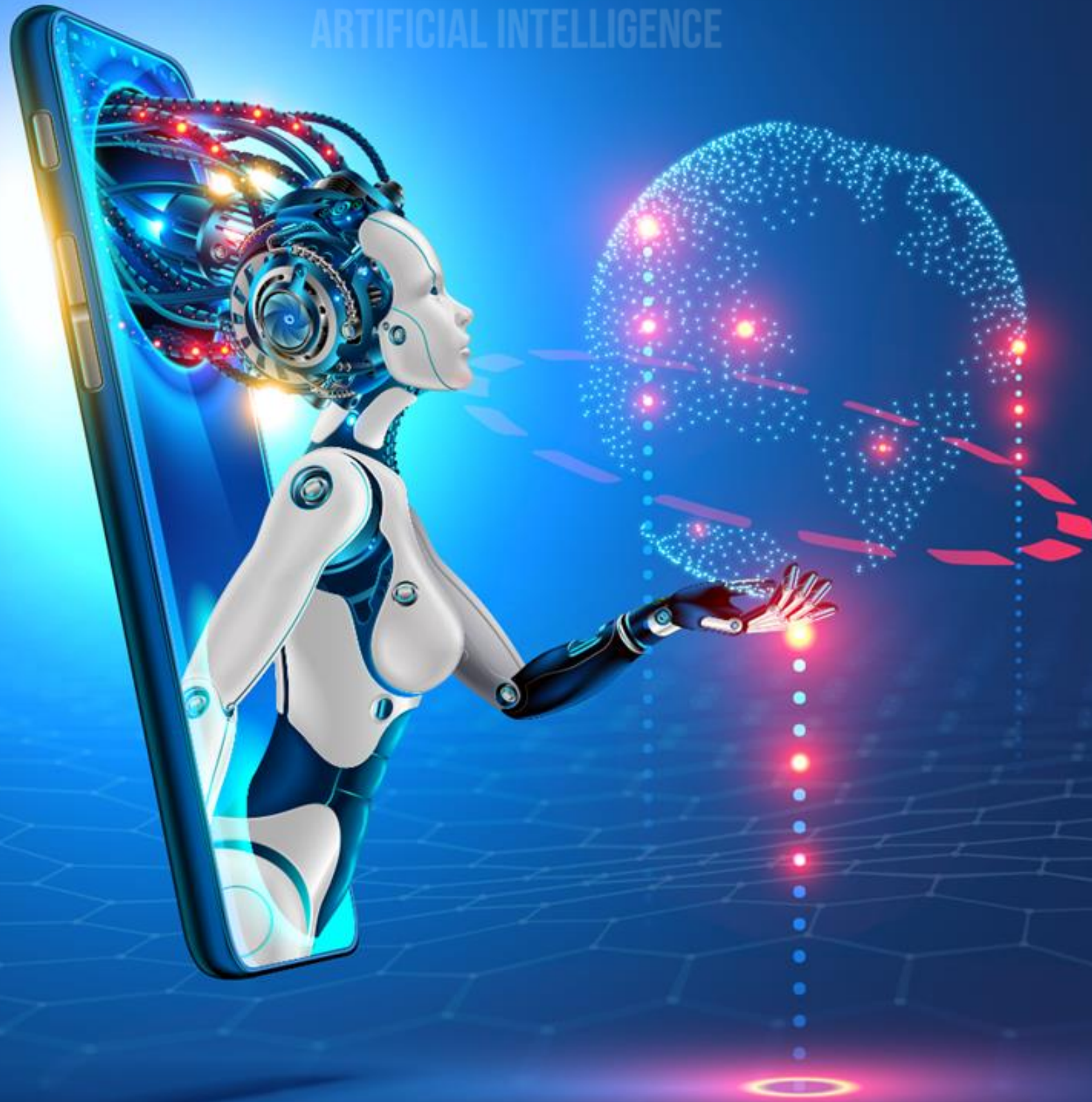


# DATA AND ARTIFICIAL INTELLIGENCE



## Tableau Training



## **Dashboards and Stories**



# Learning Objectives

By the end of this lesson, you will be able to:

- 🕒 Elaborate dashboards and its interface
- 🕒 Describe the various objects used in dashboard
- 🕒 Explain the actions in dashboard
- 🕒 Elaborate storyboard and its interface



# A Day in the Life of a Data Analyst



As a Data Analyst in your company, you are asked to review a set of views every day. You are also asked to create a story that convinces your point to the audience.

To achieve these, you are required to create a dashboard that displays all the views at once and create a storyboard to convey the results.

## Introduction to Dashboards

# Introduction to Dashboards

A dashboard is a collection of visualizations that serve as a front-end interface for any user.



It is a real-time, easy-to-read user interface that presents data graphically.

# Introduction to Dashboards

The properties of dashboard are:



- 01 A dashboard consists of multiple worksheets arranged in layout containers (tiles).
- 02 It includes filters and actions that impact some or all worksheets in a dashboard.
- 03 It provides users with concise and visually appealing view of data.

## Dashboard Interface



# Dashboard Interface

Dashboard interface contains the components to define:

Size of the dashboard

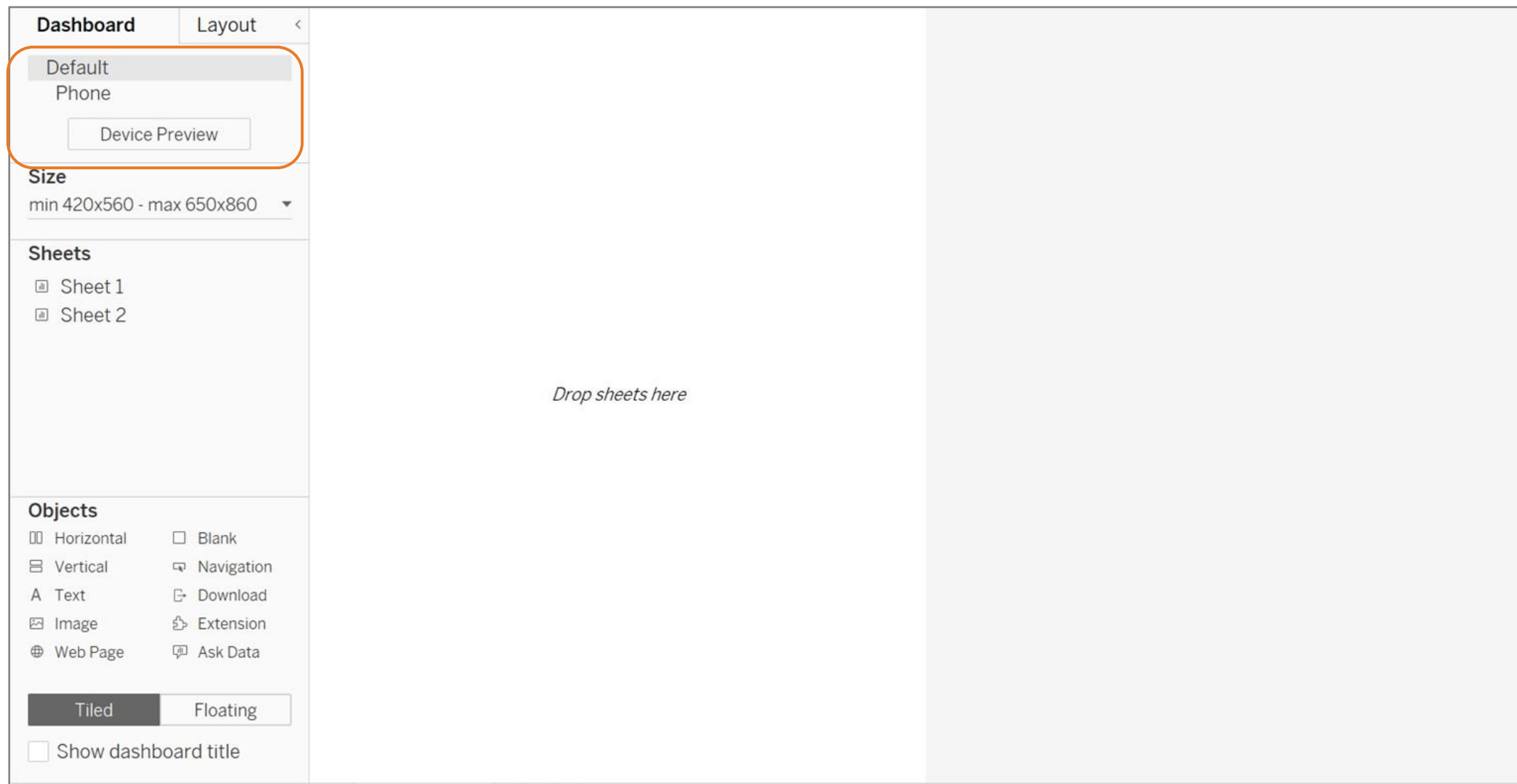
Visualizations created in each worksheet

Objects in dashboard



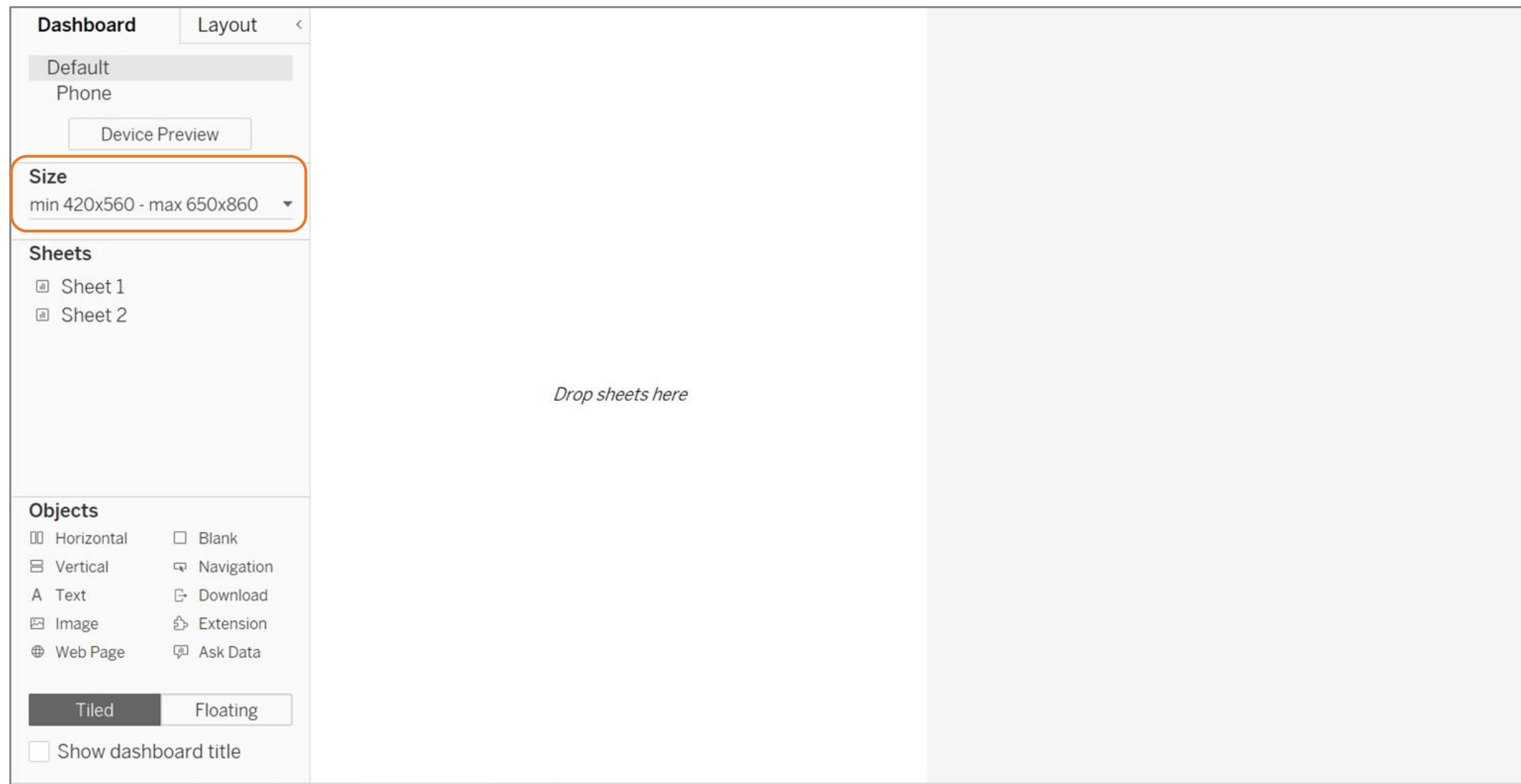
# Dashboard Interface

The **Default** section displays the device for which the dashboard is created.



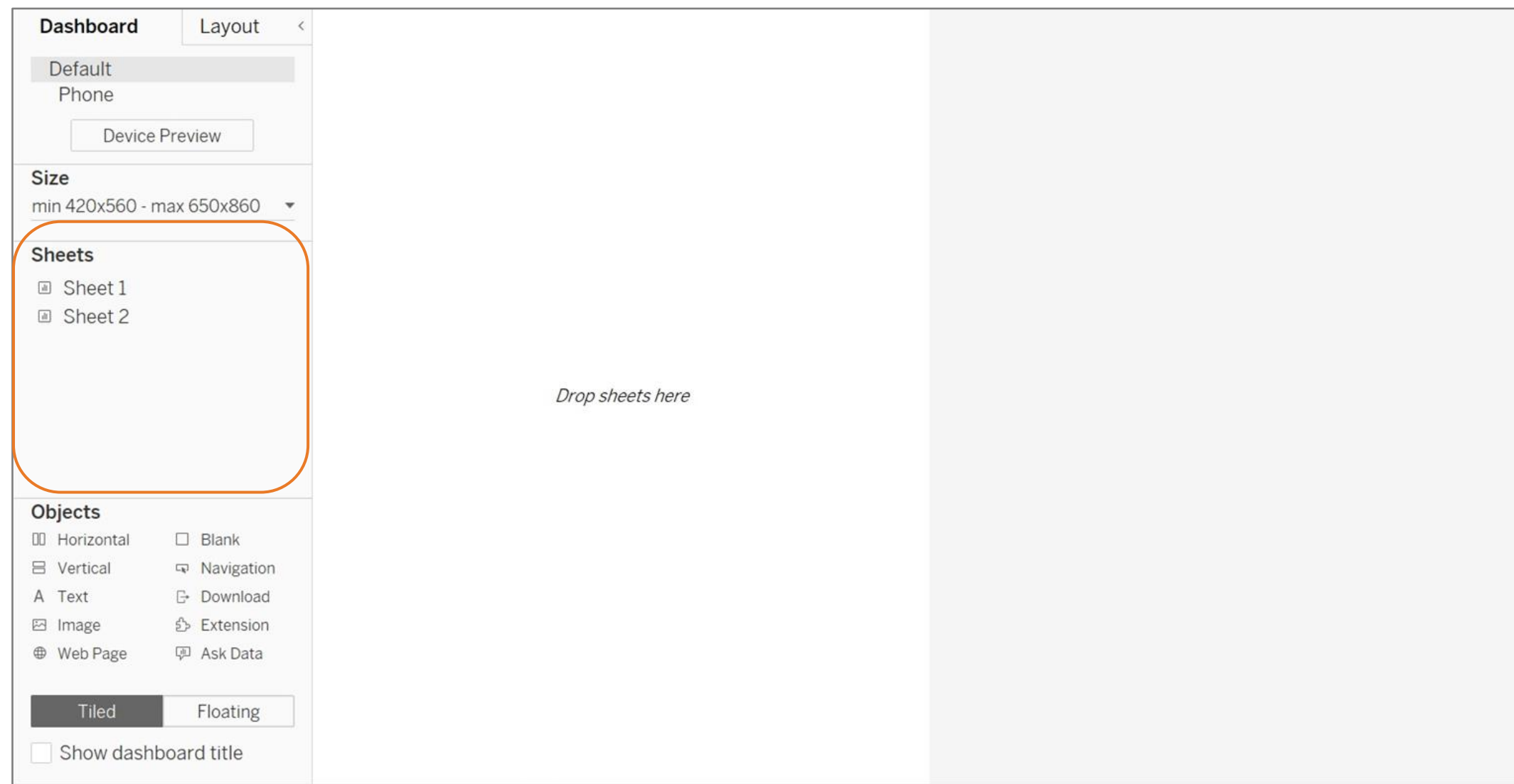
# Dashboard Interface

The size of the dashboard is selected from **Size** section.



