**Gateway Technical College**

DATABASES

152-080

Unit 9 Assignment

# Introduction

In this lab you will create clustered and non-clustered indexes on two tables and understand how they can also act as constraints on tables.

First, create a new database called **IndexDB.**

**CREATE DATABASE IndexDB;**

MAKE SURE document your work and your commands work before you past them into the document.

Once completed, attach this completed word document to this assignment for grading.  Each question will be worth 5 points.

Use the **Discussion Forum** if you have any questions regarding the how to approach this assignment. You can also email your instructor directly for assistance if you have any questions.

Save your submission as ***lastnameFirstname\_assign9.docx*** and submit it in the unit *Apply* section of the course.

# Instructions

You are to complete the following actions. Make sure you are using the IndexDB for this assignment. For each question below – paste in print screens of your progress in each step.

1. Table Name: **Employees**

**YOUR COMMAND WAS:**

|  |
| --- |
| CREATE Table Employees  (  EmployeeNumber Int Not Null,  FirstName NVarChar(20) Not Null,  LastName NVarChar(20) Not Null,  Username NChar(8),  DateHired Date,  HourlySalary Money  ) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Colum Name** | **EmployeeNumber** | **FirstName** | **LastName** | **Username** | **DateHired** | **HourlySalary** |
| **Key Type** |  |  |  |  |  |  |
| **Property** |  |  |  |  |  |  |
| **Null/Unique** | NOT NULL | NOT NULL | NOT NULL |  |  |  |
| **Check** |  |  |  |  |  |  |
| **Default Value** |  |  |  |  |  |  |
| **FK Ref Table** |  |  |  |  |  |  |
| **FK Ref Column** |  |  |  |  |  |  |
| **Data Type** | INT | NVARCHAR | NVARCHAR | NCHAR | DATE | MONEY |
| **Length** |  | 20 | 20 | 8 |  |  |

2. Table Name: **Rooms**

**YOUR COMMAND WAS:**

|  |
| --- |
| CREATE Table Rooms  (  RoomID INT Not Null,  RoomNumber NVarChar(10),  LocationCode NVarChar(50) Default 'Silver Spring',  RoomType NVarChar(20) Default 'Bedroom',  BedType NVarChar(20) Default 'Queen',  Rate Money Default 75.85,  Available Bit Default 0  ) |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Colum Name** | **RoomID** | **Room Number** | **Location Code** | **Room Type** | **Bed Type** | **Rate** | **Available** |
| **Key Type** |  |  |  |  |  |  |  |
| **Property** |  |  |  |  |  |  |  |
| **Null/Unique** | NN |  |  |  |  |  |  |
| **Check** |  |  |  |  |  |  |  |
| **Default Value** |  |  | Silver Spring | Bedroom | Queen | 75.85 | 0 |
| **FK Ref Table** |  |  |  |  |  |  |  |
| **FK Ref Column** |  |  |  |  |  |  |  |
| **Data Type** | INT | NVARCHAR | NVARCHAR | NVARCHAR | NVARCHAR | MONEY | BIT |
| **Length** |  | 10 | 50 | 20 | 20 |  |  |

3. Insert the following employee record into the Employees table.

**YOUR COMMAND WAS**:

|  |
| --- |
| INSERT Into Employees  Values  (62480,'James', 'Bond', 'Jbond', '1988-10-25', 28.02) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| EmployeeNumber | FirstName | LastName | Username | DateHired | HourlySalary |
| 62480 | James | Bond | Jbond | 1998-10-25 | 28.02 |

4. Create the follow index on the EmployeeNumber column of table Employees.

CREATE INDEX **IX\_Employees** ON Employees(EmployeeNumber);

Verify the existence of the Index you just created. What type of index was it?

|  |
| --- |
| Non Clustured |

5. Insert the following employee record into the Employees table.

**YOUR COMMAND WAS**:

|  |
| --- |
| INSERT Into Employees  Values  (35844,'Gertrude', 'Monay', 'Gmonay', '2006-06-22', 14.36) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| EmployeeNumber | FirstName | LastName | Username | DateHired | HourlySalary |
| 35844 | Gertrude | Monay | Gmonay | 2006-06-22 | 14.36 |

Was it successful? If no, explain.

|  |
| --- |
| yes |

6. Delete the index **IX\_Employees** from the Employees table.

**YOUR COMMAND WAS**:

|  |
| --- |
| DROP Index Employees.IX\_Employees |

7. Create a new clustered index called **IX\_Employees\_Clustered** on the EmployeeNumber column of table Employees.

**YOUR COMMAND WAS**:

|  |
| --- |
| CREATE Unique Clustered  INDEX IX\_Employees\_Clustered  ON Employees(EmployeeNumber) |

What type of Index was it?

|  |
| --- |
| Clustured |

8. ALTER the Employees table and ADD a Primary Key constraint called **PK\_EmployeeNumber** on the EmployeeNumber column.

**YOUR COMMAND WAS**:

|  |
| --- |
| ALTER Table Employees  ADD Constraint PK\_EmployeeNumber  Primary Key (EmployeeNumber) |

Was it successful?

|  |
| --- |
| yes |

What type of Index is the Primary Key?

|  |
| --- |
| Non Clustured |

9. Drop both of the following Indexes: **IX\_Employees\_Clustered**, **PK\_EmployeeNumber**

**YOUR COMMAND WAS**:

|  |
| --- |
| DROP Index Employees.IX\_Employees\_Clustered  ALTER Table Employees  DROP Constraint PK\_EmployeeNumber |

Verify that it was success.

|  |
| --- |
| yes |

10. Re-create the Primary Key **PK\_EmployeeNumber** back to the Employees table (same command from Step #8).

What type of Index is the Primary Key this time?

|  |
| --- |
| Clustured |

11. Re-create the index **IX\_Employees\_Clustered** back on the Employees table (same command from Step #7)

Was it successful? If not, explain.

|  |
| --- |
| No since there is already an index that is clustured |

12. Insert the following record to the **Rooms** table.

**YOUR COMMAND WAS**:

|  |
| --- |
| INSERT Into Rooms (RoomID, RoomNumber, LocationCode, BedType, Rate, Available)  Values  (1, 105, 'SLSP', 'King', 85.75, 1),  (2, 106, 'SLSP', 'Queen', 75.85, 1) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Room Number | Location Code | Room Type | Bed Type | Rate | Available |
| 105 | SLSP |  | King | 85.75 | 1 |
| 106 | SLSP |  | Queen | 75.85 | 1 |

13. Create a unique non-clustered index called **IX\_Rooms\_NCU** on the RoomNumber column of table Rooms.

**YOUR COMMAND WAS**:

|  |
| --- |
| CREATE INDEX IX\_Room\_NCU  ON Rooms(RoomNumber); |

14. Insert the following record to the Rooms table.

**YOUR COMMAND WAS**:

|  |
| --- |
| INSERT Into Rooms  Values  (1, 105, 'SLSP', 'Conference', 'King', 85.75, 1) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Room Number | Location Code | Room Type | Bed Type | Rate | Available |
| 105 | SLSP | Conference | King | 95.00 | 1 |

Was it successful? If not, explain.

|  |
| --- |
| yes |

15. Delete the index **IX\_Rooms\_NCU** you created in step #13.

**YOUR COMMAND WAS**:

|  |
| --- |
| DROP Index Rooms.IX\_Room\_NCU |

Was it successful? Explain.

|  |
| --- |
| Yes because the inserted idex was clustered, so the unclustued index can be deleted |