



**King Saud University**  
**College of Computer and Information Sciences**  
**Department of Information Technology**

**IT222: Database Principles**  
1<sup>st</sup> Semester 1446 H

*Le* MERIDIEN

*Le* Méridien Hotel

**Phase # 3**

Section #	NAME	ID
View Name: Customer view		
77761	Alanoud Khalid Aloraydi	444201111
77761	Sarah alruwayte	444200758
77761	Walaa Saif Aleslam mohammed	444200088
77761	Jana Abdullah Alsuwailem	444200816
77761	Atheer Ibrahim Bin Badie	444200894

**Supervised By:** Dr. Noof Alfear.

### Project Description:

This project is designing a database for a hotel chain with locations worldwide, offering a variety of services such as pools, spas, gyms, and more. Our primary clients are the guests who stay at these hotels, seeking a comfortable and enjoyable experience. Our database is designed to simplify the management of hotel information by centralizing data, thereby improving overall efficiency. It will empower staff to manage bookings, services, and customer information more effectively, ensuring a seamless experience for both employees and guests.

### View Description:

The database view is designed to assist hotel guests (customers) in managing their interactions with the hotel. Customers can create accounts, make bookings, and manage their reservations. Each booking is linked to a branch, room details, and additional services.

The relationship between these elements ensures a smooth and integrated experience for customers, making the booking process efficient and user-friendly.

### Data Requirements:

**Customer:** The person who will make the booking. The customer has a unique customerID, first and last name, email, and phone number. Each customer can make one or many bookings.

**Booking:** The customer's recorded reservation management. It includes a unique bookingNo, each booking has bookingStatus, paymentInfo, checkInDate, numOfNights, and totalCost. Each booking has one or more rooms and can contain many services, one or no service.

**Branch:** The branch of the hotel where all rooms belong to. is identified by branchID and has branchCity since the hotel has branches in different cities, each branch has many rooms.

**Room:** The room included in booking and identified by roomNo, and has attributes roomType, roomCost, bedType, floorNo, and roomView. Each room can be in more than one booking at different date. No one branch has two roomNo that are the same although two or more branches have the same roomNo. Room belongs to one branch and a branch has many rooms.

**Services:** Any service, whether paid or free, that the hotel offers to its customers, such as spa treatments, gym access, meal delivery, housekeeping and other services. It includes a unique serviceID, serviceName, serviceCost. Each service belongs to zero or many booking.

## **Transaction Requirements:**

### **Data Entry:**

- 1- Add New Customer*
- 2- Enter the number of nights for booking*

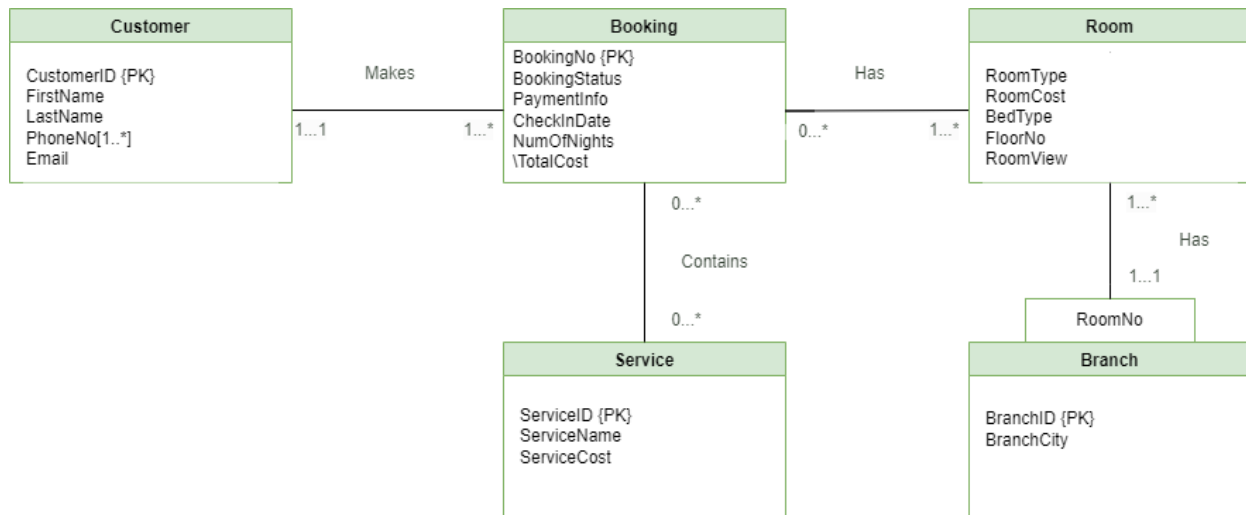
### **Data update/deletion:**

- 1- Delete Reservation*
- 2- Update Customer's Phone Number and Email*
- 3- Update Payment info for a Booking*

