

# Lesson 6

**Topic:** Creating Basic Visualizations & Adding Interactivity to Visuals

**Prerequisites:** Download Sales\_Interactive.xlsx file.

- Three types of visuals you can make:

Pie charts

- Line charts

Maps

How to add a slicer:

Click the Slicer icon in the Visualizations pane.

Drag a field (e.g., Region, Date) into it.

Change style (list, dropdown, tiles) and format it (colors, fonts, borders) as you like

- Bar chart vs Column chart:

Bar chart: horizontal bars (good for long names or comparing categories).

Column chart: vertical bars (good for showing changes over time or shorter names).

## 4. How do you change the color of a visual background?

- Bar chart vs Column chart:

Bar chart: horizontal bars (good for long names or comparing categories).

Column chart: vertical bars (good for showing changes over time or shorter names).

## 5. What does "drill-down" mean in a visual?

- Drill-down lets you go from a summary view to detailed data inside one chart.

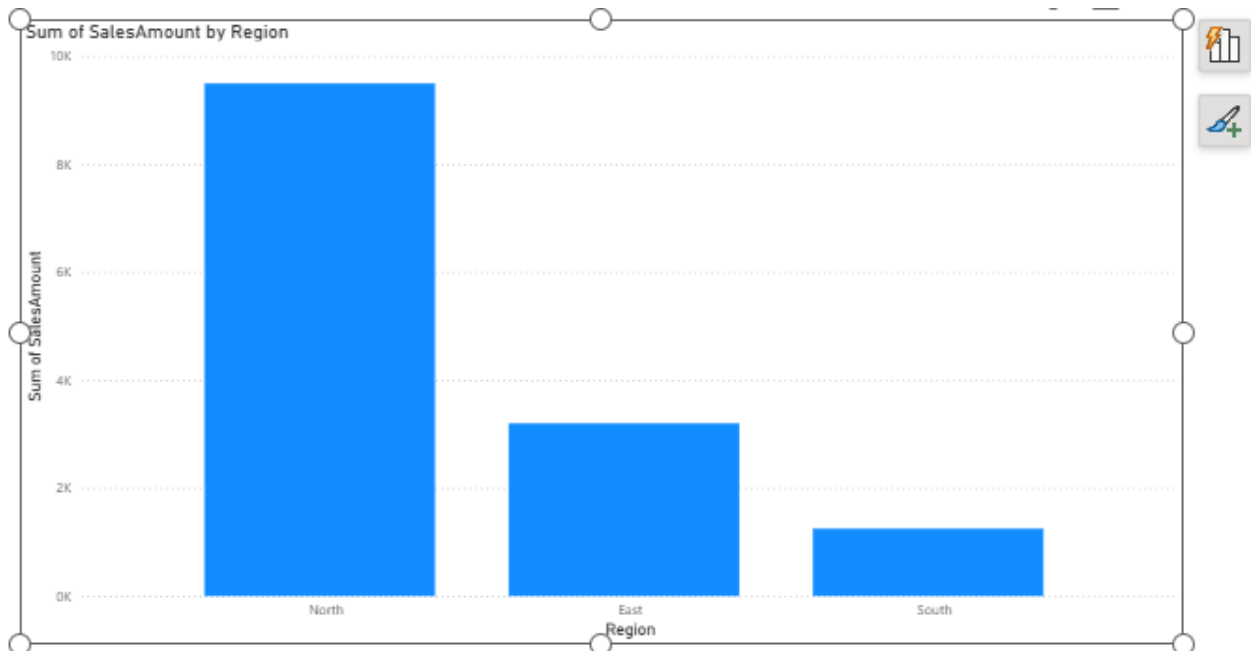
Example: click yearly sales → see quarters → months → days.

Helps explore deeper insights.

