

Patou Tips #3 (update)

Start with PowerBI

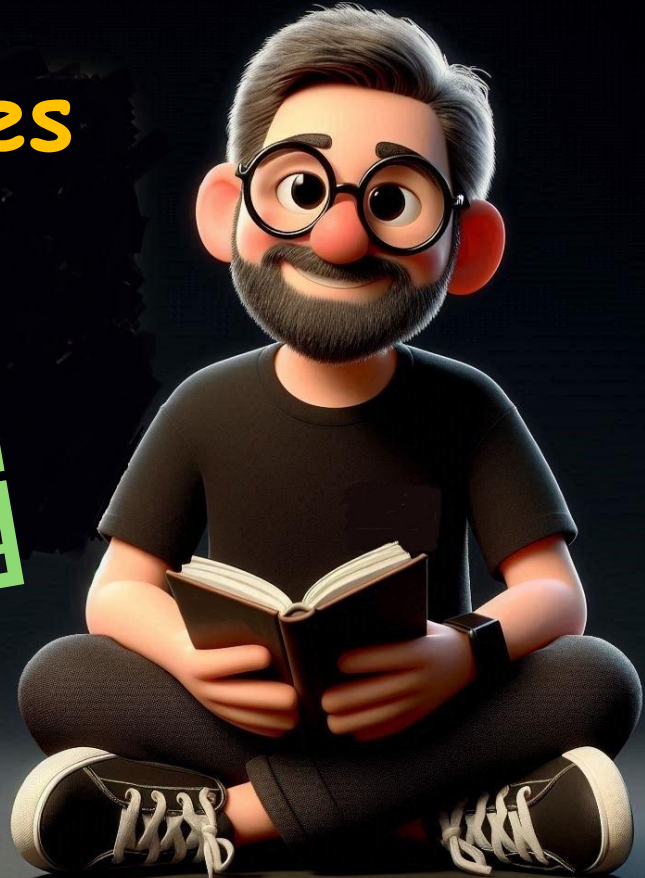
"From Rookie to Rock"



Best practices
with dates
in PowerBI



Downloadable free
resources to practice
in GitHub

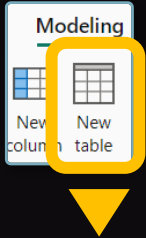




1

Create a table of dates in DAX

→ The table: « DimDate »



In powerBI, create a table called "DimDate" and write this code in DAX

Path: « Modeling > New Table »

```
1 DimDate = GENERATE(CALENDAR("1/1/2021","31/12/2030"), // Generate dates from 1/1/2021 until 31/12/2030 (To adjust to your needing)
2 VAR An = YEAR([Date]) // Year
3 VAR Semester = IF(QUARTER([Date])<3,"S1","S2") // Return S1 or S2
4 VAR Quarter = "Q"&QUARTER([Date]) // Return Q1, Q2, Q3 or Q4
5 VAR MonthLong = FORMAT([Date],"Mmmm") // January, February, March... (Month in the language of your system)
6 VAR Month = FORMAT([Date],"Mmm") // Jan, Feb, Mar... (Month in the language of your system)
7 VAR MonthShort = UPPER(LEFT(Month,1)) // J, F, M... (Month in the language of your system)
8 VAR Day = FORMAT([Date],"dddd") // Monday, Tuesday, Wednesday... (Month in the language of your system)
9 VAR NumMonth = MONTH([Date]) // 1 for January, 2 for February... 12 for December
10 VAR NumWeek = WEEKNUM([Date],21) // 1 when week begins on Sunday, 2 when week begins on Monday, or 21 for ISO week numbers
11 VAR NumDayWeek = WEEKDAY([Date],2) // Return a number day, 1 for Monday ...to 7 for Sunday (depend of the extension)
12 VAR NumDayMonth = DAY([Date]) // 1 for the first day of the month ...to the last day of the month (28,29, 30 or 31)
13 RETURN ROW(-----Create column for each row below-----
14 "Year",An, // See line 2
15 "YearSemester",An&"-"&Semester, // Year + Semester / For example: 2024-S1, 2024-S2
16 "YearQuarter",An&"-"&Quarter, // Year + Quarter / For example: 2024-Q1, 2024-Q2, 2024-Q3, 2024-Q4
17 "YearMonth",An&"-"&IF(NumMonth<10,"0"&NumMonth,NumMonth), // Year + Month number / For example: 2024-01, 2024-02 ...to 2024-12
18 "YearWeek",An&"-"&W&NumWeek, // Year + Week number / For example: 2024-W1, 2024-W2 ...to 2024-W52 or 2024-W53
19 "Semester",Semester, // See line 3
20 "Quarter",Quarter, // See line 4
21 "MonthLong",MonthLong, // See line 5
22 "Month",Month, // See line 6
23 "MonthShort",IF(NumMonth IN {5,6,8},MonthShort&" ", IF(NumMonth = 7, MonthShort&" ",MonthShort)),
24 // See line 7, setting according country language, for the months who start with the same letter one space or a double space are added
25 "Week","W "&NumWeek, // Week / For example : W1, W2 ...to W52 or W53
26 "Day",Day, // See line 8
27 "NumMonth",NumMonth, // See line 9 (usefull to sort Month, MonthLong and MonthShort chronologically)
28 "NumWeek",NumWeek, // See line 10 (usefull to sort Week chronologically)
29 "NumDayWeek",NumDayWeek, // See line 11 (usefull to sort Day chronologically)
30 "NumDayMonth",NumDayMonth)) // See line 12
```

