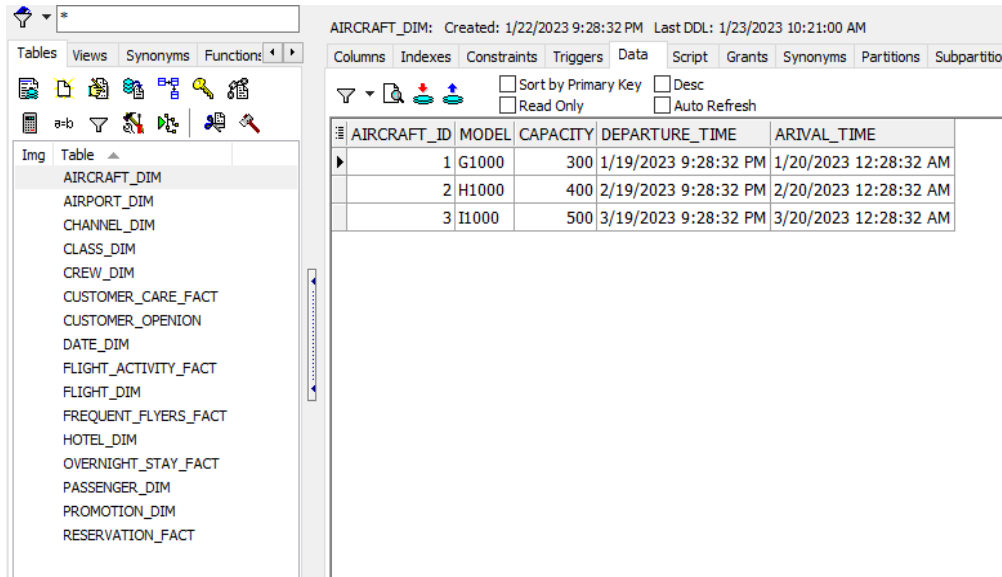


Physical Data Model

--Aircraft Dim

```
CREATE TABLE DW.AIRCRAFT_DIM
(  
  AIRCRAFT_ID    NUMBER,  
  MODEL          VARCHAR2(100 BYTE),  
  CAPACITY       NUMBER,  
  DEPARTURE_TIME DATE,  
  ARIVAL_TIME    DATE  
)
```



The screenshot shows a database management interface. On the left, a tree view lists various tables including AIRCRAFT_DIM, AIRPORT_DIM, CHANNEL_DIM, CLASS_DIM, CREW_DIM, CUSTOMER_CARE_FACT, CUSTOMER_OPENION, DATE_DIM, FLIGHT_ACTIVITY_FACT, FLIGHT_DIM, FREQUENT_FLYERS_FACT, HOTEL_DIM, OVERNIGHT_STAY_FACT, PASSENGER_DIM, PROMOTION_DIM, and RESERVATION_FACT. The main pane displays the AIRCRAFT_DIM table details. At the top, it states 'AIRCRAFT_DIM: Created: 1/22/2023 9:28:32 PM Last DDL: 1/23/2023 10:21:00 AM'. Below this, tabs for Columns, Indexes, Constraints, Triggers, Data, Script, Grants, Synonyms, Partitions, and Subpartitions are visible. The 'Columns' tab is active, showing a table with columns: AIRCRAFT_ID, MODEL, CAPACITY, DEPARTURE_TIME, and ARIVAL_TIME. Below the column list, there are checkboxes for 'Sort by Primary Key', 'Desc', 'Read Only', and 'Auto Refresh'. The 'Data' tab is also visible, showing three rows of data.

