ORACLE ACADEMY

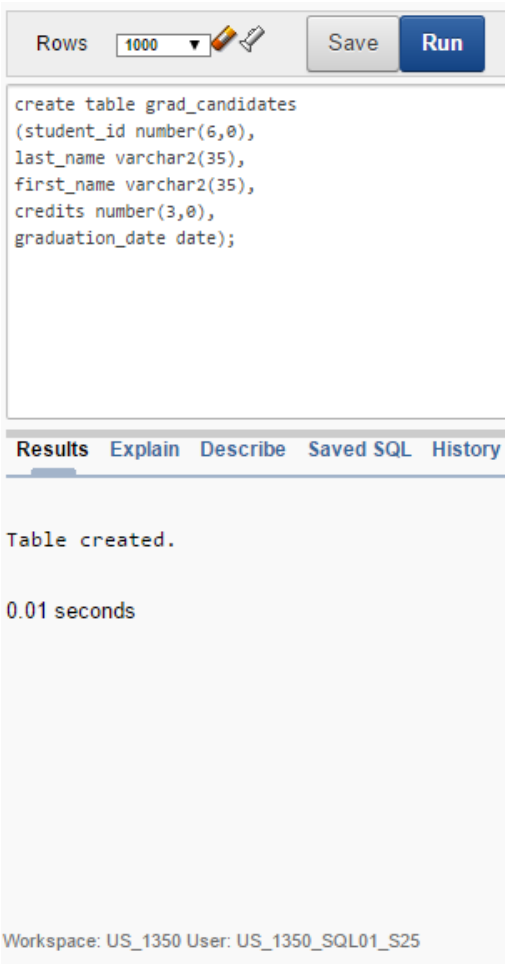
Section 8 Lesson 1: Creating Tables

Try It / Solve It

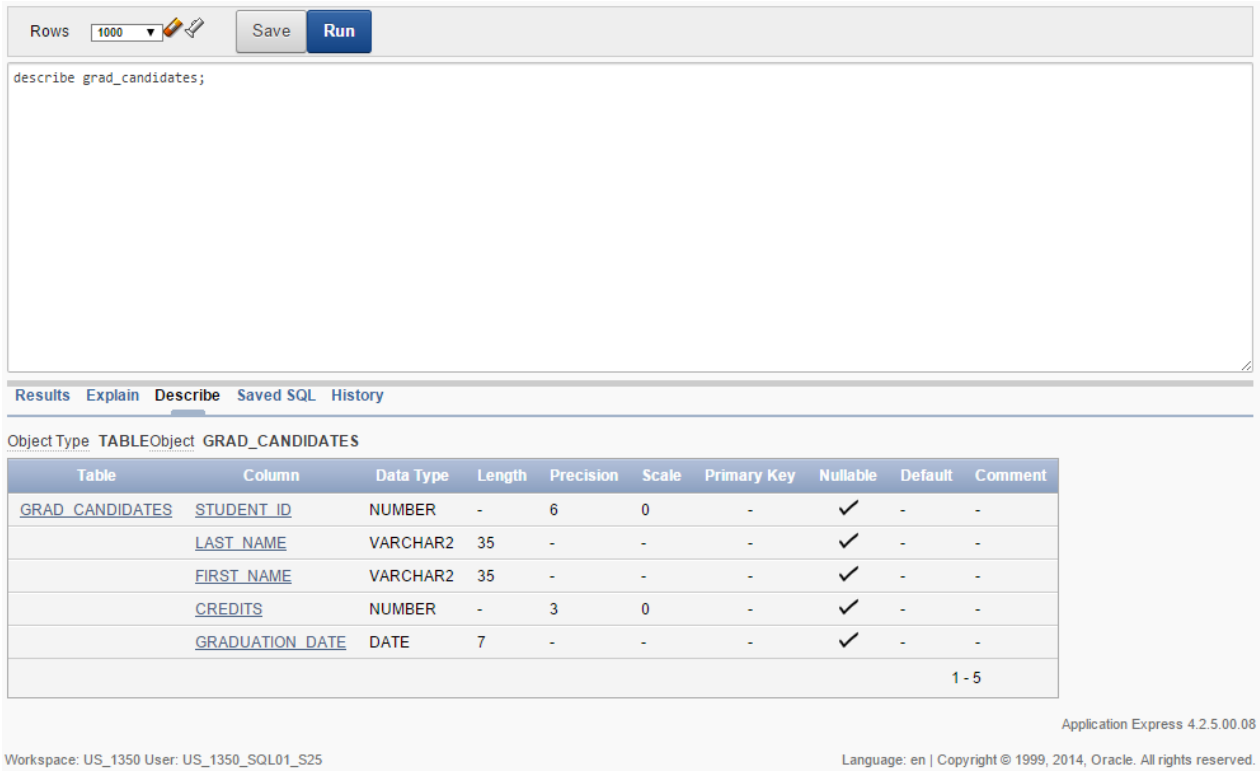
1. Complete the GRADUATE CANDIDATE table instance chart. Credits is a foreign-key column referencing the requirements table.

Column Name	student_id	last_name	first_name	credits	graduation_date
Key Type				**FK**	
Nulls/Unique					
FK Column				**1**	
Datatype	NUMBER	VARCHAR2	VARCHAR2	NUMBER	DATE
Length	6			3	

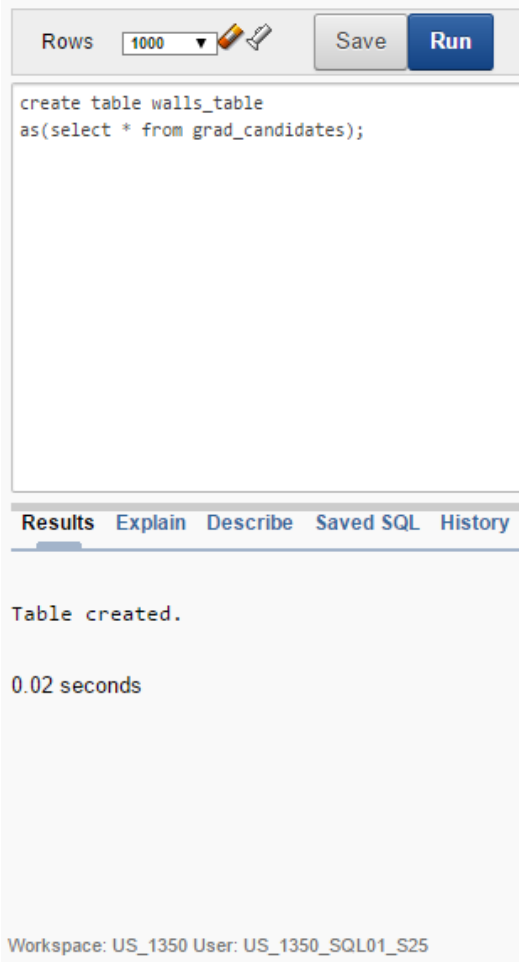
2. Write the syntax to create the grad_candidates table.



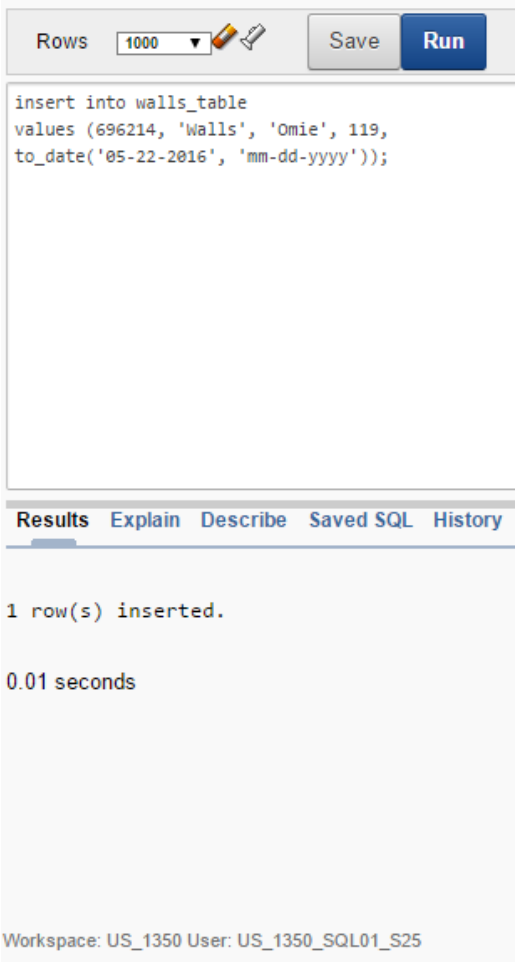
3. Confirm creation of the table using DESCRIBE.



4. Create a new table using a subquery. Name the new table your last name -- e.g., smith_table. Using a subquery, copy grad_candidates into *walls*_table.



