

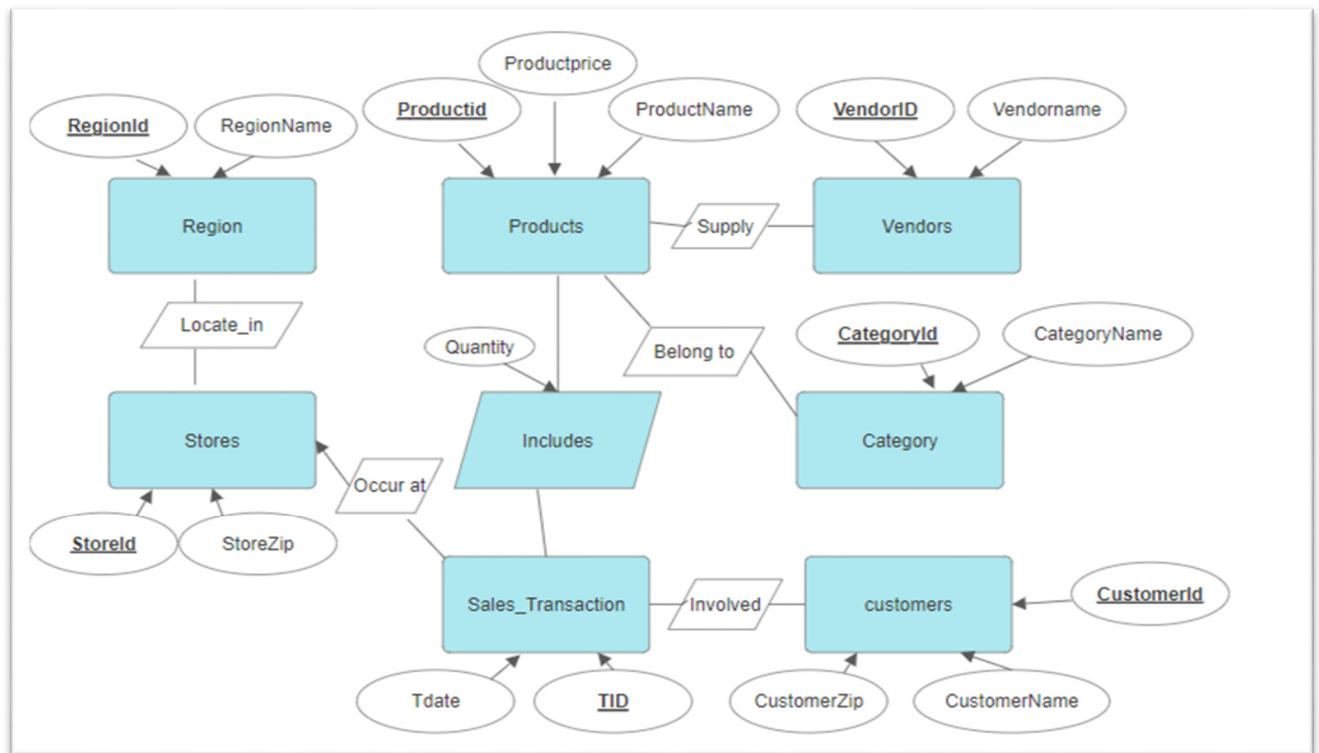


SSMS Exploration Document

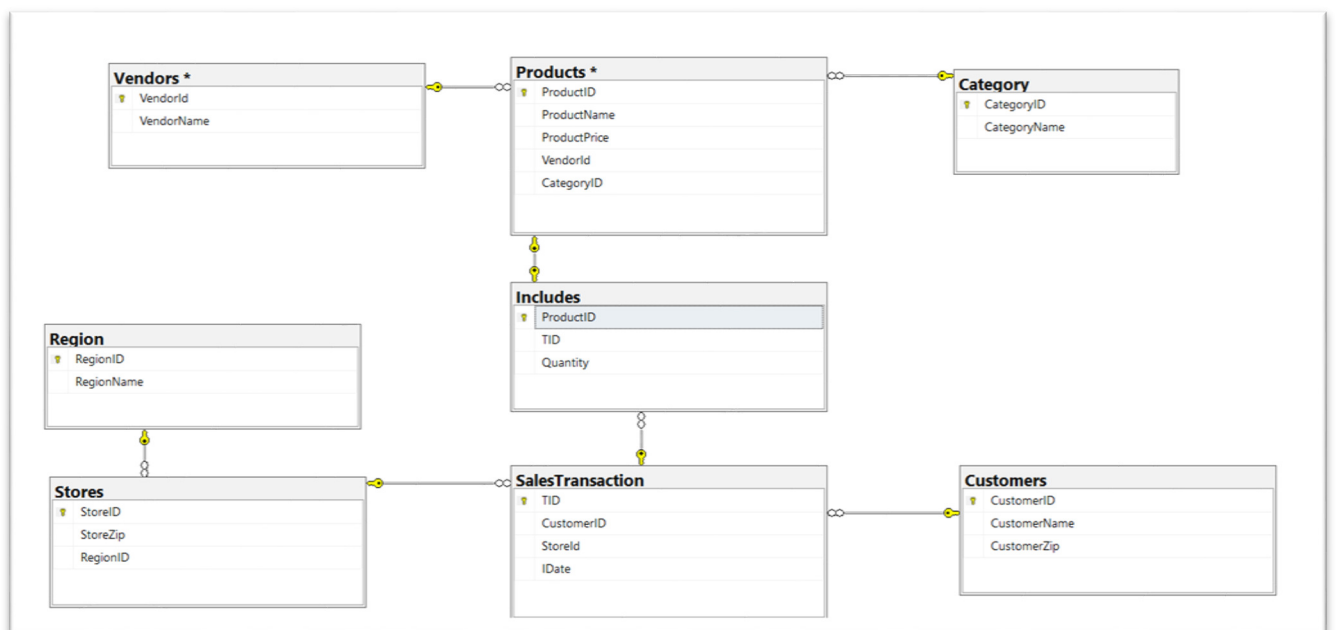
Inventory and Sales Management System

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ERD Diagram



Database Diagram



Tables :

Category Table :

Represents different categories for grouping items or products.

- **CategoryID:** Unique identifier for each category (Primary Key).
- **CategoryName:** Name of the category.

	CategoryID	CategoryName
1	0	dairy food
2	1	others
3	10	Automotive
4	11	Beauty Products
5	2	Electronics
6	3	Clothing
7	4	Books
8	5	Furniture
9	6	Toys
10	7	Sporting Goods
11	8	Appliances
12	9	Jewelrv

Customers Table :

Stores information about individual customers.

- **CustomerID:** Unique identifier for each customer (Primary Key).
- **CustomerName:** Name of the customer.
- **CustomerZip:** Zip code of the customer's location.

	CustomerID	CustomerName	CustomerZip
1	1	yossi	1234
2	2	dani	2233
3	3	avi	3344
4	4	naan	1432
5	Cust001	John Doe	12345
6	Cust002	Jane Smith	54321
7	Cust003	Michael Johnson	98765
8	Cust004	Emily Brown	67890
9	Cust005	David Wilson	45678
10	Cust006	Jennifer Lee	89012
11	Cust007	Robert Taylor	23456
12	Cust008	Michelle Martinez	78901
13	Cust009	Christopher An...	34567
14	Cust010	Amanda Harris	90123

Includes Table :