AIRCRAFT_ID	MODEL	CAPACITY	DEPARTURE_TIME	ARIVAL_TIME
1	G1000	300	1/19/2023 9:28:32 PM	1/20/2023 12:28:32 AM
2	H1000	400	2/19/2023 9:28:32 PM	2/20/2023 12:28:32 AM
3	I1000	500	3/19/2023 9:28:32 PM	3/20/2023 12:28:32 AM

--Airport Dim

```
CREATE TABLE DW.AIRPORT_DIM
(  
  AIRPORT_ID    NUMBER,  
  AIRPORT_NAME  VARCHAR2(100 BYTE),  
  REGION        VARCHAR2(100 BYTE),  
  COUNTRY       VARCHAR2(100 BYTE),  
  CITY          VARCHAR2(100 BYTE),  
  STATE         VARCHAR2(100 BYTE)  
)
```

The screenshot shows a database management tool interface. On the left, a 'Tables' list includes AIRPORT_DIM. The main pane displays the table's metadata: 'AIRPORT_DIM: Created: 1/22/2023 9:29:11 PM Last DDL: 1/22/2023 9:29:11 PM'. Below this, the 'Columns' tab shows the table's structure. The table has six columns: AIRPORT_ID, AIRPORT_NAME, REGION, COUNTRY, CITY, and STATE. Two rows of data are visible: row 11 for 'cairo airport' and row 12 for 'alexandria airport'.

AIRPORT_ID	AIRPORT_NAME	REGION	COUNTRY	CITY	STATE
11	cairo airport	middle east	egypt	cairo	cairo
12	alexandria airport	middle east	egypt	alex	alex

--Channel Dim

```
CREATE TABLE DW.CHANNEL_DIM
(  
  CHANNEL_ID  NUMBER,  
  CHANNEL_TYPE VARCHAR2(100 BYTE)  
)
```

er Schema Browser Editor

CHANNEL_DIM: Created: 1/22/2023 9:28:40 PM Last DDL: 1/22/2023 9:28:40 PM

Columns Indexes Constraints Triggers Data Script Grants Synonyms

☐ Sort by Primary Key ☐ Desc
☐ Read Only ☐ Auto Refresh

CHANNEL_ID	CHANNEL_TYPE
111	website
222	office
333	telephone

Row 1 of 3 total rows

--Class Dim

```
CREATE TABLE DW.CLASS_DIM
(  
  CLASS_ID      NUMBER,  
  RESERVED_CLASS VARCHAR2(100 BYTE),  
  UPDATED_CLASS  VARCHAR2(100 BYTE),  
  CLASS_INDICATOR VARCHAR2(100 BYTE)  
)
```

DW

CLASS_DIM: Created: 1/22/2023 9:29:31 PM Last DDL: 1/22/2023 9:29:31 PM

Columns Indexes Constraints Triggers Data Script Grants Synonyms Partitions Subpa

☐ Sort by Primary Key ☐ Desc
☐ Read Only ☐ Auto Refresh

CLASS_ID	RESERVED_CLASS	UPDATED_CLASS	CLASS_INDICATOR
121	business	first class	upgrade
122	first class	economy	downgrade
123	economy	economy	no change
124	business	business	no change
125	first class	first class	no change
126	business	economy	downgrade
127	first class	business	downgrade
128	economy	first class	upgrade
129	economy	business	upgrade

Tables Views Synonyms Functions

Table

- AIRCRAFT_DIM
- AIRPORT_DIM
- CHANNEL_DIM
- CLASS_DIM
- CREW_DIM
- CUSTOMER_CARE_FACT
- CUSTOMER_OPENION
- DATE_DIM
- FLIGHT_ACTIVITY_FACT
- FLIGHT_DIM
- FREQUENT_FLYERS_FACT
- HOTEL_DIM
- OVERNIGHT_STAY_FACT
- PASSENGER_DIM
- PROMOTION_DIM
- RESERVATION_FACT