### **Data Queries:**

- 1- Show the list of all branches*
- 2- Show the list of the customer's current and previous reservations*
- 3- Show the list of services priced under 400*
- 4- Show the list of rooms and suites sorted from lowest to highest price at the Al Khobar branch*
- 5- Show the list of rooms with a view at the Jeddah branch*
- 6- Show the list of Single bed rooms at the Riyadh branch*
- 7- List of free services*
- 8- Show the list of suites at the Al Khobar branch priced between 2000 and 3000*
- 9- Show the list of rooms at the Jeddah branch located on the first floor*
- 10- Calculate the total price of all services requested by the customer*

**Global enhanced entity relationship diagram (EER):**



## Relational Schema:

Customer (customerID, firstName, lastName, email)

Primary key: customerID

Telephone (phoneNo, customerID)

Primary key: phoneNo, customerID

Foreign key: customerID references Customer (customerID)

Booking (bookingNo, bookingStatus, paymentInfo, checkInDate, numOfNights, totalCost, customerID)

Primary key: bookingNo

Foreign key: customerID references Customer (customerID)

Branch (branchID, branchCity)

Primary key: branchID

Room (roomNo, branchID, roomType, roomCost, bedType, floorNo, roomView)

Primary key: roomNo, branchID

Foreign key: branchID references Branch (branchID)

Service (serviceID, serviceName, serviceCost)

Primary key: serviceID

Has (bookingNo, roomNo, branchID)

Primary key: bookingNo, roomNo, branchID

Foreign key: bookingNo references Booking (bookingNo)

Foreign key: roomNo references Room (roomNo)

Foreign key: branchID references Branch (branchID)

Contains (bookingNo, serviceID)

Primary key: bookingNo, serviceID

Foreign key: bookingNo references Booking (bookingNo)

Foreign key: serviceID references Service (serviceID)

**Data Dictionary showing description of all entities:**

Entity Name	Description	Occurrence
Customer	General term describing all The person who will make the booking.	Each customer can make one or many bookings.
Booking	General term describing all The Customer Is Recorded Reserve Management.	Each booking has one or more rooms and can contain many services, one or no service.
Room	General term describing all the room included in booking	Each room can be in more than one booking at different date. No one branch has two roomNo that are the same although two or more branches have the same roomNo. Room belongs to one branch and a branch has many rooms.
Service	General term describing all services that the hotel offers to its customers.	Each service belongs to zero or many booking.
Branch	General term describing all the branch of the hotel where all rooms belong to.	Each branch has many rooms.

**Data Dictionary showing description of all relationships:**

Entity Name	Multiplicity	Relationship	Entity Name	Multiplicity
Branch	1..1	Has	Room	1..*
Booking	0..*	Has	Room	1..*
Booking	0..*	Contains	Service	0..*
Customer	1..1	Makes	Booking	1..*

**Data Dictionary showing description of all attributes:**

Entity Name	Attribute	Description	Data Type	Length	Nulls	Multi-Valued	Default Value	Range	PK
Customer	CustomerID	Unique identifier number assigned to each customer stays at the hotel	number	10					Y
	FirstName	Frist name of customer	varchar	10					
	LastName	Last name of customer	varchar	10					
	PhoneNo	customer contact numbers	char	10		Y			
	Email	The customer email	varchar	64					
Booking	BookingNo	The unique number of the booking	number	10					Y

[IT222-1445(2): Le Méridien Hotel]

	BookingStatus	Booking status if confirmed or not	varchar	10				Confirm/ Canceled	
	PaymentInfo	Information of the customer payment	varchar	10					
	CheckInDate	Booking start date	date	10					
	NumOfNights	Number of customer sleep nights	integer						
	TotalCost	Total cost of the booking	decimal	8.2	Y				
Room	RoomType	The room's type	varchar	10					
	RoomCost	The room's price	decimal	6.2					
	BedType	Type of beds in the room	varchar	10	Y		Queen bed		
	FloorNo	The floor's number	varchar	2					
	RoomView	whether the room has a view or not.	varchar	10	Y		No view	No view/ with view	
	RoomNo	The room's number	varchar	3					Y
Branch	BranchID	The unique number of the Branch	char	5					Y
	BranchCity	City where the hotel is located	varchar	10					
Service	ServiceID	unique service ID	char	5					Y
	ServiceName	The name of the service provided	varchar	10					
	ServiceCost	The service's price	decimal	6.2					



