

# Things to keep in mind

- Everyone focused on visualizations, but...
  - If the data is garbage or not optimized, you're gonna have a bad time
  - Old records = misleading or incomplete data
- Easy to make Power BI slow or chaotic to use
- Be organized in your approach

# Power BI Overview

- Power BI Desktop Application
  - Get and transform data
  - Create Visualizations and Reports
- Power BI Service
  - Create Apps and Share



# Power BI Desktop App

- Windows only application
  - Free, download from Windows store
- Updated monthly
- No reliance on Microsoft Office



# Power BI Desktop

- 3 Main screens
  - Report: Build Visualizations
  - Data View: View Data
  - Model: Relationships between Data



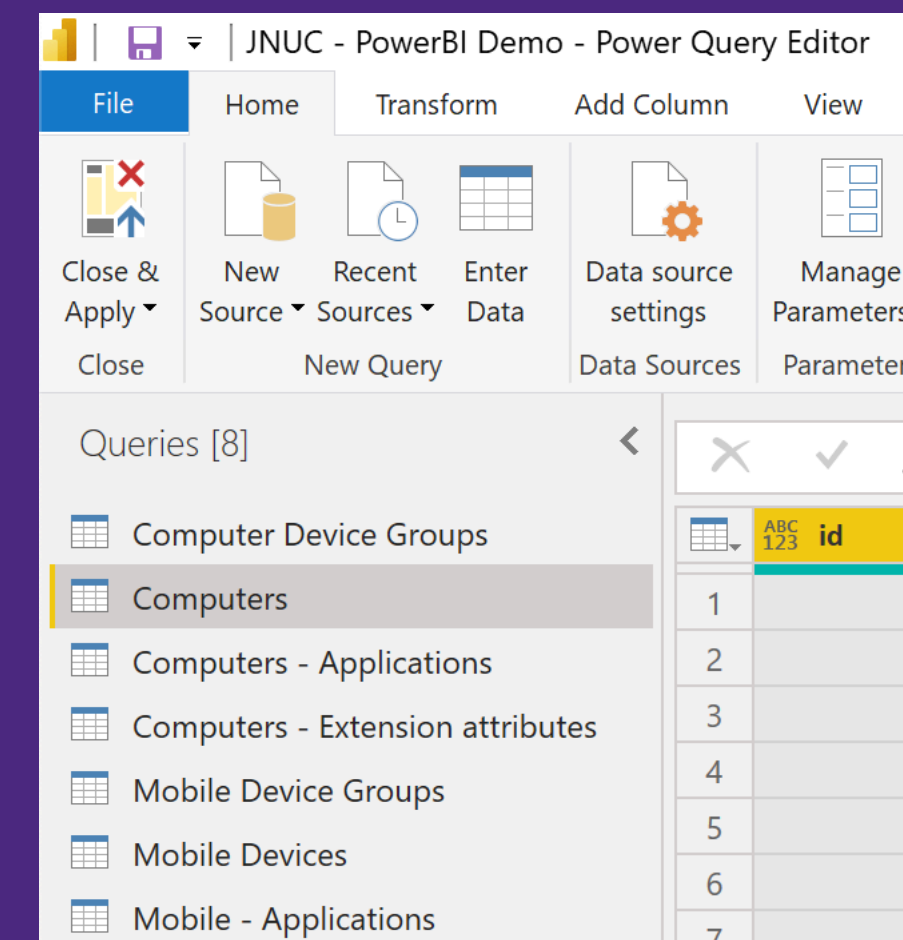
# Power BI Service

- Online service
- Free: Limited to user's "My Workspace"
  - Can't share with other users
- Pro: Can share with other users
  - \$9.99 per user per month
  - Included in Microsoft 365 A5 or E5



# Query Editor Introduction

- Queries Available
  - Computer Device Groups
  - Computers
  - Computers - Applications
  - Extension Attributes



# Query Editor Data Types

- Dates are automatically set as String
  - Difficult to build visualizations later
- Example:
  - `ComputerDetails.last_enrolled_date_utc`

# Query Editor Calculated Columns

- Make your own columns based on calculations from other columns
- Can use DAX or M formula language
- Calculated row-by-row (Row Context)
- Beware: Increases the size and memory requirements for the model



# Query Editor Calculated Columns

- M (Power Query):
  - Query-Time Transformations to shape the data while you are extracting it
- DAX:
  - In-Memory Transformations to analyze data after you've extracted it

# Query Editor Extension Attributes

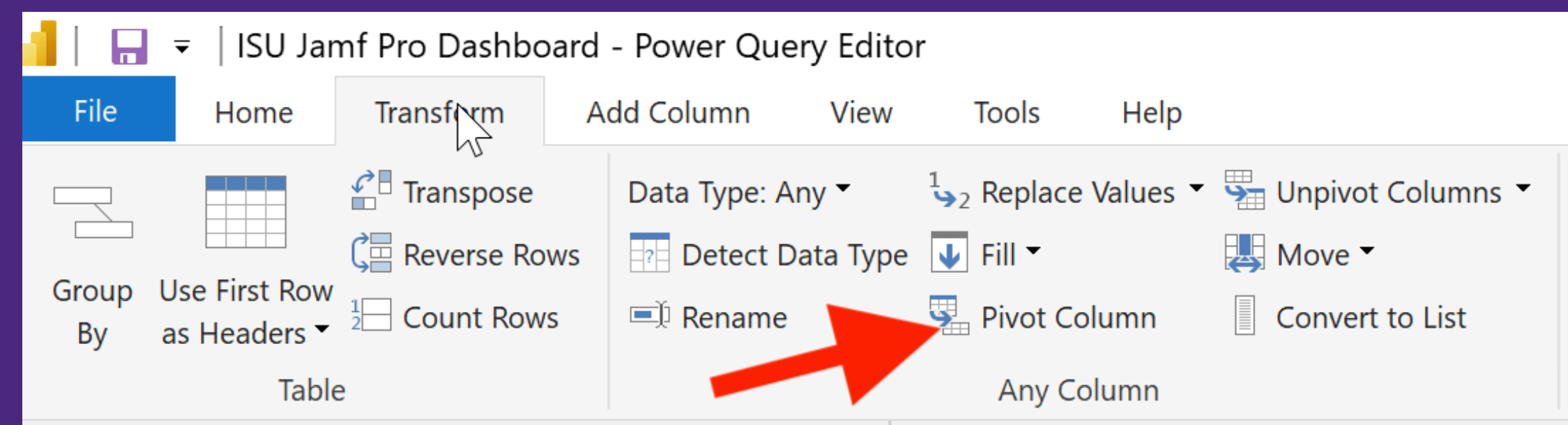
- We use ~100 Custom Extension Attributes
- Data is organized different from Computers
- Each row contains computer, extension attribute name, and extension attribute's value

