

## How-To Create JFreeChart Line Chart

A line chart or line graph displays information as a series of data points (markers) connected by straight line segments. Line Chart shows how data changes at equal time frequency.

This chapter demonstrates how we can use JFreeChart to create **Line Chart** from a given set of business data.

### Business Data

The following example draws a line chart to show a trend of number of schools opened in different years starting from 1970.

Given data is as follows –

Year	Number OF Schools
1970	15
1980	30
1990	60
2000	120
2013	240
2014	300

### AWT Based Application

Following is the code to create Line Chart from the information above given. This code helps you to embed a line chart in any AWT based application.

```
import org.jfree.chart.ChartPanel;  
import org.jfree.chart.ChartFactory;
```

```

import org.jfree.chart.JFreeChart;
import org.jfree.ui.ApplicationFrame;
import org.jfree.ui.RefineryUtilities;
import org.jfree.chart.plot.PlotOrientation;
import org.jfree.data.category.DefaultCategoryDataset;

public class LineChart_AWT extends ApplicationFrame {

    public LineChart_AWT( String applicationTitle , String
chartTitle ) {
        super(applicationTitle);
        JFreeChart lineChart = ChartFactory.createLineChart(
            chartTitle,
            "Years","Number of Schools",
            createDataset(),
            PlotOrientation.VERTICAL,
            true,true,false);

        ChartPanel chartPanel = new ChartPanel( lineChart );
        chartPanel.setPreferredSize( new java.awt.Dimension( 560 ,
367 ) );
        setContentPane( chartPanel );
    }

    private DefaultCategoryDataset createDataset( ) {
        DefaultCategoryDataset dataset = new DefaultCategoryDataset(
);
        dataset.addValue( 15 , "schools" , "1970" );
        dataset.addValue( 30 , "schools" , "1980" );
        dataset.addValue( 60 , "schools" , "1990" );
        dataset.addValue( 120 , "schools" , "2000" );
        dataset.addValue( 240 , "schools" , "2010" );
        dataset.addValue( 300 , "schools" , "2014" );
        return dataset;
    }

    public static void main( String[ ] args ) {
        LineChart_AWT chart = new LineChart_AWT(
            "School Vs Years" ,
            "Numer of Schools vs years");

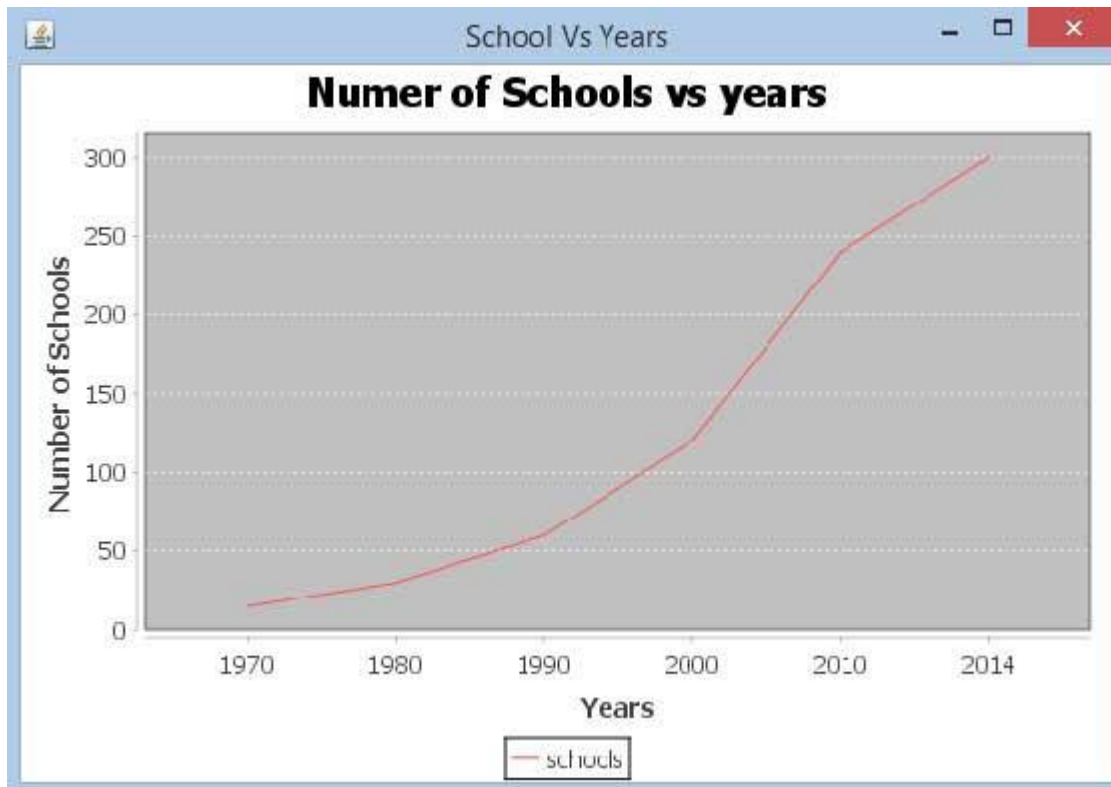
        chart.pack( );
        RefineryUtilities.centerFrameOnScreen( chart );
        chart.setVisible( true );
    }
}

```

Let us keep the above Java code in **LineChart\_AWT.java** file, and then compile and run it from the command prompted as –

```
$javac LineChart_AWT.java
$java LineChart_AWT
```

If everything is fine, it will compile and run to generate the following Line Graph –



## JPEG Image Creation

Let us re-write the above example to generate a JPEG image from a command line.

```
import java.io.*;

import org.jfree.chart.JFreeChart;
import org.jfree.chart.ChartFactory;
import org.jfree.chart.ChartUtilities;
import org.jfree.chart.plot.PlotOrientation;
import org.jfree.data.category.DefaultCategoryDataset;

public class LineChart {

    public static void main( String[] args ) throws Exception {
        DefaultCategoryDataset line_chart_dataset = new
DefaultCategoryDataset();
        line_chart_dataset.addValue( 15 , "schools" , "1970" );
        line_chart_dataset.addValue( 30 , "schools" , "1980" );
        line_chart_dataset.addValue( 60 , "schools" , "1990" );
        line_chart_dataset.addValue( 120 , "schools" , "2000" );
```

```

line_chart_dataset.addValue( 240 , "schools" , "2010" );
line_chart_dataset.addValue( 300 , "schools" , "2014" );

JFreeChart lineChartObject = ChartFactory.createLineChart (
    "Schools Vs Years","Year",
    "Schools Count",
    line_chart_dataset,PlotOrientation.VERTICAL,
    true,true,false);

int width = 640;    /* Width of the image */
int height = 480;  /* Height of the image */
File lineChart = new File( "LineChart.jpeg" );
ChartUtilities.saveChartAsJPEG(lineChart ,lineChartObject,
width ,height);
    }
}

```

Let us keep the above Java code in **LineChart.java** file, and then compile and run it from the command prompted as –

```

$javac LineChart.java
$java LineChart

```

If everything is fine, it will compile and execute to create a JPEG image file named **LineChart.jpeg** in your current directory.

Courtesy: [https://www.tutorialspoint.com/jfreechart/jfreechart\\_line\\_chart.htm](https://www.tutorialspoint.com/jfreechart/jfreechart_line_chart.htm)

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