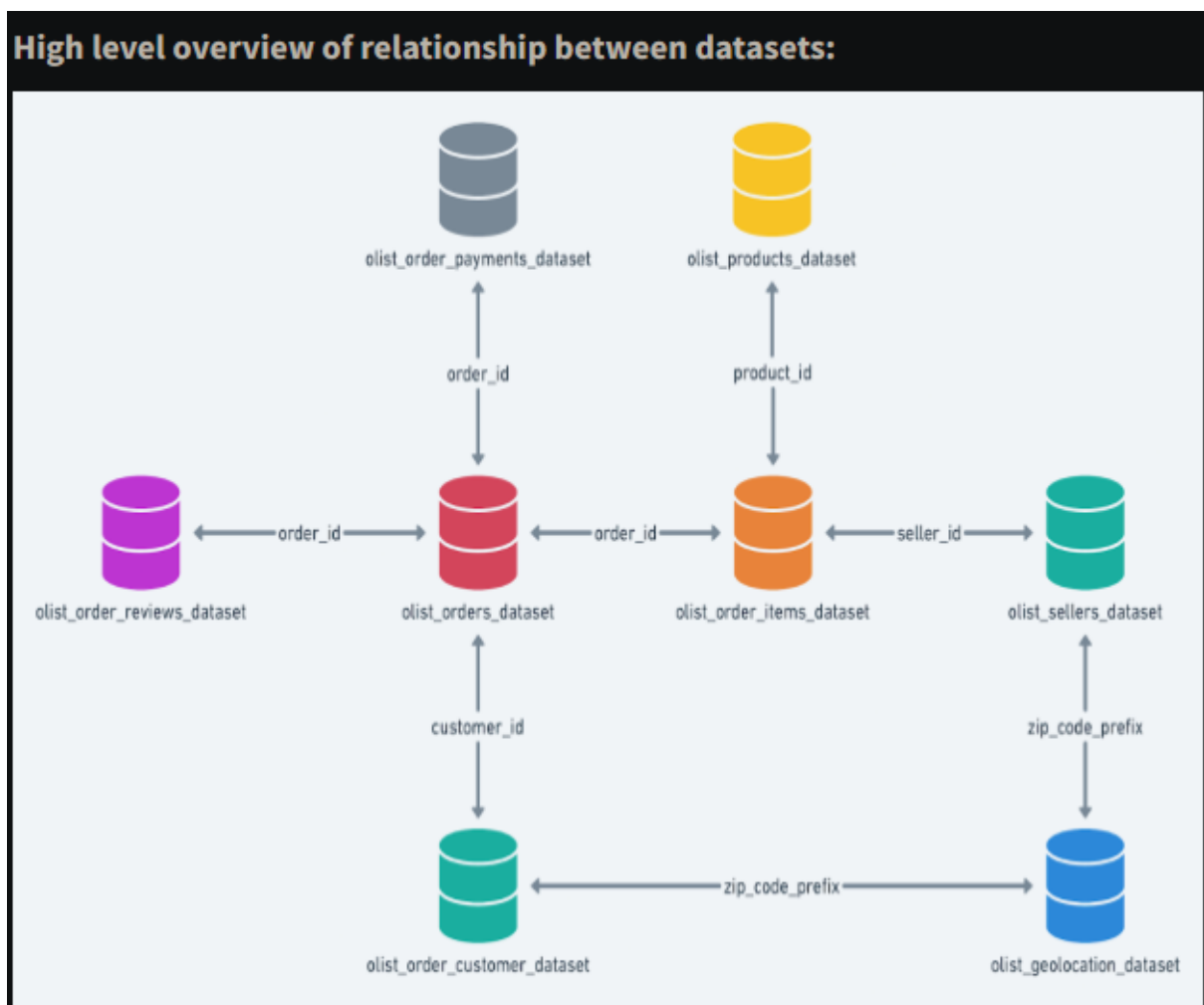


# Target: SQL Business Case Study



Schema of the Database

Q1 -> Import the dataset and do usual exploratory analysis steps like checking the structure & characteristics of the dataset

### 1.a) Data type of columns in a table

## 1) customers Table Schema

```
select * from INFORMATION_SCHEMA.COLUMNS
where TABLE_NAME='customers'
```

TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
Scaler	dbo	customers	customer_id	1	NULL	NO	nvarchar
Scaler	dbo	customers	customer_unique_id	2	NULL	NO	nvarchar
Scaler	dbo	customers	customer_zip_code_prefix	3	NULL	NO	int
Scaler	dbo	customers	customer_city	4	NULL	NO	nvarchar
Scaler	dbo	customers	customer_state	5	NULL	NO	nvarchar

