

DAX Functions in Power BI - IV

Time Intelligence



TotalYTD() -> Cumulative Sum -> Year To Date

DatesYTD()

```

1 TotalYTD Revenue =
2     TOTALYTD(
3         [Revenue],
4         'Calendar Table'[Date]
5     )
  
```

Change the measures, to create multiple results.

Year	Revenue	TotalYTD Revenue
2012	\$14,19,198.15	\$14,19,198.15
2013	\$21,39,088.35	\$21,39,088.35
2014	\$22,31,063.90	\$22,31,063.90
2015	\$14,30,868.61	\$14,30,868.61
2016	\$9,35,126.94	\$9,35,126.94
2017	\$1,35,540.84	\$1,35,540.84
Total	\$82,90,886.79	\$1,35,540.84

Year	Revenue	TotalYTD Revenue
2012	\$14,19,198.15	\$14,19,198.15
Qtr 1	\$1,71,545.06	\$1,71,545.06
January	\$43,791.63	\$43,791.63
1	\$2,200.00	\$2,200.00
2		\$2,200.00
3	\$4,600.00	\$6,800.00
4		\$6,800.00
5	\$4,200.00	\$11,000.00
6		\$11,000.00
7		\$11,000.00
8		\$11,000.00
9		\$11,000.00
10		\$11,000.00
11	\$1,237.88	\$12,237.88
12		\$12,237.88
13	\$3,400.00	\$15,637.88
14		\$15,637.88
15	\$5,400.00	\$21,037.88
16	\$1,958.88	\$22,996.76
17		\$22,996.76

Year	Revenue	TotalYTD Revenue
18		\$22,996.76
19	\$5,643.70	\$28,640.46
20		\$28,640.46
21		\$28,640.46
22		\$28,640.46
23	\$2,700.00	\$31,340.46
24		\$31,340.46
25	\$2,491.86	\$33,832.32
26		\$33,832.32
27		\$33,832.32
28		\$33,832.32
29	\$5,859.31	\$39,691.63
30		\$39,691.63
31	\$4,100.00	\$43,791.63
February	\$51,414.89	\$95,206.52
1		\$43,791.63
2		\$43,791.63
3	\$6,500.00	\$50,291.63
4		\$50,291.63
5	\$3,000.00	\$53,291.63

Year	Revenue	TotalYTD Revenue
19		\$13,80,157.14
20	\$2,505.61	\$13,82,662.75
21	\$1,808.40	\$13,84,471.15
22		\$13,84,471.15
23		\$13,84,471.15
24	\$7,902.09	\$13,92,373.24
25	\$1,346.40	\$13,93,719.64
26	\$5,479.36	\$13,99,199.00
27	\$6,068.30	\$14,05,267.30
28		\$14,05,267.30
29	\$2,100.00	\$14,07,367.30
30	\$8,384.34	\$14,15,751.64
31	\$3,446.51	\$14,19,198.15
2013	\$21,39,088.35	\$21,39,088.35
Qtr 1	\$5,02,558.91	\$5,02,558.91
January	\$1,79,418.39	\$1,79,418.39
1	\$10,346.99	\$10,346.99
2	\$16,148.18	\$26,495.17
3	\$7,200.00	\$33,695.17
4	\$9,748.82	\$43,443.99

Dec

Reset

TotalQTD Revenue

Format

Currency

Measure Table

\$

%

0.00

2

Structure

Formatting

Properties

Calculations

Data category

Uncategorized

New measure

Quick measure

```
1 TotalQTD Revenue =  
2 TOTALQTD(  
3     [Revenue],  
4     'Calendar Table'[Date]  
5 )
```

Year	Revenue	TotalYTD Revenue	TotalQTD Revenue
2012	\$14,19,198.15	\$14,19,198.15	\$4,86,399.85
Qtr 1	\$1,71,545.06	\$1,71,545.06	\$1,71,545.06
January	\$43,791.63	\$43,791.63	\$43,791.63
1	\$2,200.00	\$2,200.00	\$2,200.00
2		\$2,200.00	\$2,200.00
3	\$4,600.00	\$6,800.00	\$6,800.00
4		\$6,800.00	\$6,800.00
5	\$4,200.00	\$11,000.00	\$11,000.00
6		\$11,000.00	\$11,000.00
7		\$11,000.00	\$11,000.00
8		\$11,000.00	\$11,000.00
9		\$11,000.00	\$11,000.00
10		\$11,000.00	\$11,000.00

