceDueDate	PaymentDate
1	15	48	P02-88D77S7	2021-01-03 00:00:00	856.92	856.92	0.00	3	2021-02-02 00:00:00	2021-01-30 00:00:00

Query executed successfully.

(local) (15.0 RTM) | DESKTOP-U6AC2GB\elham ... | AP | 00:00:00 | 2 rows

SQLQuery1.sql - (local).AP (DESKTOP-U6AC2GB\elham (52))* - Microsoft SQL Server Management Studio
File Edit View Query Project Tools Window Help
Execute
Object Explorer
Results
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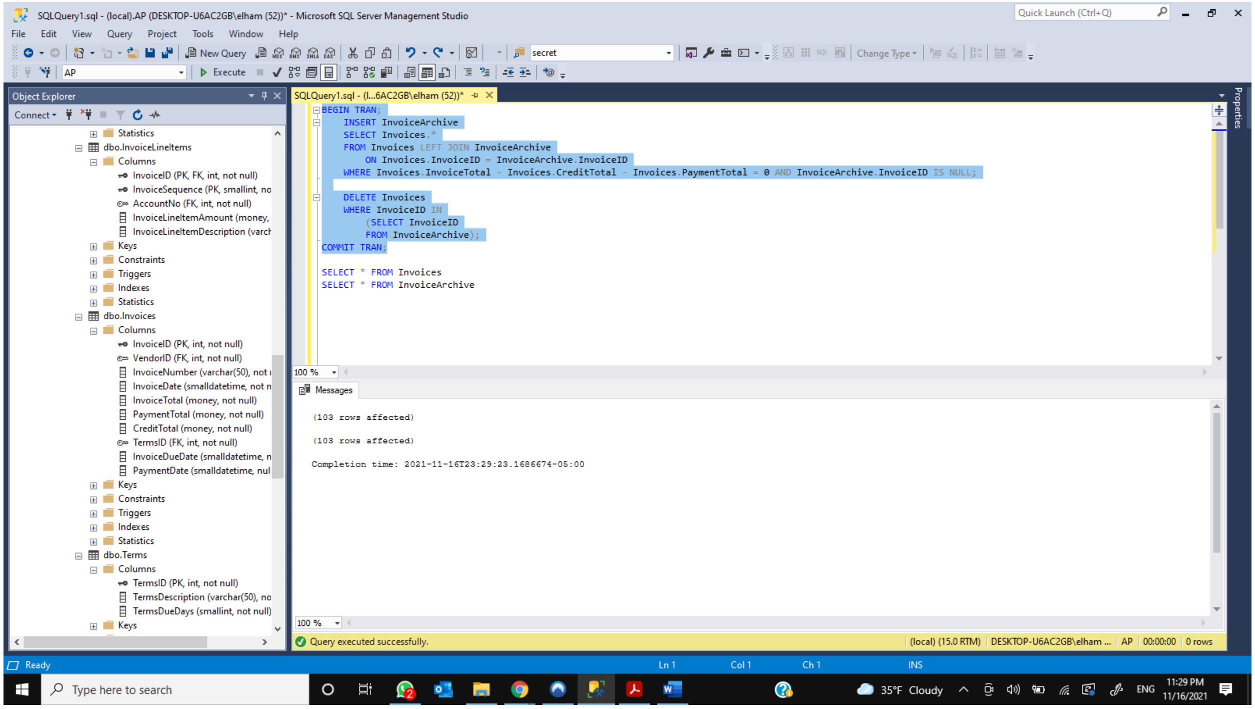
11/16/2021

REMARK: Using the select statement we verify that the vendors table and vendors table has got updated.

2. Write a set of action queries coded as a transaction to move rows from the Invoices table to the InvoiceArchive table. Insert all paid invoices from Invoices into InvoiceArchive, but only if the invoice doesn't already exist in the InvoiceArchive table. Then, delete all paid invoices from the Invoices table, but only if the invoice exists in the InvoiceArchive table. Use SELECT statement to verify the results.

```
BEGIN TRAN;
	INSERT InvoiceArchive
	SELECT Invoices.*
	FROM Invoices LEFT JOIN InvoiceArchive
		ON Invoices.InvoiceID = InvoiceArchive.InvoiceID
	WHERE Invoices.InvoiceTotal - Invoices.CreditTotal - Invoices.PaymentTotal = 0 AND
InvoiceArchive.InvoiceID IS NULL;

	DELETE Invoices
	WHERE InvoiceID IN
		(SELECT InvoiceID
		FROM InvoiceArchive);
COMMIT TRAN;
```



