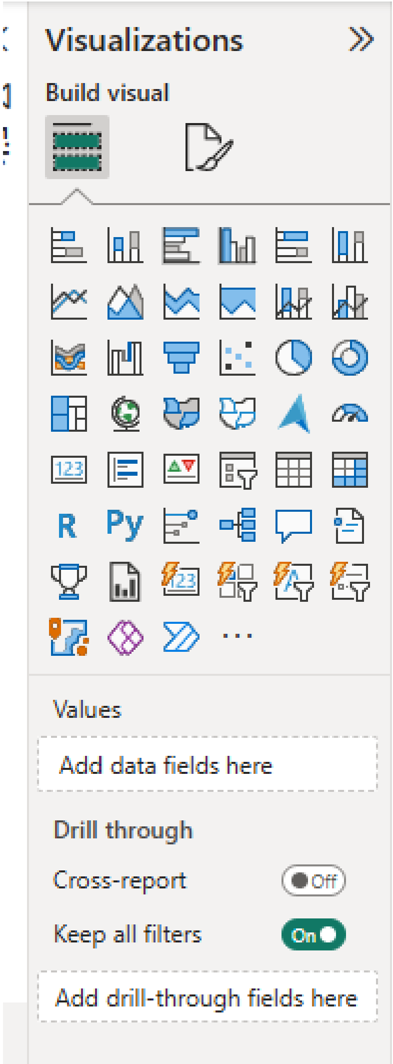
1. Name three types of visuals you can create in Power BI.
   In Power BI, you can create various types of visuals to represent your data effectively. Here are three common types:

   Bar/Column Charts – Compare categories or track changes over time using vertical (column) or horizontal (bar) bars.

   Line Charts – Display trends over time by connecting data points with lines, ideal for time-series analysis.

   Pie/Doughnut Charts – Show proportions of a whole, where each slice represents a category's contribution.

   Other popular visuals in Power BI include tables, matrices, maps, scatter plots, and custom visuals from the marketplace. Would you like recommendations based on a specific use case?



2. How do you add a slicer to a report?
   Open your report in Power BI Desktop.
   Go to the "Visualizations" pane (on the right side).
   Click the "Slicer" icon (looks like a funnel).
   This adds a blank slicer to your canvas.
   Drag a field (column) from the "Fields" pane into the slicer.
   Example: Drag "Category," "Region," or "Date" to filter your report.

Customize the slicer (optional):
Change the format (dropdown, list, or slider for dates).
Adjust style, font, and colors in the "Format" tab.
Now, users can interact with the slicer to filter visuals in the report dynamically.

3. What is the difference between a bar chart and a column chart?
Both bar charts and column charts display categorical data using rectangular bars, but their orientation and best use cases differ:

Feature	Bar Chart	Column Chart
Orientation	Horizontal bars (left to right)	Vertical bars (up and down)
Best For	• Comparing many categories • Long category names (easier to read)	• Comparing fewer categories • Time-based trends (e.g., months)
Example Use	• Sales by product name	• Monthly revenue trends

When to Use Each:

Choose a bar chart if:

You have long category labels (horizontal layout saves space).

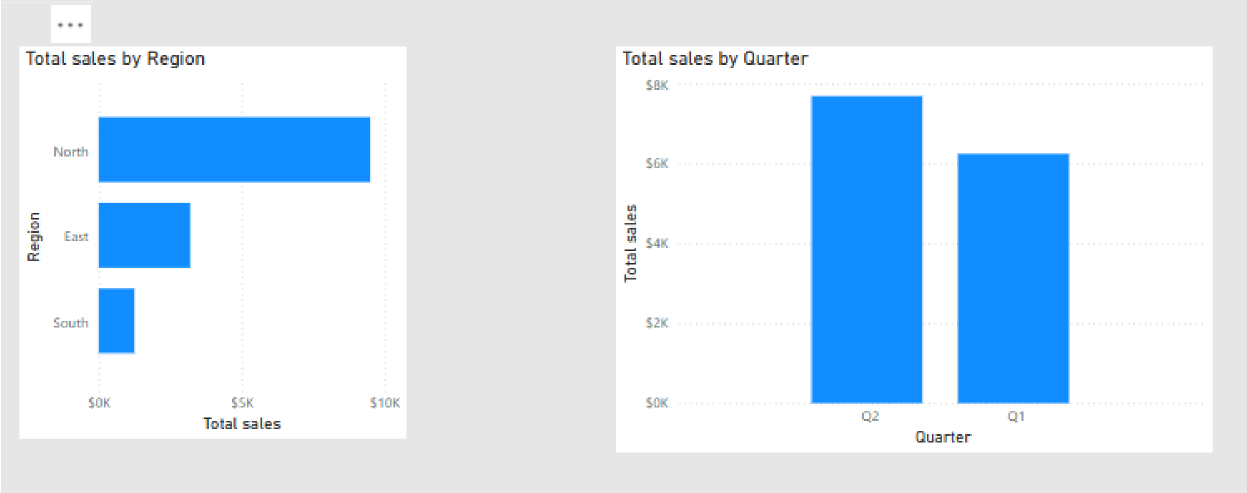
You're comparing many items (easier to scroll vertically).

