Laboratory 02

Jeffrey Daniel Leiva Cascante

Tamara Nicole Rodríguez Luna

Computer engineering department, Tecnológico de Costa Rica

IC4301 – Databases I

Teacher: Msc. Adriana Álvarez Figueroa.

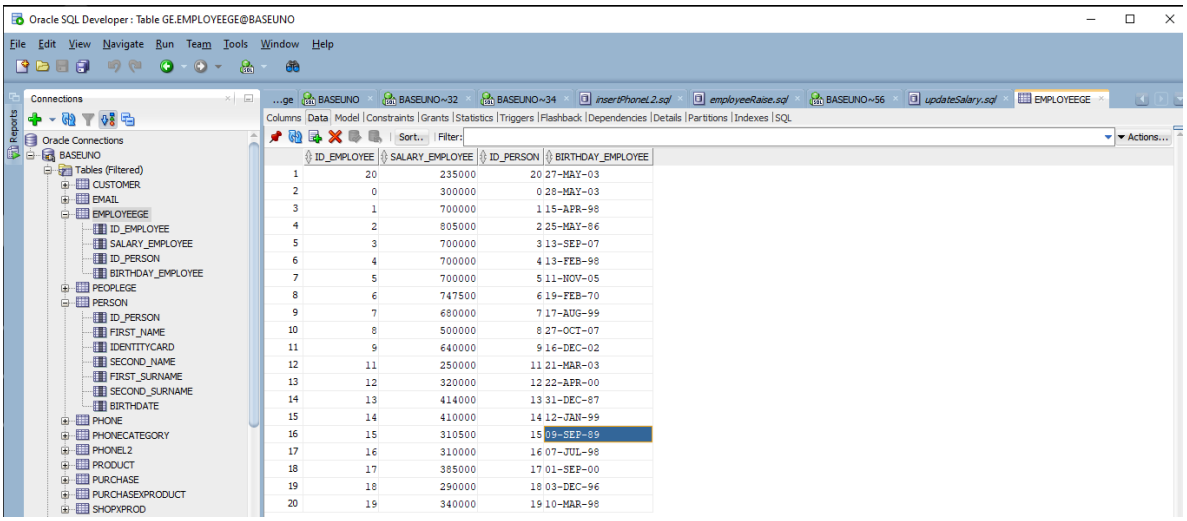
September 09th 2022.

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:



- 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:

	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	María	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:

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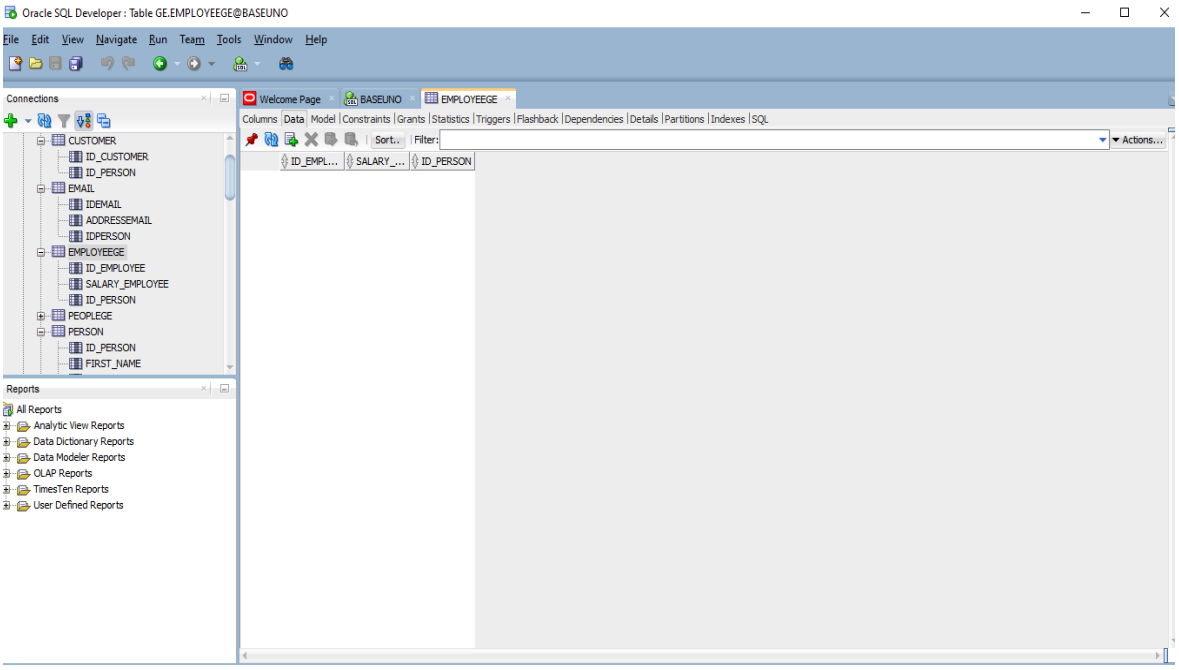
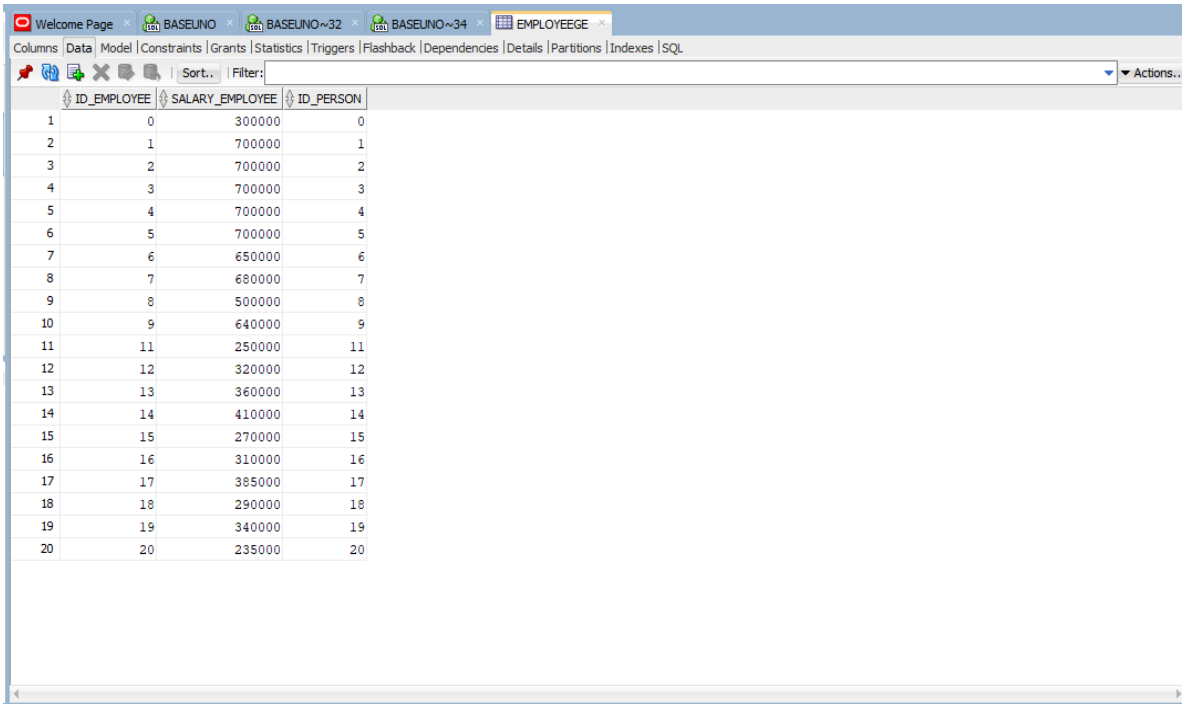


