About the Tutorial

Highcharts is a pure JavaScript based charting library meant to enhance web applications by adding interactive charting capability. Highcharts provides a wide variety of charts. For example, line charts, spline charts, area charts, bar charts, pie charts and so on.

This tutorial will teach you the basics of Highcharts. There are chapters discussing all the basic components of Highcharts with suitable examples.

Audience

This tutorial is designed for Software Professionals who are willing to learn Highcharts in simple and easy steps. This tutorial will give you an understanding of the Highcharts concepts and after completing this tutorial you will be at an intermediate level of expertise from where you can take yourself to a higher level of expertise.

Prerequisites

Before proceeding with this tutorial, you need to be familiar with JavaScript, HTML, CSS, and any text editor.

Copyright & Disclaimer

© Copyright 2017 by Tutorials Point (I) Pvt. Ltd.

All the content and graphics published in this e-book are the property of Tutorials Point (I) Pvt. Ltd. The user of this e-book is prohibited to reuse, retain, copy, distribute or republish any contents or a part of contents of this e-book in any manner without written consent of the publisher.

We strive to update the contents of our website and tutorials as timely and as precisely as possible, however, the contents may contain inaccuracies or errors. Tutorials Point (I) Pvt. Ltd. provides no guarantee regarding the accuracy, timeliness or completeness of our website or its contents including this tutorial. If you discover any errors on our website or in this tutorial, please notify us at contact@tutorialspoint.com
# Table of Contents

- About the Tutorial ........................................................................................................... i
- Audience .......................................................................................................................... i
- Prerequisites ..................................................................................................................... i
- Copyright & Disclaimer .................................................................................................. i
- Table of Contents ............................................................................................................. ii

1. Highcharts – Overview .................................................................................................. 1
   - Features of Highcharts Library ..................................................................................... 1
   - Supported Chart Types ............................................................................................... 2

2. Highcharts – Environment Setup .................................................................................. 4
   - Install jQuery .............................................................................................................. 4
   - Install Highcharts ....................................................................................................... 4

3. Highcharts – Configuration Syntax .............................................................................. 6

4. Highcharts – Line Charts ............................................................................................... 14
   - Highcharts – Basic Line Chart .................................................................................. 14
   - Highcharts – Chart with Data Labels ......................................................................... 17
   - Highcharts – Ajax Loaded Data Chart ......................................................................... 20
   - Highcharts – Time Series, Zoomable Chart ............................................................... 27
   - Highcharts – Spline Chart with Inverted Axes ............................................................. 34
   - Highcharts – Spline Chart with Symbols ..................................................................... 38
   - Highcharts – Spline Chart with Plot Bands ................................................................. 42
   - Highcharts – Chart of Time Intervals .......................................................................... 50
   - Highcharts – Logarithmic Axis Chart .......................................................................... 55
   - Highcharts – Area Charts ............................................................................................ 59
   - Highcharts – Basic Area Chart .................................................................................... 59
   - Highcharts – Area Chart with Negative Values ........................................................... 63
   - Highcharts – Stacked Area Chart ................................................................................ 65
   - Highcharts – Percentage Area Chart .......................................................................... 69
   - Highcharts – Area Chart with Missing Values .............................................................. 74
   - Highcharts – Area Chart with Inverted Axes ............................................................... 78
   - Highcharts – Area Chart using Spline .......................................................................... 82
   - Highcharts – Area Chart using Ranges ........................................................................ 85
   - Highcharts – Area Chart using Range and Line ......................................................... 88

5. Highcharts – Bar Charts ................................................................................................. 94
   - Highcharts – Basic Bar Chart .................................................................................... 94
   - Highcharts – Stacked Bar Chart .................................................................................. 98
   - Highcharts – Negative Stacked Area Chart ................................................................. 102

6. Highcharts – Column Charts ......................................................................................... 105
   - Highcharts – Basic Column Chart ............................................................................. 106
   - Highcharts – Column Chart with Negative Values ..................................................... 109
   - Highcharts – Stacked Column Chart .......................................................................... 111
   - Highcharts – Stacked and Grouped Column Chart ..................................................... 115
   - Highcharts – Stacked Column Chart with Percentages .............................................. 119
   - Highcharts – Column Chart with Rotated Labels ....................................................... 122
   - Highcharts – Column Chart with Drill Down Capability ........................................... 126
   - Highcharts – Column Chart with Fixed Placement .................................................... 132
7. Highcharts – Pie Charts .................................................. 144
   Highcharts – Basic Pie Chart ............................................. 145
   Highcharts – Pie Chart with Legends .................................. 148
   Highcharts – Donut Chart .................................................. 151
   Highcharts – Semi Circle Donut chart ............................... 156
   Highcharts – Pie Chart with Drill Down Capability ............ 159
   Highcharts – Pie Chart with Gradient ............................... 166
   Highcharts – Pie Chart with Monochrome ........................ 170

8. Highcharts – Scatter Charts ............................................ 174
   Highcharts – Scatter Chart .............................................. 174

9. Highcharts – Bubble Charts ............................................. 181
   Highcharts – Basic Bubble Chart ....................................... 181
   Highcharts – 3D Bubble Chart .......................................... 183

10. Highcharts – Dynamic Charts .......................................... 189
   Highcharts – Spline Chart updating Each Second ............. 189
    Highcharts – Chart with Point Addition Capability ........ 193

11. Highcharts – Combinations ............................................. 199
    Highcharts – Chart with Column, Line and Pie ................ 199
    Highcharts – Chart with Dual Axes, Line and Column ....... 203
    Highcharts – Chart having Multiple Axes ....................... 206
    Highcharts – Scatter Chart with Regression Line ........... 212

12. Highcharts – 3D Charts .................................................. 216
    Highcharts – 3D Column Chart ....................................... 216
    Highcharts – 3D Column Chart with Null and 0 Values ...... 220
    Highcharts – 3D Column Chart with Stacking and Grouping .. 222
    Highcharts – 3D Pie Chart ............................................ 226
    Highcharts – 3D Donut Chart ......................................... 229

13. Highcharts – Angular Gauges .......................................... 234
    Highcharts – Angular Gauge Chart ................................... 234
    Highcharts – Solid Gauge Chart ..................................... 239
    Highcharts – Clock ...................................................... 245
    Highcharts – Gauge Chart with Dual Axes ..................... 252
    Highcharts – VU Meter Chart ......................................... 257

    Highcharts – Heat Map .................................................. 263
    Highcharts – Large Heat Map ......................................... 266

15. Highcharts – Tree Maps ............................................... 517
    Highcharts – Tree Map .................................................. 517
    Highcharts – Tree Map with Levels ............................... 520
    Highcharts – Large Tree Map ........................................ 524
1. HIGHCHARTS – OVERVIEW

Highcharts is a pure JavaScript based charting library meant to enhance web applications by adding interactive charting capability. It supports a wide range of charts. Charts are drawn using SVG in standard browsers like Chrome, Firefox, Safari, Internet Explorer (IE). In legacy IE 6, VML is used to draw the graphics.

Features of Highcharts Library

Let us now discuss a few important features of the Highcharts Library.