# Query Editor Extension Attributes

- Select Computer Extension Attributes
- Choose Columns and Uncheck
  - computerDetails.extAttrs.id
  - computerDetails.extAttrs.type

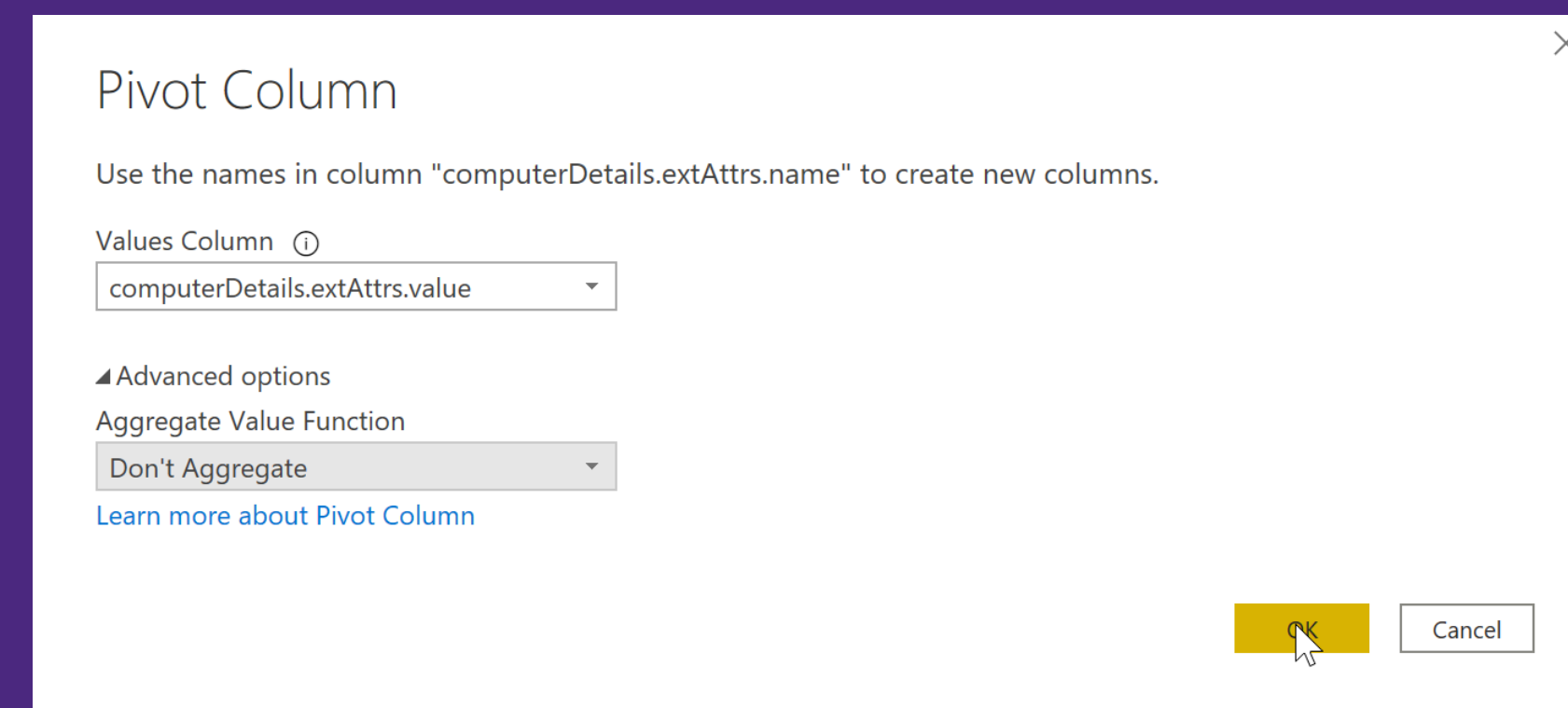
# Query Editor Extension Attributes

- Select the computerDetails.extAttrs.name column
- Click Pivot Column



# Query Editor Extension Attributes

- Pivot Column Dialog Box
  - Values Column:  
ComputerDetails.extAttrs.value
  - Advanced Options:
    - Don't Aggregate
- Click OK



The screenshot shows a 'Pivot Column' dialog box with a close button (X) in the top right corner. The main instruction reads: 'Use the names in column "computerDetails.extAttrs.name" to create new columns.' Below this, there is a 'Values Column' section with a dropdown menu currently showing 'computerDetails.extAttrs.value'. Underneath, an 'Advanced options' section is expanded, showing an 'Aggregate Value Function' dropdown menu set to 'Don't Aggregate'. A blue link 'Learn more about Pivot Column' is located below the advanced options. At the bottom right, there are two buttons: a yellow 'OK' button and a white 'Cancel' button.