- In this image you can see the table employeege in the Database with 20 employees registered but with the salary:



	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

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	Rodríguez	Luna	28-MAY-03
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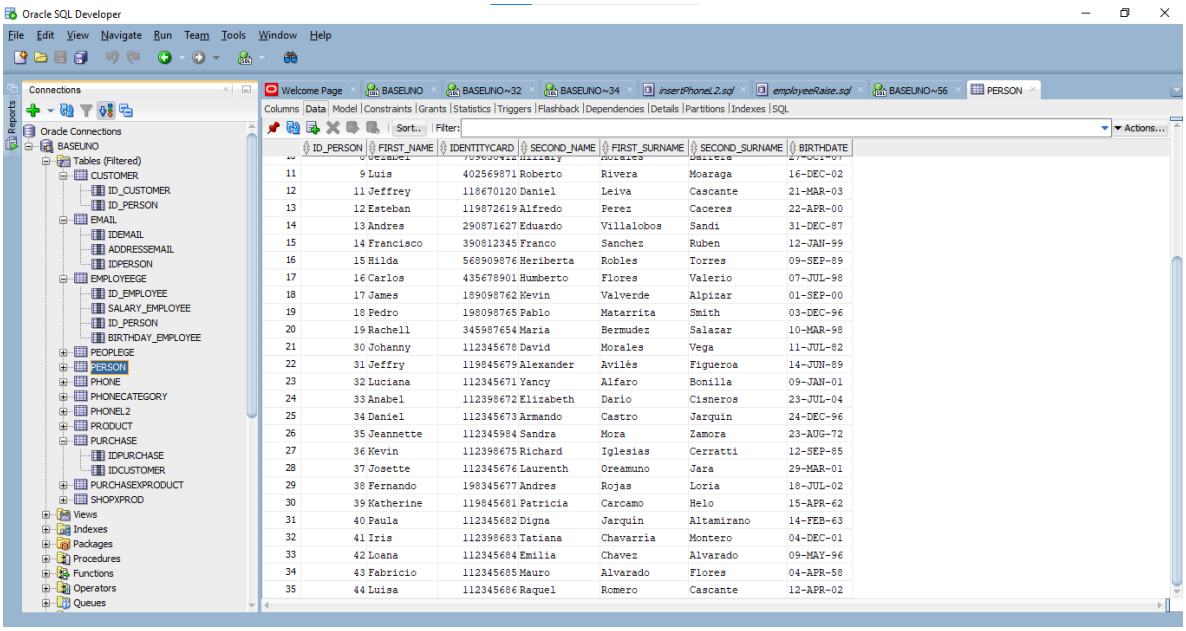
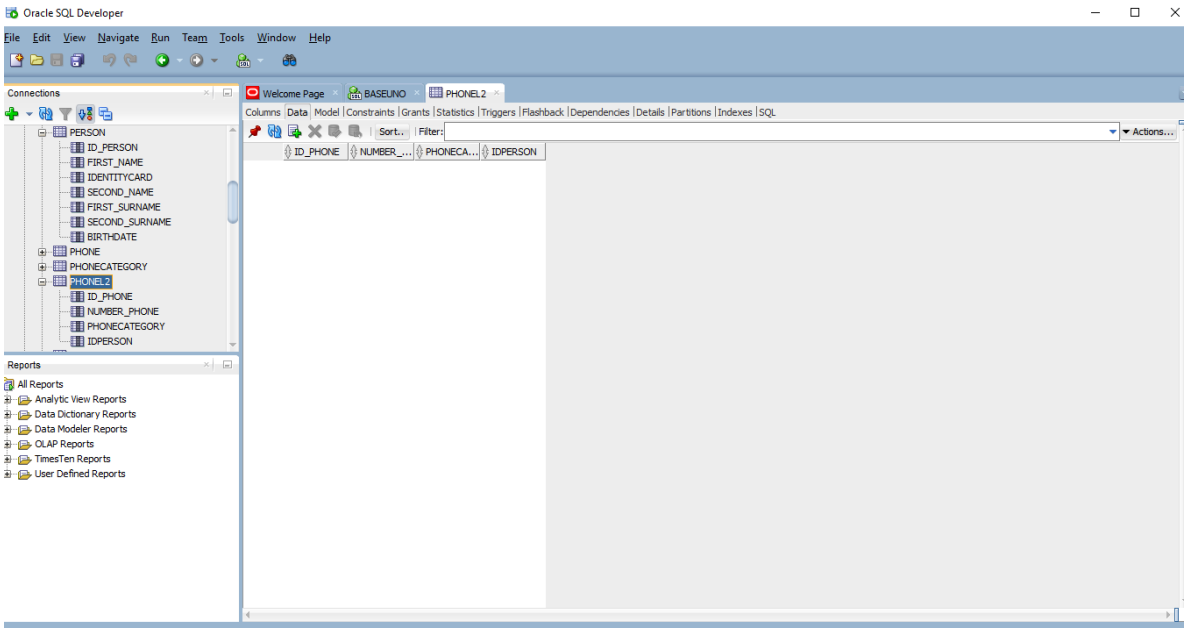
16	16	Carlos	435678901	Humberto	Flores	Valerio	07-JUL-98
17	17	James	189098762	Kevin	Valverde	Alpizar	01-SEP-00
18	18	Pedro	198098765	Pablo	Matarrita	Smith	03-DEC-96
19	19	Rachell	345987654	Maria	Bermudez	Salazar	10-MAR-98
20	20	Mariana	478985748	Steffany	Orozco	Campos	27-MAY-03
21	30	Johanny	112345678	David	Morales	Vega	11-JUL-82
22	31	Jeffry	119845679	Alexander	Avilés	Figueroa	14-JUN-89
23	32	Luciana	112345671	Yancy	Alfaro	Bonilla	09-JAN-01
24	33	Anabel	112398672	Elizabeth	Darío	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	Helo	15-APR-62
31	40	Paula	112345682	Digna	Jarquín	Altamirano	14-FEB-63
32	41	Iris	112398683	Tatiana	Chavarría	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:

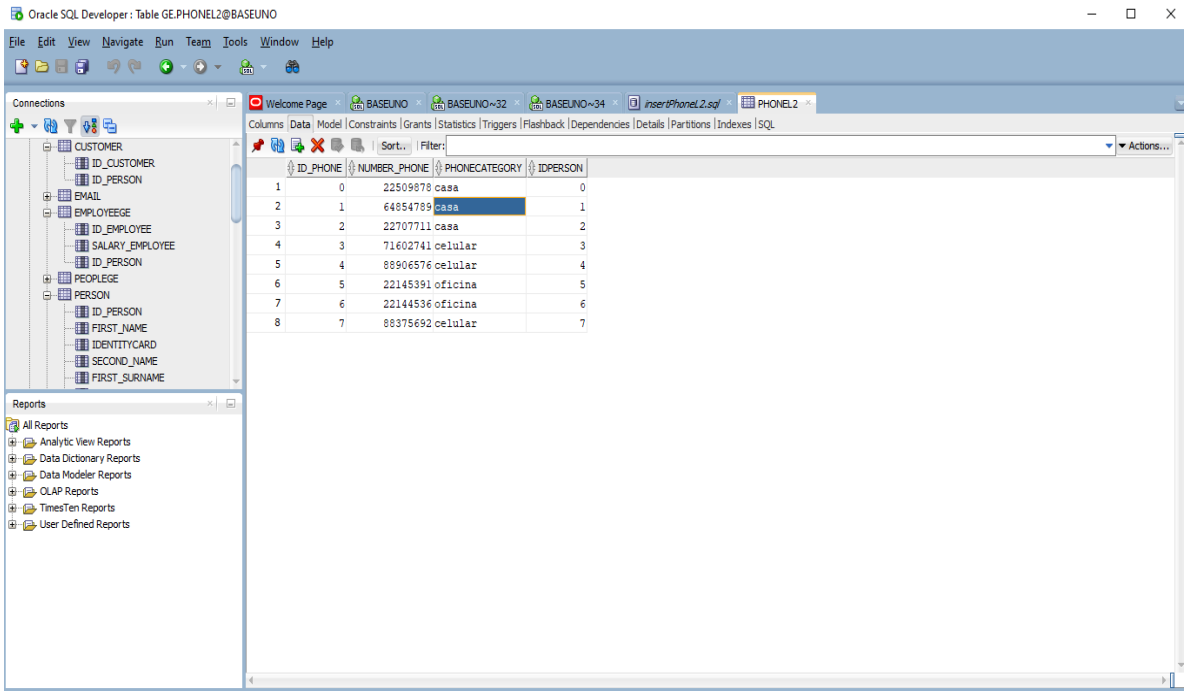


3. Register 8 phones with phone type including 'Casa', 'Celular', 'Oficina' and model so that more phone types can be included.

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

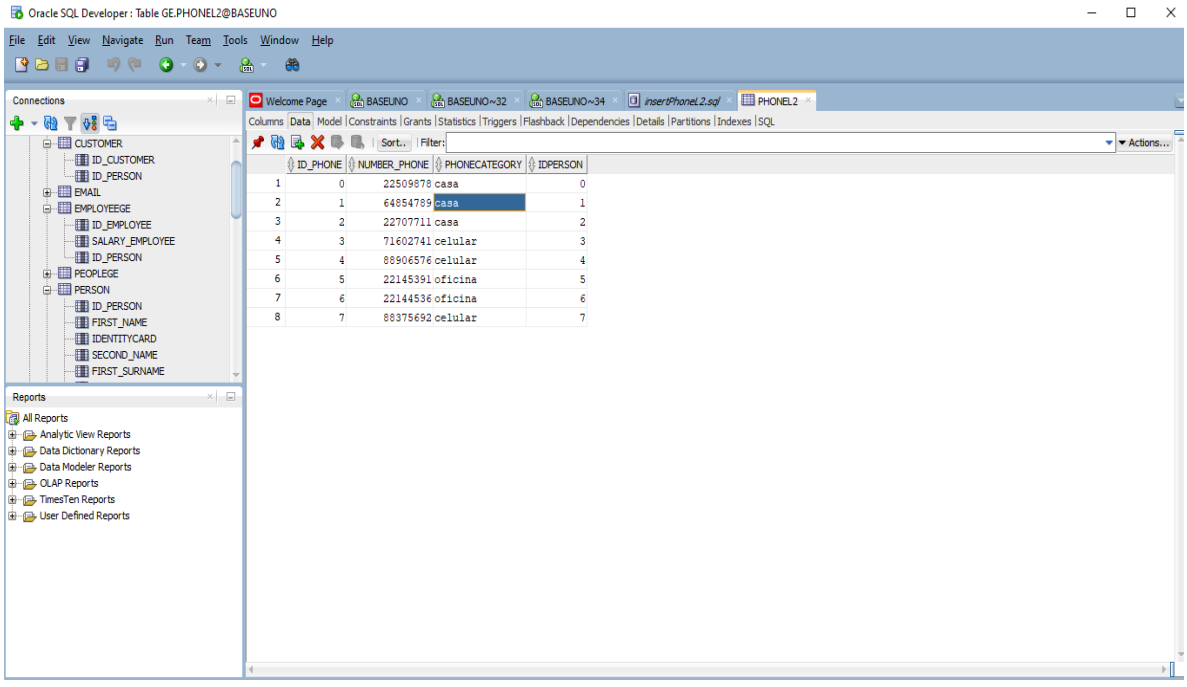


- In this image you can see the table phone in the Database with 8 registers:

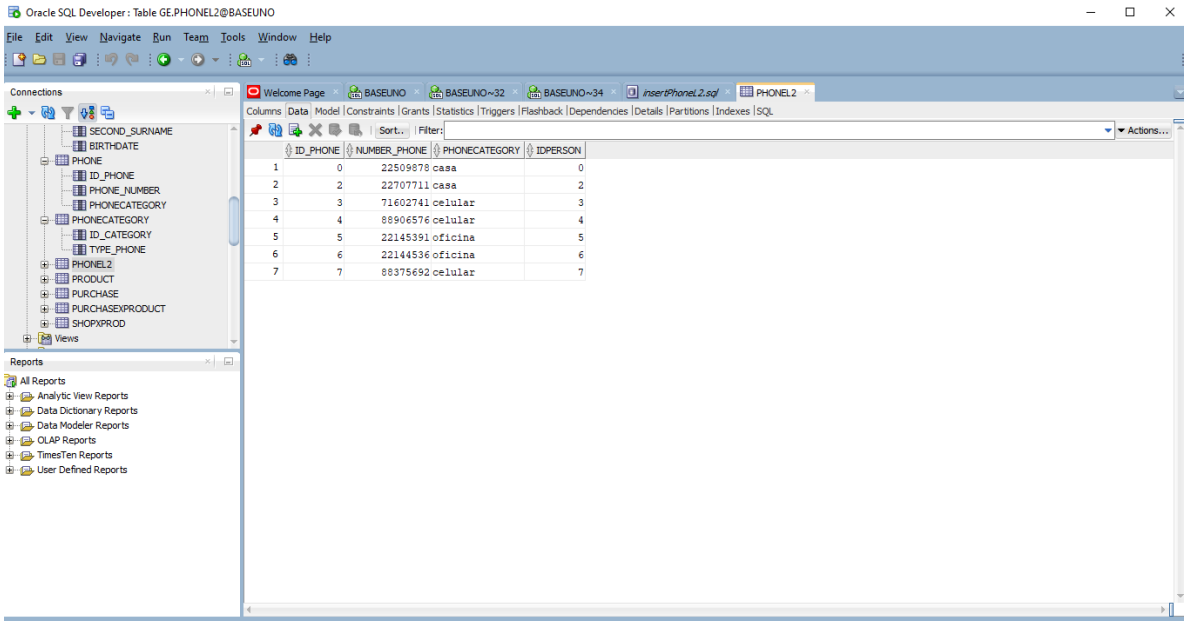


4. Delete one phone:

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

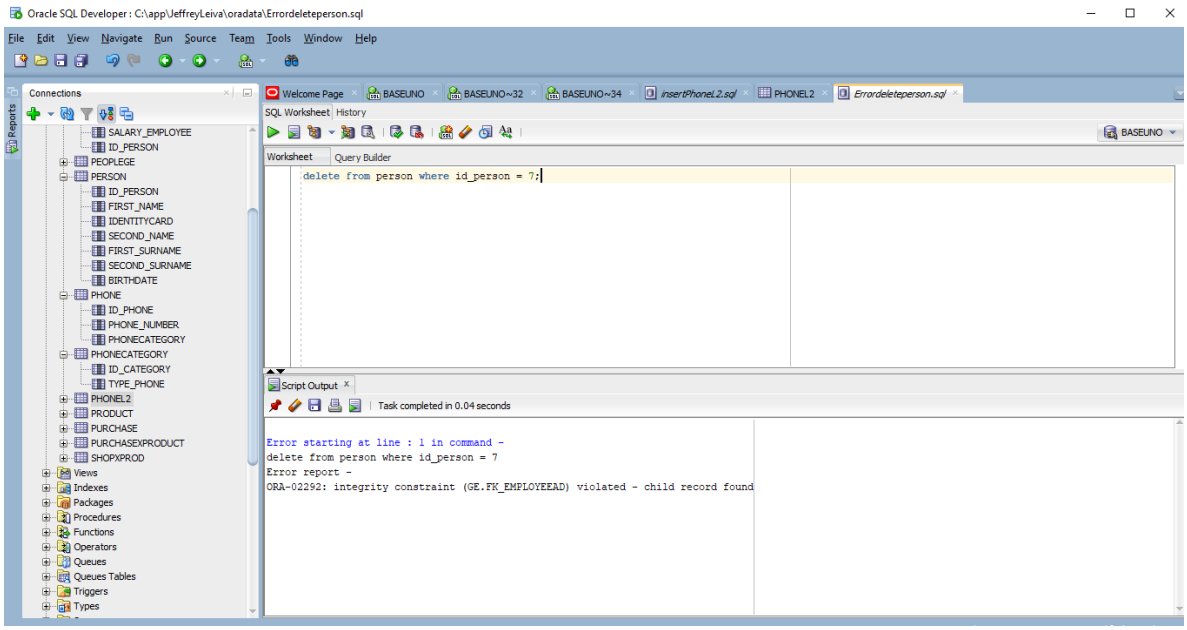


- In this image you can see the table phone in the Database after the delete:



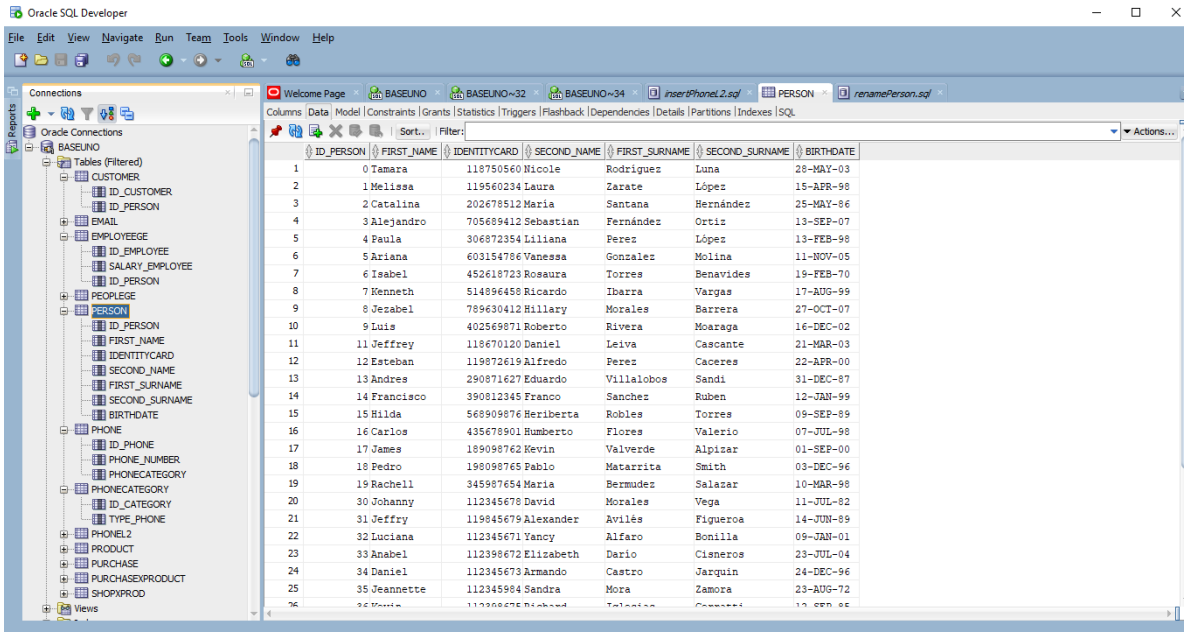
5. Delete a person who has associated phones. What's going on? Justify your response.

- In this image you can see the error that occurred while when 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.