Year	Revenue	TotalYTD Revenue	TotalQTD Revenue
2012	\$14,19,198.15	\$14,19,198.15	\$4,86,399.85
Qtr 1	\$1,71,545.06	\$1,71,545.06	\$1,71,545.06
January	\$43,791.63	\$43,791.63	\$43,791.63
1	\$2,200.00	\$2,200.00	\$2,200.00
2		\$2,200.00	\$2,200.00
3	\$4,600.00	\$6,800.00	\$6,800.00
4		\$6,800.00	\$6,800.00
5	\$4,200.00	\$11,000.00	\$11,000.00
6		\$11,000.00	\$11,000.00
7		\$11,000.00	\$11,000.00
8		\$11,000.00	\$11,000.00
9		\$11,000.00	\$11,000.00
10		\$11,000.00	\$11,000.00
11	\$1,237.88	\$12,237.88	\$12,237.88
12		\$12,237.88	\$12,237.88
13	\$3,400.00	\$15,637.88	\$15,637.88
14		\$15,637.88	\$15,637.88
15	\$5,400.00	\$21,037.88	\$21,037.88

Year	Revenue	TotalYTD Revenue	TotalQTD Revenue
29	\$5,859.31	\$39,691.63	\$39,691.63
30		\$39,691.63	\$39,691.63
31	\$4,100.00	\$43,791.63	\$43,791.63
▢ February	\$51,414.89	\$95,206.52	\$95,206.52
1		\$43,791.63	\$43,791.63
2		\$43,791.63	\$43,791.63
3	\$6,500.00	\$50,291.63	\$50,291.63

Year	Revenue	TotalYTD Revenue	TotalQTD Revenue
27	\$7,497.60	\$1,51,880.81	\$1,51,880.81
28	\$2,600.00	\$1,54,480.81	\$1,54,480.81
29	\$3,600.00	\$1,58,080.81	\$1,58,080.81
30	\$1,364.25	\$1,59,445.06	\$1,59,445.06
31	\$12,100.00	\$1,71,545.06	\$1,71,545.06
▢ Qtr 2	\$3,13,680.09	\$4,85,225.15	\$3,13,680.09
▢ April	\$77,575.37	\$2,49,120.43	\$77,575.37
1	\$4,068.70	\$1,75,613.76	\$4,068.70
2		\$1,75,613.76	\$4,068.70
3	\$8,456.69	\$1,84,070.45	\$12,525.39
4	\$11,550.31	\$1,95,620.76	\$24,075.70
5	\$1,864.80	\$1,97,485.56	\$25,940.50
6	\$3,200.00	\$2,00,685.56	\$29,140.50
7	\$2,116.50	\$2,02,802.06	\$31,257.00

QTD Reset

```

1 TotalMTD Revenue =
2   TOTALMTD(
3     [Revenue],
4     'Calendar Table'[Date]
5   )

```

Year	Revenue	TotalYTD Revenue	TotalQTD Revenue	TotalMTD Revenue
▢ 2012	\$14,19,198.15	\$14,19,198.15	\$4,86,399.85	\$1,43,948.47
▢ Qtr 1	\$1,71,545.06	\$1,71,545.06	\$1,71,545.06	\$76,338.54
▢ January	\$43,791.63	\$43,791.63	\$43,791.63	\$43,791.63
1	\$2,200.00	\$2,200.00	\$2,200.00	\$2,200.00
2		\$2,200.00	\$2,200.00	\$2,200.00
3	\$4,600.00	\$6,800.00	\$6,800.00	\$6,800.00
4		\$6,800.00	\$6,800.00	\$6,800.00
5	\$4,200.00	\$11,000.00	\$11,000.00	\$11,000.00
6		\$11,000.00	\$11,000.00	\$11,000.00
7		\$11,000.00	\$11,000.00	\$11,000.00
8		\$11,000.00	\$11,000.00	\$11,000.00
9		\$11,000.00	\$11,000.00	\$11,000.00
10		\$11,000.00	\$11,000.00	\$11,000.00