--Crew Dim

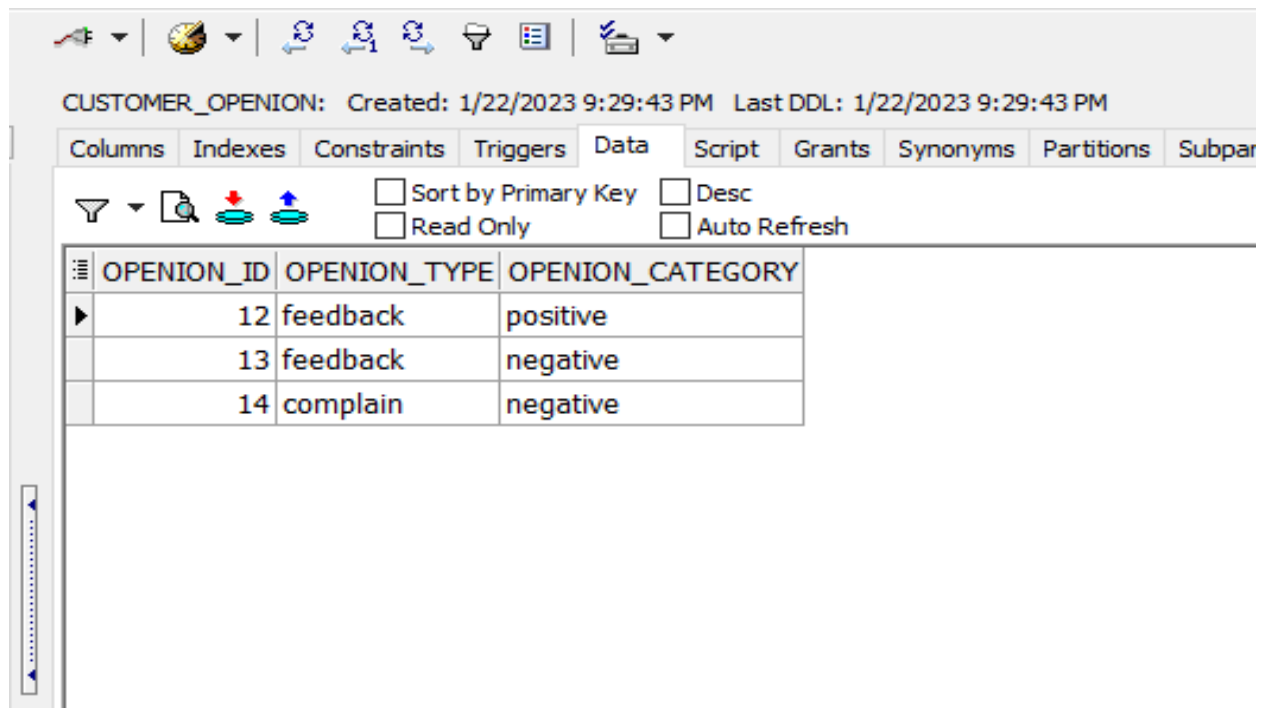
```
CREATE TABLE DW.CREW_DIM
(  
  EMPLOYEE_ID  NUMBER,  
  EMP_NAME     VARCHAR2(100 BYTE),  
  DATE_OF_BIRTH DATE,  
  SALARY       NUMBER,  
  POSITION      VARCHAR2(100 BYTE),  
  EMAIL        VARCHAR2(100 BYTE)  
)
```

The screenshot shows a database management tool interface. On the left, a schema browser lists various tables, with CREW_DIM highlighted. The main pane displays the table's metadata, including its creation and last DDL dates. Below this, tabs for Columns, Indexes, Constraints, Triggers, Data, Script, Grants, Synonyms, Partitions, Subpartitions, Stats/Size, and Referential Integrity are visible. The 'Columns' tab is active, showing the table's structure. The 'Data' tab is also visible, displaying a list of four records.

EMPLOYEE_ID	EMP_NAME	DATE_OF_BIRTH	SALARY	POSITION	EMAIL
1	Mayar	6/3/2000	120000	pilot	mayar@hotmail.com
2	Omar	7/22/1995	80000	security	omar@hotmail.com
3	Nayera	8/19/2000	100000	copilot	nayera@hotmail.com
4	Mariam	9/30/2000	50000	flight attendant	mariam@hotmail.com

--Customer Opinion Dim

```
CREATE TABLE DW.CUSTOMER_OPENION  
(  
  OPENION_ID      NUMBER,  
  OPENION_TYPE    VARCHAR2(100 BYTE),  
  OPENION_CATEGORY VARCHAR2(100 BYTE)  
)
```