Serves as a junction table linking products and sales transactions tables, representing the quantity of each product included in a transaction.

- **ProductID:** Identifier for the product included in the transaction.
- **TID:** Identifier for the sales transaction (Transaction ID).
- **Quantity:** Quantity of the product included in the transaction.

	ProductID	TID	Quantity
1	1X1	T111	4
2	2X2	T222	4
3	2X5	T676	3
4	3X3	T333	2
5	5X2	T123	12
6	P001	T001	3
7	P002	T002	2
8	P003	T003	1
9	P004	T004	4
10	P005	T005	2
11	P006	T006	1
12	P007	T007	3
13	P008	T008	2
14	P009	T009	1
15	P010	T010	5

Products Table :

Stores information about various products available for sale.

- **ProductID:** Unique identifier for each product (Primary Key).
- **ProductName:** Name of the product.
- **ProductPrice:** Price of the product.
- **VendorID:** Identifier for the vendor supplying the product.
- **CategoryID:** Identifier for the category to which the product belongs.

	ProductID	ProductName	ProductPrice	VendorId	CategoryID
1	1X1	Milk	11	111	0
2	2X2	yogurt	7	222	0
3	5X2	water	5	111	1
4	P001	Laptop	800	V001	2
5	P002	T-shirt	20	V002	3
6	P003	Book: Harry Potter	15	V003	4
7	P004	Sofa	500	V004	5
8	P005	Action Figure	10	V005	6
9	P006	Basketball	30	V006	7
10	P007	Refrigerator	1000	V007	8
11	P008	Necklace	50	V008	9
12	P009	Car Battery	150	V009	10
13	P010	Perfume	40	V010	11

Region Table :

Represents different regions or geographical areas.

