RDBMS - SQL Server

Lesson 09 : Managing Transactions

Lesson Objectives

➤ In this lesson, you will learn:

- Managing Transactions
- TCL statements
- @@trancount global variable

Introduction

➢ A sequence of operations performed as a single logical unit of work

➢ It can be a set of DDL/DML statements

➢ Transactions are ATOMIC -either all operations are performed or none of it is performed .

➢ Data in the database is in consistent stage before and after the transaction

➢ A transaction can be implicit or explicit

Transaction

➢ A transaction can have the following outcome
  • COMMIT : Changes made on the data are made permananent
  • ROLLBACK : Undo the transaction , data goes back to the original state

➢ Implicit Transactions automatically starts a new transaction after the current transaction is committed /rolled back .Does not require explicit mention of start /end of transaction

➢ Explicit transaction requires defining the beginning and end of the transactions

Transaction

➢ Implicit Transaction

Insert into Employees values (…)

Update employees

Set …..

➢ Explicit Transaction

BEGIN TRAN

insert into Employees (..)

Update Employees Set …

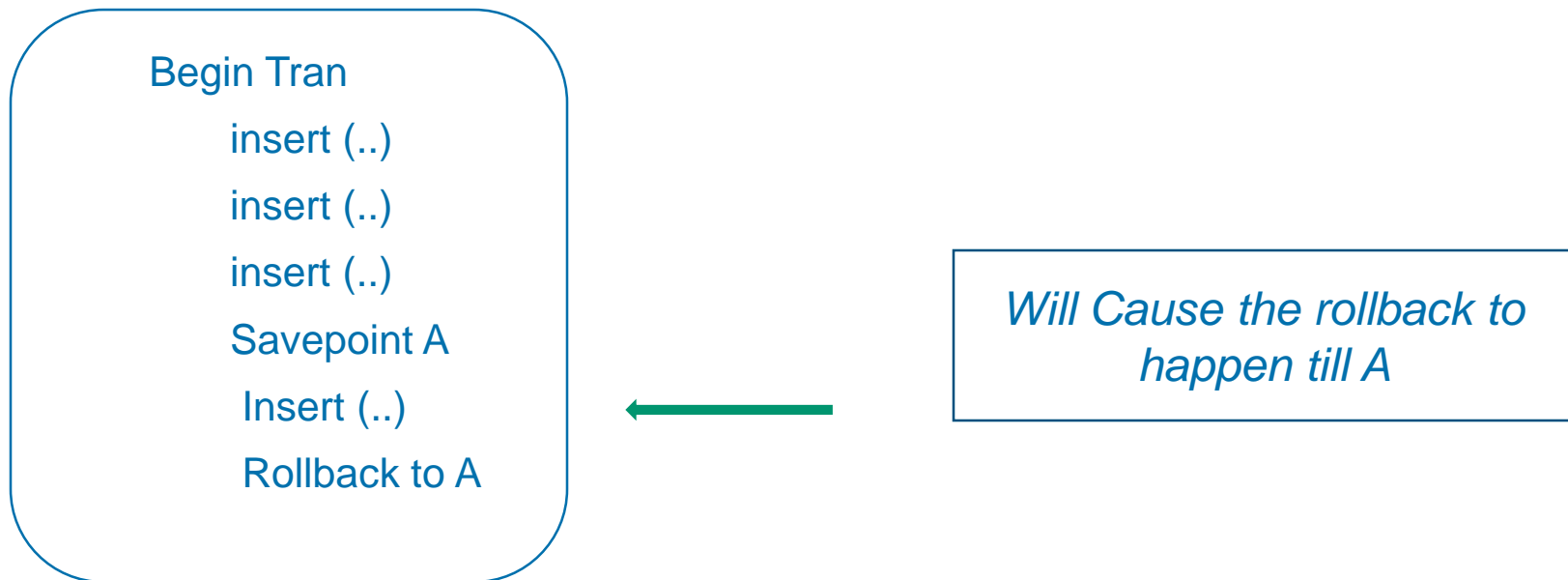COMMIT [WORK]

