TABLEAU · LESSON 6 OF 6

Dashboards, Actions, Stories and Publishing in Tableau (Capstone)

Turn sheets into an interactive dashboard and a data story. Plan the layout with containers, add filter, highlight, URL, parameter and set actions, design for phones, tell a story with Story Points, publish to Tableau Public or Cloud, and complete two capstones, a Superstore India sales dashboard and the video-game regional sales case study from class.

✦ Tableau Desktop / Tableau Public 2026 | Intermediate | ⏱ 180 min

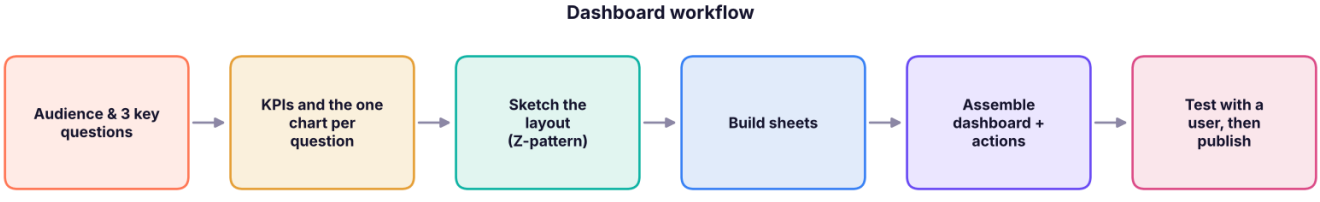
By the end of this lesson you can

- Lay out a dashboard with tiled and floating objects, containers and device layouts
- Add filter, highlight, URL, go-to-sheet, parameter and set actions
- Build a Story with Story Points that explains an insight step by step
- Publish to Tableau Public or Cloud and set up refresh, permissions and subscriptions
- Deliver an executive dashboard and a written insight summary

Datasets used

`superstore_sales.csv` `video_game_sales.csv`

Plan before you build



The order that keeps dashboards clear: questions first, layout last.

People read a screen in a **Z-pattern**: top-left first. Put the KPI cards across the top, the main trend or map in the middle, and the detail (tables, Top N) at the bottom. Keep to about 5–7 views and one colour meaning per dashboard (for example orange = loss everywhere).

Building the dashboard

Element	Use
Size	Fixed (e.g. 1200 × 800) for predictable layouts, Automatic or Range for flexible screens
Tiled vs floating	Tiled objects snap into a grid; floating objects sit on top (legends, logos). Prefer tiled.
Containers	Horizontal and vertical containers group objects; *Distribute Contents Evenly* keeps KPI cards equal
Objects	Text (titles), Image (logo), Web Page (not on Tableau Public), Blank (spacing), Navigation and Download buttons, Extension
Show/Hide button	Collapsible filter panel on a floating container
Device layouts	Device Preview → Phone: stack KPIs and one chart vertically

KPI cards

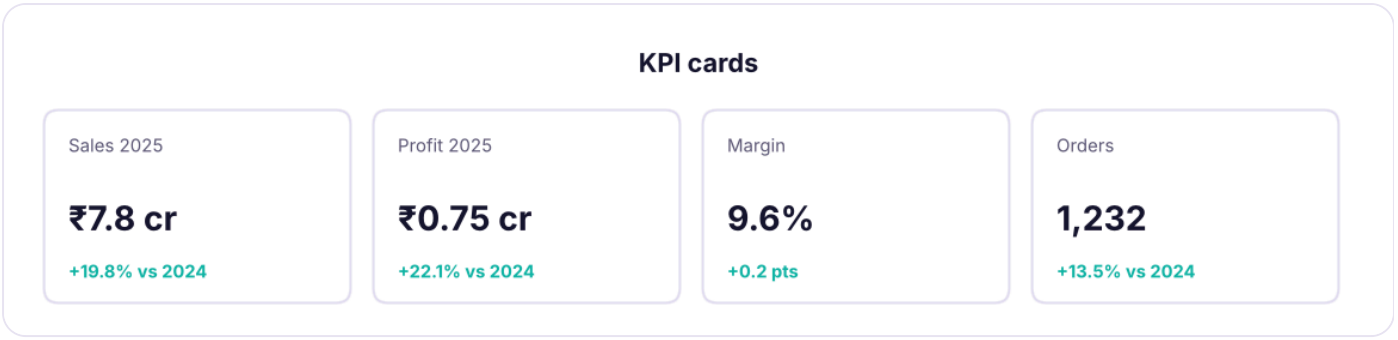
Each card is a sheet: the measure on **Text**, Mark type Text, a formatted label such as `₹<SUM(Sales)> cr`, and a small YoY calculation in the second line with ▲/▼ and colour.