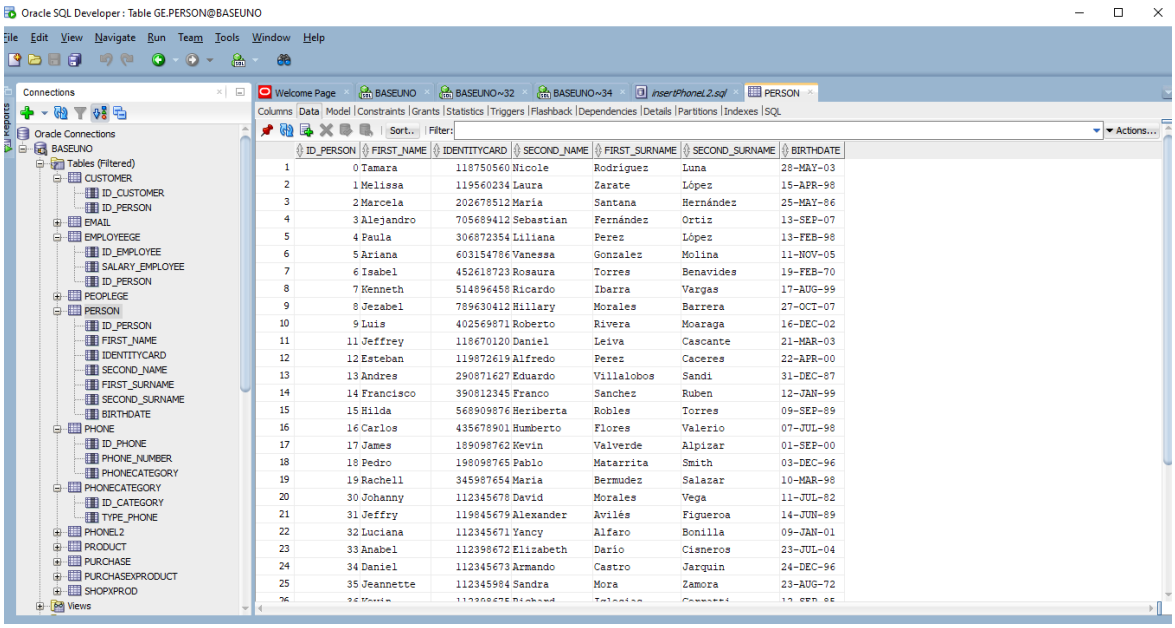


6. Update a person to change her name to 'Marcela'.

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

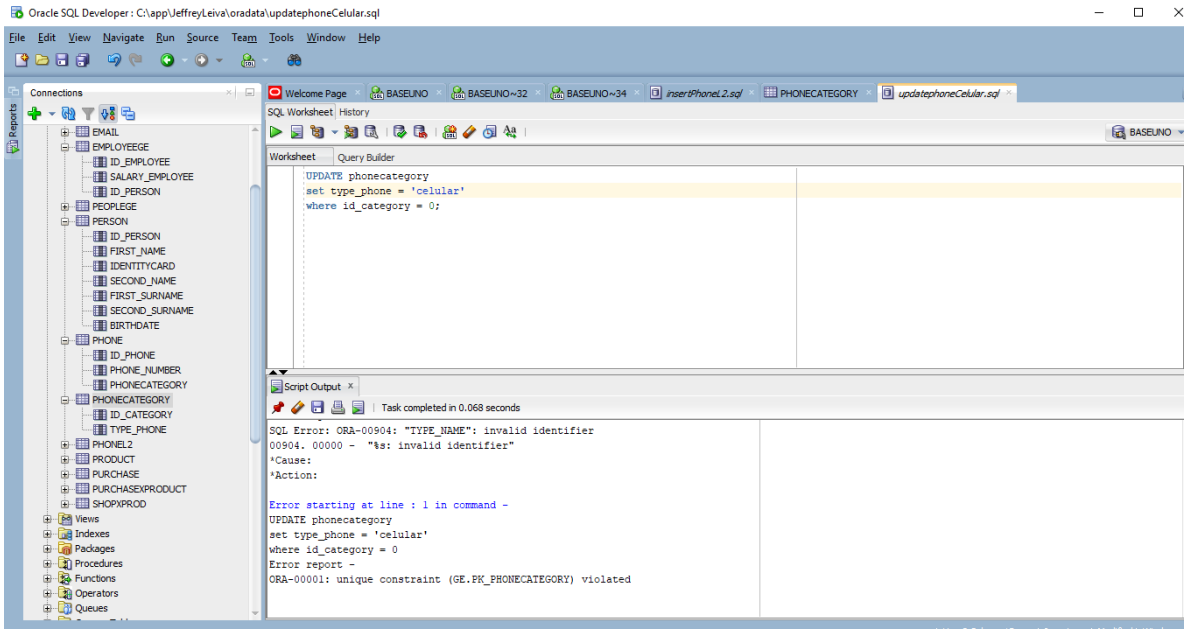


- In this image you can see the table person in the Database after the change:



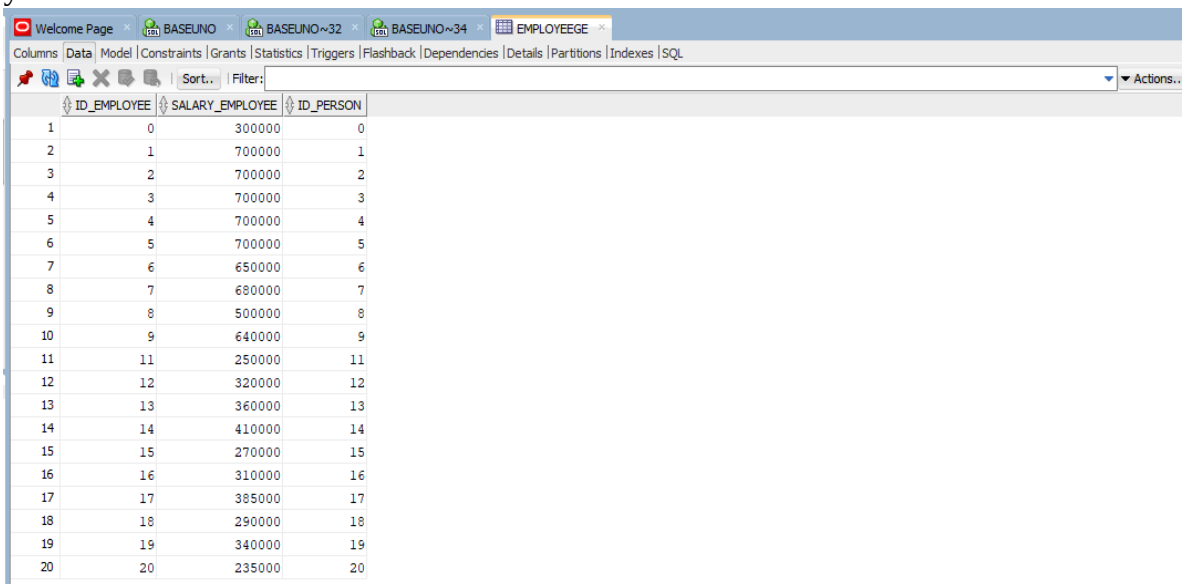
7. Update a phone type to rename it to ‘Celular’.

- 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.



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:



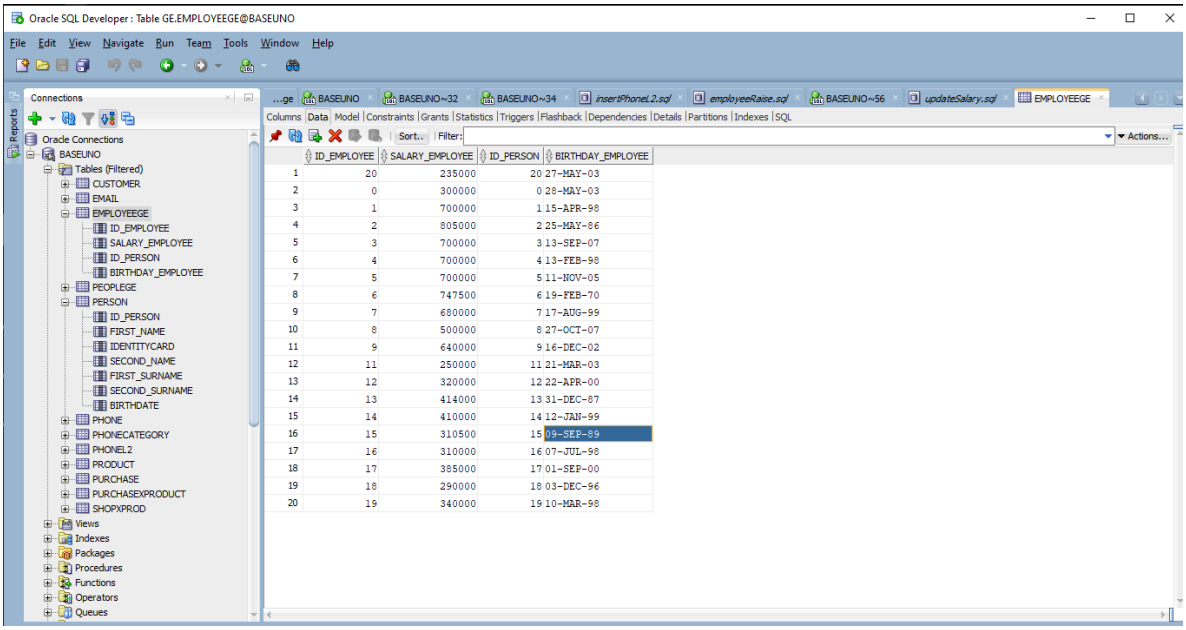
Welcome Page | BASEUNO | BASEUNO~32 | BASEUNO~34 | EMPLOYEEGE

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

Sort.. | Filter: | Actions...