# Dashboard Interface

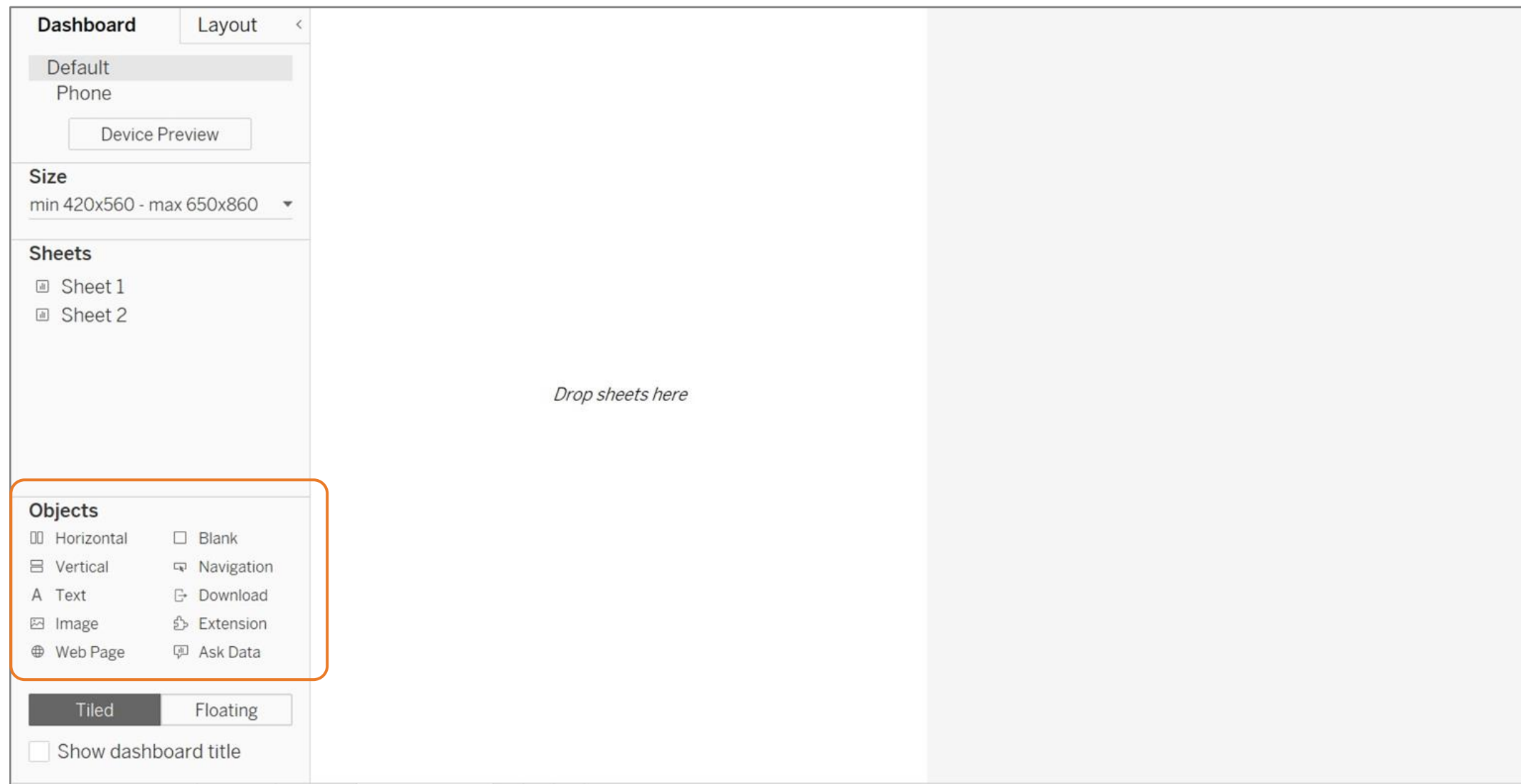
The **Sheets** section displays the list of worksheets created with visualizations.





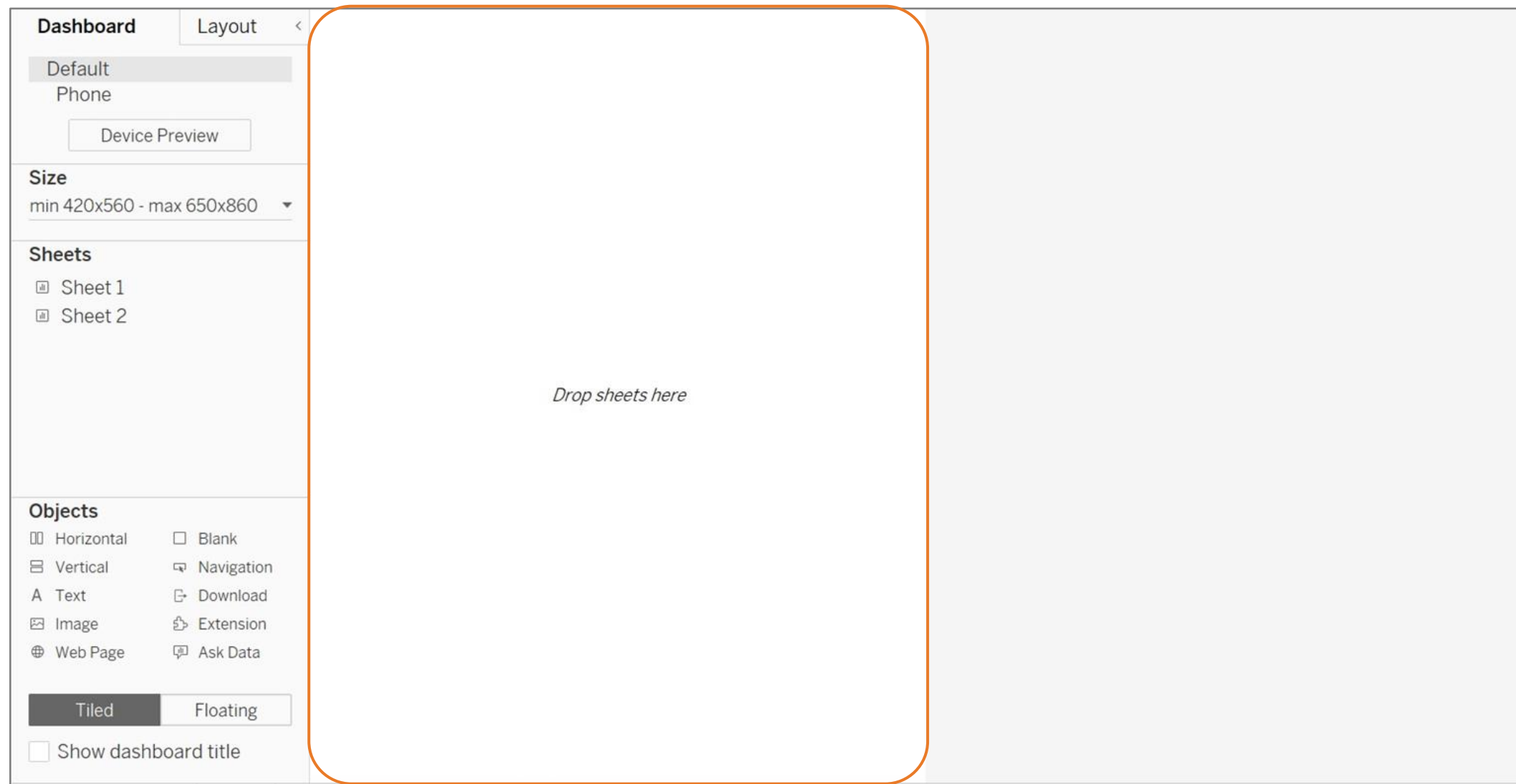
# Dashboard Interface

**Objects** section is used to customize the dashboard.



# Dashboard Interface

**Dashboard canvas** is where visualizations are dropped one after the other to create the dashboard.



## Objects in Dashboard

# Objects in Dashboard

Objects in dashboards are placeholders of different aspects in visualization.

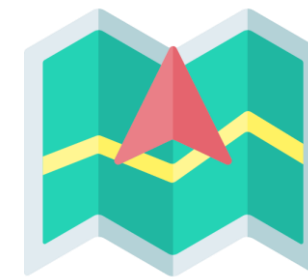
The different objects available in Tableau are:



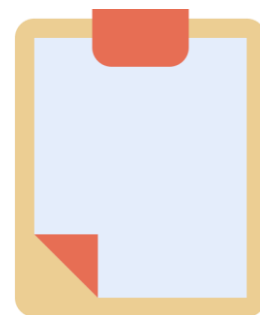
Text



Image



Navigation



Blank



Web page



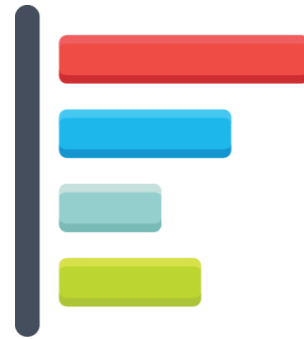
Download



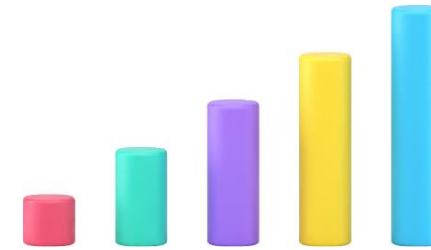
# Objects in Dashboard

Objects in dashboards are placeholders of different aspects in visualization.

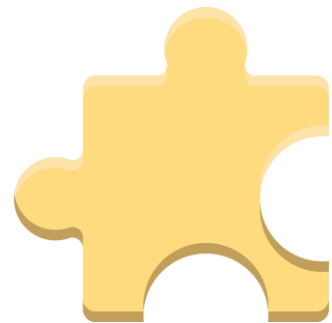
The different objects available in Tableau are:



Horizontal



Vertical



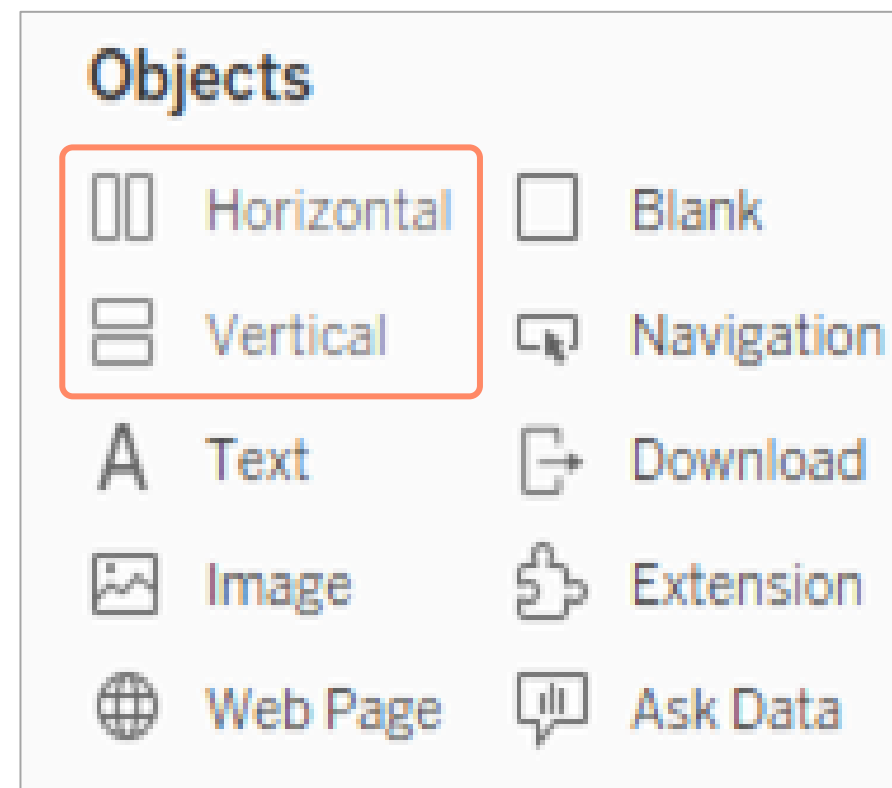
Extension



Ask Data

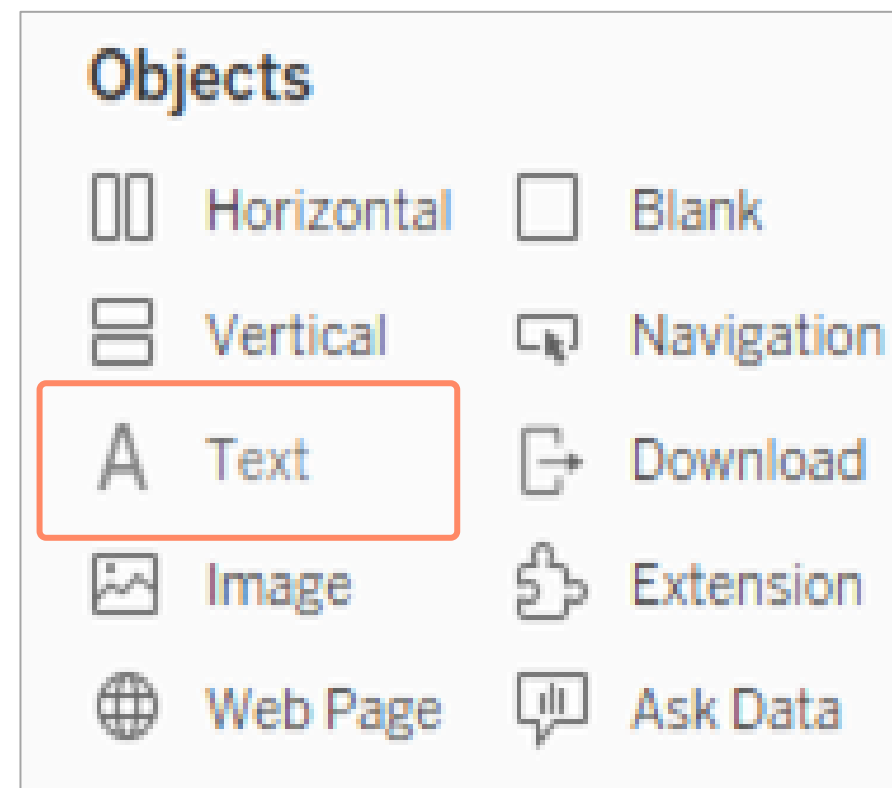
# Horizontal and Vertical

They are containers used to drop visualizations into horizontal or vertical format.



