

## Blazor Chart Components using Syncfusion

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### ◆ What We Are Using

- **Blazor 10.0** (Preview concepts are compatible with .NET 8/9 as well)
- **Syncfusion Blazor Charts**
- Syncfusion is a **software company** that provides a large suite of **enterprise-grade UI components and developer tools** used to build modern applications across web, desktop, and mobile platforms.
- Same chart APIs across:
  - Blazor Web App
  - Blazor Server
  - Blazor WebAssembly

 **Important:** Syncfusion components are **UI-layer agnostic** — once configured, charts behave identically across hosting models.

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### 1 Getting Started with Syncfusion Charts

#### Step 1: Create Blazor 10.0 Apps

##### Blazor Web App

```
dotnet new blazor -n SyncfusionCharts.WebApp
```

##### Blazor Server App

```
dotnet new blazorserver -n SyncfusionCharts.Server
```

##### Blazor WASM App

```
dotnet new blazorwasm -n SyncfusionCharts.Wasm
```

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#### Step 2: Install Syncfusion Package

```
dotnet add package Syncfusion.Blazor
```

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### Step 3: Register Syncfusion

#### Program.cs

```
builder.Services.AddSyncfusionBlazor();
```

#### Add License (Free Community License Available)

```
Syncfusion.Licensing.SyncfusionLicenseProvider
```

```
.RegisterLicense("YOUR_LICENSE_KEY");
```

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#### \_Imports.razor

```
@using Syncfusion.Blazor
```

```
@using Syncfusion.Blazor.Charts
```

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#### wwwroot/index.html (WASM) or \_Layout.cshtml

```
<link href="_content/Syncfusion.Blazor/styles/bootstrap5.css" rel="stylesheet" />
<script src="_content/Syncfusion.Blazor/scripts/syncfusion-blazor.min.js"></script>
```

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## 2 Working with Data

### Sample Data Model

```
public class SalesData
{
    public string Month { get; set; }
    public double Revenue { get; set; }
    public DateTime Date { get; set; }
}
```

### Sample Data Source

```
List<SalesData> Data = new()
{
```

```
new() { Month = "Jan", Revenue = 35, Date = new DateTime(2024,1,1) },  
new() { Month = "Feb", Revenue = 40, Date = new DateTime(2024,2,1) },  
new() { Month = "Mar", Revenue = 55, Date = new DateTime(2024,3,1) }  
};
```

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### 3 Basic Chart Structure

```
<SFChart Title="Monthly Sales">  
    <ChartPrimaryXAxis ValueType="ValueType.Category"></ChartPrimaryXAxis>  
    <ChartPrimaryYAxis Title="Revenue"></ChartPrimaryYAxis>  
  
    <ChartSeriesCollection>  
        <ChartSeries DataSource="Data"  
            XName="Month"  
            YName="Revenue"  
            Type="ChartSeriesType.Line">  
        </ChartSeries>  
    </ChartSeriesCollection>  
</SFChart>
```

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### 4 Chart Dimensions

```
<SFChart Width="800px" Height="400px">
```

or responsive:

```
<SFChart Width="100%" Height="350px">
```

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### 5 Axis Types (Critical Interview Topic)

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## Category Axis

Used for **string-based data**

```
<ChartPrimaryXAxis ValueType="ValueType.Category" Title="Month" />
```

- ✓ Months
  - ✓ Product names
  - ✓ Regions
- 

## Numeric Axis

Used for **numbers**

```
<ChartPrimaryYAxis ValueType="ValueType.Double"
```

```
    Minimum="0"  
    Maximum="100"  
    Interval="10"  
    Title="Sales" />
```

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## DateTime Axis

Used for **time-series data**

```
<ChartPrimaryXAxis ValueType="ValueType.DateTime"
```

```
    LabelFormat="MMM yyyy" />
```

Bind:

```
XName="Date"
```

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## Logarithmic Axis

Used for **large value ranges**

```
<ChartPrimaryYAxis ValueType="ValueType.Logarithmic"
```

```
    LogBase="10"
```

```
Title="Growth Rate" />
```

