

# **Database Team Project - Database Implementation Topic: Vacation Booking System**

**Section: CSC 239-02  
Fall 2023**

**Øffshore Paradises**

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Orrego



# Project Identification



# Project Purpose

- Develop a database for vacation booking system with related components.
- Accommodate users who prefer booking individual components for their vacation.
- Provide a user-friendly interface for effortless customization and booking.
- The system grants customers the autonomy to select their preferred mode of transportation and activities according to their individual preferences



## Primary Audience

- Appeals to users wanting convenience by accessing comprehensive vacation data within a single application.
- Targets users who prefer a straightforward, hassle-free approach to vacation planning.
- Caters to those seeking a simplified booking experience rather than indulging in extensive bargain hunting and meticulous planning.



# How and why the project is useful

- Maintains a centralized database encompassing customer contacts, booking details, reservation history, payment records, and preferences.
- Utilizes stored customer data, including preferences and popular destinations, to create personalized vacation plans.
- Customization provides customers with curated vacation options that match their preferences precisely.
- Beyond simplifying bookings, the system aims to craft personalized journeys for each customer.
- Strong database infrastructure ensures accuracy, contributing to an exceptional vacation planning experience.



# What will the project provide?

- Provides a user-friendly interface for consumers to customize their trip bundles according to their preferences.
- Offers various travel customization choices, such as preferences and hotel/room configurations.
- Stores essential customer-related information
- Aims to ensure a personalized and satisfying travel experience throughout the trip.

# Project Analysis



## What is being done?

- Actual creation of database tables based on the structured design.
- Creation of entity-relationship diagrams and dependency diagrams for comprehensive data structuring and normalization.
- Construction of entities followed by populating them with sample data.
- Development of an application allowing users to access and submit vacation booking data.





## How is it being done?

- Firstly, identifying data storage needs for the project.
- Population of data tables with sample or test data to simulate real-world usage scenarios.
- Rigorous testing to ensure data accuracy and proper table structuring.
- Comprehensive testing of the application to ensure functionality and user-friendliness.



## Who is doing it?

- Student developers implement the database structure in Oracle Application Express.
- Team collaboration for an application and database development.
- Table creation, sample data addition, and data testing is done by each student.
- Collective effort towards a functional and robust vacation booking system.
- Unique contributions from each role for tailored customer needs.
- Constant communication and idea exchange among developers.



# When is it being done?

- Initiation: Brainstorming, role assignment, and scope discussions.
- Database Planning: Designing entity relationships and finalizing structure.
- Database Implementation: Creating tables, populating data, testing, and refining.
- Milestone Completion: Targeting implementation completion by December 5, 2023.
- Continuous Development: Ongoing refinement and progressive testing.
- System Validation: Testing functionalities and user experience.
- Final Stage: Last-minute refinements and presentation content preparation by December 7, 2023.
- Presentation: Showcasing the functional system and explaining details by December 12, 2023



# Why is it being done?

- The project vacation planning system is being created by a group of passionate student developers as a learning project.
- It streamlines trip planning, enabling personalized vacation packages for users.
- Prioritizes an easy and tailored experience for each user's vacation planning.
- Serves as a practical learning opportunity for student developers to create databases and applications.
- Enhances skills in teamwork, presentation, and understanding complex database systems.
- Offers insights into real project interactions and complexities involved in functional database system creation.