## Table Booking

### DB tables creation:

BOOKING

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Add Column

Modify Column

Rename Column

Drop Column

UI Defaults

Refresh

More ▾

Column Name	Data Type	Nullable	Default	Primary Key	Comment	Identity
BOOKING_STATUS	VARCHAR2(10 CHAR)	N				
PAYMENT_INFO	VARCHAR2(10 CHAR)	N				
CHECKIN_DATE	DATE	N				
NUM_OF_NIGHTS	NUMBER	N				
TOTAL_COST	NUMBER(8,2)	Y				
CUSTOMER_ID	NUMBER(10,0)	N				
BOOKING_NO	NUMBER	N		1		

```
BOOKING
Columns Data Indexes Constraints Grants Statistics Triggers Dependencies DDL Sample Queries
Download Refresh
1 CREATE TABLE "BOOKING"
2 (
3   "BOOKING_STATUS" VARCHAR2(10 CHAR) NOT NULL ENABLE,
4   "PAYMENT_INFO" VARCHAR2(10 CHAR) NOT NULL ENABLE,
5   "CHECKIN_DATE" DATE NOT NULL ENABLE,
6   "NUM_OF_NIGHTS" NUMBER NOT NULL ENABLE,
7   "TOTAL_COST" NUMBER(8,2),
8   "CUSTOMER_ID" NUMBER(10,0) NOT NULL ENABLE,
9   "BOOKING_NO" NUMBER,
10  CONSTRAINT "BOOKING_STATUS_CHK" CHECK ("BOOKING_STATUS" IN ('confirmed', 'canceled')) ENABLE,
11  CONSTRAINT "BOOKING_PK" PRIMARY KEY ("BOOKING_NO")
12  USING INDEX ENABLE
13 ) ;
14 ALTER TABLE "BOOKING" ADD CONSTRAINT "FK_BOOKING_CUSTOMER_ID" FOREIGN KEY ("CUSTOMER_ID")
15   REFERENCES "CUSTOMER" ("CUSTOMER_ID") ENABLE;
16
17 CREATE OR REPLACE EDITIONABLE TRIGGER "CALCULATE_TOTALCOST"
18 BEFORE INSERT OR UPDATE ON BOOKING
19 FOR EACH ROW
20 DECLARE
21   ROOM_COST NUMBER := 0;
22   TOTAL_ROOM_COST NUMBER := 0;
23 BEGIN
24
25   FOR P IN (SELECT P.ROOM_COST
26             FROM ROOM P
27             JOIN RES B ON P.ROOM_NO = B.ROOM_NO
28             WHERE B.BOOKING_NO = :NEW.BOOKING_NO) LOOP
29     TOTAL_ROOM_COST := TOTAL_ROOM_COST + P.ROOM_COST;
30   END LOOP;
31
32   IF TOTAL_ROOM_COST > 0 THEN
33     :NEW.TOTAL_COST := TOTAL_ROOM_COST * :NEW.NUM_OF_NIGHTS;
34   ELSE
35     :NEW.TOTAL_COST := 0;
36   END IF;
37 END;
38 /
39 ALTER TRIGGER "CALCULATE_TOTALCOST" ENABLE;
```

### Data insertion:

BOOKING

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Insert Row

Columns...

Filter...

Count Rows

Load Data

Download

Refresh

	BOOKING_STATUS	PAYMENT_INFO	CHECKIN_DATE	NUM_OF_NIGHTS	TOTAL_COST	CUSTOMER_ID	BOOKING_NO
	canceled	cash	01/10/2024	6	19800	2	2001
	confirmed	cash	10/10/2025	5	12500	1	2004
	confirmed	cash	12/12/2024	4	6000	1	2002
	confirmed	cash	01/01/2025	8	64000	3	2003

## Table Has

### DB tables creation:

HAS

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Add Column

Modify Column

Rename Column

Drop Column

UI Defaults

Refresh

More ▾

Column Name	Data Type	Nullable	Default	Primary Key	Comment	Identity
BOOKING_NO	NUMBER(10,0)	N		1		
ROOM_NO	VARCHAR2(3 CHAR)	N		2		
BRANCH_ID	CHAR(5 CHAR)	N		3		

HAS

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

Download

Refresh

</

### Data insertion:

HAS

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Insert Row

Columns...

Filter...

