STEP 1: Create Database and Table

1. Create Database

CREATE DATABASE ecommerce_analysis;

1 19:58:57 CREATE DATABASE ecommerce_analysis

USE ecommerce_analysis;

2 19:59:01 USE ecommerce_analysis

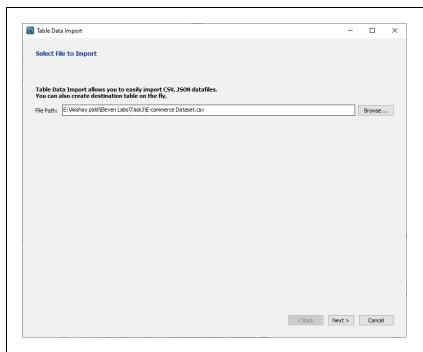
2. Create Table (ecommerce_data)

```
CREATE TABLE ecommerce_data (
 Order_Date DATE,
 Time TIME,
 Aging INT,
 Customer_Id INT,
 Gender VARCHAR(10),
 Device_Type VARCHAR(20),
 Customer_Login_type VARCHAR(20),
 Product_Category VARCHAR(100),
 Product VARCHAR(100),
 Sales FLOAT,
 Quantity FLOAT,
 Discount FLOAT,
 Profit FLOAT,
 Shipping_Cost FLOAT,
 Order_Priority VARCHAR(20),
 Payment_method VARCHAR(20)
);
```

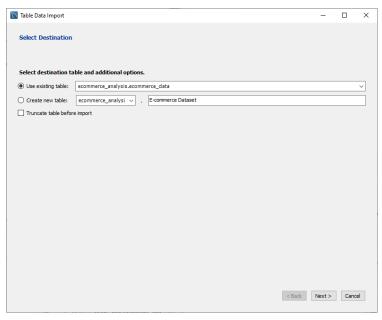
3 20:03:58 CREATE TABLE ecommerce_data (Order_Date DATE, Time TIME, Aging INT, Customer_ld INT, Gender ... 0 row(s) affected

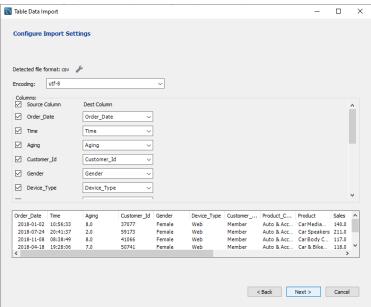
3. Import CSV

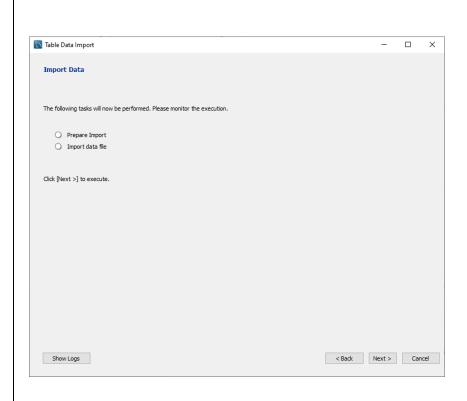
Right click on Tables > Table Data import wizard > Choose dataset and click on Next

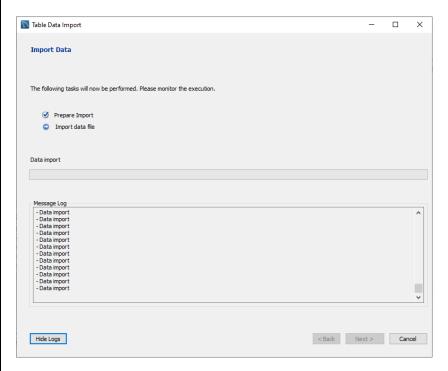


Use existing table









Basic Queries

1. View first 10 rows

SELECT * FROM ecommerce_data

LIMIT 10;



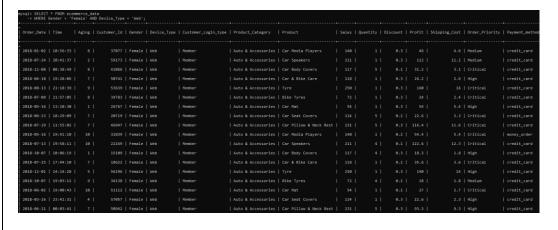
2. Columns overview: Show distinct product categories

