

Assignment 3

Introducing Data Visualization Tool



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Agenda

1. What is Tableau?
2. Tableau products
3. What is Tableau Public?
4. Download & install Tableau Public
5. Creating our first dashboard on Tableau Public
6. Publish our first dashboard to a Tableau Public account
7. Pros & Cons

What is Tableau?

Tableau is a data visualization tool where we can easily create charts and graphs by double clicking, dragging and dropping fields



Tableau products

1. Tableau Desktop: “The gold standard”
2. Tableau Prep: Prepare the data for analysis
3. Tableau Online: Takes the dashboards to the cloud
4. Tableau Server: Data sharing s/w for enterprises

Tableau products

\$70 USD/month
for a Creator license


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~5.5k INR/month



What is Tableau Public?

Tableau Public is the free version of Tableau Desktop

"It's a free platform for anyone to create, share, and discover visualizations using public data."

- Tableau.com



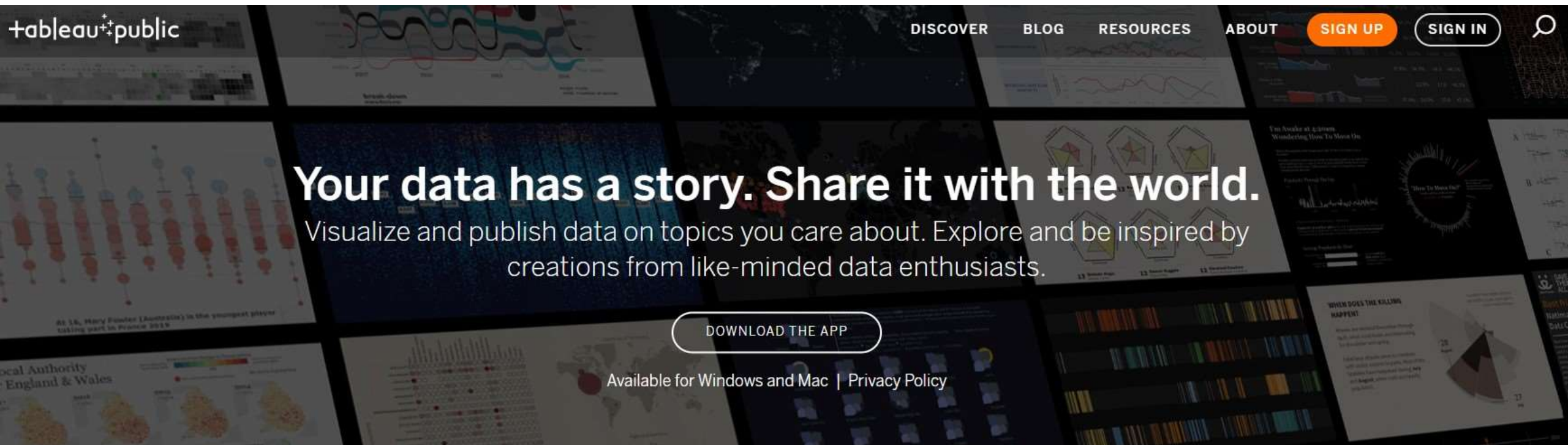
Source: freepik.com

Download & install Tableau Public

www.tableau.com

↳ Products

↳ Tableau Public



⊗

Connect

To a File

- Microsoft Excel
- Text file
- JSON file
- Microsoft Access
- PDF file
- Spatial file
- Statistical file

To a Server

- OData
- More... >

Save locally. Work with big data.
Connect to more data sources.

Open

[Open from Tableau Public](#)

Discover

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[Intro to the Interface](#)

[Chart Types](#)

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VIZ OF THE DAY

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Live Demo

Switching to Tableau Public



Extracts from s/w demo

The screenshot shows the Tableau Public interface. The top menu bar includes 'File', 'Data', and 'Help'. The left sidebar is titled 'Connect' and is divided into two sections: 'To a File' and 'To a Server'. The 'To a File' section lists options: Microsoft Excel, Text file, JSON file, Microsoft Access, PDF file, Spatial file, and Statistical file. The 'To a Server' section lists OData and More... with a right-pointing arrow. The main workspace area is titled 'Open' and contains a button labeled 'Open from Tableau Public'. An orange arrow points from the 'Open' text to the button. A text box with an orange border is overlaid on the interface, containing the following text:

The left panel is for importing the data which can be in any of the given format. Options are limited since this is not the premium version of Tableau. We can browse the file and upload here in no time.