See Tip 6 to go further
→ Create short month

See Tip 3 to go further
→ Sort month chronologically



2

Mark as a date table



This step is one of the **first things to do when you create a PowerBI** project. With this step, PowerBI validates your date system and allows optimal operation with the “Time Intelligence” functions.

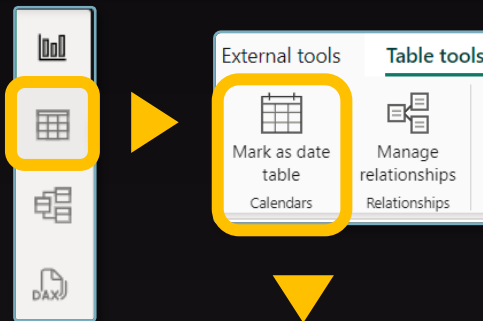


Important: Your date system must contain:

- ✓ only unique values
- ✓ contiguous values
- ✓ no null value

On the « table
view »

Path: «Table tools »
Mark as date
table »



Click on the button
« Mark as date
table » and choose
the field « Date ».
PowerBI will validate
this entry.

Mark as a date table

To enable the creation of date-related visuals, tables and quick measures using this table's date data, mark it as a date table.

Keep in mind any built-in date tables that are already associated with this table will be removed. Visuals or DAX expressions referring to them may break. [Learn more](#)

Mark as a date table

☒ On

Choose a date column

Date

Validated successfully

3

Sort "month" chronologically

→ Same thing can be done for week and day

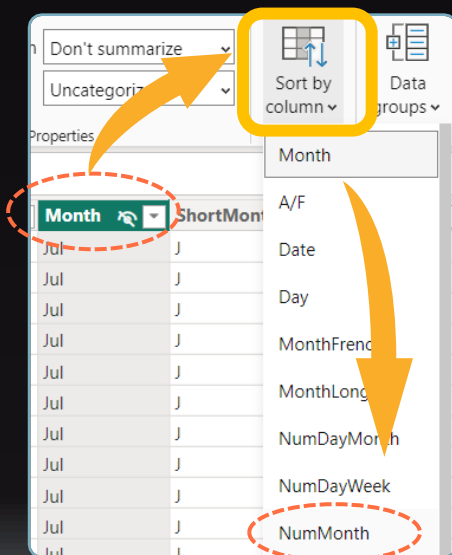
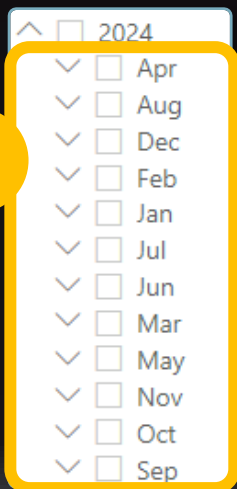


This tip is really usefull when you want to have a good ascending sorting of dates; the days and months in particular.

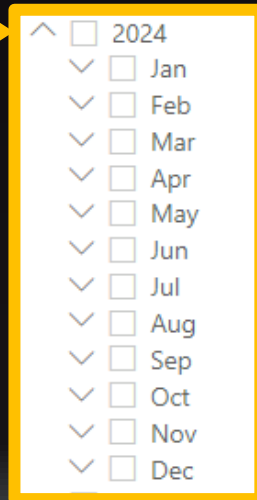
For example, the months in PowerBI will be classified in alphabetical order, so a year will start with the months of August, then April...??? It's important to have a good sort to show good storytelling. So, we can sort the months by another field order, such the month numbers (NumMonth) who give the value 1 for January, 2 for February...



