

Digital Music Store Analysis



Analysis Project using SQL



Easy to Advance Level



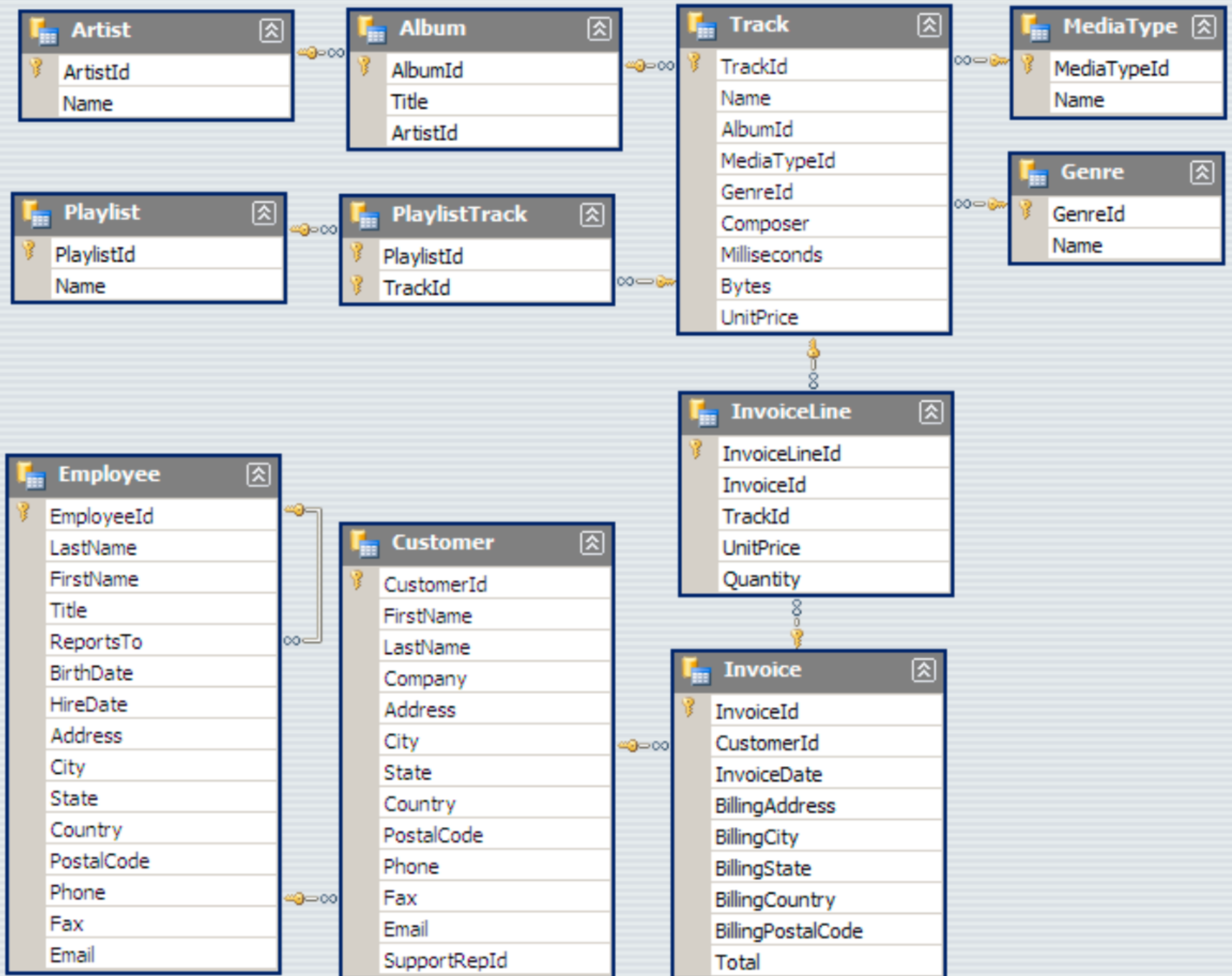


Objective

The objective of this project is to teach beginners how to analyze a music playlist database using SQL and to help the store understand its business growth by answering simple questions using the insights gained from the data analysis.



