

SWING - SPRINGLAYOUT CLASS

http://www.tutorialspoint.com/swing/swing_springlayout.htm

Copyright © tutorialspoint.com

Introduction

The class **SpringLayout** positions the children of its associated container according to a set of constraints.

Class declaration

Following is the declaration for **javax.swing.SpringLayout** class:

```
public class SpringLayout
    extends Object
    implements LayoutManager2
```

Field

Following are the fields for **javax.swing.SpringLayout** class:

- **static String BASELINE** -- Specifies the baseline of a component.
- **static String EAST** -- Specifies the right edge of a component's bounding rectangle.
- **static String HEIGHT** -- Specifies the height of a component's bounding rectangle.
- **static String HORIZONTAL_CENTER** -- Specifies the horizontal center of a component's bounding rectangle.
- **static String NORTH** -- Specifies the top edge of a component's bounding rectangle.
- **static String SOUTH** -- Specifies the bottom edge of a component's bounding rectangle.
- **static String VERTICAL_CENTER** -- Specifies the vertical center of a component's bounding rectangle.
- **static String WEST** -- Specifies the left edge of a component's bounding rectangle.
- **static String WIDTH** -- Specifies the width of a component's bounding rectangle.

Class constructors

S.N.	Constructor & Description
1	SpringLayout Creates a new SpringLayout.

Class methods

S.N.	Method & Description
1	void addLayoutComponentComponentcomponent, Objectconstraints If constraints is an instance of SpringLayout.Constraints, associates the constraints with the specified component.
2	void addLayoutComponentStringname, Componentc

Has no effect, since this layout manager does not use a per-component string.

3 **Spring** **getConstraintString***edgeName, Componentc*

Returns the spring controlling the distance between the specified edge of the component and the top or left edge of its parent.

4 **SpringLayout.Constraints** **getConstraints***Componentc*

Returns the constraints for the specified component.

5 **float** **getLayoutAlignmentX***Containerp*

Returns 0.5f *centered*.

6 **float** **getLayoutAlignmentY***Containerp*

Returns 0.5f *centered*.

7 **void** **invalidateLayout***Containerp*

Invalidates the layout, indicating that if the layout manager has cached information it should be discarded.

8 **void** **layoutContainer***Containerparent*

Lays out the specified container.

9 **Dimension** **maximumLayoutSize***Containerparent*

Calculates the maximum size dimensions for the specified container, given the components it contains.

10 **Dimension** **minimumLayoutSize***Containerparent*

Calculates the minimum size dimensions for the specified container, given the components it contains.

11 **Dimension** **preferredLayoutSize***Containerparent*

Calculates the preferred size dimensions for the specified container, given the components it contains.

12 **void** **putConstraint***Stringe1, Componentc1, intpad, Stringe2, Componentc2*

Links edge e1 of component c1 to edge e2 of component c2, with a fixed distance between the edges.

13 **void** **putConstraint***Stringe1, Componentc1, Springs, Stringe2, Componentc2*

Links edge e1 of component c1 to edge e2 of component c2.

14 **void** **removeLayoutComponent***Componentc*

Removes the constraints associated with the specified component.

Methods inherited

This class inherits methods from the following classes:

- java.lang.Object

SpringLayout Example

Create the following java program using any editor of your choice in say **D:/ > SWING > com > tutorialspoint > gui >**

SwingLayoutDemo.java

```
package com.tutorialspoint.gui;

import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

public class SwingLayoutDemo {
    private JFrame mainFrame;
    private JLabel headerLabel;
    private JLabel statusLabel;
    private JPanel controlPanel;
    private JLabel msgLabel;

    public SwingLayoutDemo(){
        prepareGUI();
    }

    public static void main(String[] args){
        SwingLayoutDemo swingLayoutDemo = new SwingLayoutDemo();
        swingLayoutDemo.showSpringLayoutDemo();
    }

    private void prepareGUI(){
        mainFrame = new JFrame("Java SWING Examples");
        mainFrame.setSize(400,400);
        mainFrame.setLayout(new GridLayout(3, 1));

        headerLabel = new JLabel("", JLabel.CENTER );
        statusLabel = new JLabel("", JLabel.CENTER);

        statusLabel.setSize(350,100);
        mainFrame.addWindowListener(new WindowAdapter() {
            public void windowClosing(WindowEvent windowEvent){
                System.exit(0);
            }
        });
        controlPanel = new JPanel();
        controlPanel.setLayout(new FlowLayout());

        mainFrame.add(headerLabel);
        mainFrame.add(controlPanel);
        mainFrame.add(statusLabel);
        mainFrame.setVisible(true);
    }

    private void showSpringLayoutDemo(){

        headerLabel.setText("Layout in action: SpringLayout");
        SpringLayout layout = new SpringLayout();

        JPanel panel = new JPanel();
        panel.setLayout(layout);
        JLabel label = new JLabel("Enter Name: ");
        JTextField textField = new JTextField("", 15);
        panel.add(label);
        panel.add(textField);
    }
}
```

```
layout.putConstraint(SpringLayout.WEST, label, 5,  
    SpringLayout.WEST, controlPanel);  
layout.putConstraint(SpringLayout.NORTH, label, 5,  
    SpringLayout.NORTH, controlPanel);  
layout.putConstraint(SpringLayout.WEST, textField, 5,  
    SpringLayout.EAST, label);  
layout.putConstraint(SpringLayout.NORTH, textField, 5,  
    SpringLayout.NORTH, controlPanel);  
layout.putConstraint(SpringLayout.EAST, panel, 5,  
    SpringLayout.EAST, textField);  
layout.putConstraint(SpringLayout.SOUTH, panel, 5,  
    SpringLayout.SOUTH, textField);  
controlPanel.add(panel);  
mainFrame.setVisible(true);  
}  
}
```

Compile the program using command prompt. Go to **D:/ > SWING** and type the following command.

```
D:\SWING>javac com\tutorialspoint\gui\SwingLayoutDemo.java
```

If no error comes that means compilation is successful. Run the program using following command.

```
D:\SWING>java com.tutorialspoint.gui.SwingLayoutDemo
```

Verify the following output

```
Loading [MathJax]/jax/output/HTML-CSS/jax.js
```