5. Insert your personal data into the table created in question 4.



6. Query the data dictionary for each of the following:
   - USER_TABLES
   - USER_OBJECTS
   - USER_CATALOG or USER_CAT

   In separate sentences, summarize what each query will return.
   Querying USER_TABLES will return data from user-created tables. USER_OBJECTS returns data objects (which appear to be essentially entities). USER_CATALOG queries return the table name and type of each table in the oracle database, user and not user created.

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Section 8 Lesson 2: Using Datatypes

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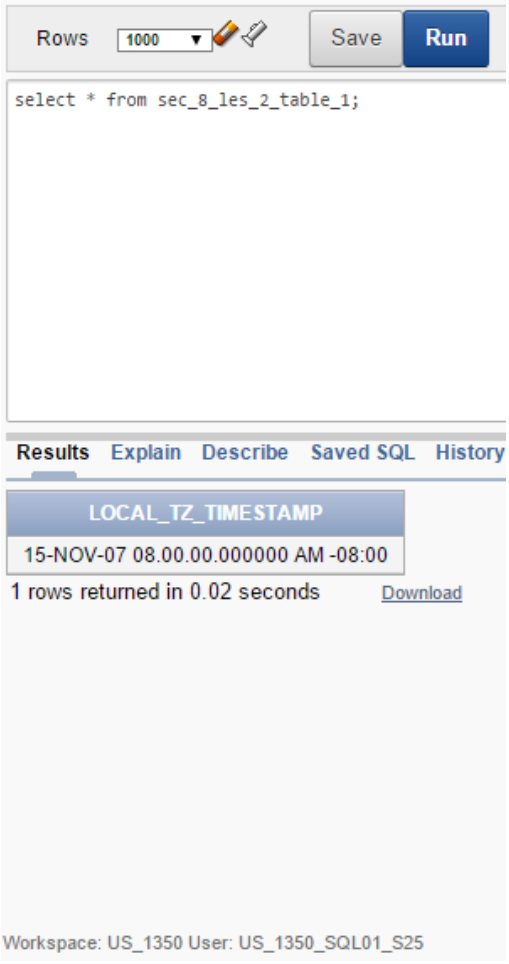
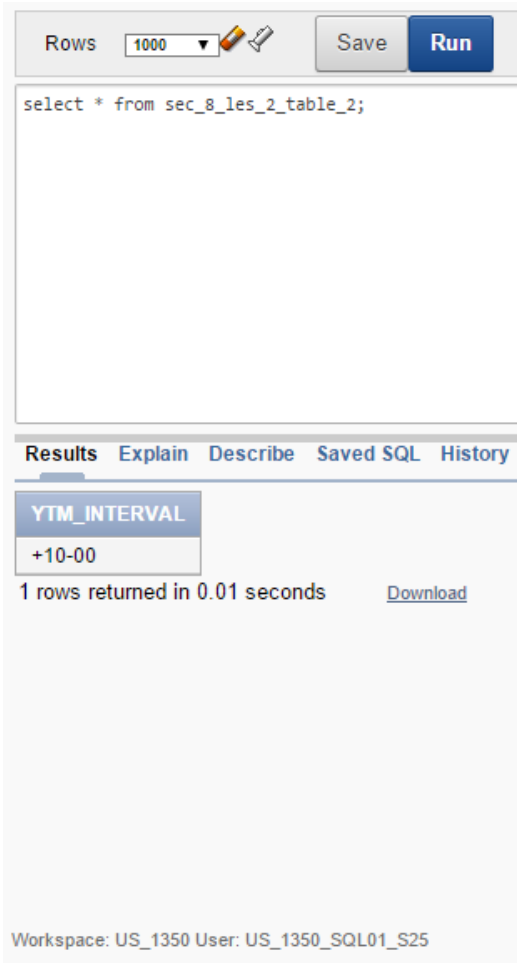
Try It / Solve It

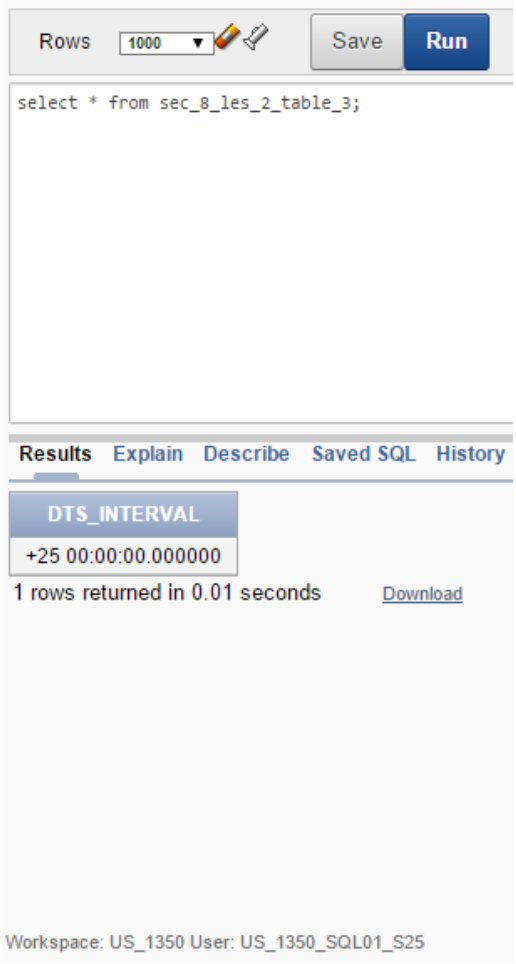
1. Using the examples provided in Tell Me/Show Me, create each of the three time-zone tables.

   a. TIMESTAMP WITH LOCAL TIME ZONE
   b. INTERVAL YEAR TO MONTH
   c. INTERVAL DAY TO SECOND

2. Execute a SELECT * from each table to verify your input.







3. Give 3 examples of organizations and personal situations where it is important to know to which time zone a date-time value refers.

    1. To provide correct logistics information for a non-local business transaction.
    2. To provide accurate destination arrival on a scheduled flight.
    3. To know the time of a phone-call referential to the location in which it was placed or received.

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Section 8 Lesson 3: Modifying a Table

Try It / Solve It

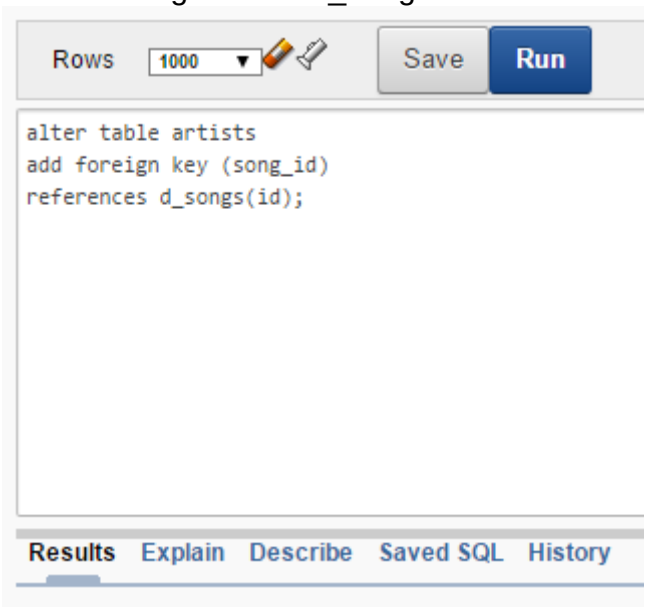
Before beginning the practice exercises, execute a DESCRIBE for each of the following tables: o_employees, o_departments and o_jobs. These tables will be used in the exercises. If they do not exist in your account, create them as follows:

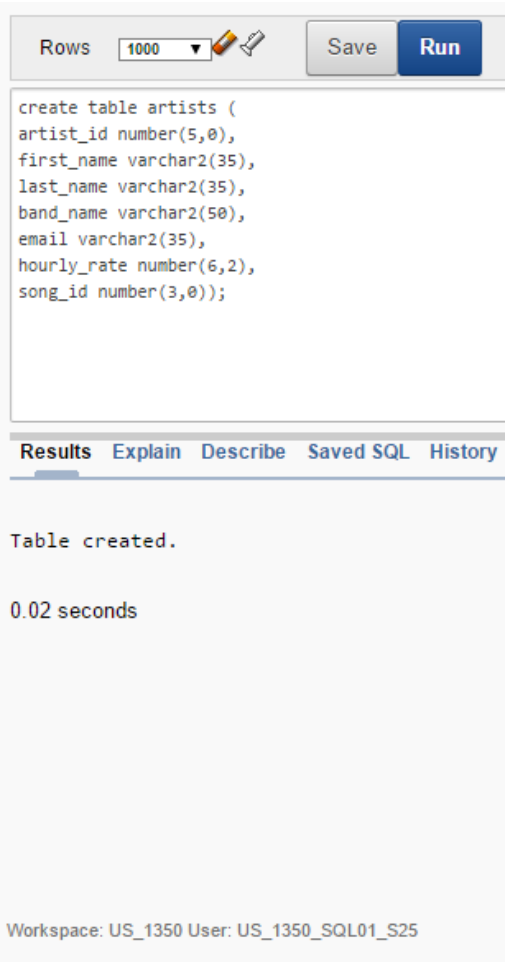
- CREATE TABLE o_jobs AS (SELECT * FROM jobs);
- CREATE TABLE o_employees AS (SELECT * FROM employees);
- CREATE TABLE o_departments AS (SELECT * FROM departments);

You will need to know which columns do not allow null values.