Choose a column chart if:

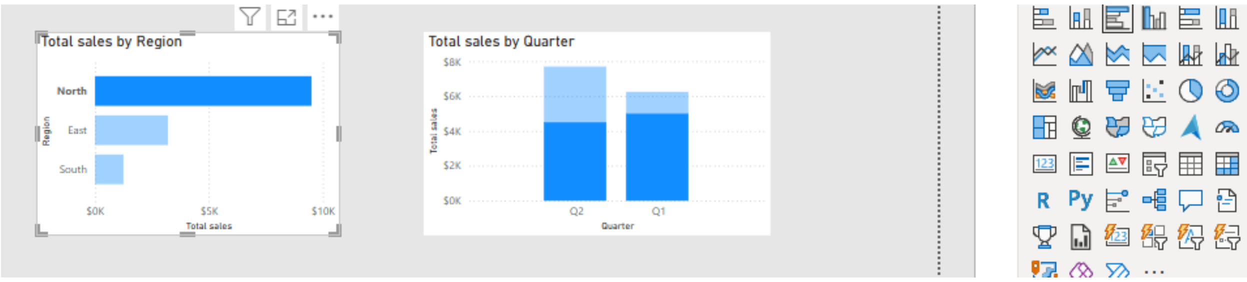
You're showing trends over time (like quarters or months).

You have fewer, shorter labels.

Both are available in Power BI under the same visual type—just toggle between "Horizontal" (bar) and "Vertical" (column) in the formatting options.



4. How do you change the color of a visual background?
   1. Change Background for a Single Visual
   Select the visual (e.g., bar chart, table) on your canvas.
   Go to the "Format" tab (paint roller icon) in the Visualizations pane.
   Expand the "Background" section.
   Toggle "Background" to On, then:
   Choose a solid color (click the color picker).
   Adjust transparency (if needed)
   2. Change Background for the Entire Report Page
   Click on an empty area of the report canvas (no visual selected).
   Go to the "Format" tab (paint roller icon).
   Expand "Page background".
   Toggle "Background" to On, then:
   Pick a color or use "Add image" for a custom background.
   Adjust transparency for overlay effects.
   Tips:
   Use light backgrounds with dark text for readability.
   Match your company's branding colors.
   For transparency, lower the slider to make visuals blend with the page.



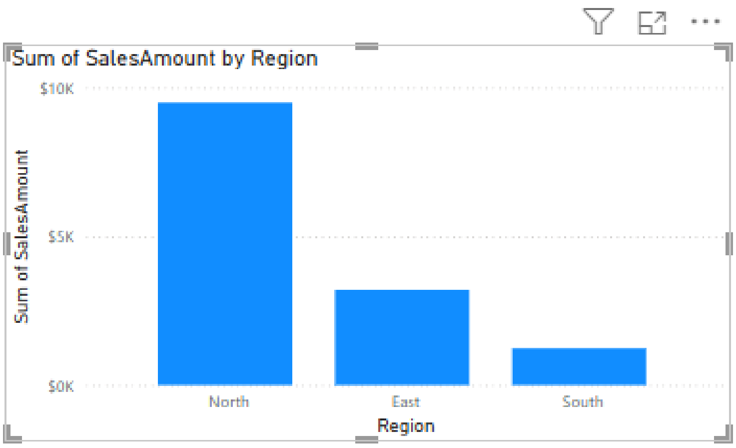
5. What does "drill-down" mean in a visual?
   Drill-down is an interactive feature that lets users explore hierarchical data by navigating from a high-level summary to detailed levels within the same visual.