Year	Revenue	TotalYTD Revenue	TotalQTD Revenue	TotalMTD Revenue
28		\$33,832.32	\$33,832.32	\$33,832.32
29	\$5,859.31	\$39,691.63	\$39,691.63	\$39,691.63
30		\$39,691.63	\$39,691.63	\$39,691.63
31	\$4,100.00	\$43,791.63	\$43,791.63	\$43,791.63
February	\$51,414.89	\$95,206.52	\$95,206.52	\$51,414.89
1		\$43,791.63	\$43,791.63	
2		\$43,791.63	\$43,791.63	
3	\$6,500.00	\$50,291.63	\$50,291.63	\$6,500.00
4		\$50,291.63	\$50,291.63	\$6,500.00

1st Month

MTD Reset

DATESYTD() , DATESQTD(), Calculate()
DATESMTD()

Filter Parameter

```

DATESYTD QuantitySold =
    CALCULATE(
        [Quantity Sold],
        DATESYTD('Calendar Table'[Date])
    )

```

```

DATESQTD Quantity Sold =
    CALCULATE(
        [Quantity Sold],
        DATESQTD('Calendar Table'[Date])
    )

```

```

DATESMTD Quantity Sold =
    CALCULATE(
        [Quantity Sold],
        DATESMTD(
            'Calendar Table'[Date])
    )

```


Year	Quantity Sold	DATESYTD QuantitySold	DATESQTD Quantity Sold	DATESMTD Quantity Sold
2012	16567	16567	5732	1658
Qtr 1	1929	1929	1929	824
January	501	501	501	501
February	604	1105	1105	604
March	824	1929	1929	824
Qtr 2	3628	5557	3628	1532
April	952	2881	952	952
May	1144	4025	2096	1144
June	1532	5557	3628	1532
Qtr 3	5278	10835	5278	1853
Qtr 4	5732	16567	5732	1658
October	2024	12859	2024	2024
November	2050	14909	4074	2050
December	1658	16567	5732	1658
2013	25629	25629	7663	2699
Qtr 1	6158	6158	6158	1937
January	2216	2216	2216	2216
1	112	112	112	112
2	185	297	297	297
3	72	369	369	369
4	107	476	476	476

DATESINPERIOD()

Running Sum / Sliding Window

having 3 fixed sized window

'Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sept', 'Oct', 'Nov', 'Dec'

- Calculate the number of vehicle orders from the last 3 months

DATESINPERIOD(Dates, StartDate, NumberOfIntervals, Interval)
Returns the dates from the given period.

Orders in Last 3 Months =

```
CALCULATE(
    COUNTROWS('VehicleOrders'),
    DATESINPERIOD(
        'Calendar Table'[Date],
        MAX('Calendar Table'[Date]),
        -3,
        MONTH
    )
)
```

- ☒ Date Hierarchy
 - ☒ Year
 - ☒ Quarter
 - ☒ Month
 - ☒ Day

Year	Count of ORDERNUMBER	Orders in Last 3 Months
2012	477	167
Qtr 1	55	55
January	15	15
1	1	1
2		1
3	1	2
4		2
5	1	3
6		3
7		3
8		3
9		3
10		3
11	1	4
12		4
13	1	5
14		5
15	2	7
16	1	8

Year	Count of ORDERNUMBER	Orders in Last 3 Months
2012	477	167
Qtr 1	55	55
Qtr 2	106	106
April	29	69
1	1	55
2		55
3	3	57
4	4	61
5	1	61
6	1	62
7	1	63
8	2	65
9		65
10	1	66
11		65
12		65
13	1	65
14	1	66
15		64
16		62

Calculate the last 90 days revenues using DatesinPeriod

DATESBETWEEN()

DATESBETWEEN(**Dates**, StartDate, EndDate)

Returns the dates between two given dates.

```
Total Orders on Qtr1 2012(F.Y) =
CALCULATE(
    COUNTROWS(VehicleOrders),
    DATESBETWEEN(
        'Calendar Table'[Date],
        DATE(2012,04,01),
        DATE(2012,06,30)))
```