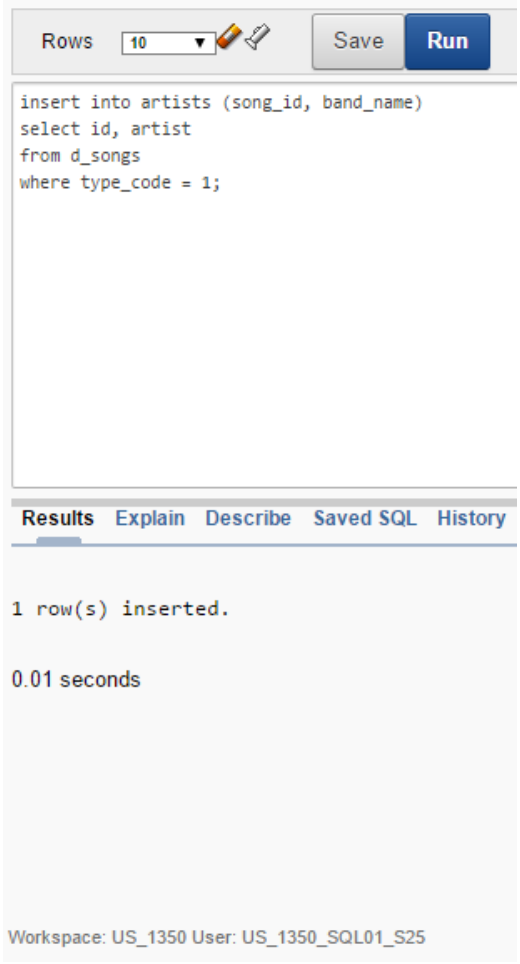
1. Why is it important to be able to modify a table? In a company, factors change in day-to-day business. Without the ability to modify tables, the table's form might become outdated if it cannot be changed to fit a growing business. Having the ability to modify tables also helps when making mistakes and errors when creating or updating a table.

2. CREATE a table called Artists.
   a. Add the following to the table:
      - artist ID
      - first name
      - last name
      - band name
      - email
      - hourly rate
      - song ID from d_songs table

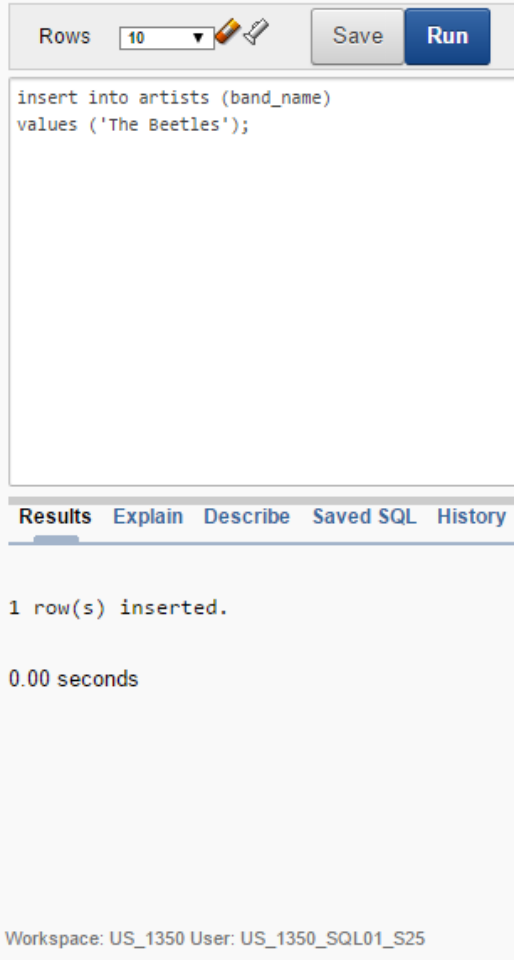




b. INSERT one artist from the d_songs table.

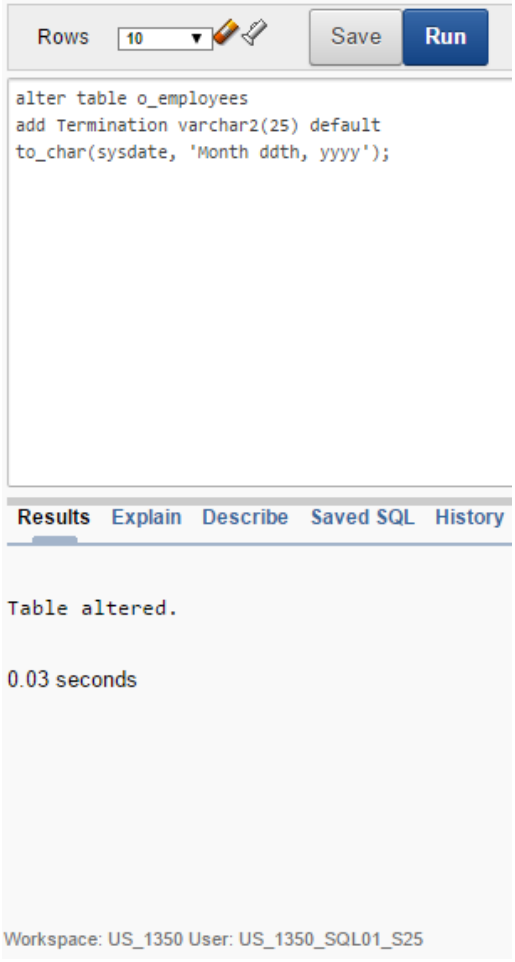


c. INSERT one artist of your own choosing; leave song_id blank.

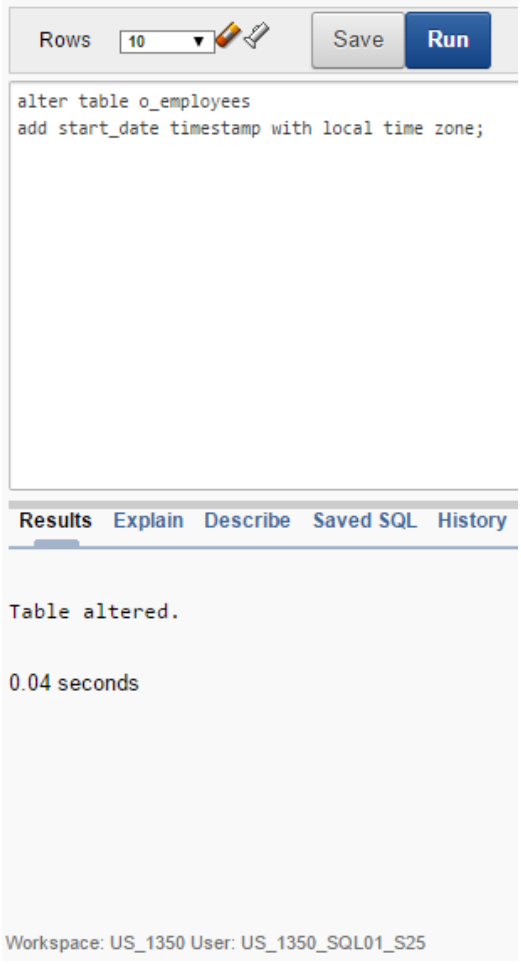


d. Give an example how each of the following may be used on the table that you have created:
   - ALTER TABLE
     ALTER TABLE Artists
     MODIFY band_name VARCHAR2(50);
   - DROP TABLE
     DROP TABLE Artists
   - RENAME TABLE
     ALTER TABLE
     RENAME TABLE Artists TO Artist
   - TRUNCATE
     TRUNCATE TABLE Artists
   - COMMENT ON TABLE
     COMMENT ON TABLE artists IS 'This is a table for Artists.';

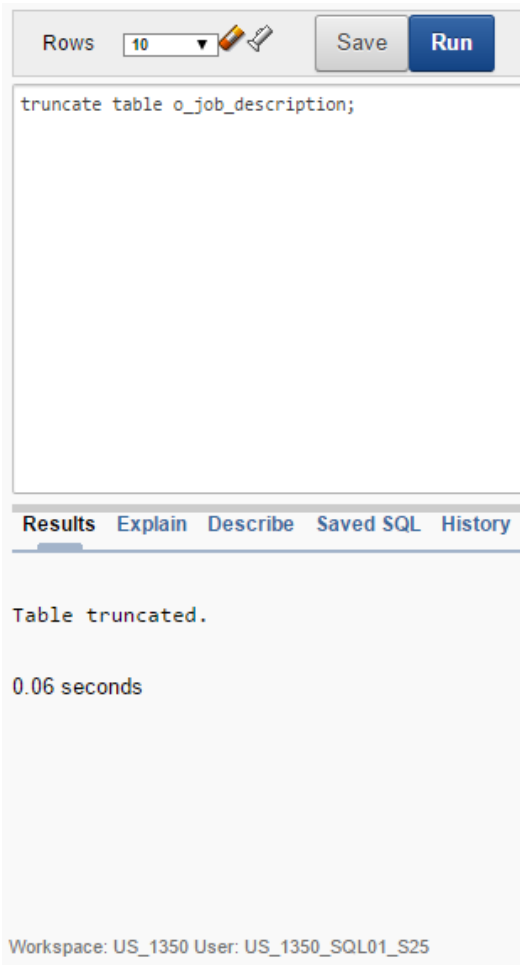
3. In your o_employees table, enter a new column called “Termination.” The datatype for the new column should be VARCHAR2. Set the DEFAULT for this column as SYSDATE to appear as character data in the format: February 20th, 2003.