SQLQuery1.sql - (local).AP (DESKTOP-U6AC2GB\elham (52))* - Microsoft SQL Server Management Studio
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Help
Object Explorer
SQLQuery1.sql - (l...6AC2GB\elham (52))*
Execute

```
BEGIN TRAN;
    INSERT InvoiceArchive
    SELECT Invoices.*
    FROM Invoices LEFT JOIN InvoiceArchive
        ON Invoices.InvoiceID = InvoiceArchive.InvoiceID
    WHERE Invoices.InvoiceTotal - Invoices.CreditTotal - Invoices.PaymentTotal = 0 AND InvoiceArchive.InvoiceID IS NULL;

    DELETE Invoices
    WHERE InvoiceID IN
        (SELECT InvoiceID
        FROM InvoiceArchive);
COMMIT TRAN;

SELECT * FROM Invoices
SELECT * FROM InvoiceArchive
```

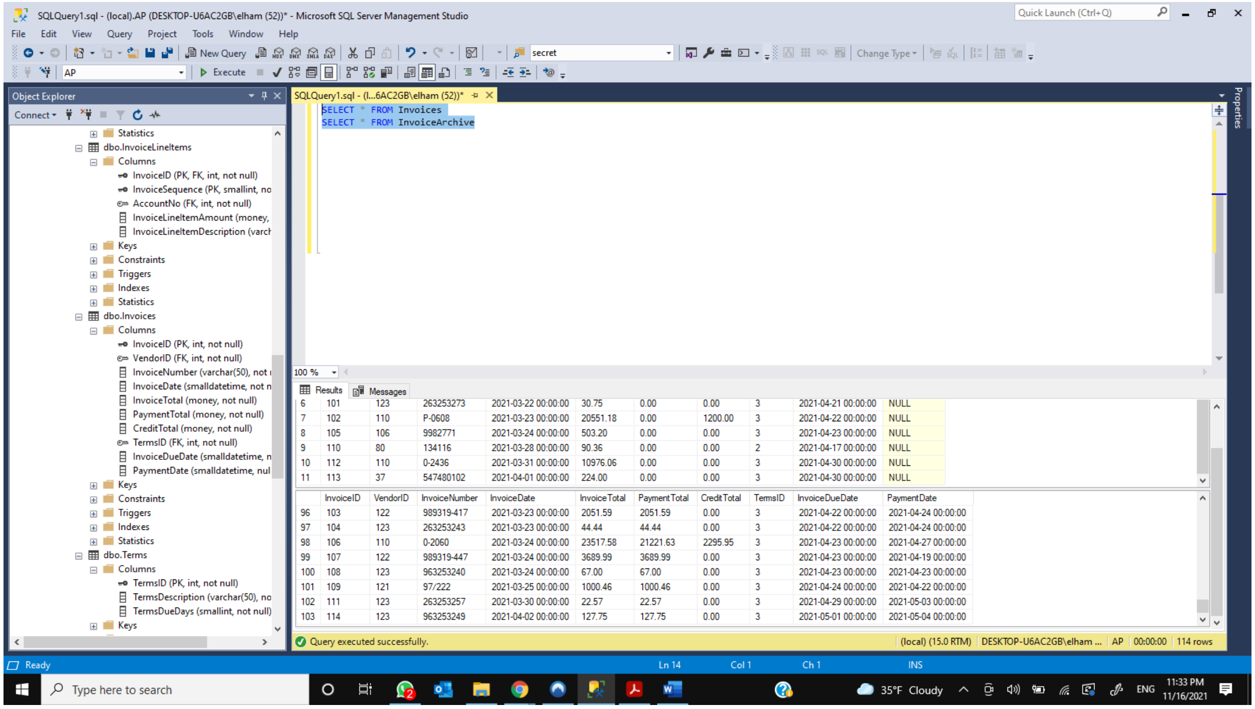
Messages

```
(103 rows affected)

(103 rows affected)

Completion time: 2021-11-16T23:29:23.1686674-05:00
```