- **RegionID:** Unique identifier for each region (Primary Key).
- **RegionName:** Name of the region.

	RegionID	RegionName
1	C	Chiango
2	I	India
3	N	Norvegia
4	T	Titachana

SalesTransaction Table :

Records information about individual sales transactions

- **TID:** Unique identifier for each transaction (Primary Key).
- **CustomerID:** Identifier for the customer involved in the transaction.
- **StoreID:** Identifier for the store where the transaction occurred.
- **TDate:** Date of the transaction.

	TID	CustomerID	StoreID	IDate
1	T001	Cust001	S3	2023-01-01
2	T002	Cust002	S2	2023-01-02
3	T003	Cust003	S1	2023-01-03
4	T004	Cust004	S5	2023-01-04
5	T005	Cust005	S2	2023-01-05
6	T006	Cust006	S2	2023-01-06
7	T007	Cust007	S4	2023-01-07
8	T008	Cust008	S5	2023-01-08
9	T009	Cust009	S3	2023-01-09
10	T010	Cust010	S1	2023-01-10
11	T111	1	S1	2022-02-23
12	T123	2	S2	2021-01-11
13	T222	3	S3	2022-01-10
14	T333	1	S3	2022-01-11
15	T444	1	S1	2022-01-11

Stores Table :

Stores details about different stores.

- **StoreID:** Unique identifier for each store (Primary Key).
- **StoreZip:** Zip code of the store's location.
- **StoreRegion:** Identifier for the region to which the store belongs.

	StoreID	StoreZip	RegionID
1	S1	60600	C
2	S2	60605	C
3	S3	35400	T
4	S4	60640	I
5	S5	46307	C

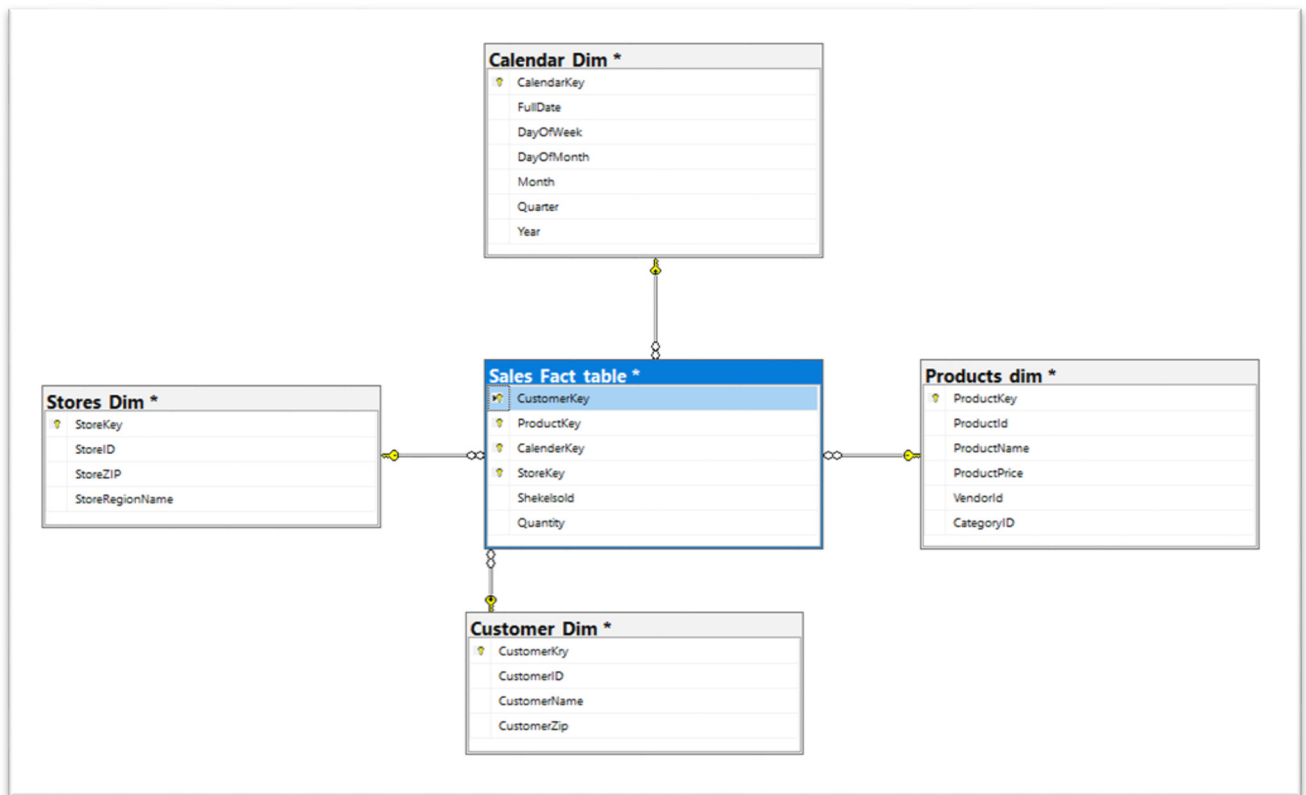
Vendors Table :