- **Compatibility** - Works seemlessly on all major browsers and mobile platforms like android and iOS.
- **Multitouch Support** - Supports multitouch on touch screen based platforms like android and iOS. Ideal for iPhone/iPad and android based smart phones/ tablets.
- **Free to Use** - Open source and is free to use for non-commercial purpose.
- **Lightweight** - highcharts.js core library with size nearly 35KB, is an extremely lightweight library.
- **Simple Configurations** - Uses json to define various configurations of the charts and very easy to learn and use.
- **Dynamic** - Allows to modify chart even after chart generation.
- **Multiple axes** - Not restricted to x, y axis. Supports multiple axis on the charts.
- **Configurable tooltips** - Tooltip comes when a user hovers over any point on a chart. Highcharts provides tooltip inbuilt formatter or callback formatter to control the tooltip programmatically.
- **DateTime support** - Handle date time specially. Provides numerous inbuilt controls over date wise categories.
- **Export** - Export chart to PDF/ PNG/ JPG / SVG format by enabling export feature.
- **Print** - Print chart using web page.
- **Zoomability** - Supports zooming chart to view data more precisely.
- **External data** - Supports loading data dynamically from server. Provides control over data using callback functions.
- **Text Rotation** - Supports rotation of labels in any direction.
## Supported Chart Types

Highcharts library provides the following types of charts:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Chart Type / Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Line Charts</strong>&lt;br&gt;Used to draw line/spline based charts.</td>
</tr>
<tr>
<td>2</td>
<td><strong>Area Charts</strong>&lt;br&gt;Used to draw area wise charts.</td>
</tr>
<tr>
<td>3</td>
<td><strong>Pie Charts</strong>&lt;br&gt;Used to draw pie charts.</td>
</tr>
<tr>
<td>4</td>
<td><strong>Scatter Charts</strong>&lt;br&gt;Used to draw scattered charts.</td>
</tr>
<tr>
<td>5</td>
<td><strong>Bubble Charts</strong>&lt;br&gt;Used to draw bubble based charts.</td>
</tr>
<tr>
<td>6</td>
<td><strong>Dynamic Charts</strong>&lt;br&gt;Used to draw dynamic charts where user can modify charts.</td>
</tr>
<tr>
<td>7</td>
<td><strong>Combinations</strong>&lt;br&gt;Used to draw combinations of variety of charts.</td>
</tr>
<tr>
<td>8</td>
<td><strong>3D Charts</strong>&lt;br&gt;Used to draw 3D charts.</td>
</tr>
<tr>
<td>9</td>
<td><strong>Angular Gauges</strong>&lt;br&gt;Used to draw speedometer type charts.</td>
</tr>
<tr>
<td>10</td>
<td><strong>Heat Maps</strong>&lt;br&gt;Used to draw heat maps.</td>
</tr>
<tr>
<td>11</td>
<td><strong>Tree Maps</strong>&lt;br&gt;Used to draw tree maps.</td>
</tr>
</tbody>
</table>
In our subsequent chapters, we will discuss each type of above mentioned charts in details with examples.

**Licence**

Highcharts is open source and is free to use for non-commercial purpose. In order to use Highcharts in commercial projects, follow the link: [License and Pricing](#).
In this chapter, we will discuss how to set up the Highcharts library to be used in web application development.

Highcharts requires jQuery as a dependency. First, we will install the jQuery library and then the Highcharts library.

**Install jQuery**

There are two ways to use jQuery.

- **Download**: Download it locally from [jQuery.com](https://jquery.com) and use it.
- **CDN access**: You also have access to a CDN. The CDN will give you access around the world to regional data centers; in this case, Google host. This means using CDN moves the responsibility of hosting files from your own servers to a series of external ones. This also offers an advantage that if the visitor to your webpage has already downloaded a copy of jQuery from the same CDN, it will not have to be re-downloaded.

**Using Downloaded jQuery**

Include the jQuery JavaScript file in the HTML page using the following script:

```html
<head>
    <script src="/jquery/jquery.min.js"></script>
</head>
```

**Using CDN**

We are using the CDN versions of the jQuery library throughout this tutorial. Include the jQuery JavaScript file in the HTML page using the following script:

```html
<head>
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
</head>
```

**Install Highcharts**

The following are the two ways to use Highcharts.

- **Download**: Download it locally from [highcharts.com](https://highcharts.com) and use it.
• **CDN access**: You also have access to a CDN. The CDN will give you access around the world to regional data centers; in this case, the Highcharts host - Code.Highcharts.Com.

**Using Downloaded Highcharts**

Include the Highcharts JavaScript file in the HTML page using the following script:

```html
<head>
  <script src="/highcharts/highcharts.js"></script>
</head>
```

**Using CDN**

We are using the CDN versions of the Highcharts library throughout this tutorial. Include the Highcharts JavaScript file in the HTML page using the following script:

```html
<head>
  <script src="https://code.highcharts.com/highcharts.js"></script>
</head>
```
In this chapter, we will showcase the configuration required to draw a chart using the Highcharts API.

Step 1: Create HTML Page
Create an HTML page with the jQuery and Highcharts javascript libraries.

**HighchartsTestHarness.htm**

```html
<html>
<head>
<title>Highcharts Tutorial</title>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
<script src="https://code.highcharts.com/highcharts.js"></script>
</head>
<body>
<div id="container" style="width: 550px; height: 400px; margin: 0 auto"></div>
<script language="JavaScript">
$(document).ready(function() {

});
</script>
</body>
</html>
```

Here the **container** div is used to contain the chart drawn using the Highcharts library.

Step 2: Create Configurations
Highcharts library uses very simple configurations using json syntax.

```
$('#container').highcharts(json);
```

Here json represents the json data and configuration which the Highcharts library uses to draw a chart within the container div using the highcharts() method. Now, we will configure the various parameters to create the required json string.
**title**

Configure the title of the chart.

```javascript
var title = {
  text: 'Monthly Average Temperature'
};
```

**subtitle**

Configure the subtitle of the chart.

```javascript
var subtitle = {
  text: 'Source: WorldClimate.com'
};
```

**xAxis**

Configure the ticker to be displayed on the X-Axis.

```javascript
var xAxis = {
};
```

**yAxis**

Configure the title, plot lines to be displayed on the Y-Axis.

```javascript
var yAxis = {
  title: {
    text: 'Temperature (°C)'
  },
  plotLines: [{
    value: 0,
    width: 1,
    color: '#808080'
  }]
};
```
### tooltip
Configure the tooltip. Put suffix to be added after value (y-axis).

```javascript
var tooltip = {
  valueSuffix: '\xB0C'
}
```

### legend
Configure the legend to be displayed on the right side of the chart along with other properties.

```javascript
var legend = {
  layout: 'vertical',
  align: 'right',
  verticalAlign: 'middle',
  borderWidth: 0
};
```