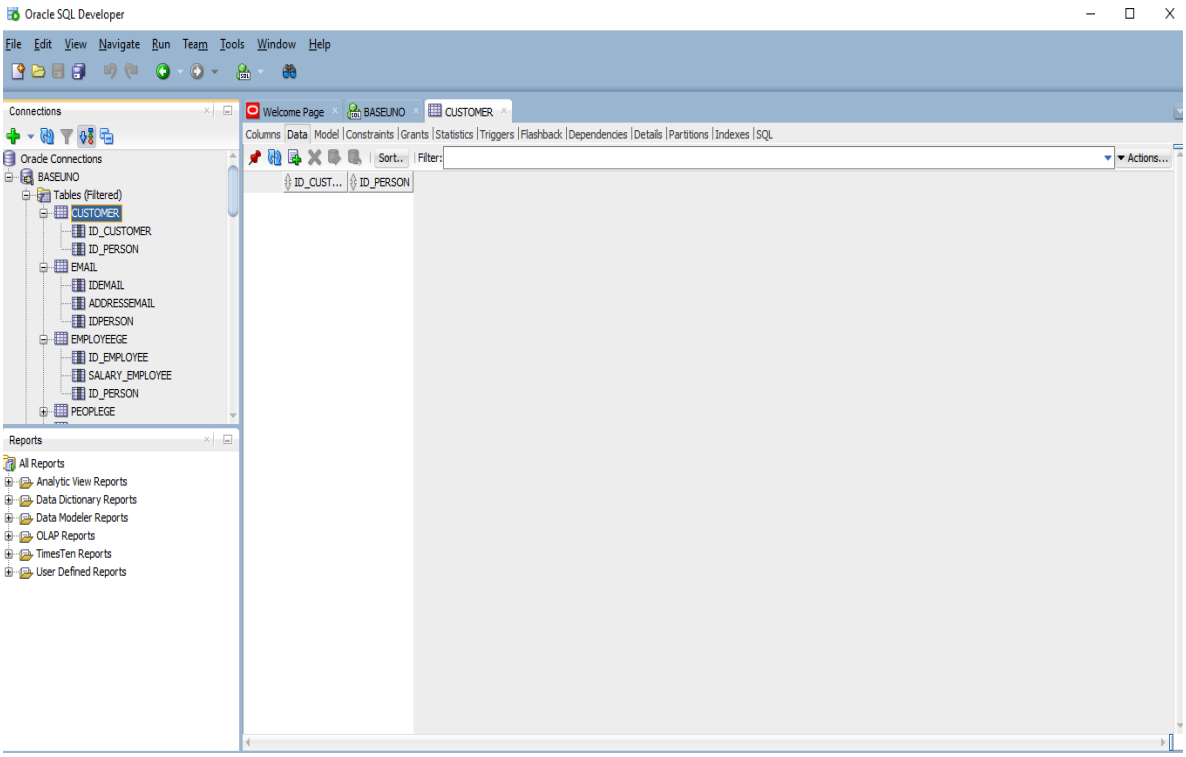
	ID_EMPLOYEE	SALARY_EMPLOYEE	ID_PERSON
1	0	300000	0
2	1	700000	1
3	2	700000	2
4	3	700000	3
5	4	700000	4
6	5	700000	5
7	6	650000	6
8	7	680000	7
9	8	500000	8
10	9	640000	9
11	11	250000	11
12	12	320000	12
13	13	360000	13
14	14	410000	14
15	15	270000	15
16	16	310000	16
17	17	385000	17
18	18	290000	18
19	19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