- ✓ Financial
  - ✓ Scientific
  - ✓ Analytics dashboards
- 

## 6 Axis Labels & Customization

```
<ChartPrimaryXAxis  
    LabelIntersectAction="LabelIntersectAction.Rotate45"  
    LabelStyle="new ChartAxisLabelStyle { Color = \"blue\" }" />
```

### Formatting

```
<ChartPrimaryYAxis LabelFormat="{value}K" />
```

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## 7 Axis Customization (Advanced)

```
<ChartPrimaryXAxis  
    MajorGridLines="new ChartAxisMajorGridLines { Width = 0 }"  
    MajorTickLines="new ChartAxisMajorTickLines { Width = 0 }" />
```

- ✓ Clean dashboards
  - ✓ Executive-friendly visuals
- 

## 8 Stripline (Highlight Ranges)

```
<ChartPrimaryYAxis>  
    <ChartAxisStriplines>  
        <ChartStripline  
            Start="40"  
            End="60"  
            Text="Target Range" />
```

```
Color="#e0f3ff" />  
</ChartAxisStriplines>  
</ChartPrimaryYAxis>
```

- ✓ SLA thresholds
  - ✓ Warning zones
  - ✓ Performance bands
- 

## 9 Multiple Panes (Multi-Axis Charts)

```
<SfChart>  
  <ChartPanes>  
    <ChartPane Height="50%" />  
    <ChartPane Height="50%" />  
  </ChartPanes>  
  
<ChartSeriesCollection>  
  <ChartSeries PanelIndex="0" Type="ChartSeriesType.Line" />  
  <ChartSeries PanelIndex="1" Type="ChartSeriesType.Column" />  
</ChartSeriesCollection>  
</SfChart>
```