### series
Configure the data to be displayed on the chart. Series is an array where each element of this array represents a single line on the chart.

```javascript
var series = [
  {
    name: 'Tokyo',
    data: [7.0, 6.9, 9.5, 14.5, 18.2, 21.5, 25.2,
           26.5, 23.3, 18.3, 13.9, 9.6]
  },
  {
    name: 'New York',
    data: [-0.2, 0.8, 5.7, 11.3, 17.0, 22.0, 24.8,
           24.1, 20.1, 14.1, 8.6, 2.5]
  },
];
```
Step 3: Build the json data
Combine all the configurations.

```javascript
var json = {};

json.title = title;
json.subtitle = subtitle;
json.xAxis = xAxis;
json.yAxis = yAxis;
json.tooltip = tooltip;
json.legend = legend;
json.series = series;
```

Step 4: Draw the chart

```javascript
$('#container').highcharts(json);
```

Example
Consider the following example to further understand the Configuration Syntax:

`highcharts_configuration.htm`

```html
<html>
<head>
<title>Highcharts Tutorial</title>
</head>
```
var title = {
    text: 'Monthly Average Temperature'
};
var subtitle = {
    text: 'Source: WorldClimate.com'
};
var xAxis = {
    categories: ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun',
                'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']
};
var yAxis = {
    title: {
        text: 'Temperature (\xB0C)'
    },
    plotLines: [{
        value: 0,
        width: 1,
        color: '#808080'
    }]
};
var tooltip = {
    valueSuffix: '\xB0C'
}

var legend = {
    layout: 'vertical',
...
align: 'right',
verticalAlign: 'middle',
borderWidth: 0
};

var series = [
{
    name: 'Tokyo',
    data: [7.0, 6.9, 9.5, 14.5, 18.2, 21.5, 25.2,
          26.5, 23.3, 18.3, 13.9, 9.6]
},
{
    name: 'New York',
    data: [-0.2, 0.8, 5.7, 11.3, 17.0, 22.0, 24.8,
           24.1, 20.1, 14.1, 8.6, 2.5]
},
{
    name: 'Berlin',
    data: [-0.9, 0.6, 3.5, 8.4, 13.5, 17.0, 18.6,
           17.9, 14.3, 9.0, 3.9, 1.0]
},
{
    name: 'London',
    data: [3.9, 4.2, 5.7, 8.5, 11.9, 15.2, 17.0,
           16.6, 14.2, 10.3, 6.6, 4.8]
}
];

var json = {};

json.title = title;
json.subtitle = subtitle;
json.xAxis = xAxis;
json.yAxis = yAxis;
json.tooltip = tooltip;
json.legend = legend;
json.series = series;

$('#container').highcharts(json);
});
</script>
</body>
</html>
Result
Verify the result.

![Monthly Average Temperature Chart](source: WorldClimate.com)
Line charts are used to draw line/spline based charts. In this section, we will discuss the different types of line and spline based charts.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Chart Type / Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Basic line</strong></td>
</tr>
<tr>
<td></td>
<td>Basic line chart.</td>
</tr>
<tr>
<td>2</td>
<td><strong>With data labels</strong></td>
</tr>
<tr>
<td></td>
<td>Chart with data labels.</td>
</tr>
<tr>
<td>3</td>
<td><strong>Ajax loaded data, clickable points</strong></td>
</tr>
<tr>
<td></td>
<td>Chart drawn after retrieving data from server.</td>
</tr>
<tr>
<td>4</td>
<td><strong>Time series, zoomable</strong></td>
</tr>
<tr>
<td></td>
<td>Chart with time series.</td>
</tr>
<tr>
<td>5</td>
<td><strong>Spline with inverted axes</strong></td>
</tr>
<tr>
<td></td>
<td>Spline chart having inverted axes.</td>
</tr>
<tr>
<td>6</td>
<td><strong>Spline with symbols</strong></td>
</tr>
<tr>
<td></td>
<td>Spline chart using symbols for heat/rain.</td>
</tr>
<tr>
<td>7</td>
<td><strong>Spline with plot bands</strong></td>
</tr>
<tr>
<td></td>
<td>Spline chart with plot bands.</td>
</tr>
<tr>
<td>8</td>
<td><strong>Time data with irregular intervals</strong></td>
</tr>
<tr>
<td></td>
<td>Chart of a large set of time based data.</td>
</tr>
<tr>
<td>9</td>
<td><strong>Logarithmic axis</strong></td>
</tr>
<tr>
<td></td>
<td>Chart depicting the logarithmic axis.</td>
</tr>
</tbody>
</table>
**Highcharts – Basic Line Chart**

We have already seen the configuration used to draw this chart in [Highcharts Configuration Syntax](#) chapter. Let us now consider the following example to further understand a basic line chart.

**Example**

`highcharts_line_basic.htm`

```html
<html>
<head>
<title>Highcharts Tutorial</title>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
<script src="https://code.highcharts.com/highcharts.js"></script>
</head>
<body>
<div id="container" style="width: 550px; height: 400px; margin: 0 auto"></div>
<script language="JavaScript">
$(document).ready(function() {
    var title = {
        text: 'Average Temperatures of Cities'
    };
    var subtitle = {
        text: 'Source: worldClimate.com'
    };
    var xAxis = {
        categories: ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun',
                     'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']
    };
    var yAxis = {
        title: {
            text: 'Temperature (\xB0C)'
        },
        plotLines: [{
            value: 0,
            width: 1,
```
```
    color: '#808080'
  ]
};

var tooltip = {
  valueSuffix: '\xB0C'
}

var legend = {
  layout: 'vertical',
  align: 'right',
  verticalAlign: 'middle',
  borderWidth: 0
};

var series = [
  {
    name: 'Tokyo',
    data: [7.0, 6.9, 9.5, 14.5, 18.2, 21.5, 25.2,
           26.5, 23.3, 18.3, 13.9, 9.6]
  },
  {
    name: 'New York',
    data: [-0.2, 0.8, 5.7, 11.3, 17.0, 22.0, 24.8,
           24.1, 20.1, 14.1, 8.6, 2.5]
  },
  {
    name: 'London',
    data: [3.9, 4.2, 5.7, 8.5, 11.9, 15.2, 17.0,
           16.6, 14.2, 10.3, 6.6, 4.8]
  }
];

var json = {};
```
json.title = title;
json.subtitle = subtitle;
json.xAxis = xAxis;
json.yAxis = yAxis;
json.tooltip = tooltip;
json.legend = legend;
json.series = series;

$('#container').highcharts(json);
});
</script>
</body>
</html>

Result
Verify the result.
**Highcharts – Chart with Data Labels**

We have already seen the configuration used to draw this chart in Highcharts Configuration Syntax chapter. Now, we will discuss an example of a line chart with data labels.