Before



After



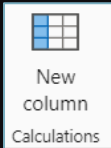
4

Create a "relative Month"

→ Also usefull with days, weeks...



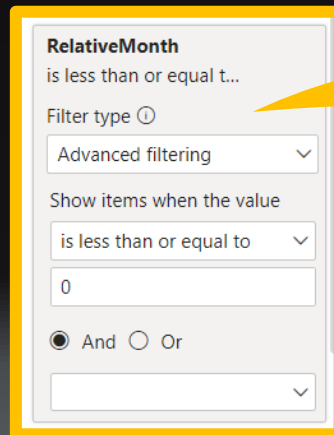
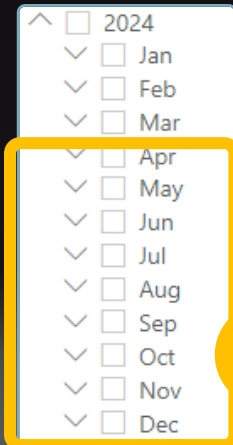
This tip is really useful for your users (and also for your measures). It allows to **display only the month with sales data in the filter**. In the **example below we have sales until March 15, 2024**. So why to show to the users the entire month of the year as well as subsequent years? In the table of dates, create a calculated column and write the Dax formula below.



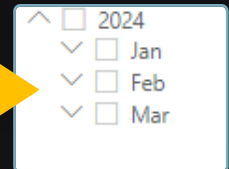
```
1 RelativeMonth = DATEDIFF(MAX(Sales[Date]),DimDate[Date],MONTH)
```

→ Explanation: The month of march 2024 will have the value "0 (zero)", and before march 2024 the months will have a negative value (the past) and positive value after march 2024 (the future). After that we put this value in the pane filter of the "report view" and put the settings showing below.

❌ Before



✅ After



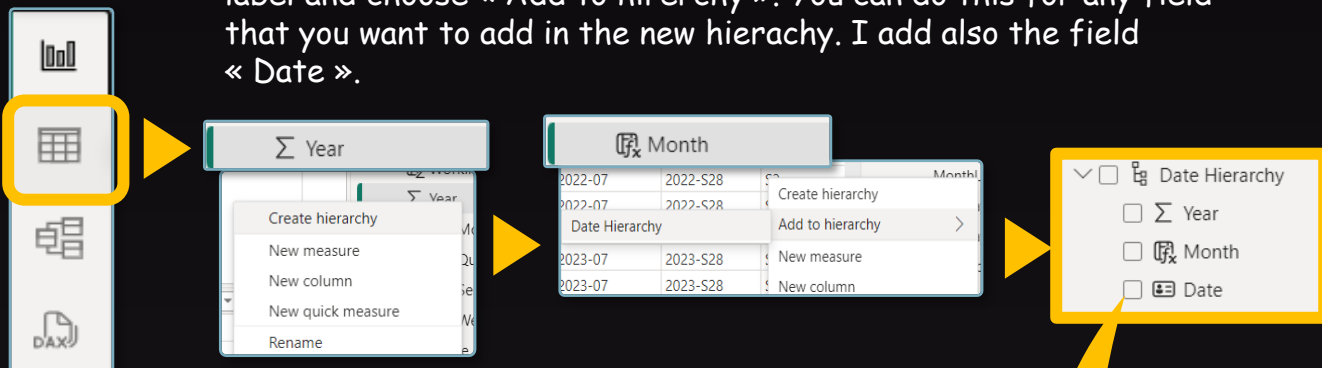
5

Create hierarchy of date



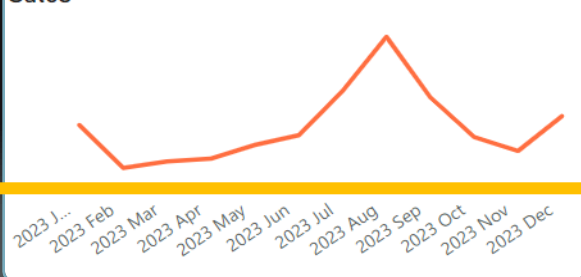
This tip will allow you to group your **main dates information** and use it simultaneously in your tables or charts. This will also make it easier for your users to understand.

On the « Table View », right click on the « Year » label of the DimDate and choose « Create hierarchy ». Here I rename the hierarchy in « Date Hierarchy ». Then, click right on the « Month » label and choose « Add to hierarchy ». You can do this for any field that you want to add in the new hierarchy. I add also the field « Date ».