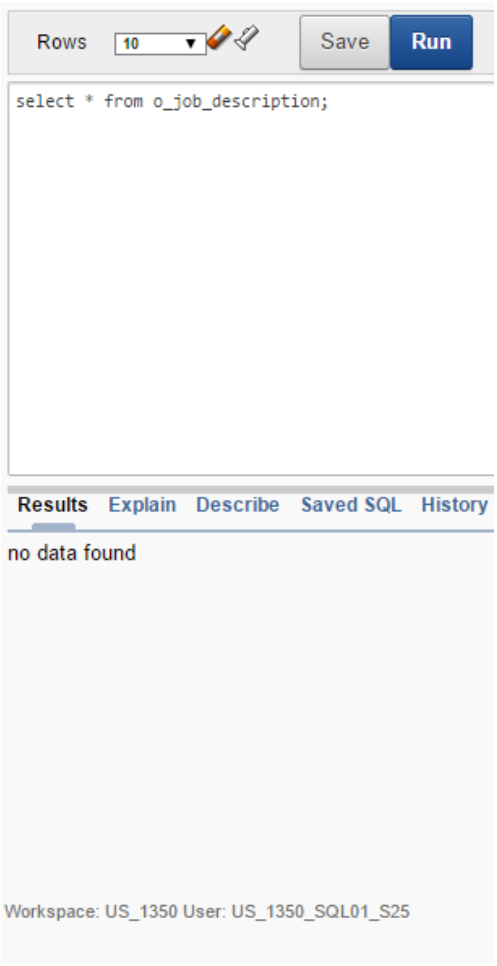


4. Create a new column in the o_employees table called start_date. Use the TIMESTAMP WITH LOCAL TIME ZONE as the datatype.



5. Truncate the o_job_description table. Then do a SELECT * statement. Are the columns still there? Is the data still there? There is no data found.

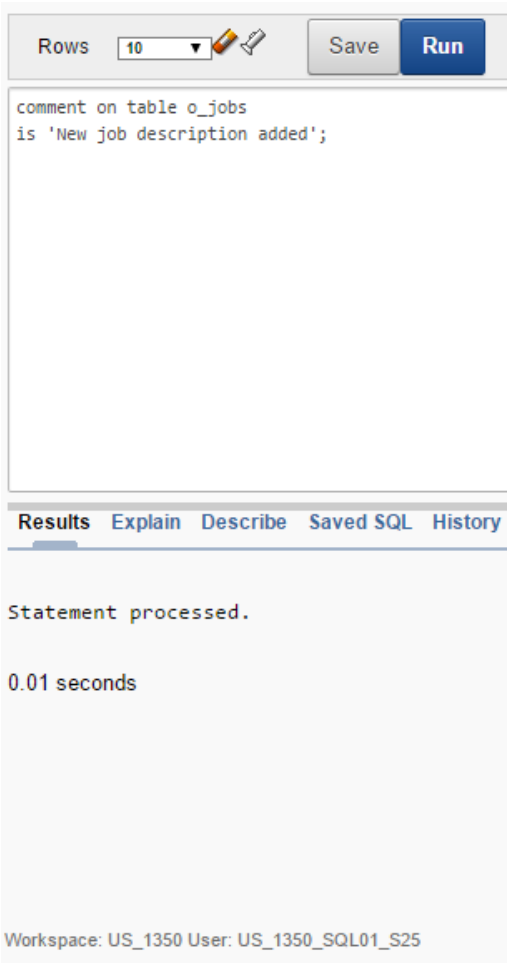


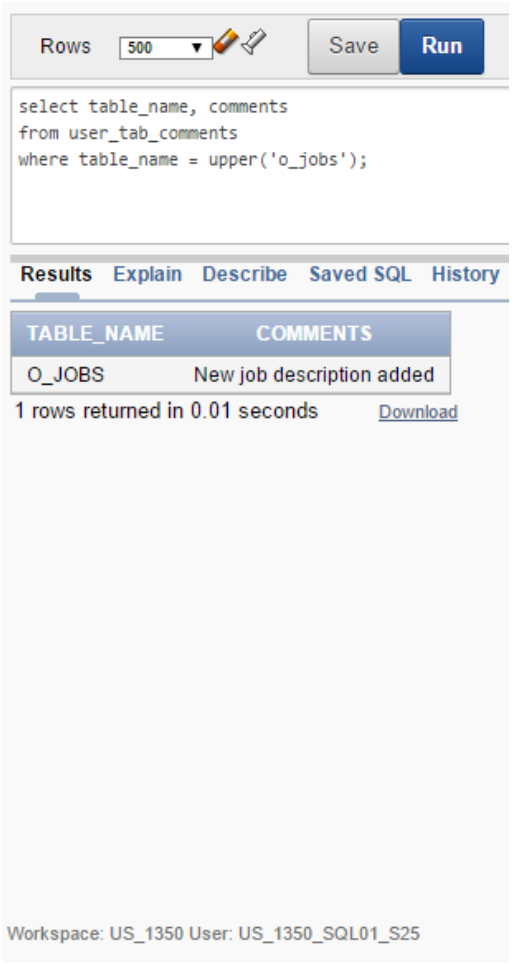


6. What is the distinction between TRUNCATE, DELETE, and DROP for tables? TRUNCATE removes all rows of data from a table. DELETE removes all rows and data structure. DROP removes the table from the database.

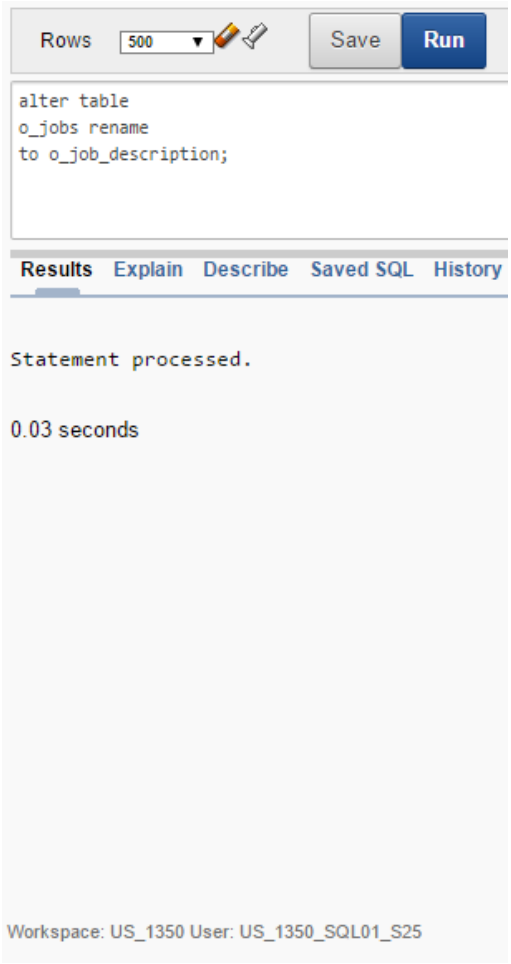
7. List the changes that can and cannot be made to a column. You can add, modify or drop a column in a table, but you cannot specify where the column appears.

8. Add the following comment to the o_jobs table:
   "New job description added"
   View the data dictionary to view your comments.