SELECT DISTINCT Product_Category FROM ecommerce_data;

3. Orders from 'Female' customers using Web

SELECT * FROM ecommerce_data

WHERE Gender = 'Female' AND Device_Type = 'Web';



4. Orders placed in 2018

SELECT * FROM ecommerce data

WHERE Order_Date LIKE '2018%';

	Order_Date	LIKE '20	18%';		-+	+	+	+	-+		.+	+	+		+	+
+ Order_Date 						Customer_Login_type		Product							Order_Priority	
2018-01-02				Female		Member	Auto & Accessories	Car Media Players		140					Medium	credit_card
2018-07-24	20:41:37		59173	Female	Web	Member	Auto & Accessories	Car Speakers				0.3		11.2	Medium	credit_card
2018-11-08	08:38:49		41066	Female	Web	Member	Auto & Accessories	Car Body Covers				0.1	31.2	3.1	Critical	credit_card
2018-04-18	19:28:06		50741	Female	Web	Member	Auto & Accessories	Car & Bike Care		118		0.3	26.2	2.6	High	credit_card
2018-08-13	21:18:39		53639	Female	Web	Member	Auto & Accessories	Tyre		250		0.3	160		Critical	credit_card
2018-07-09	21:57:05		39783	Female	Web	Member	Auto & Accessories	Bike Tyres				0.3		2.4	Critical	credit_card
2018-05-16	13:10:30		26767	Female	Web	Member	Auto & Accessories	Car Mat		54		0.3	54	5.4	High	credit_card
2018-06-23	18:29:09		20719	Female	Web	Member	Auto & Accessories	Car Seat Covers		114		0.2	22.6		Critical	credit_card
2018-07-29	11:55:02		46947	Female	Web	Member	Auto & Accessories	Car Pillow & Neck Rest				0.3	116.4	11.6	Critical	credit_card
2018-05-16	19:41:10		31839	Female	Web	Member	Auto & Accessories	Car Media Players		140		0.2	54.4	5.4	Critical	money_order

5. Orders with high priority and profit > 100

SELECT * FROM ecommerce_data

WHERE Order_Priority = 'High' AND Profit > 100;



6. Group sales by payment method

SELECT Payment_method, SUM(Sales) AS Total_Sales

FROM ecommerce data

GROUP BY Payment_method;

7. Count orders per login type

SELECT Customer_Login_type, COUNT(*) AS Order_Count

FROM ecommerce_data

GROUP BY Customer_Login_type;

8. Average discount by product category

SELECT Product_Category, AVG(Discount) AS Avg_Discount

FROM ecommerce data

GROUP BY Product_Category;

9. Total and average sales by device

SELECT Device_Type, SUM(Sales) AS Total_Sales, AVG(Sales) AS Avg_Sales

FROM ecommerce_data

GROUP BY Device_Type;

10. Quantity sold per product (Top 5)

SELECT Product, SUM(Quantity) AS Total_Quantity

FROM ecommerce_data GROUP BY Product

ORDER BY Total_Quantity DESC LIMIT 5;

```
mysql> SELECT Product, SUM(Quantity) AS Total_Quantity
   -> FROM ecommerce_data
   -> GROUP BY Product
   -> ORDER BY Total_Quantity DESC
   -> LIMIT 5;
 Product | Total_Quantity |
                                  397
 Car Pillow & Neck Rest
                                 393
 Car Body Covers
                                 391
 Car Speakers
Car Mat
                                 382
 Car Mat
                                  375 l
5 rows in set (0.01 sec)
mysql> _
```