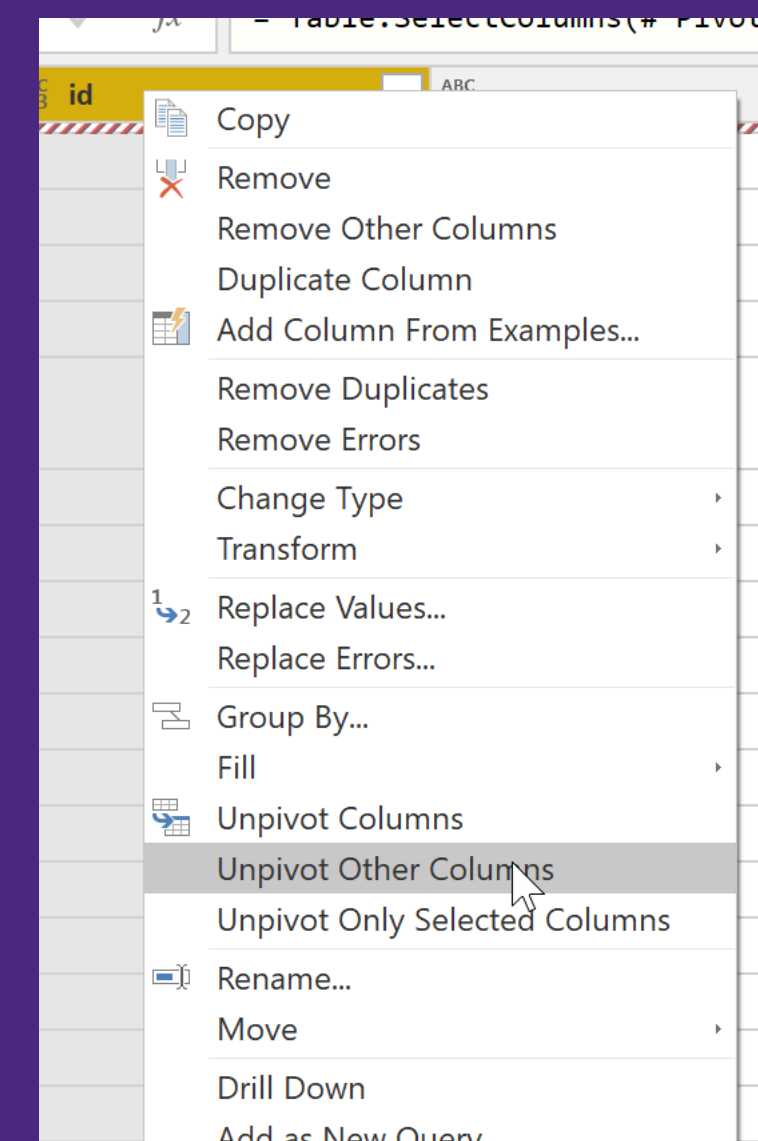
# Query Editor Extension Attributes

- Each Extension Attribute has its own column (Good)
- A row for each computer & extension attribute (Bad)
- Many nulls!

	id	name	adobe-air	adobe-flash	auto-update2	firefox-ESR	java-8-runtime	mozilla-firefox	silverlight
1	11	AQONED	null	null	null	null	null	null	null
2	11	AQONED	null	null	null	null	null	null	null
3	11	AQONED	null	null	null	null	null	null	null
4	11	AQONED	null	null	null	null	null	null	null
5	11	AQONED	null	null	null	null	null	null	null
6	11	AQONED	null	null	null	null	null	null	null
7	11	AQONED	null	null	null	null	null	null	null
8	11	AQONED	null	null	null	null	null	null	null
9	11	AQONED	null	null	null	null	null	null	null
10	11	AQONED	null	null	null	null	null	null	null
11	11	AQONED	null	null	null	null	null	null	null
12	11	AQONED	null	null	null	null	null	null	null
13	11	AQONED	null	null	null	null	null	null	null
14	11	AQONED	null	null	null	null	null	null	null
15	11	AQONED	null	null	null	null	null	null	null
16	11	AQONED	null	null	null	null	null	null	null
17	11	AQONED	null	null	null	null	null	null	null
18	11	AQONED	null	null	null	null	null	null	null
19	11	AQONED	null	null	null	null	null	null	null
20	11	AQONED	null	null	null	null	null	null	null
21	11	AQONED	null	null	null	null	null	null	null
22	11	AQONED	null	null	null	null	null	null	null
23	11	AQONED	null	null	null	null	null	null	null
24	11	AQONED	null	null	null	null	null	null	null
25	11	AQONED	null	null	null	null	null	null	null

# Query Editor Extension Attributes

- Select id and Name columns
- Right-Click id
  - Unpivot Other Columns
- This removes excess nulls