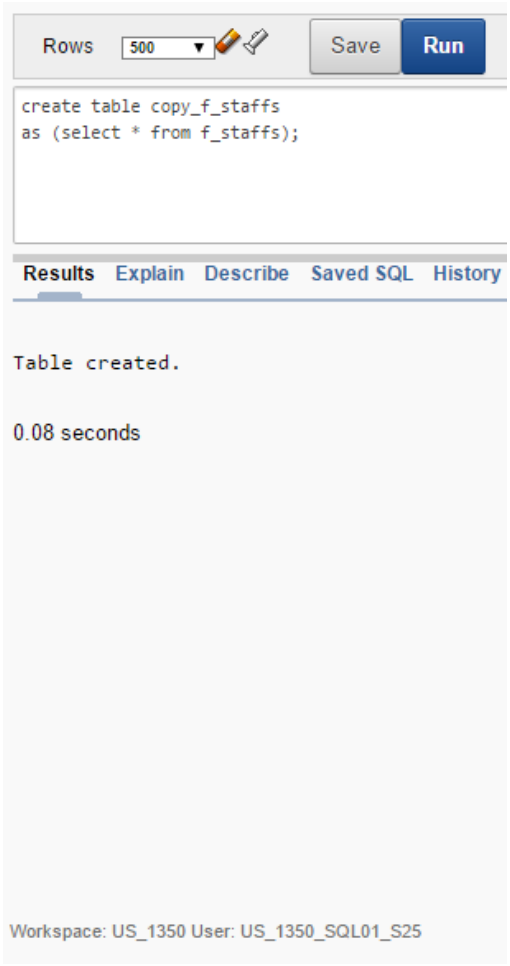




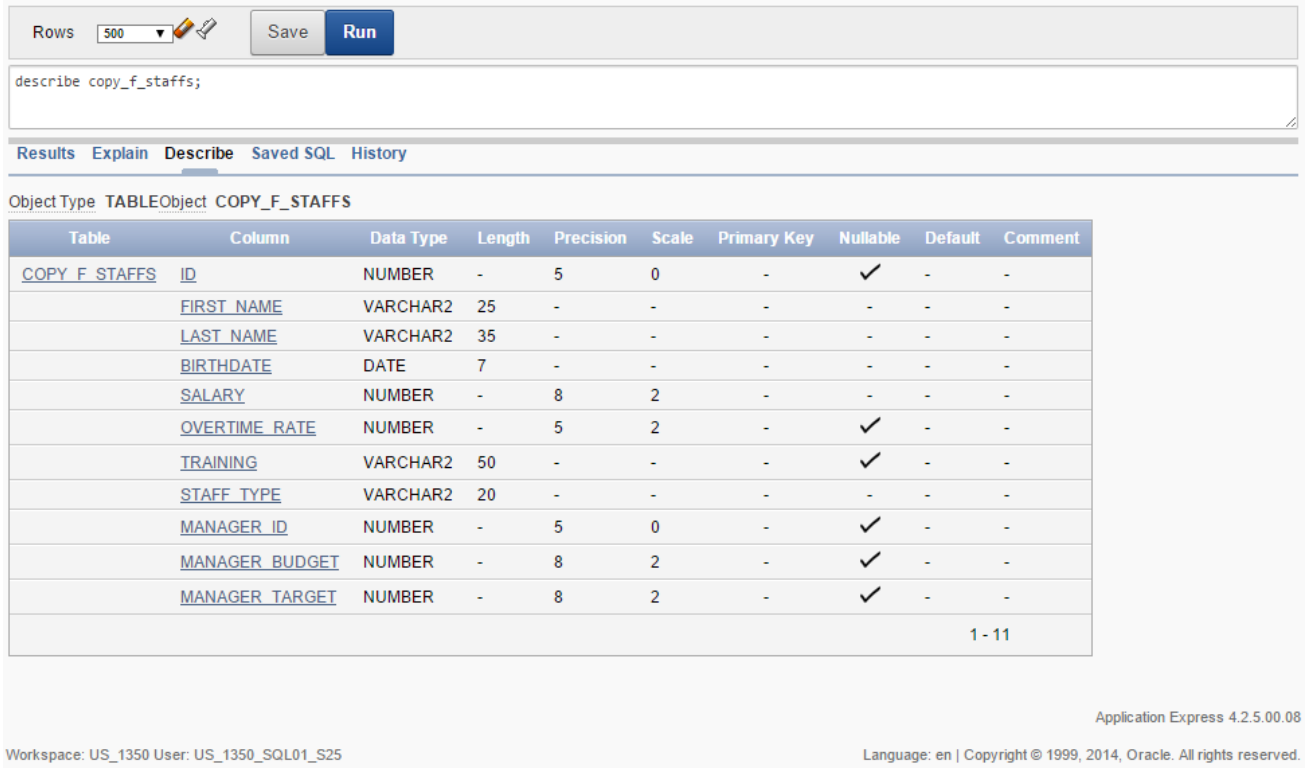
9. Rename the o_jobs table to o_job_description.



10. F_staffs table exercises:
    a. Create a copy of the f_staffs table called copy_f_staffs and use this copy table for the remaining labs in this lesson.



b. Describe the new table to make sure it exists.



Rows 500 Save Run

```
describe copy_f_staffs;
```

Results Explain Describe Saved SQL History

Object Type TABLE Object COPY_F_STAFFS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
COPY_F_STAFFS	ID	NUMBER	-	5	0	-	✓	-	-
	FIRST_NAME	VARCHAR2	25	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	35	-	-	-	-	-	-
	BIRTHDATE	DATE	7	-	-	-	-	-	-
	SALARY	NUMBER	-	8	2	-	-	-	-
	OVERTIME_RATE	NUMBER	-	5	2	-	✓	-	-
	TRAINING	VARCHAR2	50	-	-	-	✓	-	-
	STAFF_TYPE	VARCHAR2	20	-	-	-	-	-	-
	MANAGER_ID	NUMBER	-	5	0	-	✓	-	-
	MANAGER_BUDGET	NUMBER	-	8	2	-	✓	-	-
	MANAGER_TARGET	NUMBER	-	8	2	-	✓	-	-

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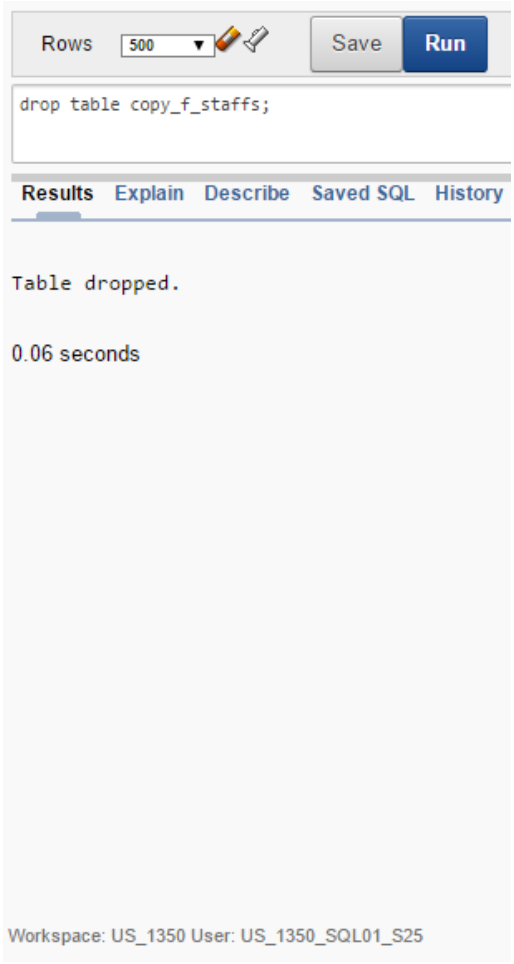
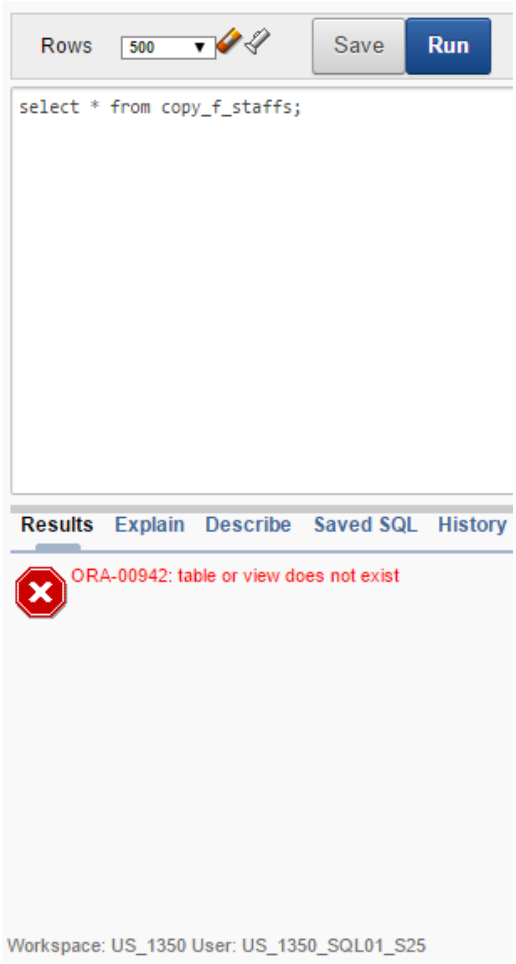
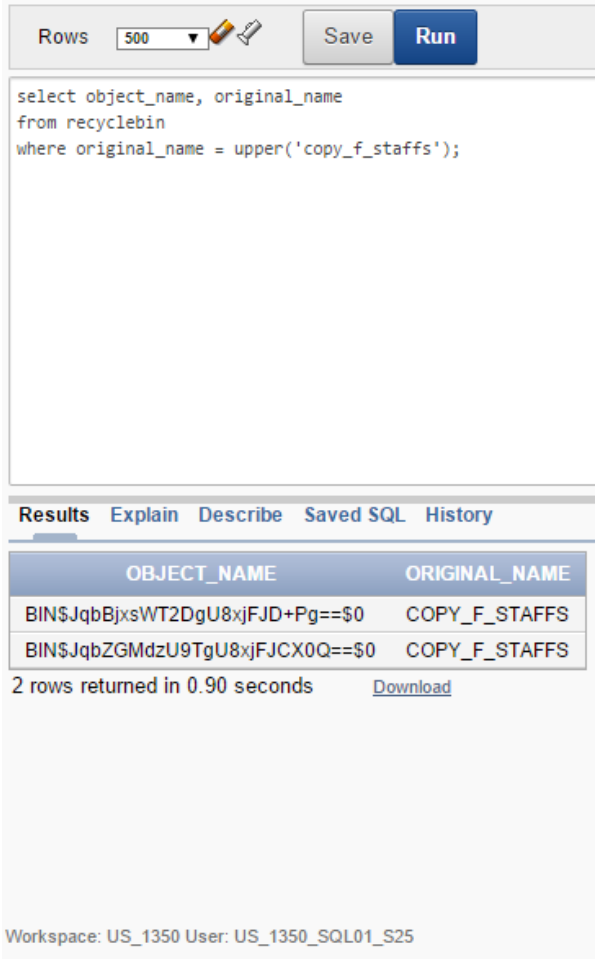
c. Drop the table.