106

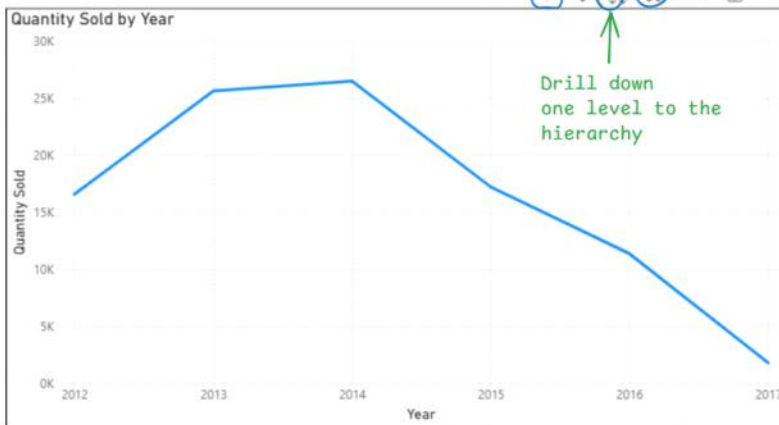
Total Orders on Qtr1 2012(F.Y)

Hierarchy

Drill up

Drill down one level to the hierarchy

Expanding one level to the hierarchy

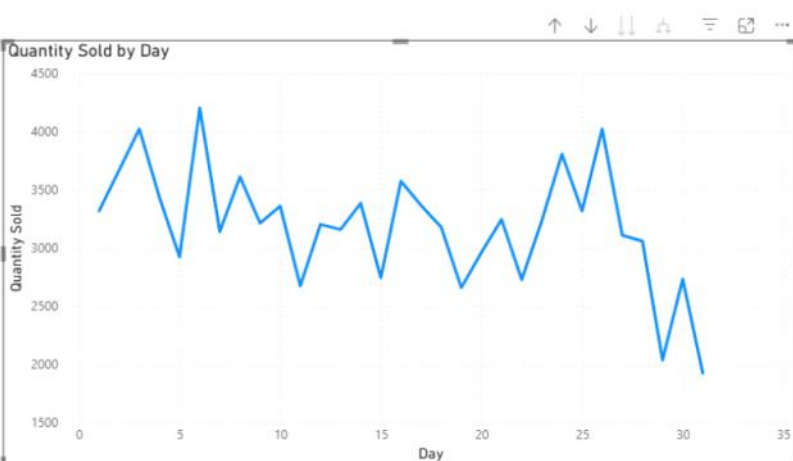
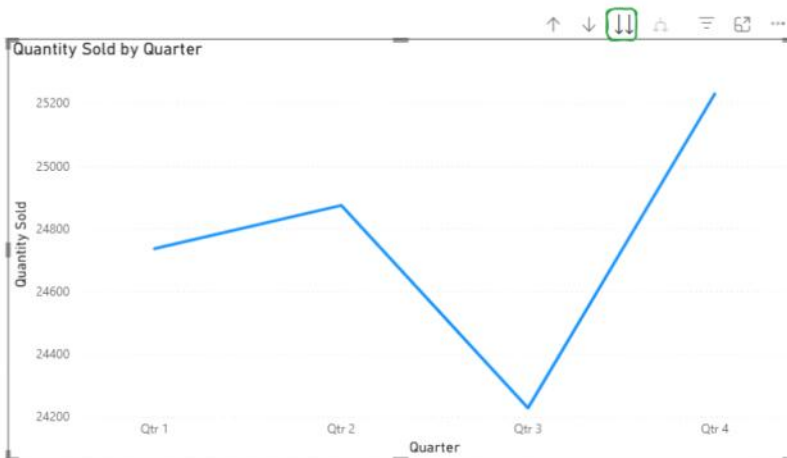