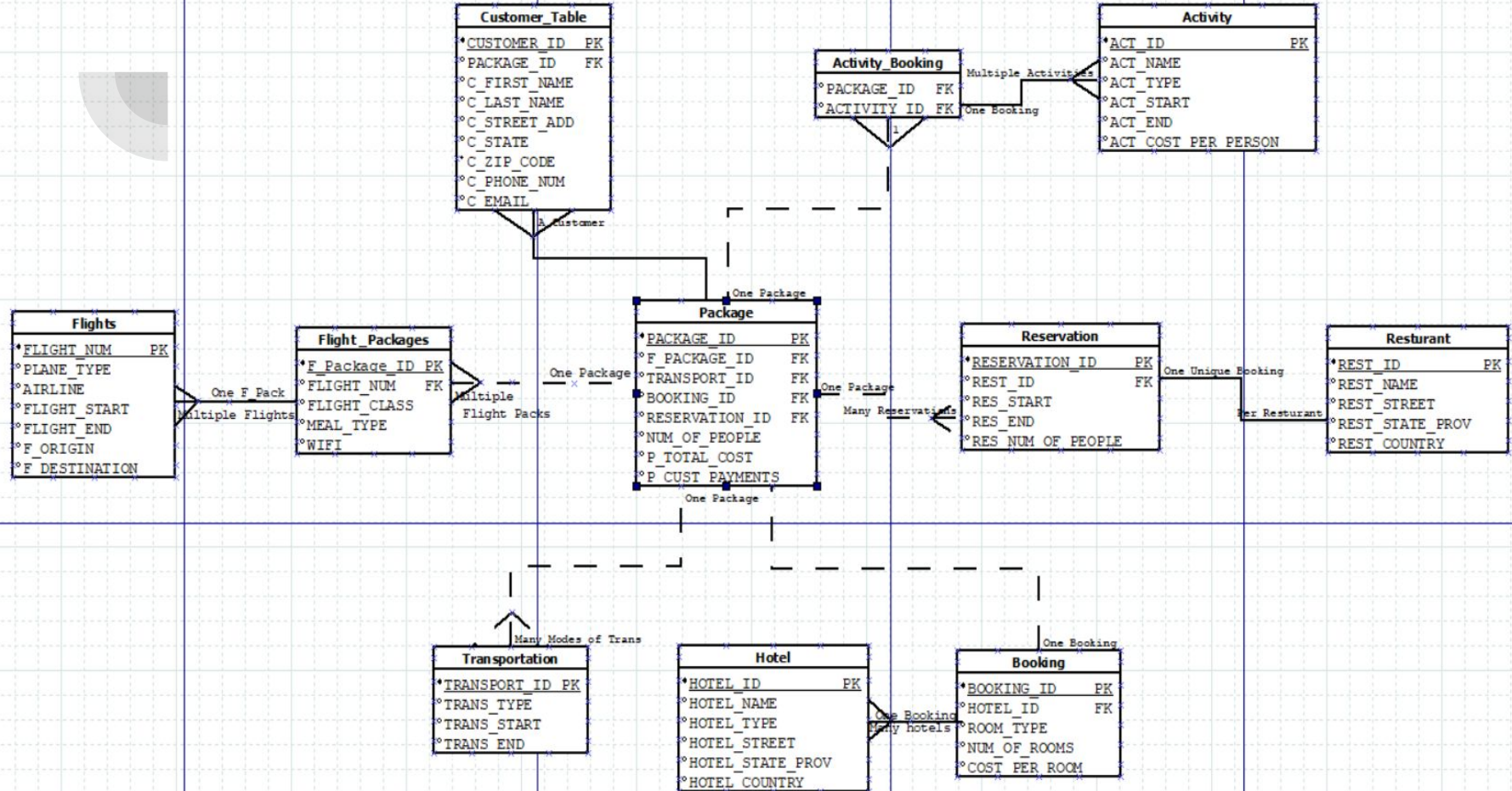


## How can it be improved?

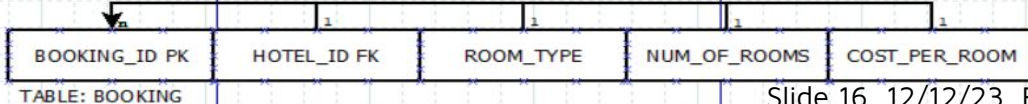
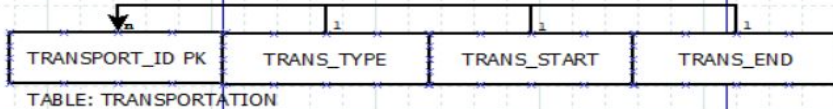
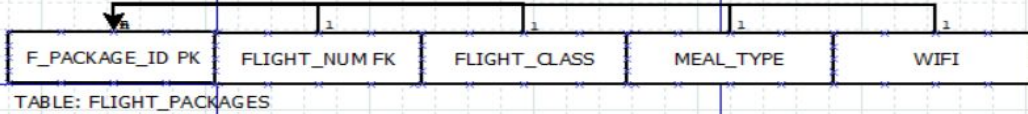
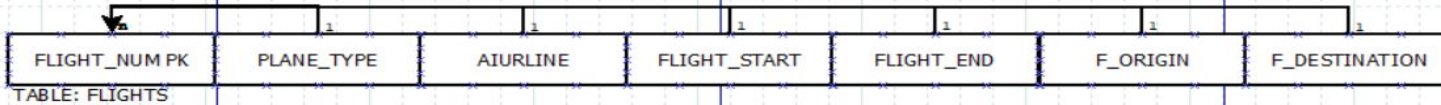
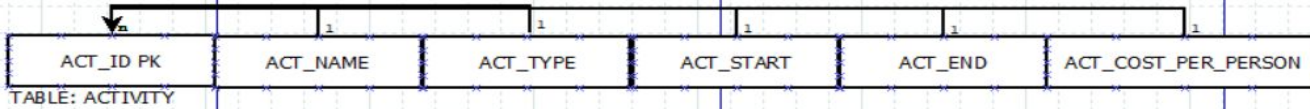
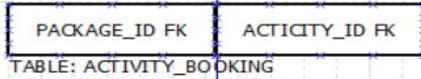
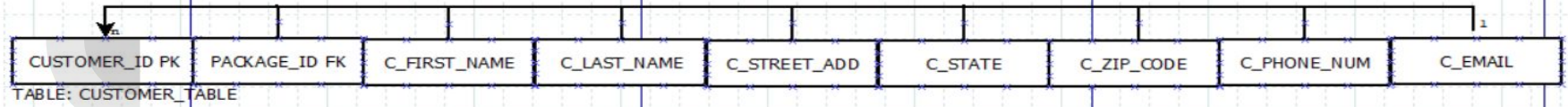
- Integration of interactive maps for visual exploration of destinations and attractions.
- Inclusion of personalized travel guides based on user preferences and history.
- Implementation of AI-powered chatbots for instant assistance and guidance.
- Providing information on environmental impact and carbon footprint estimates for mindful traveling.
- Addition of language translation services for real-time communication in foreign countries.

