

Laboratory 02

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IC4301 – Databases I

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September 09th 2022.

In this document are the evidence of laboratory 02 where you can see the objects created, data inserted, modified, among others.

Evidences:

1. Register 20 people with legible and consistent data that includes salary data, names and surnames, date of birth, among other basics. Make sure there are 10 people who have the highest salaries and that 5 of those salaries are repeated.
- In this image you can see the table Person in the Database empty:

The screenshot shows the Oracle SQL Developer interface. The left sidebar displays the database structure for the 'BASEUNO' schema, including tables like CUSTOMER, EMAIL, EMPLOYEE, PEOPLE, and PERSON. The central area shows the 'EMPLOYEE' table with 20 rows of data. The columns are ID_EMPLOYEE, SALARY_EMPLOYEE, ID_PERSON, and BIRTHDAY_EMPLOYEE. The data includes various employee IDs, salaries ranging from 0 to 235000, and birthdates from 1998 to 1999. Row 15 is highlighted with a blue background.

ID_EMPLOYEE	SALARY_EMPLOYEE	ID_PERSON	BIRTHDAY_EMPLOYEE
1	20	235000	20 27-MAY-03
2	0	300000	0 28-MAY-03
3	1	700000	1 15-APR-98
4	2	805000	2 25-MAY-86
5	3	700000	3 13-SEP-07
6	4	700000	4 13-FEB-98
7	5	700000	5 11-NOV-05
8	6	747500	6 19-FEB-70
9	7	680000	7 17-AUG-99
10	8	500000	8 27-OCT-07
11	9	640000	9 16-DEC-02
12	11	250000	11 21-MAR-03
13	12	320000	12 22-APR-00
14	13	414000	13 31-DEC-87
15	14	410000	14 12-JAN-99
16	15	310500	15 09-SEP-89
17	16	310000	16 07-JUL-98
18	17	385000	17 01-SEP-00
19	18	290000	18 03-DEC-96
20	19	340000	19 10-MAR-98

- In this image you can see the table Person in the Database with 20 people registered but without the salary, because for our ER we need to insert that later:

The screenshot shows the Oracle SQL Developer interface. The left sidebar displays the database structure for the 'BASEUNO' schema, including tables like CUSTOMER, EMAIL, EMPLOYEE, PEOPLE, and PERSON. The central area shows the 'PERSON' table with 20 rows of data. The columns are ID_PERSON, FIRST_NAME, IDENTITYCARD, SECOND_NAME, FIRST_SURNAME, SECOND_SURNAME, and BIRTHDATE. The data includes various person IDs, first names, last names, and birthdates. Row 15 is highlighted with a blue background.

ID_PERSON	FIRST_NAME	IDENTITYCARD	SECOND_NAME	FIRST_SURNAME	SECOND_SURNAME	BIRTHDATE
1	0 Tamara	118750560	Nicole	Rodríguez	Luna	28-MAY-03
2	1 Melissa	119560234	Laura	Zarate	López	15-APR-98
3	2 Catalina	202678512	Maria	Santana	Hernández	25-MAY-86
4	3 Alejandro	705689412	Sebastian	Fernández	Ortiz	13-SEP-07
5	4 Paula	306872354	Liliana	Perez	López	13-FEB-98
6	5 Ariana	603154786	Vanessa	Gonzalez	Molina	11-NOV-05
7	6 Isabel	452618723	Rosaura	Torres	Benavides	19-FEB-70
8	7 Kenneth	514896458	Ricardo	Ibarra	Vargas	17-AUG-99
9	8 Jezabel	789630412	Hillary	Morales	Barrera	27-OCT-07
10	9 Luis	402569871	Roberto	Rivera	Moaraga	16-DEC-02
11	11 Jeffrey	118670120	Daniel	Leiva	Cascante	21-MAR-03
12	12 Esteban	119872619	Alfredo	Perez	Caceres	22-APR-00
13	13 Andres	290871627	Eduardo	Villalobos	Sandi	31-DEC-87
14	14 Francisco	390812345	Franco	Sanchez	Ruben	12-JAN-99
15	15 Hilda	568909876	Heriberta	Robles	Torres	09-SEP-89
16	16 Carlos	435678901	Humberto	Flores	Valerio	07-JUL-98
17	17 James	189098762	Kevin	Valverde	Alpizar	01-SEP-00
18	18 Pedro	198098765	Pablo	Matarrita	Smith	03-DEC-96
19	19 Rachell	345987654	Maria	Bermudez	Salazar	10-MAR-98
20	20 Mariana	478985748	Steffany	Orozco	Campos	27-MAY-03

- In this image you can see the table employeege in the Database empty:

The screenshot shows the Oracle SQL Developer interface. The title bar indicates the connection is to 'Oracle SQL Developer : Table GE.EMPLOYEEGE@BASEUNO'. The main area displays the 'EMPLOYEEGE' table from the 'BASEUNO' schema. The table has three columns: 'ID_EMPLOYEE', 'SALARY_EMPLOYEE', and 'ID_PERSON'. The data grid is currently empty. On the left, there's a 'Connections' tree view showing various schemas like CUSTOMER, EMAIL, and PERSON. Below it is a 'Reports' section with options like All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, and User Defined Reports.