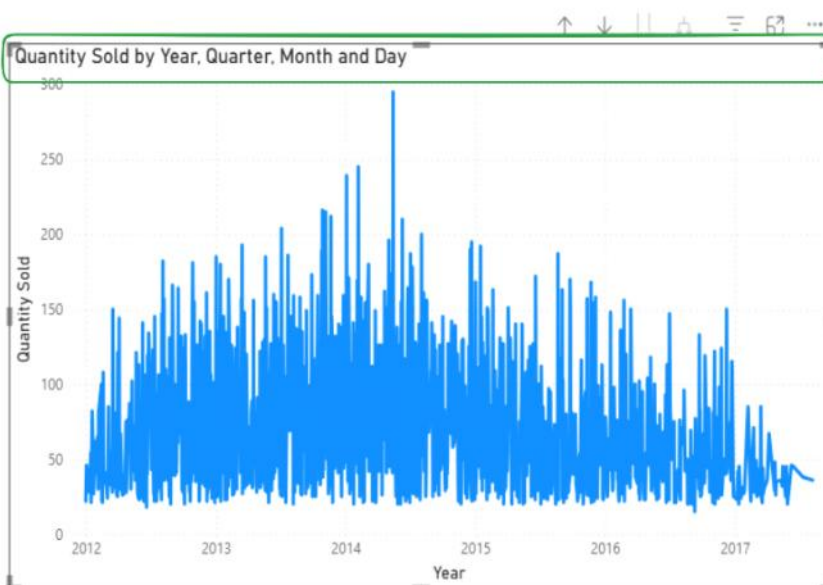
X-axis

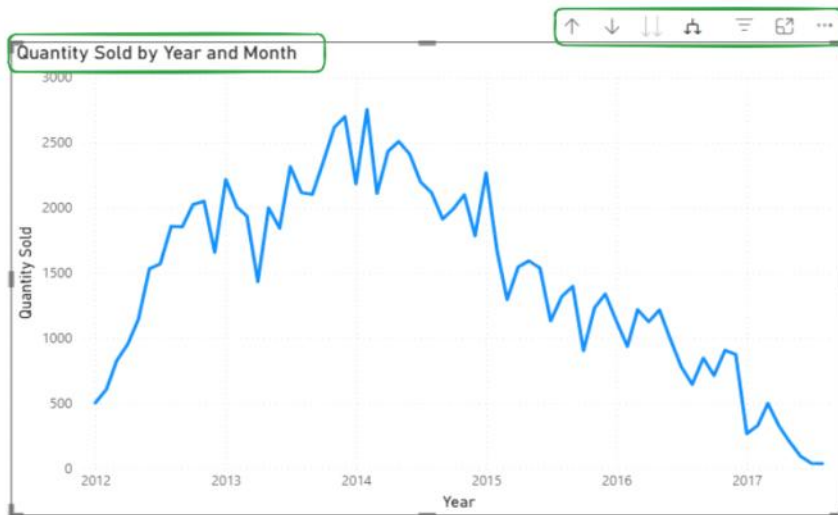
- Date
- Year
- Quarter
- Month
- Day

Y-axis

- Quantity Sold







Power BI Desktop interface showing the 'Create hierarchy' menu and the 'Territory Hierarchy' field well. The hierarchy is set to COUNTRY > STATE > CITY.

Territory Hierarchy

- ☐ COUNTRY
- ☐ STATE
- ☐ CITY

COUNTRY	Revenue	Quantity Sold
Australia	\$5,21,598.46	6246
NSW	\$2,54,483.79	3070
Chatswood	\$1,33,223.38	1601
North Sydney	\$1,21,260.41	1469
Queensland	\$46,399.18	545
South Brisbane	\$46,399.18	545
Victoria	\$2,20,715.49	2631
Glen Waverly	\$56,139.62	705
Melbourne	\$1,64,575.87	1926
Austria	\$1,72,793.05	1974
Unknown	\$1,72,793.05	1974
Graz	\$46,505.20	532
Salzburg	\$1,26,287.85	1442
Belgium	\$94,528.88	1074
Unknown	\$94,528.88	1074
Bruxelles	\$68,568.18	796
Total	\$82,90,886.79	99067