# Project Design

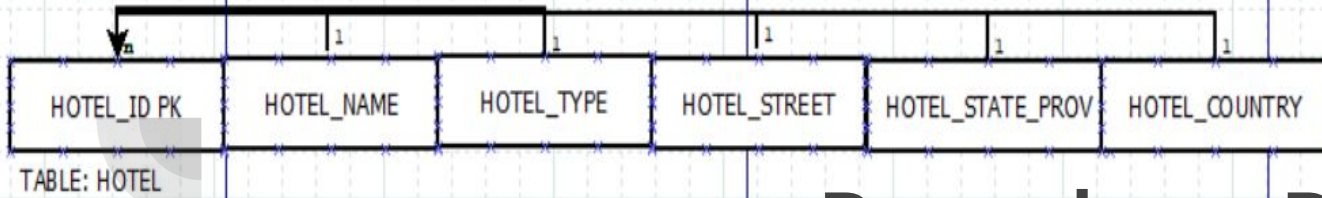
# Entity-Relationship Diagram



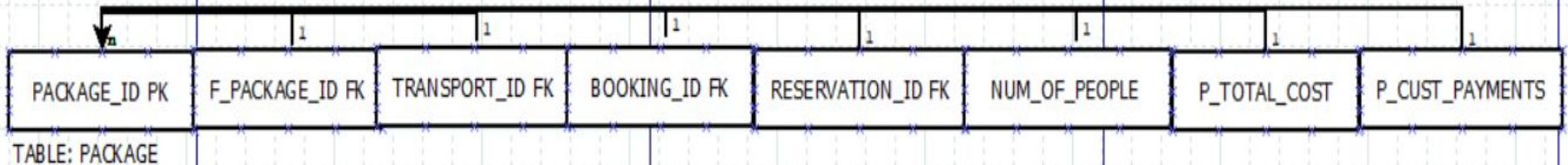
# Dependency Diagram







## Dependency Diagram Cont.




# Database Implementation

# Flights Table Description






- Stores data about available flights
- Contains flight number, plane type, airline, flight start date and time, flight end date and time, flight origin, and flight destination
- Flight number is primary key
- Flight number becomes foreign key in flight package table
- One flight can be a part of many flight packages


# Flights Table Structure

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
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Schema **US\_B426\_SQL\_S05** ▾ 

**FLIGHTS**



**Table**

Data Indexes Model Constraints Grants Statistics UI Defaults Triggers Dependencies SQL REST Sample Queries

Add Column

Modify Column

Rename Column

Drop Column

Rename

Copy

Drop

Truncate

Create Lookup Table

Create App

| Column Name  | Data Type    | Nullable | Default | Primary Key |
|--------------|--------------|----------|---------|-------------|
| FLIGHT_NUM   | VARCHAR2(7)  | No       | -       | 1           |
| PLANE_TYPE   | VARCHAR2(20) | Yes      | -       | -           |
| AIRLINE      | VARCHAR2(35) | Yes      | -       | -           |
| FLIGHT_START | TIMESTAMP(0) | Yes      | -       | -           |
| FLIGHT_END   | TIMESTAMP(0) | Yes      | -       | -           |
| F_ORIGIN     | VARCHAR2(5)  | Yes      | -       | -           |
| F_DESINATION | VARCHAR2(5)  | Yes      | -       | -           |

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# Flights Table Data

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# Flight Package Table Description





- Stores data about available flight packages
- Contains flight package number, flight number, meal type, wifi, and flight class.
- Flight package number is primary key
- Flight number is a foreign key from the flights table
- Many flight packages can be made from one flight

# Flight Package Structure

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**Table** Data Indexes Model Constraints Grants Statistics UI Defaults Triggers Dependencies SQL REST Sample Queries

Add Column Modify Column Rename Column Drop Column Rename Copy Drop Truncate Create Lookup Table Create App

| Column Name  | Data Type    | Nullable | Default | Primary Key |
|--------------|--------------|----------|---------|-------------|
| F_PACKAGE_ID | NUMBER(4,0)  | No       | -       | 1           |
| FLIGHT_NUM   | VARCHAR2(8)  | Yes      | -       | -           |
| MEAL_TYPE    | VARCHAR2(20) | Yes      | -       | -           |
| WIFI         | NUMBER(1,0)  | Yes      | -       | -           |
| FLIGHT_CLASS | VARCHAR2(15) | Yes      | -       | -           |

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| EDIT  | F_PACKAGE_ID | FLIGHT_NUM | MEAL_TYPE   | WIFI | FLIGHT_CLASS |
|---|--------------|------------|-------------|------|--------------|
|  | 301          | UA 345     | Vegan       | 1    | Economy      |
|  | 302          | AC 8899    | Gluten free | 2    | Business     |
|  | 303          | AC 689     | Non diary   | 3    | First        |
|  | 304          | UA 1027    | Regular     | 4    | Economy      |
|  | 305          | UA 1847    | Standard    | 5    | First        |
|  | 306          | AS 802     | Vegetarian  | 6    | Economy      |
|  | 307          | TP 202     | Regular     | 7    | Business     |

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# Restaurant Table Description




- Stores data about available restaurants
- Contains restaurant id, restaurant name, restaurant street address, restaurant state/province, and restaurant country.
- Restaurant id is the primary key
- Restaurant id is a foreign key in the reservation table
- One restaurant can be found in many reservations.