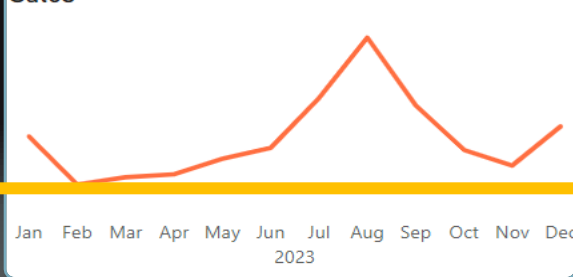
Before

Sales



After

Sales



6

Create short month



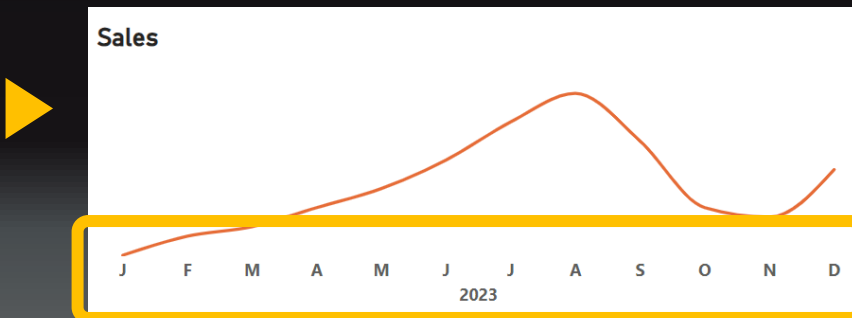
It can be useful to have only the first letter of each month, especially when you have charts in a small space. See Tip 1 for lines reference.

```
7 VAR MonthShort = UPPER(LEFT(Month,1))
```

→ Explanation: On line 7 of the table date code (see Tip 1), we take the first letter (LEFT) of each month in capital (UPPER).

```
23 "MonthShort", IF(NumMonth IN {5,6,8}, MonthShort & " ", IF(NumMonth = 7, MonthShort & "  ", MonthShort)),
```

→ Explanation: In English, for example, the first letter of a month, "J", can be January, June or July. It is important to distinguish them if we want to order them (as Tip 4) chronologically. It depends on the language of the country. So, for the second "J" we put a space (" ") and 2 spaces (" ") for the third "J" to have different values.



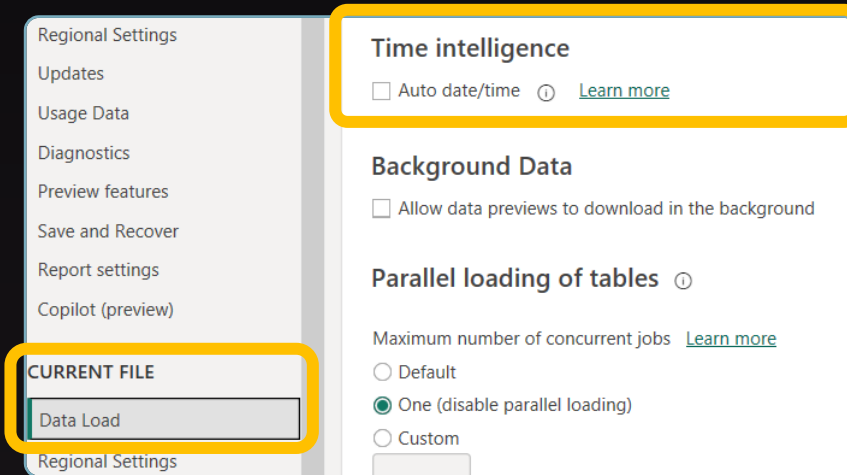
7

Performance optimization



This tip will allow you to avoid having a model whose size can really increase more and more. Also this tip **will improve its performance**.

Path: File > Options and settings > Options > Data Load > Time intelligence

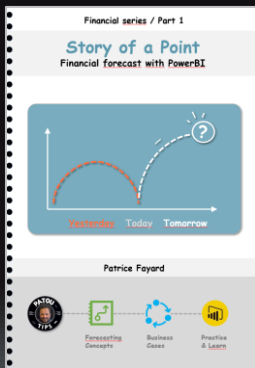


Unselect "Auto date/time"

Don't forget!
This isn't the truth, it's just my truth!

Patou Tips

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From the book
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Financial forecast with PowerBi

Available in book and e-book
English : **December 2025**
French : **January 2026**
German : **March 2026**

