

Power BI

DAX in AN Hour - XIAH

Hands-On Lab Instruction

By

Cloud BI



<http://cloudbi.com.au>

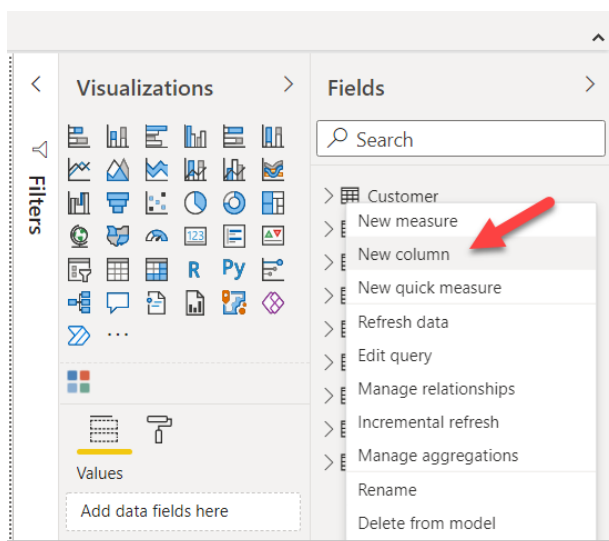
[in https://www.linkedin.com/company/cloud-bi-pty-ltd](https://www.linkedin.com/company/cloud-bi-pty-ltd)

Requirements

1. Install Power BI Desktop from <https://powerbi.microsoft.com/en-us/downloads/>
2. Copy Power BI file CloudBI_XIAH_Practice.pbix to your local drive

Calculated Column

1. Add a new column to Customer table by concatenating FirstName, MiddleName and LastName



```
Customer Name =  
Customer[FirstName] & " "  
    & IF ( ISBLANK ( Customer[MiddleName] ), "", Customer[MiddleName] & " " ) &  
Customer[LastName]
```

2. Add Total Product Cost to Sales table

```
TotatProductCost = Sales[OrderQuantity] * RELATED ( 'Product'[StandardCost] )
```

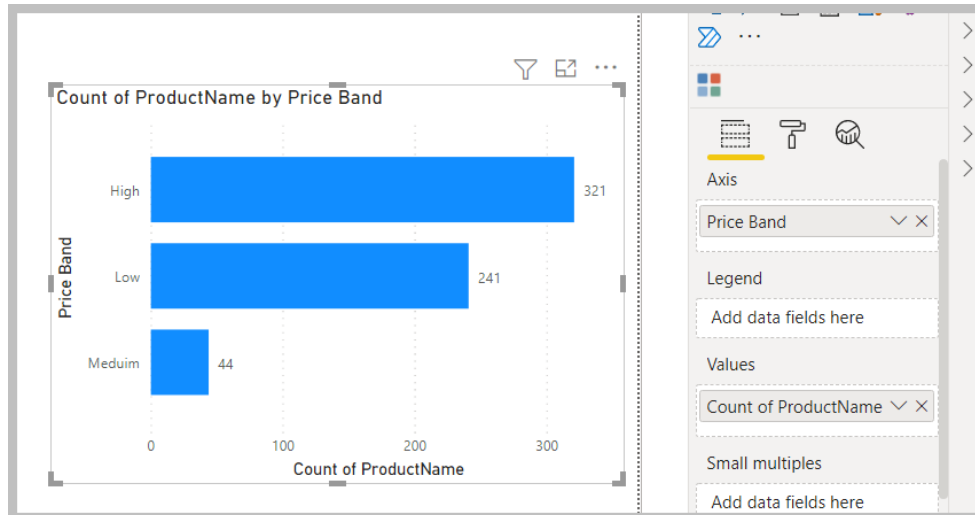
3. Add Price Band to Product

```

Price Band =
IF (
    'Product'[ListPrice] <= 25,
    "Low",
    IF ( 'Product'[ListPrice] <= 50, "Meduim", "High" )
)

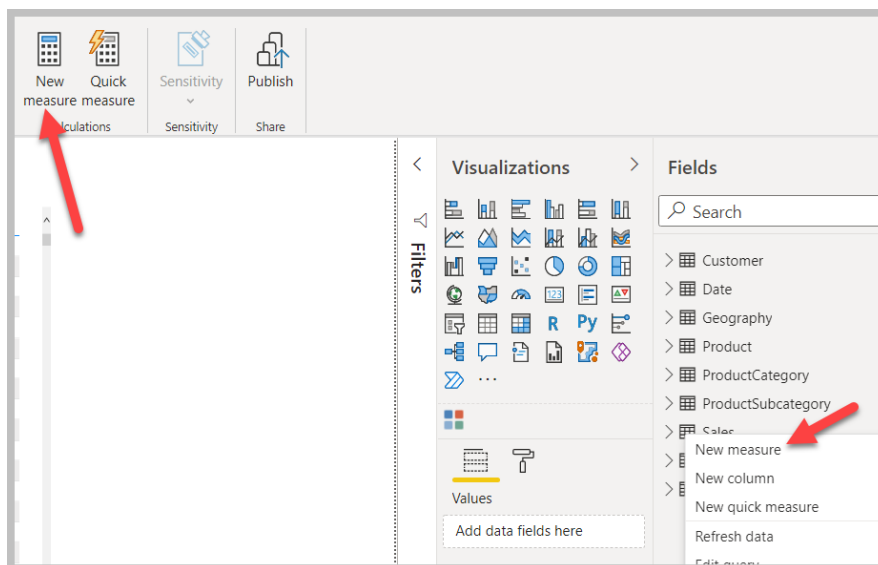
```