# Query Editor Extension Attributes

- Looks a little better
- Still have multiple rows per computer

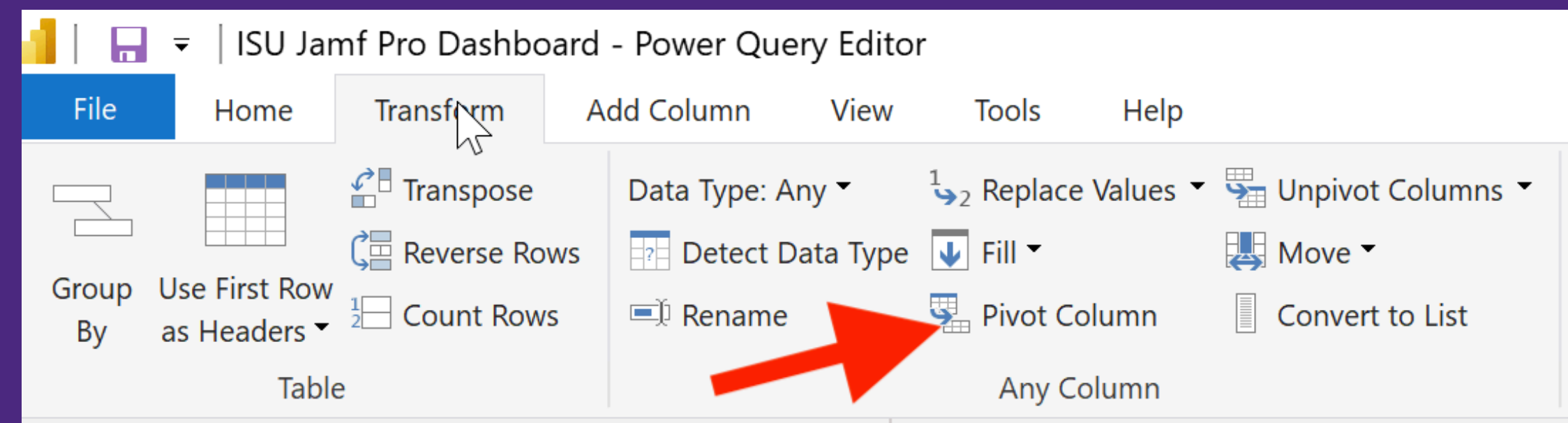
	ABC 123 id	ABC 123 name	ABC 123 Attribute	ABC 123 Value
1	11	AQ0NED	xEA - Time Machine - Backup Destination	Not enabled.
2	11	AQ0NED	xEA - Time Machine - Last Backup Completed	Not enabled.
3	11	AQ0NED	XEa - Time Machine - Status	Disabled
4	11	AQ0NED	xEA - Host name	AQ0NED



# Query Editor Extension Attributes

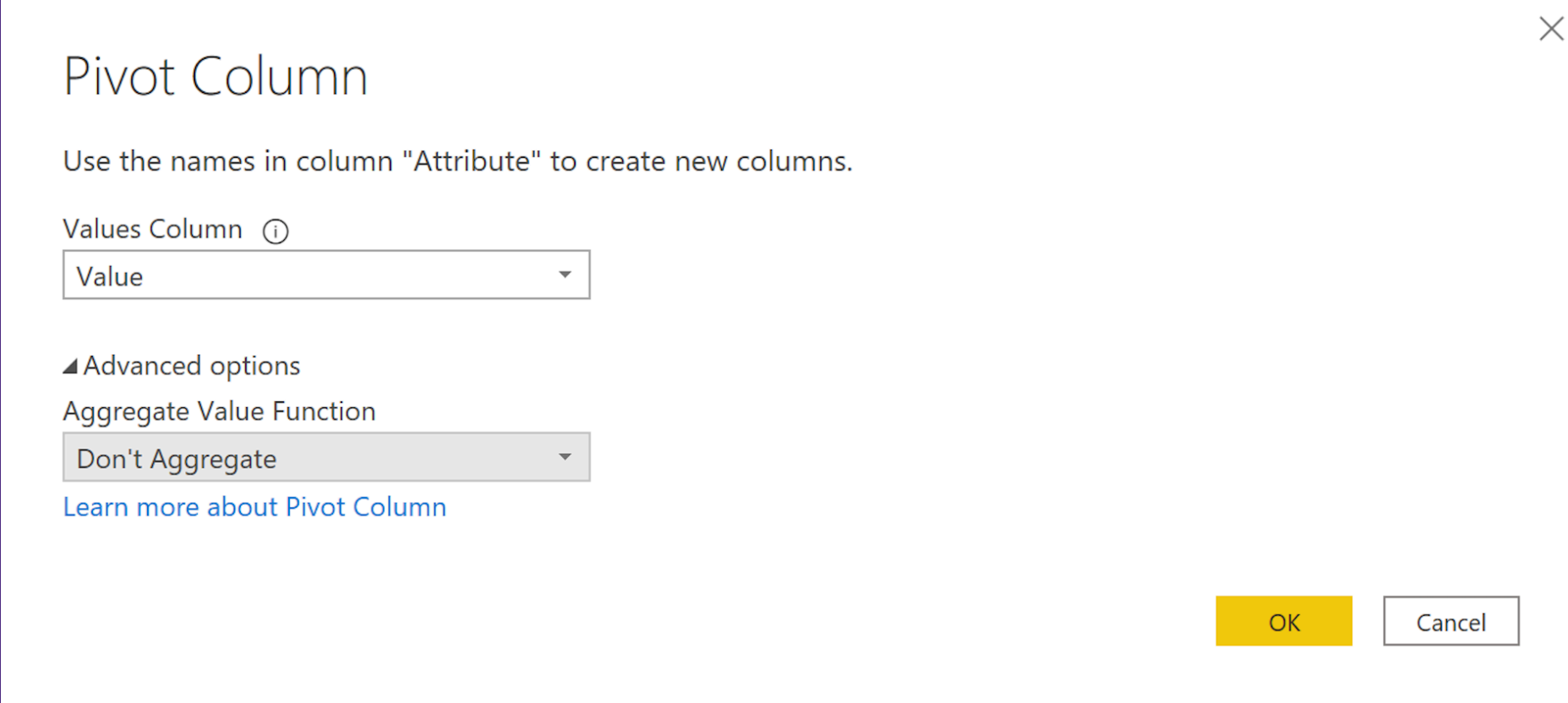
- Pivot Again!
- Select Attribute column
- Transform tab
- Pivot Column