   How It Works:
   Hierarchy Setup:
   Your visual must have a hierarchy (e.g., Year → Quarter → Month).
   Example: A column chart showing "Sales by Year" can drill down to "Sales by Quarter."
   User Interaction:
   Double-click a data point (e.g., a bar for "2023").

Use the drill-down/drill-up buttons (↧ ↥) in the top-right corner of the visual.
Right-click and select "Drill Down" or "Expand to Next Level."

6. Create a bar chart showing SalesAmount by Region.
. Create a Quarter Column (if you don't have one)
First, ensure you have a Quarter field in your date table:

dax
Quarter = "Q" & FORMAT([YourDateColumn], "Q") // Creates values like "Q1", "Q2" etc.
// OR
Quarter = QUARTER([YourDateColumn]) // Creates numeric values 1-4
2. Add the Slicer Visual
Go to your report page
Click the Slicer icon in the Visualizations pane (funnel shape)
Drag your Quarter field into the slicer
3. Configure the Slicer
Format options (in the Format tab):
Change to Dropdown or Buttons for better UX
Adjust font size and colors
Enable "Select all" option if needed
4. Connect to All Visuals
Select the slicer
Go to the View tab in the ribbon
Click Sync slicers
Ensure your page is selected in the sync panel
Check "Sync" and "Visible" for this slicer



7. Add a slicer for Quarter to filter all visuals on the page.
. Create a Quarter Column (if you don't have one)
First, ensure you have a Quarter field in your date table:

dax
Quarter = "Q" & FORMAT([YourDateColumn], "Q") // Creates values like "Q1", "Q2" etc.
// OR
Quarter = QUARTER([YourDateColumn]) // Creates numeric values 1-4
2. Add the Slicer Visual
Go to your report page

Click the Slicer icon in the Visualizations pane (funnel shape)
Drag your Quarter field into the slicer
3. Configure the Slicer
Format options (in the Format tab):
Change to Dropdown or Buttons for better UX
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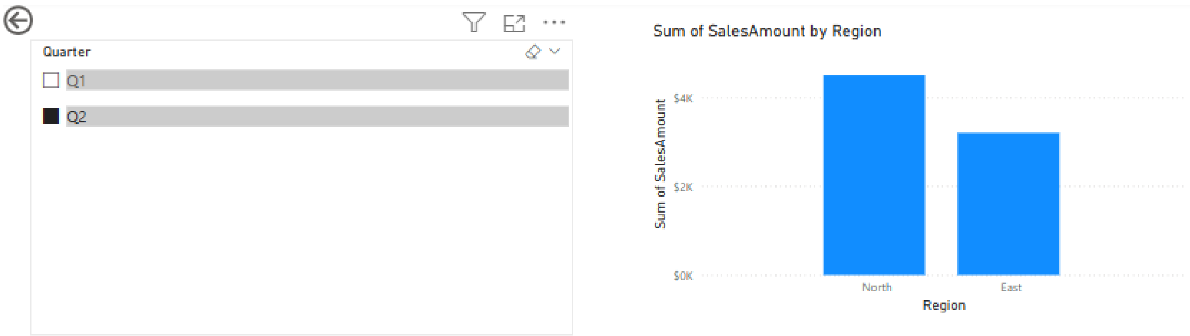


8. Format the bar chart to show data labels.
Step-by-Step Guide to Add Data Labels
Select your bar chart on the report canvas

Open the Format pane:

Click the paint roller icon in the Visualizations pane

Or right-click the chart and select "Format"

Enable Data Labels:

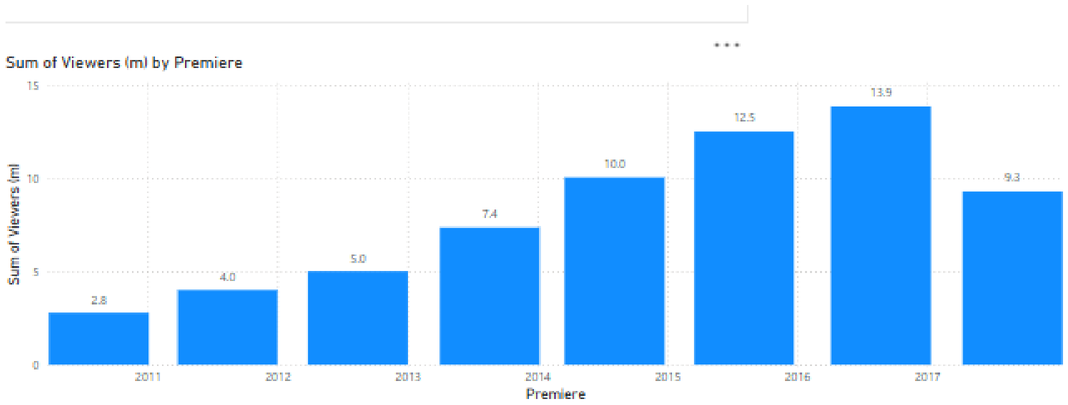
Expand the "Data labels" section

Toggle the switch from "Off" to "On"

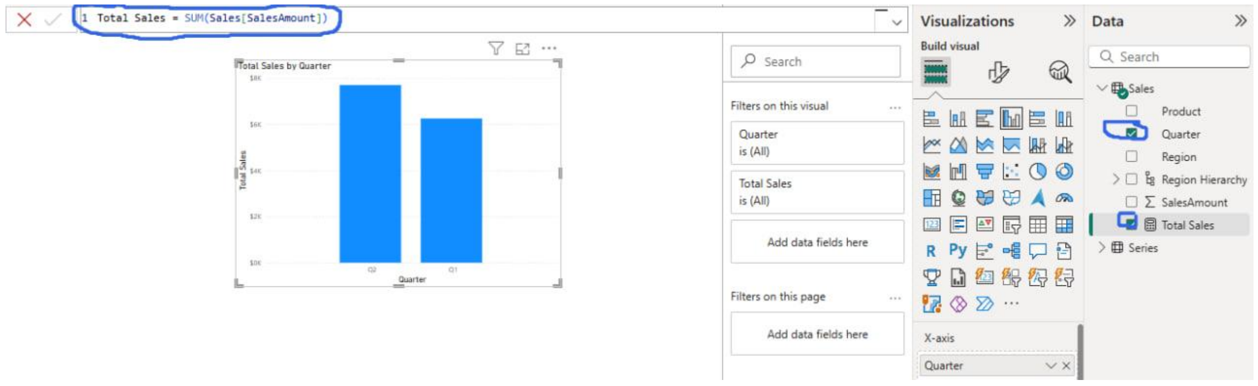
Customization Options
Basic Formatting:
Position: Choose where labels appear (inside end, outside end, center, etc.)

Color: Change label text color

Font: Adjust font family, size, and style



9. Use a line chart to show SalesAmount trends over Quarter.
   Step-by-Step Implementation
   1. Create the Visual
   Click the Line chart icon in the Visualizations pane
   Resize the chart appropriately on your canvas
   2. Configure Axis and Values
   X-axis (Horizontal): Drag your Quarter field
   If using a date hierarchy, expand to show Quarters
   Y-axis (Values): Drag your SalesAmount field (or create a measure like Total Sales = SUM(Sales[SalesAmount]))
   3. Enhance the Visualization
   Formatting Options (Paint Roller Icon):
   Data Colors: Set distinct colors for multiple series
   Shapes: Customize data point markers (circle, square, etc.)
   Line Style: Adjust thickness (3-5px recommended) and add arrows
   Analytics Pane (Lightbulb Icon):
   Add trend lines (linear, logarithmic)
   Include forecasts (set prediction length)
   Highlight min/max/avg points
   4. Add Contextual Elements
   Data Labels: Turn on with position adjustment
   Title: Customize with dynamic DAX (e.g., "Sales Trend: " & SELECTEDVALUE(Quarter[Year]))
   Reference Lines: Add target comparisons



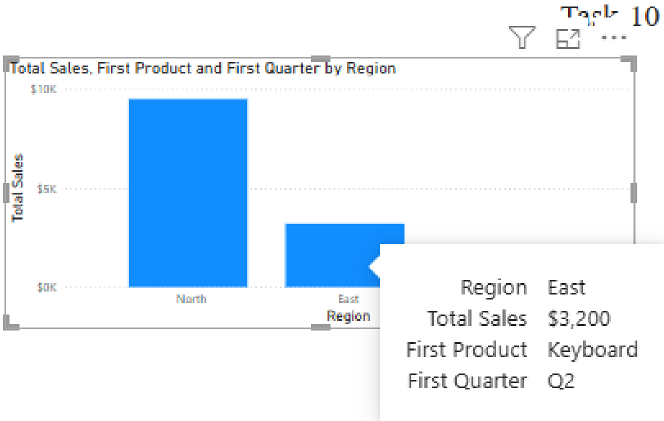
10. Add a tooltip to display Product details when hovering over bars.
    Step-by-Step Guide to Create Custom Tooltips
    1. Create a Tooltip Report Page
    Add a new page to your report (click the "+" icon at the bottom)