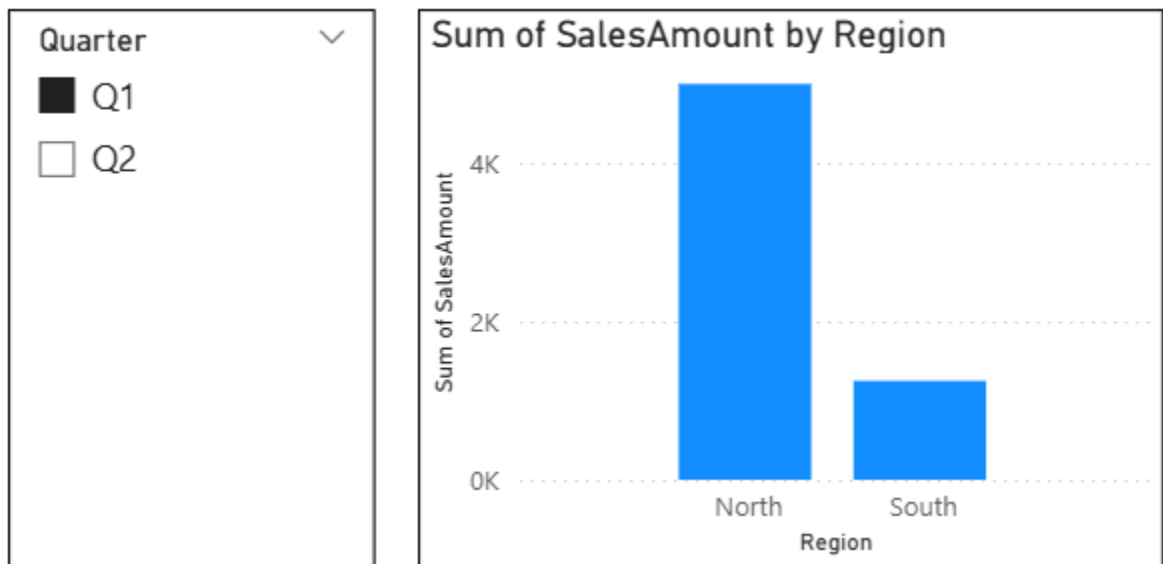
## 6. Create a bar chart of SalesAmount by Region:

Insert a bar chart.

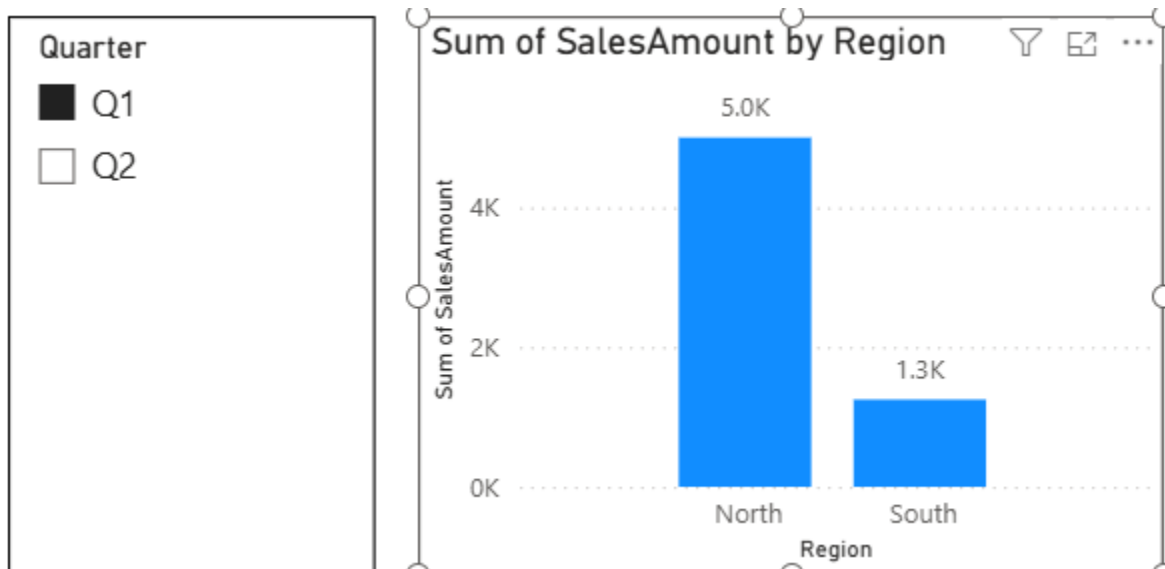
Put SalesAmount in Values and Region in Axis.