Extracts from s/w demo

The screenshot shows the Tableau Public interface. The top menu bar includes 'File', 'Data', 'Window', and 'Help'. Below the menu is a toolbar with navigation icons. On the left, the 'Connections' pane shows 'World_Bank_CO2' as a Microsoft Excel source. Below it, the 'Sheets' pane lists various data sources, including 'CO2 (kt) for Split', 'CO2 (kt) Pivoted', 'CO2 (kt) RAW DATA', 'CO2 Data Cleaned', 'CO2 Per Capita (Pivoted)', 'CO2 Per Capita RAW DATA', 'Metadata - Countries', and 'New Union'. An orange bracket highlights the 'World_Bank_CO2' connection and the 'Sheets' list. A text box with an orange border contains the following text:

Here “World_Bank_CO2” is the excel sheet which is imported to Tableau for demo. The list of sheets within this file is also displayed for the user to drag and drop on the mid section of screen, which is the work area.

To the right of the text box is a small grid icon representing a table, with the text 'Drag tables here' below it.

Extracts from s/w demo

The screenshot shows the Tableau Public interface. On the left, the 'Connections' pane shows 'World_Bank_CO2' as a Microsoft Excel source. The 'Sheets' pane lists several worksheets, including 'CO2 Data Cleaned'. The main workspace displays a data source named 'CO2 Data Cleaned (World_Bank_CO2)' with a 'CO2 Data Cleaned' table icon. Below this, a message asks 'Need more data?' and provides a link to 'Learn more'. An orange callout box contains the text: 'We can preview the data in each sheet to reverify the details before we start working on the data viz.' Below the callout, a table preview is shown for the 'CO2 Data Cleaned' table, displaying 6 fields and 11127 rows. The table columns are: Country Code, Country Name, Region, Year, CO2 (kt), and CO2 Per Capita (metric ...). The first few rows of data are for Aruba in 1960-1966, with CO2 values listed as null.

Tableau Public - Book1

File Data Window Help

Connections Add

World_Bank_CO2
Microsoft Excel

Sheets

Use Data Interpreter
Data Interpreter might be able to clean your Microsoft Excel workbook.

About

CO2 (kt) for Split

CO2 (kt) Pivoted

CO2 (kt) RAW DATA

CO2 Data Cleaned

CO2 Per Capita (Pivoted)

CO2 Per Capita RAW DATA

Metadata - Countries

New Union

CO2 Data Cleaned (World_Bank_CO2)

Filters 0 | Add

CO2 Data Cleaned

Need more data?
Drag tables here to relate them. [Learn more](#)

We can preview the data in each sheet to reverify the details before we start working on the data viz.