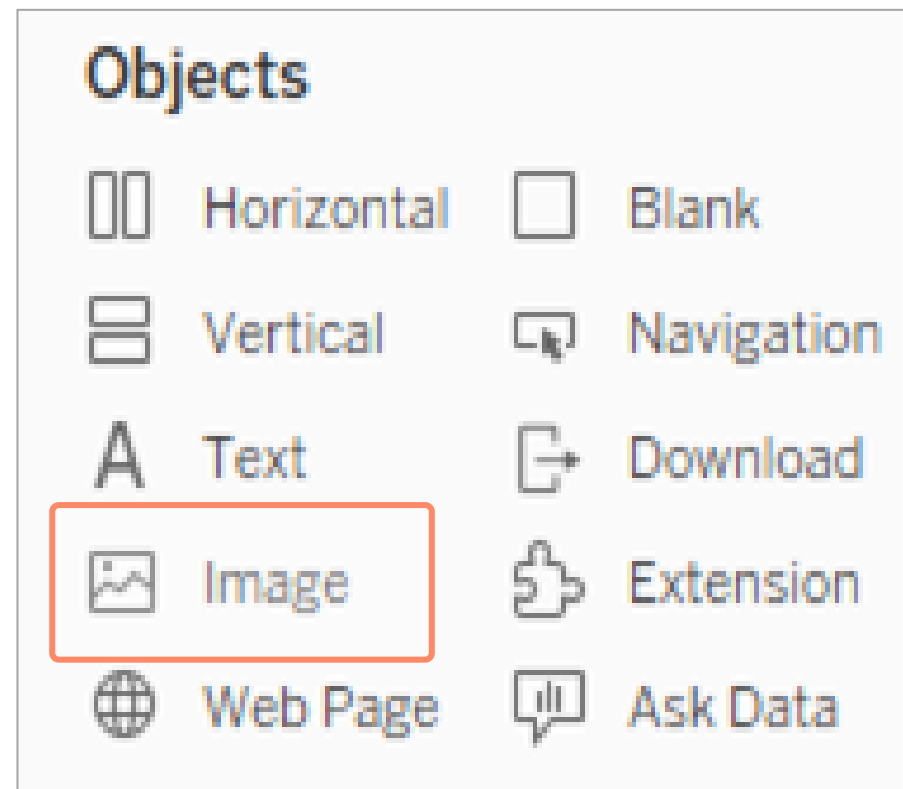
# Text

The **Text** option creates a text box.



# Image

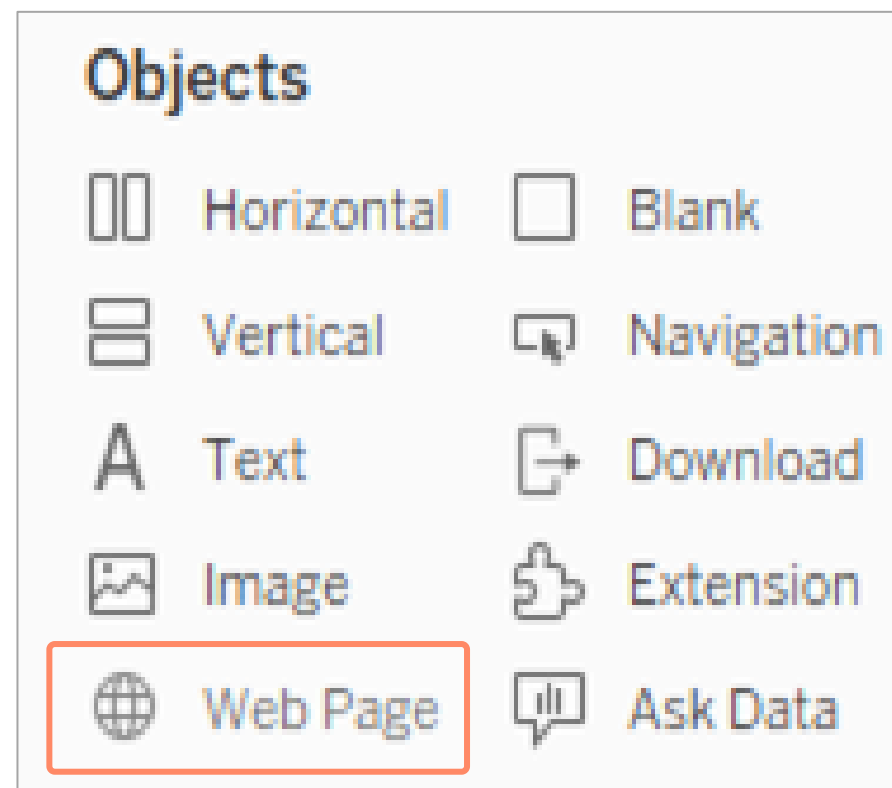
The **Image** option is used to insert an image, icon, or logo.





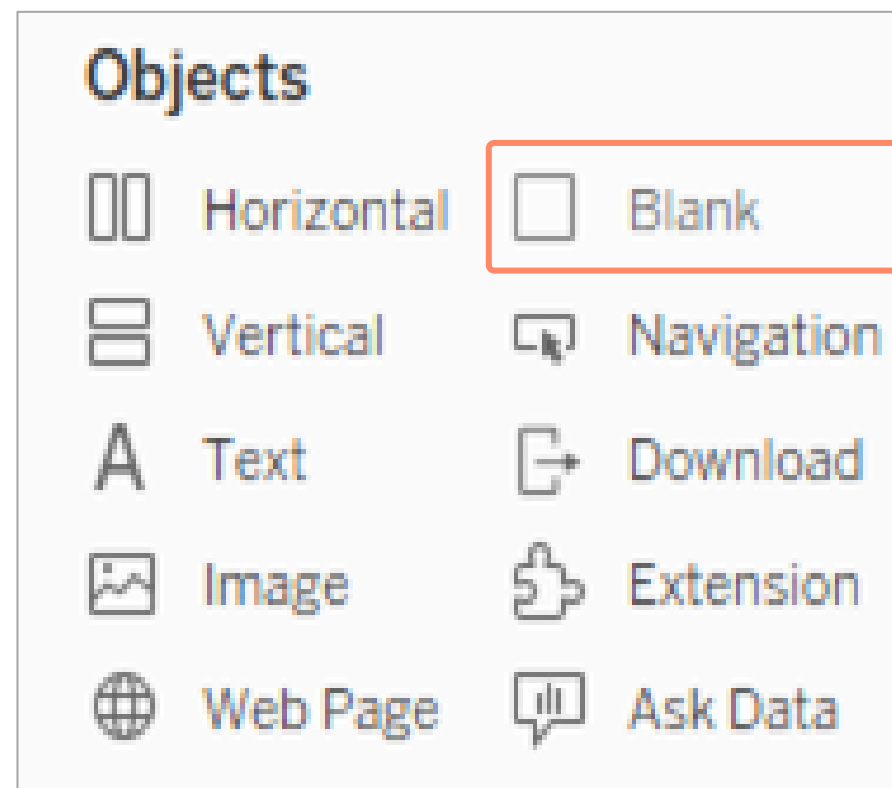
# Web Page

This dashboard action creates a web page interface with a predefined URL that can be changed at run time.



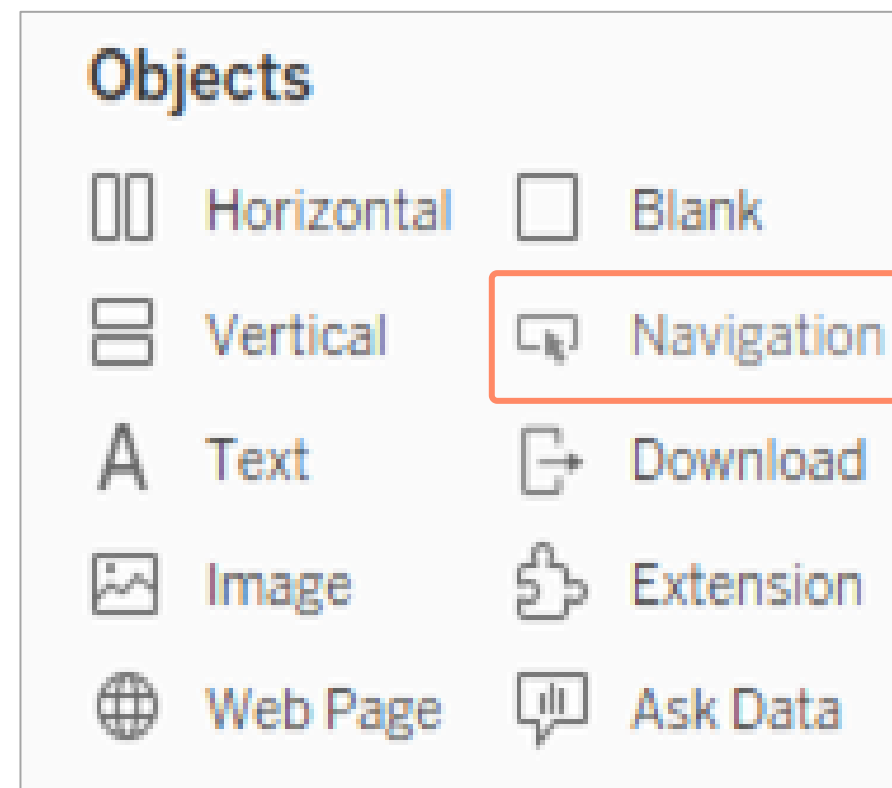
# Blank

The **Blank** option adds a blank box.



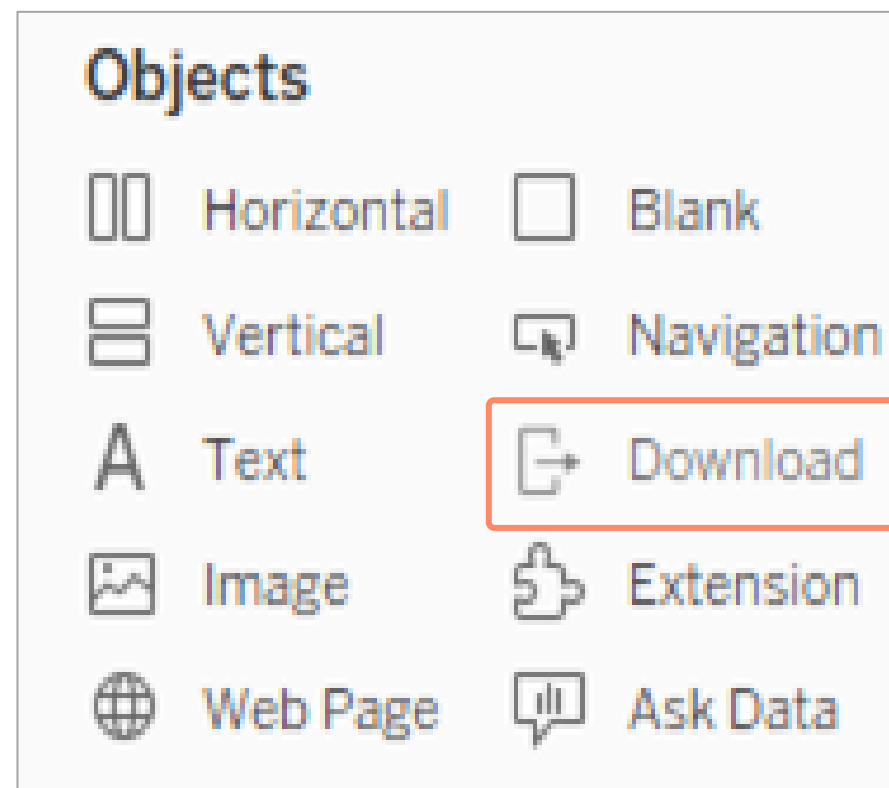
# Navigation

The **Navigation** option provides users with the ability to build navigation buttons to browse and interpret data easily and interactively.



# Download

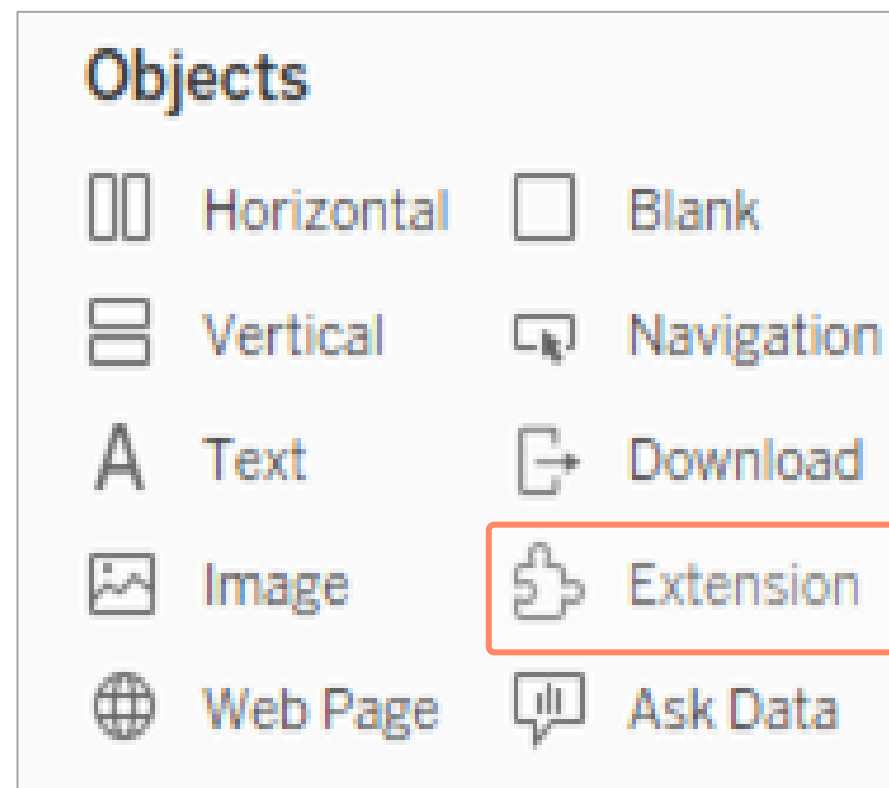
The dashboard can be downloaded into PDF using this option.





