Area Chart Documentation

Overview

An **area chart** is a graphical representation that displays quantitative data, typically showing trends over time. It utilizes colored areas beneath the line to emphasize the volume or total of the values.

Use Case Examples

- Visualizing website traffic over a period.
- Comparing sales growth between multiple products.
- Displaying rainfall trends across different years.

Data Structure

Area charts require two-dimensional data (x, y), often with multiple series.

```
[
  { "month": "Jan", "sales": 120, "expenses": 80 },
  { "month": "Feb", "sales": 140, "expenses": 90 },
  ...
]
```

Configuration

Property	Type	Description
labels	array	X-axis categories (e.g., months, years)
series	array of objects	Series data to plot (e.g., sales, expenses)
fillOpacity	number	Opacity of area fill (0 to 1)
smooth	boolean	Use curved lines (`true`) or straight lines (`false`)
colors	array	Chart line and area colors

Sample Code

```
<div id="chart"></div>
<script>
// Sample Data
const data = [
  { month: "Jan", sales: 120, expenses: 80 },
  { month: "Feb", sales: 140, expenses: 90 },
  { month: "Mar", sales: 130, expenses: 110 }
];
// Library-specific rendering logic here (e.g., with Chart.js, ApexCharts, etc.)
</script>
```

Customization Options

- **Stacked Areas:** Enable to display cumulative totals.

- **Gradient Fill:** Use gradients to differentiate areas.
- **Tooltip:** Show values on hover.
- **Legend:** Display series names.
- **Responsive:** Ensure chart adapts to screen size.

Important Notes

- Area charts are ideal for visualizing trends and the magnitude of values over time.
- Best used for continuous data (time series or ordered categories).
- Stacked area charts can cause misinterpretation of individual series if not designed carefully.
- Providing clear legends and labels improves data comprehension.
- Avoid cluttering with too many data series in one chart.