

Inventory Management System SQL Project

1. Creating the database.

```
1 CREATE DATABASE Inventory;  
2
```

Messages

14:02:51	<u>Started executing query at Line 1</u> Commands completed successfully. Total execution time: 00:00:00.454
----------	--

2. Using the database 'Inventory'.

```
3 USE Inventory;
```

Messages

14:08:10	<u>Started executing query at Line 3</u> Commands completed successfully. Total execution time: 00:00:00.011
----------	--

3. Creating the Suppliers Table.

```
4
5  -- Creating the Suppliers Table
6  CREATE TABLE Suppliers (
7      supplier_id INT PRIMARY KEY,
8      name VARCHAR(100),
9      contact_name VARCHAR(100),
10     phone VARCHAR(20),
11     email VARCHAR(100)
12 );
```

Messages

14:27:00

Started executing query at Line 6
Commands completed successfully.
Total execution time: 00:00:00.064

4. Inserting the values into the Suppliers table.

```
14  -- Inserting the values into Suppliers table
15  INSERT INTO Suppliers (supplier_id, name, contact_name, phone, email) VALUES
16  (1, 'Tech Distributors Inc', 'Alice Thompson', '123-456-7890', 'alice@techdist.com'),
17  (2, 'GadgetSupply Co.', 'Brian Matthews', '234-567-8901', 'brian@gadgetsupply.com'),
18  (3, 'Office Plus', 'Charles Lee', '345-678-9012', 'charles@officeplus.com'),
19  (4, 'CableTech', 'Dana White', '456-789-0123', 'dana@cabletech.com'),
20  (5, 'SmartPeripherals Ltd', 'Emily Carter', '567-890-1234', 'emily@smartperipherals.com'),
21  (6, 'NeoTech Solutions', 'Frank Zhang', '678-901-2345', 'frank@neotech.com'),
22  (7, 'Global Components', 'Grace Kim', '789-012-3456', 'grace@globalcomponents.com');
23
```

Messages

14:30:56

Started executing query at Line 15
(7 rows affected)
Total execution time: 00:00:00.042

5. Showing the values of the Suppliers table.

```
23  
24 SELECT * from Suppliers;
```

Results Messages

	supplier_id	name	contact_name	phone	email
1	1	Tech Distributors Inc	Alice Thompson	123-456-7890	alice@techdist.com
2	2	GadgetSupply Co.	Brian Matthews	234-567-8901	brian@gadgetsupply.com
3	3	Office Plus	Charles Lee	345-678-9012	charles@officeplus.com
4	4	CableTech	Dana White	456-789-0123	dana@cabletech.com
5	5	SmartPeripherals Ltd	Emily Carter	567-890-1234	emily@smartperipherals.com
6	6	NeoTech Solutions	Frank Zhang	678-901-2345	frank@neotech.com
7	7	Global Components	Grace Kim	789-012-3456	grace@globalcomponents.com

6. Creating the Products Table.

Run Cancel Disconnect Change Database: Inventory

```
25  
26 -- Creating the Products Table  
27 CREATE TABLE Products (  
28     product_id INT PRIMARY KEY,  
29     name VARCHAR(100),  
30     description TEXT,  
31     price DECIMAL(10,2),  
32     quantity INT,  
33     supplier_id INT,  
34     FOREIGN KEY (supplier_id) REFERENCES Suppliers(supplier_id)  
35 );
```

Messages

14:38:33 Started executing query at Line 27
Commands completed successfully.
Total execution time: 00:00:00.050