4. Add a Bar chart to show Count of Product by Price Band



Measure

1. Add Sales to Sales table



Sales = SUM (Sales[SalesAmount])

2. Add Cost to Sales

Cost = SUM (Sales[TotatProductCost])

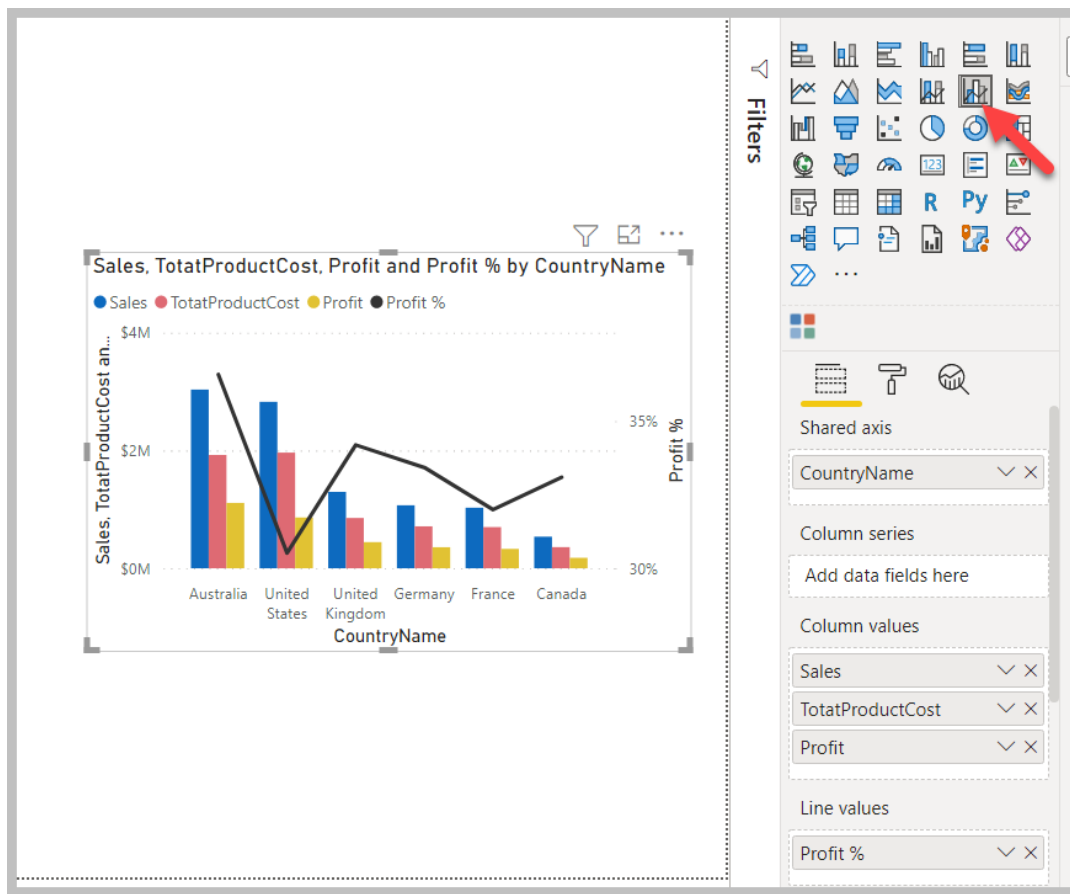
3. Add Profit to Sales

Profit = [Sales] - [Cost]

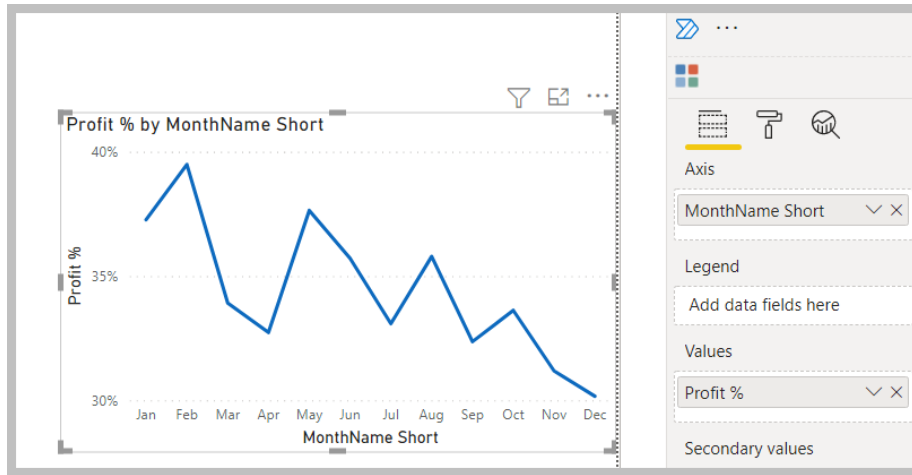
4. Add Profit % to Sales

Profit % = DIVIDE ([Profit], [Sales])

5. Add a Line and Clustered Column Chart to show the new measures by Country



6. Add a Line chart to show Profit% by month



Calculate function

1. Add 4 measures to show Sales for each Product Category

Sales Accessories = **CALCULATE** ([Sales], ProductCategory[Product Category] = "Accessories")

SalesBikes = **CALCULATE** ([Sales], ProductCategory[Product Category] = "Bikes")

SalesClothing = **CALCULATE** ([Sales], ProductCategory[Product Category] = "Clothing")

