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Table Maintenance

.NET Cohort

Coding Bootcamp

Lesson Goals

- Learn how to remove tables
- Learn how to add, remove, and rename columns
- Learn how to load tables from flat files using BCP

Let's run the script

- MovieCatalogue.sql

DELETE vs. Drop

- When we delete data using the DELETE statement, only the specified data is removed.
- If we want to remove a table, we need to DROP it.
- Drop also works for a variety of other objects (Databases, for example).

```
DROP TABLE Movie
```

Altering Table Design

- Sometimes we want to add or remove columns from a table. For example, let's say we want to add a Description column to our movie table.
- The ALTER statement allows us to make changes to table schema.

```
ALTER TABLE Movie  
    ADD [Description] VARCHAR(100) NULL
```

Special Consideration

- When we have an existing table and add a column, if we want it to be a required field, we cannot add the column without a default value.

```
ALTER TABLE Movie
    DROP COLUMN [Description]
```

```
-- FAIL
```

```
ALTER TABLE Movie
    ADD [Description] VARCHAR(100) NOT NULL
```

```
ALTER TABLE Movie
    ADD [Description] VARCHAR(100) NOT NULL
    DEFAULT 'Description coming soon'
```

Renaming a Column

- Rename functionality exists in a system-stored procedure.
- To execute stored procedures, we use the EXEC keyword.

```
EXEC sp_rename 'Movie.Description', 'Teaser'
```


Word to the Wise

- Changing column or table names can be risky. Many users and calling applications may be expecting what you renamed to exist and will get errors when it ceases to exist.
- Test thoroughly before doing this in production.

Renaming a Table

- Similar to the column rename.

```
EXEC sp_rename 'Movie', 'Movies'
```

Altering Columns

- Sometimes we find a column is insufficiently sized or typed. We can alter it as well...

```
ALTER TABLE Movies  
    ALTER COLUMN Teaser VARCHAR(200) NOT NULL
```

Lab Exercise

1. Re-run the movie catalogue script to put the data back the way it was.
2. Add a new integer field ReleaseYear to the movie table.
3. Add the Teaser column back into the movie table with a varchar(200) not null.
4. Rename the Runtime column to RuntimeMinutes.

BCP (Bulk Copy Program)

- There are many ways to get data into SQL Server besides scripting INSERT statements.
- Bulk Copy Program (BCP) is designed to efficiently handle text files. It's a simple utility that is very high performance.

Running BCP

- We need the following:
 - Path of the source file
 - Destination table name
 - The type of delimiter (comma, tab, hash, etc.)
- For help on all the options, type: BCP /?

Importing Data with BCP

1. Open a command prompt.
2. Navigate to the folder where the data exists (we can specify a path, but this is easier).
3. BCP MovieCatalogue.dbo.Movie IN MovieFeed.txt -c -t, -T -r\n -S ServerName -E

Er, what was all that goo?

- -c character type
- -t field terminator (we set ours to comma)
- -T trusted connection (windows auth)
- -r row terminator (\n new line in our case)
- -S server name
- -E insert identity rows

** if we don't use -E and provide the identity IDs we have to use a format file:

<http://msdn.microsoft.com/en-us/library/ms191516.aspx>

Getting Data Out with BCP

1. Open a command prompt and go to the destination folder.
2. BCP MovieCatalogue.dbo.Movie OUT
MovieOutput.txt -c -t# -T -r\n -S ServerName

Lab Exercise

- Export the data from the customers table in Northwind using BCP in a tab-delimited format.
- Create a comma-separated values file with several new customer records and import the data into Northwind using BCP.

Fin

- Next up: Stored Procedures!