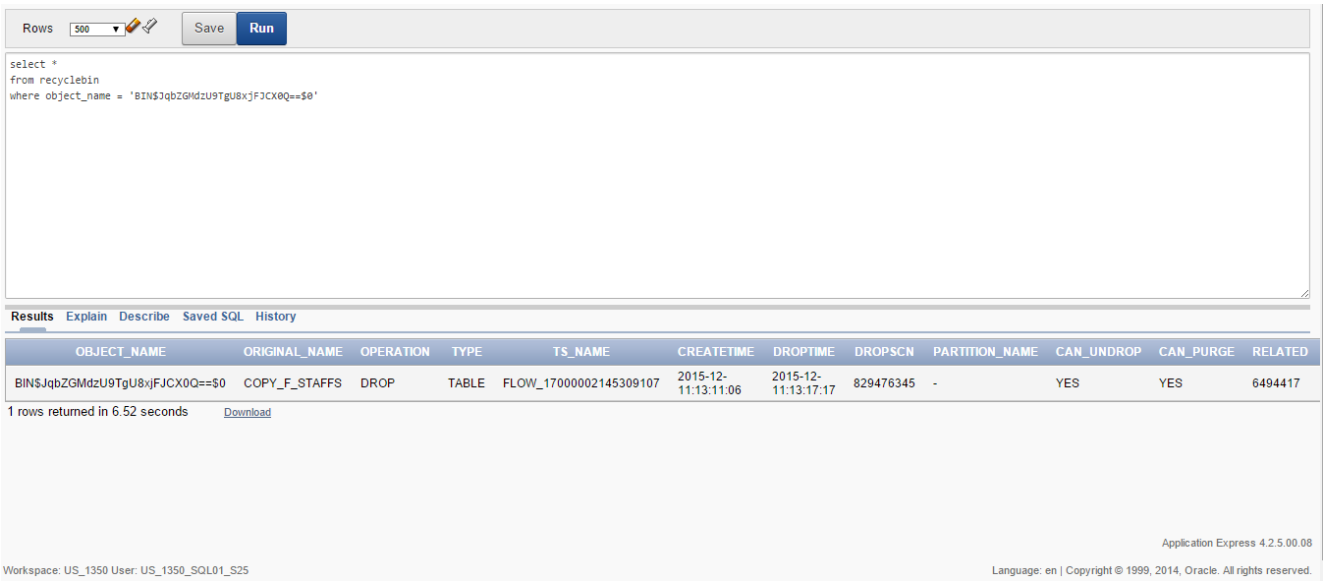
d. Try to select from the table.



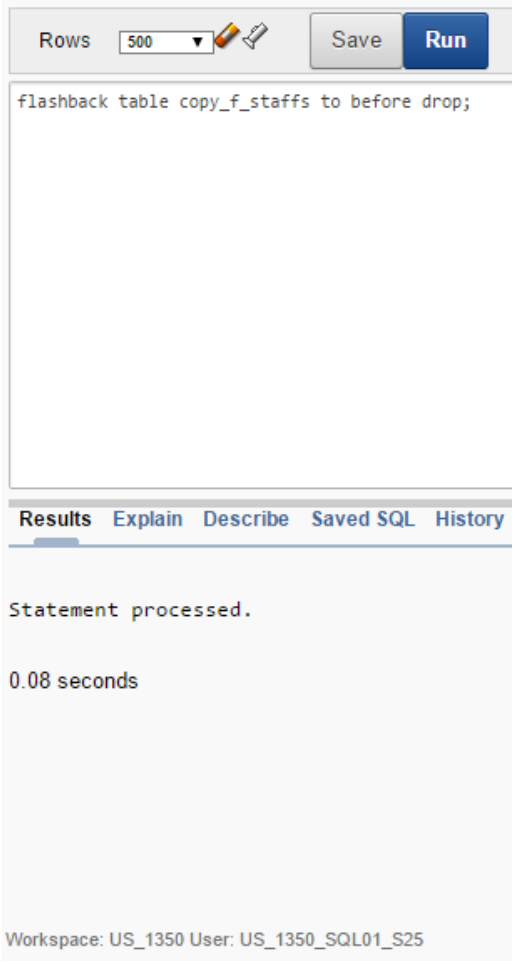
e. Investigate your recyclebin to see where the table went.



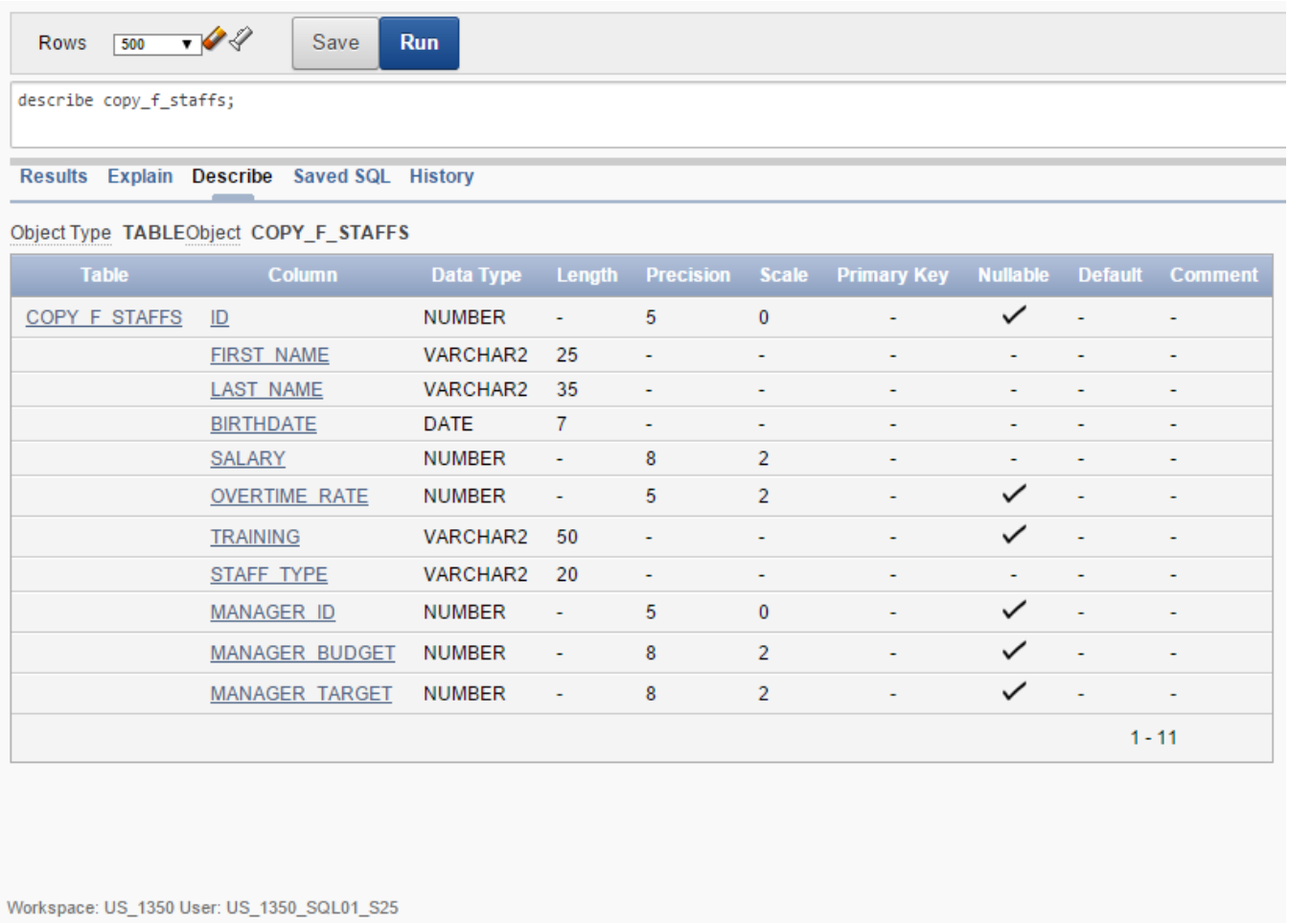
f. Try to select from the dropped table by using the value stored in the OBJECT_NAME column. You will need to copy and paste the name as it is exactly, and enclose the new name in " " (double quotes). So if the dropped name returned to you is BIN$Q+x1nJdcUnngQESYELVIdQ==$0, you need to write a query that refers to "BIN$Q+x1nJdcUnngQESYELVIdQ==$0".



g. Undrop the table.



h. Describe the table.