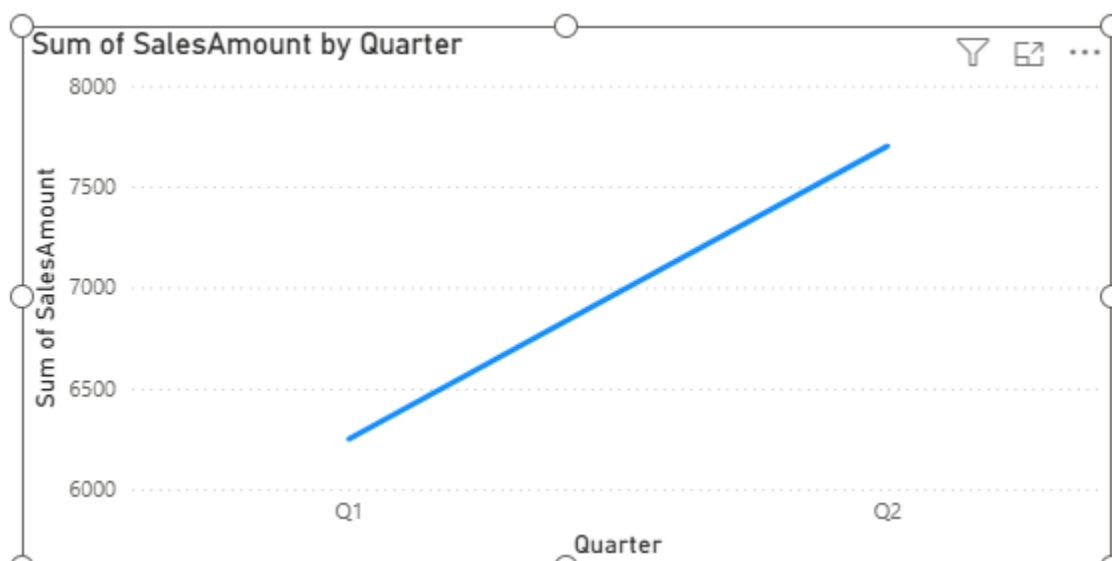
7. Add a slicer for Quarter to filter all visuals on the page.



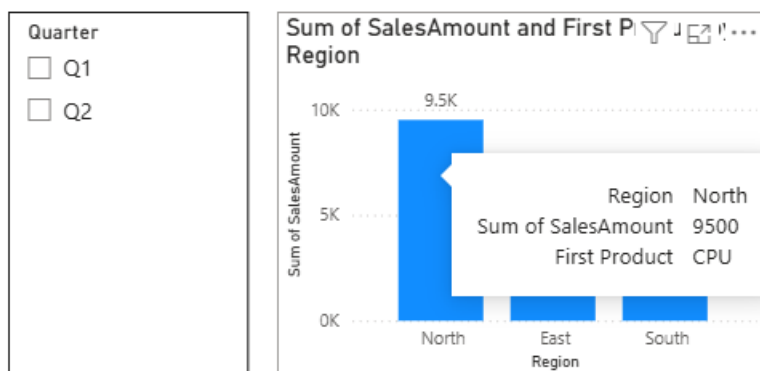
8. Format the bar chart to show data labels.