7. Inserting the values into the Products table.

Run Cancel Disconnect Change Database: Inventory Estimated Plan Enable Actual

```
36
37 -- Inserting the values into Products table
38 INSERT INTO Products (product_id, name, description, price, quantity, supplier_id) VALUES
39 (1, 'LED Monitor 24"', 'Full HD LED Monitor', 120.00, 25, 1),
40 (2, 'Wireless Mouse', 'Ergonomic mouse', 15.00, 100, 2),
41 (3, 'Mechanical Keyboard', 'RGB backlit keyboard', 50.00, 40, 2),
42 (4, 'Laptop Backpack', 'Waterproof laptop bag', 30.00, 60, 3),
43 (5, 'USB-C Hub', '5-in-1 USB-C Hub', 25.00, 75, 4),
44 (6, 'HDMI Cable', '2m 4K HDMI cable', 10.00, 150, 4),
45 (7, 'External Hard Drive', '1TB USB 3.0', 65.00, 35, 1),
46 (8, 'Wireless Keyboard', 'Slim wireless keyboard', 22.00, 80, 2),
47 (9, 'Laptop Stand', 'Adjustable aluminum stand', 18.00, 50, 3),
48 (10, 'Webcam', '1080p USB webcam', 35.00, 45, 1),
49 (11, 'Bluetooth Speaker', 'Portable speaker', 40.00, 55, 5),
50 (12, 'Power Bank', '10000mAh fast-charging', 28.00, 70, 6),
51 (13, 'Wireless Earbuds', 'Bluetooth earbuds', 60.00, 90, 5),
52 (14, 'Desk Lamp', 'LED with USB port', 20.00, 45, 3),
53 (15, 'Smartphone Stand', 'Adjustable desk holder', 12.00, 100, 4),
54 (16, 'Cooling Pad', 'Laptop cooling fan', 22.00, 60, 1),
55 (17, 'Flash Drive 64GB', 'USB 3.0 drive', 9.00, 200, 7),
56 (18, 'Portable SSD', '512GB high-speed SSD', 110.00, 25, 6),
57 (19, 'Gaming Headset', 'Surround sound headset', 55.00, 30, 5),
58 (20, 'Monitor Mount', 'Dual screen arm mount', 48.00, 20, 7);
59
```

Messages

14:41:32 Started executing query at Line 38
(20 rows affected)
Total execution time: 00:00:00.067

8. Showing the values of the Products table.

 Run  Cancel  Disconnect  Change | Database:  Estimated Plan  Enable Actual Plan  Parse

59

60 `SELECT * from Products;`

61

Results Messages

	product_id	name	description	price	quantity	supplier_id
1	1	LED Monitor 24"	Full HD LED Monitor	120.00	25	1
2	2	Wireless Mouse	Ergonomic mouse	15.00	100	2
3	3	Mechanical Keyboard	RGB backlit keyboard	50.00	40	2
4	4	Laptop Backpack	Waterproof laptop bag	30.00	60	3
5	5	USB-C Hub	5-in-1 USB-C Hub	25.00	75	4
6	6	HDMI Cable	2m 4K HDMI cable	10.00	150	4
7	7	External Hard Drive	1TB USB 3.0	65.00	35	1
8	8	Wireless Keyboard	Slim wireless keyboa...	22.00	80	2
9	9	Laptop Stand	Adjustable aluminum ...	18.00	50	3
10	10	Webcam	1080p USB webcam	35.00	45	1
11	11	Bluetooth Speaker	Portable speaker	40.00	55	5
12	12	Power Bank	10000mAh fast-chargi...	28.00	70	6
13	13	Wireless Earbuds	Bluetooth earbuds	60.00	90	5
14	14	Desk Lamp	LED with USB port	20.00	45	3
15	15	Smartphone Stand	Adjustable desk hold...	12.00	100	4
16	16	Cooling Pad	Laptop cooling fan	22.00	60	1
17	17	Flash Drive 64GB	USB 3.0 drive	9.00	200	7
18	18	Portable SSD	512GB high-speed SSD	110.00	25	6
19	19	Gaming Headset	Surround sound heads...	55.00	30	5
20	20	Monitor Mount	Dual screen arm mount	48.00	20	7

9. Creating the Inventory_Transactions Table.

▶ Run ☐ Cancel  Disconnect  Change

Database: Inventory



```
61
62
63  -- Creating the Inventory_Transactions Table
64  CREATE TABLE Inventory_Transactions (
65      ... transaction_id INT PRIMARY KEY,
66      ... product_id INT,
67      ... transaction_type VARCHAR(10), -- 'purchase' or 'sale'
68      ... quantity INT,
69      ... transaction_date DATE,
70      ... FOREIGN KEY (product_id) REFERENCES Products(product_id)
71  );
```

Messages

14:45:54 Started executing query at Line 64
Commands completed successfully.
Total execution time: 00:00:00.047

