IBM **Developer** SKILLS NETWORK Hands-on Lab: CREATE, ALTER, TRUNCATE, DROP **Estimated time needed:** 15 minutes In this lab, you will learn some commonly used DDL (Data Definition Language) statements of SQL. First you will learn the CREATE statement, which is used to create a new table in a database. Next, you will learn the ALTER statement which is used to add, delete, or modify columns in an existing table. Then, you will learn the TRUNCATE statement which is used to remove all rows from an existing table without deleting the table itself. Lastly, you will learn the DROP statement which is used to delete an existing table in a database.

CREATE TABLE table_name (

How does the syntax of a CREATE statement look?

How does the syntax of an ALTER statement look?

ALTER TABLE table_name DROP COLUMN column_name; ALTER TABLE table_name ALTER COLUMN column_name SET DATA TYPE data_type;

O

ALTER TABLE table_name RENAME COLUMN current_column_name TO new_column_name;

How does the syntax of a TRUNCATE statement look? TRUNCATE TABLE table_name;

How does the syntax of a DROP statement look?

DROP TABLE table_name;

ADD COLUMN column_name data_type column_constraint;

ALTER TABLE table_name

column1 datatype, column2 datatype, column3 data**type**,

Software Used in this Lab

In this lab, you will use IBM Db2 Database. Db2 is a Relational Database Management System (RDBMS) from IBM, designed to store, analyze and retrieve the data efficiently. To complete this lab you will utilize a Db2 database service on IBM Cloud. If you did not already complete this lab task earlier in this module, you will not yet have access to Db2 on IBM Cloud, and you will need to follow this lab first: • Hands-on Lab: Sign up for IBM Cloud, Create Db2 service instance and Get started with the Db2 console Database Used in this Lab The databases used in this lab are internal databases. **Objectives** After completing this lab, you will be able to: • Create a new table in a database • Add, delete, or modify columns in an existing table

• Remove all rows from an existing table without deleting the table itself • Delete an existing table in a database

Instructions When you approach the exercises in this lab, follow the instructions to run the queries on Db2: • Go to the Resource List of IBM Cloud by logging in where you can find the Db2 service instance that you created in a previous lab under Services section. Click on the Db2-xx service. Next, open the Db2 Console by clicking on Open Console button. Click on the 3-bar menu icon in the top left corner and go to the Run SQL page. The Run SQL tool enables you to run SQL statements. • If needed, follow Hands-on Lab: Sign up for IBM Cloud, Create Db2 service instance and Get started with the Db2 console **Exercise 1: CREATE** In this exercise, you will use the CREATE statement to create two new tables using Db2.

1. You need to create two tables, PETSALE and PET. To create the two tables PETSALE and PET, copy the code below and paste it to the textbox of the Run SQL page. Click Run all. CREATE TABLE PETSALE (ID INTEGER NOT NULL, PET CHAR(20), SALEPRICE DECIMAL(6,2), PROFIT DECIMAL(6,2), SALEDATE DATE CREATE TABLE PET (ID INTEGER NOT NULL, ANIMAL VARCHAR(20), QUANTITY INTEGER Storage: 14% IBM Db2 on Cloud Cookie Preferences Q Discover 🚨 🚨 Symtax assistant | 7 | 🐵 | Result - Dec 8, 2020 7:2... 🔻 B · 5 C O A A A B B A

CREATE TABLE PETSALE (
ID INTEGER NOT NULL,

SALEPRICE DECIMAL(6,2), PROFIT DECIMAL(6,2),

(4, 'Hamster', 60.60, 12, '2018-06-11'),

INSERT INTO PET VALUES

(3, 'Hamster', 2);

Storage: 14%

Exercise 2: ALTER

SELECT * FROM PETSALE;

SELECT * FROM PET;

IBM Db2 on Cloud

* Untitled - 1 +

RUN SQL

(**1**, 'Cat', **3**),

(2,'Dog',4),

(5, 'Goldfish', 48.48, 3.5, '2018-06-14');

SALEDATE DATE CREATE TABLE PET (ID INTEGER NOT NULL, ANIMAL VARCHAR(20), QU... CREATE TABLE PET (
ID INTEGER NOT NULL, Status: Success | Affected Rows: 0 **8** Run all _ Remember my last behavior 2. Now insert some records into the two newly created tables and show all the records of the two tables. Copy the code below and paste it to the textbox of the Run SQL page. Click Run all. **INSERT** INTO PETSALE VALUES (1, 'Cat', 450.09, 100.47, '2018-05-29'), (2, 'Dog', 666.66, 150.76, '2018-06-01'), (3, 'Parrot', 50.00, 8.9, '2018-06-04'),