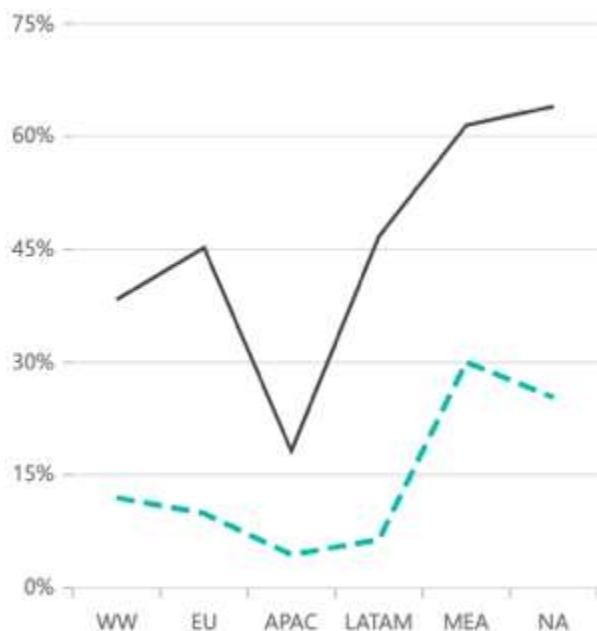
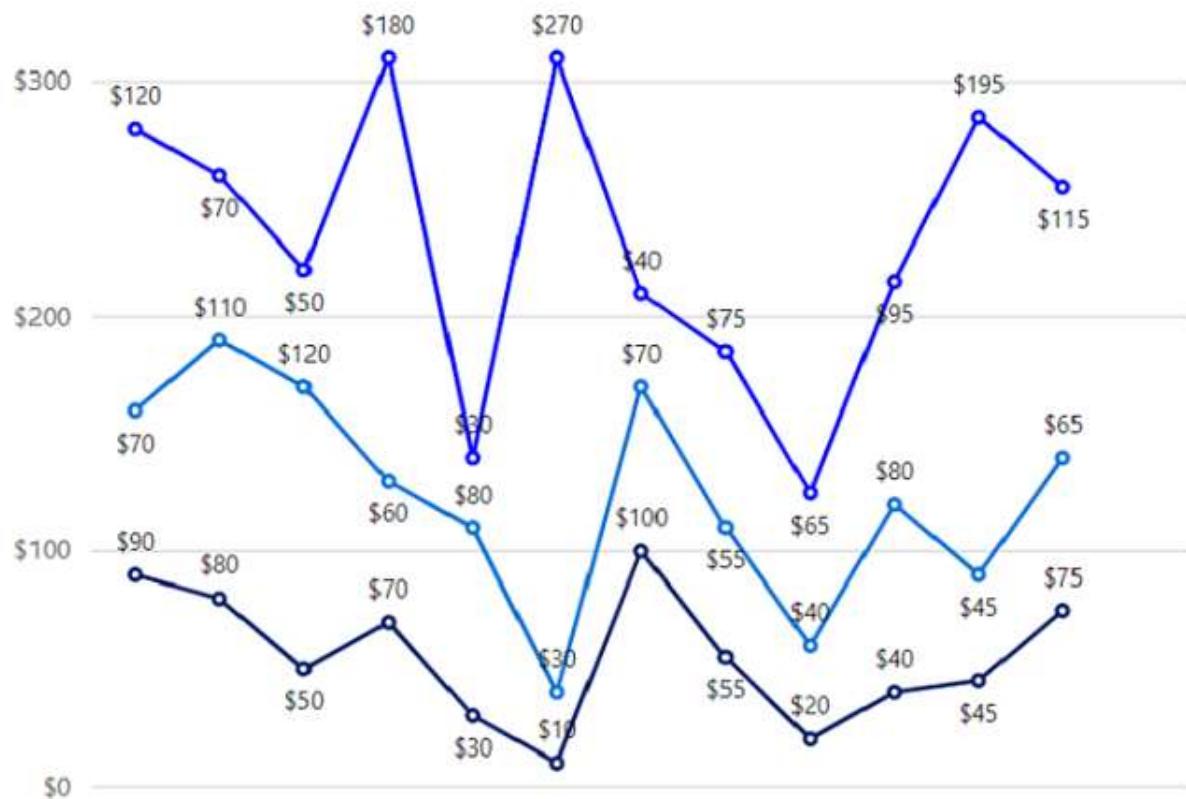
- ✓ KPI dashboards
- ✓ Finance + Volume comparisons

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## 10 Chart Types (With Practical Examples)

### Line Chart

Type="ChartSeriesType.Line"



Type="ChartSeriesType.Area"

