Foreign Key Constraint

Spoken Tutorial Project
http://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

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Learning Objectives

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System Requirements

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- **pgAdmin 1.18**

Pre-requisites

- **Basic understanding of database and tables**

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- **For more details, refer to the RDBMS-PostgreSQL series on http://www.spoken-tutorial.org**

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- A foreign key represents a link between columns in two different tables
- A foreign key in a table points to a primary key in another table
- A table can contain more than one foreign key constraint

Foreign Key

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- **The table that has the foreign key is called as referencing table or child table**

- **The table to which the foreign key references is called referenced table or parent table**

Alter table

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Alter table

Alter table command is used to

- **change the structure of an existing table**
- **add, delete or modify columns in an existing table**
- **add or drop constraints**
- **change the data type of columns**

- **ALTER TABLE table-name ADD new-column-name data type;**

Syntax: Alter table

ALTER TABLE table-name
ADD new-column-name1 data type,
ADD new-column-name2 data type,
.....
.....;

- **Enforce the constraint**

Advantages of using Foreign Key

- **Enforce the constraint**
- **Controls redundancy and avoid inconsistency**

Alter table - Alter column

Change the data type or length of a column in a table

Syntax:

ALTER TABLE table-name ALTER column-name TYPE data type;

Constraints

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- **Constraints are the conditions or rules enforced on columns or tables**
- **These are used to prevent invalid data entry into the database**

Constraints

- **Column level constraints are applied to only one column**

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- **Column level constraints are applied to only one column**
- **Table level constraints are applied to the whole table**

- **NOT NULL constraint**

Constraints

- **NOT NULL constraint**
- **UNIQUE constraint**

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- **NOT NULL constraint**
- **UNIQUE constraint**
- **Primary key constraint**

- **NOT NULL constraint**
- **UNIQUE constraint**
- **Primary key constraint**
- **Foreign key constraint**

Constraints

- **NOT NULL constraint**
- **UNIQUE constraint**
- **Primary key constraint**
- **Foreign key constraint**
- **Check constraint**

Summary

In this tutorial we have learnt about

- **Foreign key constraint**
- **Alter table command**
- **How to add a foreign key and**
- **Check constraints**

Assignment

1. Alter the **students** table to add a **NOT NULL** contraint to the column **city**

2. Insert a record and leave the **city** column empty

3. Save the record. Note the error and resolve it

About the Spoken Tutorial Project

- Watch the video available at
  **http://spoken-tutorial.org
  /What_is_a_Spoken_Tutorial**

- It summarises the Spoken Tutorial
  project

- If you do not have good
  bandwidth, you can download
  and watch it

Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- **Conducts workshops using spoken tutorials**
- **Gives certificates on passing online test**
- **For more details, please write to contact@spoken-tutorial.org**

Forum for specific questions

- **Do you have questions in THIS Spoken Tutorial?**
- **Please visit http://forums.spoken-tutorial.org**
- **Choose the minute and second where you have the question**
- **Explain your question briefly**
- **Someone from our team will answer them**

Acknowledgements

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- **More information on this Mission is available at http://spoken-tutorial.org /NMEICT-Intro**