**Example**

*highcharts_line_labels.htm*

```html
<html>
<head>
<title>Highcharts Tutorial</title>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
<script src="https://code.highcharts.com/highcharts.js"></script>
</head>
<body>
<div id="container" style="width: 550px; height: 400px; margin: 0 auto"></div>
<script language="JavaScript">
$(document).ready(function() {
    var title = {
        text: 'Monthly Average Temperature'
    };
    var subtitle = {
        text: 'Source: WorldClimate.com'
    };
    var xAxis = {
    };
    var yAxis = {
        title: {
            text: 'Temperature (°C)'
        }
    };
    var plotOptions = {
        line: {
            dataLabels: {
```
enabled: true
},
enableMouseTracking: false
};

var series= [{
    name: 'Tokyo',
    data: [7.0, 6.9, 9.5, 14.5, 18.4, 21.5, 25.2, 26.5, 23.3, 18.3, 13.9, 9.6]
}, {
    name: 'London',
    data: [3.9, 4.2, 5.7, 8.5, 11.9, 15.2, 17.0, 16.6, 14.2, 10.3, 6.6, 4.8]
}
];

var json = {};

json.title = title;
json.subtitle = subtitle;
json.xAxis = xAxis;
json.yAxis = yAxis;
json.series = series;
json.plotOptions = plotOptions;
$('#container').highcharts(json);

Result
Verify the result.
Here, we will discuss an example of an ajax loaded data chart. To begin with, we will make an ajax call to load a csv file from HighCharts.Com using the `jQuerygetJSON()` method and when the data gets retrieved, we will populate the chart with received data and draw the chart.

We have understood most of the configuration used to draw a chart in Highcharts Configuration Syntax chapter.

Import data.js

In order to work with ajax data, import the following script.

```html
<script src="https://code.highcharts.com/modules/data.js"></script>
```

Configurations

Let us now understand additional configurations/step taken.

**xAxis**

Configure the tick intervals to be based on weekly basis on the X-Axis.
```javascript
var xAxis = {
    tickInterval: 7 * 24 * 3600 * 1000, // one week
    tickWidth: 0,
    gridLineWidth: 1,
    labels: {
        align: 'left',
        x: 3,
        y: -3
    }
};

yAxis
```

Configure two axes on the y-Axis.

```javascript
var yAxis = [{ // left y axis
    title: {
        text: null
    },
    labels: {
        align: 'left',
        x: 3,
        y: 16,
        format: '{value:,.0f}'
    },
    showFirstLabel: false
}, // right y axis
    linkedTo: 0,
    gridLineWidth: 0,
    opposite: true,
    title: {
        text: null
    },
    labels: {
        align: 'right',
        x: -3,
```
plotOptions

plotOptions is used to control the formatting of various parts of chart like series, marker on series.

```javascript
var plotOptions = {
    series: {
        cursor: 'pointer',
        point: {
            events: {
                click: function (e) {
                    hs.htmlExpand(null, {
                        pageOrigin: {
                            x: e.pageX || e.clientX,
                            y: e.pageY || e.clientY
                        },
                        headingText: this.series.name,
                        maincontentText: Highcharts.dateFormat('%A, %b %e, %Y', this.x) + '<br/> ' + this.y + ' visits',
                        width: 200
                    });
                }
            }
        }
    },
    marker: {
        lineWidth: 1
    }
};
```
Example

*highcharts_line_ajax.htm*

```html
<html>
<head>
<title>Highcharts Tutorial</title>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
<script src="https://code.highcharts.com/highcharts.js"></script>
<script src="https://code.highcharts.com/highcharts-more.js"></script>
<script src="https://code.highcharts.com/modules/data.js"></script>
</head>
<body>
<div id="container" style="width: 550px; height: 400px; margin: 0 auto"></div>
<script language="JavaScript">
$(document).ready(function() {
    var title = {
        text: 'Daily visits at www.highcharts.com'
    };
    var subtitle = {
        text: 'Source: Google Analytics'
    };
    var xAxis = {
        tickInterval: 7 * 24 * 3600 * 1000, // one week
        tickWidth: 0,
        gridLineWidth: 1,
        labels: {
            align: 'left',
            x: 3,
            y: -3
        }
    };
    var yAxis = [{ // left y axis
        title: {
            text: null
        }
    }];
```
},
    labels: {
        align: 'left',
        x: 3,
        y: 16,
        format: '{value:,.0f}'
    },
    showFirstLabel: false
},
}, // right y axis
    linkedTo: 0,
    gridLineWidth: 0,
    opposite: true,
    title: {
        text: null
    },
    labels: {
        align: 'right',
        x: -3,
        y: 16,
        format: '{value:,.0f}'
    },
    showFirstLabel: false
}
]

var tooltip = {
    shared: true,
    crosshairs: true
}

var legend = {
    align: 'left',
    verticalAlign: 'top',
    y: 20,
    floating: true,
Highcharts

borderWidth: 0

var plotOptions = {
  series: {
    cursor: 'pointer',
    point: {
      events: {
        click: function (e) {
          hs.htmlExpand(null, {
            pageOrigin: {
              x: e.pageX || e.clientX,
              y: e.pageY || e.clientY
            },
            headingText: this.series.name,
            maincontentText: Highcharts.dateFormat('%A, %b %e, %Y', this.x)
              + ':<br/> ' + this.y + ' visits',
            width: 200
          });
        }
      }
    },
    marker: {
      lineWidth: 1
    }
  }
}

var series = [[
  name: 'All visits',
  lineWidth: 4,
  marker: {
    radius: 4
  }
], []]
name: 'New visitors'
]

var json = {};

json.title = title;
json.subtitle = subtitle;
json.xAxis = xAxis;
json.yAxis = yAxis;
json.tooltip = tooltip;
json.legend = legend;
json.series = series;
json.plotOptions = plotOptions;
$.getJSON('http://www.highcharts.com/samples/data/jsonp.php?filename=analytics.csv &callback=?', function (csv) {
    var data = {
        csv: csv
    };
    json.data = data;
    $('#container').highcharts(json);
});

</script>
</body>
</html>
Verify the result.

USD to EUR exchange rate from 2006 through 2008

Click and drag in the plot area to zoom in

Wednesday, Sep 12, 2007
USD to EUR: 0.7242
Highcharts – Time Series, Zoomable Chart

We have already seen the configuration used to draw a chart in Highcharts Configuration Syntax chapter. Now, we will discuss an example of a time based data chart.

Configurations

Let us now discuss the additional configurations/steps taken.

chart

Configure the chart to make it zoomable. `chart.zoomType` decides the dimensions by which the user can zoom by dragging the mouse. The possible values for this are x, y or xy.

```javascript
var chart = {
    zoomType: 'x'
};
```

plotOptions
Configure the area of chart using plotOptions.

```javascript
var plotOptions = {
    area: {
        fillColor: {
            linearGradient: { x1: 0, y1: 0, x2: 0, y2: 1 },
            stops: [
                [0, Highcharts.getOptions().colors[0]],
                [1, Highcharts.Color(Highcharts.getOptions().colors[0]).setOpacity(0).get('rgba')]
            ]
        },
        marker: {
            radius: 2
        },
        lineWidth: 1,
        states: {
            hover: {
                lineWidth: 1
            }
        },
        threshold: null
    }
};
```