## 2) geolocation Table Schema

```
select * from INFORMATION_SCHEMA.COLUMNS
where TABLE_NAME='geolocation'
```

10 % ◀

Results

Messages

	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
1	Scaler	dbo	geolocation	geolocation_zip_code_prefix	1	NULL	YES	nvarchar
2	Scaler	dbo	geolocation	geolocation_lat	2	NULL	YES	nvarchar
3	Scaler	dbo	geolocation	geolocation_lng	3	NULL	YES	nvarchar
4	Scaler	dbo	geolocation	geolocation_city	4	NULL	YES	nvarchar
5	Scaler	dbo	geolocation	geolocation_state	5	NULL	YES	nvarchar

### 3) order\_items Table Schema

```
select * from INFORMATION_SCHEMA.COLUMNS
where TABLE_NAME='order_items'
```

%

Results

Messages

	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
	Scaler	dbo	order_items	order_id	1	NULL	NO	nvarchar
	Scaler	dbo	order_items	order_item_id	2	NULL	NO	tinyint
	Scaler	dbo	order_items	product_id	3	NULL	NO	nvarchar
	Scaler	dbo	order_items	seller_id	4	NULL	NO	nvarchar
	Scaler	dbo	order_items	shipping_limit_date	5	NULL	NO	datetime2
	Scaler	dbo	order_items	price	6	NULL	NO	float
	Scaler	dbo	order_items	freight_value	7	NULL	NO	float

	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
1	Scaler Business Case Study :1	dbo	order_items	"order_id"	1	NULL	YES	varchar
2	Scaler Business Case Study :1	dbo	order_items	"order_item_id"	2	NULL	YES	varchar
3	Scaler Business Case Study :1	dbo	order_items	"product_id"	3	NULL	YES	varchar
4	Scaler Business Case Study :1	dbo	order_items	"seller_id"	4	NULL	YES	varchar
5	Scaler Business Case Study :1	dbo	order_items	"shipping_limit_date"	5	NULL	YES	varchar
6	Scaler Business Case Study :1	dbo	order_items	"price"	6	NULL	YES	varchar
7	Scaler Business Case Study :1	dbo	order_items	"freight_value"	7	NULL	YES	varchar

#### 4) order\_reviews Table Schema

```

select * from INFORMATION_SCHEMA.COLUMNS
where TABLE_NAME='order_reviews'

```

<div> <div>%</div> <div>Results</div> <div>Messages</div> </div>							
TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
Scaler	dbo	order_reviews	review_id	1	NULL	NO	nvarchar
Scaler	dbo	order_reviews	order_id	2	NULL	NO	nvarchar
Scaler	dbo	order_reviews	review_score	3	NULL	NO	tinyint
Scaler	dbo	order_reviews	review_comment_title	4	NULL	YES	nvarchar
Scaler	dbo	order_reviews	review_creation_date	5	NULL	NO	datetime2
Scaler	dbo	order_reviews	review_answer_timestamp	6	NULL	NO	datetime2

	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
1	Scaler Business Case Study :1	dbo	order_reviews	review_id	1	NULL	YES	varchar
2	Scaler Business Case Study :1	dbo	order_reviews	order_id	2	NULL	YES	varchar
3	Scaler Business Case Study :1	dbo	order_reviews	review_score	3	NULL	YES	varchar
4	Scaler Business Case Study :1	dbo	order_reviews	review_comment_title	4	NULL	YES	varchar
5	Scaler Business Case Study :1	dbo	order_reviews	review_creation_date	5	NULL	YES	varchar
6	Scaler Business Case Study :1	dbo	order_reviews	review_answer_timestamp	6	NULL	YES	varchar

## 5) orders Table Schema

```
select * from INFORMATION_SCHEMA.COLUMNS
where TABLE_NAME='orders'
```

%

Results

Messages

	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
	Scaler	dbo	orders	order_id	1	NULL	NO	nvarchar
	Scaler	dbo	orders	customer_id	2	NULL	NO	nvarchar
	Scaler	dbo	orders	order_status	3	NULL	NO	nvarchar
	Scaler	dbo	orders	order_purchase_timestamp	4	NULL	NO	datetime2
	Scaler	dbo	orders	order_approved_at	5	NULL	YES	datetime2
	Scaler	dbo	orders	order_delivered_carrier_date	6	NULL	YES	datetime2
	Scaler	dbo	orders	order_delivered_customer_date	7	NULL	YES	datetime2
	Scaler	dbo	orders	order_estimated_delivery_date	8	NULL	NO	datetime2

	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
1	Scaler Business Case Study :1	dbo	orders	"order_id"	1	NULL	YES	varchar
2	Scaler Business Case Study :1	dbo	orders	"customer_id"	2	NULL	YES	varchar
3	Scaler Business Case Study :1	dbo	orders	"order_status"	3	NULL	YES	varchar
4	Scaler Business Case Study :1	dbo	orders	"order_purchase_timestamp"	4	NULL	YES	varchar
5	Scaler Business Case Study :1	dbo	orders	"order_approved_at"	5	NULL	YES	varchar
6	Scaler Business Case Study :1	dbo	orders	"order_delivered_carrier_date"	6	NULL	YES	varchar
7	Scaler Business Case Study :1	dbo	orders	"order_delivered_customer_date"	7	NULL	YES	varchar
8	Scaler Business Case Study :1	dbo	orders	"order_estimated_delivery_date"	8	NULL	YES	varchar