9. Use a line chart to show SalesAmount trends over Quarter.

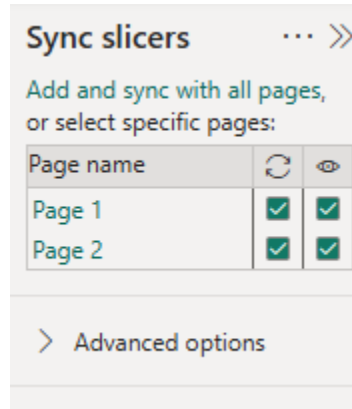


10. Add a tooltip to display Product details when hovering over bars.

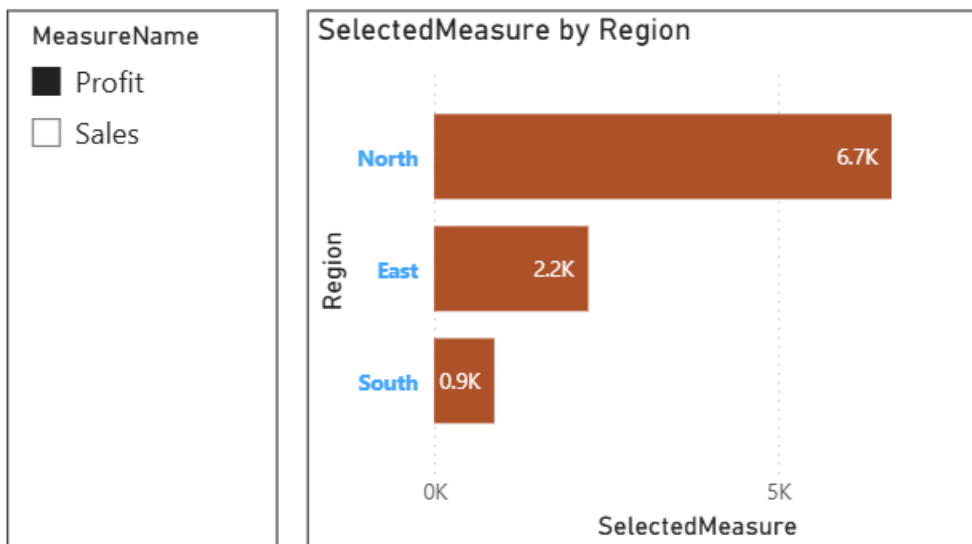


## 11. Sync slicers across multiple report pages.

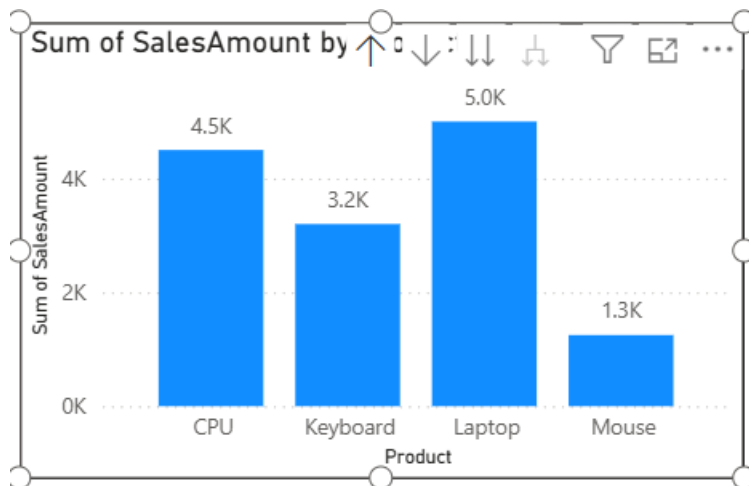
- To sync slicers across multiple Power BI report pages, first, select the slicer you wish to sync. Then, on the View ribbon, click on the Sync slicers option to open the Sync slicers pane. In this pane, check the box for each page you want the slicer to appear on, and also use the Sync (book) icon to apply the selection across those pages, and the Visibility (eye) icon to make the slicer visible on them.