10. Inserting the values into the Inventory_Transactions table.


Run Cancel Disconnect Change Database: Inventory Estimated Plan Enable Actual Plan Parse Enable SQLCMD

```
73 -- Inserting the values into Inventory_Transactions table
74 INSERT INTO Inventory_Transactions (transaction_id, product_id, transaction_type, quantity, transaction_date) VALUES
75 (1, 1, 'purchase', 30, '2025-05-01'),
76 (2, 2, 'purchase', 120, '2025-05-02'),
77 (3, 3, 'sale', 10, '2025-05-03'),
78 (4, 4, 'purchase', 50, '2025-05-04'),
79 (5, 5, 'sale', 15, '2025-05-05'),
80 (6, 6, 'purchase', 100, '2025-05-06'),
81 (7, 1, 'sale', 5, '2025-05-07'),
82 (8, 7, 'purchase', 20, '2025-05-07'),
83 (9, 8, 'sale', 20, '2025-05-08'),
84 (10, 9, 'purchase', 50, '2025-05-08'),
85 (11, 10, 'sale', 5, '2025-05-09'),
86 (12, 3, 'sale', 5, '2025-05-10'),
87 (13, 6, 'sale', 20, '2025-05-11'),
88 (14, 2, 'sale', 40, '2025-05-12'),
89 (15, 5, 'purchase', 40, '2025-05-13'),
90 (16, 4, 'sale', 20, '2025-05-14'),
91 (17, 7, 'sale', 10, '2025-05-15'),
92 (18, 9, 'sale', 10, '2025-05-15'),
93 (19, 10, 'purchase', 30, '2025-05-16'),
94 (20, 1, 'purchase', 10, '2025-05-17'),
95 (21, 11, 'purchase', 60, '2025-05-17'),
96 (22, 12, 'purchase', 80, '2025-05-17'),
97 (23, 13, 'sale', 30, '2025-05-17'),
98 (24, 14, 'purchase', 50, '2025-05-17'),
99 (25, 15, 'sale', 25, '2025-05-17');
100
```

Messages

14:49:13 Started executing query at Line 74
 (25 rows affected)
 Total execution time: 00:00:00.065

11. Showing all the values from the Inventory_Transactions Table.

 Run
  Cancel
  Disconnect
  Change
 Database: Inventory
 Estimated Plan
  Enable Actual Plan

100

101 `SELECT * from Inventory_Transactions;`

102

Results Messages

	transaction_id	product_id	transaction_type	quantity	transaction_date
1	1	1	purchase	30	2025-05-01
2	2	2	purchase	120	2025-05-02
3	3	3	sale	10	2025-05-03
4	4	4	purchase	50	2025-05-04
5	5	5	sale	15	2025-05-05
6	6	6	purchase	100	2025-05-06
7	7	1	sale	5	2025-05-07
8	8	7	purchase	20	2025-05-07
9	9	8	sale	20	2025-05-08
10	10	9	purchase	50	2025-05-08
11	11	10	sale	5	2025-05-09
12	12	3	sale	5	2025-05-10
13	13	6	sale	20	2025-05-11
14	14	2	sale	40	2025-05-12
15	15	5	purchase	40	2025-05-13
16	16	4	sale	20	2025-05-14
17	17	7	sale	10	2025-05-15
18	18	9	sale	10	2025-05-15
19	19	10	purchase	30	2025-05-16
20	20	1	purchase	10	2025-05-17
21	21	11	purchase	60	2025-05-17
22	22	12	purchase	80	2025-05-17
23	23	13	sale	30	2025-05-17
24	24	14	purchase	50	2025-05-17
25	25	15	sale	25	2025-05-17

12. Adding a New Product in the data.

Run Cancel Disconnect Change Database: Inventory Estimated Plan Enable Actual Plan

```
102
103 -- Add a new product in the Products table
104 INSERT INTO Products (product_id, name, description, price, quantity, supplier_id)
105 VALUES (21, 'Ergonomic Chair', 'Adjustable office chair', 150.00, 10, 3);
```

Messages

14:55:41 Started executing query at Line 104
(1 row affected)
Total execution time: 00:00:00.046

13. Add a New Supplier in the data.

```
106
107 -- Add a new supplier in the Suppliers table
108 INSERT INTO Suppliers (supplier_id, name, contact_name, phone, email)
109 VALUES (8, 'WorkGear Supplies', 'Helen Troy', '890-123-4567', 'helen@workgear.com');
```

Messages

14:58:08 Started executing query at Line 108
(1 row affected)
Total execution time: 00:00:00.026

14. Updating the price of the Product.

```
114 -- Updating the price of a product in the Products Table
115 UPDATE Products
116 SET price = 130.00
117 WHERE product_id = 1;
```

Messages

15:03:06 Started executing query at Line 115
(1 row affected)
Total execution time: 00:00:00.037

Showing the update price of the product where product_id = 1.

```
114 -- Updating the price of a product in the Products Table
115 UPDATE Products
116 SET price = 130.00
117 WHERE product_id = 1;
118
119 SELECT * FROM Products;
```

Results		Messages				
	product_id	name	description	price	quantity	supplier_id
1	1	LED Monitor 24"	Full HD LED Monitor	130.00	25	1
2	2	Wireless Mouse	Ergonomic mouse	15.00	100	2
3	3	Mechanical Keyboard	RGB backlit keyboard	50.00	40	2