Query executed successfully. (local) (15.0 RTM) DESKTOP-U6AC2GB\elham ... AP 00:00:00 0 rows

Remark: this transaction moves the data from invoices to invoice archive, those which are not already in invoice archive. And delete them from the invoices table

```
SELECT * FROM Invoices
SELECT * FROM InvoiceArchive
```



SQLQuery1.sql - (local).AP (DESKTOP-U6AC2GB\elham (52))* - Microsoft SQL Server Management Studio

```
SELECT * FROM Invoices
SELECT * FROM InvoiceArchive
```

```
Statistics
dbo.InvoiceLineItems
    Columns
        InvoiceID (PK, FK, int, not null)
        InvoiceSequence (PK, smallint, no
        AccountNo (FK, int, not null)
        InvoiceLineItemAmount (money,
        InvoiceLineItemDescription (varch
    Keys
    Constraints
    Triggers
    Indexes
    Statistics
dbo.Invoices
    Columns
        InvoiceID (PK, int, not null)
        VendorID (FK, int, not null)
        InvoiceNumber (varchar(50), not
        InvoiceDate (smalldatetime, not n
        InvoiceTotal (money, not null)
        PaymentTotal (money, not null)
        CreditTotal (money, not null)
        TermsID (FK, int, not null)
        InvoiceDueDate (smalldatetime, n
        PaymentDate (smalldatetime, nul
    Keys
    Constraints
    Triggers
    Indexes
    Statistics
dbo.Terms
    Columns
        TermsID (PK, int, not null)
        TermsDescription (varchar(50), no
        TermsDueDays (smallint, not null)
    Keys
```

6	101	123	263253273	2021-03-22 00:00:00	30.75	0.00	0.00	3	2021-04-21 00:00:00	NULL
7	102	110	P-0608	2021-03-23 00:00:00	20551.18	0.00	1200.00	3	2021-04-22 00:00:00	NULL
8	105	106	9982771	2021-03-24 00:00:00	503.20	0.00	0.00	3	2021-04-23 00:00:00	NULL
9	110	80	134116	2021-03-28 00:00:00	90.36	0.00	0.00	2	2021-04-17 00:00:00	NULL
10	112	110	0-2436	2021-03-31 00:00:00	10976.06	0.00	0.00	3	2021-04-30 00:00:00	NULL
11	113	37	547480102	2021-04-01 00:00:00	224.00	0.00	0.00	3	2021-04-30 00:00:00	NULL

	InvoiceID	VendorID	InvoiceNumber	InvoiceDate	InvoiceTotal	PaymentTotal	CreditTotal	TermsID	InvoiceDueDate	PaymentDate
96	103	122	989319-417	2021-03-23 00:00:00	2051.59	2051.59	0.00	3	2021-04-22 00:00:00	2021-04-24 00:00:00
97	104	123	263253243	2021-03-23 00:00:00	44.44	44.44	0.00	3	2021-04-22 00:00:00	2021-04-24 00:00:00
98	106	110	0-2060	2021-03-24 00:00:00	23517.58	21221.63	2295.95	3	2021-04-23 00:00:00	2021-04-27 00:00:00
99	107	122	989319-447	2021-03-24 00:00:00	3689.99	3689.99	0.00	3	2021-04-23 00:00:00	2021-04-19 00:00:00
100	108	123	963253240	2021-03-24 00:00:00	67.00	67.00	0.00	3	2021-04-23 00:00:00	2021-04-23 00:00:00
101	109	121	97/222	2021-03-25 00:00:00	1000.46	1000.46	0.00	3	2021-04-24 00:00:00	2021-04-22 00:00:00
102	111	123	263253257	2021-03-30 00:00:00	22.57	22.57	0.00	3	2021-04-29 00:00:00	2021-05-03 00:00:00
103	114	123	963253249	2021-04-02 00:00:00	127.75	127.75	0.00	3	2021-05-01 00:00:00	2021-05-04 00:00:00

Query executed successfully. (local) (15.0 RTM) DESKTOP-U6AC2GB\elham ... AP 00:00:00 114 rows

Remark: using the select statement we verify that the change has been made.

Remark on lab: this was a very useful lab to learn about transaction.

Sincerely,

Seyed Alireza Zarrin Mehr