11. Subquery: Orders where sales > average sales

SELECT * FROM ecommerce_data

WHERE Sales > (SELECT AVG(Sales) FROM ecommerce_data);

	es > (SEL	ECT AVG(Sales) FROM e			+	+	+	+	+	-+	-+	+	+	-+
Order_Date T	ime	Aging	Customer_Id	Gender	Device_Type	Customer_Login_type	Product_Category	Product	Sale	s Quantity	Discount	Profit	Shipping_Cost	Order_Priority	Payment_metho
2018-07-24 20				Female		Member	Auto & Accessories	Car Speakers						Medium	credit_card
2018-08-13 2	1:18:39		53639	Female	Web	Member	Auto & Accessories	Tyre	25	0 1	0.3	160		Critical	credit_card
2018-07-29 1	1:55:02		46947	Female	Web	Member	Auto & Accessories	Car Pillow & Neck Rest	23		0.3	116.4	11.6	Critical	credit_card
2018-07-13 1	9:58:11	10	22249	Female	Web	Member	Auto & Accessories	Car Speakers	21		0.1	122.6	12.3	Critical	credit_card
2018-12-01 14	4:14:28		56296	Female	Web	Member	Auto & Accessories	Tyre	25	0 1	0.3	140		High	credit_card
2018-04-21 0	0:03:41		50942	Female	Web	Member	Auto & Accessories	Car Pillow & Neck Rest	23		0.3	93.3	9.3	High	credit_card
2018-02-18 14	4:31:30		26127	Female	Web	Member	Auto & Accessories	Car Speakers	21		0.2	122.6	12.3	Critical	credit_card

12. Cumulative sales by date (Window function for PostgreSQL)

SELECT Order_Date, SUM(Sales) OVER (ORDER BY Order_Date) AS Cumulative_Sales

FROM ecommerce data;

```
mysql> SELECT Order_Date, SUM(Sales) OVER (ORDER BY Order_Date) AS Cumulative_Sales
   -> FROM ecommerce_data;
Order_Date | Cumulative_Sales |
 2018-01-01
                            832
 2018-01-01
                            832
 2018-01-01
                           832
  2018-01-01
                           832
  2018-01-02
                           972
  2018-01-04
                           2220
 2018-01-04
                           2220
 2018-01-04
                           2220
 2018-01-04
                           2220
 2018-01-04
                           2220
 2018-01-04
                           2220
 2018-01-04
                           2220
  2018-01-05
```

13. RANK products by profit

SELECT Product, Profit, RANK() OVER (ORDER BY Profit DESC) AS Rank_By_Profit

FROM ecommerce_data;

```
mysql> SELECT Product, Profit, RANK() OVER (ORDER BY Profit DESC) AS Rank_By_Profit
   -> FROM ecommerce_data;
Product
                        | Profit | Rank_By_Profit |
                           167.5
                                                1 |
 Tyre
                                               1
                           167.5
  Tyre
                           167.5
 Tyre
                           167.5
 Tyre
 Tyre
                           167.5
                                                1
                            167.5
  Tyre
                             165
  Tyre
                              165
  Tyre
                              165
  Tyre
                              165
  Tyre
```

14. Average Revenue Per User (ARPU)

SELECT AVG(user_sales) AS ARPU

FROM (

SELECT Customer_Id, SUM(Sales) AS user_sales

FROM ecommerce_data

GROUP BY Customer_Id

) AS customer_sales;

15. Create a view: Daily profit summary

CREATE VIEW daily_profit_summary AS

SELECT Order_Date, SUM(Profit) AS Daily_Profit

FROM ecommerce_data

GROUP BY Order_Date;

16. Orders with NULL shipping cost

SELECT * FROM ecommerce_data

WHERE Shipping_Cost IS NULL;

```
mysql> SELECT * FROM ecommerce_data
-> WHERE Shipping_Cost IS NULL;
Empty set (0.01 sec)
```

17. Replace NULL with default values

SELECT COALESCE(Quantity, 0) AS Quantity,

COALESCE(Shipping_Cost, 0) AS Shipping_Cost

FROM ecommerce_data;

```
mysql> SELECT COALESCE(Quantity, 0) AS Quantity,
             COALESCE(Shipping_Cost, 0) AS Shipping_Cost
   -> FROM ecommerce_data;
 Quantity | Shipping_Cost |
                     4.6
        1 |
                     11.2
        5
                     3.1
        1
                      2.6
        1
                       16
                      2.4
                      5.4
        5
                      2.3
        5
                     11.6
                      5.4
        4
                     12.3
        4
                      1.8
                      3.6
```