**Example**

`highcharts_line_time.htm`

```html
<html>
<head>
<title>Highcharts Tutorial</title>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
<script src="https://code.highcharts.com/highcharts.js"></script>
</head>
<body>
<div id="container" style="width: 550px; height: 400px; margin: 0 auto"></div>
</body>
</html>
```
<script language="JavaScript">
$(document).ready(function() {
  var chart = {
    zoomType: 'x'
  };
  var title = {
    text: 'USD to EUR exchange rate from 2006 through 2008'
  };
  var subtitle = {
    text: document.ontouchstart === undefined ?
          'Click and drag in the plot area to zoom in' :
          'Pinch the chart to zoom in'
  };
  var xAxis = {
    type: 'datetime',
    minRange: 14 * 24 * 3600000 // fourteen days
  };
  var yAxis = {
    title: {
      text: 'Exchange rate'
    }
  };
  var legend = {
    enabled: false
  };
  var plotOptions = {
    area: {
      fillColor: {
        linearGradient: { x1: 0, y1: 0, x2: 0, y2: 1},
        stops: [
          [0, Highcharts.getOptions().colors[0]],
          [1, Highcharts.Color(Highcharts.getOptions().colors[0]).setOpacity(0).get('rgba')]
        ]
      }
    },
  }
});
</script>
marker: {
    radius: 2
},
lineWidth: 1,
states: {
    hover: {
        lineWidth: 1
    }
},
threshold: null
};