- In this image you can see the table employeege in the Database with 20 employees registered but with the salary:

The screenshot shows the same Oracle SQL Developer interface as the previous one, but now the 'EMPLOYEEGE' table contains 20 rows of data. The data is as follows:

ID_EMPLOYEE	SALARY_EMPLOYEE	ID_PERSON
1	300000	0
2	700000	1
3	700000	2
4	700000	3
5	700000	4
6	700000	5
7	650000	6
8	680000	7
9	500000	8
10	640000	9
11	250000	11
12	320000	12
13	360000	13
14	410000	14
15	270000	15
16	310000	16
17	385000	17
18	290000	18
19	340000	19
20	235000	20

2. Delete one person.

- In these images you can see the table Person in the Database before the delete:

ID_PERSON	FIRST_NAME	IDENTITYCARD	SECOND_NAME	FIRST_SURNAME	SECOND_SURNAME	BIRTHDATE
1	0 Tamara	118750560	Nicole	Rodriguez	Luna	28-MAY-03
2	1 Melissa	119560234	Laura	Zarate	Lopez	15-APR-98
3	2 Catalina	202678512	Maria	Santana	Hernández	25-MAY-86
4	3 Alejandro	705689412	Sebastian	Fernández	Ortiz	13-SEP-07
5	4 Paula	306872354	Liliana	Perez	López	13-FEB-98
6	5 Ariana	603154786	Vanessa	Gonzalez	Molina	11-NOV-05
7	6 Isabel	452618723	Rosaura	Torres	Benavides	19-FEB-70
8	7 Kenneth	514896458	Ricardo	Ibarra	Vargas	17-AUG-99
9	8 Jezabel	789630412	Hillary	Morales	Barrera	27-OCT-07
10	9 Luis	402569871	Roberto	Rivera	Moaraga	16-DEC-02
11	11 Jeffrey	118670120	Daniel	Leiva	Cascante	21-MAR-03
12	12 Esteban	119872619	Alfredo	Perez	Caceres	22-APR-00
13	13 Andres	290871627	Eduardo	Villalobos	Sandi	31-DEC-87
14	14 Francisco	390812345	Franco	Sanchez	Ruben	12-JAN-99
15	15 Hilda	568909876	Heriberta	Robles	Torres	09-SEP-89
16	16 Carlos	435678901	Humberto	Flores	Valerio	07-JUL-98
17	17 James	189098762	Kevin	Valverde	Alpizar	01-SEP-00
18	18 Pedro	198098765	Pablo	Matarrita	Smith	03-DEC-96
19	19 Rachell	345987654	Maria	Bermudez	Salazar	10-MAR-98
20	20 Mariana	478985748	Steffany	Orozco	Campos	27-MAY-03
21	30 Johanny	112345678	David	Morales	Vega	11-JUL-82
22	31 Jeffry	119845679	Alexander	Aviles	Figueroa	14-JUN-89
23	32 Luciana	112345671	Yancy	Alfaro	Bonilla	09-JAN-01
24	33 Anabel	112398672	Elizabeth	Dario	Cisneros	23-JUL-04
25	34 Daniel	112345673	Armando	Castro	Jarquin	24-DEC-96
26	35 Jeannette	112345984	Sandra	Mora	Zamora	23-AUG-72
27	36 Kevin	112398675	Richard	Iglesias	Cerratti	12-SEP-85
28	37 Josette	112345676	Laurenth	Oreamuno	Jara	29-MAR-01
29	38 Fernando	198345677	Andres	Rojas	Loria	18-JUL-02
30	39 Katherine	119845681	Patricia	Carcamo	Heilo	15-APR-62
31	40 Paula	112345682	Digna	Jarquin	Altamirano	14-FEB-63
32	41 Iris	112398683	Tatiana	Chavarria	Montero	04-DEC-01
33	42 Loana	112345684	Emilia	Chavez	Alvarado	09-MAY-96
34	43 Fabricio	112345685	Mauro	Alvarado	Flores	04-APR-58
35	44 Luisa	112345686	Raquel	Romero	Cascante	12-APR-02
36	45 Hermione	198345687	Jean	Granger	Weasley	03-FEB-62

- In this image you can see the table Person in the Database after the delete:

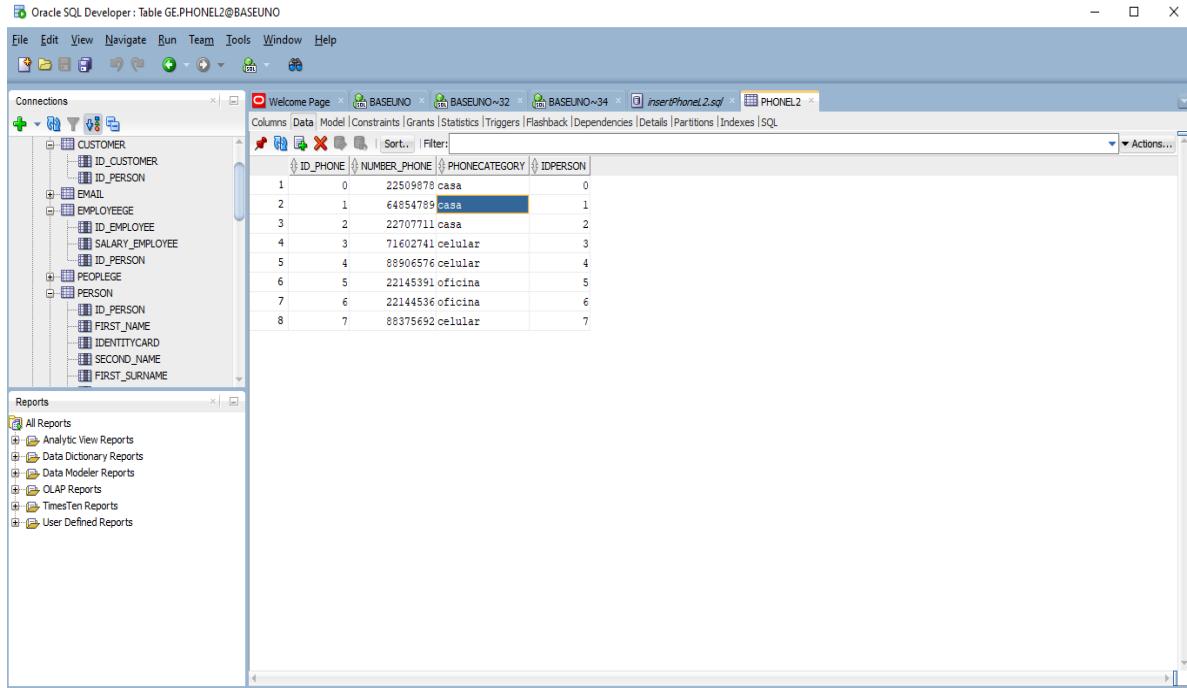
ID_PERSON	FIRST_NAME	IDENTITYCARD	SECOND_NAME	FIRST_SURNAME	SECOND_SURNAME	BIRTHDATE
11	9 Luis	402569871	Roberto	Rivera	Moaraga	16-DEC-02
12	11 Jeffrey	118670120	Daniel	Leiva	Cascante	21-MAR-03
13	12 Esteban	119872619	Alfredo	Perez	Caceres	22-APR-00
14	13 Andres	290871627	Eduardo	Villalobos	Sandi	31-DEC-87
15	14 Francisco	390812345	Franco	Sanchez	Ruben	12-JAN-99
16	15 Hilda	568909876	Heriberto	Robles	Torres	09-SEP-89
17	16 Carlos	435678901	Humberto	Flores	Valerio	07-JUL-98
18	17 James	189098762	Kevin	Valverde	Alpizar	01-SEP-00
19	18 Pedro	198098765	Pablo	Matarita	Smith	03-DEC-96
20	19 Rachell	345987654	Maria	Bermudez	Salazar	10-MAR-98
21	30 Johanny	112345678	David	Morales	Vega	11-JUL-82
22	31 Jeffry	119845679	Alexander	Avilés	Figueroa	14-JUN-89
23	32 Luciana	112345671	Yancy	Alfaro	Bonilla	09-JAN-01
24	33 Anabel	112398672	Elizabeth	Dario	Cisneros	23-JUL-04
25	34 Daniel	112345673	Armando	Castro	Jarquin	24-DEC-96
26	35 Jeannette	112345984	Sandra	Mora	Zamora	23-AUG-72
27	36 Kevin	112398675	Richard	Iglesias	Cerratti	12-SEP-85
28	37 Josette	112345676	Laurenth	Oreamuno	Jara	29-MAR-01
29	38 Fernando	198345677	Andres	Rojas	Loria	18-JUL-02
30	39 Katherine	119845681	Patricia	Carcamo	Heilo	15-APR-62
31	40 Paula	112345682	Digna	Jarquin	Altamirano	14-FEB-63
32	41 Iris	112398683	Tatiana	Chavarria	Montero	04-DEC-01
33	42 Loana	112345684	Emilia	Chavez	Alvarado	09-MAY-96
34	43 Fabricio	112345685	Mauro	Alvarado	Flores	04-APR-58
35	44 Luisa	112345686	Raquel	Romero	Cascante	12-APR-02

- Register 8 phones with phone type including 'Casa', 'Celular', 'Oficina' and model so that more phone types can be included.

- In this image you can see the table phone in the Database empty:

ID_PHONE	NUMBER...	PHONECA...	IDPERSON

- In this image you can see the table phone in the Database with 8 registers:

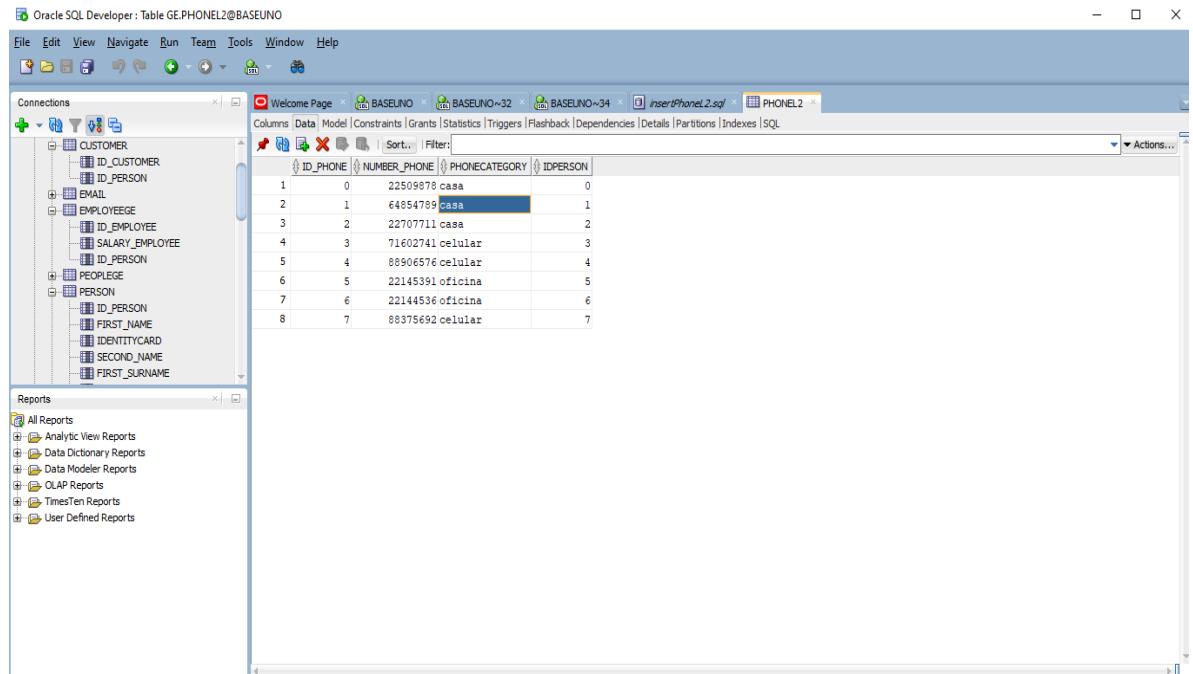


The screenshot shows the Oracle SQL Developer interface. On the left, the Connections tree shows several database connections. In the center, the PHONEL2 table is displayed in a grid format. The table has four columns: ID_PHONE, NUMBER_PHONE, PHONECATEGORY, and IDPERSON. The data consists of 8 rows:

ID_PHONE	NUMBER_PHONE	PHONECATEGORY	IDPERSON
1	0	22509878 casa	0
2	1	64854789 casa	1
3	2	22707711 casa	2
4	3	71602741 celular	3
5	4	88906576 celular	4
6	5	22145391 oficina	5
7	6	22144536 oficina	6
8	7	88375692 celular	7

4. Delete one phone:

- In this image you can see the table phone in the Database before the delete:



This screenshot is identical to the one above, showing the Oracle SQL Developer interface with the PHONEL2 table containing 8 rows. The data is the same as in the previous screenshot.

- In this image you can see the table phone in the Database after the delete:

The screenshot shows the Oracle SQL Developer interface with the following details:

- Connections:** A tree view showing various database objects like SECOND_SURNAMES, BIRTHDATE, PHONE, PHONECATEGORY, and PHONECATEGORY.
- Reports:** A list of available reports including All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, and User Defined Reports.
- Table View:** The PHONE table is displayed with the following data:

ID_PHONE	NUMBER_PHONE	PHONECATEGORY	IDPERSON	
1	0	22509878	casa	0
2	2	22707711	casa	2
3	3	71602741	celular	3
4	4	88906576	celular	4
5	5	22145391	oficina	5
6	6	22144536	oficina	6
7	7	88375692	celular	7

5. Delete a person who has associated phones. What's going on? Justify your response.

- In this image you can see the error that occurred while we were trying to eliminate a person with associated telephones, because if the database gives us the possibility to do so, the telephone will be left loose without having a person to whom it belongs and would be to have 'data floating' in our system.

The screenshot shows the Oracle SQL Developer interface with the following details:

- Connections:** A tree view showing various database objects like SALARY_EMPLOYEE, ID_PERSON, PEOPLE, PERSON, and PHONE.
- SQL Worksheet:** The query `delete from person where id_person = 7;` is entered in the worksheet.
- Script Output:** The output shows the following error message:

```
Error starting at line : 1 in command -
delete from person where id_person = 7
Error report -
ORA-02292: integrity constraint (GE.FK_EMPLOYEEAD) violated - child record found
```

6. Update a person to change her name to 'Marcela'.

- In this image you can see the table person in the Database before the change:

The screenshot shows the Oracle SQL Developer interface with the 'PERSON' table selected. The table structure is as follows:

ID_PERSON	FIRST_NAME	IDENTITYCARD	SECOND_NAME	FIRST_SURNAME	SECOND_SURNAME	BIRTHDATE
1	0 Tamara	118750560	Nicole	Rodriguez	Luna	28-MAY-03
2	1 Melissa	119560234	Laura	Zarate	Lopez	15-APR-98
3	2 Catalina	202678512	Maria	Santana	Hernández	25-MAY-86
4	3 Alejandro	705689412	Sebastian	Fernández	Ortiz	13-SEP-07
5	4 Paula	306872354	Liliana	Perez	López	13-FEB-98
6	5 Ariana	603154786	Vanessa	Gonzalez	Molina	11-NOV-05
7	6 Isabel	452618723	Rosaura	Torres	Benavides	19-FEB-70
8	7 Kenneth	514896450	Ricardo	Ibarra	Vargas	17-AUG-99
9	8 Jezabel	789630412	Hillary	Morales	Barrera	27-OCT-07
10	9 Luis	402569871	Roberto	Rivera	Moaraga	16-DEC-02
11	11 Jeffrey	118670120	Daniel	Leiva	Cascante	21-MAR-03
12	12 Esteban	119872619	Alfredo	Perez	Caceres	22-APR-00
13	13 Andres	290871627	Eduardo	Villalobos	Sandi	31-DEC-87
14	14 Francisco	390812345	Franco	Sanchez	Ruben	12-JAN-99
15	15 Hilda	568909876	Heriberta	Robles	Torres	09-SEP-89
16	16 Carlos	435678901	Humberto	Flores	Valerio	07-JUL-98
17	17 James	189098762	Kevin	Valverde	Alpizar	01-SEP-00
18	18 Pedro	198098765	Pablo	Matarriza	Smith	03-DEC-96
19	19 Rachell	345987654	Maria	Bermudez	Salazar	10-MAR-98
20	30 Johnny	112345679	David	Morales	Vega	11-JUL-82
21	31 Jeffry	119845679	Alexander	Aviles	Figueroa	14-JUN-89
22	32 Luciana	112345671	Yancy	Alfaro	Bonilla	09-JAN-01
23	33 Anabel	112398672	Elizabeth	Dario	Cisneros	23-JUL-04
24	34 Daniel	112345673	Armando	Castro	Jarquin	24-DEC-96
25	35 Jeannette	112345984	Sandra	Mora	Zamora	23-AUG-72
26	36 Maria	112345678	Paulina	Campos	10-SEP-88	

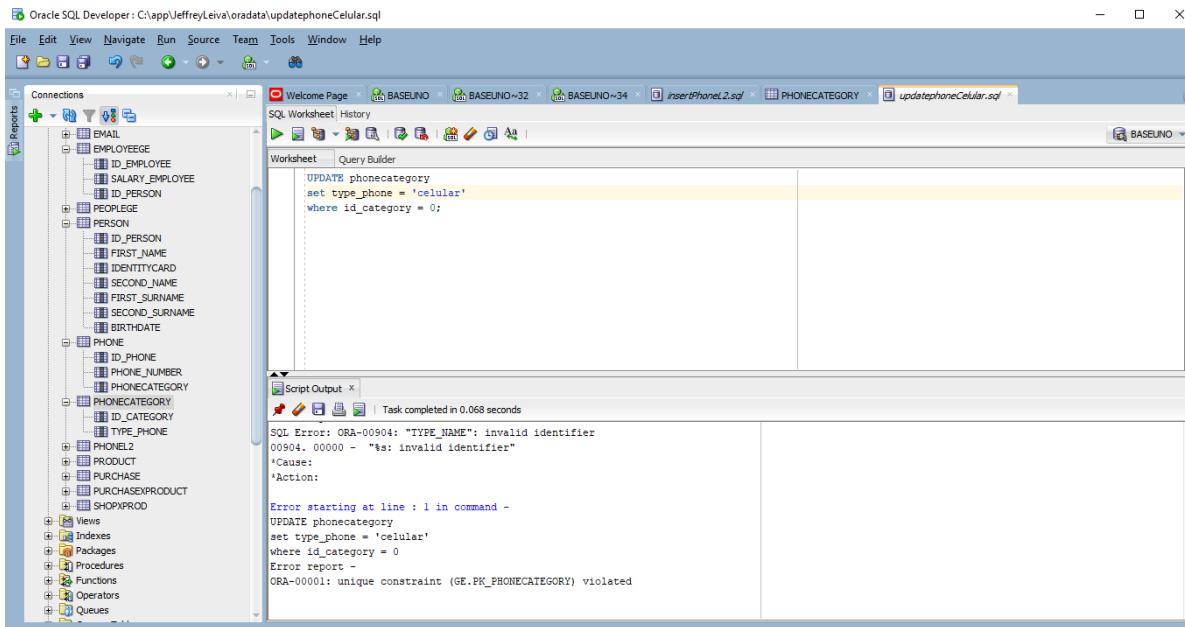
- In this image you can see the table person in the Database after the change:

The screenshot shows the Oracle SQL Developer interface with the 'PERSON' table selected. The table structure is identical to the previous one. The difference is in the data for row 3, where the first name has been changed from 'Catalina' to 'Marcela'.

ID_PERSON	FIRST_NAME	IDENTITYCARD	SECOND_NAME	FIRST_SURNAME	SECOND_SURNAME	BIRTHDATE
1	0 Tamara	118750560	Nicole	Rodriguez	Luna	28-MAY-03
2	1 Melissa	119560234	Laura	Zarate	Lopez	15-APR-98
3	2 Marcela	202678512	Maria	Santana	Hernández	25-MAY-86
4	3 Alejandro	705689412	Sebastian	Fernández	Ortiz	13-SEP-07
5	4 Paula	306872354	Liliana	Perez	López	13-FEB-98
6	5 Ariana	603154786	Vanessa	Gonzalez	Molina	11-NOV-05
7	6 Isabel	452618723	Rosaura	Torres	Benavides	19-FEB-70
8	7 Kenneth	514896450	Ricardo	Ibarra	Vargas	17-AUG-99
9	8 Jezabel	789630412	Hillary	Morales	Barrera	27-OCT-07
10	9 Luis	402569871	Roberto	Rivera	Moaraga	16-DEC-02
11	11 Jeffrey	118670120	Daniel	Leiva	Cascante	21-MAR-03
12	12 Esteban	119872619	Alfredo	Perez	Caceres	22-APR-00
13	13 Andres	290871627	Eduardo	Villalobos	Sandi	31-DEC-87
14	14 Francisco	390812345	Franco	Sanchez	Ruben	12-JAN-99
15	15 Hilda	568909876	Heriberta	Robles	Torres	09-SEP-89
16	16 Carlos	435678901	Humberto	Flores	Valerio	07-JUL-98
17	17 James	189098762	Kevin	Valverde	Alpizar	01-SEP-00
18	18 Pedro	198098765	Pablo	Matarriza	Smith	03-DEC-96
19	19 Rachell	345987654	Maria	Bermudez	Salazar	10-MAR-98
20	30 Johnny	112345678	David	Morales	Vega	11-JUL-82
21	31 Jeffry	119845679	Alexander	Aviles	Figueroa	14-JUN-89
22	32 Luciana	112345671	Yancy	Alfaro	Bonilla	09-JAN-01
23	33 Anabel	112398672	Elizabeth	Dario	Cisneros	23-JUL-04
24	34 Daniel	112345673	Armando	Castro	Jarquin	24-DEC-96
25	35 Jeannette	112345984	Sandra	Mora	Zamora	23-AUG-72
26	36 Maria	112345678	Paulina	Campos	10-SEP-88	