Contains information about various vendors.

- **VendorID:** Unique identifier for each vendor (Primary Key).
- **VendorName:** Name of the vendor.

	VendorId	VendorName
1	111	TNUVA
2	222	SPRING
3	333	STRUS
4	V001	vendor1
5	V002	vendor2
6	V003	Vendor3
7	V004	vendor4
8	V005	vendor5
9	V006	vendor6
10	V007	Vendor7
11	V008	Vendor8
12	V009	Vendor9
13	V010	vendor10

Data Ware House diagram



Views –

Calender View:

```
SELECT
    DISTINCT IDate AS FullDate,
    CONVERT(NVARCHAR, IDate) AS DayOfWeek,
    MONTH(IDate) AS Month,
    DAY(IDate) AS DayOfMonth,
    DATEPART(QUARTER, IDate) AS Quarter,
    YEAR(IDate) AS Year
FROM  dbo.SalesTransaction
```

	FullDate	DayOfW...	Month	DayOfM...	Quarter	Year
▶	2021-01-11	2021-01-...	1	11	1	2021
	2022-01-...	2022-01-...	1	10	1	2022
	2022-01-...	2022-01-...	1	11	1	2022
	2022-02-...	2022-02-...	2	23	1	2022
	2023-01-...	2023-01-...	1	1	1	2023
	2023-01-...	2023-01-...	1	2	1	2023

Customer view:

```
SELECT
    CustomerID, CustomerName, CustomerZip
FROM  dbo.Customers
```

CustomerID	CustomerName	CustomerZip
1	yossi	1234
2	dani	2233
3	avi	3344
4	naan	1432
Cust001	John Doe	12345

Product view:

```
SELECT
    dbo.Products.ProductName,
    dbo.Products.ProductPrice,
    dbo.Products.ProductID,
    dbo.Category.CategoryID,
    dbo.Vendors.VendorId
FROM  dbo.Products INNER JOIN
    dbo.Category ON dbo.Products.CategoryID = dbo.Category.CategoryID INNER JOIN
    dbo.Vendors ON dbo.Products.VendorId = dbo.Vendors.VendorId
```

Product...	Product...	ProductID	Categor...	VendorId
Milk ...	11	1X1	0	111
yogurt ...	7	2X2	0	222
water ...	5	5X2	1	111
Laptop ...	800	P001	2	V001
T-shirt ...	20	P002	3	V002
Book: Ha...	15	P003	4	V003
Sofa ...	500	P004	5	V004

Store View:

```
SELECT
    CONVERT(NVARCHAR, dbo.Region.RegionName) AS RegionNames,
    dbo.Stores.StoreZip,
    dbo.Stores.StoreID
FROM
    dbo.Region INNER JOIN
    dbo.Stores ON dbo.Region.RegionID = dbo.Stores.RegionID
```

RegionNames	StoreZip	StoreID
	60600	S1
Chiango ...	60605	S2
Titachana ...	35400	S3
India ...	60640	S4
Chiango ...	46307	S5