Python

```
import pandas as pd, numpy as np
df = pd.read_csv("superstore_sales.csv", parse_dates=["order_date"])
y = df.groupby(df.order_date.dt.year).agg(sales=("sales", "sum"), profit=("profit", "sum"),
orders=("order_id", "nunique"), customers=("customer_id", "nunique"))
cur, prev = y.loc[2025], y.loc[2024]
for k in y.columns:
    unit = 1e7 if k in ("sales", "profit") else 1
    val = f"₹{cur[k] / unit:,.2f} cr" if unit > 1 else f"{cur[k]:,.0f}"
    print(f"{k:10s} 2025: {val:>12s}   YoY {cur[k] / prev[k] - 1:+.1%}")
print(f"margin     2025: {cur.profit / cur.sales:.1%}   (2024: {prev.profit /
prev.sales:.1%})")
```

OUTPUT

```
sales      2025:     ₹7.84 cr   YoY +19.8%
profit     2025:     ₹0.75 cr   YoY +22.1%
orders     2025:        1,232   YoY +13.5%
customers  2025:          623   YoY +5.6%
margin     2025: 9.6%   (2024: 9.4%)
```



The KPI row for the 2025 Superstore India dashboard (values from the data above).

Dashboard actions

Dashboard → Actions → Add Action:

Action	What happens	Example
Filter	Clicking a mark filters other sheets	Click a state on the map → the bar charts show only that state
Highlight	Matching marks stay bright, others fade	Hover a category to highlight it everywhere
Go to Sheet	Navigates to another dashboard	Click a KPI to open a detail page
URL	Opens a web page, with field values in the link	Open a product page or a Google search for the customer
Change Parameter	Clicking sets a parameter value	Click a region to set the "Selected region" parameter used in titles
Change Set Values	Clicking adds/removes marks from a set	Drill-in: show sub-categories only for the clicked category (set on a calculation)

Choose **Run action on: Select / Hover / Menu** and what happens **when clearing the selection** (show all values is the usual choice). Use *Use as Filter* (the funnel icon on a sheet) for the quick version.

> **TIP** **The "drill-in" pattern with a set action**
>
> Create a set on Category; a calculation `IF [Category Set] THEN [Sub-Category] ELSE [Category] END` on Rows; a Change Set Values action targeting the set. Clicking a category expands it to its sub-categories in the same chart, and clicking again collapses it.

Stories

A **Story** is a sequence of **Story Points**, each a captioned snapshot of a sheet or dashboard with its filters. Use it for a presentation: "1. Sales grew 20% in 2025 → 2. Growth came from Technology in the South → 3. Tables and Bookcases lose money → 4. Recommendation".

Publishing and sharing

Destination	How	Notes
Tableau Public	File → Save to Tableau Public	Free; public; you can allow viewers to download the workbook; embed code for your portfolio site
Tableau Cloud / Server	Server → Publish Workbook	Choose project, permissions, embedded or prompted credentials, refresh schedule
Subscriptions and alerts	On the published view	Email snapshots on a schedule; alerts when a measure crosses a threshold
Export	Worksheet/Dashboard → Export Image, PowerPoint, PDF, Crosstab	For offline reports
Embedding	Share → copy embed code	Place a dashboard inside a website or portal

Before publishing: give every sheet a clear title, hide unused sheets (right-click the dashboard tab → Hide All Sheets), add tooltips in plain language, set the default filters, and test on the phone layout.

Capstone 1: Superstore India executive dashboard

Build a one-page dashboard for the Head of Sales:

1. **KPI row**: Sales, Profit, Margin, Orders for the selected year with YoY change.
2. **Trend**: monthly Sales (bars) and Margin (line) on a dual axis.
3. **Map**: filled map of profit margin by state (diverging palette).
4. **Category → sub-category** bars with the drill-in set action; loss-makers in orange.
5. **Top 10 customers** table with a Top N parameter.
6. Filters: Year (single value), Region, Segment, applied to all sheets.

Python

```
d25 = df[df.order_date.dt.year == 2025]
sub = d25.groupby("sub_category").agg(sales=("sales", "sum"), profit=("profit", "sum"))
sub["margin %"] = (sub.profit / sub.sales * 100).round(1)
print("2025 loss-making sub-categories:"); print(sub[sub.profit < 0].round(0))
st = d25.groupby("state").agg(sales=("sales", "sum"), profit=("profit", "sum")); st["margin
%"] = st.profit / st.sales * 100
print("\nHighest and lowest margin states:", st["margin %"].idxmax(), f"{st['margin
%'].max():.1f}%", "|", st["margin %"].idxmin(), f"{st['margin %'].min():.1f}%")
```

OUTPUT

```
2025 loss-making sub-categories:
                  sales    profit  margin %
sub_category
Bookcases     3918268.0 -169018.0      -4.0
Tables        5297064.0 -286188.0      -5.0

Highest and lowest margin states: West Bengal 13.7% | Telangana 7.5%
```

Write three insight sentences under the dashboard, for example: what grew, what lost money, and what you recommend (discount caps on loss-making sub-categories, focus on the highest-margin states).