# Restaurant Table Structure

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**Table** Data Indexes Model Constraints Grants Statistics UI Defaults Triggers Dependencies SQL REST Sample Queries

Add Column Modify Column Rename Column Drop Column Rename Copy Drop Truncate Create Lookup Table Create App

| Column Name     | Data Type    | Nullable | Default | Primary Key |
|-----------------|--------------|----------|---------|-------------|
| REST_ID         | NUMBER(5,0)  | No       | -       | 1           |
| REST_NAME       | VARCHAR2(30) | Yes      | -       | -           |
| REST_STREET     | VARCHAR2(45) | Yes      | -       | -           |
| REST_STATE_PROV | VARCHAR2(20) | Yes      | -       | -           |
| REST_COUNTRY    | VARCHAR2(30) | Yes      | -       | -           |

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TableDataIndexesModelConstraintsGrantsStatisticsUI DefaultsTriggersDependenciesSQLRESTSample Queries

QueryCount RowsInsert RowLoad Data

| EDIT  | REST_ID | REST_NAME                 | REST_STREET                      | REST_STATE_PROV | REST_COUNTRY |
|---|---------|---------------------------|----------------------------------|-----------------|--------------|
|  | 31      | Miss Ricky's              | 203 N Wabash, Chicago            | IL              | USA          |
|  | 32      | Eddie V's Prime Seafood   | 521 N Rush St, Chicago           | IL              | USA          |
|  | 33      | Piatto                    | 377 Duckworth St.                | St.John         | Canada       |
|  | 34      | Lucky Belly               | 50 N Hotel St Smith St, Honolulu | Hawaii          | USA          |
|  | 35      | KoKo Head Cafe            | 1145 12th Ave Ste C, Honolulu    | Hawaii          | USA          |
|  | 36      | Los Montes De Galicia     | Calle Azcona 46                  | Madrid          | Spain        |
|  | 37      | Zenith Brunch & Cocktails | Calle del Desengano 24           | Madrid          | Spain        |

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# Reservation Table Description



- Stores data about the reservations made.
- Contains reservation id, restaurant id, reservation start and end date and number of people.
- Reservation id is primary key
- Restaurant id is a foreign key from the restaurant table.
- Many reservations can be made from one restaurant.

# Reservation Table Structure

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Modify Column

Rename Column

Drop Column

Rename

Copy

Drop

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Create Lookup Table

Create App

| Column Name       | Data Type    | Nullable | Default | Primary Key |
|-------------------|--------------|----------|---------|-------------|
| RESERVATION_ID    | NUMBER(5,0)  | No       | -       | 1           |
| REST_ID           | NUMBER(5,0)  | Yes      | -       | -           |
| RES_START         | TIMESTAMP(0) | Yes      | -       | -           |
| RES_END           | TIMESTAMP(0) | Yes      | -       | -           |
| RES_NUM_OF_PEOPLE | NUMBER(5,0)  | Yes      | -       | -           |

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| EDIT  | RESERVATION_ID | REST_ID | RES_START                     | RES_END                       | RES_NUM_OF_PEOPLE |
|---|----------------|---------|-------------------------------|-------------------------------|-------------------|
|  | 1345           | 32      | 20-JAN-24 06.30.00.0000000 AM | 20-JAN-24 09.00.00.0000000 AM | 4                 |
|  | 1346           | 32      | 20-JAN-24 06.30.00.0000000 AM | 20-JAN-24 09.00.00.0000000 AM | 2                 |
|  | 1347           | 36      | 22-JAN-24 04.30.00.0000000 AM | 22-JAN-24 06.00.00.0000000 AM | 4                 |
|  | 1348           | 34      | 23-JAN-24 07.30.00.0000000 AM | 23-JAN-24 09.00.00.0000000 AM | 3                 |
|  | 1349           | 37      | 21-JAN-24 10.45.00.0000000 AM | 21-JAN-24 02.00.00.0000000 AM | 2                 |
|  | 1350           | 35      | 22-JAN-24 07.30.00.0000000 AM | 22-JAN-24 10.00.00.0000000 AM | 8                 |
|  | 1351           | 31      | 23-JAN-24 04.00.00.0000000 AM | 23-JAN-24 06.00.00.0000000 AM | 1                 |

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# Activity Table Description



- Stores data about fun vacation activities
- Contains activity ID, activity name, activity type, activity start, activity end, and activity cost per person
- Primary key is activity ID
- Becomes a foreign key in the activity booking table
- One activity can be a part of many activity bookings

