# *Database Management II (420-D20-HR)*

# *Lab 8 – SQL Server Intro*

Date assigned: Monday, March 7, 2017

Date due: **Monday, March 7, 2017, 16:50pm**

**Learning Objectives**

Upon successful completion of this assignment, the student will be able to use SQL Server Management Studio to:

* create a database
* create tables and relationships
* insert and import data
* write queries
* create and use views
* create and use stored procedures

There will be a lecture on Tuesday that will need you to complete this lab as we will build on the data you create here.

To do:

Create a folder named **YourUserName\_D20\_L08\_SQL\_Server** in your folder for this course. Save this document with the name **YourUserName\_D20\_L08\_SQL\_Server.docx** in your folder for this course.

**Part A – SQL Server – Create database and populate**

1. As an introduction to SQL server you are going to walk through this [tutorial](http://www.quackit.com/sql_server/sql_server_2016/tutorial/create_a_database_in_sql_server_2016.cfm). Name your database username\_Music. (i.e. I’d use “rchan\_Music”)

**Stop** when you finish the “Create a Stored Procedure”. As you go through the tutorial, fill in the following to mark your progress.

1. Import data. I got errors from this due to an environmental error. If so you might need to go to S:\Computer Sciences\2ndYear\420-D20\SQLServer and install the connector. Try as per the tutorial, but if it still fails, just copy down the spreadsheet and use the copy & paste approach that the tutorial already has shown you how to do, to add the Album data.

**Part B – SQL Server – Queries**

1. Query Designer. Create the SQL for the following queries:
   * 1. Show all album names, artist name, genre and release dates, sorted by artist, album and release date.

SQL:

SELECT aa.artistName, a.albumName, g.genre, a.releaseDate

FROM Albums a, Artist aa, Genres g

WHERE a.artistid = aa.artistid

AND a.genreid = g.genreid

ORDER BY ArtistName, albumName, ReleaseDate;

Output:

AC/DC All Night Wrong Jazz 2002-05-05

AC/DC The Sixteen Men of Tain Jazz 2000-03-20

Allan Holdsworth Big Swing Face Jazz 1967-06-01

Black Sabbath Blue Night Pop 2000-11-01

Black Sabbath Eternity Pop 2008-10-27

Black Sabbath Scandinavia Pop 2012-06-11

Buddy Rich Casualties of Cool Rock 2014-05-14

Buddy Rich Epicloud Rock 2012-09-18

Buddy Rich Ziltoid the Omniscient Rock 2007-05-21

Devin Townsend Singing Down the Lane Country 1956-01-01

Iron Maiden Powerage Rock 1978-05-05

Jim Reeves Along Came Jones Pop 1965-05-21

Jim Reeves Long Lost Suitcase Pop 2015-10-09

Jim Reeves Praise & Blame Pop 2010-06-26

Maroon 5 No Sound Without Silence Pop 2014-09-12

Someone Killers Rock 1981-02-02

Someone No Prayer for the Dying Rock 1990-10-01

Someone Piece of Mind Rock 1983-05-16

Someone Powerslave Rock 1984-09-03

Someone Somewhere in Time Rock 1986-09-29

* + 1. Same output format as question (i) as above, but only for albums that have been released since 1990-01-01

SQL:

SELECT aa.artistName, a.albumName, g.genre, a.releaseDate

FROM Albums a, Artist aa, Genres g

WHERE a.artistid = aa.artistid

AND a.genreid = g.genreid

AND ReleaseDate >= CONVERT(DATETIME,'1990-01-01')

ORDER BY ArtistName, albumName, ReleaseDate;

Output:

AC/DC All Night Wrong Jazz 2002-05-05

AC/DC The Sixteen Men of Tain Jazz 2000-03-20

Black Sabbath Blue Night Pop 2000-11-01

Black Sabbath Eternity Pop 2008-10-27

Black Sabbath Scandinavia Pop 2012-06-11

Buddy Rich Casualties of Cool Rock 2014-05-14

Buddy Rich Epicloud Rock 2012-09-18

Buddy Rich Ziltoid the Omniscient Rock 2007-05-21

Jim Reeves Long Lost Suitcase Pop 2015-10-09

Jim Reeves Praise & Blame Pop 2010-06-26

Maroon 5 No Sound Without Silence Pop 2014-09-12

Someone No Prayer for the Dying Rock 1990-10-01

* + 1. Same output format as question (i) as above, but only for albums that have been released within the last 10 years

SQL:

SELECT aa.artistName, a.albumName, g.genre, a.releaseDate

FROM Albums a, Artist aa, Genres g

WHERE a.artistid = aa.artistid

AND a.genreid = g.genreid

AND ReleaseDate >= dateadd(year, -10, SYSDATETIME())

ORDER BY ArtistName, albumName, ReleaseDate;

Output:

Black Sabbath Eternity Pop 2008-10-27

Black Sabbath Scandinavia Pop 2012-06-11

Buddy Rich Casualties of Cool Rock 2014-05-14

Buddy Rich Epicloud Rock 2012-09-18

Buddy Rich Ziltoid the Omniscient Rock 2007-05-21

Jim Reeves Long Lost Suitcase Pop 2015-10-09

Jim Reeves Praise & Blame Pop 2010-06-26

Maroon 5 No Sound Without Silence Pop 2014-09-12

* + 1. Show me the genres with an album count, ordered by most to least albums. i.e.:

Genre CountNum

Rock 9

Pop 7

Jazz 3

Country 1

SQL:

--include column headers

SELECT g.genre, count(a.albumid)

FROM Albums a, Genres g

WHERE a.genreid = g.genreid

GROUP BY g.Genre

ORDER BY count(a.albumid) desc;

Output:

**Rock 9**

**Pop 7**

**Jazz 3**

**Country 1**

**Part C – SQL Server – Views and Stored Procedures**

1. Create A View. Using the new view that you’ve created.
   * 1. Show all information about Rock Albums that were release within the last 10 years

SQL:

CREATE VIEW new\_view AS

SELECT a.albumName, aa.ArtistName, a.releaseDate, g.genre

FROM albums a, artist aa, genres g

WHERE a.artistId = aa.artistid

AND a.genreid = g.genreid;

SELECT \* FROM new\_view

WHERE ReleaseDate >= dateadd(year, -10, SYSDATETIME())

AND genre = 'Rock';

Output:

Ziltoid the Omniscient Buddy Rich 2007-05-21 Rock

Casualties of Cool Buddy Rich 2014-05-14 Rock

Epicloud Buddy Rich 2012-09-18 Rock

* + 1. Show a count of albums by genre that were released within the last 10 years in descending order of album count. i.e.

genre NumAlbums

Pop 5

Rock 3

SQL:

--column headers

SELECT genre, count(albumName) AS NumAlbums

FROM new\_view

WHERE ReleaseDate >= dateadd(year, -10, SYSDATETIME())

group by genre

ORDER BY count(albumName) desc;

Output:

Pop 5

Rock 3

Create A Stored Procedure.

* + 1. Create a stored procedure called GenreCount\_sp which takes the number of years from today and outputs album count by genre. Hint: take a look at 3 iv) as a starting point.

SQL (stored procedure):

DROP PROCEDURE GenreCount\_sp;

CREATE PROCEDURE GenreCount\_sp

@albumCount int OUTPUT

AS

SELECT genre, count(albumName) AS NumAlbums

FROM new\_view

WHERE ReleaseDate >= dateadd(year, -3, SYSDATETIME())

group by genre

ORDER BY count(albumName) desc;

GO

Output (test block and results for last 3 years):

Pop 2

Rock 1

**Part D – Assessment**

1. What did you learn in completing this lab?

SQL server syntax

1. What did you have difficulty with?

The procedure

1. What did you do well?

Everything!!!

1. How many hours did you spend in completing this lab?

1 1/2

1. What took you the most time?

The tutorial