Rows 500 Save Run

```
describe copy_f_staffs;
```

Results Explain Describe Saved SQL History

Object Type TABLE Object COPY_F_STAFFS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
COPY_F_STAFFS	ID	NUMBER	-	5	0	-	✓	-	-
	FIRST_NAME	VARCHAR2	25	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	35	-	-	-	-	-	-
	BIRTHDATE	DATE	7	-	-	-	-	-	-
	SALARY	NUMBER	-	8	2	-	-	-	-
	OVERTIME_RATE	NUMBER	-	5	2	-	✓	-	-
	TRAINING	VARCHAR2	50	-	-	-	✓	-	-
	STAFF_TYPE	VARCHAR2	20	-	-	-	-	-	-
	MANAGER_ID	NUMBER	-	5	0	-	✓	-	-
	MANAGER_BUDGET	NUMBER	-	8	2	-	✓	-	-
	MANAGER_TARGET	NUMBER	-	8	2	-	✓	-	-

1 - 11

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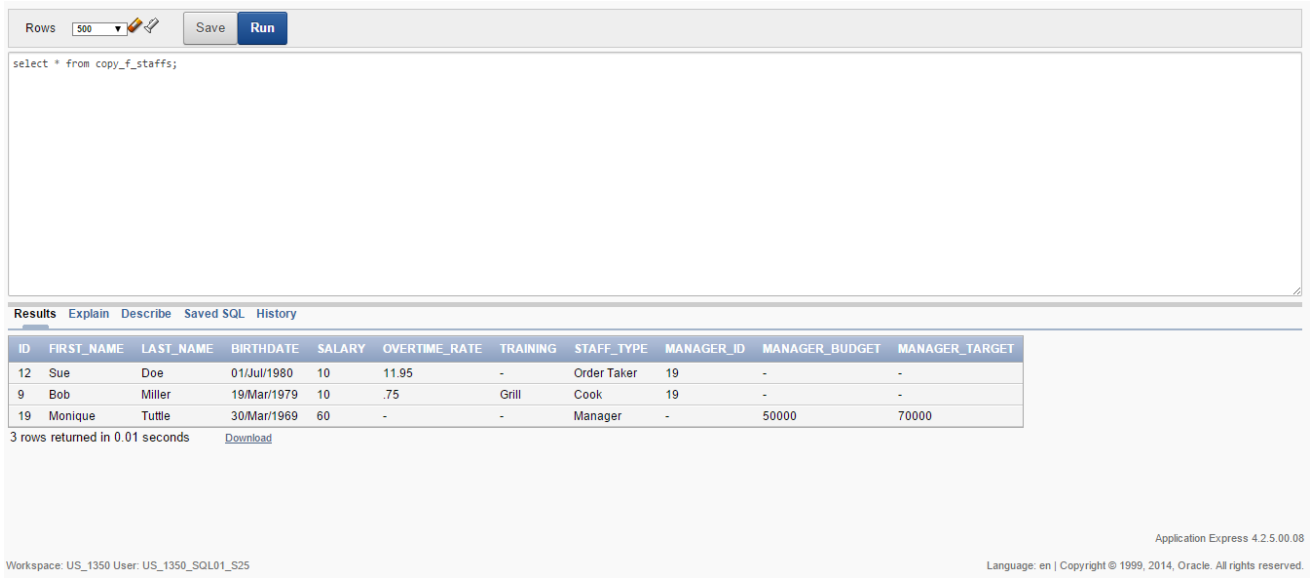
11. Still working with the copy_f_staffs table, perform an update on the table.

    a. Issue a select statement to see all rows and all columns from the copy_f_staffs table;



Rows 500 Save Run

```
select * from copy_f_staffs;
```

Results Explain Describe Saved SQL History

ID	FIRST_NAME	LAST_NAME	BIRTHDATE	SALARY	OVERTIME_RATE	TRAINING	STAFF_TYPE	MANAGER_ID	MANAGER_BUDGET	MANAGER_TARGET
12	Sue	Doe	01/Jul/1980	10	11.95	-	Order Taker	19	-	-
9	Bob	Miller	19/Mar/1979	10	.75	Grill	Cook	19	-	-
19	Monique	Tuttle	30/Mar/1969	60	-	-	Manager	-	50000	70000

3 rows returned in 0.01 seconds Download

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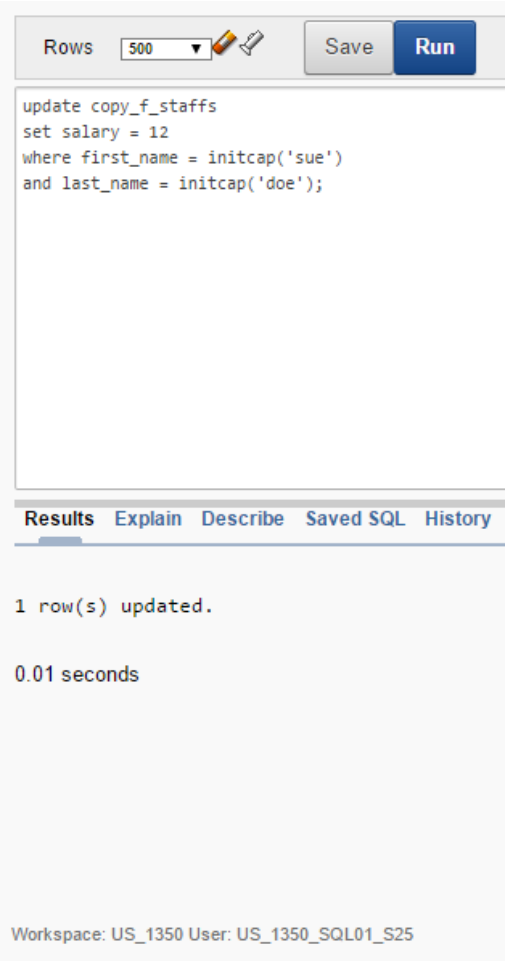
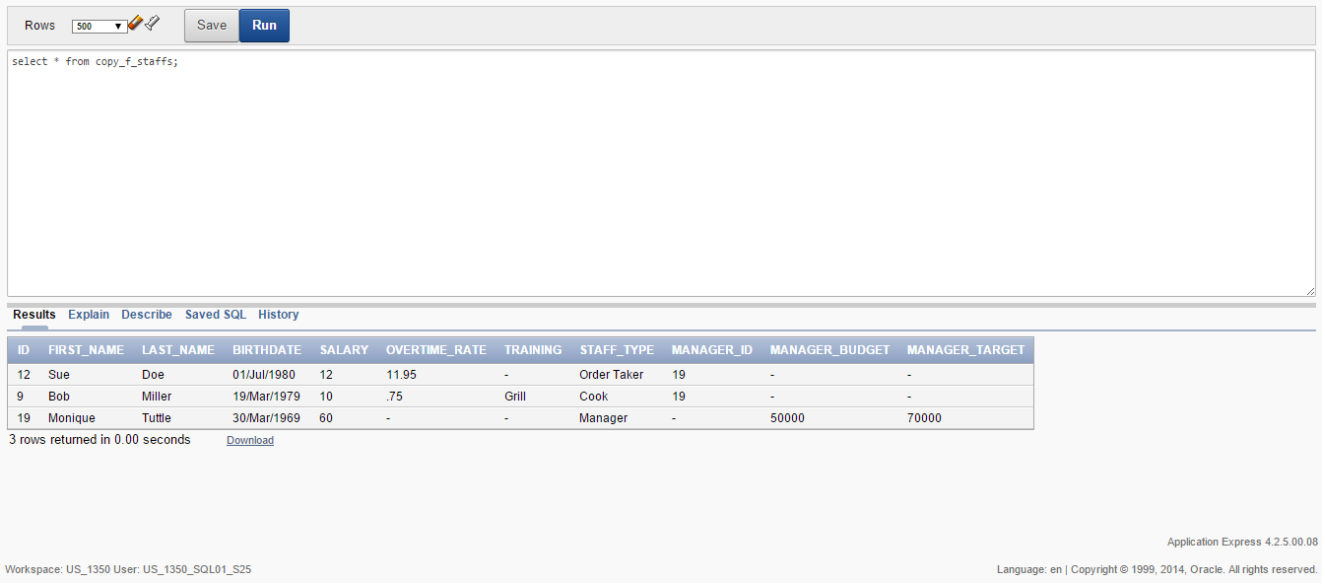
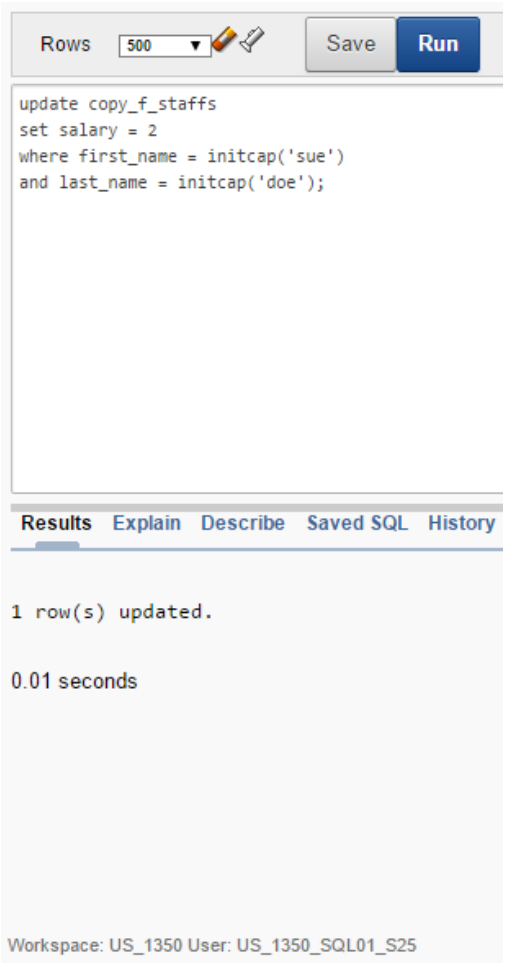
b. Change the salary for Sue Doe to 12 and commit the change.