	ABC 123	id	ABC 123	name	A <sup>B</sup> C Attribute	ABC 123	Value
1		11	AQONED		computerDetails.extAttrs.name		adobe-air
2		11	AQONED		computerDetails.extAttrs.value		Not Installed
3		11	AQONED		computerDetails.extAttrs.name		adobe-flash
4		11	AQONED		computerDetails.extAttrs.value		32.0.0.387



# Query Editor Extension Attributes

- Pivot Dialog Box
  - Values Column:
    - Value
  - Advanced Options:
    - Don't Aggregate
- Click OK



The screenshot shows a 'Pivot Column' dialog box with a close button (X) in the top right corner. The main instruction reads: 'Use the names in column "Attribute" to create new columns.' Below this, there is a 'Values Column' section with a dropdown menu currently set to 'Value'. An information icon (i) is next to the label. Underneath, there is an 'Advanced options' section with a collapsed arrow icon. It contains an 'Aggregate Value Function' dropdown menu set to 'Don't Aggregate'. A blue link 'Learn more about Pivot Column' is located below the dropdown. At the bottom right, there are two buttons: a yellow 'OK' button and a white 'Cancel' button with a grey border.

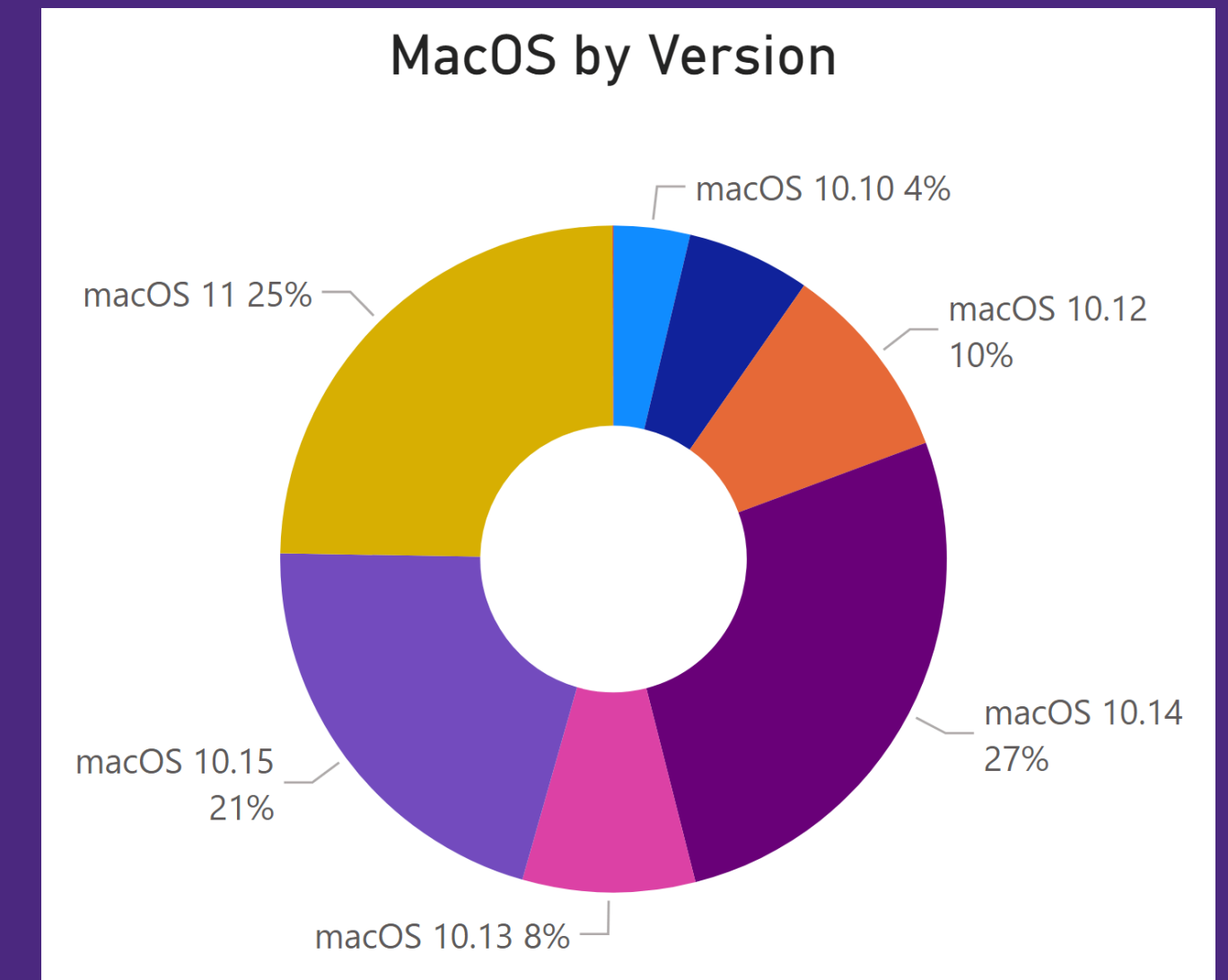
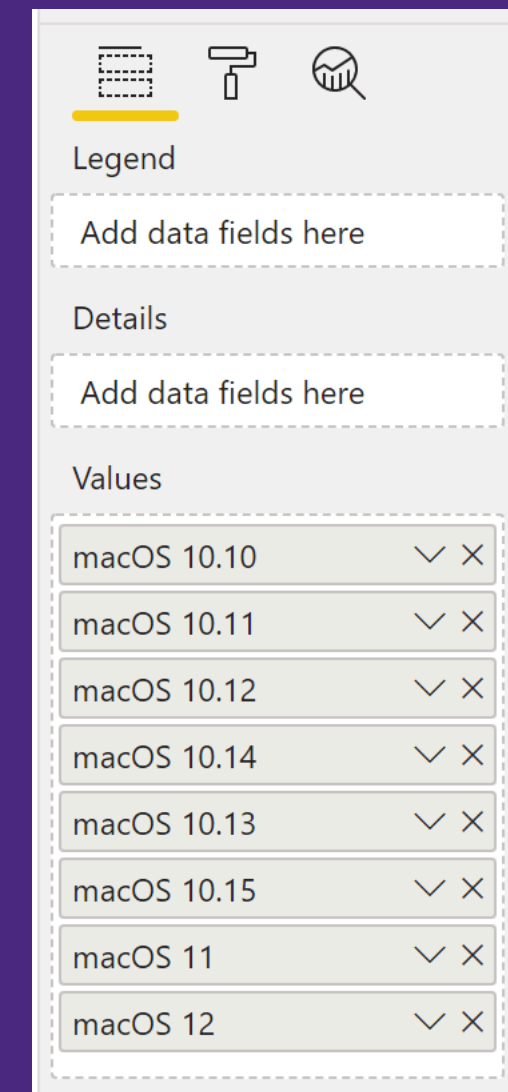
# Query Editor Extension Attributes