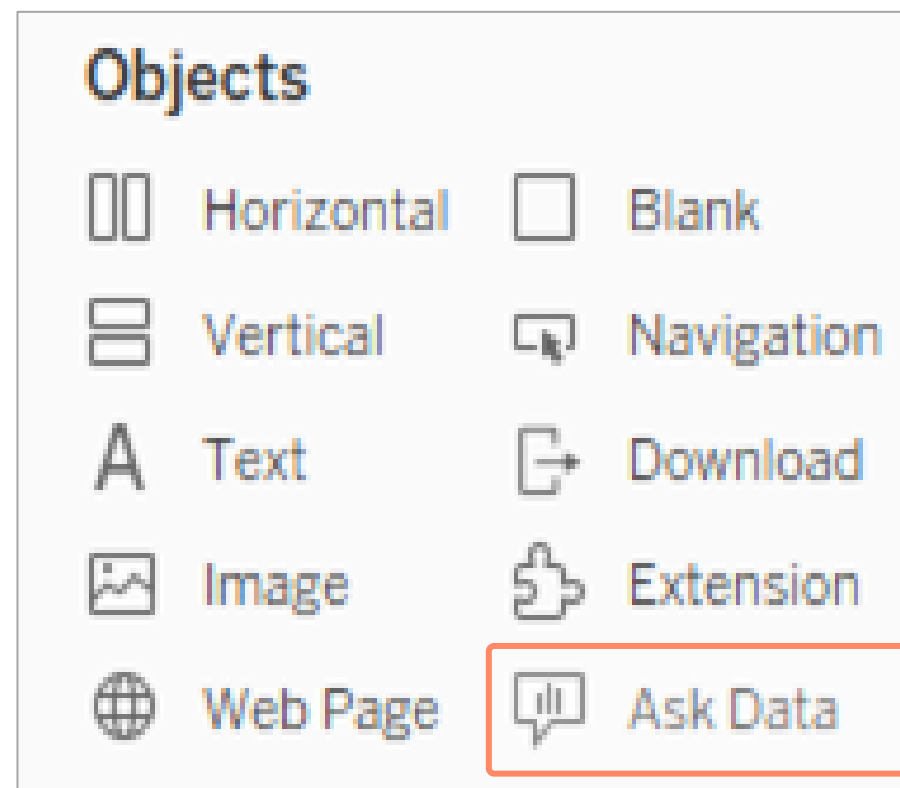
# Extension

They are third-party extensions that allow customized visualizations designed for specific functionalities.



# Ask Data

It brings in AI functionality from Tableau server, where Tableau can process NLP.



## Dashboard Layouts & Formatting

# Dashboard Layouts & Formatting

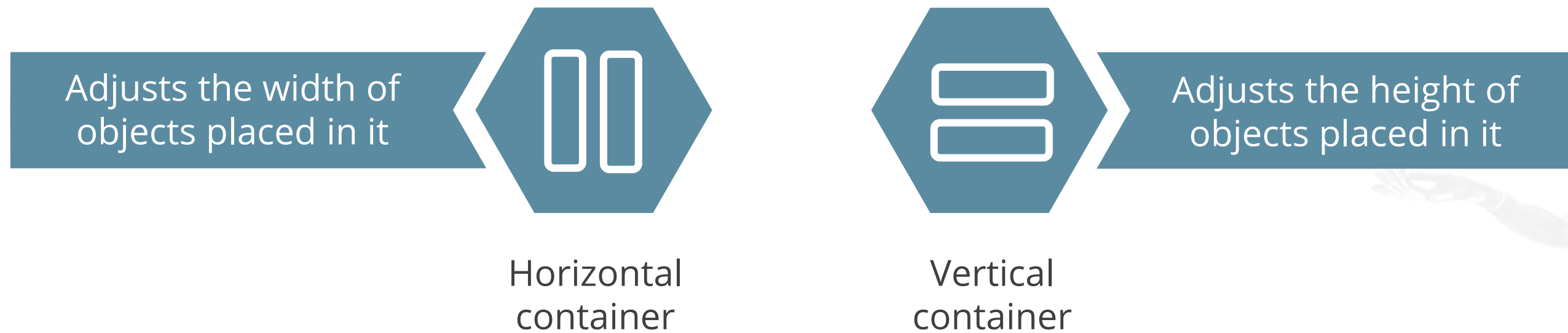
Layout options help present the dashboard more elegantly.



The alignment, size, and position of visuals in dashboard affect the readability of the visual.

# Dashboard Layouts & Formatting

There are two containers in Tableau which help in the alignment of charts.



## Building Interactive Dashboards



# Building Interactive Dashboards

Dashboards are created by dragging and dropping spreadsheets into the dashboard's layout container.

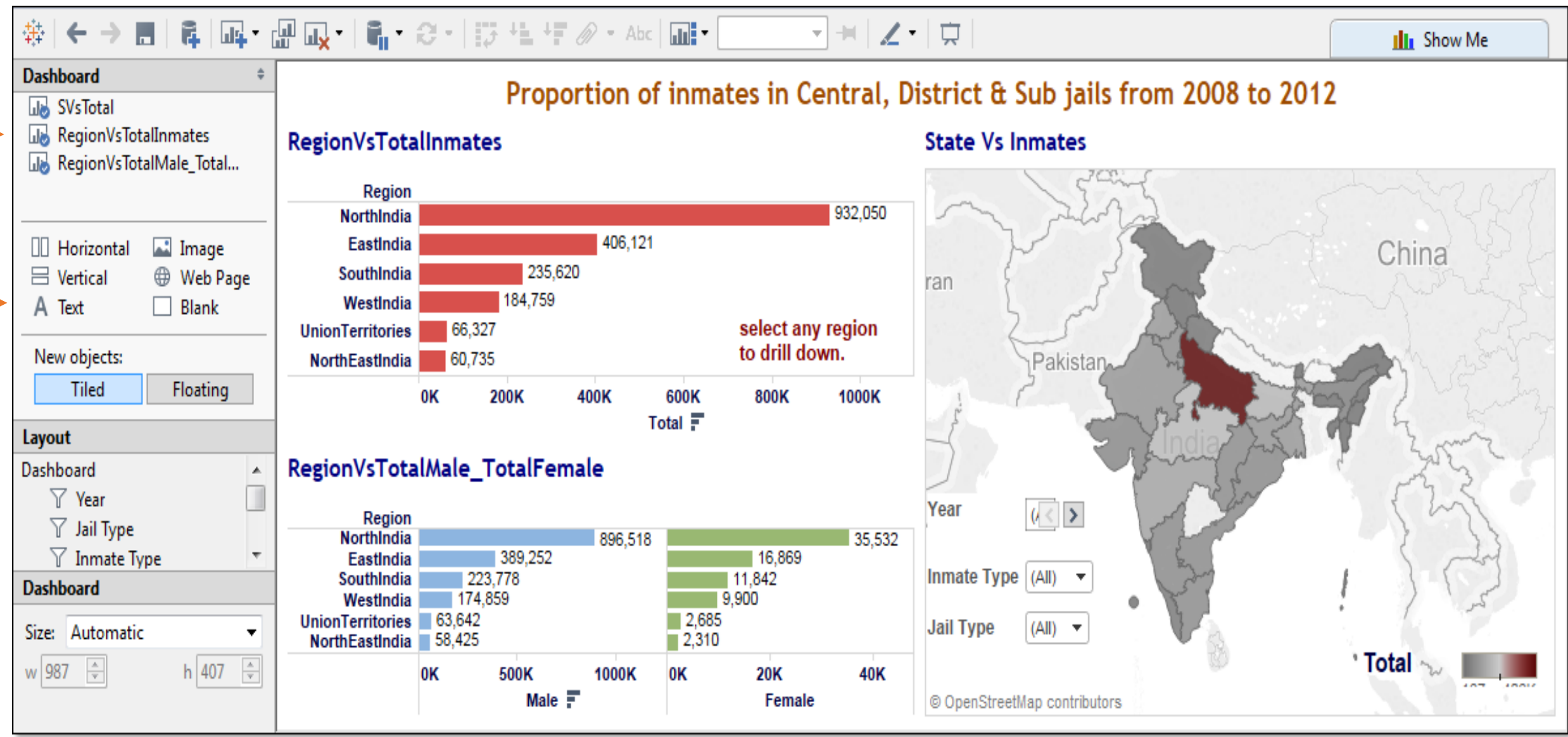


# Building Interactive Dashboards

Example of a dashboard with three worksheets:

Available sheets in current workbook

Dashboard Objects



## Actions in Dashboards

# Actions in Dashboard

An action is performed when a user clicks, selects, or hovers over a dashboard item and changes reflect on one or more views in the dashboard.



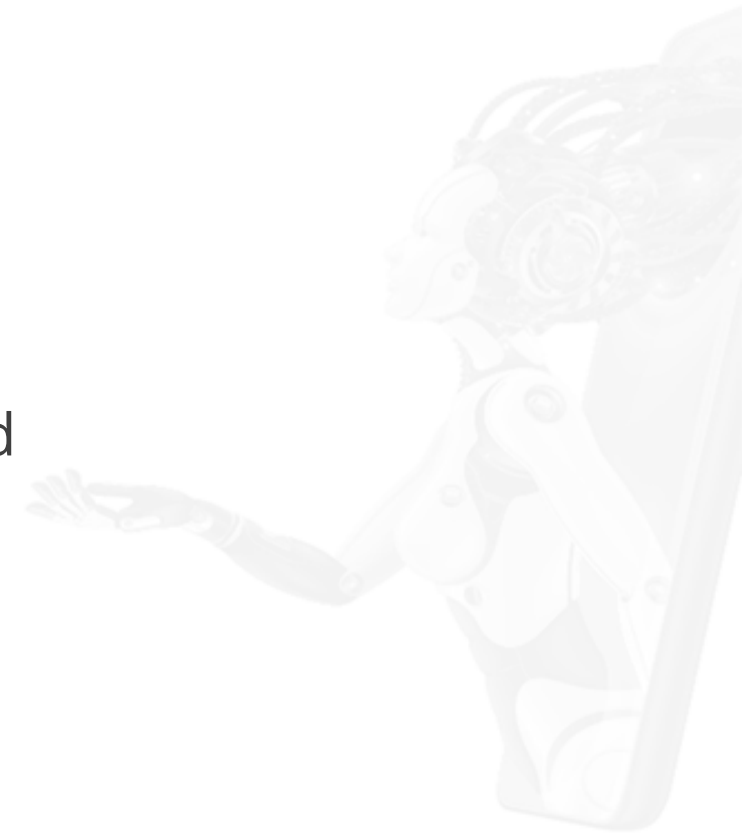
For example, clicking a URL within the view could create the action of opening a website in a new browser window.

# Actions in Dashboard

Actions can be used to:

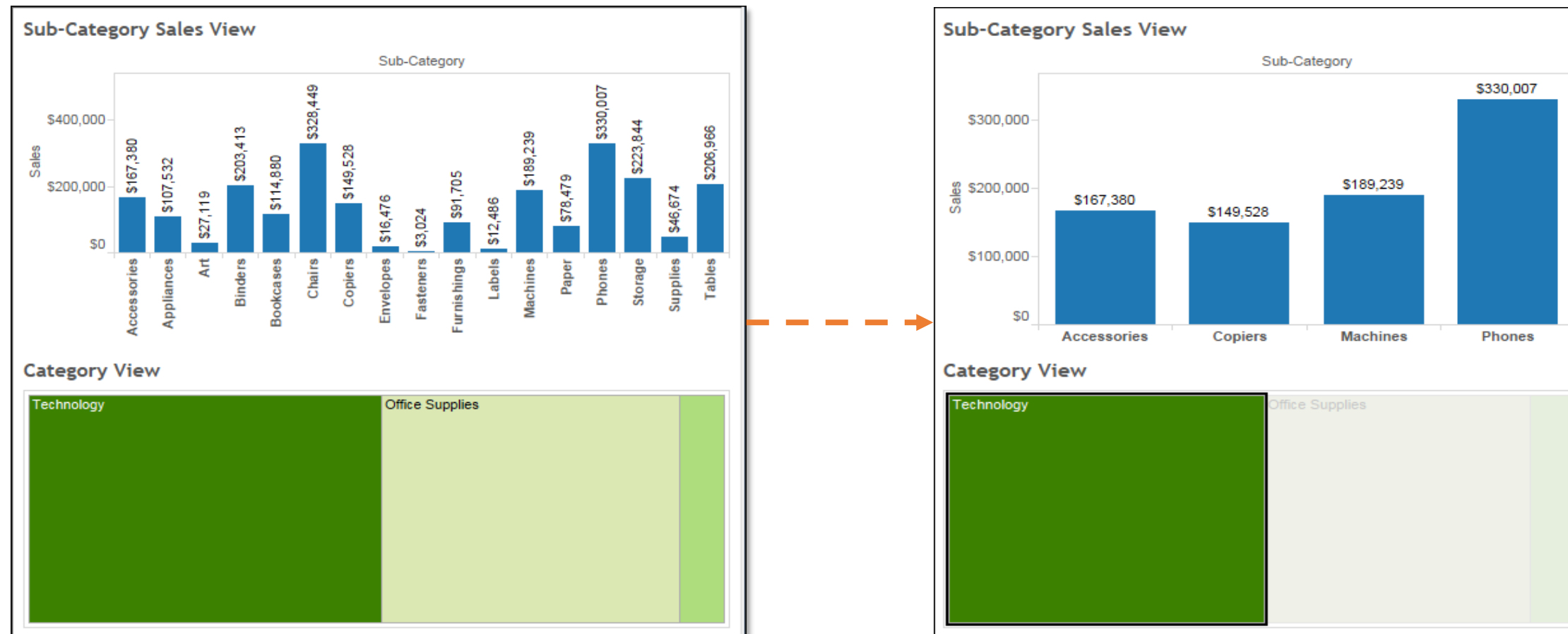


- 01 Filter views in a Dashboard
- 02 Highlight data in Dashboard
- 03 Launch a webpage (URL)



# Actions in Dashboard

In this example, actions are used to filter view in the dashboard.

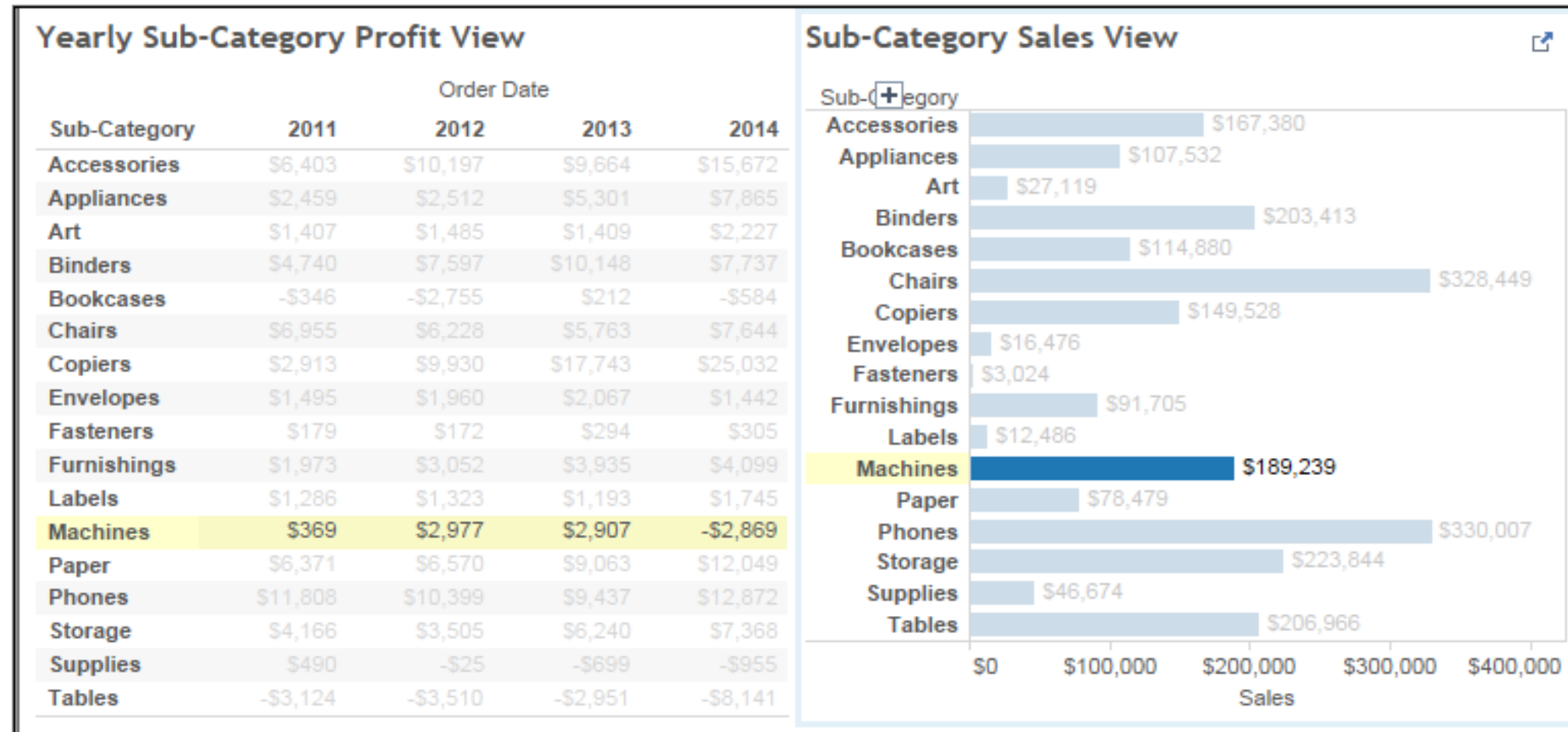


Filter actions are used to send information from a selected mark to another sheet showing related information.