19. Total profit by gender and device type

SELECT Gender, Device_Type, SUM(Profit) AS Total_Profit

FROM ecommerce_data

GROUP BY Gender, Device_Type;

20. High discount but low sales

SELECT * FROM ecommerce_data

WHERE Discount > 0.3 AND Sales < 100;

rder_Date	Time	Aging	Customer_Id	Gender	Device_Type	Customer_Login_type	Product_Category	Product	Sales	Quantity	Discount	Profit	Shipping_Cost	Order_Priority	Payment_method
018-07-09	21:57:05	8	39783	Female	Web	Member	Auto & Accessories	Bike Tyres	72	1	0.3	24	2.4	Critical	credit_card
018-05-16	13:10:30		26767	Female	Web	Member	Auto & Accessories	Car Mat	54	1	0.3	54	5.4	High	credit_card
018-08-20	23:46:53		42676	Female	Web	Member	Auto & Accessories	Car Mat	54	1	0.3	54	5.4	High	money_order
018-08-03	12:38:58		40865	Female	Web	Member	Auto & Accessories	Bike Tyres	72	4	0.3	18	1.8	High	credit_card
018-07-29	23:34:51		38256	Female	Web	Member	Auto & Accessories	Car Mat	54		0.3	13.5	1.4	Critical	credit_card
918-03-15	00:06:10		46349	Male	Web	Member	Auto & Accessories	Car Mat	54		0.3	10.8	1.1	High	credit_card
18-11-05	13:09:48		39387	Male	Web	Member	Auto & Accessories	Bike Tyres	72	1	0.3	36	3.6	High	credit_card
18-09-13	08:44:17		55093	Male	Web	Member	Auto & Accessories	Car Mat	54	1	0.3	54	5.4	Critical	credit_card
18-07-30	03:06:35		34365	Male	Web	Member	Auto & Accessories	Bike Tyres	72		0.3	18	1.8	Critical	credit_card
18-03-22	00:17:37		49745	Male	Web	Member	Auto & Accessories	Car Mat	54		0.3	10.8	1.1	High	credit_card
18-06-22	19:22:22		27079	Female	Web	Member	Auto & Accessories	Car Mat	54	1	0.3	27	2.7	Critical	credit_card
18-06-27	22:04:34		32534	Male	Web	Member	Auto & Accessories	Bike Tyres	72	4	0.3	18	1.8	High	credit_card
18-10-27	23:11:57		44722	Female	Web	Member	Auto & Accessories	Bike Tyres	72		0.3	36	3.6	High	credit_card
018-09-25	22:18:10		42386	Male	Web	Member	Auto & Accessories	Bike Tyres	72		0.3	18	1.8	Critical	credit_card
918-07-18	13:39:54		47245	Male	Web	Member	Auto & Accessories	Bike Tyres	72		0.3	14.4	1.4	Critical	credit_card
918-09-26	16:14:11		31345	Male	Web	Member	Auto & Accessories	Bike Tyres	72		0.3	14.4	1.4	Critical	credit_card
018-04-27	19:24:52		17243	Female	Web	Member	Auto & Accessories	Car Mat	54		0.3	10.8	1.1	Medium	credit_card
918-07-22	19:16:47		36277	Male	Web	Member	Auto & Accessories	Car Mat	54		0.3	13.5	1.4	High	credit_card
18-04-15	13:47:34		58607	Male	Web	Member	Auto & Accessories	Car Mat	54		0.3	10.8		Medium	credit_card
18-09-15	19:42:06		30880	Male	Web	Member	Auto & Accessories	Bike Tyres	72		0.3	72			credit_card
18-06-13	08:19:23		52427	Male	Web	Member	Auto & Accessories	Car Mat	54		0.3	10.8	1.1	Critical	money_order
18-03-20	12:30:40		31091	Male	Web	Member	Auto & Accessories	Bike Tyres	72		0.3	36	3.6	Critical	money_order
018-03-04	17:24:57		36695	Male	Web	Guest	Auto & Accessories	Car Mat	54		i 0.3	27 İ	2.7	High	credit card