- Extension Attribute table now matches organization of Computer table
- This will make it much easier to use in visualizations
- Click Close and Apply

	id	name	xEA - Time Machine - Backup Destination	xEA - Time Machine - Last Backup Completed	xEA - Time Machine - Status	xEA - Host name
1	11	AQONED	Not enabled.	Not enabled.	Disabled	AQONED
2	12	AQON2D	Not enabled.	Not enabled.	Disabled	AQON2D

# Visualizations Tips

- Build Visuals first
- Use Custom Measures
- Set Formatting
- Use Slicers

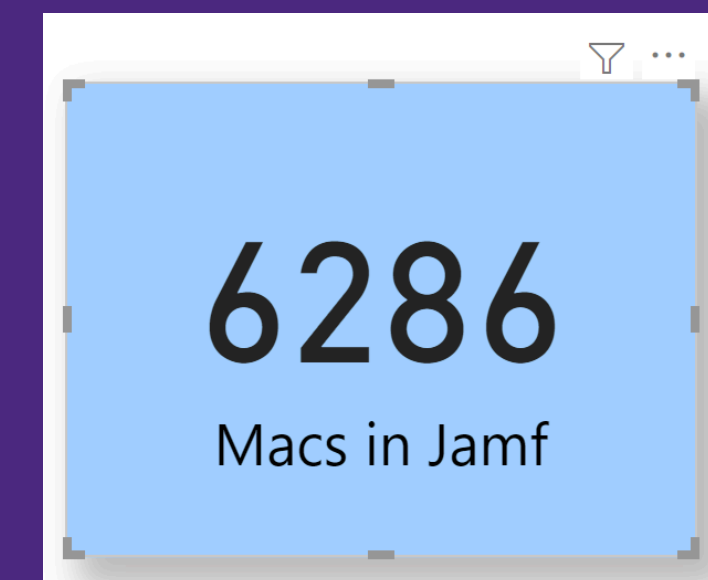
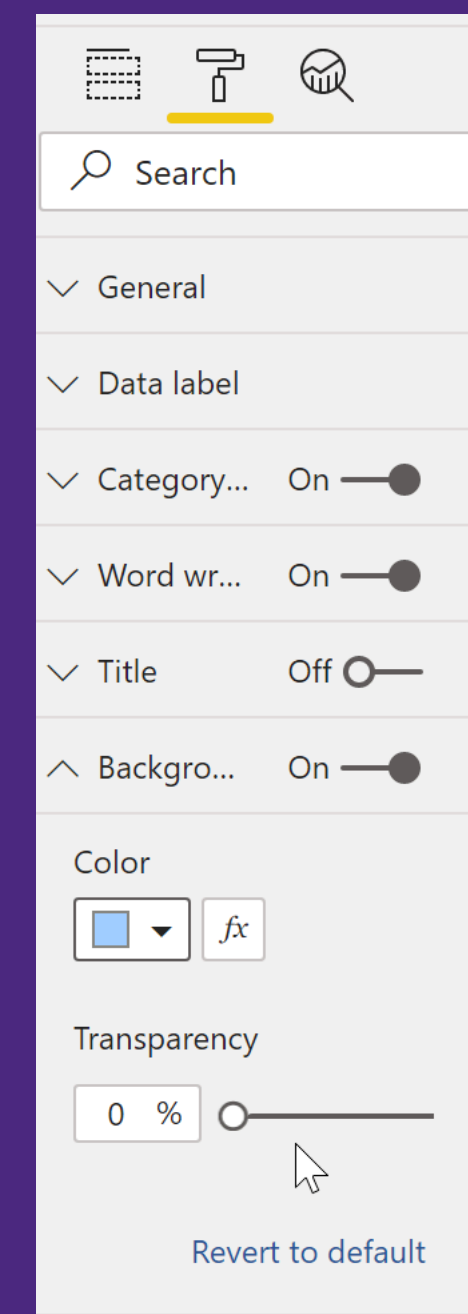
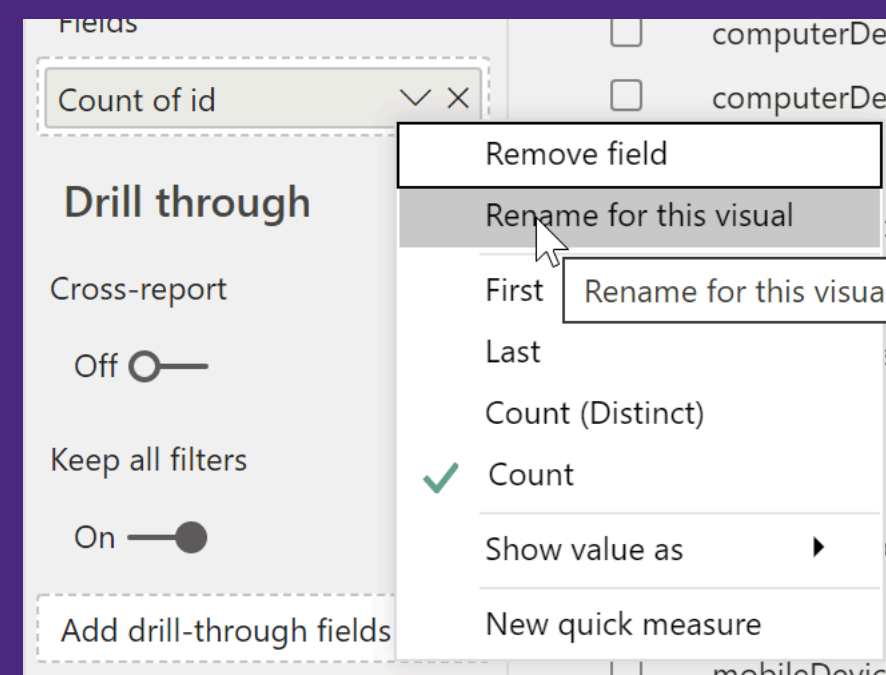
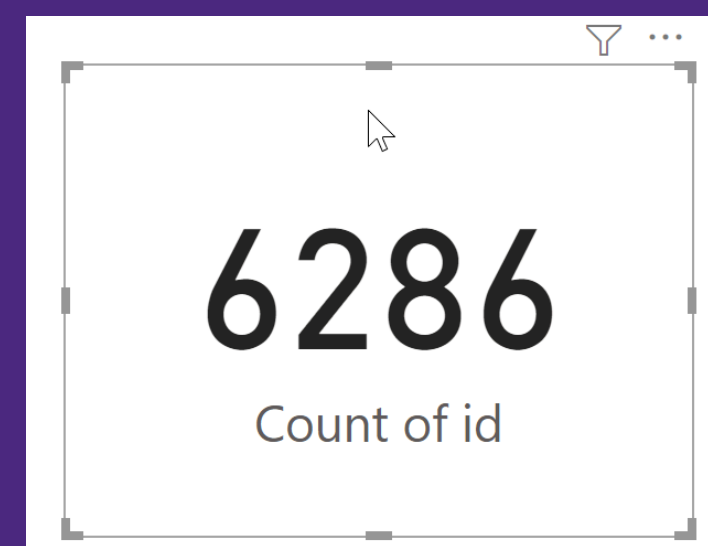
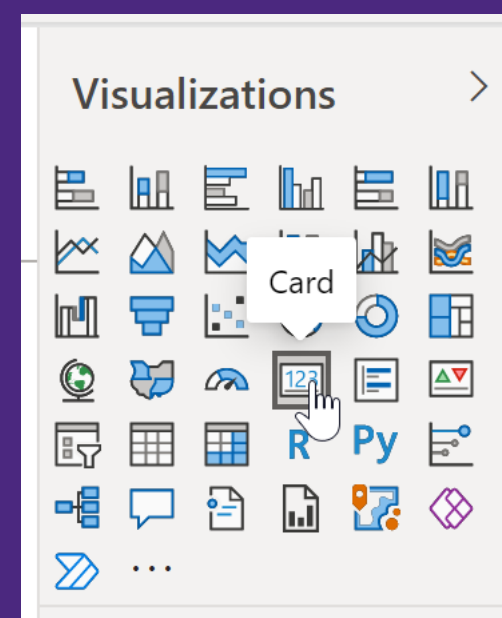