Setting the Implicit Transactions Option

➢ Automatically starts a Transaction when you execute certain statements

➢ Nested Transactions are not allowed

➢ Transaction must be explicitly completed with COMMIT or ROLLBACK TRANSACTION

➢ By default, setting is Off
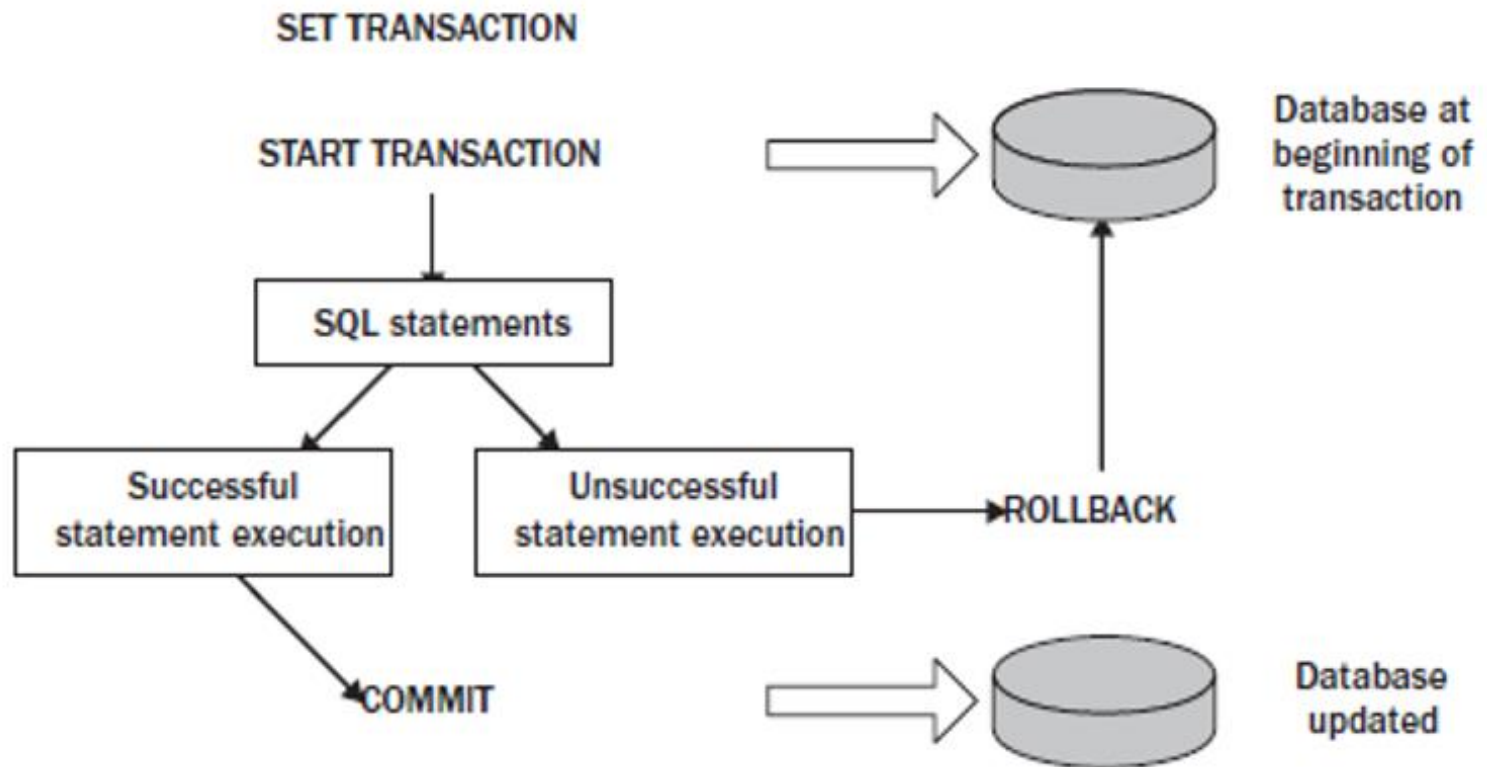
SET IMPLICIT_TRANSACTIONS ON

Save Point

➤ A savepoint is a special mark inside a transaction that allows all commands that are executed after it to be rolled back to that point

➤ For example

Begin Tran

    insert (..)

    insert (..)

    insert (..)

    Savepoint A

    Insert (..)

    Rollback to A

Will Cause the rollback to happen till A

SQL Server Transaction

Summary

➢ In this lesson, you have learnt:
  • TCL statements

Review Question

➤ Question 1: ---------- is a sequence of operations performed as a single logical unit of work.

➤ Question 2: ----------- transaction requires defining the beginning and end of the transactions.