

FRAMES

A Frame is a top-level window with a title and a border. Frames are capable of generating the following types of window events: WindowOpened, WindowClosing, WindowClosed, WindowIconified, WindowDeiconified, WindowActivated, WindowDeactivated.

Frame Constructor

Frame()

Constructs a new instance of `Frame` that is initially invisible.

Frame(String)

Constructs a new, initially invisible `Frame` object with the specified title.

Some of the commonly used methods of `Frame` class are as follows.

Methods	Description
<code>String getTitle()</code>	Gets the title of the frame.
<code>void setBackground(Color bgColor)</code>	Sets the background color of this window.
<code>void setResizable (boolean resizable)</code>	Sets whether this frame is resizable by the user.
<code>void setShape (Shape shape)</code>	Sets the shape of the window.
<code>void setTitle (String title)</code>	Sets the title for this frame to the specified string.
<code>void setSize (Dimension d)</code>	Resizes this component so that it has width d. width and height d.height.
<code>void setVisible(boolean b)</code>	Shows or hides this Window depending on the value of parameter b.
<code>public void show()</code>	Makes the Window visible
<code>void setMenuBar (MenuBar) mb)</code>	Sets the menu bar for this frame to the specified menu bar

Creating a Frame

We can generate a window by creating an instance of `Frame`. The created frame can be made visible by calling `setVisible( )`. When created, the window is given a default height and width. The size of the window can be changed explicitly by calling the `setSize( )` method. A

label can be added to the current frame by creating an Label instance and calling the add() method.

Example:

```
import java.awt.*; public  
  
class AwtFrame{  
  
    public static void main(String[] args){  
  
        Frame frm = new Frame("Java AWT Frame");  
  
        Label lbl = new Label("Welcome",Label.CENTER);  
  
        frm.add(lbl);  
  
        frm.setSize(400,400);  
  
        frm.setVisible(true);  
  
    }  
  
}
```

Sample Output:



Creating an Frame Window in an Applet

The steps to be followed to create a child frame within an applet are as follows.

1. Create a subclass of Frame

2. Override any of the standard window methods, such as init(),start(),stop(),and paint().
3. Implement the windowClosing() method of the WindowListener interface,calling setVisible(false) when the window is closed
4. Once you have defined a Frame subclass, you can create an object of that class. But it will not be initially visible
5. When created, the window is given a default height and width
6. You can set the size of the window explicitly by calling the setSize() method

Example:

AppletFrame.java

// Create a child frame window from within an applet.

import java.awt.;*

import java.awt.event.;*

import java.applet.;*

// Create a subclass of Frame.

class SampleFrame extends Frame {

SampleFrame(String title) {

super(title);

// create an object to handle window events

MyWindowAdapter adapter = new MyWindowAdapter(this);

// register it to receive those events

addWindowListener(adapter);

}

*public void paint(Graphics g) { g.drawString("This
is in frame window", 10, 40);*

}

}

class MyWindowAdapter extends WindowAdapter {

SampleFrame sampleFrame;

public MyWindowAdapter(SampleFrame sampleFrame) {

this.sampleFrame = sampleFrame;

}

public void windowClosing(WindowEvent we) {

sampleFrame.setVisible(false);

}

}

// Create frame window.

```
public class AppletFrame extends Applet { Frame
```

```
f;
```

//init(), start(), paint(), and stop() methods are called automatically in the specified sequence.

```
public void init() {
```

```
f = new SampleFrame("A Frame Window");
```

```
f.setSize(150, 150);
```

```
f.setVisible(true);
```

```
}
```

```
public void start() {
```

```
f.setVisible(true); // make the window visible
```

```
}
```

```
public void stop() { f.setVisible(false); //
```

```
hide the window
```

```
}
```

```
public void paint(Graphics g) {
```

```
g.drawString("This is in applet window", 15, 30); // Display the given text in the win- dow
```

```
}
```

```
}
```

Test1.html

```
<html>
```

```
<body>
```

```
<applet code="AppletFrame.class" width="400" height="300">
```

```
</applet>
```

```
</body>
```

```
</html>
```

Sample Output:

