

1. USE AP;

--BEFORE

```
SELECT * FROM Vendors WHERE VendorName = 'Pacific Bell' OR VendorName =  
'Roadway Package System, Inc';
```

BEGIN TRANSACTION

```
UPDATE Invoices SET VendorID = 115 WHERE VendorID = 95;
```

```
DELETE Vendors WHERE VendorID = 95;
```

```
UPDATE Vendors SET VendorName = 'RoadPac' WHERE VendorID = 115;
```

```
COMMIT TRANSACTION
```

--AFTER

```
SELECT * FROM Vendors WHERE VendorID = 115 OR VendorID = 95
```

First, select the two vendors by their name to get their vendorIDs, which is also before the transaction happened.

Then start the transaction using BEGIN TRANSACTION. First thing is to update the vendorID of the company that is being purchased to the vendor ID of the company that is making the purchase(setting 95 to 115 using UPDATE in the Invoices table).

Delete the company that has been bought using DELETE.

Update the vendor name of the combined company using UPDATE again, found by vendor ID of the buying company.

Finally, end transaction by using COMMIT TRANSACTION.

The second query shows the results where one company has the new name, and the other being deleted.

lab10no1.sql - DESKTOP-UP37904\SQLEXPRESS.AP (DESKTOP-UP37904\owner (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

AP | New Query | Execute | undo | Quick Launch (Ctrl+Q) |

Object Explorer

Connect - AP

lab10no1.sql - DESKTOP-UP37904\SQLEXPRESS.AP (DESKTOP-UP37904\owner (53))

```
1 --Lichen Liang
2
3 USE AP;
4
5 --BEFORE
6
7
8 BEGIN TRANSACTION
9 UPDATE Invoices SET VendorID = 115 WHERE VendorID = 95;
10 DELETE Vendors WHERE VendorID = 95;
11 UPDATE Vendors SET VendorName = 'RoadPac' WHERE VendorID = 115;
12 COMMIT TRANSACTION
13
14 --AFTER
15 SELECT * FROM Vendors WHERE VendorID = 115 OR VendorID = 95
```

Results Messages

VendorID	VendorName	VendorAddress1	VendorAddress2	VendorCity	VendorState	VendorZipCode	VendorPhone	VendorContactName	VendorContactFName	DefaultTermID
95	Pacific Bell	NULL	NULL	Sacramento	CA	95887	(209) 555-7500	Nikalus	Kurt	2
115	Roadway Package System, Inc	Dept La 21095	NULL	Pasadena	CA	91185	NULL	Smith	Sam	4

Query executed successfully.

Ln 15 Col 32 Ch 32 INS

lab10no1.sql - DESKTOP-UP37904\SQLEXPRESS.AP (DESKTOP-UP37904\owner (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

AP | New Query | Execute | undo | Quick Launch (Ctrl+Q) |

Object Explorer

Connect - AP

lab10no1.sql - DESKTOP-UP37904\SQLEXPRESS.AP (DESKTOP-UP37904\owner (53))

```
1 --Lichen Liang
2
3 USE AP;
4
5 --BEFORE
6
7
8 BEGIN TRANSACTION
9 UPDATE Invoices SET VendorID = 115 WHERE VendorID = 95;
10 DELETE Vendors WHERE VendorID = 95;
11 UPDATE Vendors SET VendorName = 'RoadPac' WHERE VendorID = 115;
12 COMMIT TRANSACTION
13
14 --AFTER
15 SELECT * FROM Vendors WHERE VendorID = 115 OR VendorID = 95
```

Results Messages

```
(2 rows affected)
(6 rows affected)
(1 row affected)
(1 row affected)
(1 row affected)
```

Completion time: 2020-04-05T19:00:46.2853747-04:00

Query executed successfully.

Ln 13 Col 1 Ch 1 INS

2. USE AP;

```
--BEFORE
SELECT * FROM InvoiceArchive;

BEGIN TRANSACTION
INSERT INTO InvoiceArchive
SELECT I.*
FROM Invoices AS I LEFT JOIN InvoiceArchive AS IA
    ON I.InvoiceID = IA.InvoiceID
WHERE IA.InvoiceID IS NULL
    AND (I.InvoiceTotal - I.PaymentTotal - I.CreditTotal) = 0;

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

COMMIT TRANSACTION;

--AFTER
SELECT * FROM InvoiceArchive;
```

Initially, the InvoiceArchive table is empty.

Start the transaction using BEGIN TRANSACTION, then use INSERT INTO to move rows from one table to another.

The query selects everything in Invoice table, such that I used a outer join LEFT JOIN to match everything in the Invoices table and anything in the InvoiceArchive table based on the InvoiceID. In order to move, the InvoiceID in the archives table should be null using IS NULL and the balance should be 0(paid invoices).