# Activity Table Structure

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Add Column

Modify Column

Rename Column

Drop Column

Rename

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Drop

Truncate

Create Lookup Table

Create App

| Column Name         | Data Type     | Nullable | Default | Primary Key |
|---------------------|---------------|----------|---------|-------------|
| ACT_ID              | NUMBER(4,0)   | No       | -       | 1           |
| ACT_NAME            | VARCHAR2(100) | Yes      | -       | -           |
| ACT_TYPE            | VARCHAR2(20)  | Yes      | -       | -           |
| ACT_START           | TIMESTAMP(0)  | Yes      | -       | -           |
| ACT_END             | TIMESTAMP(0)  | Yes      | -       | -           |
| ACT_COST_PER_PERSON | NUMBER(7,2)   | Yes      | -       | -           |

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| EDIT | ACT_ID | ACT_NAME                      | ACT_TYPE             | ACT_START                    | ACT_END                      | ACT_COST_PER_PERSON |
|------|--------|-------------------------------|----------------------|------------------------------|------------------------------|---------------------|
|      | 1      | Surfing                       | Active               | 17-DEC-23 09.30.00.000000 AM | 17-DEC-23 01.00.00.000000 AM | 115                 |
|      | 2      | Spa Massage                   | Relaxing             | 17-DEC-23 11.00.00.000000 AM | 17-DEC-23 12.00.00.000000 PM | 85                  |
|      | 3      | The Baths and White Bay       | Relaxing/Sightseeing | 21-JAN-24 09.00.00.000000 AM | 21-JAN-24 04.00.00.000000 AM | 345                 |
|      | 4      | Skydeck Willis Tower          | Sightseeing          | 21-JAN-24 10.00.00.000000 AM | 21-JAN-24 06.00.00.000000 AM | 44                  |
|      | 5      | Food Tour                     | Sightseeing          | 22-JAN-24 09.30.00.000000 AM | 22-JAN-24 09.00.00.000000 AM | 185                 |
|      | 6      | Hop on Hop off                | Sightseeing          | 21-JAN-24 09.00.00.000000 AM | 21-JAN-24 06.00.00.000000 AM | 65                  |
|      | 7      | Horseback Riding on the Beach | Relaxing             | 21-JAN-24 04.30.00.000000 AM | 21-JAN-24 06.00.00.000000 AM | 95                  |

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# Activity Booking Table Description



- Stores data about the activities booked.
- Contains package ID and activity ID
- Package ID and activity ID make up a composite primary key
- Package ID and activity ID are foreign keys from the package and activity tables
- Many activity bookings can be made from one activity

# Activity Booking Table Structure

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Sample Queries

Add Column

Modify Column

Rename Column

Drop Column

Rename

Copy

Drop

Truncate

Create Lookup Table

Create App

| Column Name | Data Type   | Nullable | Default | Primary Key |
|-------------|-------------|----------|---------|-------------|
| PACKAGE_ID  | NUMBER(5,0) | No       | -       | 1           |
| ACTIVITY_ID | NUMBER(5,0) | No       | -       | 2           |

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Insert Row

Load Data

| EDIT | PACKAGE_ID | ACTIVITY_ID |
|------|------------|-------------|
|      | 12345      | 1           |
|      | 12346      | 2           |
|      | 12347      | 3           |
|      | 12348      | 4           |
|      | 12349      | 5           |
|      | 12350      | 5           |
|      | 12351      | 7           |

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# Hotel Table Description



- Stores data about hotels that can be booked for the vacation
- Contains hotel ID, hotel name, hotel type, hotel street address, hotel state/province, and hotel country
- Primary key is hotel ID
- Hotel ID becomes a foreign key in the booking table
- One hotel can be a part of many bookings

# Hotel Table Structure

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Sample Queries

Add Column

Modify Column

Rename Column

Drop Column

Rename

Copy

Drop

Truncate

Create Lookup Table

Create App

| Column Name      | Data Type    | Nullable | Default | Primary Key |
|------------------|--------------|----------|---------|-------------|
| HOTEL_ID         | NUMBER(6,0)  | No       | -       | 1           |
| HOTEL_NAME       | VARCHAR2(40) | Yes      | -       | -           |
| HOTEL_TYPE       | VARCHAR2(30) | Yes      | -       | -           |
| HOTEL_STREET     | VARCHAR2(30) | Yes      | -       | -           |
| HOTEL_STATE_PROV | VARCHAR2(40) | Yes      | -       | -           |
| HOTEL_COUNTRY    | VARCHAR2(30) | Yes      | -       | -           |

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# Booking Table Description



- Stores data about hotel bookings
- Contains booking ID, hotel ID, room type, number of rooms, and cost per room
- Hotel ID is a foreign key from the hotel table
- Many hotel bookings can be made from one hotel



# Booking Table Structure

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Schema **US\_B426\_SQL\_S05** ▾

**BOOKING** ▾

**Table** | Data | Indexes | Model | Constraints | Grants | Statistics | UI Defaults | Triggers | Dependencies | SQL | REST | Sample Queries