15. Updating the supplier contact information of the Supplier.

```
120
121 -- Updating the supplier contact info in the Suppliers Table
122 UPDATE Suppliers
123 SET phone = '999-888-7777'
124 WHERE supplier_id = 2;
```

Messages

15:07:10 Started executing query at Line 122
(1 row affected)
Total execution time: 00:00:00.033

Showing the supplier contact info of the Supplier where supplier_id = 2.

```
121 -- Updating the supplier contact info in the Suppliers Table
122 UPDATE Suppliers
123 SET phone = '999-888-7777'
124 WHERE supplier_id = 2;
125
126 SELECT * FROM Suppliers;
```

Results grid

Results		Messages			
	supplier_id	name	contact_name	phone	email
1	1	Tech Distributors Inc	Alice Thompson	123-456-7890	alice@techdist.com
2	2	GadgetSupply Co.	Brian Matthews	999-888-7777	brian@gadgetsupply.com
3	3	Office Plus	Charles Lee	345-678-9012	charles@officeplus.com

16. Retrieving the Product Information with Supplier Information.

```
128 -- Retrieving the Product Information with Supplier Information
129 SELECT p.product_id, p.name AS product_name, p.price, p.quantity, s.name AS supplier_name
130 FROM Products AS p
131 JOIN Suppliers AS s ON p.supplier_id = s.supplier_id;
132
```

Results Messages

	product_id	product_name	price	quantity	supplier_name
1	1	LED Monitor 24"	130.00	25	Tech Distributors Inc
2	2	Wireless Mouse	15.00	100	GadgetSupply Co.
3	3	Mechanical Keyboard	50.00	40	GadgetSupply Co.
4	4	Laptop Backpack	30.00	60	Office Plus
5	5	USB-C Hub	25.00	75	CableTech
6	6	HDMI Cable	10.00	150	CableTech
7	7	External Hard Drive	65.00	35	Tech Distributors Inc
8	8	Wireless Keyboard	22.00	80	GadgetSupply Co.
9	9	Laptop Stand	18.00	50	Office Plus
10	10	Webcam	35.00	45	Tech Distributors Inc
11	11	Bluetooth Speaker	40.00	55	SmartPeripherals Ltd
12	12	Power Bank	28.00	70	NeoTech Solutions
13	13	Wireless Earbuds	60.00	90	SmartPeripherals Ltd
14	14	Desk Lamp	20.00	45	Office Plus
15	15	Smartphone Stand	12.00	100	CableTech
16	16	Cooling Pad	22.00	60	Tech Distributors Inc
17	17	Flash Drive 64GB	9.00	200	Global Components
18	18	Portable SSD	110.00	25	NeoTech Solutions
19	19	Gaming Headset	55.00	30	SmartPeripherals Ltd
20	20	Monitor Mount	48.00	20	Global Components
21	21	Ergonomic Chair	150.00	10	Office Plus

17. Retrieving the Inventory Transactions with Product Name.

```
133 -- Retrieving the Inventory Transactions with Product Name
134 SELECT t.transaction_id, p.name AS product_name, t.transaction_type, t.quantity, t.transaction_date
135 FROM Inventory_Transactions t
136 JOIN Products p ON t.product_id = p.product_id;
```

Results

Messages

	transaction_id	product_name	transaction_type	quantity	transaction_date
1	1	LED Monitor 24"	purchase	30	2025-05-01
2	2	Wireless Mouse	purchase	120	2025-05-02
3	3	Mechanical Keyboard	sale	10	2025-05-03
4	4	Laptop Backpack	purchase	50	2025-05-04
5	5	USB-C Hub	sale	15	2025-05-05
6	6	HDMI Cable	purchase	100	2025-05-06
7	7	LED Monitor 24"	sale	5	2025-05-07
8	8	External Hard Drive	purchase	20	2025-05-07
9	9	Wireless Keyboard	sale	20	2025-05-08
10	10	Laptop Stand	purchase	50	2025-05-08
11	11	Webcam	sale	5	2025-05-09
12	12	Mechanical Keyboard	sale	5	2025-05-10
13	13	HDMI Cable	sale	20	2025-05-11
14	14	Wireless Mouse	sale	40	2025-05-12
15	15	USB-C Hub	purchase	40	2025-05-13
16	16	Laptop Backpack	sale	20	2025-05-14
17	17	External Hard Drive	sale	10	2025-05-15
18	18	Laptop Stand	sale	10	2025-05-15
19	19	Webcam	purchase	30	2025-05-16
20	20	LED Monitor 24"	purchase	10	2025-05-17
21	21	Bluetooth Speaker	purchase	60	2025-05-17
22	22	Power Bank	purchase	80	2025-05-17
23	23	Wireless Earbuds	sale	30	2025-05-17
24	24	Desk Lamp	purchase	50	2025-05-17
25	25	Smartphone Stand	sale	25	2025-05-17