7. Update a phone type to rename it to ‘Celular’.

- In this image you can see the error that occurred while we tried to update a type of phone and rename it to cell phone, because if the database gives us the possibility to do so, the already existing category called cell phone would be overwritten and would have a problem of data integrity since when called the same we would not know what type we are referring to. It would cause many problems when making queries and for the people who manage the data, they will not know what type to enter the data, also allowing repeated data.



The screenshot shows the Oracle SQL Developer interface. On the left is the Object Navigator pane, which contains a tree view of database objects including EMPLOYEE, PERSON, PHONE, and PHONECATEGORY. The PHONECATEGORY node is expanded, showing ID_CATEGORY, TYPE_PHONE, and PHONECAT. In the center is the Worksheet pane, which displays the following SQL code:

```
UPDATE phonecategory
set type_phone = 'celular'
where id_category = 0;
```

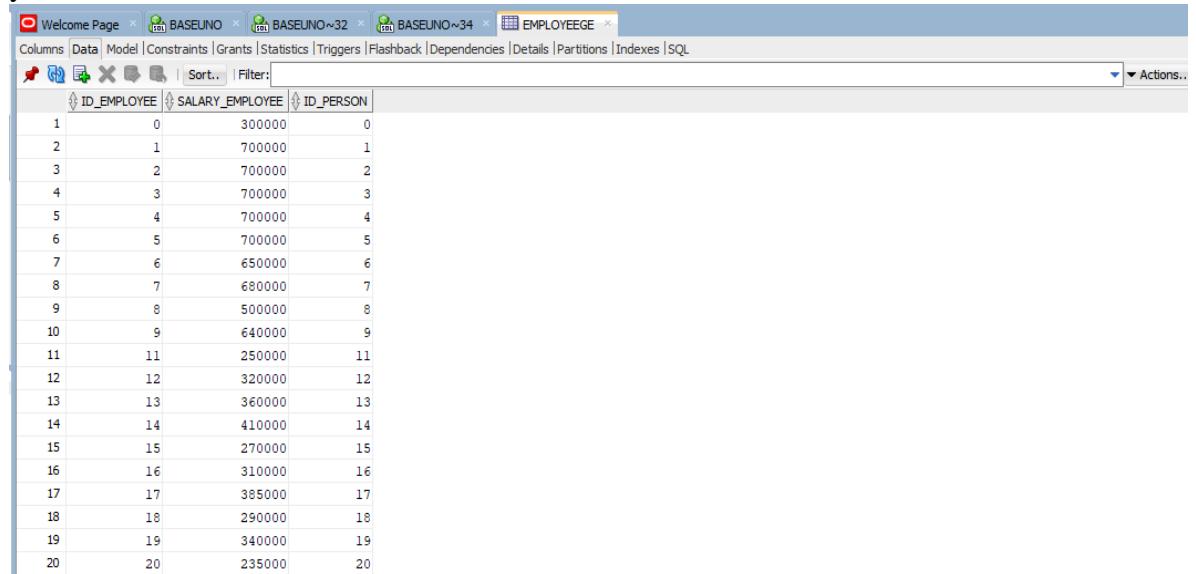
Below the worksheet is the Script Output pane, which shows the following error message:

```
SQL Error: ORA-00904: "TYPE_NAME": invalid identifier
00904. 00000 -  "%s: invalid identifier"
*Cause:
*Action:

Error starting at line : 1 in command -
UPDATE phonecategory
set type_phone = 'celular'
where id_category = 0
Error report -
ORA-00001: unique constraint (GE.PK_PHONECATEGORY) violated
```

8. Increase the salary by 15% to people who are over 30 years old.

- In this image you can see the table employeege in the Database with 20 employees registered but without the increase in the salary 15% to people who are over 30 years old:



The screenshot shows the Oracle SQL Developer interface with the EMPLOYEEGE table selected. The table has four columns: ID_EMPLOYEE, SALARY_EMPLOYEE, and ID_PERSON. The data for all 20 rows is as follows:

	ID_EMPLOYEE	SALARY_EMPLOYEE	ID_PERSON
1	0	300000	0
2	1	700000	1
3	2	700000	2
4	3	700000	3
5	4	700000	4
6	5	700000	5
7	6	650000	6
8	7	680000	7
9	8	500000	8
10	9	640000	9
11	11	250000	11
12	12	320000	12
13	13	360000	13
14	14	410000	14
15	15	270000	15
16	16	310000	16
17	17	385000	17
18	18	290000	18
19	19	340000	19
20	20	235000	20

- In this image you can see the table employeege in the Database with 20 employees registered but with the increase in the salary 15% to people who are over 30 years old:

Oracle SQL Developer : Table GE.EMPLOYEEGE@BASEUNO

File Edit View Navigate Run Team Tools Window Help

Connections Oracle Connections BASEUNO Tables (Filtered) CUSTOMER EMAIL EMPLOYEE ID_EMPLOYEE SALARY_EMPLOYEE ID_PERSON BIRTHDAY_EMPLOYEE PEOPLE PERSON ID_PERSON FIRST_NAME IDENTITYCARD SECOND_NAME FIRST_SURNAME SECOND_SURNAME BIRTHDATE PHONE PHONECATEGORY PHONEL2 PRODUCT PURCHASE PURCHASEXPRODUCT SHOPXPROD Views Indexes Packages Procedures Functions Operators Queues

Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL Actions...

ID_EMPLOYEE	SALARY_EMPLOYEE	ID_PERSON	BIRTHDAY_EMPLOYEE
1	20	235000	20 27-MAY-03
2	0	300000	0 28-MAY-03
3	1	700000	1 15-APR-98
4	2	805000	2 25-MAY-86
5	3	700000	3 13-SEP-07
6	4	700000	4 13-FEB-98
7	5	700000	5 11-NOV-05
8	6	747500	6 19-FEB-70
9	7	680000	7 17-AUG-59
10	8	500000	8 27-OCT-07
11	9	640000	5 16-DEC-02
12	11	250000	11 21-MAR-03
13	12	320000	12 22-APR-00
14	13	414000	13 31-DEC-87
15	14	410000	14 12-JAN-99
16	15	310500	15 09-SEP-59
17	16	310000	16 07-JUL-98
18	17	385000	17 01-SEP-00
19	18	290000	18 03-DEC-96
20	19	340000	19 10-MAR-98

9. Assign 15 people to be customers.

- In this image you can see the table customer in the Database empty:

Oracle SQL Developer

File Edit View Navigate Run Team Tools Window Help

Connections Oracle Connections BASEUNO Tables (Filtered) CUSTOMER EMAIL IDEMAIL ADDRESSEMAIL IDPERSON EMPLOYEE ID_EMPLOYEE SALARY_EMPLOYEE ID_PERSON PEOPLE Reports All Reports Analytic View Reports Data Dictionary Reports Data Modeler Reports OLAP Reports TimesTen Reports User Defined Reports

Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL Actions...

ID_CUSTOMER	ID_PERSON
1	1
2	2

- In this image you can see the table customer in the Database with 15 customer registered:

Oracle SQL Developer : Table GE.CUSTOMER@BASEUNO

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Connections Oracle Connections BASEUNO Tables (Filtered) CUSTOMER EMAIL EMPLOYEE ID_EMPLOYEE ID_PERSON ID_SALARY_EMPLOYEE PEOPLE PERSON ID_PERSON FIRST_NAME IDENTITYCARD SECOND_NAME FIRST_SURNAME SECOND_SURNAME BIRTHDATE PHONE ID_PHONE PHONE_NUMBER PHONECATEGORY PHONEL2 ID_CATEGORY TYPE_PHONE PRODUCT PURCHASE PURCHASENPRODUCT SHOPXPROD Views Indexes Packages

Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL Actions... Sort... Filter: ID_CUSTOMER ID_PERSON

ID_CUSTOMER	ID_PERSON	
1	0	30
2	1	31
3	2	32
4	3	33
5	4	34
6	5	35
7	6	36
8	7	37
9	8	38
10	9	39
11	10	40
12	11	41
13	12	42
14	13	43
15	14	44
16	15	45

10. Create 15 products.

- In this image you can see the table product in the Database empty:

Oracle SQL Developer

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Connections Oracle Connections BASEUNO Tables (Filtered) PRODUCT Reports All Reports Analytic View Reports Data Dictionary Reports Data Modeler Reports OLAP Reports TimesTen Reports User Defined Reports

Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL Actions... Sort... Filter: IDPRODUCT NAMEPRODUCT PRICEPRODUCT

IDPRODUCT	NAMEPRODUCT	PRICEPRODUCT	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

- In this image you can see the table customer in the Database with 15 products created:

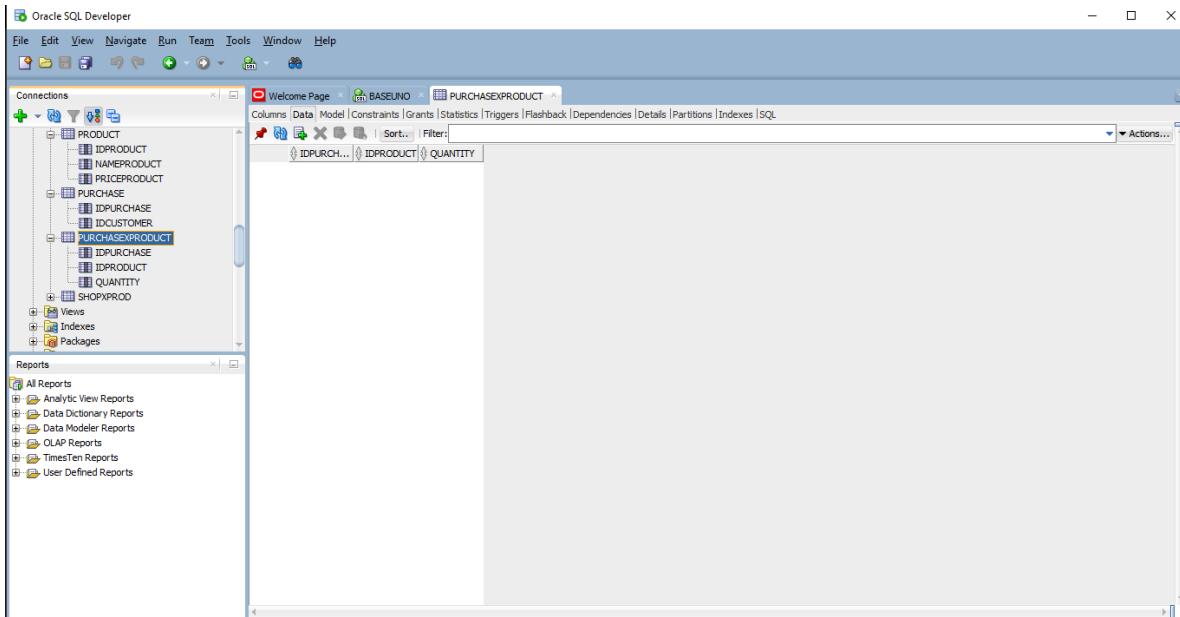
The screenshot shows the Oracle SQL Developer interface with the 'PRODUCT' table selected. The table has three columns: IDPRODUCT, NAMEPRODUCT, and PRICEPRODUCT. The data is as follows:

IDPRODUCT	NAMEPRODUCT	PRICEPRODUCT
1	0 Suaviteil	2000
2	1 Axion	1000
3	2 Cuaderno	2000
4	3 Lapicero	200
5	4 Borrador	500
6	5 Tajador	400
7	6 Corrector	600
8	7 Folder	1500
9	8 Salchicha	500
10	9 Mortadela	1600
11	10 Salchichon	1200
12	11 Queso	4000
13	12 Aceitunas	5000
14	13 Papas	700
15	14 Picaritas	600
16	15 Paleta	200

11. Create purchases for 7 customers. At least 5 of them must have more than 2 purchases and more than 1 product per purchase.

- In these images you can see the tables purchase and purchasexproduct in the Database empty:

The screenshot shows the Oracle SQL Developer interface with the 'PURCHASE' table selected. The table has four columns: IDPURCHASE, IDCUSTOMER, IDPRODUCT, and QUANTITY. There is no data in the table.



- In these images you can see the tables with the changes:

This screenshot shows the Oracle SQL Developer interface with multiple tabs open. The 'PURCHASE' tab is active, displaying the structure of the PURCHASE table with columns IDPURCHASE and IDCUSTOMER. The data grid shows 19 rows of sample data. Other tabs visible include 'Welcome Page', 'BASELINO', 'BASELINO~32', 'BASELINO~34', 'insertPhone12.sql', 'employeeRaise.sql', and 'Purchase'. The left sidebar shows the 'Connections' tree with various schema objects like FIRST_SURNAME, SECOND_SURNAME, BIRTHDATE, PHONE, PHONECATEGORY, and PRODUCT.

IDPURCHASE	IDCUSTOMER
1	0
2	1
3	2
4	3
5	4
6	5
7	6
8	7
9	8
10	9
11	10
12	11
13	12
14	13
15	14
16	16
17	17
18	18
19	19

The screenshot shows the Oracle SQL Developer interface. On the left is the Connections tree, which includes tables like FIRST_SURNAME, PHONE, and PURCHASEXPRODUCT. The main area displays the PURCHASEXPRODUCT table with the following data:

IDPURCHASE	IDPRODUCT	QUANTITY
1	0	2
2	1	2
3	2	2
4	3	2
5	4	2
6	5	2
7	6	3
8	7	4
9	8	2
10	9	5
11	10	3
12	11	2
13	12	6
14	13	6
15	14	2
16	15	3
17	16	2
18	17	3
19	18	5

12. Change the datatype of a column that already has data. What's going on?

- In this image you can see the error that occurred while we tried modified a column with data. For this change the column must be empty, it must not contain stored data. In this case we wanted to go from the data type of numbers to text strings and it prevented us, to maintain the integrity of the data already stored and that there is no data out of the ordinary in a column.

The screenshot shows the Oracle SQL Developer interface with a SQL Worksheet tab open. The worksheet contains the following SQL code:

```
ALTER TABLE phoneL2
MODIFY number_phone VARCHAR2(25)
```

The Script Output window shows the following error message:

```
00905. 00000 - "missing keyword"
*Cause:
*Action:

Error starting at line : 1 in command -
ALTER TABLE phoneL2
MODIFY number_phone VARCHAR2(25)
Error report
ORA-01439: column to be modified must be empty to change datatype
01439. 00000 - "column to be modified must be empty to change datatype"
*Cause:
*Action:
```