## 6) payments Table Schema

```
select * from INFORMATION_SCHEMA.COLUMNS
where TABLE_NAME='payments'
```

TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
Scaler	dbo	payments	order_id	1	NULL	NO	nvarchar
Scaler	dbo	payments	payment_sequential	2	NULL	NO	tinyint
Scaler	dbo	payments	payment_type	3	NULL	NO	nvarchar
Scaler	dbo	payments	payment_installments	4	NULL	NO	tinyint
Scaler	dbo	payments	payment_value	5	NULL	NO	float

	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
1	Scaler Business Case Study :1	dbo	payments	order_id	1	NULL	YES	varchar
2	Scaler Business Case Study :1	dbo	payments	payment_sequential	2	NULL	YES	varchar
3	Scaler Business Case Study :1	dbo	payments	payment_type	3	NULL	YES	varchar
4	Scaler Business Case Study :1	dbo	payments	payment_installments	4	NULL	YES	varchar
5	Scaler Business Case Study :1	dbo	payments	payment_value	5	NULL	YES	varchar

## 7) products Table Schema

```

select * from INFORMATION_SCHEMA.COLUMNS
where TABLE_NAME='products'

```

%

Results Messages

TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
Scaler	dbo	products	product_id	1	NULL	NO	nvarchar
Scaler	dbo	products	product_category	2	NULL	YES	nvarchar
Scaler	dbo	products	product_name_length	3	NULL	YES	nvarchar
Scaler	dbo	products	product_description_length	4	NULL	YES	nvarchar
Scaler	dbo	products	product_photos_qty	5	NULL	YES	nvarchar
Scaler	dbo	products	product_weight_g	6	NULL	YES	nvarchar
Scaler	dbo	products	product_length_cm	7	NULL	YES	tinyint
Scaler	dbo	products	product_height_cm	8	NULL	YES	tinyint
Scaler	dbo	products	product_width_cm	9	NULL	YES	tinyint

	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
1	Scaler Business Case Study :1	dbo	products	product_id	1	NULL	YES	varchar
2	Scaler Business Case Study :1	dbo	products	product category	2	NULL	YES	varchar
3	Scaler Business Case Study :1	dbo	products	product_name_length	3	NULL	YES	varchar
4	Scaler Business Case Study :1	dbo	products	product_description_length	4	NULL	YES	varchar
5	Scaler Business Case Study :1	dbo	products	product_photos_qty	5	NULL	YES	varchar
6	Scaler Business Case Study :1	dbo	products	product_weight_g	6	NULL	YES	varchar
7	Scaler Business Case Study :1	dbo	products	product_length_cm	7	NULL	YES	varchar
8	Scaler Business Case Study :1	dbo	products	product_height_cm	8	NULL	YES	varchar
9	Scaler Business Case Study :1	dbo	products	product_width_cm	9	NULL	YES	varchar

## 8) seller Table Schema



```

select * from INFORMATION_SCHEMA.COLUMNS
where TABLE_NAME='sellers'

```

TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	ORDINAL_POSITION	COLUMN_DEFAULT	IS_NULLABLE	DATA_TYPE
Scaler	dbo	sellers	seller_id	1	NULL	NO	nvarchar
Scaler	dbo	sellers	seller_zip_code_prefix	2	NULL	NO	int
Scaler	dbo	sellers	seller_city	3	NULL	NO	nvarchar
Scaler	dbo	sellers	seller_state	4	NULL	NO	nvarchar

By using the following queries, we have answered the first question.

*1.b) Time period for which the data is given*

```
select min(order_purchase_timestamp) as start_date,max(order_purchase_timestamp) as end_date from orders
```

%	
Results	Messages
start_date	end_date
2016-09-04 21:15:19.0000000	2018-10-17 17:30:18.0000000

From the above question we can see that the dates or the time period for which the data is given is

From 4<sup>th</sup> Sep 2016 to 17<sup>th</sup> Oct 2018

*1.c )Cities and States of customers ordered during the given period*

```

select distinct c.customer_city, c.customer_state
from orders o
join customers c
on
o.customer_id=c.customer_id
where o.order_purchase_timestamp between
(select min(order_purchase_timestamp) from orders) and (select max(order_purchase_timestamp) from orders )

```

%

Results Messages

customer_city	customer_state
santo andre	SP
novo sao joaquim	MT
santa maria	DF
itaobim	MG
silveira martins	RS
tapes	RS
piranga	MG
jaciara	MT
tabapora	MT
guaraciaba do norte	CE
rio negro	MS
dom feliciano	RS
vitoria das missoes	RS
pitangui	MG
corumbatai do sul	PR
paulino neves	MA
santa luzia	MG

With the above query we can be able to find distinct cities and states.