Part 57 – Transactions in SQL Server

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In this session we will learn

- Transactions in SQL server

Prerequisite:

Part 56 - Error Handling in SQL Server 2005 & later versions

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Transactions

What is a Transaction?

A transaction is a group of commands that change the data stored in a database. A transaction, is treated as a single unit. A transaction ensures that, either all of the commands succeed, or none of them. If one of the commands in the transaction fails, all of the commands fail, and any data that was modified in the database is rolled back. In this way, transactions maintain the integrity of data in a database.

Transaction processing follows these steps:

1. Begin a transaction.
2. Process database commands.
3. Check for errors.
   If errors occurred,
     rollback the transaction,
  else,
     commit the transaction

Note: NOT able to see the un-committed changes

```
SET TRANSACTION ISOLATION LEVEL READ UNCOMMITTED
```

Isolation Levels : Covered in a later session

Transactions

tblPhysicalAddress

AddressId	EmployeeNumber	HouseNumber	StreetAddress	City	PostalCode
1	101	#10	King Street	LONDOON	CR27DW

tblMailingAddress

AddressId	EmployeeNumber	HouseNumber	StreetAddress	City	PostalCode
1	101	#10	King Street	LONDOON	CR27DW

```sql
Create Procedure spUpdateAddress
as
Begin
  Begin Try
    Begin Transaction
      Update tblMailingAddress set City = 'LONDON'
      where AddressId = 1 and EmployeeNumber = 101

      Update tblPhysicalAddress set City = 'LONDON'
      where AddressId = 1 and EmployeeNumber = 101
    Commit Transaction
  End Try
  Begin Catch
    Rollback Transaction
  End Catch
End
```

Transactions

tblPhysicalAddress

AddressId	EmployeeNumber	HouseNumber	StreetAddress	City	PostalCode
1	101	#10	King Street	LONDOON	CR27DW

tblMailingAddress

AddressId	EmployeeNumber	HouseNumber	StreetAddress	City	PostalCode
1	101	#10	King Street	LONDOON	CR27DW

```sql
Create Procedure spUpdateAddress
as
Begin
  Begin Try
    Begin Transaction
      Update tblMailingAddress set City = 'LONDON'
      where AddressId = 1 and EmployeeNumber = 101

      Update tblPhysicalAddress set City = 'LONDON LONDON'
      where AddressId = 1 and EmployeeNumber = 101
    Commit Transaction
  End Try
  Begin Catch
    Rollback Transaction
  End Catch
End
```

Next Session: ACID Test

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Additional Resources

- ## PRAGIM Home Page:

  - www.PragimTech.com

- ## Resources:

  - ASP.NET Interview Questions
  - www.VenkatASPInterview.Blogspot.com
  - C# Interview Questions
  - www.VenkatCSharpInterview.Blogspot.com
  - SQL Server Interview Questions
  - www.venkatsqlinterview.Blogspot.com

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