# Actions in Dashboard

Example of using actions to highlight data in dashboard:



Highlight actions allow drawing attention to specific markings by highlighting them and fading the rest.



# Actions in Dashboard

Example of using actions to launch a webpage (URL):

Yearly Sub-Category Profit View

Sub-Category	2011	2012	2013	2014
Accessories	\$10,197	\$9,664	\$15,672	
Appliances	\$2,512	\$5,301	\$7,865	
Art	\$1,485	\$1,409	\$2,227	
Binders	\$7,597	\$10,148	\$7,737	
Bookcases	\$2,755	\$212	-\$584	
Chairs	\$6,228	\$5,763	\$7,644	
Copiers	\$9,930	\$17,743	\$25,032	
Envelopes	\$1,960	\$2,067	\$1,442	
Fasteners	\$172	\$294	\$305	
Furniture	\$3,052	\$3,935	\$4,099	
Labels	\$1,323	\$1,193	\$1,745	
Machines	\$2,977	\$2,907	-\$2,869	
Paper	\$6,570	\$9,063	\$12,049	
Phones	\$0,399	\$9,437	\$12,872	
Storage	\$3,505	\$6,240	\$7,368	
Supplies	\$490	-\$25	-\$699	-\$955
Tables	-\$3,124	-\$3,510	-\$2,951	-\$8,141

Order Date

Keep Only

Exclude

Hide

Drill Down

Format...

Rotate Label

Show Header

Edit Alias...

Split

Search Accessories

WIKIPEDIA

The Free Encyclopedia

Main page

Contents

Featured content

Current events

Random article

Donate to Wikipedia

Wikipedia store

Interaction

Help

About Wikipedia

Community portal

Recent changes

Contact page

Create account

Not logged in

Talk

Contributions

Log in

Article

Talk

Read

Edit

View history

Search

Accessory

From Wikipedia, the free encyclopedia

(Redirected from Accessories)

Accessory may refer to:

Accessory (legal term), a person who assists a criminal

Accessory (band), with members Dirk Steyer and Ivo Lottig

Fashion accessory, i.e. an item used to complement a fashion or style

Video game accessory, a piece of hardware used in conjunction with a video game console for playing video games

Accessory bone

Accessory muscle

Accessory nucleus, in anatomy, a cranial nerve nucleus

Accessory nerve

Accessory suite, a secondary dwelling on a parcel of land

A URL action is a link that takes users to a web page or a file where they may learn more about the data.

# Assisted Practice: Building a Dashboard and Dashboard Actions



Duration: 20 minutes

## Problem statement:

A retail company is strategizing to improve business in low-performing areas as well as to extend its services in areas that contribute the maximum toward sales and profit. For this, John Douglas, CEO of the company, needs to keep an eye on region, state, category, subcategory, sales, profit ratio, and profit. This will help him determine the regions and states eligible for attractive discount strategies.

ASSISTED PRACTICE

# Assisted Practice Guidelines



## Steps to follow:

Step 1: Design the required sheets

Step 2: Create a dashboard using these sheets in the workbook

Step 3: Add a Filter action on the Region and State Analysis sheet

ASSISTED PRACTICE

# Assisted Practice: Exporting Data



Duration: 20 minutes

## Problem statement:

One of leading consumer products and services companies uses Tableau to analyze a large amount of data on retail behavior, sales and profit, procurement of key inputs, and so on. This helps in gaining detailed insights into the company's performance. Now, they intend to send some of this information to their clients. As their clients are not familiar with Tableau, they need to send the views generated in some other format. These requirements can be met by publishing the views in the PDF format.

ASSISTED PRACTICE

# Assisted Practice Guidelines



## Steps to follow:

Step 1: Open the Lesson 12 Exercise workbook

Step 2: Copy records from the Region and State Analysis View into Microsoft Excel

Step 3: Export the Profit by State Graph as an image

Step 4: Export records from Sales and Profit by Subcategory Graph to an Access file

ASSISTED PRACTICE

## **Best Practices for Dashboard Creation**



# Best Practices for Dashboard Creation

Choose an appropriate visualization

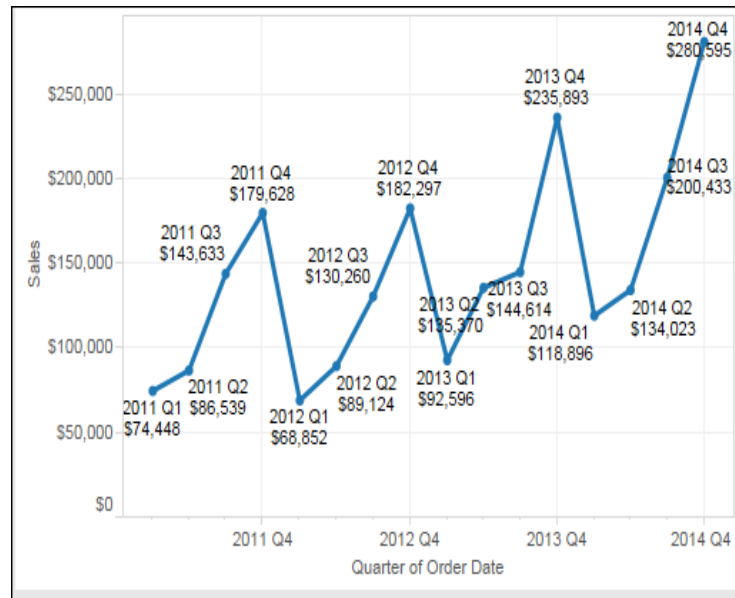


The analysis can be made more effective by selecting a suitable chart.

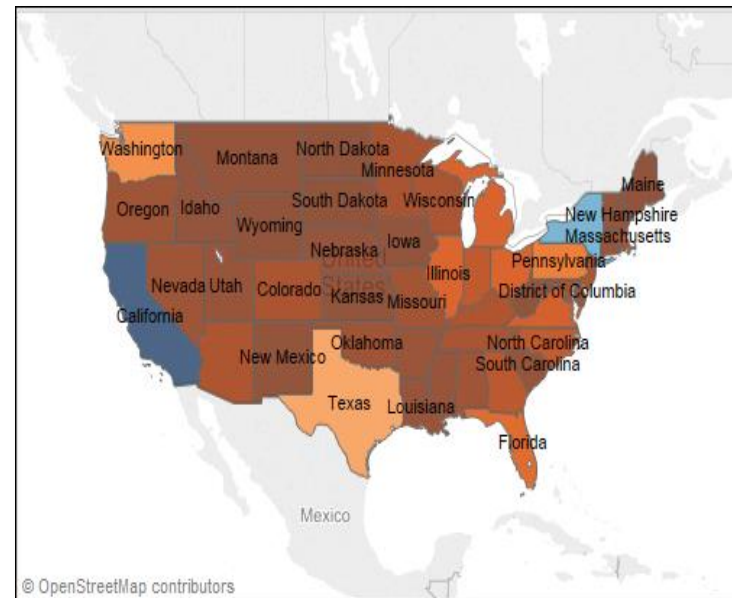


# Best Practices for Dashboard Creation

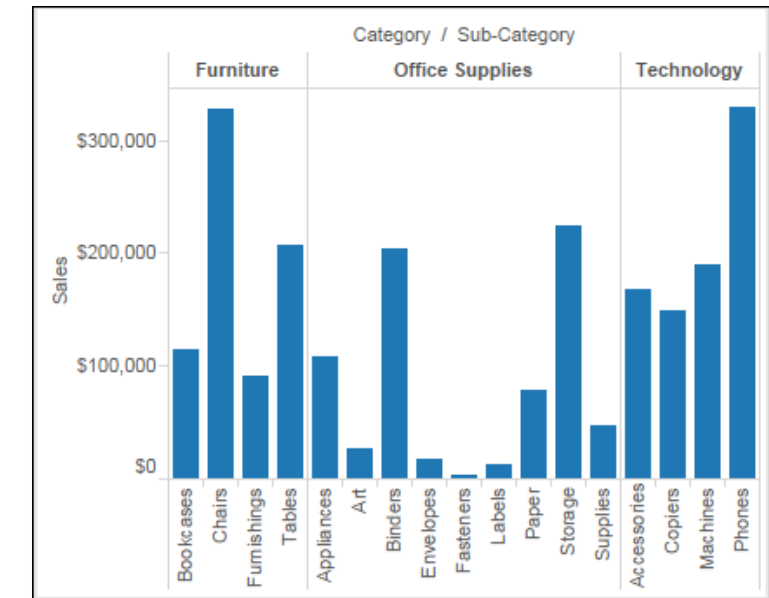
Choose an appropriate visualization



Line charts are the best choice for visualizing change over time.



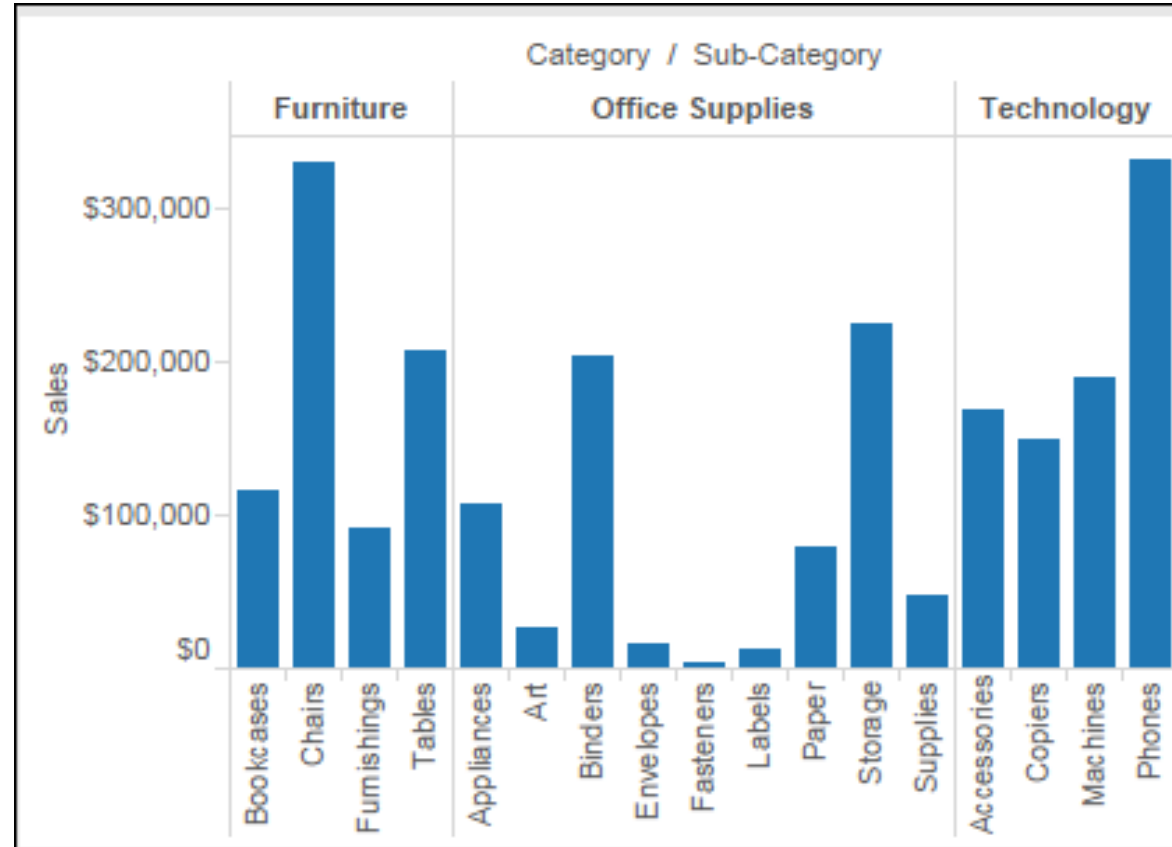
Maps are the best choice for visualizing geographical data.



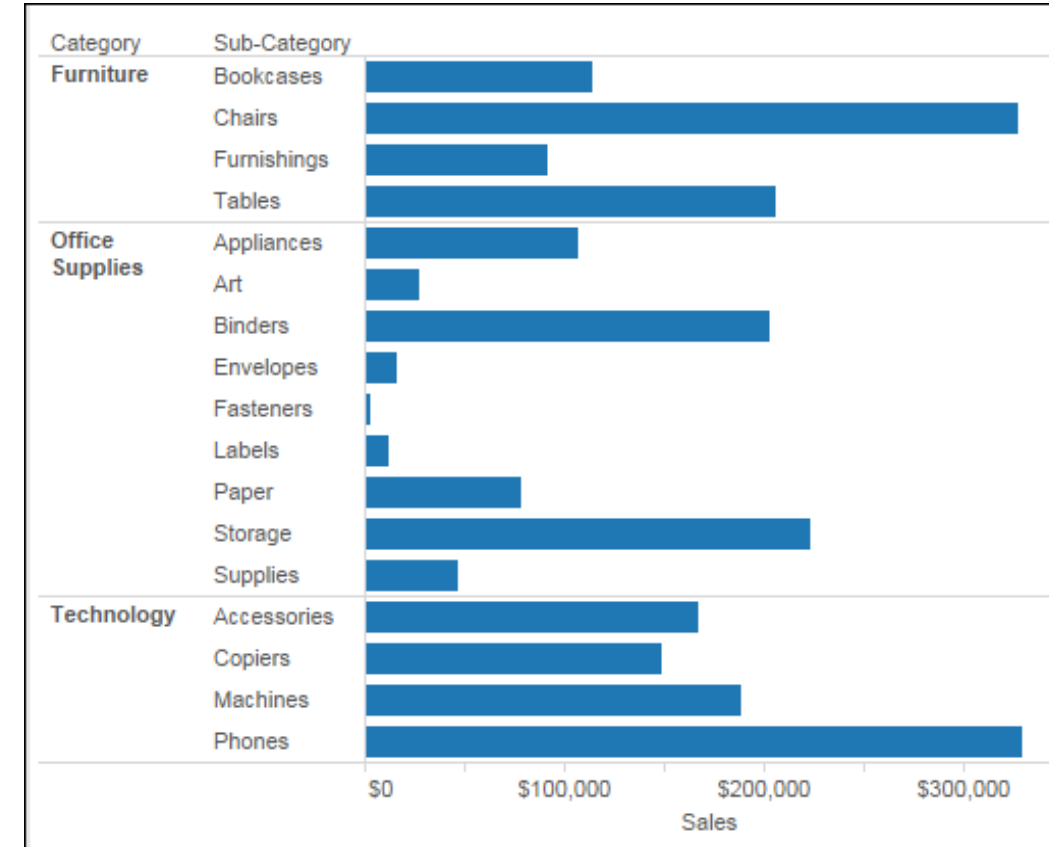
Bar chart is the best choice for visualizing the highest or lowest value.