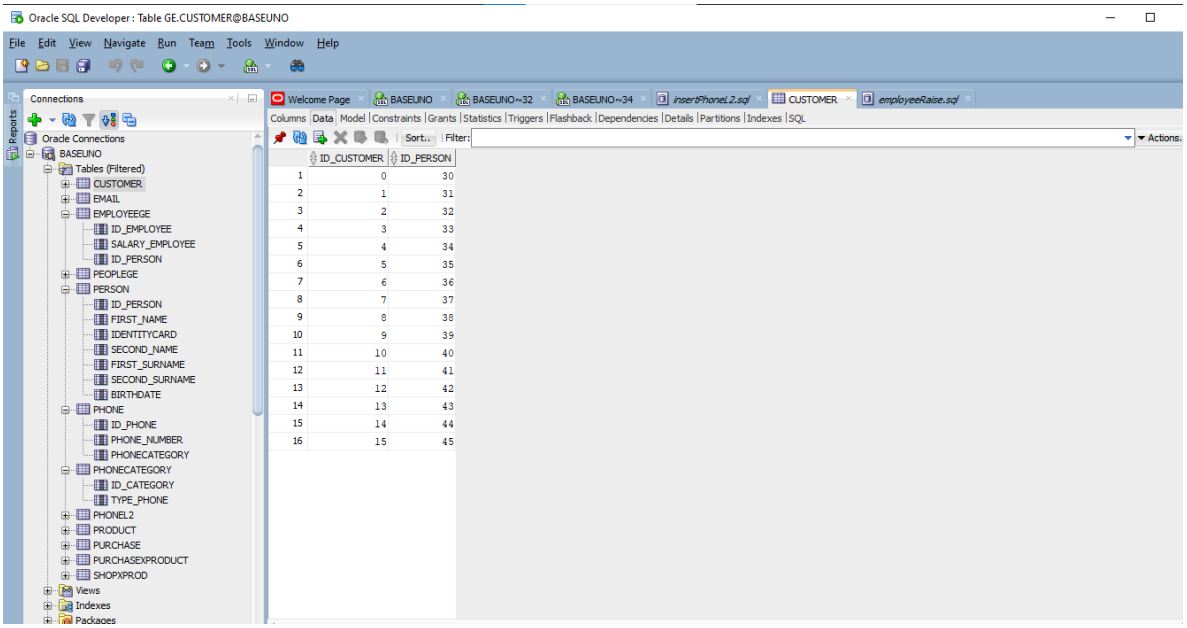


9. Assign 15 people to be customers.

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

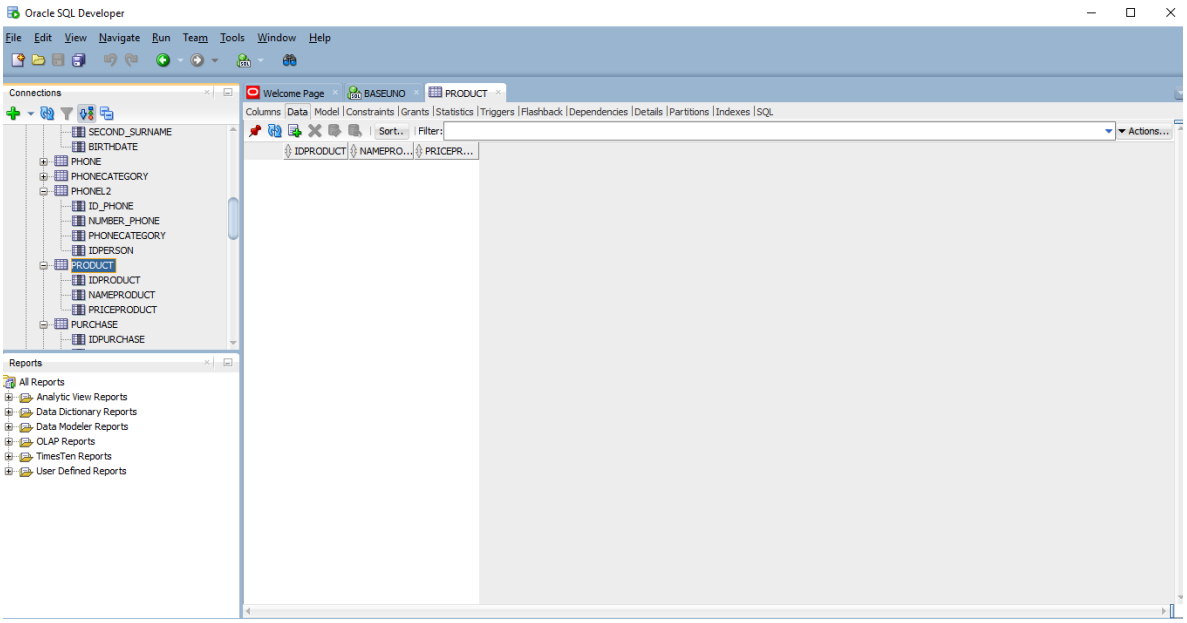


- In this image you can see the table customer in the Database with 15 customer registered:

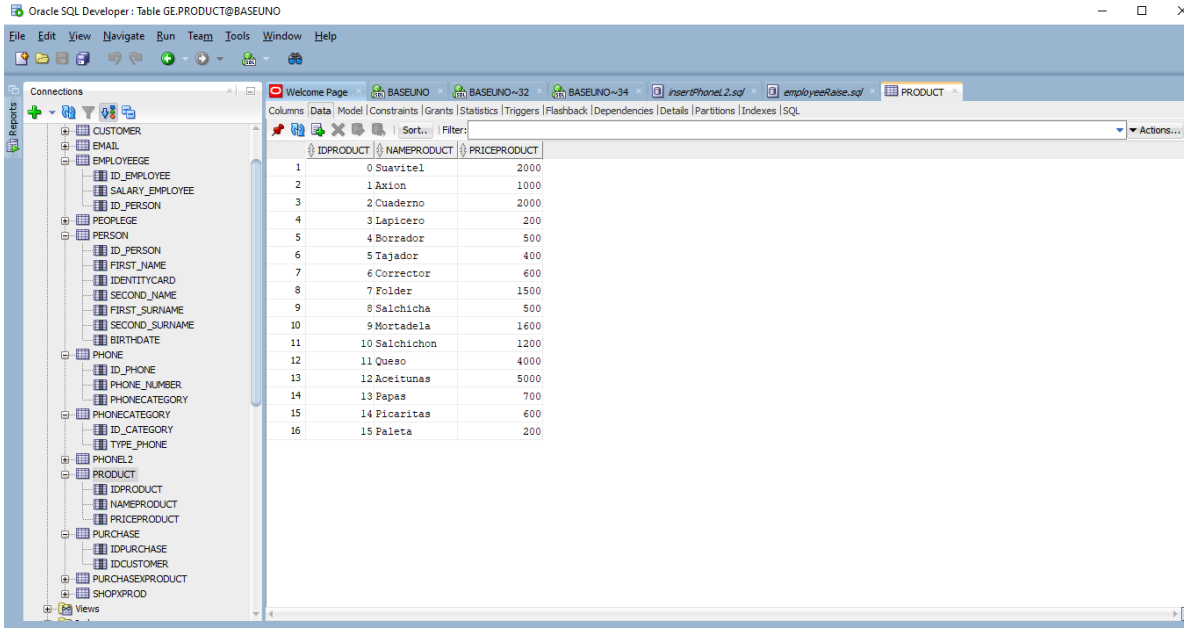


10. Create 15 products.

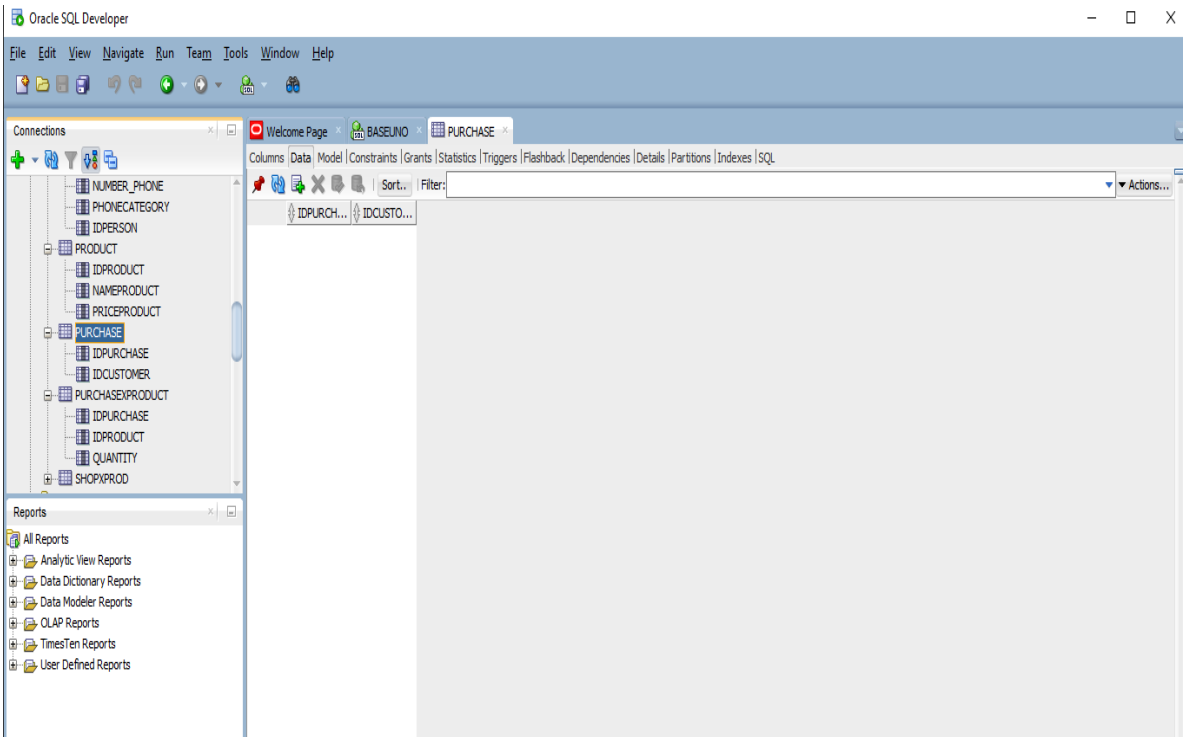
- In this image you can see the table product in the Database empty:

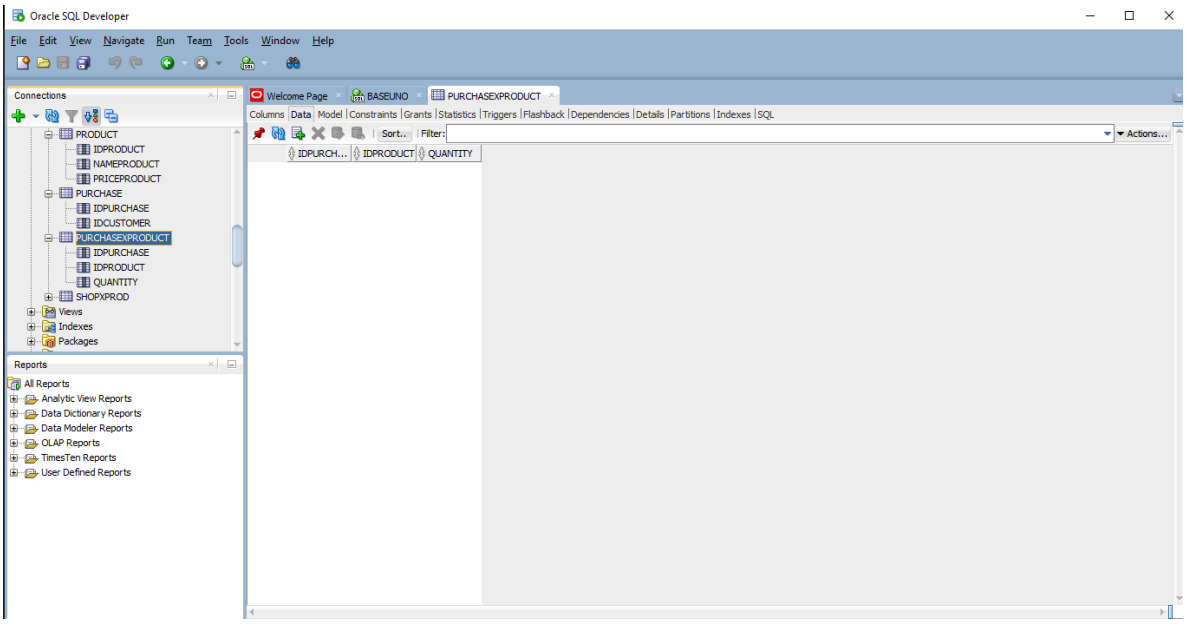


- In this image you can see the table customer in the Database with 15 products created:

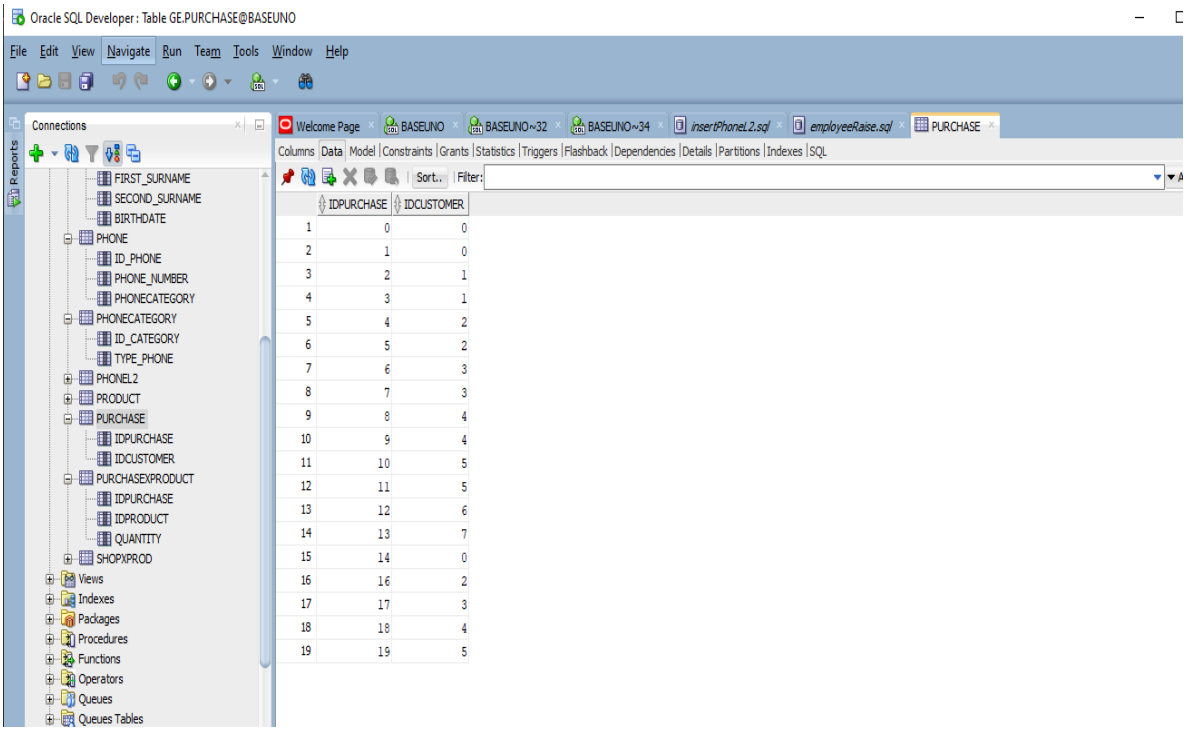


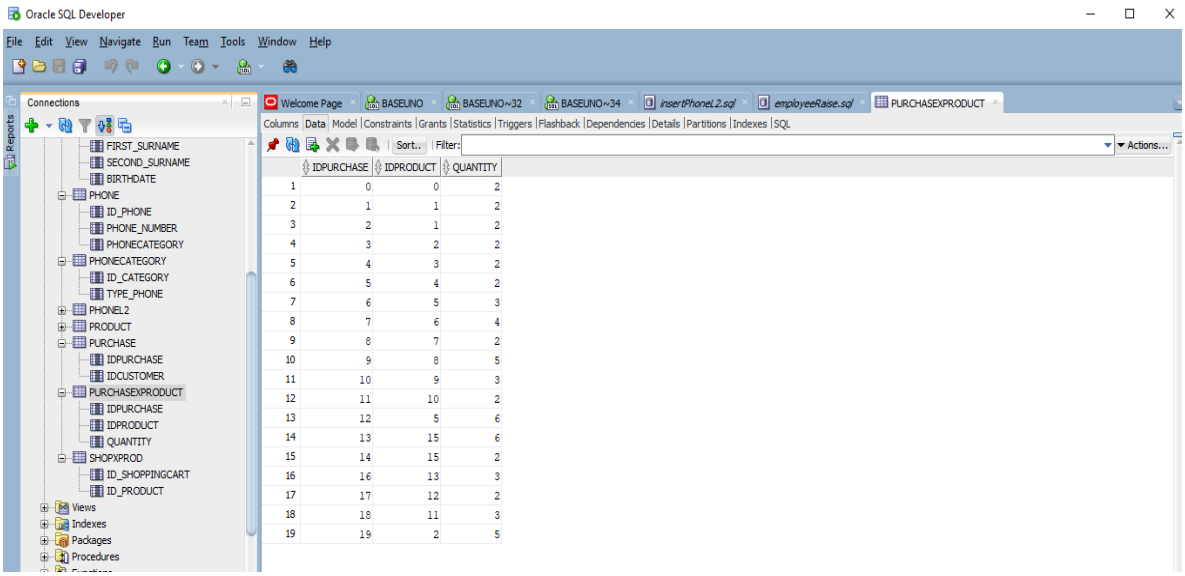
11. Create purchases for 7 customers. At least 5 of them must have more than 2 purchases and more than 1 product per purchase.
- In these images you can see the tables purchase and purchasexproduct in the Database empty:





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





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.