

# Chart.js Workshop – Student Guide (v6)

## Module 1A – Bar Charts

### *I Do – Instructor Demo*

- Paste minimal HTML scaffold with Chart.js CDN script
- Explain three core parts: type, data, options

### *You Do – Individual Practice*

- Change bar color to semi-transparent teal and add border
- Add a chart title
- Add a second dataset called 'Expenses' to display side by side

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/bar.html#dataset-properties>

<https://www.chartjs.org/docs/latest/configuration/title.html>

<https://www.chartjs.org/docs/latest/general/data-structures.html#datasets>

### *We Do – Group Challenge*

- Fill bars with a vertical gradient
- On hover, brighten the active bar
- Customize tooltips to 'Sales: 12 units sold' or 'Expenses: 8 units sold'

Helpful Links:

<https://www.chartjs.org/docs/latest/samples/advanced/linear-gradient.html>

<https://www.chartjs.org/docs/latest/general/options.html#scriptable-options>

<https://www.chartjs.org/docs/latest/configuration/tooltip.html#tooltip-callbacks>

## Module 1B – Line Charts

### *I Do – Instructor Demo*

- Paste minimal HTML scaffold with Chart.js CDN script
- Explain tension, pointRadius, fill, responsive
- Discuss beginAtZero scale option

### *You Do – Individual Practice*

- Increase line width (borderWidth = 2) and point radius (pointRadius = 3)
- Fill area under the curve
- Add a chart title

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/line.html#dataset-properties>

<https://www.chartjs.org/docs/latest/configuration/title.html>

### *We Do – Group Challenge*

- Fill area under the line with a gradient
- On hover, enlarge active point & change border color
- Customize tooltips to display 'Jan: 10 k visits'

Helpful Links:

<https://www.chartjs.org/docs/latest/samples/advanced/linear-gradient.html>

<https://www.chartjs.org/docs/latest/general/options.html#scriptable-options>

<https://www.chartjs.org/docs/latest/configuration/tooltip.html#tooltip-callbacks>

## Module 1C – Pie Charts

### *I Do – Instructor Demo*

- Paste minimal HTML scaffold with Chart.js CDN script

- Explain slice angles = value proportions
- Discuss styling backgroundColor, hoverOffset, legend

### ***You Do – Individual Practice***

- Assign distinct background color to each slice
- Add a chart title
- Move the legend to the right

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/doughnut.html>

<https://www.chartjs.org/docs/latest/configuration/title.html>

### ***We Do – Group Challenge***

- Explode the largest slice using offset
- On hover, brighten the active slice
- Customize tooltips to show value + percent

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/doughnut.html#dataset-properties>

<https://www.chartjs.org/docs/latest/configuration/tooltip.html#tooltip-callbacks>

## **Module 1D – Doughnut Charts**

### ***I Do – Instructor Demo***

- Paste minimal HTML scaffold with Chart.js CDN script
- Explain cutout for center space
- Highlight KPI use cases for doughnut charts

### ***You Do – Individual Practice***

- Add distinct colors for each slice
- Add a chart title & move legend to bottom
- Adjust cutout to 70%

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/doughnut.html>

<https://www.chartjs.org/docs/latest/configuration/title.html>

### ***We Do – Group Challenge***

- Add center-text plugin to display total users
- On hover, increase slice border width
- Customize tooltips

Helpful Links:

<https://www.chartjs.org/docs/latest/developers/plugins.html>

<https://www.chartjs.org/docs/latest/configuration/tooltip.html#tooltip-callbacks>

## **Module 1E – Radar Charts**

### ***I Do – Instructor Demo***

- Paste minimal HTML scaffold with Chart.js CDN script
- Explain radial scale (r) & multi-dataset profiles
- Discuss fill, borderWidth, point styling

### ***You Do – Individual Practice***

- Add a second dataset for Player B with distinct style

- Add a chart title

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/radar.html>

<https://www.chartjs.org/docs/latest/configuration/title.html>

### ***We Do – Group Challenge***

- Compute & plot an Average dataset
- On hover, enlarge points of active dataset
- Customize tooltips to show 'Label: value pts'

Helpful Links:

<https://www.chartjs.org/docs/latest/general/options.html#scriptable-options>

<https://www.chartjs.org/docs/latest/configuration/tooltip.html#tooltip-callbacks>

## **Module 1F – Polar Area Charts**

### ***I Do – Instructor Demo***

- Paste minimal HTML scaffold with Chart.js CDN script
- Explain equal angles + radius as magnitude
- Discuss directional use cases

### ***You Do – Individual Practice***

- Add colors for each sector
- Add a chart title & move legend bottom
- Increase sector border width

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/polar.html>

<https://www.chartjs.org/docs/latest/configuration/title.html>

### ***We Do – Group Challenge***

- Sort sectors by value before rendering
- On hover, brighten active sector
- Customize tooltips to show value + percent

Helpful Links:

<https://www.chartjs.org/docs/latest/configuration/tooltip.html#tooltip-callbacks>

## **Module 1G – Scatter Charts**

### ***I Do – Instructor Demo***

- Paste minimal HTML scaffold with Chart.js CDN script
- Explain scatter (x,y) points & linear axes
- Discuss pointRadius & backgroundColor

### ***You Do – Individual Practice***

- Increase point radius & change color
- Add a second dataset for Group B
- Add a chart title

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/scatter.html>

<https://www.chartjs.org/docs/latest/configuration/title.html>

### ***We Do – Group Challenge***

- On hover, enlarge & recolor active point

- Customize tooltips (two-decimal x,y)
- Compute & draw a trendline for Group A

Helpful Links:

<https://www.chartjs.org/docs/latest/configuration/tooltip.html#tooltip-callbacks>

## Module 1H – Bubble Charts

### ***I Do – Instructor Demo***

- Paste minimal HTML scaffold with Chart.js CDN script
- Explain bubble = scatter + radius (r)
- Discuss styling & hover interactions

### ***You Do – Individual Practice***

- Change bubble colors & add a chart title
- Add a second dataset with different radii
- Increase border width

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/bubble.html>

<https://www.chartjs.org/docs/latest/configuration/title.html>

### ***We Do – Group Challenge***

- On hover, increase radius & darken outline
- Customize tooltips (x, y, r)
- Map r to fill opacity via scriptable options

Helpful Links:

<https://www.chartjs.org/docs/latest/general/options.html#scriptable-options>

## Module 1I – Mixed Charts

### ***I Do – Instructor Demo***

- Paste minimal HTML scaffold with Chart.js CDN script
- Explain combining types via type property
- Discuss multiple axes (yAxisID)

### ***You Do – Individual Practice***

- Color bars & line differently
- Add a chart title
- Adjust line tension for smoothing

Helpful Links:

<https://www.chartjs.org/docs/latest/charts/mixed.html>

<https://www.chartjs.org/docs/latest/configuration/title.html>

### ***We Do – Group Challenge***

- Gradient-fill bars & smooth line
- On hover, highlight bar & enlarge line point
- Customize tooltips (prefix labels)

Helpful Links:

<https://www.chartjs.org/docs/latest/general/options.html#scriptable-options>

<https://www.chartjs.org/docs/latest/configuration/tooltip.html#tooltip-callbacks>