2. Go to page Calculate Add Filter, add a table visual and use Sales, Sales Accessories, Sales Bikes and Sales Clothing. Use Product Category and Year slicer and notice how Sales and other values change.

Product Category...

- ☐ (Blank)
- ☐ Accessories
- ☐ Bikes
- ☐ Clothing
- ☐ Components

Calendar Year

- ☐ 2015
- ☐ 2016
- ☒ 2017
- ☐ 2018
- ☐ 2019
- ☐ 2020

MonthName Short	Sales	Sales Accessories	Sales Bikes	Sales Clothing
Jan	\$438,065		\$438,065	
Feb	\$489,090		\$489,090	
Mar	\$485,575		\$485,575	
Apr	\$506,399		\$506,399	
May	\$562,773		\$562,773	
Jun	\$554,799		\$554,799	
Jul	\$886,669	\$14,468	\$865,693	\$6,508
Aug	\$847,414	\$52,057	\$772,022	\$23,335
Sep	\$1,010,258	\$52,150	\$931,964	\$26,144
Oct	\$1,080,450	\$54,595	\$999,929	\$25,926
Nov	\$1,196,981	\$54,832	\$1,116,621	\$25,528
Dec	\$1,731,788	\$65,608	\$1,635,373	\$30,807
Total	\$9,791,060	\$293,710	\$9,359,103	\$138,248

