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Hands-on Exercise: Constraints and their types

Version: ANSI SQL /Hands-on Exercise/1.0

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Session 3: Constraints and their types

Estimated Completion Time: 60 Minutes



In the previous hands on you have already created all table structures.

Now it’s time to apply various integrity constraints on those tables which are listed as follows, but the constraint from client is that all queries must be written using only ANSI SQL Syntax.

Exercise 3.1

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| --- | --- | --- |
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|  |  | |
| Hands-on Exercise Objective | |
| After completing the hands-on exercises, you will be able to:  Implementing how to apply various integrity constraints | |
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Problem Statement:

Apply all Integrity constraint as given below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Trainer\_Info** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Trainer\_Id** | NULL | PRIMARY KEY | NO | Starts with 'F' |
| **Salutation** | NULL |  | NO |  |
| **Trainer\_Name** | NULL |  | NO |  |
| **Trainer\_Location** | NULL |  | NO |  |
| **Trainer\_Track** | NULL |  | NO |  |
| **Trainer\_Qualification** | NULL |  | NO |  |
| **Trainer\_Experiance** | NULL |  | YES |  |
| **Trainer\_Email** | NULL |  | NO |  |
| **Trainer\_Password** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Batch\_Info** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Batch\_Id** | NULL | PRIMARY KEY | NO | Starts with 'B' |
| **Batch\_Owner** | NULL |  | NO |  |
| **Batch\_BU\_Name** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Module\_Info** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Module\_Id** | NULL | PRIMARY KEY | NO | Must be in Upper Case |
| **Module\_Name** | NULL |  | NO |  |
| **Module\_Duration** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Associate\_Info** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Associate\_Id** | NULL | PRIMARY KEY | NO | Starts with 'A' |
| **Salutation** | NULL |  | NO |  |
| **Associate\_Name** | NULL |  | NO |  |
| **Associate\_Location** | NULL |  | NO |  |
| **Associate\_Track** | NULL |  | NO |  |
| **Associate\_Qualification** | NULL |  | NO |  |
| **Associate\_Email** | NULL |  | NO |  |
| **Associate\_Password** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Questions** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Question\_Id** | NULL | PRIMARY KEY | NO | Starts with 'Q' |
| **Module\_Id** | NULL | FOREIGN KEY | YES |  |
| **Question\_Text** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Associate\_Status** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Associate\_Id** | NULL | FOREIGN KEY | NO |  |
| **Module\_Id** | NULL | FOREIGN KEY | NO |  |
| **Batch\_Id** | NULL | FOREIGN KEY | NO |  |
| **Trainer\_Id** | NULL | FOREIGN KEY | NO |  |
| **Start\_Date** | NULL |  | YES |  |
| **End\_Date** | NULL |  | YES |  |
| **AFeedbackGiven** | NULL |  | YES |  |
| **TFeedbackGiven** | NULL |  | YES |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Trainer\_Feedback** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Trainer\_Id** | NULL | FOREIGN KEY | NO |  |
| **Question\_Id** | NULL | FOREIGN KEY | NO |  |
| **Batch\_Id** | NULL | FOREIGN KEY | NO |  |
| **Module\_Id** | NULL | FOREIGN KEY | NO |  |
| **Trainer\_Rating** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Associate\_Feedback** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Associate\_Id** | NULL | FOREIGN KEY | NO |  |
| **Question\_Id** | NULL | FOREIGN KEY | NO |  |
| **Module\_Id** | NULL | FOREIGN KEY | NO |  |
| **Associate\_Rating** | NULL |  | NO |  |

Deliverables Expected:

Data integrity across all table structures.

Exercise 3.2

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| --- | --- |
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| Hands-on Exercise Objective |
| After completing the hands-on exercises, you will be able to:  Disable keys |
|  |  |

Problem Statement:

Consider another scenario, create following two table in database

Table

Name: product

Column: productID int(10) primary key

Column: productname varchar(20)

Column: productprice int(5) not null

Table

Name: user

Column: userID varchar(10) primary key

Column: productID int(10) references product(productID)

Column: username varchar(20)

Insert below records into the product table

* productID, productname, productprice
  + 1,'A Dongle',290
  + 2,'B Dongle',1250
* productID,productname
  + 3,'C Dongle'

Now disable foreign key on user table.

Insert below records into the user table

* userID, productID, username
  + 'U001',1,'Luke'
  + 'U002',11,'Raul'

Verify whether second record is inserted properly, justify the reason if yes or not.

Enable key again on user table.

Deliverables Expected:

Disabling key adds inconsistent data in table, which must be updated carefully.