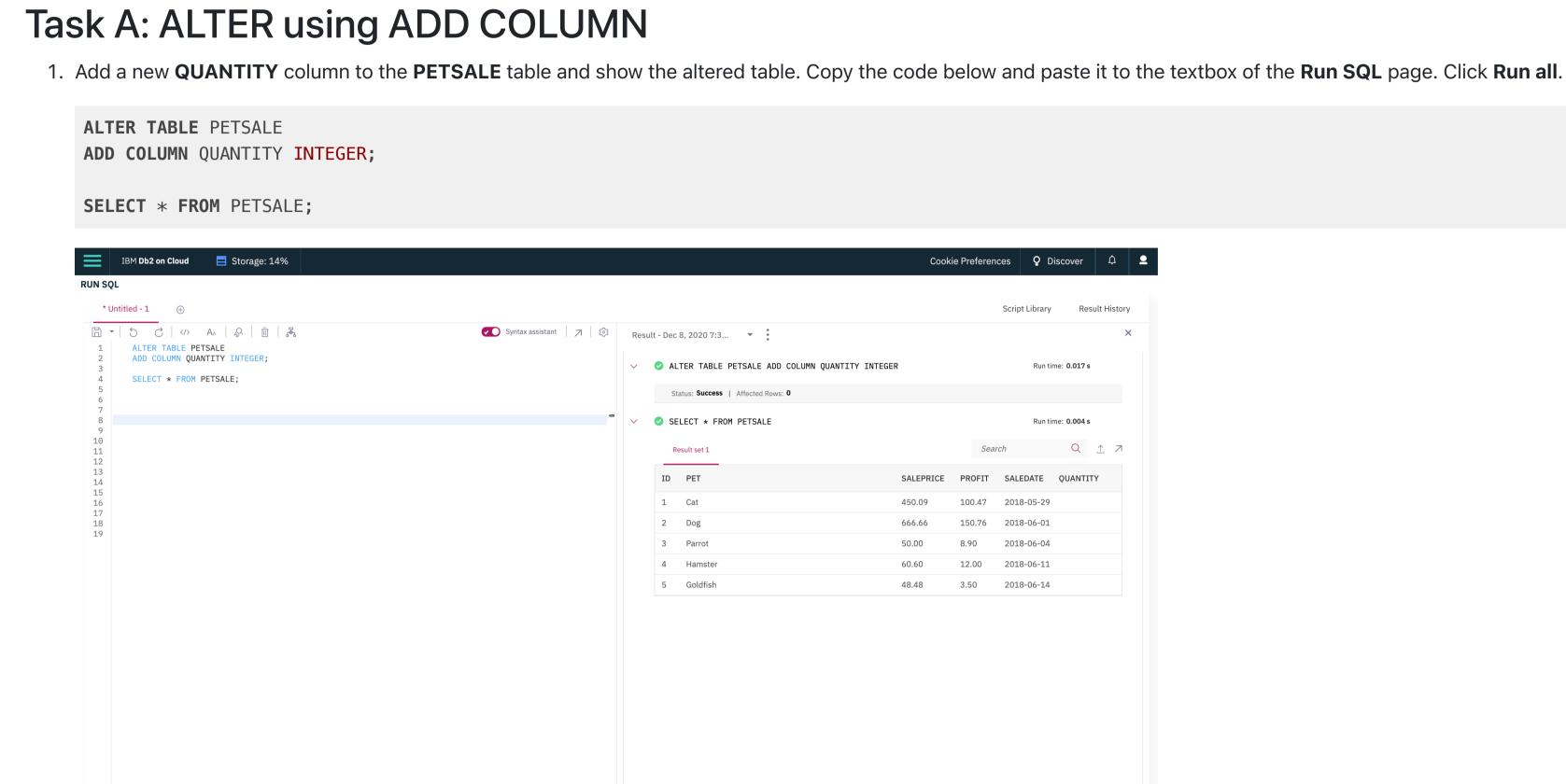
CREATE TABLE PETSALE (ID INTEGER NOT NULL, PET CHAR(20), SALEPRICE _

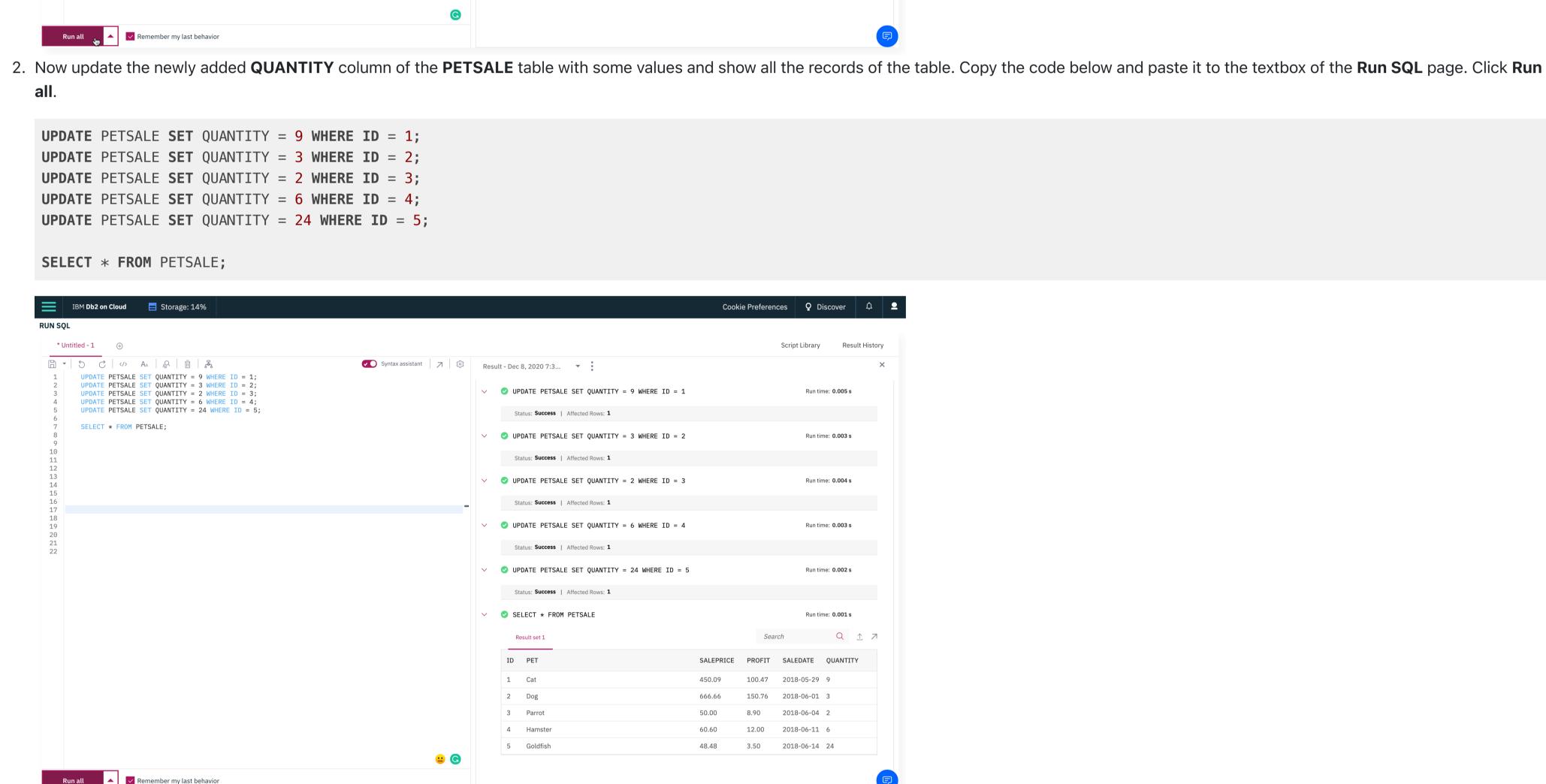
Cookie Preferences Open Discover Open

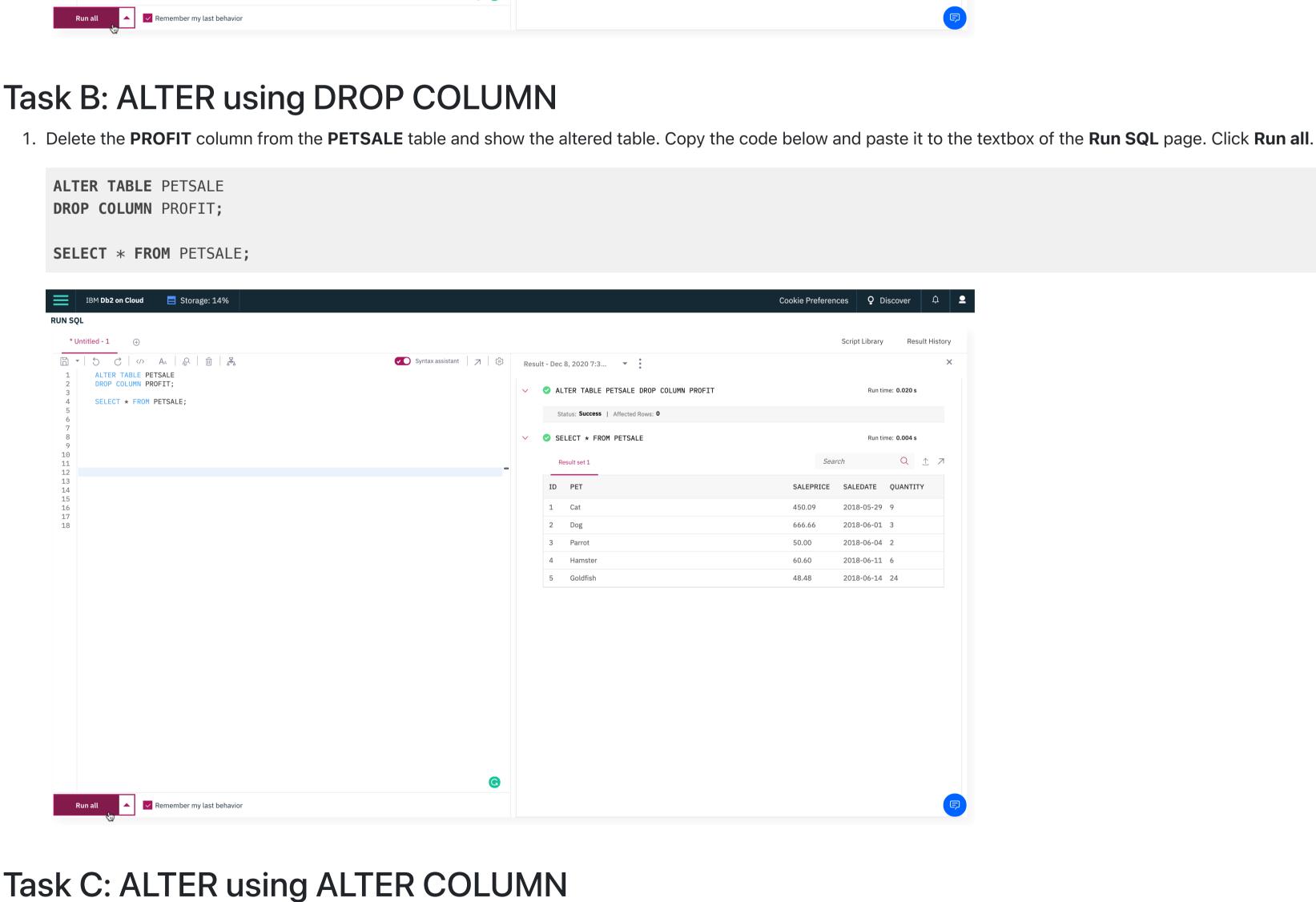
Result History

Syntax assistant 7 8 Result - Dec 8, 2020 7:3... INSERT INTO PETSALE VALUES (1, 'Cat', 450.09, 100.47, '2018-05-29'), ✓ INSERT INTO PETSALE VALUES (1, 'Cat', 450.09, 100.47, '2018-05-29'), (2,... (2,'Dog',666.66,150.76,'2018-06-01'), (3,'Parrot',50.00,8.9,'2018-06-04'), (4, 'Hamster', 60.60, 12, '2018-06-11'), Status: Success | Affected Rows: 5 (5, 'Goldfish', 48.48, 3.5, '2018-06-14'); INSERT INTO PET VALUES ✓ INSERT INTO PET VALUES (1,'Cat',3), (2,'Dog',4), (3,'Hamster',... Run time: 0.007 s (1,'Cat',3), (2,'Dog',4), (3, 'Hamster',2); SELECT * FROM PETSALE; SELECT * FROM PETSALE Run time: 0.004 s Q <u>1</u> 7 Result set 1 SALEPRICE PROFIT SALEDATE 1 Cat 100.47 2018-05-29 2 Dog 150.76 2018-06-01 3 Parrot 50.00 8.90 2018-06-04 2018-06-11 5 Goldfish 48.48 3.50 2018-06-14 SELECT * FROM PET Q <u>↑</u> 7 Result set 1 OUANTITY 2 3 Hamster Run all Remember my last behavior

In this exercise, you will use the ALTER statement to add, delete, or modify columns in two of the existing tables created in exercise 1.







1. Change the data type to VARCHAR(20) type of the column PET of the table PETSALE and show the altered table. Copy the code below and paste it to the textbox of the Run SQL page. Click Run all.