var series= [{
    type: 'area',
    name: 'USD to EUR',
    pointInterval: 24 * 3600 * 1000,
    pointStart: Date.UTC(2006, 0, 1),
    data: [
        0.8446, 0.8445, 0.8444, 0.8451, 0.8418, 0.8264, 0.8258, 0.8232, 0.8233, 0.8258, 0.8283, 0.8278, 0.8256, 0.8292, 0.8239, 0.8239, 0.8245, 0.8265, 0.8261, 0.8269, 0.8273, 0.8244, 0.8244, 0.8172, 0.8139, 0.8146, 0.8164, 0.82, 0.8269, 0.8269, 0.8269, 0.8258, 0.8247, 0.8286, 0.8289, 0.8316, 0.832, 0.8333, 0.8352, 0.8357, 0.8355, 0.8354, 0.8403, 0.8403, 0.8406, 0.8403, 0.8396, 0.8418, 0.8409, 0.8384, 0.8386, 0.8372, 0.839, 0.84, 0.8389, 0.84, 0.8423, 0.8423, 0.8435, 0.8422, 0.838, 0.8373, 0.8316, 0.8303, 0.8303, 0.8302, 0.8369, 0.84, 0.8385, 0.84, 0.8401, 0.8402, 0.8381, 0.8351, 0.8314, 0.8273, 0.8213, 0.8207, 0.8207, 0.8215, 0.8242, 0.8273, 0.8301, 0.8346, 0.8312, 0.8312, 0.8312, 0.8306, 0.8327, 0.8282, 0.824, 0.8255, 0.8256, 0.8273, 0.8289, 0.8151, 0.8149, 0.8213, 0.8273, 0.8273, 0.8261, 0.8252, 0.824, 0.8262, 0.8258, 0.8261, 0.826, 0.8199, 0.8153, 0.8097, 0.8101, 0.8119, 0.8107, 0.8105, 0.8084, 0.8069, 0.8047, 0.8023, 0.7965, 0.7919, 0.7921, 0.7922, 0.7934, 0.7918, 0.7915, 0.787, 0.7861, 0.7861, 0.7853, 0.7867, 0.7827, 0.7834, 0.7766, 0.7751, 0.7739, 0.7767, 0.7802, 0.7788, 0.7828, 0.7816, 0.7829, 0.783, 0.7829, 0.7781, 0.7811, 0.7831, 0.7826, 0.7855, 0.7855, 0.7855, 0.7845, 0.7798, 0.7777, 0.7822, 0.7785, 0.7744, 0.7743, 0.7726, 0.7766, 0.7806, 0.785, 0.7907, 0.7912, 0.7913, 0.7931, 0.7952, 0.7951, 0.7928, 0.791, 0.7913, 0.7912, 0.7941, 0.7953, 0.7921, 0.7919, 0.7968, 0.7999, 0.7999, 0.7999, 0.7974, 0.7942, 0.796, 0.7969, 0.7862, 0.7821, 0.7821, 0.7821, 0.7811, 0.7833, 0.7849, 0.7819, 0.7809, 0.7827, 0.7834, 0.7766, 0.7751, 0.7739, 0.7767, 0.7802, 0.7788, 0.7828, 0.7816, 0.7829, 0.783, 0.7829, 0.7781, 0.7811, 0.7831, 0.7826, 0.7855, 0.7855, 0.7855, 0.7845, 0.7798, 0.7777, 0.7822, 0.7785, 0.7744, 0.7743, 0.7726, 0.7766, 0.7806, 0.785, 0.7907, 0.7912, 0.7913, 0.7931, 0.7952, 0.7951, 0.7928, 0.791, 0.7913, 0.7912, 0.7941, 0.7953, 0.7921, 0.7919, 0.7968, 0.7999, 0.7999, 0.7999, 0.7974, 0.7942, 0.796, 0.7969, 0.7862, 0.7821, 0.7821, 0.7821, 0.7811, 0.7833, 0.7849, 0.7819, 0.7809, 0.7827, 0.7834, 0.7766, 0.7751, 0.7739, 0.7767, 0.7802, 0.7788, 0.7828, 0.7816, 0.7829, 0.783, 0.7829, 0.7781, 0.7811, 0.7831, 0.7826, 0.7855, 0.7855, 0.7855, 0.7845, 0.7798, 0.7777, 0.7822, 0.7785, 0.7744, 0.7743, 0.7726, 0.7766, 0.7806, 0.785, 0.7907, 0.7912, 0.7913, 0.7931, 0.7952, 0.7951, 0.7928, 0.791, 0.7913, 0.7912, 0.7941, 0.7953, 0.7921, 0.7919, 0.7968, 0.7999, 0.7999, 0.7999, 0.7974, 0.7942, 0.796, 0.7969, 0.7862, 0.7821, 0.7821, 0.7821, 0.7811, 0.7833, 0.7849, 0.7819, 0.7809,
| 0.7809, 0.7827, 0.7848, 0.785, 0.7873, 0.7894, 0.7907, 0.7909, 0.7947, 0.7987, 0.799, 0.7927, 0.79, 0.7878, 0.7878, 0.7907, 0.7922, 0.7937, 0.786, 0.787, 0.7838, 0.7838, 0.7837, 0.7836, 0.7806, 0.7825, 0.7798, 0.777, 0.777, 0.7772, 0.7793, 0.7799, 0.78, 0.7801, 0.7799, 0.7799, 0.7795, 0.7794, 0.7778, 0.7793, 0.7808, 0.7824, 0.787, 0.7894, 0.7893, 0.7882, 0.7871, 0.7871, 0.7878, 0.79, 0.7901, 0.7898, 0.7879, 0.7886, 0.7858, 0.7814, 0.7825, 0.7826, 0.786, 0.7878, 0.7868, 0.7883, 0.7893, 0.7892, 0.7876, 0.785, 0.787, 0.7873, 0.7901, 0.7936, 0.7939, 0.7938, 0.7956, 0.7975, 0.7978, 0.7992, 0.7995, 0.7995, 0.7994, 0.7976, 0.7977, 0.796, 0.7922, 0.7928, 0.7929, 0.7948, 0.797, 0.7953, 0.7907, 0.7872, 0.7852, 0.7852, 0.786, 0.7862, 0.7836, 0.7837, 0.784, 0.7867, 0.7867, 0.7869, 0.7837, 0.7827, 0.7825, 0.7779, 0.7791, 0.779, 0.7807, 0.7803, 0.7817, 0.7799, 0.7799, 0.7795, 0.7801, 0.7765, 0.7725, 0.7683, 0.7641, 0.7639, 0.7616, 0.7608, 0.759, 0.7582, 0.7539, 0.75, 0.75, 0.7507, 0.7505, 0.7516, 0.7522, 0.7531, 0.7577, 0.7577, 0.7582, 0.755, 0.7542, 0.7576, 0.7616, 0.7648, 0.7648, 0.7641, 0.7614, 0.757, 0.7587, 0.7588, 0.762, 0.762, 0.7617, 0.7618, 0.7615, 0.7612, 0.7596, 0.758, 0.758, 0.7547, 0.7549, 0.7613, 0.7655, 0.7693, 0.7694, 0.7688, 0.7678, 0.7708, 0.7727, 0.7749, 0.7741, 0.7741, 0.7732, 0.7727, 0.7737, 0.7724, 0.7712, 0.772, 0.7721, 0.7717, 0.7704, 0.769, 0.7711, 0.774, 0.7745, 0.7745, 0.774, 0.7716, 0.7713, 0.7768, 0.7688, 0.7718, 0.7718, 0.7728, 0.7729, 0.7698, 0.7685, 0.7681, 0.769, 0.769, 0.7698, 0.7699, 0.7651, 0.7613, 0.7616, 0.7614, 0.7614, 0.7607, 0.7602, 0.7611, 0.7622, 0.7615, 0.7598, 0.7598, 0.7592, 0.7573, 0.7566, 0.7567, 0.7591, 0.7582, 0.7585, 0.7613, 0.7631, 0.7615, 0.76, 0.7613, 0.7627, 0.7627, 0.7608, 0.7583, 0.7575, 0.7562, 0.752, 0.7512, 0.7512, 0.7517, 0.752, 0.7511, 0.748, 0.7509, 0.7531, 0.7531, 0.7527, 0.7498, 0.7493, 0.7504, 0.75, 0.7491, 0.7491, 0.7485, 0.7484, 0.7492, 0.7471, 0.7459, 0.7477, 0.7477, 0.7483, 0.7458, 0.7448, 0.743, 0.7399, 0.7395, 0.7395, 0.7378, 0.7382, 0.7362, 0.7355, 0.7348, 0.7361, 0.7361, 0.7365, 0.7362, 0.7331, 0.7339, 0.7344, 0.7327, 0.7327, 0.7336, 0.7333, 0.7359, 0.7359, 0.7372, 0.736, 0.736, 0.735, 0.7365, 0.7384, 0.7395, 0.7413, 0.7397, 0.7396, 0.7385, 0.7378, 0.7366, 0.74, 0.7411, 0.7406, 0.7405, 0.7414, 0.7431, 0.7431, 0.7438, 0.7443, 0.7443, 0.7434, 0.7429, 0.7442, 0.744, 0.7439, 0.7437, 0.7437, 0.7429, 0.7403, 0.7399, 0.7418, 0.7468, 0.748, 0.747, 0.7494, 0.7522, 0.7515, 0.7502, 0.7472, 0.7472, 0.7462, 0.7455, 0.7449, 0.7467, 0.7458, 0.7427, 0.7427, 0.743, 0.7429, 0.744, 0.743, 0.7422, 0.7388, 0.7388, 0.7369, 0.7345, 0.7345, 0.7345, 0.7352, 0.7341, 0.7341, 0.734, 0.7324, 0.7272, 0.7264, 0.7255 |
| 0.7258 | 0.7258 | 0.7256 | 0.7257 | 0.7247 | 0.7244 | 0.7243 | 0.7235 | 0.7235 | 0.7235 | 0.7235 | 0.7235 | 0.7235 | 0.7235 | 0.7225 | 0.7228 | 0.7288 | 0.7301 | 0.7337 | 0.7324 | 0.7297 | 0.7317 | 0.7315 | 0.7288 | 0.7263 | 0.7263 | 0.7242 | 0.7253 | 0.7264 | 0.727 | 0.7312 | 0.7305 | 0.7305 | 0.7318 | 0.7358 | 0.7409 | 0.7454 | 0.7437 | 0.7424 | 0.7424 | 0.7415 | 0.7419 | 0.7414 | 0.7377 | 0.7355 | 0.7315 | 0.7315 | 0.732 | 0.7332 | 0.7346 | 0.7328 | 0.7323 | 0.734 | 0.734 | 0.7336 | 0.7351 | 0.7346 | 0.7321 | 0.7294 | 0.7266 | 0.7266 | 0.7254 | 0.7242 | 0.7213 | 0.7197 | 0.7209 | 0.721 | 0.721 | 0.721 | 0.7209 | 0.7159 | 0.7133 | 0.7105 | 0.7099 | 0.7099 | 0.7093 | 0.7093 | 0.7076 | 0.707 | 0.7049 | 0.7012 | 0.7011 | 0.7019 | 0.7046 | 0.7063 | 0.7089 | 0.7077 | 0.7077 | 0.7091 | 0.7118 | 0.7079 | 0.7053 | 0.705 | 0.7055 | 0.7085 | 0.7045 | 0.7051 | 0.7051 | 0.7017 | 0.7 | 0.6995 | 0.6994 | 0.7014 | 0.7036 | 0.7021 | 0.7002 | 0.6967 | 0.695 | 0.695 | 0.694 | 0.6922 | 0.6919 | 0.6914 | 0.6894 | 0.6891 | 0.6904 | 0.689 | 0.6834 | 0.6823 | 0.6807 | 0.6815 | 0.6815 | 0.6847 | 0.6859 | 0.6822 | 0.6827 | 0.6837 | 0.6823 | 0.6822 | 0.6822 | 0.6792 | 0.6746 | 0.6735 | 0.6731 | 0.6742 | 0.6744 | 0.6739 | 0.6731 | 0.6761 | 0.6761 | 0.6785 | 0.6818 | 0.6836 | 0.6823 | 0.6805 | 0.6793 | 0.6849 | 0.6833 | 0.6825 | 0.6825 | 0.6816 | 0.6799 | 0.6813 | 0.6809 | 0.6868 | 0.6933 | 0.6933 | 0.6945 | 0.6945 | 0.6944 | 0.6946 | 0.6964 | 0.6965 | 0.6956 | 0.6956 | 0.695 | 0.6948 | 0.6928 | 0.6887 | 0.6824 | 0.6794 | 0.6803 | 0.6855 | 0.6824 | 0.6791 | 0.6783 | 0.6785 | 0.6785 | 0.6797 | 0.68 | 0.6803 | 0.6805 | 0.676 | 0.677 | 0.677 | 0.6736 | 0.6726 | 0.6764 | 0.6821 | 0.6831 | 0.6842 | 0.6842 | 0.6887 | 0.6903 | 0.6848 | 0.6824 | 0.6788 | 0.6814 | 0.6814 | 0.6797 | 0.6769 | 0.6765 | 0.6733 | 0.6729 | 0.6758 | 0.6758 | 0.675 | 0.678 | 0.6833 | 0.6856 | 0.6993 | 0.6896 | 0.6896 | 0.6882 | 0.6879 | 0.6862 | 0.6823 | 0.6823 | 0.6813 | 0.6813 | 0.6822 | 0.6802 | 0.6802 | 0.6784 | 0.6748 | 0.6747 | 0.6747 | 0.6748 | 0.6748 | 0.6733 | 0.665 | 0.6611 | 0.6583 | 0.659 | 0.659 | 0.6581 | 0.6578 | 0.6574 | 0.6532 | 0.6502 | 0.6514 | 0.6514 | 0.6507 | 0.651 | 0.6489 | 0.6424 | 0.6406 | 0.6382 | 0.6382 | 0.6341 | 0.6344 | 0.6378 | 0.6439 | 0.6478 | 0.6481 | 0.6481 | 0.6494 | 0.6438 | 0.6377 | 0.6329 | 0.6336 | 0.6333 | 0.633 | 0.6371 | 0.6403 | 0.6396 | 0.6364 | 0.6356 | 0.6356 | 0.6368 | 0.6357 | 0.6354 | 0.632 | 0.6332 | 0.6328 | 0.6331 | 0.6342 | 0.6321 | 0.6382 | 0.6278 | 0.6308 | 0.6324 | 0.6324 | 0.6307 | 0.6277 | 0.6269 | 0.6335 | 0.6392 | 0.64 | 0.6401 | 0.6396 | 0.6407 | 0.6423 | 0.6429 | 0.6472 | 0.6485 | 0.6486 | 0.6467 | 0.6444 | 0.6467 | 0.6509 | 0.6478 | 0.6461 | 0.6461 | 0.6468 | 0.6449 | 0.647 | 0.6461 | 0.6452 | 0.6422 | 0.6422 | 0.6425 | 0.6414 | 0.6366 | 0.6346 | 0.635 | 0.6346 | 0.6346 | 0.6346 | 0.6346 | 0.6379 | 0.6416 | 0.6442 | 0.6431 | 0.6431 | 0.6435 | 0.644 | 0.6473 | 0.6469 | 0.6386 | 0.6356 | 0.634 | 0.6346 | 0.643 | 0.6452 | 0.6467 | 0.6506 | 0.6504 | 0.6503 | 0.6481 | 0.6451 | 0.645 | 0.6441 | 0.6414 | 0.6409 | 0.6409 | 0.6428 | 0.6431 | 0.6418 | 0.6371 | 0.6349 | 0.6333 | 0.6334 | 0.6338 | 0.6342 | 0.632 | 0.6318 | 0.637 | 0.6368 | 0.6368 | 0.6383 | 0.6371 | 0.6371 | 0.6355 | 0.632 | 0.6277 | 0.6276 | 0.6291 | 0.6274 | 0.6293 | 0.6311 |
var json = {
    chart: chart,
    title: title,
    subtitle: subtitle,
    legend: legend,
    xAxis: xAxis,
    yAxis: yAxis,
    series: series,
    plotOptions: plotOptions
};