After moving, using DELETE to delete the invoices we moved in the Invoices table by using the invoiceID IN the subquery that contains all InvoiceID from archives table

lab10no2.sql - DESKTOP-UP37904\SQLEXPRESS.AP (DESKTOP-UP37904\owner (54)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query Execute

Object Explorer

Connect AP

lab10no2.sql - DES...P37904\owner (54) lab10no1.sql - DES...P37904\owner (53)

```

1  --Lichen Liang
2
3  USE AP;
4
5  --BEFORE
6  SELECT * FROM InvoiceArchive;
7
8  BEGIN TRANSACTION
9  INSERT INTO InvoiceArchive
10  SELECT I =
11  FROM Invoices AS I LEFT JOIN InvoiceArchive AS IA
12    ON I.InvoiceID = IA.InvoiceID
13  WHERE IA.InvoiceID IS NULL
14    AND (I.InvoiceTotal - I.PaymentTotal - I.CreditTotal) = 0;
15
16  DELETE Invoices WHERE InvoiceID IN
17    (SELECT InvoiceID FROM InvoiceArchive);
18
19  COMMIT TRANSACTION;
20
21  --AFTER
22  SELECT * FROM InvoiceArchive;

```

Results Messages

	InvoiceID	VendorID	InvoiceNumber	InvoiceDate	InvoiceTotal	PaymentTotal	CreditTotal	TermID	InvoiceDueDate	PaymentDate
1	1	122	989319-457	2015-12-08 00:00:00	3813.33	3813.33	0.00	3	2016-01-08 00:00:00	2016-01-07 00:00:00
2	2	123	263253241	2015-12-10 00:00:00	40.20	40.20	0.00	3	2016-01-10 00:00:00	2016-01-14 00:00:00
3	3	123	963253234	2015-12-13 00:00:00	138.75	138.75	0.00	3	2016-01-13 00:00:00	2016-01-09 00:00:00
4	4	123	2-000-2983	2015-12-16 00:00:00	144.70	144.70	0.00	3	2016-01-16 00:00:00	2016-01-12 00:00:00
5	5	123	963253251	2015-12-16 00:00:00	15.50	15.50	0.00	3	2016-01-16 00:00:00	2016-01-11 00:00:00
6	6	123	963253261	2015-12-16 00:00:00	42.75	42.75	0.00	3	2016-01-16 00:00:00	2016-01-21 00:00:00
7	7	123	963253237	2015-12-21 00:00:00	172.50	172.50	0.00	3	2016-01-21 00:00:00	2016-01-22 00:00:00
8	8	89	125920-1	2015-12-24 00:00:00	95.00	95.00	0.00	1	2016-01-04 00:00:00	2016-01-01 00:00:00
9	9	121	97/488	2015-12-24 00:00:00	601.95	601.95	0.00	3	2016-01-24 00:00:00	2016-01-21 00:00:00
10	10	123	263253250	2015-12-24 00:00:00	42.67	42.67	0.00	3	2016-01-24 00:00:00	2016-01-22 00:00:00
11	11	123	963253262	2015-12-25 00:00:00	42.50	42.50	0.00	3	2016-01-25 00:00:00	2016-01-20 00:00:00
12	12	96	177271-001	2015-12-26 00:00:00	662.00	662.00	0.00	2	2016-01-16 00:00:00	2016-01-13 00:00:00
13	13	115	111-928-100...	2015-12-30 00:00:00	16.33	16.33	0.00	2	2016-01-20 00:00:00	2016-01-23 00:00:00
14	14	115	25022117	2016-01-01 00:00:00	6.00	6.00	0.00	4	2016-02-10 00:00:00	2016-02-10 00:00:00
15	15	49	B02.8807772	2016-01-01 00:00:00	866.92	866.92	0.00	3	2016-02-02 00:00:00	2016-01-30 00:00:00

Query executed successfully.

DESKTOP-UP37904\SQLEXPRESS... DESKTOP-UP37904\owner... AP 00:00:00 103 rows

Ready

ln 1 Col 1

lab10no2.sql - DESKTOP-UP37904\SQLEXPRESS.AP (DESKTOP-UP37904\owner (54)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query Execute

Object Explorer

Connect AP

lab10no2.sql - DES...P37904\owner (54) lab10no1.sql - DES...P37904\owner (53)

```

1  --Lichen Liang
2
3  USE AP;
4
5  --BEFORE
6  SELECT * FROM InvoiceArchive;
7
8  BEGIN TRANSACTION
9  INSERT INTO InvoiceArchive
10  SELECT I =
11  FROM Invoices AS I LEFT JOIN InvoiceArchive AS IA
12    ON I.InvoiceID = IA.InvoiceID
13  WHERE IA.InvoiceID IS NULL
14    AND (I.InvoiceTotal - I.PaymentTotal - I.CreditTotal) = 0;
15
16  DELETE Invoices WHERE InvoiceID IN
17    (SELECT InvoiceID FROM InvoiceArchive);
18
19  COMMIT TRANSACTION;
20
21  --AFTER
22  SELECT * FROM InvoiceArchive;

```

Results Messages

(0 rows affected)

(103 rows affected)

(103 rows affected)

(103 rows affected)

Completion time: 2016-04-06T19:31:40.7420659-04:00

Query executed successfully.

DESKTOP-UP37904\SQLEXPRESS... DESKTOP-UP37904\owner... AP 00:00:00 103 rows

Ready

Ln 11 Col 1 Ch 1 INS

Remarks

In this lab we practiced using transactions to perform a sequence of operations. I think it's a good practice for the lecture. I'm surprised by the length of this lab and the difficulty. I think there can be a lot more concepts we can add to this lab.