18. Filtering the Products supplied by the 'CableTech'.

Source / Script / Run / Cancel / Disconnect / Change / Database: Inventory

```
137
138  -- Filtering the Products supplied by 'CableTech'
139  SELECT p.name, p.price
140  FROM Products p
141  JOIN Suppliers s ON p.supplier_id = s.supplier_id
142  WHERE s.name = 'CableTech';
143
```

Results Messages

	name	price
1	USB-C Hub	25.00
2	HDMI Cable	10.00
3	Smartphone Stand	12.00

19. *Sorting the Products by Price in the Descending order.*

```
143
144  -- Sorting the Products by Price in the Descending order
145  SELECT name, price, quantity
146  FROM Products
147  ORDER BY price DESC;
148
```

Results Messages

	name	price	quantity
1	Ergonomic Chair	150.00	10
2	LED Monitor 24\"	130.00	25
3	Portable SSD	110.00	25
4	External Hard Drive	60.00	35
5	Wireless Earbuds	60.00	90
6	Gaming Headset	55.00	30
7	Mechanical Keyboard	50.00	40
8	Monitor Mount	48.00	20
9	Bluetooth Speaker	40.00	55
10	Webcam	35.00	45
11	Laptop Backpack	30.00	60
12	Power Bank	28.00	70
13	USB-C Hub	25.00	75
14	Wireless Keyboard	22.00	80
15	Cooling Pad	22.00	60
16	Desk Lamp	20.00	45
17	Laptop Stand	18.00	50
18	Wireless Mouse	15.00	100
19	Smartphone Stand	12.00	100
20	HDMI Cable	10.00	150
21	Flash Drive 64GB	9.00	200

20. Filtering the Transactions by Date Range.

code / plan / estimate / inventory_management_report

Run Cancel Disconnect Change Database: Estimated Plan Enable Actual Plan

```
149 -- Filtering the Transactions by Date Range
150 SELECT *
151 FROM Inventory_Transactions
152 WHERE transaction_date BETWEEN '2025-05-05' AND '2025-05-10';
153
154
```

Results Messages

	transaction_id	product_id	transaction_type	quantity	transaction_date
1	5	5	sale	15	2025-05-05
2	6	6	purchase	100	2025-05-06
3	7	1	sale	5	2025-05-07
4	8	7	purchase	20	2025-05-07
5	9	8	sale	20	2025-05-08
6	10	9	purchase	50	2025-05-08
7	11	10	sale	5	2025-05-09
8	12	3	sale	5	2025-05-10

Results grid

21. Showing the Current Stock for Each Product available in the data.

Run Cancel Disconnect Change Database: Inventory Estimated Plan En

```

154 -- Showing the Current Stock for Each Product available in the data
155 SELECT p.product_id, p.name,
156        SUM(CASE WHEN t.transaction_type = 'purchase' THEN t.quantity
157              WHEN t.transaction_type = 'sale' THEN -t.quantity
158              ELSE 0 END) AS stock_adjustment,
159        p.quantity AS recorded_quantity
160 FROM Products p
161 LEFT JOIN Inventory_Transactions t ON p.product_id = t.product_id
162 GROUP BY p.product_id, p.name, p.quantity;
163

```

Results Messages

	product_id	name	stock_adjustment	recorded_quantity
1	1	LED Monitor 24\	35	25
2	2	Wireless Mouse	80	100
3	3	Mechanical Keyboard	-15	40
4	4	Laptop Backpack	30	60
5	5	USB-C Hub	25	75
6	6	HDMI Cable	0	150
7	7	External Hard Drive	10	35
8	8	Wireless Keyboard	-20	80
9	9	Laptop Stand	40	50
10	10	Webcam	25	45
11	11	Bluetooth Speaker	60	55
12	12	Power Bank	80	70
13	13	Wireless Earbuds	-30	90
14	14	Desk Lamp	50	45
15	15	Smartphone Stand	-25	100
16	16	Cooling Pad	0	60
17	17	Flash Drive 64GB	0	200
18	18	Portable SSD	0	25
19	19	Gaming Headset	0	30
20	20	Monitor Mount	0	20
21	21	Ergonomic Chair	0	10