DATA Category

File Home Help Table tools Column tools										
Name	CITY	Format	Text	Summarization	Don't summarize	Sort by column	Data groups	Manage relationships	New column	
Data type	Text	Format	\$ - %	Data category	Uncategorized	Sort	Groups	Relationships	Calculations	
ORDERNUMBER	QUANTITYORDERED	PRICEEACH	ORDERLINENUMBER	Place	DELIVERYDATETIME	STATUS	PRODUCTLINE	CITY	STATE	POSTALCODE
10203	20	\$100	8	City	21-05-2014 11:19:59	Shipped	Classic Cars	Madrid	Unknown	28034
10153	20	\$100	11	County	25-11-2014 07:56:06	Shipped	Classic Cars	Madrid	Unknown	28034
10104	34	\$100	1	State or Province	14-10-2014 15:46:41	Shipped	Classic Cars	Madrid	Unknown	28034
10153	42	\$100	12	Postal code	16-08-2016 17:27:35	Shipped	Classic Cars	Madrid	Unknown	28034
10212	39	\$100	16	Country	29-08-2014 15:53:17	Shipped	Classic Cars	Madrid	Unknown	28034
10104	41	\$100	9	Continent	20-06-2012 23:46:07	Shipped	Trucks and Buses	Madrid	Unknown	28034
10246	46	\$100	5	Latitude	16-05-2014 09:08:01	Shipped	Trucks and Buses	Madrid	Unknown	28034
10412	54	\$100	5	Longitude	27-09-2013 02:26:05	Shipped	Trucks and Buses	Madrid	Unknown	28034
10203	47	\$100	5	Web URL	13-03-2014 17:57:30	Shipped	Classic Cars	Madrid	Unknown	28034
10212	33	\$100	15	Image URL	09-05-2014 18:31:03	Shipped	Classic Cars	Madrid	Unknown	28034
10212	29	\$100	10	Barcode	09-05-2016 02:47:22	Shipped	Classic Cars	Madrid	Unknown	28034
10205	36	\$100	2	Barcode	05-06-2012 04:30:35	Shipped	Vintage Cars	Madrid	Unknown	28034
10244	40	\$100	7	Barcode	15-09-2013 22:52:02	Shipped	Vintage Cars	Madrid	Unknown	28034
10212	38	\$100	6	Barcode	26-05-2013 02:35:03	Shipped	Classic Cars	Madrid	Unknown	28034
10379	39	\$100	2	Barcode	28-03-2013 14:00:36	Shipped	Vintage Cars	Madrid	Unknown	28034
10212	41	\$100	9	Barcode	15-09-2012 00:02:15	Shipped	Classic Cars	Madrid	Unknown	28034

Σ Summarization Don't summarize

Data category City

Properties

VehicleOrders

CITY

Calendar Table

- Date
- Day
- DayName
- IsWeekend
- Month

VehicleOrders

- QUANTITYORDERED
- STATE
- STATUS
- Target Delivery Date
- TERRITORY
- Territory Hierarchy
- COUNTRY
- STATE
- CITY

Measure Table

- Value
- % Of Revenue Contribution
- % Product Contribution in Quanti...
- All Quantity Sold
- ALL Revenue

Properties

- City
- Continent
- Country/Region
- County
- Latitude
- Longitude
- Place
- Postal code
- State or Province
- Uncategorized
- Summarize by
- None
- Is nullable
- Yes

VehicleOrders

- CITY
- CONTACTFIRSTNAME
- CONTACTLASTNAME
- COUNTRY
- DEALSIZE
- Delay In Delivery
- DELIVERYDATETIME
- Discounted Price
- OrderDate

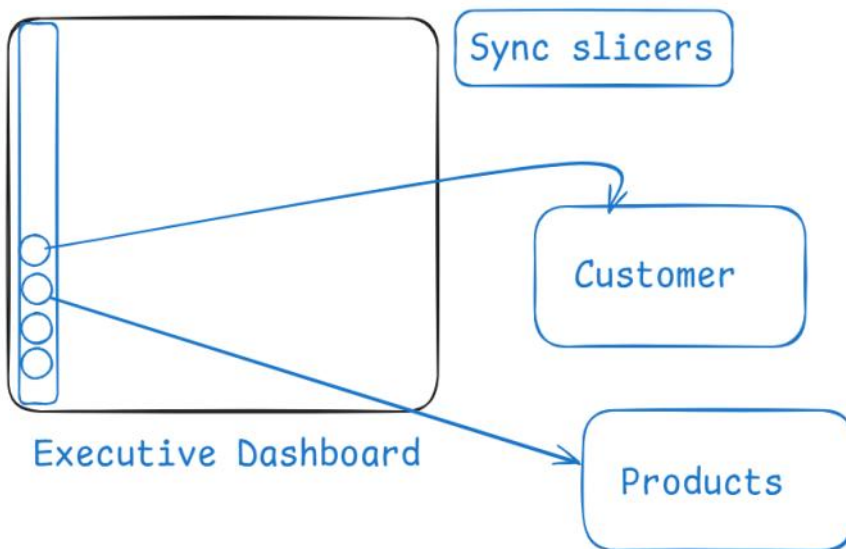
VehicleOrders

- POSTALCODE
- PRICEEACH
- PRODUCTLINE
- QUANTITYORDERED
- STATE
- STATUS
- Target Delivery Date
- TERRITORY
- Territory Hierarchy

Territory Hierarchy

- COUNTRY
- STATE
- CITY

Report



1. Follow the brand theme in your dashboard.