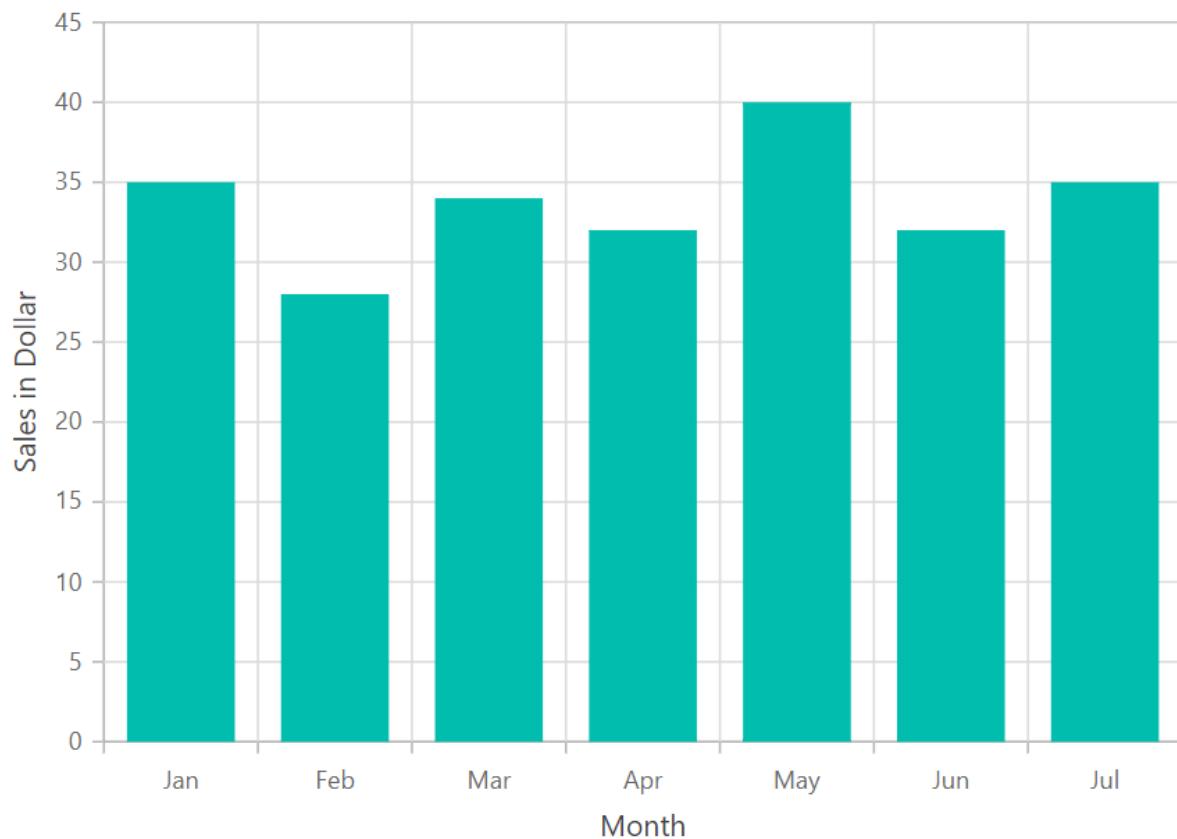


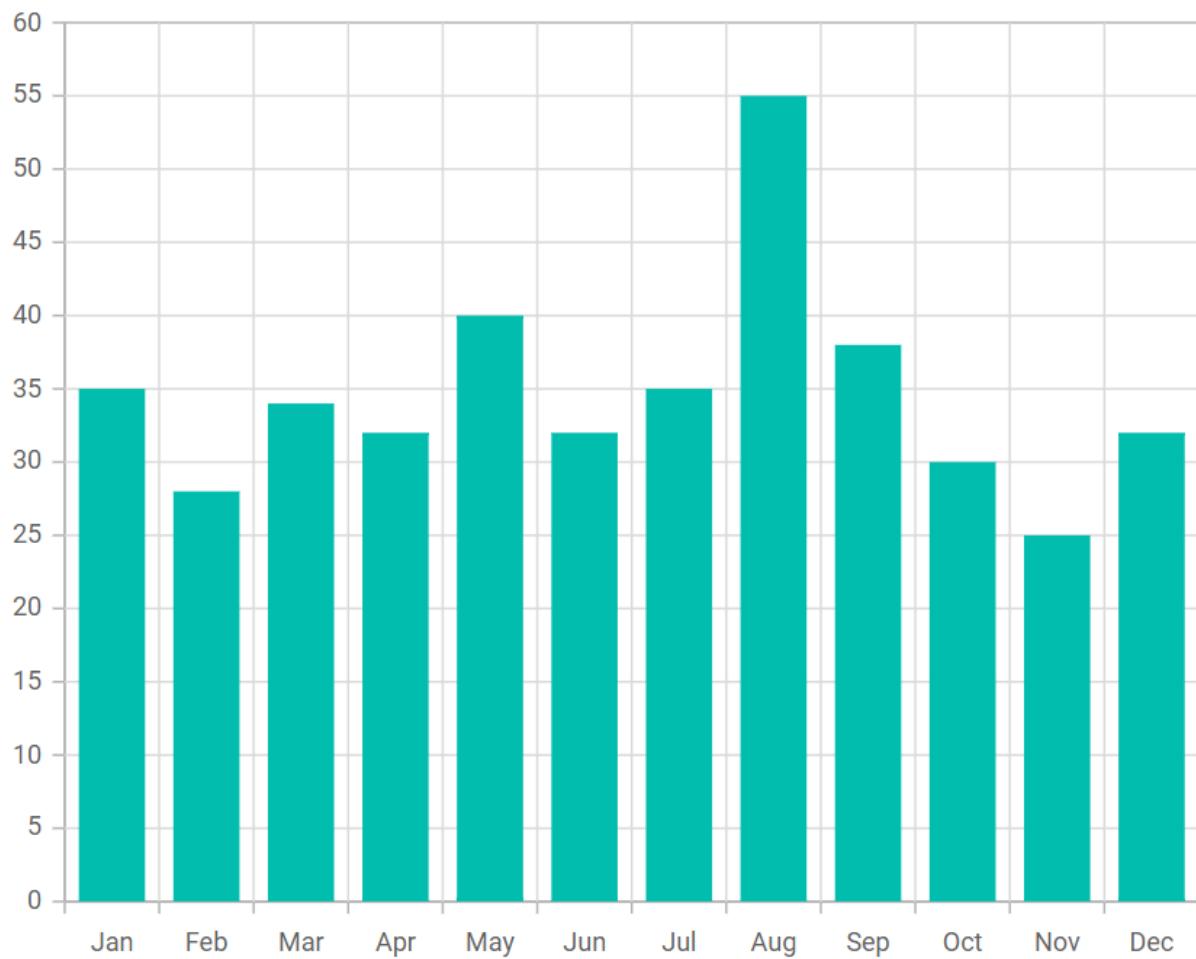
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#### Bar / Column Chart