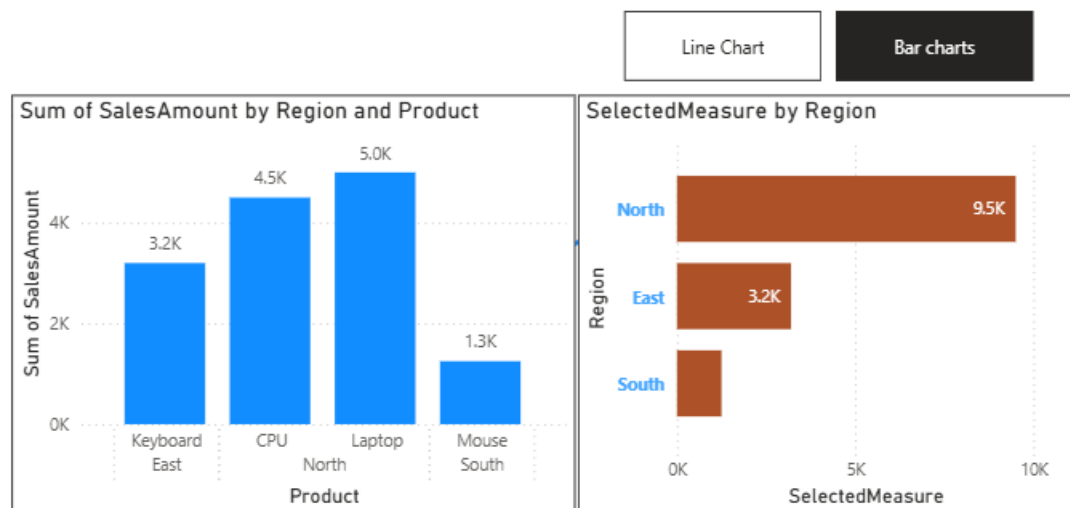
## 12. Create a custom visual with dynamic measure selection (e.g., Sales vs. Profit).



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



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



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

1. Optimize the Data Model:

**Reduce Data Volume:** Remove unnecessary columns and rows in Power Query. Use data types that require less storage (e.g., integers instead of text where applicable).

**Star Schema Design:** Structure your data model with fact tables and dimension tables for efficient querying.

**Aggregations:** Pre-aggregate data at the source or use Power BI's aggregation features to reduce the amount of detailed data processed by visuals.

DAX Optimization: Simplify complex DAX measures and calculated columns. Avoid row-by-row calculations where possible and leverage efficient DAX functions.

Relationships: Ensure relationships are correctly defined and avoid bidirectional relationships unless absolutely necessary, as they can impact performance.

## 2. Optimize Visuals and Report Design:

Limit Visuals per Page: Reduce the number of visuals on a single page to minimize rendering time and query complexity. Consider using bookmarks or drill-through for navigation instead of displaying all information at once.

Choose Efficient Visuals: Prioritize built-in Power BI visuals over custom visuals, as they are generally more optimized for performance.

Simplify Visuals: Reduce the complexity of individual visuals by limiting data points, using aggregations, and simplifying formatting.

Optimize Slicers and Filters: Use dropdown slicers instead of list slicers for large lists. Limit the number of slicers and filters on a page.

Disable Unnecessary Interactions: Turn off cross-highlighting and cross-filtering between visuals where not essential to reduce the number of queries fired.

Utilize New Card Visual with Small Multiples: For displaying multiple related metrics, consider using the new card visual with small multiples to consolidate information into a single, efficient visual.

## 3. Performance Monitoring and Environment:

Performance Analyzer: Use Power BI Desktop's Performance Analyzer to identify the slowest visuals and queries in your report.

Power BI Premium: If available, leverage Power BI Premium features like query caching and dedicated capacity for improved performance.

Data Gateway Optimization: Ensure your on-premises data gateway is properly configured and sized for efficient data transfer.