Count Rows

Load Data

Download

Refresh

		BOOKING_NO	ROOM_NO	BRANCH_ID
<div></div>		2001	101	10001
<div></div>		2001	301	10001
<div></div>		2002	302	10002
<div></div>		2003	102	10000
<div></div>		2003	202	10000
<div></div>		2003	303	10000
<div></div>		2004	201	10001
<div></div>		2004	401	10002

## Table Branch

### DB tables creation:

BRANCH

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Add Column

✎ Modify Column

🔄 Rename Column

🗑 Drop Column

⚙ UI Defaults

🔄 Refresh

More ▾

Column Name	Data Type	Nullable	Default	Primary Key	Comment	Identity
BRANCH_ID	CHAR(5 CHAR)	N		1		
BRANCH_CITY	VARCHAR2(10 CHAR)	N				

BRANCH	
Columns	Data
Indexes	Constraints
Grants	Statistics
Triggers	Dependencies
DDL	Sample Queries
Download Refresh	
🔄 🔍 A= ⚙ ▾	
1	CREATE TABLE "BRANCH"
2	( "BRANCH_ID" CHAR(5 CHAR) NOT NULL ENABLE,
3	"BRANCH_CITY" VARCHAR2(10 CHAR) NOT NULL ENABLE,
4	CONSTRAINT "BRANCH_PK" PRIMARY KEY ("BRANCH_ID")
5	USING INDEX ENABLE
6	) ;

### Data insertion:

BRANCH

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Insert Row

Columns...

Filter...

Count Rows

Load Data

Download

Refresh

	BRANCH_ID	BRANCH_CITY
<div></div>	10002	Riyadh
<div></div>	10000	Alkhobar
<div></div>	10001	Jeddah

## Table Contains

### DB tables creation:

CONTAINS

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Add Column

✎ Modify Column

📄 Rename Column

🗑 Drop Column

⚙ UI Defaults

🔄 Refresh

More ▾

	Column Name	Data Type	Nullable	Default	Primary Key	Comment	Identity
	BOOKING_NO	NUMBER(10,0)	N		1		
	SERVICE_ID	CHAR(5 CHAR)	N		2		

CONTAINS	
Columns	Data    Indexes    Constraints    Grants    Statistics    Triggers    Dependencies <b>DDL</b> Sample Queries
⬇ Download    ↻ Refresh	
🔄    🔍    A::    ⚙ ▾	
1	CREATE TABLE "CONTAINS"
2	(
3	"BOOKING_NO" NUMBER(10,0) NOT NULL ENABLE,
4	"SERVICE_ID" CHAR(5 CHAR),
5	CONSTRAINT "CONTAINS_PK" PRIMARY KEY ("BOOKING_NO", "SERVICE_ID")
6	USING INDEX    ENABLE
7	);
8	ALTER TABLE "CONTAINS" ADD CONSTRAINT "BOOKING_FK" FOREIGN KEY ("BOOKING_NO")
9	REFERENCES "BOOKING" ("BOOKING_NO") ON DELETE CASCADE ENABLE;
10	ALTER TABLE "CONTAINS" ADD CONSTRAINT "CONTAINS_FK" FOREIGN KEY ("SERVICE_ID")
11	REFERENCES "SERVICE" ("SERVICE_ID") ON DELETE CASCADE ENABLE;

### Data insertion:

CONTAINS		
Columns	<b>Data</b>	Indexes    Constraints    Grants    Statistics    Triggers    Dependencies    DDL    Sample Queries
+ Insert Row    📄 Columns...    🔍 Filter...    📄 Count Rows    📄 Load Data    ⬇ Download    ↻ Refresh		
	BOOKING_NO	SERVICE_ID
✎	2001	10000
✎	2002	10002
✎	2003	10000
✎	2004	10000
✎	2004	10001

## Table Room

### DB tables creation:

ROOM

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Add Column

Modify Column

Rename Column

Drop Column

UI Defaults

Refresh

More ▾

	Column Name	Data Type	Nullable	Default	Primary Key	Comment	Identity
	ROOM_NO	VARCHAR2(3 CHAR)	N		1		
	BRANCH_ID	CHAR(5 CHAR)	N		2		
	ROOM_TYPE	VARCHAR2(10 CHAR)	N				
	ROOM_COST	NUMBER(6,2)	N				
	BED_TYPE	VARCHAR2(10 CHAR)	Y	'Queen bed'			
	FLOOR_NO	VARCHAR2(2 CHAR)	N				
	ROOM_VIEW	VARCHAR2(10 CHAR)	Y	'No view'			

ROOM

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

Download

Refresh

### Data insertion:

ROOM

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Insert Row

Columns...









Filter...

Count Rows

Load Data

Download

Refresh

	ROOM_NO	BRANCH_ID	ROOM_TYPE	ROOM_COST	BED_TYPE	FLOOR_NO	ROOM_VIEW
	302	10002	room	1500	Queen	3	With view
	101	10001	room	1000	Singal	1	With view
	202	10000	suite	2500	Queen	2	No view
	201	10001	room	1000	Single	2	No view
	102	10000	room	2000	Queen	1	With view
	301	10001	suite	2300	Queen	3	No view
	303	10000	suite	3500	Queen	3	With view
	401	10002	room	1500	Single	4	With view