Values

- MonthName Short
- Sales
- Sales Accessories
- Sales Bikes
- Sales Clothing

Drill through

3. Add measure Sales All GEO

Sales All GEO = `CALCULATE ([Sales], ALL (Geography))`

4. Add measure Sales All Countries

Sales All Countries = `CALCULATE([Sales],ALL(Geography[CountryName]))`

5. Add measure Sales All Selected Countries

Sales All Selected Countries = `CALCULATE([Sales],ALLSELECTED(Geography[CountryName]))`

6. Add a table visual to Calculate Ignore Filter page and use CountryName, Sales with the above measures. Notice how the measures react to the slicers,

CountryName	Sales	Sales All GEO	Sales All Countries	Sales All Selected Countries
Australia	\$3,033,970	\$9,791,060	\$9,791,060	\$9,791,060
Canada	\$536,334	\$9,791,060	\$9,791,060	\$9,791,060
France	\$1,028,102	\$9,791,060	\$9,791,060	\$9,791,060
Germany	\$1,069,207	\$9,791,060	\$9,791,060	\$9,791,060
United Kingdom	\$1,297,306	\$9,791,060	\$9,791,060	\$9,791,060
United States	\$2,826,141	\$9,791,060	\$9,791,060	\$9,791,060
Total	\$9,791,060	\$9,791,060	\$9,791,060	\$9,791,060

Values

- CountryName
- Sales
- Sales All GEO
- Sales All Countries
- Sales All Selected Count

Drill through

Cross-report

Off

Keep all filters

On

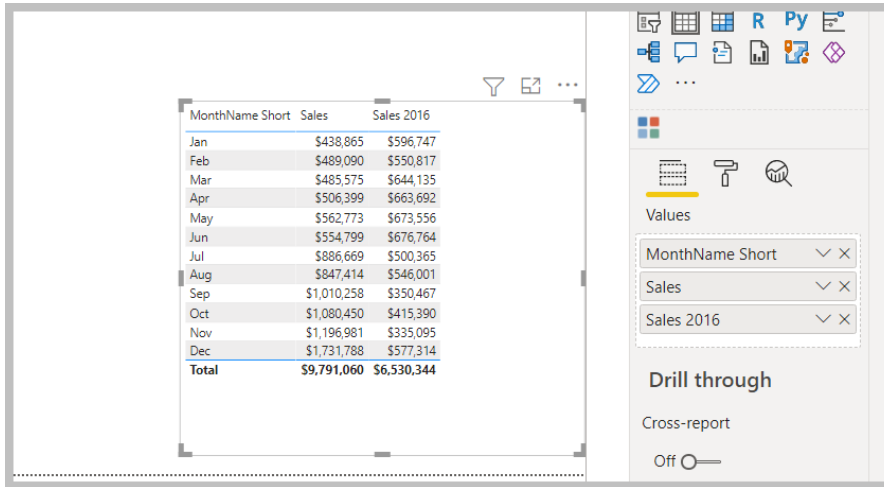
Add drill-through fields here

Calculate Add Filter Calculate Ignore Filter Calculate Update Filter Calculate Context Transi

7. Add measure Sales 2016

Sales 2016 = **CALCULATE** ([Sales], 'Date'[CalendarYear] = 2016)

8. In Calculate Update Filter page, Add a table and use Month, Sales and Sales 2016. Notice how the values change by changing Year slicer.