# Best Practices for Dashboard Creation

Choose an appropriate orientation that enhances readability



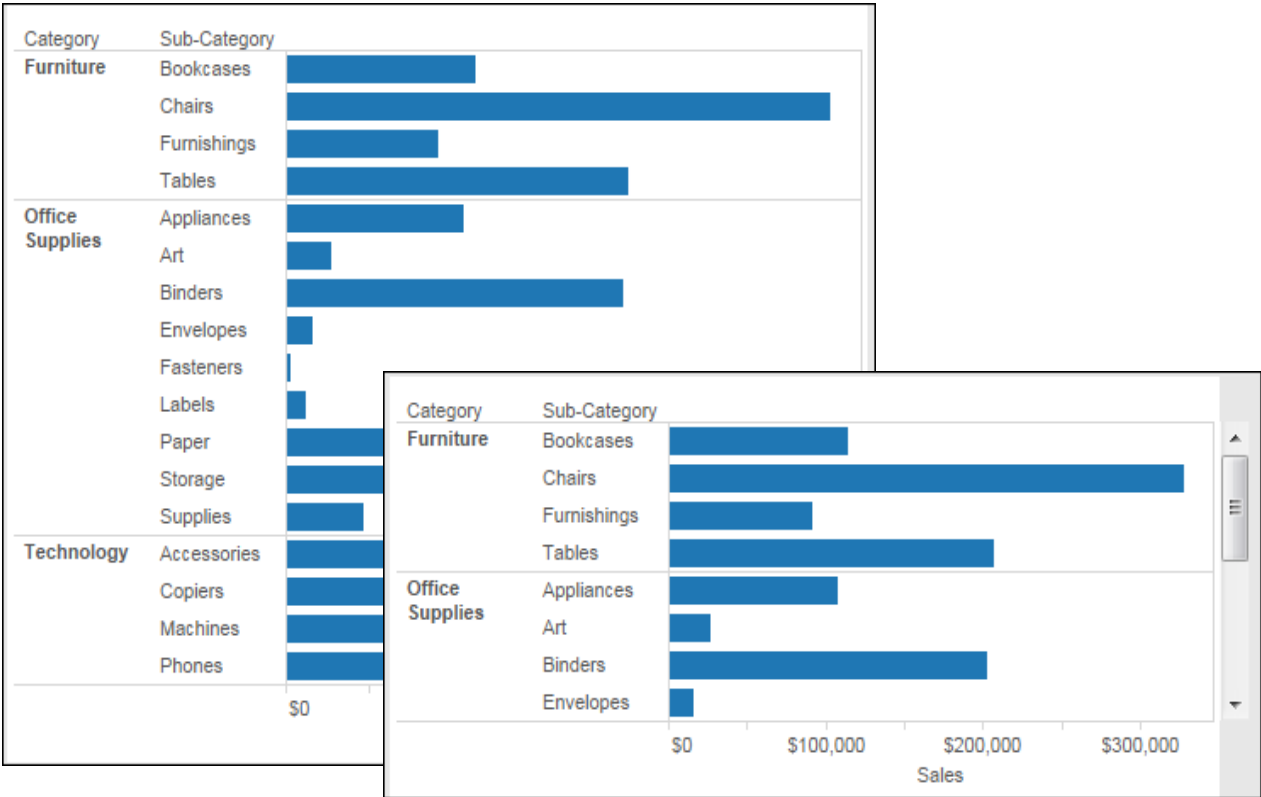
It is difficult to read long names vertically.



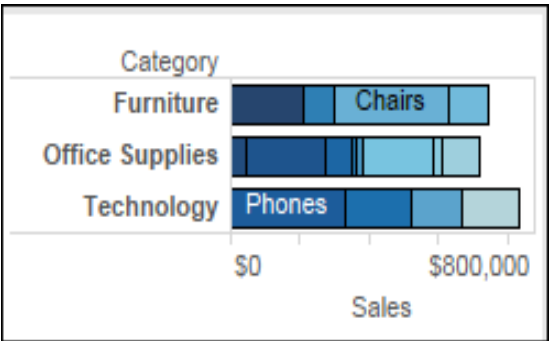
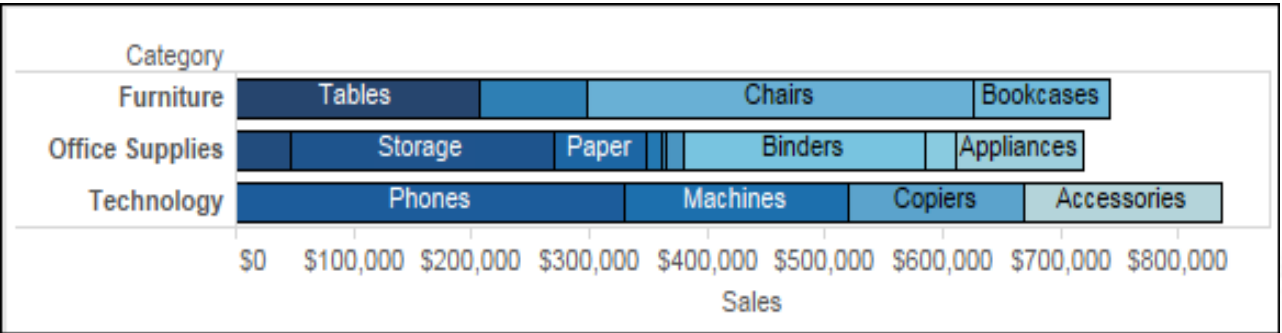
It is easier to read the names horizontally.

# Best Practices for Dashboard Creation

Choose an appropriate size



Avoid the use of scroll bars



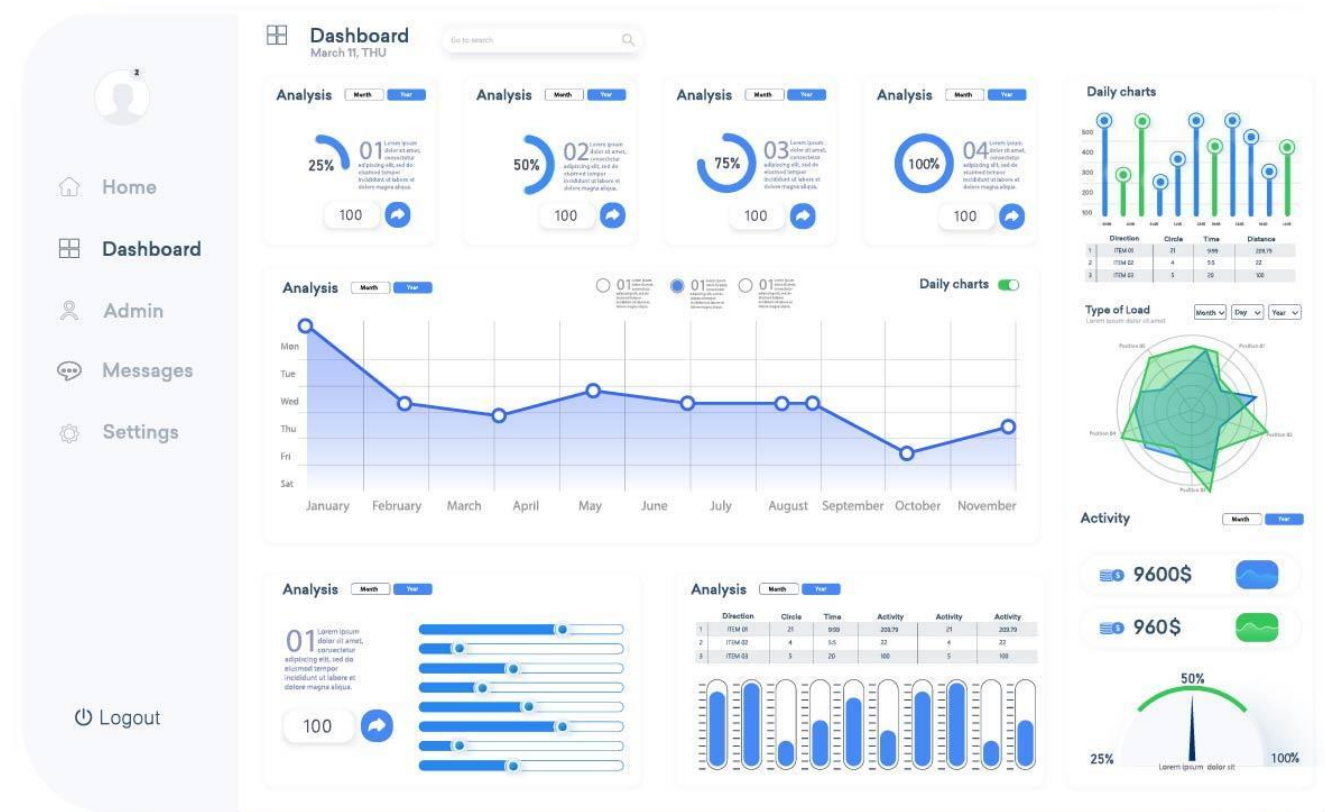
Avoid crunched views

## **Dashboards for Mobile Devices**

# Tableau Dashboards

It can be viewed on the following:

Mobile devices



Desktop

Tablet



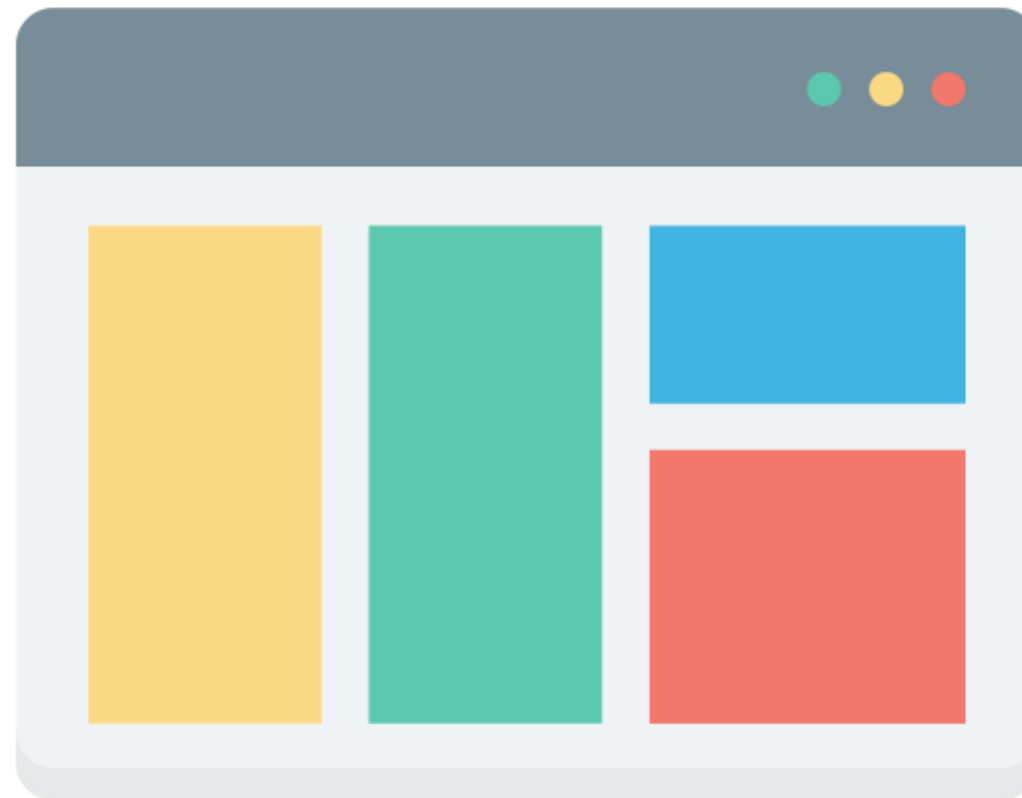
# Dashboards for Mobile

Tableau mobile allows users to view Tableau worksheets and dashboards on mobile devices.



# Dashboards for Mobile

The visualizations created in Tableau desktop cannot be viewed in Tableau mobile.



It is because of the difference in layout.

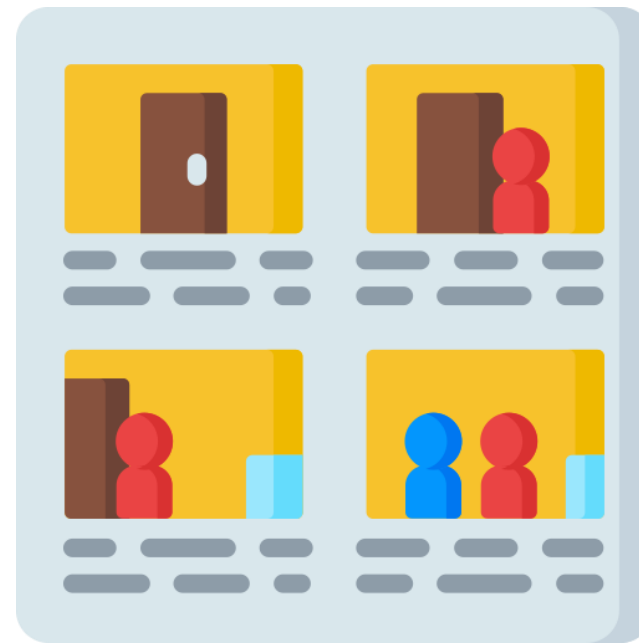




## Introduction to Storyboards

# Storyboards

Storyboards are groupings of dashboards and visuals that are arranged to tell a story.



These storyboard visualizations are dynamic and interactive, which makes the story presentation more effective.

# Storyboards

The effect of the visuals produced is determined by how they are presented.