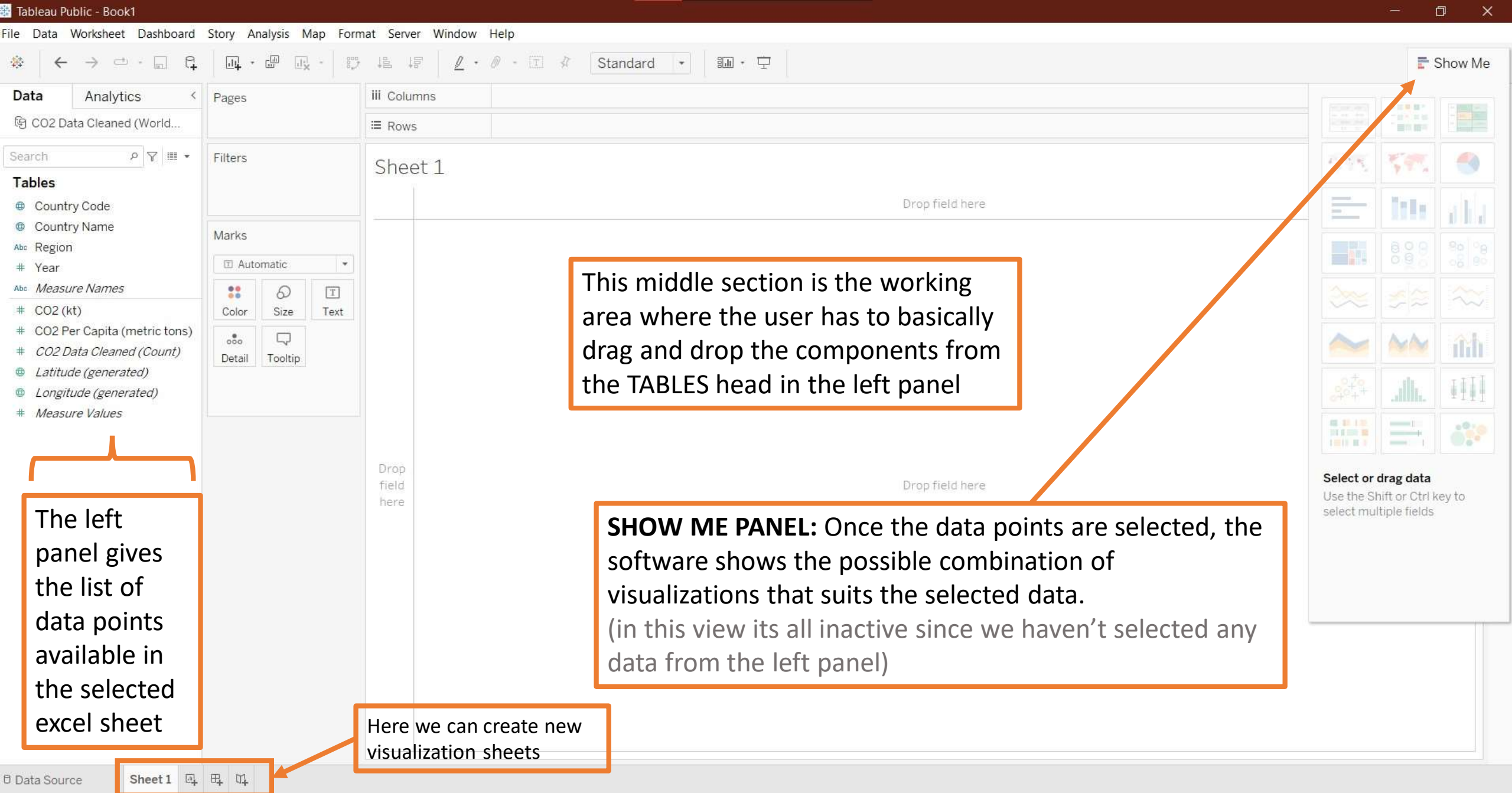
CO2 Data Cleaned 6 fields 11127 rows 100 rows

Country Code	Country Name	Region	Year	CO2 (kt)	CO2 Per Capita (metric ...)
ABW	Aruba	Latin America & Caribbean	1960	null	null
ABW	Aruba	Latin America & Caribbean	1961	null	null
ABW	Aruba	Latin America & Caribbean	1962	null	null
ABW	Aruba	Latin America & Caribbean	1963	null	null
ABW	Aruba	Latin America & Caribbean	1964	null	null
ABW	Aruba	Latin America & Caribbean	1965	null	null
ABW	Aruba	Latin America & Caribbean	1966	null	null

Go to Worksheet

Data Source Sheet 1

Extracts from s/w demo



The left panel gives the list of data points available in the selected excel sheet

This middle section is the working area where the user has to basically drag and drop the components from the TABLES head in the left panel

SHOW ME PANEL: Once the data points are selected, the software shows the possible combination of visualizations that suits the selected data. (in this view its all inactive since we haven't selected any data from the left panel)