MonthName Short	Sales	Sales 2016
Jan	\$438,865	\$596,747
Feb	\$489,090	\$550,817
Mar	\$485,575	\$644,135
Apr	\$506,399	\$663,692
May	\$562,773	\$673,556
Jun	\$554,799	\$676,764
Jul	\$886,669	\$500,365
Aug	\$847,414	\$546,001
Sep	\$1,010,258	\$350,467
Oct	\$1,080,450	\$415,390
Nov	\$1,196,981	\$335,095
Dec	\$1,731,788	\$577,314
Total	\$9,791,060	\$6,530,344

9. Add a new column Sales On Column to Customer table

Sales On Column = **SUM** ('Sales'[SalesAmount])

10. Add a new column Sales On Column2 to Customer table

Sales On Column2 = **CALCULATE** (**SUM** ('Sales'[SalesAmount]))

11. Add a table and use Customer Name, Sales, and the above columns.

Customer Name	Sales	Sales On Column	Sales On Column2
Aaron Alexander	\$70	\$29,362,255	\$70
Aaron Bryant	\$134	\$29,362,255	\$134
Aaron Butler	\$15	\$29,362,255	\$15
Aaron Chen	\$40	\$29,362,255	\$40
Aaron Coleman	\$62	\$29,362,255	\$62
Aaron Edwards	\$94	\$29,362,255	\$94
Aaron Flores	\$1,539	\$29,362,255	\$1,539
Aaron Foster	\$4,912	\$29,362,255	\$4,912
Aaron Gonzales	\$1,810	\$29,362,255	\$1,810
Aaron Griffin	\$72	\$29,362,255	\$72
Aaron Henderson	\$27	\$29,362,255	\$27
Aaron Hernandez	\$94	\$29,362,255	\$94
Aaron Hill	\$36	\$29,362,255	\$36
Aaron Jai	\$575	\$29,362,255	\$575
Aaron Jenkins	\$120	\$29,362,255	\$120
Aaron Lal	\$2,310	\$29,362,255	\$2,310
Aaron Li	\$3,170	\$29,362,255	\$3,170
Aaron Perry	\$72	\$29,362,255	\$72
Aaron Powell	\$5	\$29,362,255	\$5
Aaron Roberts	\$120	\$29,362,255	\$120
Aaron Russell	\$1,171	\$29,362,255	\$1,171
Total	\$29,362,255	\$542,731,930.490	\$29,362,255

Iterator

1. Add measure COGS to Sales.

COGS = SUMX (Sales, Sales[OrderQuantity] * RELATED ('Product'[StandardCost]))

2. Add measure Avg Sales by Country to Sales.

Avg Sales by Country = AVERAGEX (VALUES (Geography[CountryName]), Sales[Sales])

3. Add tables to Iterate page and use the above measures

MonthName Short	COGS	TotalProductCost	Avg Sales by Country
Jan	\$275,312	\$275,312.06	73,144.20
Feb	\$295,955	\$295,954.90	81,515.06
Mar	\$320,877	\$320,876.81	80,929.13
Apr	\$340,664	\$340,663.62	84,399.88
May	\$350,936	\$350,936.10	93,795.43
Jun	\$356,667	\$356,666.53	92,466.54
Jul	\$593,329	\$593,328.61	147,778.14
Aug	\$544,131	\$544,131.29	141,235.58
Sep	\$683,325	\$683,325.07	168,376.35
Oct	\$717,216	\$717,216.34	180,074.93
Nov	\$823,725	\$823,725.26	199,496.85
Dec	\$1,209,425	\$1,209,424.81	288,631.29
Total	\$6,511,561	\$6,511,561.39	1,631,843.38

CountryName	Avg Sales by Country
Australia	3,033,969.68
United States	2,826,140.81
United Kingdom	1,297,305.89
Germany	1,069,207.45
France	1,028,102.31
Canada	536,334.16
Total	1,631,843.38

Thanks for attending to this session.

We will appreciate it if you can send your feedback and please follow us on LinkedIn to get informed about the events and technical blog posts.

 <https://www.linkedin.com/company/cloud-bi-pty-ltd>