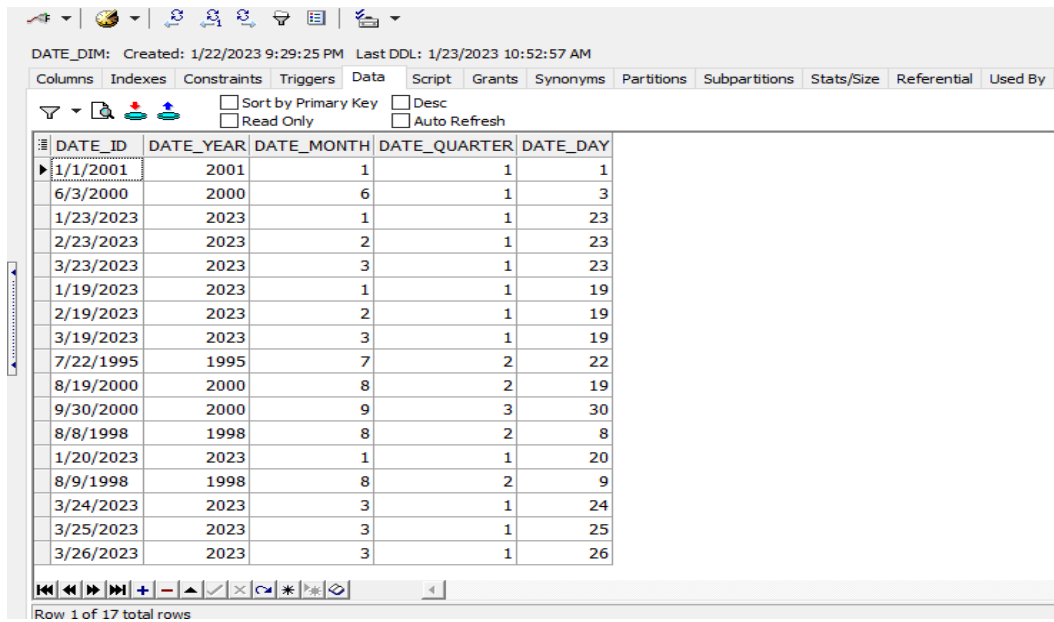
The screenshot shows a database management tool interface. At the top, there is a toolbar with various icons. Below the toolbar, the text "CUSTOMER_OPENION: Created: 1/22/2023 9:29:43 PM Last DDL: 1/22/2023 9:29:43 PM" is displayed. Below this, there are tabs for "Columns", "Indexes", "Constraints", "Triggers", "Data", "Script", "Grants", "Synonyms", "Partitions", and "Subpar". The "Data" tab is selected. Below the tabs, there are checkboxes for "Sort by Primary Key", "Desc", "Read Only", and "Auto Refresh". Below these checkboxes, there is a table with three columns: "OPENION_ID", "OPENION_TYPE", and "OPENION_CATEGORY". The table contains three rows of data.

OPENION_ID	OPENION_TYPE	OPENION_CATEGORY
12	feedback	positive
13	feedback	negative
14	complain	negative

--Date Dim

```
CREATE TABLE DW.DATE_DIM
```

```
(  
  DATE_ID      DATE,  
  DATE_YEAR    NUMBER,  
  DATE_MONTH   NUMBER,  
  DATE_QUARTER NUMBER,  
  DATE_DAY     NUMBER  
)
```









The screenshot shows a database management tool interface. At the top, it displays the table name 'DATE_DIM' and its creation details: 'Created: 1/22/2023 9:29:25 PM' and 'Last DDL: 1/23/2023 10:52:57 AM'. Below this is a tabbed interface with 'Columns', 'Indexes', 'Constraints', 'Triggers', 'Data', 'Script', 'Grants', 'Synonyms', 'Partitions', 'Subpartitions', 'Stats/Size', 'Referential', and 'Used By'. The 'Data' tab is selected, showing a table with 5 columns: 'DATE_ID', 'DATE_YEAR', 'DATE_MONTH', 'DATE_QUARTER', and 'DATE_DAY'. The table contains 17 rows of data. The first row is highlighted. Below the table is a toolbar with various navigation and editing icons. At the bottom, it says 'Row 1 of 17 total rows'.