## Table Service

### DB tables creation:

SERVICE

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Add Column

✎ Modify Column

📄 Rename Column

🗑 Drop Column

⚙ UI Defaults

🔄 Refresh

More ▾

Column Name	Data Type	Nullable	Default	Primary Key	Comment	Identity
SERVICE_ID	CHAR(5 CHAR)	N		1		
SERVICE_NAME	VARCHAR2(10 CHAR)	N				
SERVICE_COST	NUMBER(6,2)	N				

SERVICE	
Columns	Data
Indexes	Constraints
Grants	Statistics
Triggers	Dependencies
DDL	Sample Queries
Download   Refresh	
A:	
1	CREATE TABLE "SERVICE"
2	(
3	"SERVICE_ID" CHAR(5 CHAR) NOT NULL ENABLE,
4	"SERVICE_NAME" VARCHAR2(10 CHAR) NOT NULL ENABLE,
5	"SERVICE_COST" NUMBER(6,2) NOT NULL ENABLE,
6	CONSTRAINT "SERVICE_PK" PRIMARY KEY ("SERVICE_ID")
7	USING INDEX ENABLE
	) ;

### Data insertion:

SERVICE			
Columns	Data	Indexes	Constraints
Grants	Statistics	Triggers	Dependencies
DDL	Sample Queries		
+ Insert Row   Columns...   Filter...   Count Rows   Load Data   Download   Refresh			
	SERVICE_ID	SERVICE_NAME	SERVICE_COST
	10000	Breakfast	0
	10002	Car rental	600
	10001	Dinner	200



## Table Telephone

### DB tables creation:

TELEPHONE

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Add Column

✎ Modify Column

🔄 Rename Column

🗑 Drop Column

⚙ UI Defaults

🔄 Refresh

More ▾

Column Name	Data Type	Nullable	Default	Primary Key	Comment	Identity
PHONE_NO	CHAR(10 CHAR)	N		1		
CUSTOMER_ID	NUMBER(10,0)	N		2		

TELEPHONE

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

Download

Refresh

Az

1

CREATE TABLE "TELEPHONE"

2

(

"PHONE\_NO" CHAR(10 CHAR) NOT NULL ENABLE,

3

"CUSTOMER\_ID" NUMBER(10,0) NOT NULL ENABLE,

4

CONSTRAINT "TELEPHONE\_PK" PRIMARY KEY ("PHONE\_NO", "CUSTOMER\_ID")

5

USING INDEX ENABLE

6

);

7

8

ALTER TABLE "TELEPHONE" ADD CONSTRAINT "FK\_TELEPHONE\_CUSTOMER\_ID" FOREIGN KEY ("CUSTOMER\_ID")

9

REFERENCES "CUSTOMER" ("CUSTOMER\_ID") ENABLE;

### Data insertion:

TELEPHONE

Columns

Data

Indexes

Constraints

Grants

Statistics

Triggers

Dependencies

DDL

Sample Queries

+ Insert Row

Columns...

Filter...

Count Rows

Load Data

Download

Refresh

	PHONE_NO	CUSTOMER_ID
<div></div>	0543859687	1
<div></div>	0543927163	2
<div></div>	0593218643	3



## Data Queries:

1. Show the list of rooms at the Jeddah branch located on the first floor:

The screenshot shows the SQL Developer interface with the following SQL query:

```
1 select *
2 from ROOM
3 where BRANCH_ID=
4       (select BRANCH_ID
5        from BRANCH
6         where BRANCH_CITY='Jeddah'
7        )
8 AND FLOOR_NO='1' AND ROOM_TYPE='room'
```

The Results tab displays the following table:

ROOM_NO	BRANCH_ID	ROOM_TYPE	ROOM_COST	BED_TYPE	FLOOR_NO	ROOM_VIEW
101	10001	room	1000	Singal	1	With view

1 rows returned in 0.05 seconds

2. Show the list of suites at the AlKhobar branch priced between 2000 and 3000:

The screenshot shows the SQL Developer interface with the following SQL query:

```
1 select *
2 from ROOM
3 where BRANCH_ID=
4       (select BRANCH_ID
5        from BRANCH
6         where BRANCH_CITY='Alkhobar'
7        )
8 AND ROOM_COST BETWEEN 2000 AND 3000 AND ROOM_TYPE='suite'
```

The Results tab displays the following table:

ROOM_NO	BRANCH_ID	ROOM_TYPE	ROOM_COST	BED_TYPE	FLOOR_NO	ROOM_VIEW
202	10000	suite	2500	Queen	2	No view

1 rows returned in 0.01 seconds

3. List of free services:

The screenshot shows the SQL Developer interface with the following SQL query:

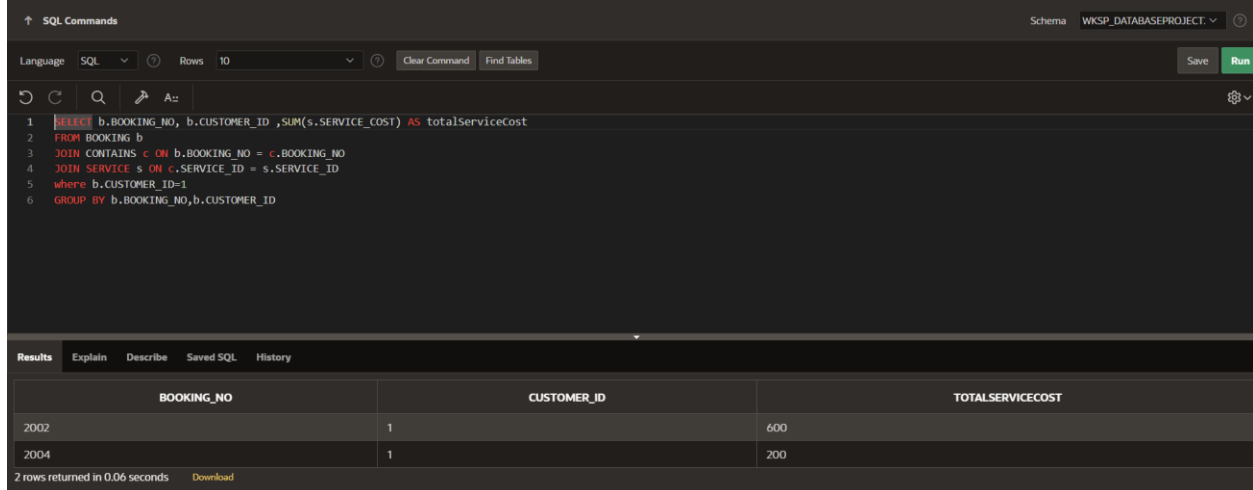
```
1 select *
2 from SERVICE
3 where SERVICE_COST=0
```

The Results tab displays the following table:

SERVICE_ID	SERVICE_NAME	SERVICE_COST
10000	Breakfast	0

1 rows returned in 0.01 seconds

4. Calculate the total price of all services requested by the customer:



The screenshot shows the SQL Developer interface with a query window. The query is as follows:

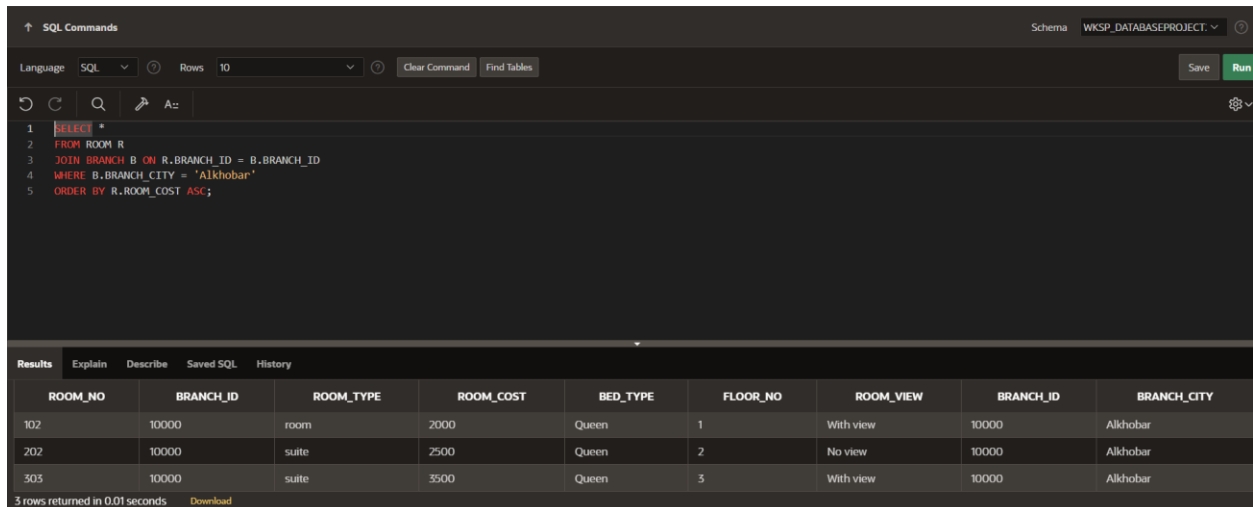
```
1 SELECT b.BOOKING_NO, b.CUSTOMER_ID, SUM(s.SERVICE_COST) AS totalServiceCost
2 FROM BOOKING b
3 JOIN CONTAINS c ON b.BOOKING_NO = c.BOOKING_NO
4 JOIN SERVICE s ON c.SERVICE_ID = s.SERVICE_ID
5 WHERE b.CUSTOMER_ID=1
6 GROUP BY b.BOOKING_NO, b.CUSTOMER_ID
```