Sales view:

```
SELECT
    dbo.Includes.Quantity,
    AvishayDB_DWH.dbo.Products_dim.ProductKey,
    AvishayDB_DWH.dbo.Stores_Dim.StoreKey,
    AvishayDB_DWH.dbo.Calendar_dim.CalendarKey,
    AvishayDB_DWH.dbo.Customer_Dim.CustomerKey,
    AvishayDB_DWH.dbo.Products_dim.ProductPrice * dbo.Includes.Quantity AS Shekelsold
FROM
    dbo.Includes INNER JOIN
    dbo.Products ON dbo.Includes.ProductID = dbo.Products.ProductID INNER JOIN
    AvishayDB_DWH.dbo.Products_dim ON dbo.Includes.ProductID =
    AvishayDB_DWH.dbo.Products_dim.ProductId INNER JOIN
        dbo.SalesTransaction ON dbo.Includes.TID = dbo.SalesTransaction.TID INNER JOIN
        AvishayDB_DWH.dbo.Calendar_dim ON dbo.SalesTransaction.IDate =
    AvishayDB_DWH.dbo.Calendar_dim.FullDate INNER JOIN
        AvishayDB_DWH.dbo.Customer_Dim ON dbo.SalesTransaction.CustomerID =
    AvishayDB_DWH.dbo.Customer_Dim.CustomerID INNER JOIN
        AvishayDB_DWH.dbo.Stores_Dim ON dbo.SalesTransaction.StoreId =
    AvishayDB_DWH.dbo.Stores_Dim.StoreID
```

Quantity	ProductKey	StoreKey	CalendarKey	CustomerKey	Shekelso...
4	1	1	4	1	44
12	3	2	1	2	60
4	2	3	2	3	28
3	4	3	5	5	2400
2	5	2	6	6	40
1	6	1	7	7	15
4	7	5	8	8	2000
2	8	2	9	9	20
1	9	2	10	10	30

Data Ware House Tables :

Calendar_dim Table :

	CalendarKey	FullDate	DayOfMonth	Month	Quarter	Year
1	1	2021-01-11	11	1	1	2021
2	2	2022-01-10	10	1	1	2022
3	3	2022-01-11	11	1	1	2022
4	4	2022-02-23	23	2	1	2022
5	5	2023-01-01	1	1	1	2023
6	6	2023-01-02	2	1	1	2023
7	7	2023-01-03	3	1	1	2023
8	8	2023-01-04	4	1	1	2023
9	9	2023-01-05	5	1	1	2023
10	10	2023-01-06	6	1	1	2023
11	11	2023-01-07	7	1	1	2023
12	12	2023-01-08	8	1	1	2023
13	13	2023-01-09	9	1	1	2023
14	14	2023-01-10	10	1	1	2023

Customer_Dim Table :

	CustomerKey	CustomerID	CustomerName	CustomerZip
1	1	1	yossi	1234
2	2	2	dani	2233
3	3	3	avi	3344
4	4	4	naan	1432
5	5	Cust001	John Doe	12345
6	6	Cust002	Jane Smith	54321
7	7	Cust003	Michael Johnson	98765
8	8	Cust004	Emily Brown	67890
9	9	Cust005	David Wilson	45678
10	10	Cust006	Jennifer Lee	89012
11	11	Cust007	Robert Taylor	23456
12	12	Cust008	Michelle Martinez	78901
13	13	Cust009	Christopher An...	34567
14	14	Cust010	Amanda Harris	90123

Products_dim table :

	ProductKey	ProductId	ProductName	ProductPrice	VendorId	CategoryID
1	1	1X1	Milk	11	111	0
2	2	2X2	yogurt	7	222	0
3	3	5X2	water	5	111	1
4	4	P001	Laptop	800	V001	2
5	5	P002	T-shirt	20	V002	3
6	6	P003	Book: Harry Potter	15	V003	4
7	7	P004	Sofa	500	V004	5
8	8	P005	Action Figure	10	V005	6
9	9	P006	Basketball	30	V006	7
10	10	P007	Refrigerator	1000	V007	8
11	11	P008	Necklace	50	V008	9
12	12	P009	Car Battery	150	V009	10
13	13	P010	Perfume	40	V010	11

Sales_Fact_table Table :

	CustomerKey	ProductKey	CalenderKey	StoreKey	Shekelsold	Quantity
1	1	1	4	1	44	4
2	2	3	1	2	60	12
3	3	2	2	3	28	4
4	5	4	5	3	2400	3
5	6	5	6	2	40	2
6	7	6	7	1	15	1
7	8	7	8	5	2000	4
8	9	8	9	2	20	2
9	10	9	10	2	30	1
10	11	10	11	4	3000	3
11	12	11	12	5	100	2
12	13	12	13	3	150	1
13	14	13	14	1	200	5

Stores_Dim Table:

	StoreKey	StoreID	StoreZIP	StoreRegionName
1	1	S1	60600	Chiango
2	2	S2	60605	Chiango
3	3	S3	35400	Titachana
4	4	S4	60640	India
5	5	S5	46307	Chiango

