

Introduction to Data Management: Assignment 2

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Problem Statement:

Based on the objective of the last assignment, we have now created a fully functioning DDL script in this project to prepare a demo of the Hotel Reservation System database for the chain of hotels to easily manage locations, customers, and reservations. This database will take as input the details of customers, their reservations, associated payment details and other information to streamline the hotel reservation process.

Methodology:

1. To avoid any confusion, we have first dropped all the sequences, indexes and data tables that we would have created in this assignment based on the ERD.
2. Next, we have moved on to create sequences for auto-generation and update of Payment ID, Reservation ID, Room ID, Location ID, Feature ID and Customer ID with each entry.
3. Then we have created the following tables with constraints and initial entries as per the given instructions:

- a. Customer: The table contains customer IDs, name, email, contact number, address, birthday, stay credit status and history for the customer.

	CUSTOMER_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	State	ZIP	BIRTHDATE	STAY_CREDITS_EARNED	STAY_CREDITS_USED
1	100001	Sahil	Natu	sn25936@utexas.edu	669-334-9876	1109 East Ave	Apt 445	Austin TX		78702	01-01-95	0	0
2	100002	Mohammed	Lee	m.lee.fake@utexas.edu	110-330-5500	007 North Ave	(null)	Boston MA		02200	01-01-80	59	20

- b. Customer Payment: This table contains the card/ payment details and billing address for the customer

	PAYMENT_ID	CUSTOMER_ID	CARDHOLDER_FIRST_NAME	CARDHOLDER_MID_NAME	CARDHOLDER_LAST_NAME	CARD_TYPE	CARD_NUMBER	EXPIRATION_DATE	CC_ID	BILLING_ADDRESS	BILLING_CITY	BILLING_STATE	BILLING_ZIP
1	1	100001	Sahil	(null)	Natu	VISA	9876543210987654	01-01-23	765	1109 East Ave Apt 445 Austin	TX	78702	
2	2	100002	Mohammed	2	Lee	MSR	8765432109876543	01-02-26	999	007 North Ave Boston	MA	02200	

- c. Reservation: This contains the reservation details for the given customer, including check-in and check-out dates, status, discount code and customer ratings.

	RESERVATION_ID	CUSTOMER_ID	CONFIRMATION_NBR	DATE_CREATED	CHECK_IN_DATE	CHECK_OUT_DATE	STATUS	DISCOUNT_CODE	RESERVATION_TOTAL	CUSTOMER_RATING	NOTES
1	1	100001	WER76A2	07-10-21	21-10-21	(null)	U	(null)	740	(null)	Rental car required by the customer at the time of check-in
2	2	100002	UUD76T0	07-10-21	11-08-21	12-08-21	C	WR334567890E	550	4.5	(null)
3	3	100002	RET99G2	07-10-21	30-09-21	02-10-21	I	(null)	280	(null)	(null)

- d. Location: This contains the details for the hotel location such as address and contact details.

	LOCATION_ID	LOCATION_NAME	ADDRESS	CITY	State	ZIP	PHONE	URL
1	1	South Congress	411 South Congress Ave Austin	TX		78701	512-098-5674	southcongress@sourapplestays.com
2	2	East 7th Lofts	599 East 7th St Austin	TX		78702	512-098-5677	east7lofts@sourapplestays.com
3	3	Balcones Canyonlands	109 Lamar St Marble Falls TX			78657	512-090-5670	balconescanyonlands@sourapplestays.com

- e. Features: This will contain all the features/ amenities provided by the hotels

	Feature_ID	FEATURE_NAME
1	1	Swimming Pool
2	2	WiFi
3	3	Car Rentals

- f. Room: This will contain information about the room booked, mainly the room location, maximum people allowed and tariff.

	ROOM_ID	LOCATION_ID	FLOOR	ROOM_NUMBER	ROOM_TYPE	SQUARE_FOOTAGE	MAX_PEOPLE	WEEKDAY_RATE	WEEKEND_RATE
1	1	1	3	270		250	2	140	180
2	2	1	9	35		750	4	550	600
3	3	2	2	310		350	3	160	190
4	4	2	1	210		320	2	130	150
5	5	3	0	140		400	6	200	250
6	6	3	0	70		350	4	160	210

- g. Location Features Linking & Reservation Details: These tables will help break the many-to-many relationships between location & features and reservations & rooms.

4. Lastly, we have created indices on all the foreign keys which aren't primary keys; customer ID (Customer Payment & Reservation) and Location ID (Room). We have also created indices on state (Customer) and status (Reservation) so that it gives us a benefit while searching for customers from different geographies or while searching for reservations for a specific status.