$('#container').highcharts(json);
Result
Verify the result.

Highcharts – Spline Chart with Inverted Axes
We have already seen configuration used to draw a chart in Highcharts Configuration Syntax chapter. Now, we will discuss an example of a spline chart with inverted axes.

Configurations
Configure the chart type to be spline based. **chart.type** decides the series type for the chart. Here, the default value is "line".

Configure the axes to be inverted. When **true x axis** is vertical and **y axis** is horizontal – if a bar series is present in the chart, the same will be inverted. Here, the default value is false.

```
chart

var chart = {
    type: 'spline',
    inverted: true
};
```

**Example**

*highcharts_spline_inverted.htm*

```html
<html>
<head>
<title>Highcharts Tutorial</title>

<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
<script src="https://code.highcharts.com/highcharts.js"></script>
</head>
<body>
<div id="container" style="width: 550px; height: 400px; margin: 0 auto"></div>
<script language="JavaScript">
$(document).ready(function() {
    var chart = {
        type: 'spline',
        inverted: true
    };
    var title = {
        text: 'Atmosphere Temperature by Altitude'
    };
    var subtitle = {
        text: 'According to the Standard Atmosphere Model'
    };
    var xAxis = {
```
reversed: false,
title: {
    enabled: true,
    text: 'Altitude'
},
labels: {
    formatter: function () {
        return this.value + 'km';
    }
},
maxPadding: 0.05,
showLastLabel: true
};

var yAxis = {
    title: {
        text: 'Temperature'
    },
    labels: {
        formatter: function () {
            return this.value + 'xB0';
        }
    },
    lineWidth: 2
};

var legend = {
    enabled: false
};

var tooltip = {
    headerFormat: '<b>{series.name}</b><br/>
',
    pointFormat: '{point.x} km: {point.y}xB0C'
};

var plotOptions = {
    spline: {
        marker: {
            enable: false
        }
    }
};
var series= [{{
    name: 'Temperature',
    data: [[0, 15], [10, -50], [20, -56.5], [30, -46.5], [40, -22.1],
      [50, -2.5], [60, -27.7], [70, -55.7], [80, -76.5]]
}}];

var json = {};
json.chart = chart;
json.title = title;
json.subtitle = subtitle;
json.legend = legend;
json.tooltip = tooltip;
json.xAxis = xAxis;
json.yAxis = yAxis;
json.series = series;
json.plotOptions = plotOptions;
$('#container').highcharts(json);

});
</script>
</body>
</html>

Result
Verify the result.
Highcharts – Spline Chart with Symbols

We have already seen the configuration used to draw a chart in Highcharts Configuration Syntax chapter. Now, we will discuss an example of a spline chart with symbols. We will also understand the additional configurations/steps taken.

Configurations

Add symbols to a series of a chart using the marker.symbol property. It can be a preconfigured symbol like 'square', 'diamond' or a url to an image. Marker can be added at any point in the data of series as well.

series

```javascript
var series= [{
    name: 'Tokyo',
    marker: {
        symbol: 'square'
    },
    data: [7.0, 6.9, 9.5, 14.5, 18.2, 21.5, 25.2, {
```
Example

highcharts_spline_symbols.htm

```html
<html>
<head>
	<title>Highcharts Tutorial</title>
	<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
	<script src="https://code.highcharts.com/highcharts.js"></script>
</head>
<body>
	<div id="container" style="width: 550px; height: 400px; margin: 0 auto"></div>
	<script language="JavaScript">
		$(document).ready(function() {

```
var chart = {
    type: 'spline'
};
var title = {
    text: 'Monthly Average Temperature'
};
var subtitle = {
    text: 'Source: WorldClimate.com'
};
var xAxis = {
};
var yAxis = {
    title: {
        text: 'Temperature'
    },
    labels: {
        formatter: function () {
            return this.value + '°B0';
        }
    },
    lineWidth: 2
};
var tooltip = {
    crosshairs: true,
    shared: true
};
var plotOptions = {
    spline: {
        marker: {
            radius: 4,
            lineColor: '#666666',
            lineWidth: 1
        }
    }
}
Highcharts

```javascript
var series = [
    {
        name: 'Tokyo',
        marker: {
            symbol: 'square'
        },
        data: [7.0, 6.9, 9.5, 14.5, 18.2, 21.5, 25.2, {
            y: 26.5,
            marker: {
                symbol: 'url(http://www.highcharts.com/demo/gfx/sun.png)'
            }
        }, 23.3, 18.3, 13.9, 9.6]
    }, {
        name: 'London',
        marker: {
            symbol: 'diamond'
        },
        data: [{
            y: 3.9,
            marker: {
                symbol: 'url(http://www.highcharts.com/demo/gfx/snow.png)'
            }
        }, 4.2, 5.7, 8.5, 11.9, 15.2, 17.0, 16.6, 14.2, 10.3, 6.6, 4.8]
    }
];
var json = {};
json.chart = chart;
json.title = title;
json.subtitle = subtitle;
json.tooltip = tooltip;
json.xAxis = xAxis;
json.yAxis = yAxis;
json.series = series;
json.plotOptions = plotOptions;
```
Result
Verify the result.