Add Column

Modify Column

Rename Column

Drop Column

Rename

Copy

Drop

Truncate

Create Lookup Table

Create App

| Column Name   | Data Type    | Nullable | Default | Primary Key |
|---------------|--------------|----------|---------|-------------|
| BOOKING_ID    | NUMBER(5,0)  | No       | -       | 1           |
| HOTEL_ID      | NUMBER(6,0)  | Yes      | -       | -           |
| ROOM_TYPE     | VARCHAR2(18) | Yes      | -       | -           |
| NUM_OF_ROOMS  | NUMBER(5,0)  | Yes      | -       | -           |
| COST_PER_ROOM | NUMBER(6,2)  | Yes      | -       | -           |

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BOOKING

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TableDataIndexesModelConstraintsGrantsStatisticsUI DefaultsTriggersDependenciesSQLRESTSample Queries

QueryCount RowsInsert RowLoad Data

| EDIT | BOOKING_ID | HOTEL_ID | ROOM_TYPE | NUM_OF_ROOMS | COST_PER_ROOM |
|------|------------|----------|-----------|--------------|---------------|
|      | 701        | 101      | Suite     | 2            | 140           |
|      | 702        | 102      | Single    | 1            | 100           |
|      | 703        | 103      | Double    | 3            | 210           |
|      | 704        | 104      | Suite     | 2            | 140           |
|      | 705        | 105      | Double    | 3            | 210           |
|      | 706        | 106      | Single    | 1            | 100           |
|      | 707        | 107      | Suite     | 2            | 140           |

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# Transportation Table Description



- Stores data about a single booking for a method of transportation
- Contains transportation ID, transportation type, start timestamp, and end timestamp
- Additional transportation is not available through this database
- Transportation ID is the primary key
- Transportation is a foreign key in the package table
- One transportation booking can be a part of one vacation package

# Transportation Table Structure

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Sample Queries

Add Column

Modify Column

Rename Column

Drop Column

Rename

Copy

Drop

Truncate

Create Lookup Table

Create App

| Column Name  | Data Type    | Nullable | Default | Primary Key |
|--------------|--------------|----------|---------|-------------|
| TRANSPORT_ID | NUMBER(5,0)  | No       | -       | 1           |
| TRANS_TYPE   | VARCHAR2(15) | Yes      | -       | -           |
| TRANS_START  | TIMESTAMP(0) | Yes      | -       | -           |
| TRANS_END    | TIMESTAMP(0) | Yes      | -       | -           |

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# Transportation Table Data

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Sample Queries

Query

Count Rows

Insert Row

Load Data

| EDIT | TRANSPORT_ID | TRANS_TYPE | TRANS_START                  | TRANS_END                    |
|------|--------------|------------|------------------------------|------------------------------|
|      | 607          | Bus        | 16-DEC-23 09.00.00.000000 AM | 16-DEC-23 11.00.00.000000 AM |
|      | 608          | Train      | 18-DEC-23 06.00.00.000000 AM | 18-DEC-23 11.00.00.000000 AM |
|      | 609          | Flight     | 21-DEC-23 05.00.00.000000 AM | 21-DEC-23 10.00.00.000000 AM |
|      | 610          | Flight     | 05-DEC-23 05.00.00.000000 AM | 05-DEC-23 09.00.00.000000 AM |
|      | 611          | Car        | 01-DEC-23 03.00.00.000000 AM | 01-DEC-23 11.00.00.000000 AM |
|      | 612          | Flight     | 19-DEC-23 08.00.00.000000 AM | 19-DEC-23 11.00.00.000000 AM |
|      | 613          | Bus        | 14-DEC-23 05.00.00.000000 AM | 14-DEC-23 11.00.00.000000 AM |

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# Customer Table Description



- Stores data about customers
- Contains customer ID, package ID, customer first name, customer last name, customer street address, customer state, customer zip code, customer phone number, and customer email.
- The primary key is customer ID
- Package ID is a foreign key in the customer table and links to package
- One customer can buy many packages

# Customer Table Structure

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CUSTOMER\_TABLE

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Sample Queries

Add Column

Modify Column

Rename Column

Drop Column

Rename

Copy

Drop

Truncate

Create Lookup Table

Create App

| Column Name  | Data Type    | Nullable | Default | Primary Key |
|--------------|--------------|----------|---------|-------------|
| CUSTOMER_ID  | NUMBER(5,0)  | No       | -       | 1           |
| PACKAGE_ID   | NUMBER(5,0)  | Yes      | -       | -           |
| C_FIRST_NAME | VARCHAR2(18) | Yes      | -       | -           |
| C_LAST_NAME  | VARCHAR2(18) | Yes      | -       | -           |
| C_STREET_ADD | VARCHAR2(20) | Yes      | -       | -           |
| C_STATE      | VARCHAR2(3)  | Yes      | -       | -           |
| C_ZIP_CODE   | NUMBER(5,0)  | Yes      | -       | -           |
| C_PHONE_NUM  | NUMBER(10,0) | Yes      | -       | -           |
| C_EMAIL      | VARCHAR2(40) | Yes      | -       | -           |