# Visualizations

- Start from far right and work way left
  1. Fields
  2. Visualizations
  3. Filter

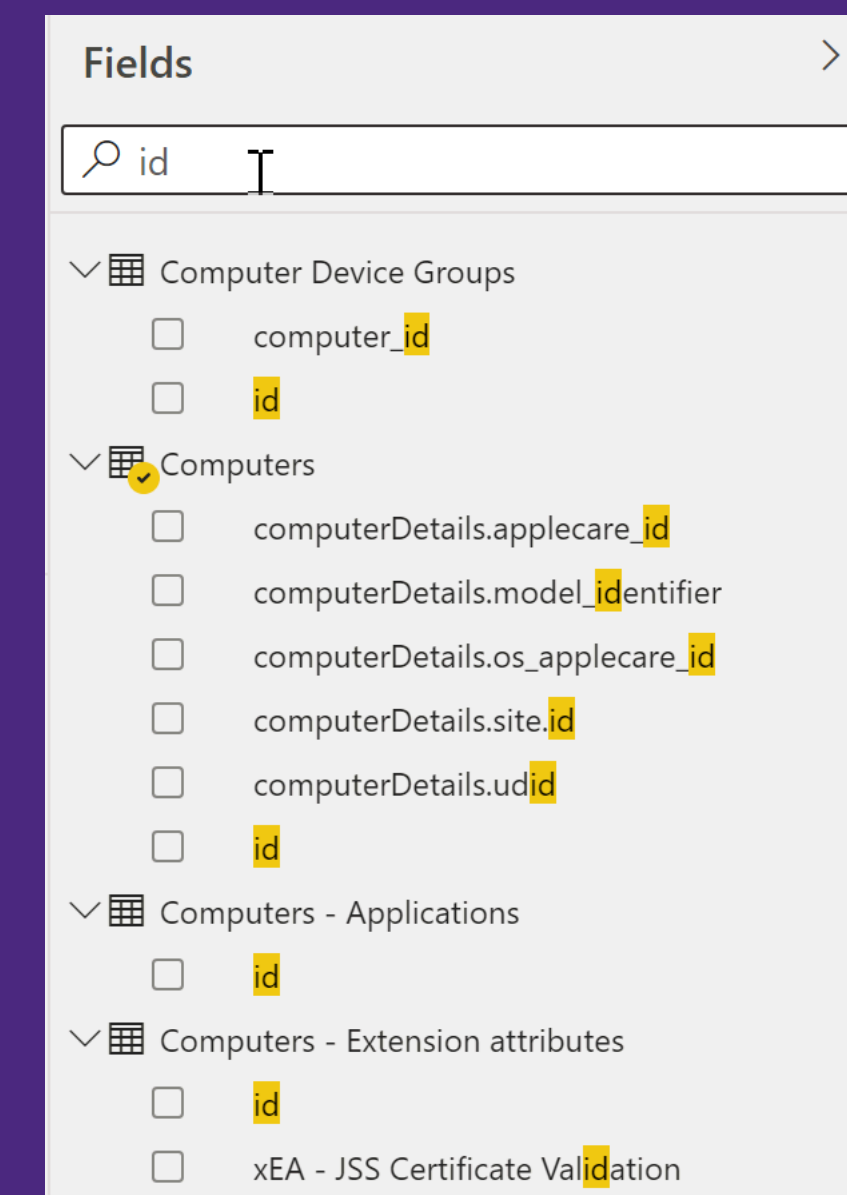
# Visualization Example

- Change Label from Count of id
- Change Text size and colors
- Click on paint roller icon



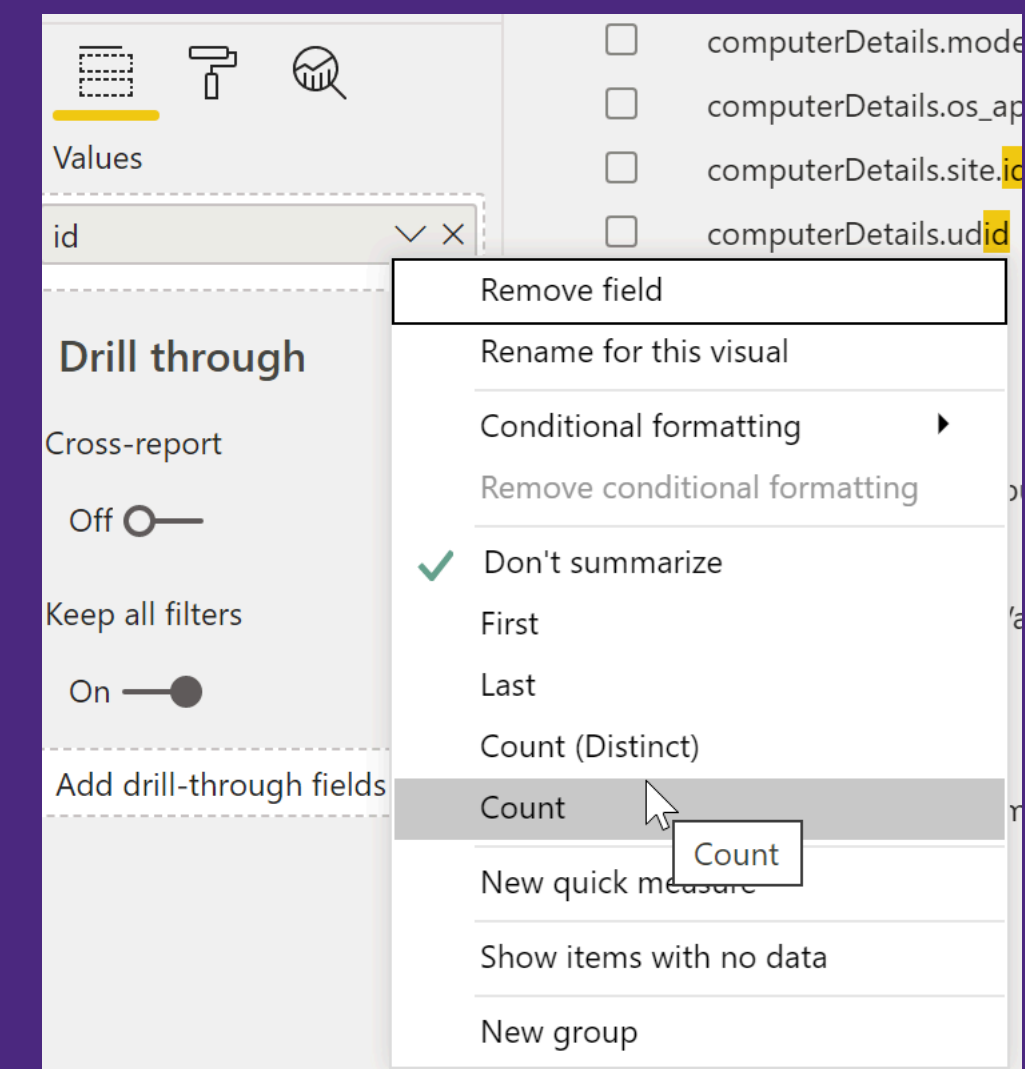
# Visualization - Example

- Count of all Computers in Jamf
  - In Fields
  - Use search box
  - Search “id”
  - Click and drag id from Computers to page



# Visualization - Example

- Under Visualizations
  - Values click drop down arrow
  - Select Count
- Change visualization from above to Card





# Slicers Tips

- In Filters Pane
  - Drop down arrow
  - Advanced Filtering
    - Is not blank
    - Is not empty
  - Apply Filter