The results pane shows the following data:

BOOKING_NO	CUSTOMER_ID	TOTALSERVICECOST
2002	1	600
2004	1	200

2 rows returned in 0.06 seconds

5. Show the list of rooms and suites sorted from lowest to highest price at the Al Khobar branch:



The screenshot shows the SQL Developer interface with a query window. The query is as follows:

```
1 SELECT *
2 FROM ROOM R
3 JOIN BRANCH B ON R.BRANCH_ID = B.BRANCH_ID
4 WHERE B.BRANCH_CITY = 'Alkhobar'
5 ORDER BY R.ROOM_COST ASC;
```

The results pane shows the following data:

ROOM_NO	BRANCH_ID	ROOM_TYPE	ROOM_COST	BED_TYPE	FLOOR_NO	ROOM_VIEW	BRANCH_ID	BRANCH_CITY
102	10000	room	2000	Queen	1	With view	10000	Alkhobar
202	10000	suite	2500	Queen	2	No view	10000	Alkhobar
303	10000	suite	3500	Queen	3	With view	10000	Alkhobar

3 rows returned in 0.01 seconds

6. Show the list of rooms with a view at the Jeddah branch:

The screenshot shows a SQL IDE interface with the following components:

- SQL Commands Panel:** Contains a query to select rooms with a view at the Jeddah branch.

```
1 SELECT *
2 FROM ROOM R
3 JOIN BRANCH B ON R.BRANCH_ID = B.BRANCH_ID
4 WHERE B.BRANCH_CITY = 'Jeddah'
5 AND R.ROOM_VIEW = 'With view'
6 AND R.ROOM_TYPE = 'room';
7
```
- Results Panel:** Displays a table with 9 columns: ROOM\_NO, BRANCH\_ID, ROOM\_TYPE, ROOM\_COST, BED\_TYPE, FLOOR\_NO, ROOM\_VIEW, BRANCH\_ID, and BRANCH\_CITY. It shows one row of data for room 101 at the Jeddah branch.

ROOM_NO	BRANCH_ID	ROOM_TYPE	ROOM_COST	BED_TYPE	FLOOR_NO	ROOM_VIEW	BRANCH_ID	BRANCH_CITY
101	10001	room	1000	Singal	1	With view	10001	Jeddah

1 rows returned in 0.05 seconds

7. Show the list of Single bed rooms at the Riyadh branch:

The screenshot shows a SQL IDE interface with the following components:

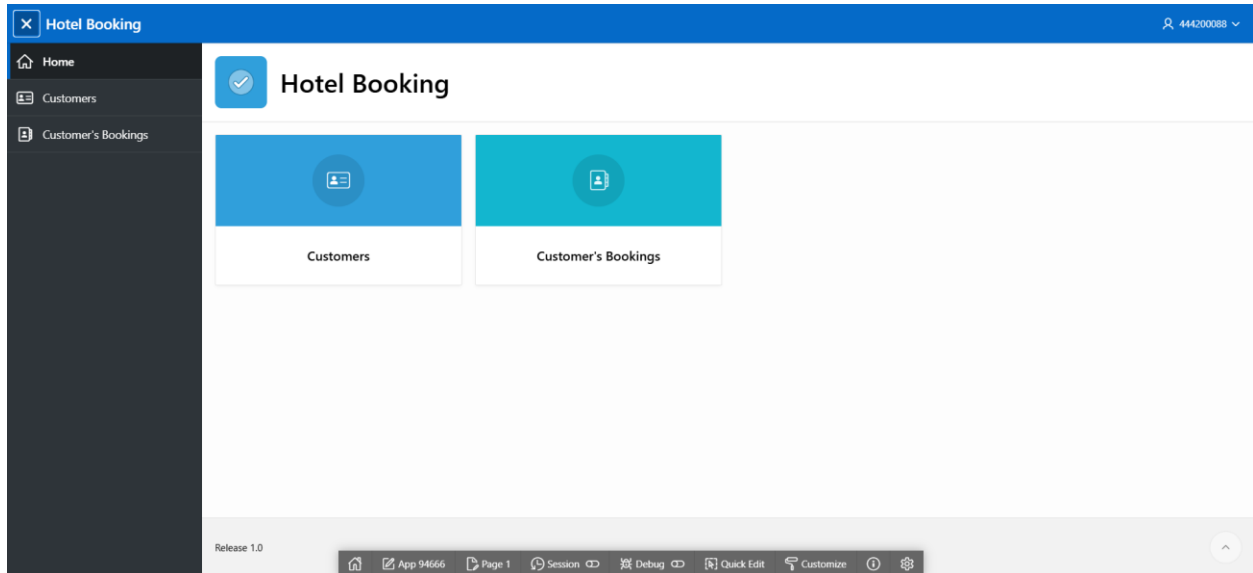
- SQL Commands Panel:** Contains a query to select single bed rooms at the Riyadh branch.

```
1 SELECT *
2 FROM ROOM R
3 JOIN BRANCH B ON R.BRANCH_ID = B.BRANCH_ID
4 WHERE B.BRANCH_CITY = 'Riyadh'
5 AND R.ROOM_TYPE = 'room'
6 AND R.BED_TYPE = 'Single';
```
- Results Panel:** Displays a table with 9 columns: ROOM\_NO, BRANCH\_ID, ROOM\_TYPE, ROOM\_COST, BED\_TYPE, FLOOR\_NO, ROOM\_VIEW, BRANCH\_ID, and BRANCH\_CITY. It shows one row of data for room 401 at the Riyadh branch.