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# Customer Table Data

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
Sample Queries

Query

Count Rows

Insert Row

Load Data

| EDIT  | CUSTOMER_ID | PACKAGE_ID | C_FIRST_NAME | C_LAST_NAME | C_STREET_ADD         | C_STATE | C_ZIP_CODE | C_PHONE_NUM | C_EMAIL            |
|---|-------------|------------|--------------|-------------|----------------------|---------|------------|-------------|--------------------|
|  | 1101        | 12345      | Faaria       | Fatima      | 203 Elizabeth        | NJ      | 7633       | 7324983737  | faaria@mcc.org     |
|  | 1102        | 12345      | Anna         | Koganov     | 162 Morris Ave       | NJ      | 8342       | 7322343447  | anna@mcc.org       |
|  | 1103        | 12345      | Gabryella    | Orrego      | 735 Omori Str        | NJ      | 8367       | 9084952373  | gaby@mcc.org       |
|  | 1104        | 12346      | Sung         | Jinwoo      | 10 S Rank            | NJ      | 14324      | 2075434234  | jinwoo@rankers.net |
|  | 1105        | 12346      | Klara        | Bohringer   | 18 Germany Ave       | TX      | 3423       | 6547329885  | kj@agent.val       |
|  | 1106        | 12349      | Yohan        | Omen        | 23 shrouded lane     | LA      | 83234      | 2097654389  | omen@agent.val     |
|  | 1107        | 12349      | Lim          | Jaebeom     | 345 Beautiful Sky Rd | NY      | 7777       | 3201162014  | ahgase@got7.nest   |

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# Package Table Description



- Stores data about vacation packages
- Contains package ID, flight package ID, transportation ID, booking ID, reservation ID, number of people, total cost, and customer payments.
- The primary key is package ID.
- Flight package ID, transportation ID, booking ID, and reservation ID are all foreign keys from other tables in the package table
- One package contains one flight package, one transport, one hotel booking, and one restaurant reservation.

# Package Table Structure

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Table Data Indexes Model Constraints Grants Statistics UI Defaults Triggers Dependencies SQL REST Sample Queries

Add Column Modify Column Rename Column Drop Column Rename Copy Drop Truncate Create Lookup Table Create App

| Column Name     | Data Type   | Nullable | Default | Primary Key |
|-----------------|-------------|----------|---------|-------------|
| PACKAGE_ID      | NUMBER(5,0) | No       | -       | 1           |
| F_PACKAGE_ID    | NUMBER(4,0) | Yes      | -       | -           |
| TRANSPORT_ID    | NUMBER(5,0) | Yes      | -       | -           |
| BOOKING_ID      | NUMBER(5,0) | Yes      | -       | -           |
| RESERVATION_ID  | NUMBER(5,0) | Yes      | -       | -           |
| NUM_OF_PEOPLE   | NUMBER(3,0) | Yes      | -       | -           |
| P_TOTAL_COST    | NUMBER(6,2) | Yes      | -       | -           |
| P_CUST_PAYMENTS | NUMBER(6,2) | Yes      | -       | -           |

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Table Data Indexes Model Constraints Grants Statistics UI Defaults Triggers Dependencies SQL REST Sample Queries

Query Count Rows Insert Row Load Data

| EDIT  | PACKAGE_ID | F_PACKAGE_ID | TRANSPORT_ID | BOOKING_ID | RESERVATION_ID | NUM_OF_PEOPLE | P_TOTAL_COST | P_CUST_PAYMENTS |
|---|------------|--------------|--------------|------------|----------------|---------------|--------------|-----------------|
|  | 12345      | 303          | 607          | 701        | 1345           | 3             | 1345.42      | 745.42          |
|  | 12346      | 301          | 608          | 702        | 1346           | 2             | 856.43       | 856.43          |
|  | 12347      | 302          | 609          | 703        | 1347           | 7             | 3822.54      | 2822.54         |
|  | 12348      | 304          | 610          | 704        | 1348           | 1             | 452          | 452             |
|  | 12349      | 305          | 611          | 705        | 1349           | 2             | 839.73       | 234             |
|  | 12350      | 306          | 612          | 706        | 1350           | 3             | 742.97       | 742.97          |
|  | 12351      | 307          | 613          | 707        | 1351           | 5             | 2345.32      | 2345.32         |

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# SQL Statements

# Record Updates



```
-- Update a Record from each table
UPDATE FLIGHT_PACKAGE
SET FLIGHT_CLASS= 'Business'
WHERE F_PACKAGE_ID='301' AND FLIGHT_NUM
='UA 345';
```

```
UPDATE ACTIVITY
SET ACT_COST_PER_PERSON=300
WHERE ACT_ID=3;
```

```
UPDATE ACTIVITY_BOOKING
SET ACTIVITY_ID=5
WHERE PACKAGE_ID=12348;
```

```
UPDATE BOOKING
SET COST_PER_ROOM=125
WHERE BOOKING_ID=706;
```

```
UPDATE CUSTOMER_TABLE
SET C_ZIP_CODE=08831
WHERE C_LAST_NAME='Koganov';
```

```
UPDATE FLIGHTS
SET F_DESINATION= 'JFK'
WHERE FLIGHT_NUM='UA 1847';
```

```
UPDATE HOTEL
SET HOTEL_STATE_PROV='NL'
WHERE HOTEL_STATE_PROV='St.John's NL A1C
2B8';
```

```
UPDATE PACKAGE
SET NUM_OF_PEOPLE=6
WHERE PACKAGE_ID=12347;
```

```
UPDATE RESERVATION
SET REST_ID=36
WHERE RESERVATION_ID=1345;
```

```
UPDATE RESTAURANT
SET REST_STATE_PROV= 'Barcelona'
WHERE REST_ID=36;
```

```
UPDATE TRANSPORTATION
SET TRANS_TYPE='Train'
WHERE TRANSPORT_ID=611;
```