Highcharts – Spline Chart with Plot Bands
We have seen most of the configuration used to draw a chart in Highcharts Configuration Syntax chapter. Now, let us understand an example of a spline chart with plot bands where additional configurations/steps are taken.

Configurations
Configure the bands using the yAxis.plotBands property. Set the band range using the 'from' and 'to' property. Set the color of band using the 'color' property. Style the label of band using the 'label' property.
yAxis

```javascript
var yAxis = {
    title: {
        text: 'Wind speed (m/s)'
    },
    min: 0,
    minorGridLineWidth: 0,
    gridLineWidth: 0,
    alternateGridColor: null,
    plotBands: [{ // Light air
        from: 0.3,
        to: 1.5,
        color: 'rgba(68, 170, 213, 0.1)',
        label: {
            text: 'Light air',
            style: {
                color: '#606060'
            }
        }
    }, { // Light breeze
        from: 1.5,
        to: 3.3,
        color: 'rgba(0, 0, 0, 0)',
        label: {
            text: 'Light breeze',
            style: {
                color: '#606060'
            }
        }
    }, { // Gentle breeze
        from: 3.3,
        to: 5.5,
        color: 'rgba(68, 170, 213, 0.1)',
        label: {
        }
    }
}]
```
text: 'Gentle breeze',
  style: {
    color: '#606060'
  }
},

},

// Moderate breeze
  from: 5.5,
  to: 8,
  color: 'rgba(0, 0, 0, 0)',
  label: {
    text: 'Moderate breeze',
    style: {
      color: '#606060'
    }
  }
},

},

// Fresh breeze
  from: 8,
  to: 11,
  color: 'rgba(68, 170, 213, 0.1)',
  label: {
    text: 'Fresh breeze',
    style: {
      color: '#606060'
    }
  }
},

},

// Strong breeze
  from: 11,
  to: 14,
  color: 'rgba(0, 0, 0, 0)',
  label: {
    text: 'Strong breeze',
    style: {
      color: '#606060'
    }
  }
}
Example

highcharts_spline_bands.htm

```html
<html>
<head>
<title>Highcharts Tutorial</title>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
<script src="https://code.highcharts.com/highcharts.js"></script>
</head>
<body>
<div id="container" style="width: 550px; height: 400px; margin: 0 auto"></div>
<script language="JavaScript">
$(document).ready(function() {
  var chart = {
    type: 'spline'
  }
  var title = {
    text: 'Wind speed during two days'
  }
  var subtitle = {
    text: 'October 6th and 7th 2009 at two locations in Vik i Sogn, Norway'
  }
};
```
Highcharts

var xAxis = {
    type: 'datetime',
    labels: {
        overflow: 'justify'
    }
};

var yAxis = {
    title: {
        text: 'Wind speed (m/s)'
    },
    min: 0,
    minorGridLineWidth: 0,
    gridLineWidth: 0,
    alternateGridColor: null,
    plotBands: [{ // Light air
        from: 0.3,
        to: 1.5,
        color: 'rgba(68, 170, 213, 0.1)',
        label: {
            text: 'Light air',
            style: {
                color: '#606060'
            }
        }
    }, { // Light breeze
        from: 1.5,
        to: 3.3,
        color: 'rgba(0, 0, 0, 0)',
        label: {
            text: 'Light breeze',
            style: {
                color: '#606060'
            }
        }
    }
}];
}, { // Gentle breeze
  from: 3.3,
  to: 5.5,
  color: 'rgba(68, 170, 213, 0.1)',
  label: {
    text: 'Gentle breeze',
    style: {
      color: '#606060'
    }
  }
}, { // Moderate breeze
  from: 5.5,
  to: 8,
  color: 'rgba(0, 0, 0, 0)',
  label: {
    text: 'Moderate breeze',
    style: {
      color: '#606060'
    }
  }
}, { // Fresh breeze
  from: 8,
  to: 11,
  color: 'rgba(68, 170, 213, 0.1)',
  label: {
    text: 'Fresh breeze',
    style: {
      color: '#606060'
    }
  }
}, { // Strong breeze
  from: 11,
  to: 14,
  color: 'rgba(0, 0, 0, 0)',
  label: {
text: 'Strong breeze',
style: {
  color: '#606060'
}
},

};

// High wind
var tooltip = {
  valueSuffix: ' m/s'
};

var plotOptions = {
  spline: {
    lineWidth: 4,
    states: {
      hover: {
        lineWidth: 5
      }
    },
    marker: {
      enabled: false
    },
    pointInterval: 3600000, // one hour
    pointStart: Date.UTC(2009, 9, 6, 0, 0, 0)
  }
};
var series = [

    {name: 'Vik i Sogn',
     data: [4.3, 5.1, 4.3, 5.2, 5.4, 4.7, 3.5, 4.1, 5.6, 7.4, 6.9, 7.1, 7.9, 7.9, 7.5, 6.7, 7.7, 7.7, 7.4, 7.0, 7.1, 5.8, 5.9, 7.4, 8.2, 8.5, 9.4, 8.1, 10.9, 10.4, 10.9, 12.4, 12.1, 9.5, 7.5, 7.1, 7.5, 8.1, 6.8, 3.4, 2.1, 1.9, 2.8, 2.9, 1.3, 4.4, 4.2, 3.0, 3.0]
    },

    {name: 'Norway',
     data: [0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.1, 0.0, 0.3, 0.0, 0.0, 0.4, 0.0, 0.1, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.6, 1.2, 1.7, 0.7, 2.9, 4.1, 2.6, 3.7, 3.9, 1.7, 2.3, 3.0, 3.3, 4.8, 5.0, 4.8, 5.0, 3.2, 2.0, 0.9, 0.4, 0.3, 0.5, 0.4]
    }];

var navigation = {
    menuItemStyle: {
        fontSize: '10px'
    }
}

var json = {
    chart: chart,
    title: title,
    subtitle: subtitle,
    tooltip: tooltip,
    xAxis: xAxis,
    yAxis: yAxis,
    series: series,
    plotOptions: plotOptions,
    navigation: navigation
};

$('#container').highcharts(json);
End of ebook preview
If you liked what you saw...
Buy it from our store @ https://store.tutorialspoint.com