

# Using Common Table Expressions and Temporary Tables

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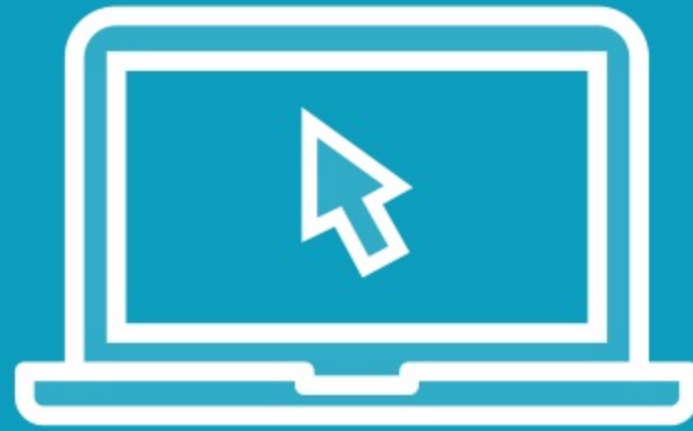
# CTEs and Temporary Tables



- **Common Table Expressions (CTE)**
- **Temporary Tables**
- **Cursors**



# Demo



Create and use Common Table Expressions

Write queries using temporary tables

CTE – vs- Temporary Tables

Scope

Processing records using cursors



```
WITH CTE_Name(Field1,Field2,Field3)
AS (SELECT field1,field2,field3 FROM table)
SELECT Field1,Field2,Field3 FROM CTE_Name
```

# Common Table Expressions (CTE)

**Temporary result sets**

**Field data types are determined by the populating query**

**Must** be followed by a **SELECT** query



```
SELECT field1,field2,field3  
  
INTO #Temporary_Table  
  
FROM table  
  
SELECT FieldName1,FieldName2,FieldName3  
  
DROP TABLE #Temporary_Table
```

# Temporary Tables

**Temporary tables held in memory as long as the connection is open**

**Must** have alias field names

**Can be used just as any other table in the database to query data**



# Summary



- **Cursors process records one record at a time.**
  - Consider temp tables or user defined functions to optimize query performance
- **Populated using SELECT**
- **Variables represent the values being processed**
- **WHILE iterates through the recordset**
- **FETCHNEXT and @@FETCHSTATUS**
- **CLOSE and DEALLOCATE**



Common Table  
Expressions

TMP Tables

Cursors



- **Common Table Expressions (CTE)**
  - Syntax
  - Option to JOINS
- **Temporary Tables**
  - Create, populate, and drop
- **Cursors process records one record at a time.**
  - Create, open, populate, close
  - WHILE iterates through the recordset
  - FETCHNEXT and @@FETCHSTATUS
  - CLOSE and DEALLOCATE



# Resources

## Exercise Files

- M9C2 – Common Table Expressions
- M9C2 – CTE Report
- M9C3 – Temporary Tables
- M9C4 – Cursors with TMP Table for Updating
- M9C4 – Using Cursors in T-SQL

## Links

Common Table Expressions –

<https://docs.microsoft.com/en-us/sql/t-sql/queries/with-common-table-expression-transact-sql?view=sql-server-ver15>

Temporary Tables –

<https://docs.microsoft.com/en-us/sql/t-sql/statements/create-table-transact-sql?view=sql-server-ver15>

Cursors –

<https://docs.microsoft.com/en-us/sql/t-sql/statements/create-table-transact-sql?view=sql-server-ver15>