ROOM_NO	BRANCH_ID	ROOM_TYPE	ROOM_COST	BED_TYPE	FLOOR_NO	ROOM_VIEW	BRANCH_ID	BRANCH_CITY
401	10002	room	1500	Single	4	With view	10002	Riyadh

1 rows returned in 0.05 seconds

## App Builder:



- Interactive Grid:

The screenshot shows the 'Customers' page in the Hotel Booking application. The left sidebar contains links for Home, Customers, and Customer's Bookings. The main content area displays a table with columns for First Name, Last Name, and Email. The table contains three rows: Yasser Ahmed (Yasser@example.com), Ahmed Abdullah (Ahmed@example.com), and Jana Abdullah (Jana@gmail.com). The first row is selected. Above the table is a search bar and action buttons (Go, Actions, Edit, Save, Add Row, Reset). Below the table, it indicates '1 rows selected' and 'Total 3'. The bottom status bar shows 'Release 1.0' and various application controls.

	First Name	Last Name	Email
<input checked="" type="checkbox"/>	Yasser	Ahmed	Yasser@example.com
<input type="checkbox"/>	Ahmed	Abdullah	Ahmed@example.com
<input type="checkbox"/>	Jana	Abdullah	Jana@gmail.com

- Master Detail:

The screenshot shows the 'Customer's Bookings' page in the Hotel Booking application. The left sidebar contains links for Home, Customers, and Customer's Bookings. The main content area is divided into two sections: 'Customer' and 'Booking'. The 'Customer' section displays details for Yasser Ahmed (Yasser@example.com). The 'Booking' section displays a table with columns for Booking Status, Payment Info, Checkin Date, Num of Nights, and Total Cost. The table contains two rows: confirmed (cash, 10/10/2025, 5, 12500) and confirmed (cash, 12/12/2024, 4, 6000). The first row is selected. Above the table is a search bar and action buttons (Reset, Create). Below the table, it indicates '1 - 2'. The bottom status bar shows 'Release 1.0' and various application controls.

Booking Status	Payment Info	Checkin Date	Num of Nights	Total Cost
confirmed	cash	10/10/2025	5	12500
confirmed	cash	12/12/2024	4	6000

### Work Distribution:

NAME	ID	Percentage	WORK
<i>Alanoud Khalid Aloraydi</i>	<i>444201111</i>	<i>20%</i>	<ul style="list-style-type: none"> <li>• <i>Transaction Requirements</i></li> <li>• <i>Data Dictionary showing description of all entities.</i></li> <li>• <i>Apex (Table Room + queries)</i></li> </ul>
<i>Sarah alruwayte</i>	<i>444200758</i>	<i>20%</i>	<ul style="list-style-type: none"> <li>• <i>Data Dictionary showing description of all attributes.</i></li> <li>• <i>Apex (Table (Service+ Contain) + queries)</i></li> </ul>
<i>Walaa Saif Aleslam Mohammed</i>	<i>444200088</i>	<i>20%</i>	<ul style="list-style-type: none"> <li>• <i>Data requirements.</i></li> <li>• <i>Relational Schema.</i></li> <li>• <i>Apex (Table (Booking+ Has) + app builder)</i></li> </ul>
<i>Atheer Bin Badie</i>	<i>444200894</i>	<i>20%</i>	<ul style="list-style-type: none"> <li>• <i>EER diagram</i></li> <li>• <i>Data Dictionary showing description of all attributes.</i></li> <li>• <i>Apex (Table Branch + app builder)</i></li> </ul>
<i>Jans Alsuwailem</i>	<i>444200816</i>	<i>20%</i>	<ul style="list-style-type: none"> <li>• <i>Project description</i></li> <li>• <i>View description</i></li> <li>• <i>Data Dictionary showing description of all relationships.</i></li> <li>• <i>Apex (Table (Customer + Telephone) + app builder)</i></li> </ul>