DATE_ID	DATE_YEAR	DATE_MONTH	DATE_QUARTER	DATE_DAY
1/1/2001	2001	1	1	1
6/3/2000	2000	6	1	3
1/23/2023	2023	1	1	23
2/23/2023	2023	2	1	23
3/23/2023	2023	3	1	23
1/19/2023	2023	1	1	19
2/19/2023	2023	2	1	19
3/19/2023	2023	3	1	19
7/22/1995	1995	7	2	22
8/19/2000	2000	8	2	19
9/30/2000	2000	9	3	30
8/8/1998	1998	8	2	8
1/20/2023	2023	1	1	20
8/9/1998	1998	8	2	9
3/24/2023	2023	3	1	24
3/25/2023	2023	3	1	25
3/26/2023	2023	3	1	26

--Flight Dim

```
CREATE TABLE DW.FLIGHT_DIM
(
    FLIGHT_ID          NUMBER,
    AIRPORT_DEPARTURE  VARCHAR2(100 BYTE),
    AIRPORT_ARRIVAL    VARCHAR2(100 BYTE),
    FLIGHT_TYPE        VARCHAR2(100 BYTE)
)
```





FLIGHT_DIM: Created: 1/22/2023 9:28:24 PM Last DDL: 1/22/2023 9:28:24 PM

Columns	Indexes	Constraints	Triggers	Data	Script	Grants	Synonyms	Partitions	Subpartitions	Stats/Size	Refresh
<div>     <input type="checkbox"/> Sort by Primary Key <input type="checkbox"/> Desc <input type="checkbox"/> Read Only <input type="checkbox"/> Auto Refresh </div>											
	FLIGHT_ID	AIRPORT_DEPARTURE	AIRPORT_ARRIVAL	FLIGHT_TYPE							
	1	cairo airport	abu-dhabi airport	global							
	2	aswan airport	cairo airport	local							

--Hotel Dim

```
CREATE TABLE DW.HOTEL_DIM
(
    HOTEL_ID          NUMBER,
    HOTEL_NAME        VARCHAR2(100 BYTE),
    COUNTRY           VARCHAR2(100 BYTE),
    CITY              VARCHAR2(100 BYTE),
    NUMBER_OF_ROOMS   NUMBER,
    HOTLINE           NUMBER,
    EMAIL             VARCHAR2(100 BYTE)
)
```

HOTEL_DIM: Created: 1/22/2023 9:28:54 PM Last DDL: 1/22/2023 9:28:54 PM





Columns	Indexes	Constraints	Triggers	Data	Script	Grants	Synonyms	Partitions	Subpartitions	Stats/Size	Referential	Used By	Policies	Auditing
<div>     <input type="checkbox"/> Sort by Primary Key <input type="checkbox"/> Desc <input type="checkbox"/> Read Only <input type="checkbox"/> Auto Refresh </div>														
HOTEL_ID	HOTEL_NAME	COUNTRY	CITY	NUMBER_OF_ROOMS	HOTLINE	EMAIL								
123	hilton	egypt	cairo	10000	1950	hilton@hotmail.com								
456	gw-marriott	saudi arabia	el-reyad	50000	5052	marriott@hotmail.com								

--Passenger Dim

```
CREATE TABLE DW.PASSENGER_DIM
(  
  PASSENGER_ID    NUMBER,  
  PASSENGER_NAME  VARCHAR2(100 BYTE),  
  DATE_OF_BIRTH   DATE,  
  EMAIL           VARCHAR2(100 BYTE),  
  STATUS          VARCHAR2(100 BYTE),  
  PHONE           NUMBER,  
  COUNTRY         VARCHAR2(100 BYTE)  
)
```