Type="ChartSeriesType.Column"

## Sales Analysis





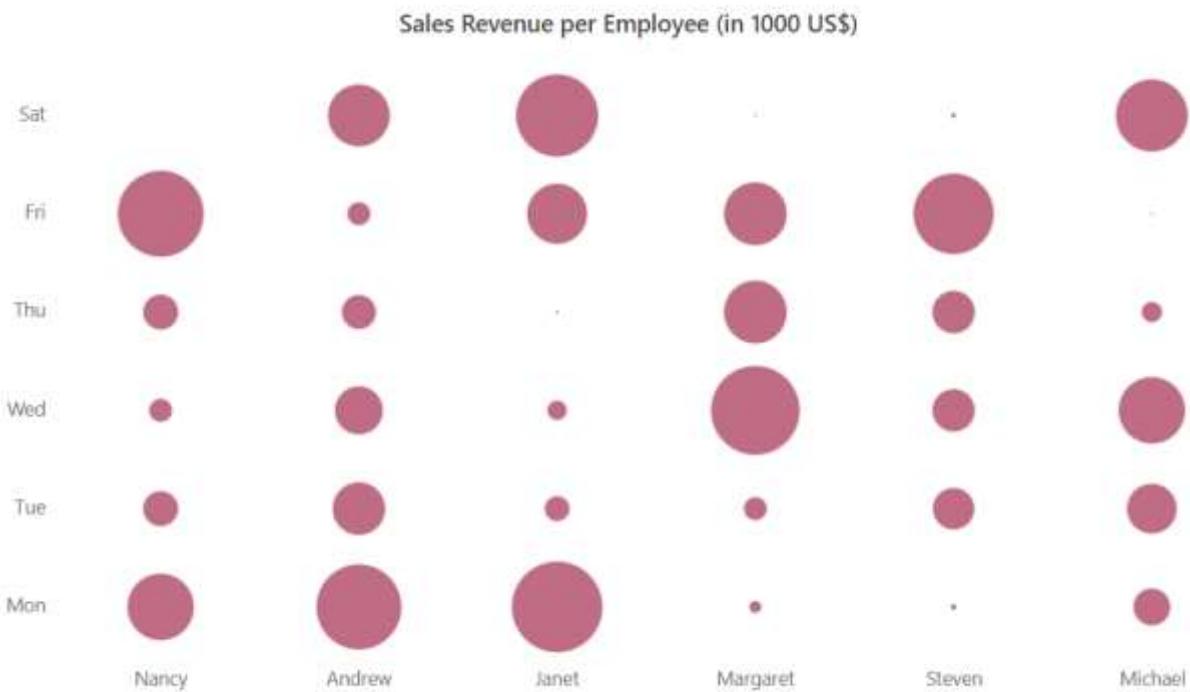
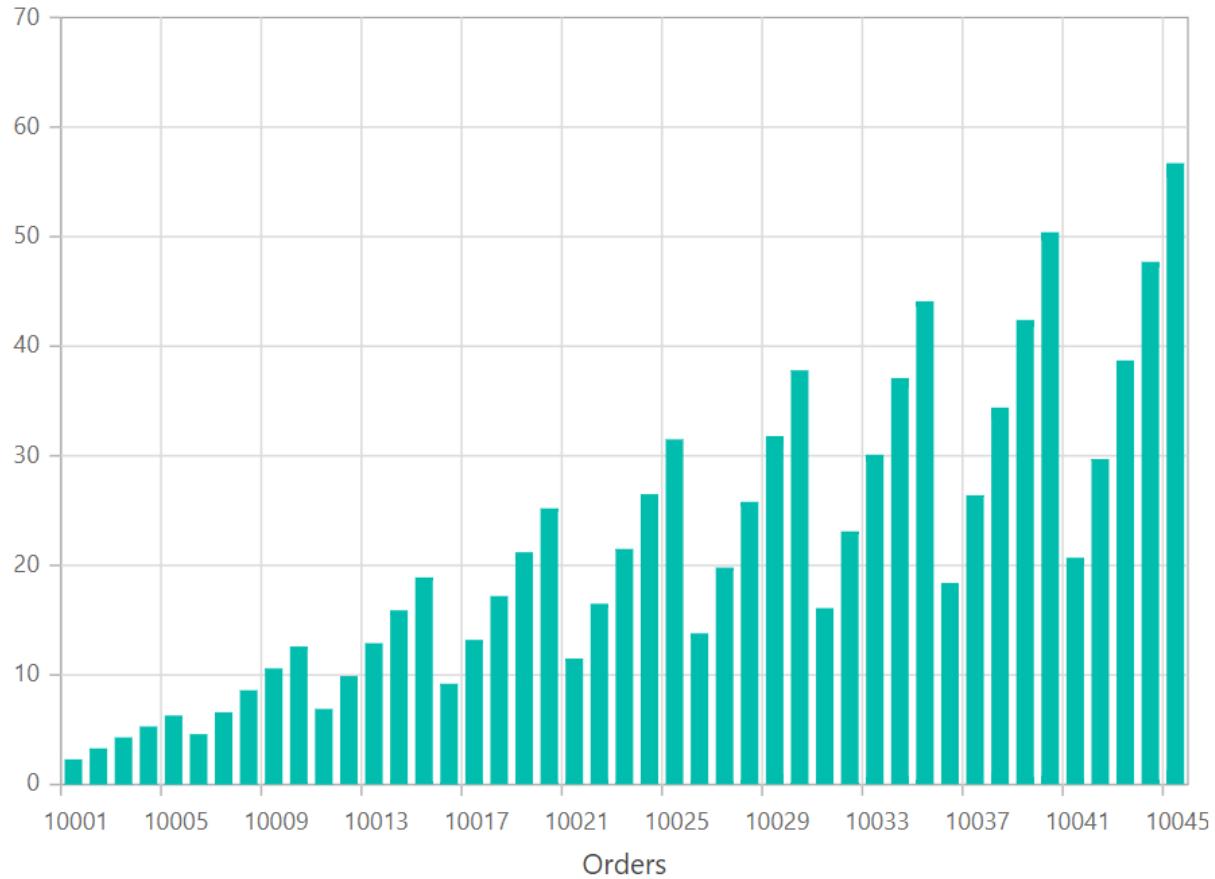
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### ● Scatter & Bubble Charts