## Using an alias and a join

```
--Perform a calculation in at least one table and store the results of  
--the calculation(s) as an alias.
```

```
SELECT BOOKING_ID, NUM_OF_ROOMS, COST_PER_ROOM, NUM_OF_ROOMS*COST_PER_ROOM AS  
TOTAL_COST  
FROM BOOKING;  
--Demonstration of a Join
```

```
SELECT PACKAGE_ID, TRANSPORTATION.TRANSPORT_ID, TRANS_TYPE  
FROM PACKAGE JOIN TRANSPORTATION  
ON PACKAGE.TRANSPORT_ID=TRANSPORTATION.TRANSPORT_ID;
```

# Using an alias and a join

```
SELECT BOOKING_ID, NUM_OF_ROOMS, COST_PER_ROOM, NUM_OF_ROOMS*COST_PER_ROOM AS TOTAL_COST FROM BOOKING
```

| BOOKING_ID | NUM_OF_ROOMS | COST_PER_ROOM | TOTAL_COST |
|------------|--------------|---------------|------------|
| 701        | 2            | 140           | 280        |
| 702        | 1            | 100           | 100        |
| 703        | 3            | 210           | 630        |
| 704        | 2            | 140           | 280        |
| 705        | 3            | 210           | 630        |
| 706        | 1            | 125           | 125        |
| 707        | 2            | 140           | 280        |

7 rows selected. 0.07 seconds

7 rows selected. 0.07 seconds

```
SELECT PACKAGE_ID, TRANSPORTATION.TRANSPORT_ID, TRANS_TYPE FROM PACKAGE JOIN TRANSPORTATION ON PACKAGE.TRANSPORT_ID=TRANSPORTATION.TRANSPORT_ID
```

| PACKAGE_ID | TRANSPORT_ID | TRANS_TYPE |
|------------|--------------|------------|
| 12345      | 607          | Bus        |
| 12346      | 608          | Train      |
| 12347      | 609          | Flight     |
| 12348      | 610          | Flight     |
| 12349      | 611          | Train      |
| 12350      | 612          | Flight     |
| 12351      | 613          | Bus        |



## 2 level select statement and multiple table query

```
--Two Level Select Statement
SELECT BOOKING_ID, HOTEL_NAME, COST_PER_ROOM
FROM HOTEL, BOOKING
WHERE HOTEL.HOTEL_ID=BOOKING.HOTEL_ID AND
COST_PER_ROOM<=(SELECT AVG(COST_PER_ROOM)
                  FROM BOOKING
                  WHERE HOTEL.HOTEL_ID=BOOKING.HOTEL_ID);
```

```
--One Multiple table query useful to your specific project.
--allows people to see all packages that contain a certain
--activity
```

```
SELECT ACT_ID, ACT_NAME, PACKAGE_ID
FROM ACTIVITY, ACTIVITY_BOOKING
WHERE ACTIVITY.ACT_ID=ACTIVITY_BOOKING.ACTIVITY_ID AND
ACT_ID=5;
```



# 2 level select statement and multiple table query

```
SELECT BOOKING_ID, HOTEL_NAME, COST_PER_ROOM FROM HOTEL, BOOKING WHERE HOTEL.HOTEL_ID=BOOKING.HOTEL_ID AND COST_PER_ROOM<=(SELECT AVG(COST_PER_ROOM)
HOTEL.HOTEL_ID=BOOKING.HOTEL_ID)
```

FROM BOOKING

WHERE

| BOOKING_ID | HOTEL_NAME                 | COST_PER_ROOM |
|------------|----------------------------|---------------|
| 701        | Winsor House               | 140           |
| 702        | Alohilani                  | 100           |
| 703        | Hostal La Fontana          | 210           |
| 704        | Madrid Marriott Auditorium | 140           |
| 705        | Devele Inn                 | 210           |
| 706        | Sentral Michigan Avenue    | 125           |
| 707        | Chicago Oakdale Apt        | 140           |

7 rows selected. 0.06 seconds

```
SELECT ACT_ID, ACT_NAME, PACKAGE_ID FROM ACTIVITY, ACTIVITY_BOOKING WHERE ACTIVITY.ACT_ID=ACTIVITY_BOOKING.ACTIVITY_ID AND ACT_ID=5
```

| ACT_ID | ACT_NAME  | PACKAGE_ID |
|--------|-----------|------------|
| 5      | Food Tour | 12348      |
| 5      | Food Tour | 12349      |
| 5      | Food Tour | 12350      |

3 rows selected. 0.02 seconds

# Conclusion



# Conclusion

- This database is here to solve your data storage and management needs.
- The system is set up in a way that allows users to search for and select the data they need
- Users can create invoices for the vacation package they created.
- Allows for the further development of an application to streamline the process of booking a vacation.