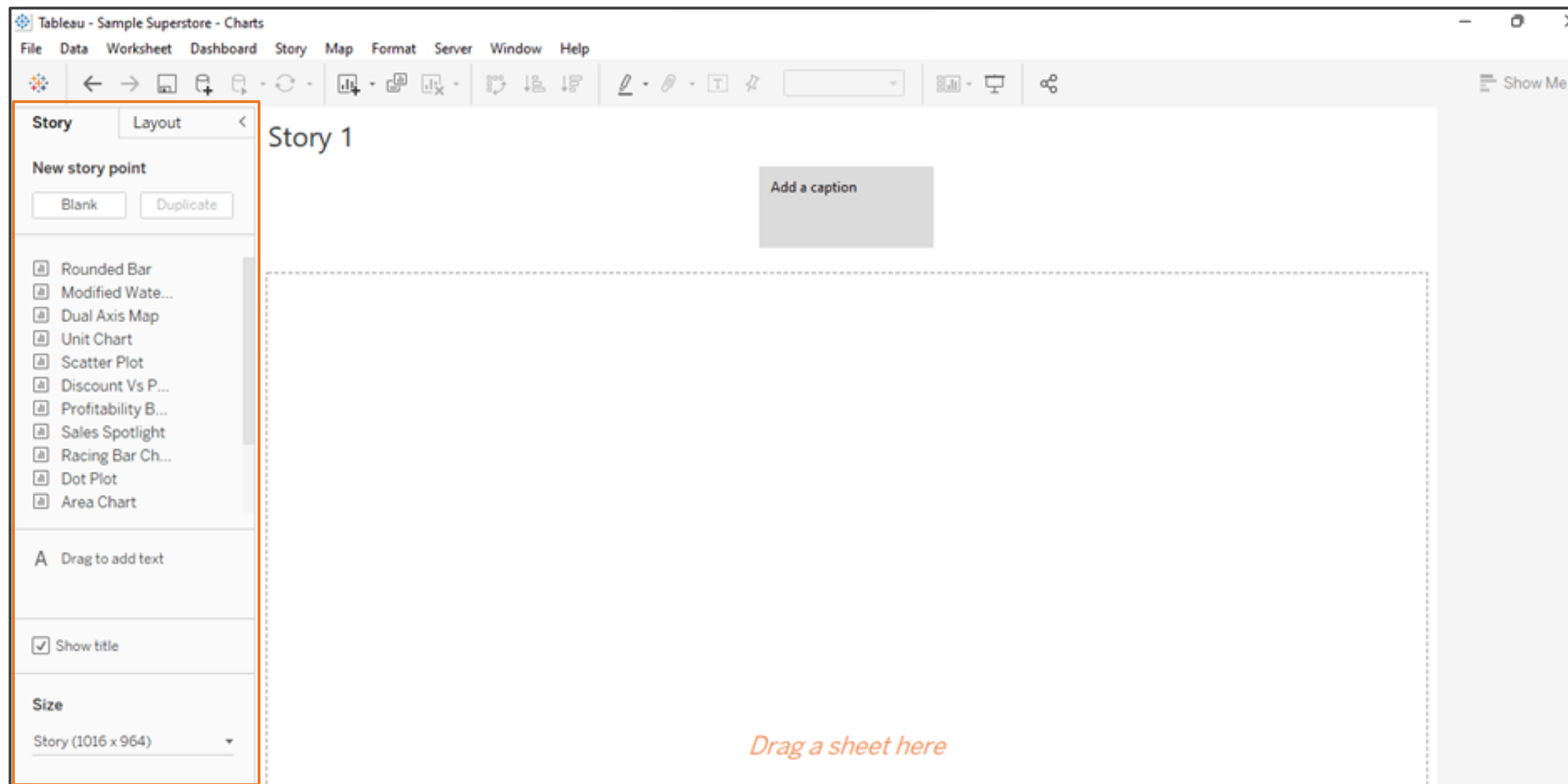
PowerPoint presentations have limitations when it comes to displaying charts since they are static and less interactive.

The usage of Tableau's storyboard overcomes this issue.

## Creating and Updating Story Points

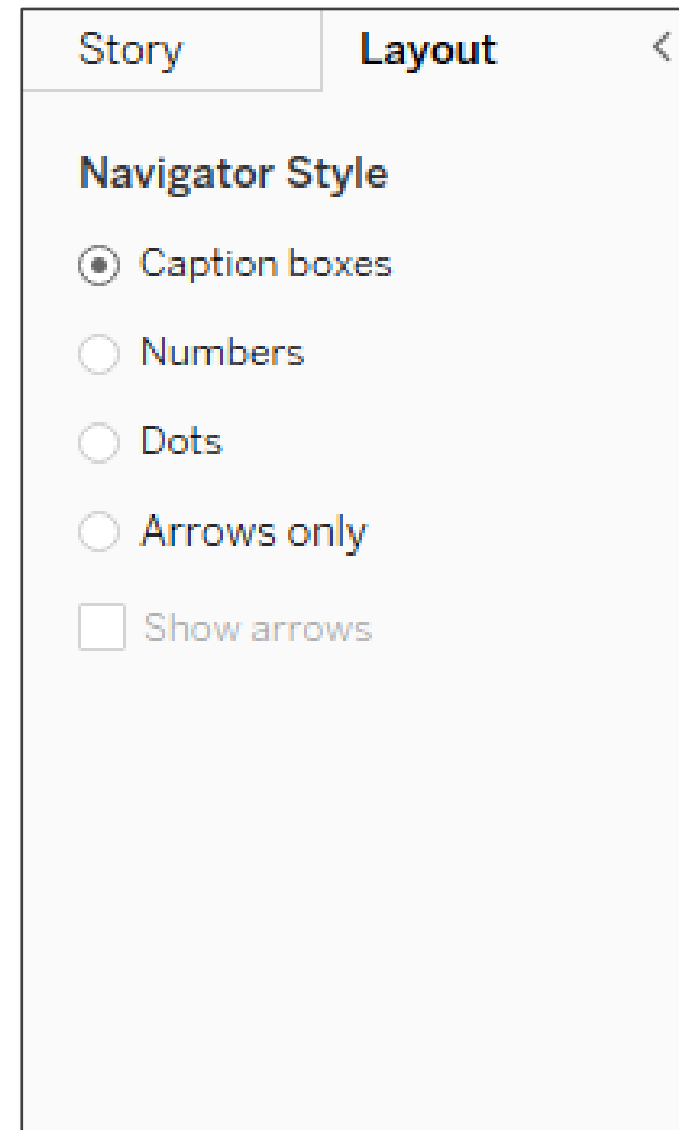
# Creating and Updating Story Points

The story pane displays the various visualizations and dashboards, as well as the size of the storyboard window.



# Creating and Updating Story Points

The layout pane will have the option to choose the navigator style.



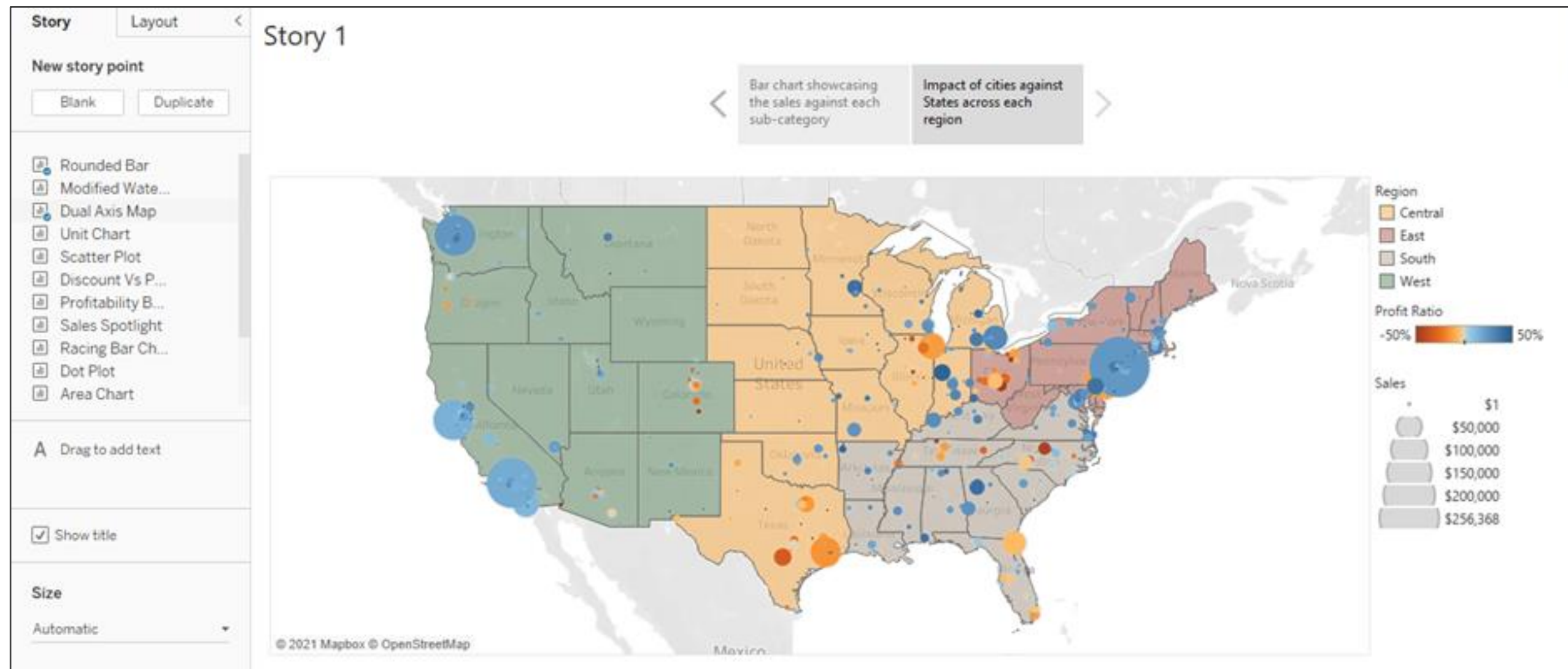
The screenshot shows a mobile application interface with two tabs at the top: 'Story' and 'Layout'. The 'Layout' tab is selected. Below the tabs, the section is titled 'Navigator Style'. There are five options listed, each with a radio button or checkbox:

- ☒ Caption boxes
- ☐ Numbers
- ☐ Dots
- ☐ Arrows only
- ☐ Show arrows



# Creating and Updating Story Points

Drag the visualizations and dashboards as appropriate to the slides to create a story.



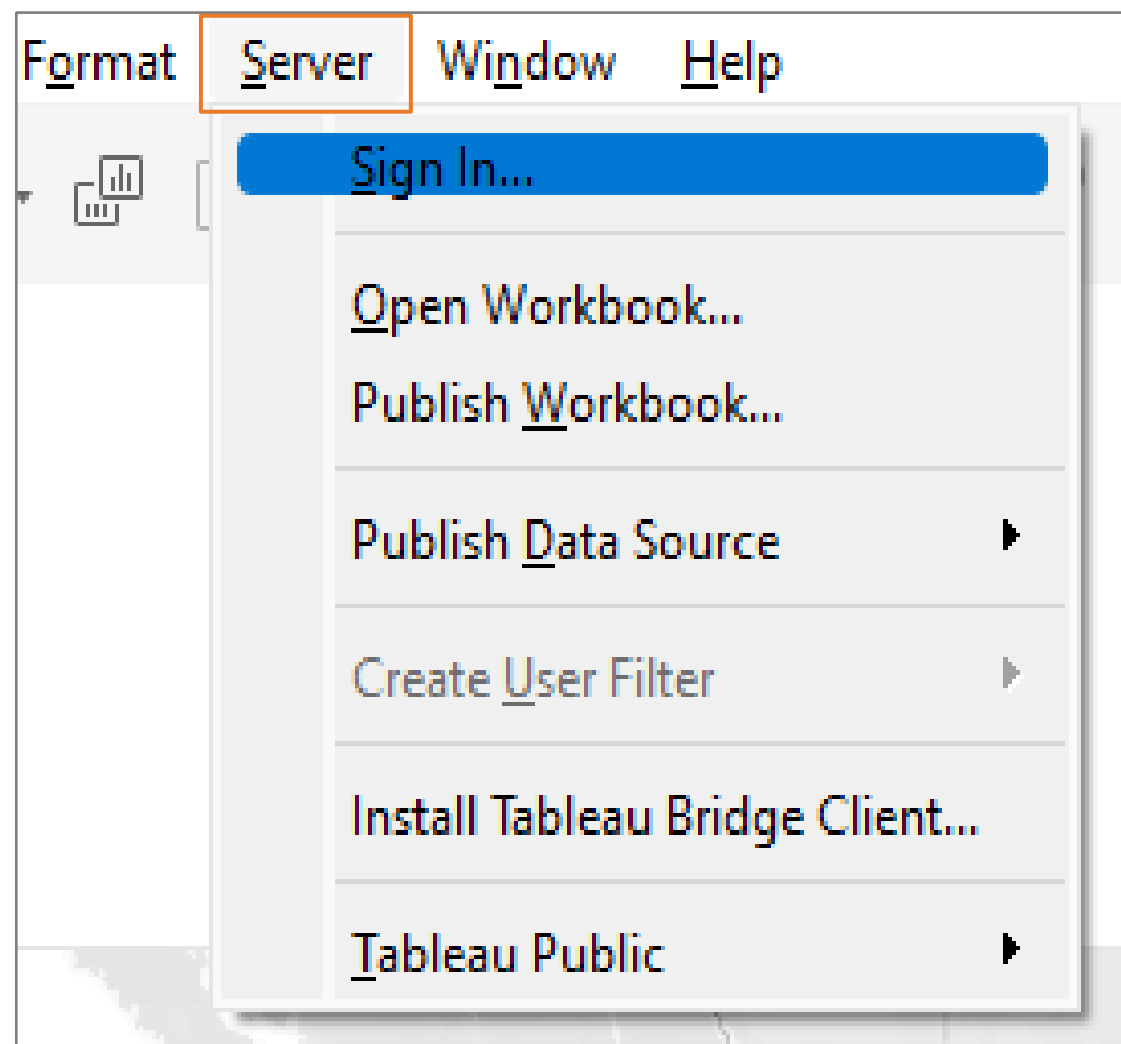


## Publishing and Sharing Options



# Publishing and Sharing Options

Tableau Server helps share tableau dashboards, visualizations, and storyboards with stakeholders.



In order to sign in, select Sign in to Tableau Server from the Server Menu.

# Publishing and Sharing Options

Enter the credentials to the Tableau Server.



Sign in to <https://online.tableau.com>

 **tableau**

Sign in to Tableau Online

Email address  
xxxxxxxxxxxxxxxxxxxxx

Password  
.....