PASSENGER_DIM: Created: 1/22/2023 9:28:47 PM Last DDL: 1/22/2023 9:28:47 PM







Columns Indexes Constraints Triggers Data Script Grants Synonyms Partitions Subpartitions Stats/Size Referential Used By Po

    ☐ Sort by Primary Key ☐ Desc
☐ Read Only ☐ Auto Refresh

	PASSENGER_ID	PASSENGER_NAME	DATE_OF_BIRTH	EMAIL	STATUS	PHONE	COUNTRY
▶	1	mariam	6/3/2000	mariam@hotmail.com	platinum	11111111	egypt
	2	elbahey	8/19/2000	elbahey@hotmail.com	gold	12222222	egypt
	3	doaa	7/22/1995	doaa@hotmail.com	silver	13333333	spain
	4	fatma	8/8/1998	fatma@hotmail.com	aluminum	14444444	usa
	5	shahd	1/20/2023	shahd@hotmail.com	platinum	15555555	colombia
	6	donia	1/19/2023	doia@hotmail.com	gold	1666666666	egypt
	7	abdelrahman	1/19/2023	abdo@hotmail.com	platinum	11777777	dubai

--Promotion Dim

```
CREATE TABLE DW.PROMOTION_DIM  
(  
    PROMOTION_ID          NUMBER,  
    PROMOTION_DESCRIPTION VARCHAR2(100 BYTE)  
)
```

Columns	Indexes	Constraints	Triggers	Data	Script	Grants	Synonyms	Partitions	Subpartitions
				<input type="checkbox"/> Sort by Primary Key <input type="checkbox"/> Desc <input type="checkbox"/> Read Only <input type="checkbox"/> Auto Refresh					
	PROMOTION_ID	PROMOTION_DESCRIPTION							
	4	20% off on the next first class reservation							
	5	free 5kg luggage weight when reserved business class							

-----facts-----

--Customer_Care_Fact

```
create table customer_care_fact( date_id date constraint care_date_fk references
date_dim(date_id), flight_id number constraint care_flight_fk references
flight_dim(flight_id),
passenger_id number constraint care_pass_fk
references passenger_dim(passenger_id), openion_id number constraint
care_opinion_fk references customer_opinion(openion_id),
interaction_type varchar2(100), description
varchar2(100), problem_severity varchar2(100), feedback_rate number);
```

CUSTOMER_CARE_FACT: Created: 1/23/2023 10:29:37 AM Last DDL: 1/23/2023 10:29:37 AM

Columns

Indexes

Constraints

Triggers

Data

Script

Grants

Synonyms

Partitions

Subpartitions

Stats/Size

Referential

Used By

Policies

Auditing

☐

Sort by Primary Key

☐

Desc

☐

Read Only

☐

Auto Refresh

	DATE_ID	FLIGHT_ID	PASSENGER_ID	OPENION_ID	INTERACTION_TYPE	DESCRIPTION	PROBLEM_SEVERITY	FEEDBACK_RATE
▶	1/23/2023	1	2	14	after	stolen bag	high	2
	3/19/2023	2	4	12	within	good food		4
	1/20/2023	1	2	12	after	good food		5

--Flight_Activity_Fact

```
create table flight_activity_fact( flight_id number constraint flight_fk references
flight_dim(flight_id) ,
                                passenger_id number constraint pass_fk references
passenger_dim(passenger_id),
                                airport_id number constraint airport_fk references
airport_dim(airport_id),
                                depature_date date constraint depature_fk references
date_dim(date_id) ,aircraft_id number constraint aircraft_fk references
aircraft_dim(aircraft_id) ,arrival_time date constraint arrival_fk references date_dim
(date_id),duration number,
                                no_miles number , total_price number , total_cost
number , total_profit number );
```

ColumnsIndexesConstraintsTriggersDataScriptGrantsSynonymsPartitionsSubpartitionsStats/SizeReferentialUsed ByPoliciesAuditing