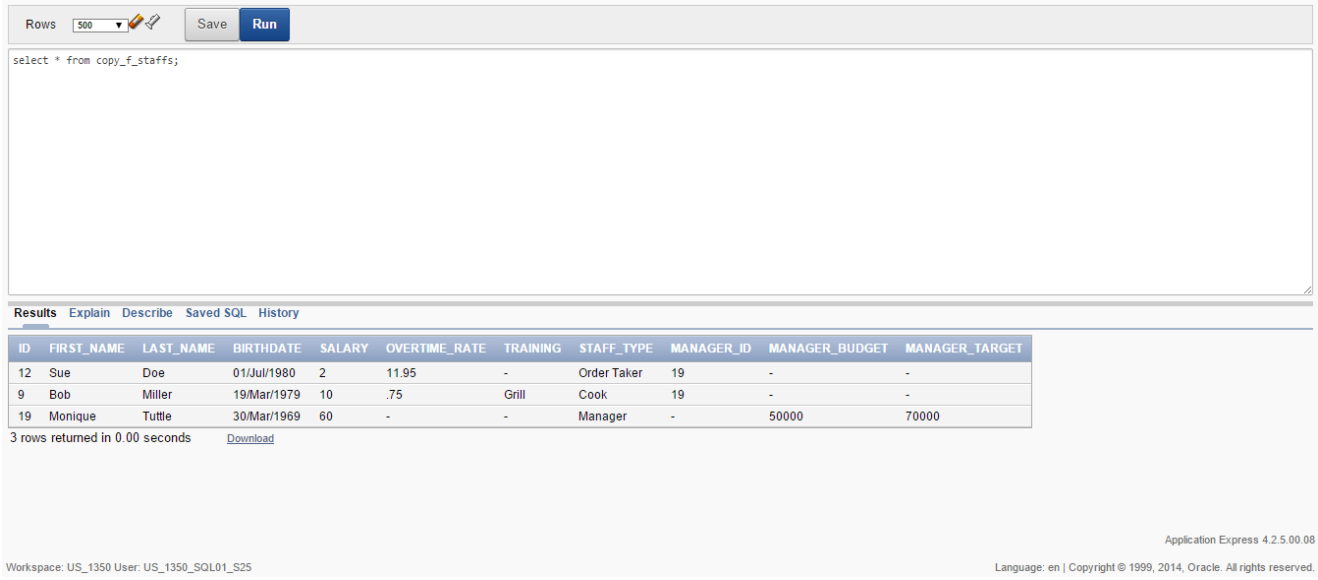
c. Issue a select statement to see all rows and all columns from the copy_f_staffs table;



d. For Sue Doe, update the salary to 2 and commit the change.



e. Issue a select statement to see all rows and all columns from the copy_f_staffs table;



Rows 500 Save Run

```
select * from copy_f_staffs;
```

Results Explain Describe Saved SQL History

ID	FIRST_NAME	LAST_NAME	BIRTHDATE	SALARY	OVERTIME_RATE	TRAINING	STAFF_TYPE	MANAGER_ID	MANAGER_BUDGET	MANAGER_TARGET
12	Sue	Doe	01/Jul/1980	2	11.95	-	Order Taker	19	-	-
9	Bob	Miller	19/Mar/1979	10	.75	Grill	Cook	19	-	-
19	Monique	Tuttle	30/Mar/1969	60	-	-	Manager	-	50000	70000

3 rows returned in 0.00 seconds Download

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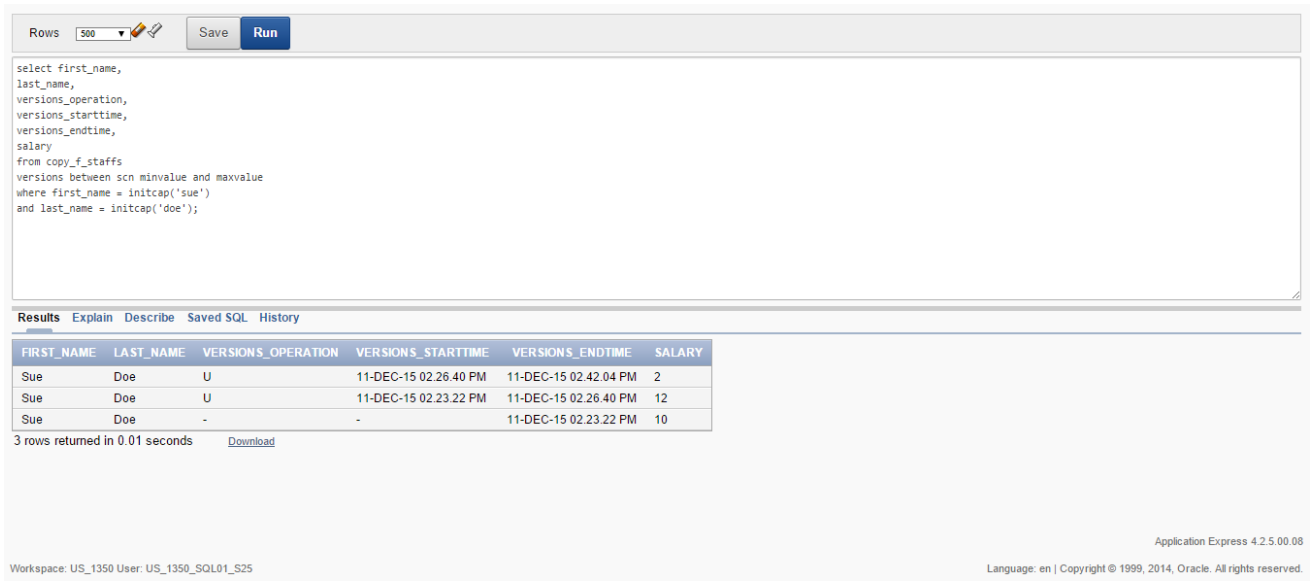
f. Now, issue a FLASHBACK QUERY statement against the copy_f_staffs table, so you can see all the changes made.



Rows 500 Save Run

```
select first_name,
last_name,
versions_operation,
versions_starttime,
versions_endtime,
salary
from copy_f_staffs
versions between scn minvalue and maxvalue
where first_name = initcap('sue')
and last_name = initcap('doe');
```

Results Explain Describe Saved SQL History

FIRST_NAME	LAST_NAME	VERSIONS_OPERATION	VERSIONS_STARTTIME	VERSIONS_ENDTIME	SALARY
Sue	Doe	U	11-DEC-15 02.26.40 PM	11-DEC-15 02.42.04 PM	2
Sue	Doe	U	11-DEC-15 02.23.22 PM	11-DEC-15 02.26.40 PM	12
Sue	Doe	-	-	11-DEC-15 02.23.22 PM	10

3 rows returned in 0.01 seconds Download

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g. Investigate the result of f), and find the original salary and update the copy_f_staffs table salary column for Sue Doe back to her original salary.