Lesson 17

Topic: Working with Maps & Geocoding, Formatting & Annotations
Prerequisites: Download sales_with_geodata.csv file

Part 1: Maps & Geocoding

Task 1: Create a Basic Map Showing Sales by Country

To visualize overall sales distribution globally, I created a basic **Map visual** in Power BI and placed Country in the **Location** field. The **Size** field uses the sum of Sales to represent the total amount sold per country. This automatically geocodes country names and displays proportional bubbles on the world map.

Task 2: Use Latitude and Longitude for Precise Mapping

For greater accuracy, I switched to using **latitude and longitude** coordinates. I used the **Map visual** and placed:

- Latitude in the **Latitude** field,
- Longitude in the **Longitude** field,
- and Sales in the **Size** field.

This ensures precise point plotting, especially helpful when working with cities that have the same name in different regions or when country names may be inconsistent.

Task 3: Plot Total Sales by City

I created another map, this time with City as the **Location** field and total Sales as the **Size**. Power BI automatically clusters or separates cities on the map, showing where sales are concentrated across urban areas. This view helps in identifying high-performing cities.

Task 4: Create a Region-wise Sales Heatmap (Shape Map visual)

To give a clearer view of sales intensity by **region**, I used the **Shape Map** visual. I added Region to the **Location** and Sales to the **Color saturation**. Then I enabled map settings to show a filled map with varying color gradients. Regions with higher sales appear in darker shades, giving an immediate sense of where performance is strong or weak.

Note: Shape Map requires enabling the preview feature from Options > Preview Features > Shape Map Visual.

Task 5: Add Map Drill-Down from Country → Region → City

To enable hierarchical exploration of geographical data, I set up a **drill-down hierarchy** in the Map visual:

- Dragged in Country, Region, and City in order into the **Location** field well.
- Activated **drill mode** using the arrow icons at the top of the visual.

Now users can start by viewing data at the **country level**, then drill into **regions**, and finally down to **individual cities**, making it easier to explore the data step-by-step without switching visuals.

Part 2: Formatting & Annotations

Task 6: Customize Map Visual – Titles, Colors, and Labels

To improve clarity and presentation, I customized the **Map visual** by:

- Editing the **title** in the formatting pane to reflect the insight (e.g., "Global Sales by Country").
- Choosing a consistent **theme color** for the bubbles that aligns with the report's color scheme.
- Turning on **category labels** so that city or country names appear directly on the map bubbles.

This formatting makes the visual more readable and professional.

Task 7: Use Conditional Formatting for Bubble Colors

I applied **conditional formatting** to the bubble colors based on sales values. In the formatting pane under **Data colors**, I enabled the **color scale** so:

- Low sales appear in **light blue**,
- Medium in **orange**, and
- High sales in **red**.

This makes it easy to identify high-performing and underperforming locations at a glance without reading numbers.

Task 8: Add Annotations to Highlight Key Cities

To draw attention to important data points, I used **annotations** by:

- Adding a **text box** near key cities on the map (like a city with highest sales).
- Labeling it with something like: “Top Performer: City A – $125,000”
- Using arrows or small shapes to point toward the city.

Annotations are helpful in presentations or storytelling when guiding users through key insights.

Task 9: Create a Tooltip Page with Detailed Info

I created a separate **tooltip page** in the report with a table showing:

- City, Region, Sales, Number of Clients, and Product Category.

Then:

- I enabled **“Allow use as tooltip”** in page settings.
- Set the original Map visual’s tooltip to use this page.

Now, when hovering over any city on the map, a mini report appears with detailed information, enriching user interaction without crowding the main view.

Task 10: Add a Slicer to Filter the Map by Category

To allow users to explore the map based on product types, I added a **slicer** using the Category field. When a user selects a category like "Electronics" or "Clothing," the map dynamically updates to show only sales from that category.

This interactive filter helps users analyze spatial trends per category and improves the overall flexibility of the dashboard.