Type="ChartSeriesType.Scatter"

Type="ChartSeriesType.Bubble"

Size="BubbleSize"



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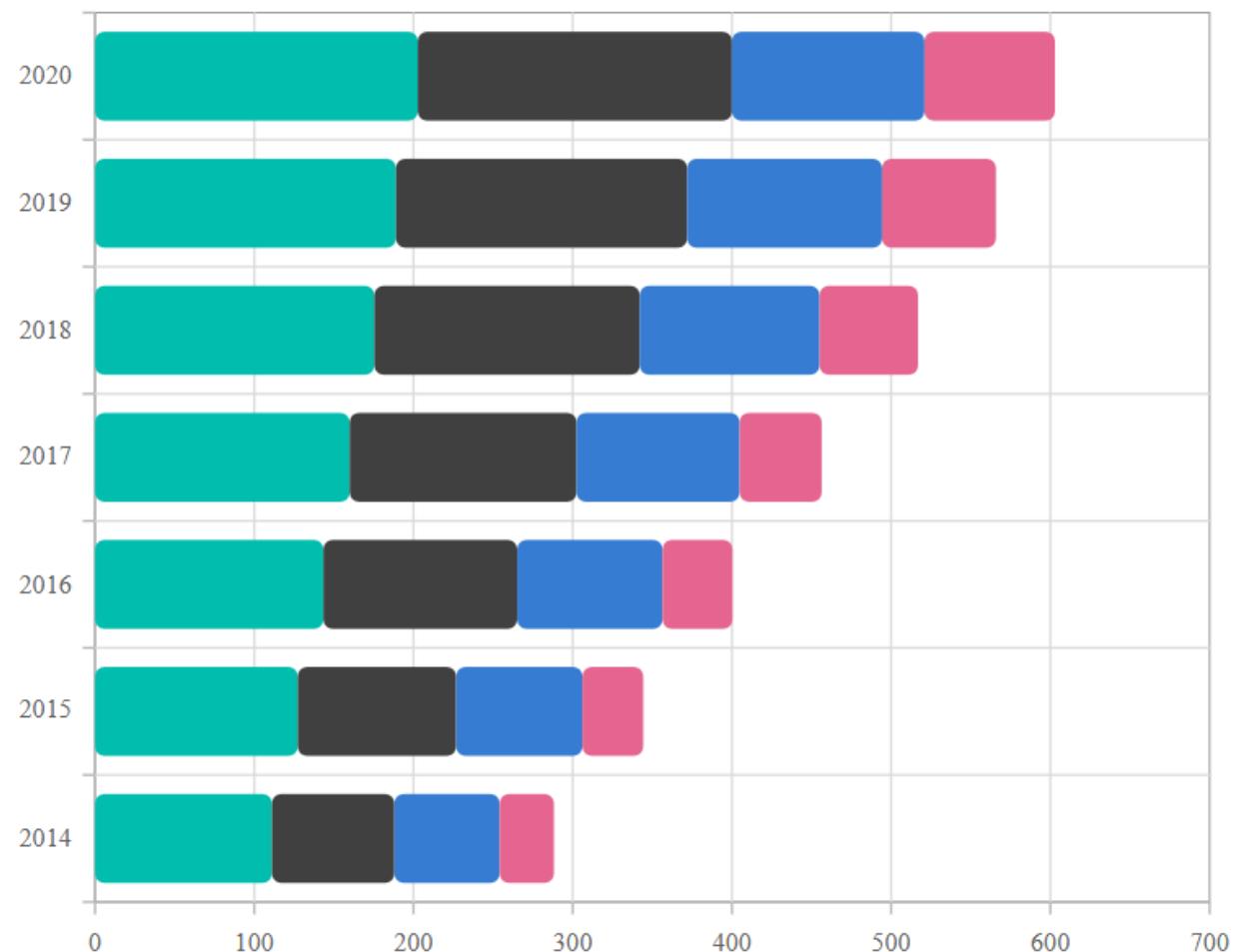
 **Mixed Chart (Most Asked in Interviews)**

```
<ChartSeriesCollection>

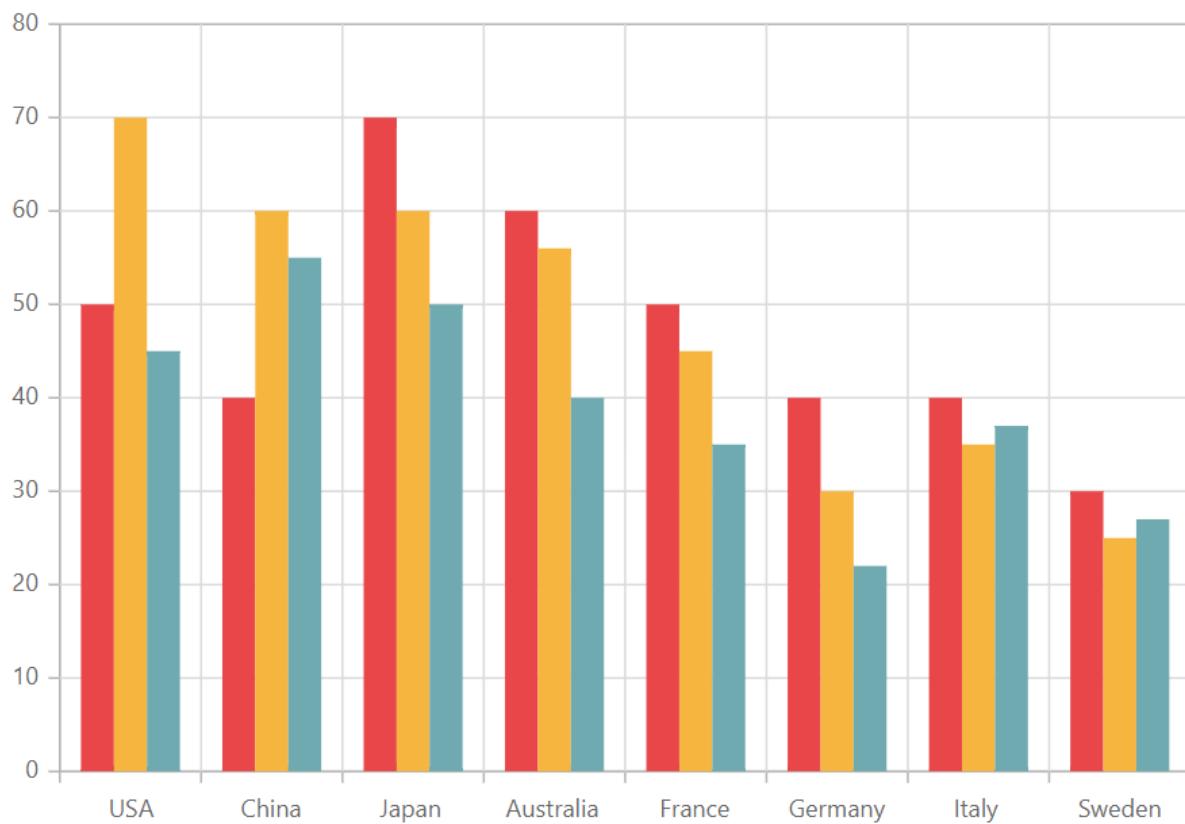
    <ChartSeries Type="ChartSeriesType.Column"
        DataSource="Data"
        XName="Month"
        YName="Revenue" />

    <ChartSeries Type="ChartSeriesType.Line"
        DataSource="Data"
        XName="Month"
        YName="Revenue" />

</ChartSeriesCollection>
```



### Olympic Medals



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#### ⬅ END Final Notes (Real-World Guidance)

- ✓ Same chart code works in **Web App / Server / WASM**
  - ✓ Prefer **DateTime axis** for analytics
  - ✓ Use **Striplines + Tooltips** for dashboards
  - ✓ Mixed charts = **enterprise reporting standard**
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