Here we can create new visualization sheets

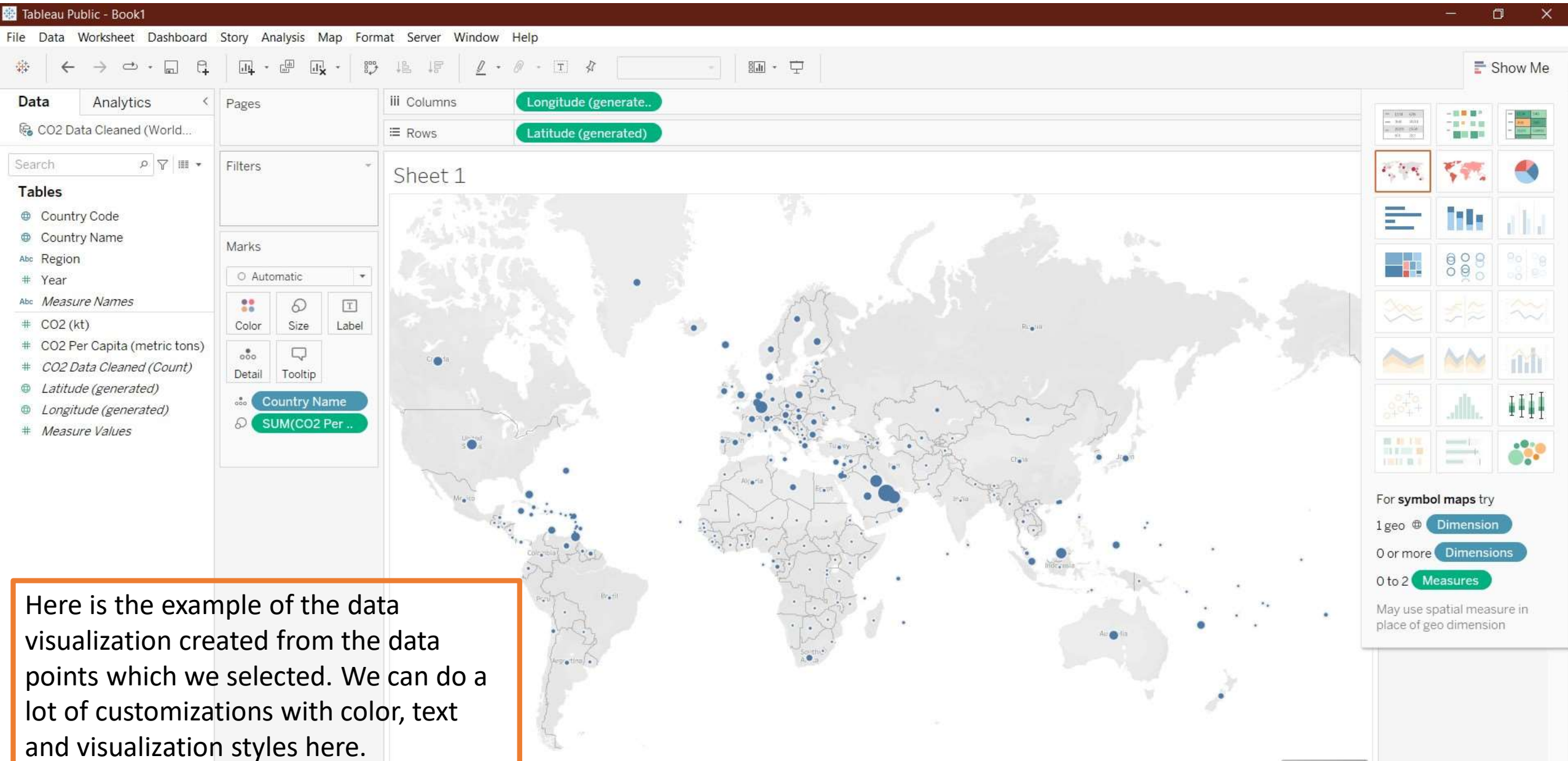
Select or drag data
Use the Shift or Ctrl key to select multiple fields

Extracts from s/w demo

SHOW ME PANEL:- Here is the activated view of the show me panel when we selected two data points from the excel sheet content. The software is now intuitively showing which all visualizations are suited for these selected data. Now the user can do some trial and error to land at the one which served the purpose.



Shots from s/w demo



Here is the example of the data visualization created from the data points which we selected. We can do a lot of customizations with color, text and visualization styles here.

Extracts from s/w demo

The screenshot displays the Tableau Public interface. The main dashboard is titled "The alarming trend of CO2 emission" and contains two visualizations: a world map showing "Global CO2 Percapita" and a line chart titled "CO2 percapita increase trend". The line chart plots "CO2 Per Capita (metric tons)" on the y-axis (0 to 300) against "Year" on the x-axis (1960 to 2010). The map shows data points for various countries, with a red circle highlighting a specific region. The line chart shows multiple lines representing different countries, with a prominent orange line showing a sharp increase starting around 1990. The interface includes a menu bar (File, Data, Worksheet, Dashboard, Story, Analysis, Map, Format, Server, Window, Help), a toolbar, and a sidebar with "Objects" and "Show dashboard title" options.

Here we combined two visualizations and created a dashboard. There is more customization and interactivity options available here to explore. Once the dashboard is ready, we have to save this as "Tableau Public File" (Shortcut: Ctrl+S) This will be a public file which can be viewed by anyone from the users Tableau Public profile. This can then be shared to social media, or can copy embed code to export this to other platforms

Pros & Cons

Pros

1. It's free
2. Impressive visualization
3. Ease of use
4. Mobile-friendliness
5. Thriving community forum

Cons

1. Security concerns
2. Limited data source connections
3. No local saving
4. No automation
5. Data limits
6. Limited support

Takeaway

- Tableau offers powerful data visualization capabilities and high performance that's necessary for processing complex data. Great tool for beginners.
- It is designed for those users who are looking to share data and collaborate publicly.
- Not suitable for those users who are handling confidential or sensitive data.