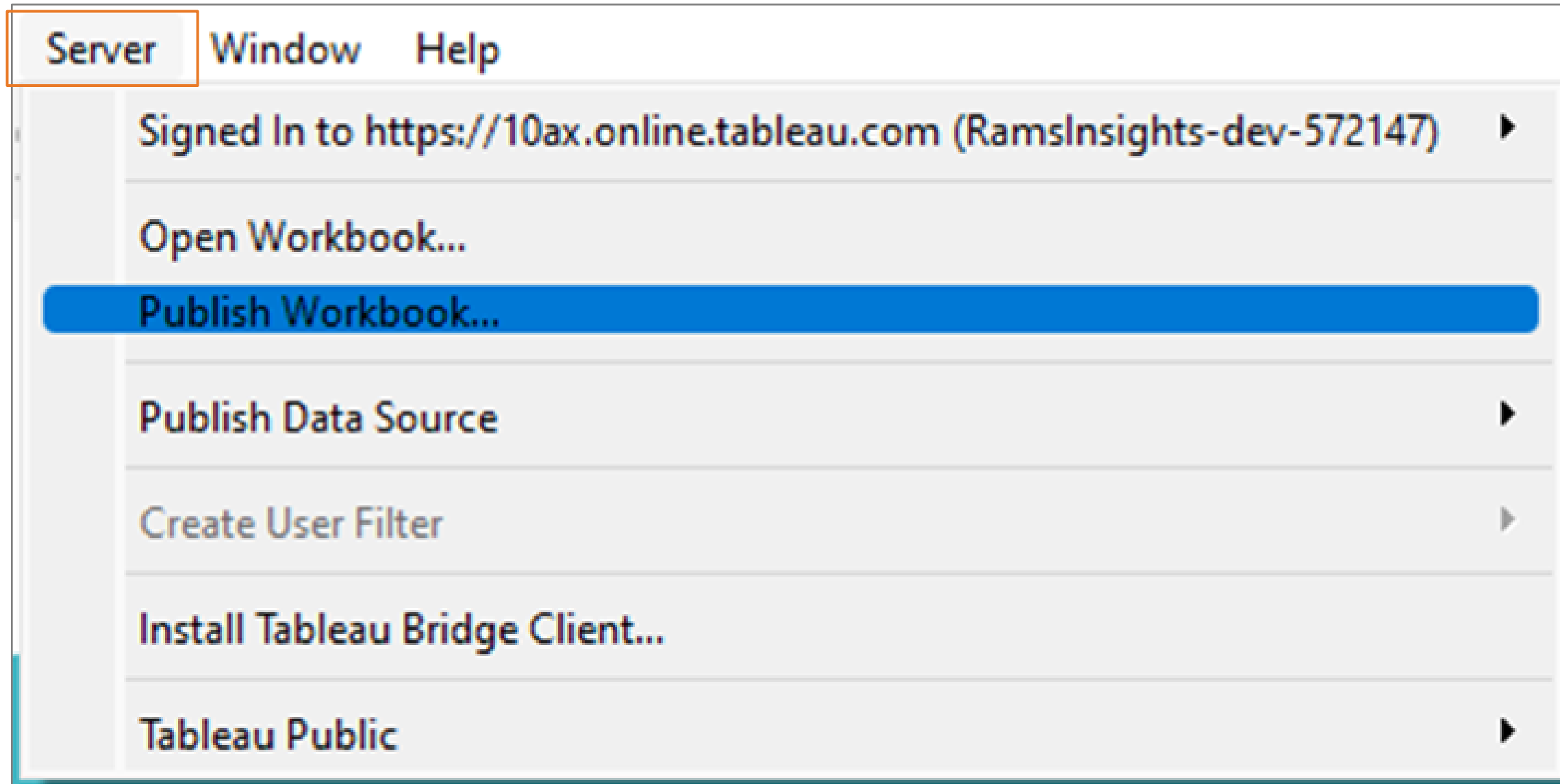
☒ Remember me [Forgot password](#)

**Sign In** →

© 2003-2021 Tableau Software. All Rights Reserved

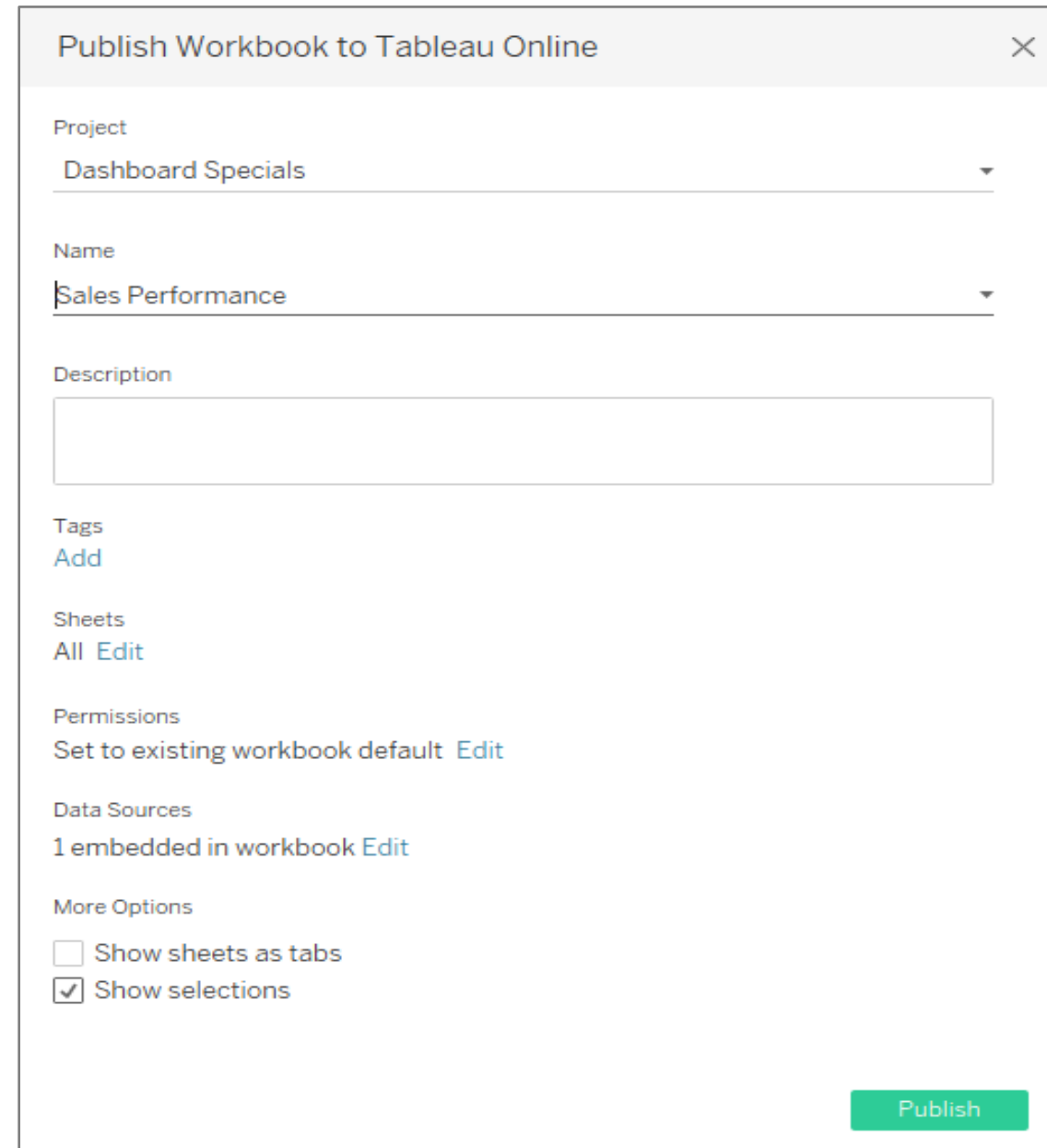
# Publishing and Sharing Options

Select the Server Menu and go to Publish Workbook.



# Publishing and Sharing Options

Then the Publish Workbook window will appear.



The image shows a 'Publish Workbook to Tableau Online' dialog box. It contains several sections: 'Project' with a dropdown menu set to 'Dashboard Specials'; 'Name' with a dropdown menu set to 'Sales Performance'; 'Description' with an empty text box; 'Tags' with an 'Add' link; 'Sheets' with 'All' and 'Edit' links; 'Permissions' with 'Set to existing workbook default' and an 'Edit' link; 'Data Sources' with '1 embedded in workbook' and an 'Edit' link; and 'More Options' with two checkboxes: 'Show sheets as tabs' (unchecked) and 'Show selections' (checked). A green 'Publish' button is at the bottom right.

Publish Workbook to Tableau Online

Project  
Dashboard Specials

Name  
Sales Performance

Description

Tags  
Add

Sheets  
All Edit

Permissions  
Set to existing workbook default Edit

Data Sources  
1 embedded in workbook Edit

More Options  
☐ Show sheets as tabs  
☒ Show selections

Publish

# Publishing and Sharing Options

Choose the folder and the name for the dashboard.

Publish Workbook to Tableau Online

Project

Dashboard Specials

Name

Sales Performance

Description

Tags

Add

Sheets

All Edit

Permissions

Set to existing workbook default Edit

Data Sources

1 embedded in workbook Edit

More Options

☐ Show sheets as tabs

☒ Show selections

Publish



## Publishing and Sharing Options

Select the sheets to publish from the Sheets and Data Sources options.

Publish Workbook to Tableau Online

Project

Dashboard Specials

Name

Sales Performance

Description

Tags

Add

Sheets

All Edit

Permissions

Set to existing workbook default Edit

Data Sources

1 embedded in workbook Edit

More Options

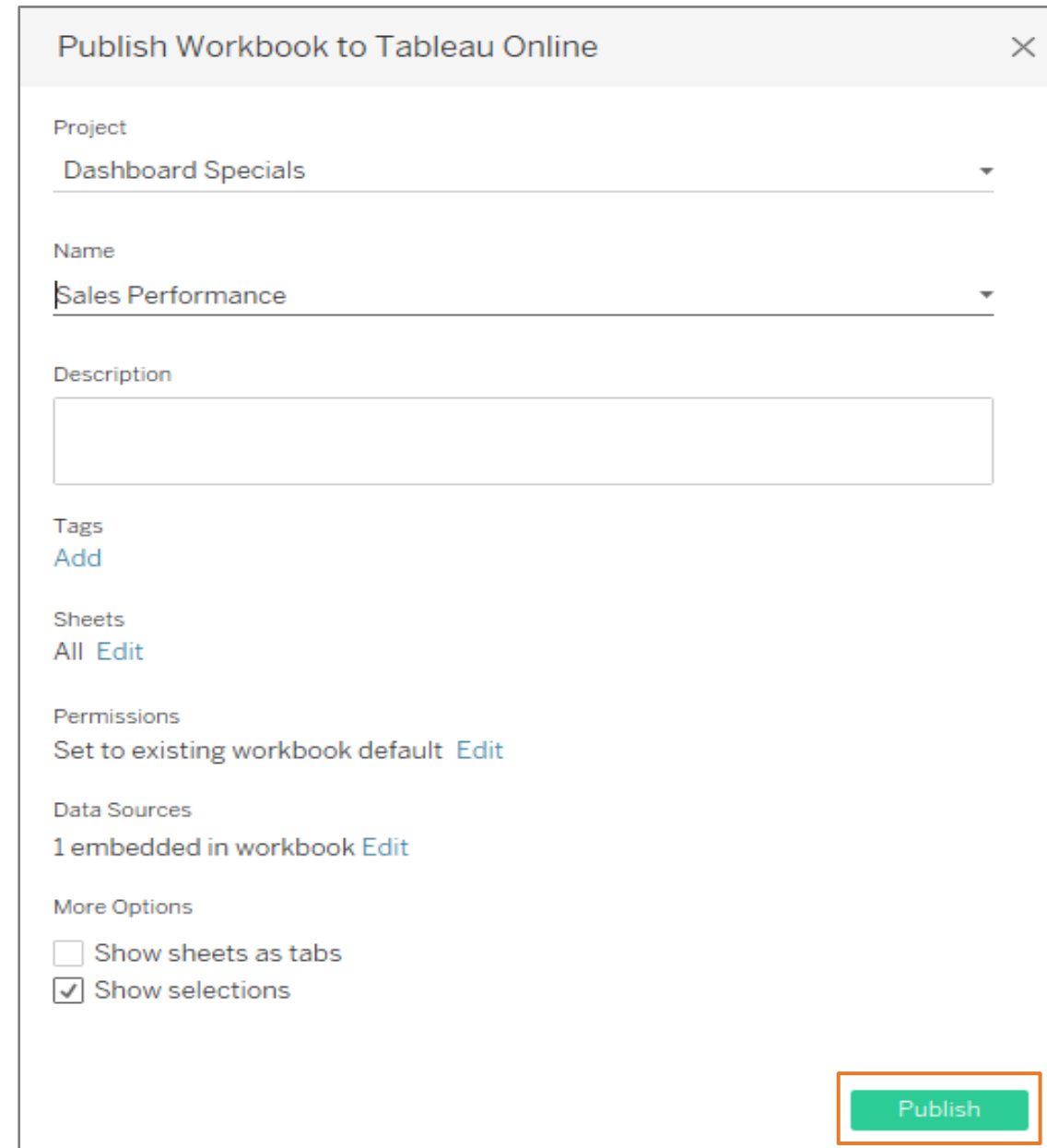
☐ Show sheets as tabs

☒ Show selections

Publish

# Publishing and Sharing Options

Select Publish and the workbook will be published under the mentioned folder.



The image shows a 'Publish Workbook to Tableau Online' dialog box. It contains several sections: 'Project' with a dropdown menu set to 'Dashboard Specials'; 'Name' with a dropdown menu set to 'Sales Performance'; 'Description' with an empty text box; 'Tags' with an 'Add' link; 'Sheets' with 'All' and 'Edit' links; 'Permissions' with 'Set to existing workbook default' and an 'Edit' link; 'Data Sources' with '1 embedded in workbook' and an 'Edit' link; and 'More Options' with two checkboxes: 'Show sheets as tabs' (unchecked) and 'Show selections' (checked). A green 'Publish' button is located at the bottom right of the dialog box.

Publish Workbook to Tableau Online

Project  
Dashboard Specials

Name  
Sales Performance

Description

Tags  
Add

Sheets  
All Edit

Permissions  
Set to existing workbook default Edit

Data Sources  
1 embedded in workbook Edit

More Options  
☐ Show sheets as tabs  
☒ Show selections

Publish



## Key Takeaways

- Dashboard is real-time, easy-to-read user interface that presents data graphically.
- Objects in dashboards are placeholders of different aspects in visualization.
- Storyboards are groupings of dashboards and visuals that are arranged to tell a story.
- Actions in dashboards are used for filtering views, highlighting data, and launching web pages on the dashboards.





## Knowledge Check

## Knowledge Check

1

Which of the following cannot be added to a Tableau dashboard?

- A. Containers
- B. Extension
- C. Explain Data
- D. Ask Data



## Knowledge Check

1

Which of the following cannot be added to a Tableau dashboard?

- A. Containers
- B. Extension
- C. Explain Data
- D. Ask Data



The correct answer is **C**

**Explain Data is a part of tableau server.**

## Knowledge Check

2

Which of the following is TRUE about actions in a dashboard?

- A. It is used to filter views in a dashboard.
- B. It is used to highlight data in a dashboard.
- C. It is used to launch a webpage.
- D. All the above



Knowledge  
Check

2

Which of the following is TRUE about actions in a dashboard?

- A. It is used to filter views in a dashboard.
- B. It is used to highlight data in a dashboard.
- C. It is used to launch a webpage.
- D. All the above



The correct answer is **D**

**Actions in dashboards are used to filter views, highlight data, and launch a webpage.**

## Knowledge Check

3

\_\_\_\_\_ is an arrangement of dashboards and visuals that tells a story.

- A. Dashboard
- B. Storyboard
- C. Story points
- D. Objects





Knowledge  
Check

3

\_\_\_\_\_ is an arrangement of dashboards and visuals that tells a story.

- A. Dashboard
- B. Storyboard
- C. Story points
- D. Objects



The correct answer is **B**

**A storyboard is an arrangement of dashboards and visuals that tells a story.**

## Knowledge Check

4

Which is NOT a valid dashboard action?

- A. Open Image
- B. Change Parameter
- C. Change Set Values
- D. Highlight



Knowledge  
Check

4

Which is NOT a valid dashboard action?

- A. Open Image
- B. Change Parameter
- C. Change Set Values
- D. Highlight



The correct answer is **A**

**Open Image is not a valid dashboard action.**

**Knowledge  
Check**

**5**

**Which one of the following is the placeholder of different aspects in visualization?**

- A. Containers
- B. Objects in dashboards
- C. Actions in dashboards
- D. Storyboards



Knowledge  
Check

5

Which one of the following is the placeholder of different aspects in visualization?

- A. Containers
- B. Objects in dashboards
- C. Actions in dashboards
- D. Storyboards



The correct answer is **B**

**Objects in dashboards are placeholders of different aspects in visualization.**

## Lesson-End Project



Natalie Mounier, the CEO of a retail products company is very focused on the sales of her company's products, as she needs to deliver a presentation on the company's sales results to the Board of Directors every quarter. Natalie is also responsible for setting sales performance targets for her sales teams in each region. Therefore, she is also interested in sales performance across the company's four regions. She wants to build a dashboard with some metrics about products such as sales, profits, profit ratio, etc. She also wants to be able to see the trends of these statistics over time and be able to filter down to one, more than one, or all geographic regions.