<

--Frequent_Flayers_Fact

```
create table frequent_flyers_fact( passenger_id number constraint frequent_pass_fk
references passenger_dim(passenger_id), date_id date constraint frequent_date_fk
references date_dim(date_id),
                                number_of_miles number, promotion_id number
constraint flyer_promo_fk references promotion_dim(promotion_id) ,
response_to_promotions varchar(10), status varchar2(100), class_id number constraint
frequent_class_fk references class_dim(class_id),
                                overnight_hours number );
```





FREQUENT_FLYERS_FACT: Created: 1/23/2023 1:25:05 PM Last DDL: 1/23/2023 1:25:05 PM

ColumnsIndexesConstraintsTriggersDataScriptGrantsSynonymsPartitionsSubpartitionsStats/SizeReferentialUsed ByPoliciesAuditing

--Overnight_stay_Fact

```
create table overnight_stay_fact(ticket_number number primary key, departure_time
date constraint overnight_dept_fk references date_dim(date_id), arrival_time date
constraint overnight_arriv_fk references date_dim(date_id),
                                hotel_id number constraint overnight_hotel_fk
references hotel_dim(hotel_id), channel_id number constraint overnight_channel_fk
references channel_dim (channel_id),
                                passenger_id number constraint hotel_pass_fk
references passenger_dim(passenger_id), number_of_nights number);
```




OVERNIGHT_STAY_FACT: Created: 1/23/2023 11:13:58 AM Last DDL: 1/23/2023 11:13:58 AM

Columns	Indexes	Constraints	Triggers	Data	Script	Grants	Synonyms	Partitions	Subpartitions	Stats/Size	Referential	Used By	Policies	Auditing
<div>     <input type="checkbox"/> Sort by Primary Key <input type="checkbox"/> Desc <input type="checkbox"/> Read Only <input type="checkbox"/> Auto Refresh </div>														
TICKET_NUMBER	DEPARTURE_TIME	ARRIVAL_TIME	HOTEL_ID	CHANNEL_ID	PASSENGER_ID	NUMBER_OF_NIGHTS								
123	1/19/2023	1/20/2023	123	111	1	5								
124	3/23/2023	3/23/2023	123	111	2	0								
125	3/23/2023	3/24/2023	456	333	3	2								
126	3/24/2023	3/24/2023	456	222	4	0								
127	1/19/2023	1/20/2023	123	333	1	15								

--Reservation_Fact

```
create table reservation_fact( channel_id number constraint channel_resv_fk references
channel_dim(channel_id),
                             passenger_id number constraint pass_resv_fk references
passenger_dim(passenger_id),
                             date_id date constraint date_resv_fk references
date_dim(date_id), class_id number constraint class_resv_fk references
class_dim(class_id),
                             fare_base_type varchar2(100), ticket_number number,
ticket_price number, flight_id number constraint flight_resv_fk references
flight_dim(flight_id),
                             promotion_id number constraint resv_promotion_fk
references promotion_dim(promotion_id), number_of_luggage number,
payment_method varchar2(100), seat number);
```

RESERVATION_FACT: Created: 1/23/2023 12:03:44 PM Last DDL: 1/23/2023 12:03:44 PM

Columns	Indexes	Constraints	Triggers	Data	Script	Grants	Synonyms	Partitions	Subpartitions	Stats/Size	Referential	Used By	Policies	Auditing
  	<input type="checkbox"/> Sort by Primary Key	<input type="checkbox"/> Desc	<input type="checkbox"/> Read Only	<input type="checkbox"/> Auto Refresh										
CHANNEL_ID	PASSENGER_ID	DATE_ID	CLASS_ID	FARE_BASE_TYPE	TICKET_NUMBER	TICKET_PRICE	FLIGHT_ID	PROMOTION_ID	NUMBER_OF_LUGGAGE	PAYMENT_METHOD	SEAT			
111	1	1/19/2023	121	full fare	123	100	1	4	5	cash	54			
222	2	1/20/2023	122	discount fare	124	200	2	5	2	visa	12			
333	3	3/24/2023	123	full fare	125	300	2		7	visa	602			