Contents

[SQL Notes 2](#_Toc171074798)

[Chapter 1 2](#_Toc171074799)

[Chapter 2 3](#_Toc171074800)

# SQL Notes

## Chapter 1

**Define data type:**

* The type of values (fixed or variable) it represents.
* The storage space depends on the values, which are a fixed-length or variable length.
* Its storage value can be indexed or not.
* How SQL Server performs a comparison of values of a particular data type.

**Difference between nvarchar and varchar**

VARCHAR is more suitable for storing text data from a single language or script, offering better storage efficiency and performance. In contrast, NVARCHAR supports a wide range of characters from different languages and scripts

Varchar stores Non-unicode or English character data types, and it can contain a maximum of 8000 characters. It only supports ASCII values. Nvarchar stores Unicode or Non-English character data types, and it can contain a maximum of 4000 characters. It supports ASCII values as well as special characters.

**Create DataBase**

CREATE DATABASE database\_name

**User can see list all databases stored in the database engine by using the following command:**

SELECT name FROM master.sys.databases ORDER BY name;

**Alter Database**

Alter Database PracticeDB modify name = PracticeAmanSQL

sp\_renameDB ‘DBname1’, ‘DBName’ (Store Procedure )

**To Delete**

DROP DATABASE [IF EXIST] database\_name

DROP DATABASE [ IF EXISTS ] database\_name , database\_name2, ...; (Multiple DB)

**Create Table graphically by clicking on right and select create table option**

1. Create Table with columns using query
2. IDENTITY keyword to define a column with auto-increment values. It auto-generates a new unique number when inserting a new record into the table
   1. IDENTITY [ (seed , increment) ]
   2. The identity column’s first value is known as the Seed and The increment is the value added to the seed to get the next identity value. If increment =1, next will 2.

Use DBname

CREATE TABLE Person(

Id INT not null PRIMARY KEY,

Name NVARCHAR(50) NOT NULL,

Gender NVARCHAR(50)

)

Use [RealPractice]

Go

Create Table Person

(

ID int not null IDENTITY Primary Key, (IDENTITY keyword use to auto generate ID increment order)

NAME nvarchar(50) not null,

EMAIL nvarchar(50) not null,

GENDERID int

)

**Add data into table graphically and using query**

INSERT INTO table\_name VALUES (value1, value2, value3, ...);

Insert into Gender( GENDER)

Values ('Male'), ('Female')

Insert into Person ( NAME, EMAIL, GENDERID)

Values('Suman', 's@g.com',2), ('Aman', 'a@g.com',2), ('Mani', 'a@g.com',1)

**Make Foreign Key**

Use [PracticeAmanSQL] is optional

Alter table Person add constraint Person\_GENDERID\_FK

Foreign Key (GENDERID) references Gender(ID)

**Cascading Referential Integrity**

**Delete from Gender where id =2**

Here are the options when setting up Cascading referential integrity constraints:

* **No  Action:** This is the default behaviour. An error is raised and the DELETE or UPDATE is rolled back if we attempt to delete or update a row whose key is referenced with existing rows in other tables. **No Delete**
* **Cascade:** Specifies that all rows containing those foreign keys are removed  if we attempt to delete or update a row with a key that is referenced by existing rows in other tables. **Delete all records in Person table with foreign keys referenced**
* **Set NULL:** Specifies that all rows containing those foreign keys are set to NULL if we attempt to delete or update a row with a key that is referenced by existing rows in other tables. **Delete row in gender and put null in Person**
* **Set Default:** Specifies that all rows containing those foreign keys are set to a default value if an attempt is made to delete or update a row with a key referenced by existing rows in other tables. **Delete row in gender and put default value 3 in Person row**

**Command to Add column in existing table and then set not null (not null )**

Alter table Person add Age int

Update Person set Age = 20

ALTER TABLE Person

ALTER COLUMN Age int NOT NULL;

OR direct

ALTER TABLE Person

add Blood int NOT NULL DEFAULT(1)

OR with contraint

ALTER TABLE SomeTable

ADD SomeCol Bit NULL --Or NOT NULL.

CONSTRAINT D\_SomeTable\_SomeCol --When Omitted a Default-Constraint Name is autogenerated.

DEFAULT (0)--Optional Default-Constraint.

WITH VALUES --Add if Column is Nullable and you want the Default Value for Existing

**Add Constraint for Specify Age Limit graphically(Need to Save) and using below query**

Alter table Person

add constraint AgeLimit check (Age >0 and Age < 150)

**To Delete Constraint for Specify Age Limit graphically and using below query**

Alter table Person

drop constraint AgeLimit

**To assign deleted Id to another person/user when using Identity**

Set Identity\_Insert Person On

Insert into Person (Name, EMAIL)

Values(1,'Kamal', 'r@g.com', 55)

Set Identity\_Insert Person OFF

**To reset Identity initial value When we have deleted all the rows**

DBCC CHECKIDENT (Person,Reseed,0)

How to get the last generated identity column value in SQL Server

Select SCOPE\_IDENTITY()

Select @@IDENTITY

How To Create Trigger to auto insert row in other table upon adding row in first table

Create Trigger trForInsert on Test1 for Insert

As

Begin

Insert into Test2 Values(‘YYYY’)

End

## Chapter 2