    Size the page as a tooltip:

Go to Page View → Format → Page Size
Select "Tooltip" (automatically sets to 300×300 pixels)
Set Page Background to "Transparent"
2. Design Your Tooltip Content
Add relevant visuals:
Product image (if available)
Key metrics (e.g., Total Sales, Units Sold)
Product details table (name, category, etc.)
Use concise layout:
Card visuals work well for single metrics
Small tables for detailed attributes
Keep within the 300×300px boundary
3. Connect Tooltip to Your Main Visual
Go back to your main report page

Select the visual (bar chart) you want to add tooltips to
In the Format pane → Tooltip section:
Set "Type" to "Report page"
Select your tooltip page from the dropdown

Task 10



11. Sync slicers across multiple report pages.
Step-by-Step Implementation
1. Create the Hierarchy Structure
In the Data view:

Right-click your Region field → Create hierarchy (name it "Sales Drilldown")

Drag Product field into the hierarchy

Drag Quarter field into the hierarchy

Order should be:

Sales Drilldown
├── Region
├── Product
└── Quarter
2. Configure a Visual for Drill-Down
Add a visual (column/bar chart or matrix) to your report
Drag the hierarchy to Axis/Columns field well
Enable drill mode:
Click the drill-down icon (↧) in the visual header
Or right-click the visual → Drill mode → Show drill buttons
3. Set Up Drill Controls
Drill buttons (top-right of visual):
Expand all (↧↧) - shows all levels
Drill up (↑) - moves up one level
Drill mode (↧) - enables click-to-drill
Right-click options:
"Drill down to next level"

"Expand to next level" (keeps parent level visible)

4. Formatting Best Practices
For column/bar charts:

Enable Data labels at each level

Use consistent color scheme across levels

Set appropriate sorting (e.g., by measure value)

For matrix visuals:

Enable stepped layout

Show/hide subtotals per level

Use conditional formatting

12. Create a custom visual with dynamic measure selection (e.g., Sales vs. Profit).
Step 1: Create a Supporting Table for Measure Selection
Go to Modeling > New Table, and enter:

DAX
Копировать
Редактировать
```
Measure Selector = DATATABLE(
   "Measure", STRING,
   {
      {"Sales"},
      {"Profit"}
```

```
    }
)
```

✅ Step 2: Create a Slicer Based on This Table

Add a Slicer visual to your report.

Use the Measure Selector[Measure] column.

✅ Step 3: Create the Dynamic Measure Using DAX

Now create a new measure like this:

DAX

Копировать

Редактировать

```
Selected Value =
SWITCH(
    SELECTEDVALUE('Measure Selector'[Measure]),
    "Sales", SUM('YourTable'[Sales]),
    "Profit", SUM('YourTable'[Profit])
)
```

Replace 'YourTable' with your actual table name.

✅ Step 4: Use the Dynamic Measure in Your Visual

Now you can:

Add a visual (e.g., column chart, line chart).

Use category fields like Date, Region, etc.

Use the Selected Value measure as the Y-axis.

The visual will update based on the slicer selection between Sales and Profit.

Optional: Rename Measure Dynamically in Title

You can create a dynamic title using this measure:

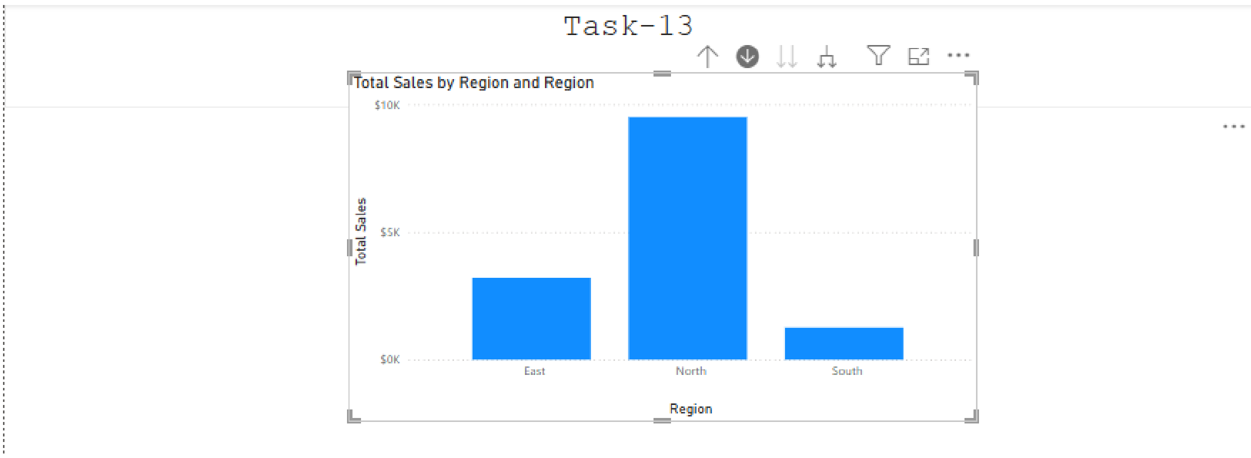
DAX

Копировать

Редактировать

```
Chart Title =
"Selected Metric: " & SELECTEDVALUE('Measure Selector'[Measure], "Sales")
```

13. Implement a hierarchy for Region > Product > Quarter drill-down.



✅ Step 1: Ensure Your Data Model Has the Required Columns
You need the following fields:

Region (e.g., North, South)

Product (e.g., Widget A, Widget B)

Date (or a field that can be used to derive Quarter)

✅ Step 2: Create a Quarter Column (if not present)
Go to Modeling > New Column and add:

DAX
Копировать
Редактировать
Quarter = "Q" & FORMAT(QUARTER('YourTable'[Date]), "0") & " " & FORMAT('YourTable'[Date], "YYYY")
This results in values like: Q1 2024, Q2 2024, etc.

✅ Step 3: Create the Hierarchy
In the Fields pane, right-click on the Region field.

Click New hierarchy → it creates Region Hierarchy.

Drag Product under Region in the hierarchy.

Then drag your new Quarter field under Product.

Now you have:
📊 Region Hierarchy: Region > Product > Quarter

✅ Step 4: Add to a Visual
Insert a bar chart, column chart, or matrix.

Drag the entire hierarchy to the Axis or Rows field.

Add a measure like SUM(Sales) or your Selected Value measure to the Values.

☑ Step 5: Enable Drill Options
Use the drill buttons in the top-left of the visual:

Drill Down (🔽 icon): Step into the next level (Region → Product → Quarter).

Go to Next Level (⏬ icon): View all values at the next level across the hierarchy.

14. Use bookmarks to toggle between two visuals in the same space.

☑ Step 1: Add Both Visuals to the Same Report Page
Create your first visual (e.g., Bar Chart).

Create your second visual (e.g., Line Chart).

Position them in the exact same location so they overlap.

You will show one and hide the other using bookmarks.

☑ Step 2: Create Two Bookmarks
Go to the View tab → enable Bookmarks Pane and Selection Pane.

In the Selection Pane:

Name the visuals for clarity, e.g., BarChart, LineChart.

Configure the first bookmark:

Hide LineChart, show BarChart.

In Bookmarks Pane, click Add, name it Show Bar Chart.

Configure the second bookmark:

Hide BarChart, show LineChart.

Click Add, name it Show Line Chart.

⚠️ Right-click each bookmark → uncheck Data, check only Display and Current Page. This prevents slicer states from being reset.

☑ Step 3: Add Toggle Buttons
Insert two buttons from the Insert > Buttons menu.

Label one: “Show Bar Chart”

Label the other: “Show Line Chart”

With a button selected → go to Action:

Turn Action ON

Type: Bookmark

Assign the corresponding bookmark (e.g., "Show Bar Chart")

Do the same for the other button.

Optional: Add a toggle icon/image for a cleaner UI.

☑ Step 4: Use Selection Pane to Hide/Show Buttons Too (Optional)
You can hide Button A when Button B is active, and vice versa, for a cleaner toggle experience.

Just include the button visibility states in each bookmark.

☑ Final Result:
Clicking a button toggles which visual is displayed in the same space — no need to use multiple report pages.

15. Optimize a slow-rendering report with 10+ visuals.