×

Approximate 5 rows (32 KB)

Updated on 2020-12-09 22:26:28

SCALE

0

0

LENGTH

20

NULLABLE

Ν

ALTER TABLE PETSALE ALTER COLUMN PET SET DATA TYPE VARCHAR(20); **SELECT** * **FROM** PETSALE; Cookie Preferences Q Discover Q = Storage: 14% IBM **Db2 on Cloud RUN SQL** * Untitled - 1 Result History □ - 5 0 W AA A A I AS I II AS Syntax assistant Result - Dec 8, 2020 7:3... ALTER TABLE PETSALE ALTER COLUMN PET SET DATA TYPE VARCHAR(20); ✓ ALTER TABLE PETSALE ALTER COLUMN PET SET DATA TYPE VARCHAR(20) SELECT * FROM PETSALE; Status: Success | Affected Rows: 0 SELECT * FROM PETSALE Run time: 0.005 s Result set 1 2018-05-29 9 1 Cat 450.09 2018-06-04 2 3 Parrot 50.00 2018-06-14 24 5 Goldfish Run all Remember my last behavior 2. Now verify if the data type of the column PET of the table PETSALE changed to VARCHAR(20) type or not. Click on the 3 bar menu icon in the top left corner and click Explore > Tables. Find the PETSALE table from Schemas by clicking Select All. Click on the PETSALE table to open the Table Definition page of the table. Here, you can see all the current data type of the columns of the PETSALE table. 7 ↑ : × **Table Definition Tables** Schemas Select All New implicit schema ■ NAME ▼ **SCHEMA PROPERTIES PETSALE** ▼ TPZ00692 2 tables PETRESCUE TPZ00692 DATA TYPE **COLUMN NAME** ✓ PETSALE ✓ AUDIT 0 table TPZ00692 ✓ DB2INST1 0 table ID INTEGER ✓ ERRORSCHEMA 0 table VARCHAR PET ▼ SQL74730 0 table ▼ ST_INFORMTN_SCHEMA 0 table SALEPRICE DECIMAL SALEDATE DATE QUANTITY INTEGER

1. Rename the column PET to ANIMAL of the PETSALE table and show the altered table. Copy the code below and paste it to the textbox of the Run SQL page. Click Run all.

ALTER TABLE PETSALE RENAME COLUMN PET TO ANIMAL

Status: Success | Affected Rows: 0

Cookie Preferences Q Discover Q

Run time: 0.004 s

2018-05-29 9

2018-06-04 2

2018-06-14 24

SELECT * FROM PETSALE Result set 1 ID ANIMAL 1 Cat Remember my last behavior

Task D: ALTER using RENAME COLUMN

ALTER TABLE PETSALE

SELECT * **FROM** PETSALE;

SELECT * FROM PETSALE;

RUN SQL

RENAME COLUMN PET TO ANIMAL;

Exercise 3: TRUNCATE In this exercise, you will use the TRUNCATE statement to remove all rows from an existing table created in exercise 1 without deleting the table itself. 1. Remove all rows from the PET table and show the empty table. Copy the code below and paste it to the textbox of the Run SQL page. Click Run all. TRUNCATE TABLE PET IMMEDIATE; **SELECT** * **FROM** PET; Storage: 14% Cookie Preferences Q Discover 🗘 🚨 IBM Db2 on Cloud Result - Dec 8, 2020 7:3... TRUNCATE TABLE PET IMMEDIATE; TRUNCATE TABLE PET IMMEDIATE Run time: **0.016 s** SELECT * FROM PET; SELECT * FROM PET Run time: 0.005 s QUANTITY No available items to display Run all Remember my last behavior

Syntax assistant Result - Dec 8, 2020 7:3...

Exercise 4: DROP

Author(s)

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Date

2020-12-24

2020-12-07

Other Contributor(s)

Version

1.1

1.0

Changed by

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In this exercise, you will use the DROP statement to delete an existing table created in exercise 1. 1. Delete the **PET** table and verify if the table still exists or not (SELECT statement won't work if a table doesn't exist). Copy the code below and paste it to the textbox of the **Run SQL** page. Click **Run all**. DROP TABLE PET; **SELECT** * **FROM** PET; IBM **Db2 on Cloud** Storage: 14% Cookie Preferences Q Discover 🗘 👤 **RUN SQL** Syntax assistant ✓ ✓ DROP TABLE PET Run time: 0.036 s

Change Description

Initial version created

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ID reviewed

Run all Remember my last behavior Congratulations! You have completed this Lab. You are ready for the next topic.