Capstone 2: Regional video-game sales (the class case study)

The same business case you solved in Excel in class: *how do video-game sales vary across North America, Europe, Japan and other regions, and where are the opportunities?*

Python

```
vg = pd.read_csv("video_game_sales.csv")
print(vg.shape, "| years", vg.year.min(), "to", vg.year.max())
regions = ["na_sales", "eu_sales", "jp_sales", "other_sales"]
best_genre = vg.groupby("genre")[regions].sum().idxmax()
print("Best genre by region:", best_genre.to_dict())
vg["decade"] = (vg.year // 10 * 10).astype(str) + "s"
print((vg.groupby("decade")[regions].sum()).round(1))
```

OUTPUT

```
(2400, 11) | years 2010 to 2025
Best genre by region: {'na_sales': 'Sports', 'eu_sales': 'Sports', 'jp_sales': 'Role-
Playing', 'other_sales': 'Sports'}
        na_sales  eu_sales  jp_sales  other_sales
decade
```

```
2010s      312.5     249.4     136.8        108.9
2020s      188.1     148.9      83.8         62.6
```

Tableau tasks: 1. **Pivot** the four regional sales columns into Region / Sales on the Data Source page (select the columns → Pivot), so Region becomes one dimension. 2. Top 5 games per region: Region on Rows, Name on Rows, SUM(Sales) on Columns, a **Top 5 by Sales computed per region** using `RANK(SUM([Sales]))` with Compute Using = Name, filtered ≤ 5. 3. Regional sales by decade: a calculated field `STR(INT(YEAR([Year])/10)*10) + "s"` (or `([Year] // 10) * 10` if Year is a number) and a stacked bar coloured by Region. 4. Best genre in each region: highlight table of Genre × Region with the maximum per region marked using `WINDOW_MAX`. 5. A stacked bar of regional distribution over time with a clear title, then assemble all four into a dashboard with a Region filter action.

Summary

KEY TAKEAWAYS

- Plan the questions and the layout before building; use containers and a Z-pattern.
- Actions make dashboards interactive: filter, highlight, go to sheet, URL, parameter and set actions.
- Stories present insights step by step.
- Publish to Tableau Public for portfolios and to Cloud/Server for work, with refresh schedules and permissions.

Quick quiz

6 questions · tap an answer to check it

1. Which action makes clicking a state on a map filter every other chart?

A A filter action (or Use as Filter)

B A highlight action

C A URL action

D A story point

Answer: A. Filter actions pass the selected values to target sheets.

2. Which feature expands a category into its sub-categories in place when clicked?

A A set action with a calculation that switches between Category and Sub-Category

B A Story

C A blend

D A data source filter

Answer: A. Change Set Values drives the drill-in pattern.

3. Where should the KPI cards usually go?

A Across the top-left of the dashboard

B Bottom right

C In a hidden sheet

D In a tooltip only

Answer: A. Readers start top-left (Z-pattern).

4. What is a Story in Tableau?

A A sequence of captioned story points showing sheets or dashboards

B A type of chart

C An extract

D A calculated field

Answer: A. Stories present an analysis step by step.

5. Which is NOT available on Tableau Public?

- **A** Keeping your workbook private on the server
- **B** Saving to your public profile
- **C** Dashboards with actions
- **D** Calculated fields

Answer: A. Everything saved to Tableau Public is public.

6. How do you make one Region filter apply to all sheets on a dashboard?

- **A** Apply to Worksheets → All Using This Data Source (or Selected Worksheets)
- **B** Duplicate the filter on every sheet
- **C** Use a parameter only
- **D** Add it to context

Answer: A. One filter can drive many sheets.

EXERCISE **Capstone deliverables**

Publish both dashboards to Tableau Public. For each, write: the audience, three questions it answers, three insights with numbers, and two recommendations. Add the links to your resume and LinkedIn Featured section.

Show solution (worked answer)

Superstore: KPI row, dual-axis trend, margin map, drill-in category chart, Top N customers, three filters applied to all sheets, filter actions from the map and the category chart. Video games: pivoted regions, Top 5 per region (RANK table calc), decade stacked bar, genre × region highlight table, filter action on Region. Insights should quote numbers from your own views.

INTERVIEW CORNER

Questions you may be asked

Q: How do you design a dashboard for executives? Start from their decisions: 3–5 KPIs with comparisons at the top, one trend, one breakdown, one exception list; consistent colours; filters applied to all sheets; tooltips that explain; a phone layout; and a short written insight.

Q: Filter action vs highlight action? A filter action removes non-selected data from target sheets; a highlight action keeps all data but fades the non-matching marks, preserving context.

Q: How do you share a Tableau dashboard securely? Publish to Tableau Cloud or Server with project permissions, use row-level security (user filters or entitlement tables with USERNAME()), schedule extract refreshes, and share via links, subscriptions or embedding with authentication. Never use Tableau Public for confidential data.

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