21IS016
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5TH SEM ‘A’ SEC

CREATING SWING APPLET

[J2EE PRESENTATION]

CREATING A SWING APPLET

Advance java concept

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INTRODUCTION TO SWING

Swing is a Java Foundation Classes [JFC] library and an extension of the Abstract Window Toolkit [AWT]. Swing offers much-improved functionality over AWT, new components, expanded components features, and excellent event handling with drag-and-drop support. Here are some of its uses :

- Swing is Provided to Design Graphical User Interfaces
- Swing is more portable and more flexible than AWT, The Swing is built on top of the AWT
- Java Swing Components are Platform -independent And The Swing Components are lightweight
- Swing Supports a Pluggable look and feels And Swing provides more powerful components

INTRODUCTION TO APPLET

An applet is a Java program that can be embedded into a web page. It runs inside the web browser and works at client side. An applet is embedded in an HTML page using the APPLET or OBJECT tag and hosted on a web server.

1. All applets are sub -classes of *java.applet.Applet* class.
2. Applets are not stand -alone programs. Instead, they run within either a web browser or an applet viewer. JDK provides a standard applet viewer tool called applet viewer.
3. In general, execution of an applet does not begin at main() method.
4. Output of an applet window is not performed by *System.out.println ()*. Rather it is handled with various AWT methods, such as *drawString()*.

SWING APPLET IN JAVA

Swing applets in Java refer to Java applets that use the Swing framework for creating graphical user interfaces (GUIs) within a web browser. Applets were a technology used in the early days of Java for creating dynamic and interactive content on web pages. Swing, being a GUI framework, can be used to develop the user interface for these Java applets.

Here's a brief overview of how Swing applets work

1. **Applet Class**: An applet in Java is a special kind of program that is designed to be embedded within an HTML page and run in a web browser. To create a Swing applet, you typically extend the **`JApplet`** class, which is a subclass of the `Applet` class in the AWT (Abstract Window Toolkit) and includes support for Swing components.

2. **GUI Components:** Within the `JApplet` subclass, you can use Swing components to build the user interface of your applet. This includes components like buttons, labels, text fields, etc.

3. **Lifecycle Methods:** Applets have certain lifecycle methods, such as `init()`, `start()`, `stop()`, and `destroy()`. In the context of a Swing applet, you might use the `init()` method to initialize your GUI components and set up the initial state of your applet.

HOW TO CREATE SWING APPLET

STEPS TO CREATE SWING APPLET

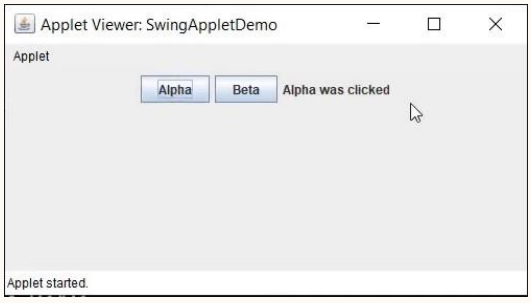
- We need to import the packages for Swing and AWT Components.
- Once the packages are imported, we need to create the class that implements the ActionListener interface.
- Then we need to initialize all the required GUI components like labels, buttons, and input fields.
- We will create the JPanel to align and arrange all the GUI components in the Grid layout.
- Then we will set up the event listener for registering the applet as the action listener for the Multiply button.
- We will handle the button click in the actionPerformed() method to perform the multiply operation and show the result.
- We will make the HTML file to run the applet.
- We have to compile the Java code using Javac and then we need to run using appletviewer.

PROGRAM:

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

public class swingappletdemo extends JApplet
{
        public void init()
        {
                try
                {
                        SwingUtilities.invokeAndWait(new Runnable()
                        {
                                public void run()
                                {
                                        makeGUI();
                                }
                        });
                }catch(Exception e)
                {
                        System.out.println(e);
                }
        }
```

```
void makeGUI()

        {
                setLayout(new FlowLayout());
                JBotton b1=new JButton("Alpa");
                JBottun b2=new JButton("Beta");
                JLabel l1=new JLabel("click here");

                add(b1);
                add(b2);
                add(l1);

                b1.addActionListener(new ActionListener()
                {
                        public void actionPerformed(ActionEvent ae)
                        {
                                l1.setText("alpa was clicked");
                        }
                });

                b2.addActionListener(new ActionListener()
                {
                        public void actionPerformed(ActionEvent ae)
                        {
                                l1.setText("beta was clicked");
                        }
                });
        }
}
```

OUTPUT



OUTCOME:

This ppt helped me to learn about SWING APPLETS in advance java used for web applications, simulation and modelling and customized user interface. Also, it is of course once popular choice for web-based applications, newer web technologies and security considerations have led to decline their usage as JavaFX or JavaScript and HTML5 is commonly employed.