Schema



Question Set -1

Easy Level

-- Q1: Who is the senior most employee based on job title?

sol:

```
select * from employee
order by levels desc
limit 1;
```

-- Q2: Which country have the more Invoices?

sol:

```
select count(*) as c, billing_country from invoice
group by billing_country
order by c desc
limit 1;
```

-- Q3: What are the top 3 values to total invoice?

sol:

```
select total from invoice
order by total desc
limit 3;
```



```
-- Q4: Which city has the best customer?  
--      we would like to throw a promotional Music Festival in the city  
--      we made the most money. write a query that returns one city that  
--      has the highest sum of invoice totals.  
--      Return both the city name & sum of all invoice totals.
```

```
sol:  
  select sum(total) as Invoice_total, billing_city from invoice  
  group by billing_city  
  order by Invoice_total desc  
  limit 1;
```

```
-- Q5: Who is the best customer? The customer who has spend the  
--      most money will be declared the best customer.  
--      Write a query that return the person who had spend the most money.
```

```
sol:  
  select a.customer_id, a.first_name, a.last_name, a.city,  
  sum(b.total) as amt_spend from customer a  
  join invoice b on a.customer_id= b.customer_id  
  group by a.customer_id  
  order by amt_spend desc  
  limit 1;
```

Question Set -2

Medium Level

```
-- Q1: Write query to return the email,first name,last name,& Genre  
--      of all Rock Music listener.  
--      Return your list ordered alphabetically by email starting with A.
```

```
sol:  
select a.email,a.first_name,a.last_name from customer a  
join invoice b on a.customer_id=b.customer_id  
join invoice_line c on b.invoice_id = c.invoice_id  
where track_id in(  
    select track_id from track  
    join genre on track.genre_id = genre.genre_id  
    where genre.name like 'Rock'  
)  
order by email;
```



```
-- Q2: Lets invite the artists who have written the most rock music
--      in our dataset. write a query that returns the Artist name and
--      total track count of the top 10 rock bands.
```

sol:

```
select artist.artist_id, artist.name, count(artist.artist_id) as number_of_songs
from track
join album on album.album_id = track.album_id
join artist on artist.artist_id = album.artist_id
join genre on genre.genre_id = track.genre_id
where genre.name like 'Rock'
group by artist.artist_id
order by number_of_songs desc
Limit 10;
```

```
-- Q3: Return all the track names that have a song length longer  
--      than the average song length. Return the Name and Milliseconds  
--      for each track. order by the song length with the longest songs  
--      listed first.
```

```
sol:
```

```
select name, milliseconds  
from track  
where milliseconds > (select avg(milliseconds) as avg_track_length  
from track)  
order by milliseconds desc;
```

Question

Set -3

Hard Level

```

-- Q1: Find how much amount spent by each customer on artists?
--      write a query to return customer name,artist name and total spend
sol:
with best_selling_artist as(
    select artist.artist_id as artist_id, artist.name as artist_name,
    sum(invoice_line.unit_price*invoice_line.quantity) as total_sales
    from invoice_line
    join track on track.track_id = invoice_line.track_id
    join album on album.album_id = track.album_id
    join artist on artist.artist_id = album.artist_id
    group by 1
    order by 3 Desc
    Limit 2
)
select c.customer_id, c.first_name, c.last_name, bsa.artist_name,
sum(il.unit_price*il.quantity) as amount_spent from invoice i
join customer c on c.customer_id = i.customer_id
join invoice_line il on il.invoice_id = i.invoice_id
join track t on t.track_id = il.track_id
join album alb on alb.album_id = t.album_id
join best_selling_artist bsa on bsa.artist_id = alb.artist_id
group by 1,2,3,4
order by 5 Desc;

```

```
-- Q2: We want to find out the most popular music Genre for each country.  
-- we determine the most popular genre as the genre with the highest  
-- amount of purchases. Write a query that returns each country along  
-- with the top Genre. For countries where the maximum number of purchases  
-- is shared return all Genres
```

sol:

```
with popular_genre as  
(  
    select count(invoice_line.quantity) as purchases,  
    customer.country, genre.name, genre.genre_id,  
    row_number() over(partition by customer.country  
                      order by count(invoice_line.quantity) Desc) as RowNo  
    from invoice_line  
    join invoice on invoice.invoice_id = invoice_line.invoice_id  
    join customer on customer.customer_id = invoice.customer_id  
    join track on track.track_id = invoice_line.track_id  
    join genre on genre.genre_id = track.genre_id  
    group by 2,3,4  
    order by 2 asc, 1 Desc  
)  
Select * from popular_genre where RowNo<=1
```

```
-- Q3: Write a query that determines the customer that has spend the
--      most on music for each country. Write a query that returns the country
--      along with the top customer and how much they spent.
--      For countries where the top amount spent is shared, provide all customers
--      who spent this amount.
```

sol:

```
with customer_with_country as(
    select customer.customer_id, first_name, last_name, billing_country,
    sum(total) as total_spending,
    row_number() over(partition by billing_country
                      order by sum(total) desc) as RowNo
    from invoice
    join customer on customer.customer_id = invoice.customer_id
    group by 1,2,3,4
    order by 4 asc, 5 Desc
)
select * from customer_with_country where RowNo <=1
```