Java: Difference between the setPreferredSize() and setSize() methods in components

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Ok, I read the Java Documentation and I just can't figure out what is the main difference between those two methods. Sometimes I used `setSize()`, sometimes `setPreferredSize()`, sometimes one does what I want, sometimes the other.

So, what is the main difference between the two? Which one should I use for `JFrames` and `JPanels` ?

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Thanks

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java   swing   jframe   jpanel

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edited May 25 '13 at 16:20
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5,470 ● 4 ● 27 ● 43

asked Nov 23 '09 at 15:21
David Robles
7,135 ● 5 ● 32 ● 43

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The short answer is: it's complicated.

The slightly longer answer is: use `setSize()` if your component's parent has no layout manager, and `setPreferredSize()` and its related `setMinimumSize` and `setMaximumSize` if it does.

`setSize()` probably won't do anything if the component's parent is using a layout manager; the places this will typically have an effect would be on top-level components (`JFrames` and `JWindows`) and things that are inside of `scrolled panes` . You also must call `setSize()` if you've got components inside a parent without a layout manager.

As a general rule, `setPreferredSize()` should do the "right thing" if you've got a layout manager; most layout managers work by getting the preferred (as well as minimum and maximum) sizes of their components, and then using `setSize()` and `setLocation()` to position those components according to the layout's rules. So (as an example) a `BorderLayout` will try to make the bounds of its "north" region equal to the `preferred size` of its north component - they may end up larger or smaller than that, depending on the size of the `jframe` , the size of the other components in the layout, and so on.

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answered Nov 23 '09 at 15:32
Sbodd
8,923 ● 4 ● 36 ● 40

1   I thought a component was using a layout manager by default (BorderLayout?), so if I don't explicitly set a layout manager does that mean I should use setSize() instead of setPreferredSize()? – David Robles Nov 23 '09 at 15:35

3   I believe JPanels use BorderLayout by default, but JComponent has no default layout. Most of the time, you're better off setting a layout manager if you'll be adding something instead of using setSize(). – Sbodd Nov 23 '09 at 16:05

8   My recommendation is to always use a layout manager. SetSize() should be thought of as something that the layout manager calls - not something that you call. – Kevin Day Nov 24 '09 at 4:05

8   @Sbodd - JPanels have a FlowLayout by default. JFrame.getContentPane() has a BorderLayout by default. – Nemi Nov 25 '09 at 0:30

`setSize()` or `setBounds()` can be used when no layout manager is being used.

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However, if you are using a layout manager you can provide hints to the layout manager using the `setXXXSize()` methods like `setPreferredSize()` and `setMinimumSize()` etc.

And be sure that the component's container uses a layout manager that respects the requested size. The `FlowLayout`, `GridBagLayout`, and `SpringLayout` managers use the component's preferred size (the latter two depending on the constraints you set), but `BorderLayout` and `GridLayout` usually don't.If you specify new size hints for a component that's already visible, you need to invoke the revalidate method on it to make sure that its containment hierarchy is laid out again. Then invoke the repaint method.

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edited May 25 '13 at 16:15
0x6C38
5,470 ● 4 ● 27 ● 43

answered Nov 23 '09 at 15:57
Varun
879 ● 7 ● 21

`setSize` will resize the component to the specified size.

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`setPreferredSize` sets the preferred size. The component may not actually be this size depending on the size of the container it's in, or if the user re-sized the component manually.

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answered Nov 23 '09 at 15:26
Glen
18.4k ● 3 ● 55 ● 75

Can you show a full example of setPreferredSize(...). I think that this would be helpful. – Doug Hauf Feb 8 '14 at 22:13

IIRC ...

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`setSize` sets the size of the component.

`setPreferredSize` sets the preferred size. The Layoutmanager will try to arrange that much space for your component.

It depends on whether you're using a layout manager or not ...

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answered Nov 23 '09 at 15:29
miku
134k ● 36 ● 254 ● 279

and what if I add two jpanels to a jframe without specifying a layout manager explicitly for the jframe? what method should i used to set the size of the jpanels? – David Robles Nov 23 '09 at 15:32

3 Content panes use BorderLayout by default (java.sun.com/docs/books/tutorial/uiswing/layout/using.html). So the JFrame's contentpane has a LayoutManager, so setPreferredSize *should* work .. – miku Nov 23 '09 at 15:36

Sounds good, that means I should use setSize for the JFrame and setPreferredSize for the components inside – David Robles Nov 23 '09 at 15:38

According to the docs, i'd say so ... – miku Nov 23 '09 at 15:39

1 You would generally use frame.pack() to take advantage of the calculated preferred size of all the child components. Otherwise if you just randomly use frame.setSize(), then the components added to the content pane will expand/contract to fit the space available, which means the preferred size of each component may be
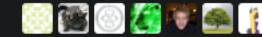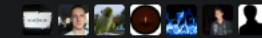
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pane will expand/contract to fit the space available, which means the preferred size of each component may be overridden. – camickr Nov 23 '09 at 17:05

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