



Core Java

Unit 5



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AWT



Java AWT (Abstract Window Toolkit) is an API to develop GUI or window-based applications in java.



Java AWT components are platform-dependent.

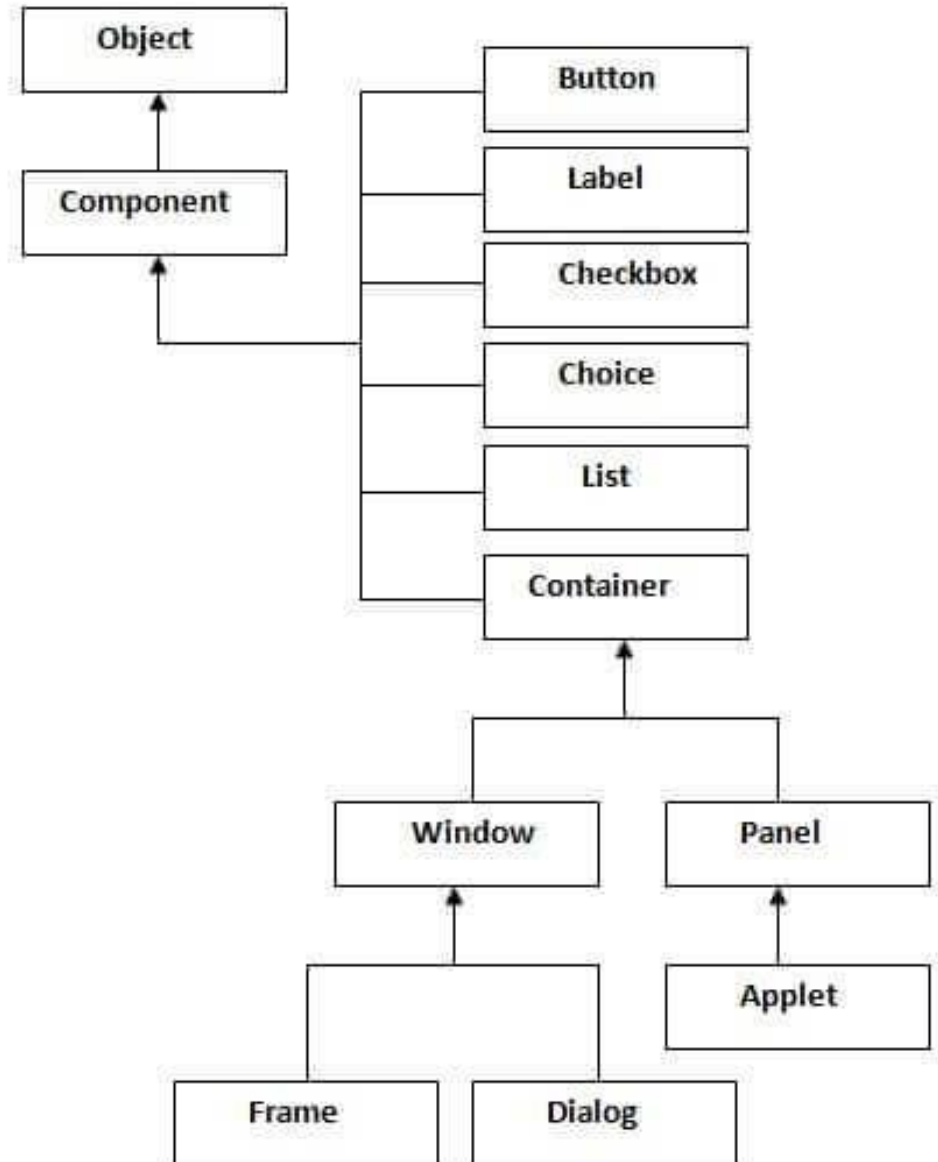


AWT is heavyweight i.e. its components are using the resources of OS.



Package used – java.awt

AWT Hierarchy





Container

The diagram illustrates the concept of a Container in AWT. At the top, a dark gray rectangle is labeled 'Container'. To its left is a blue square, and to its right is a gray square. Below the 'Container' rectangle, there are two rounded rectangular boxes. The left box has a blue header and a light blue body, containing text about the Container's role. The right box has a blue header and a light blue body, containing text about classes that extend the Container class.

The Container is a component in AWT that can contain another components like buttons, textfields, labels etc.

The classes that extends Container class are known as container such as Frame, Dialog and Panel.

Different Containers

Window

- The window is the container that have no borders and menu bars. You must use frame, dialog or another window for creating a window.

Panel

- The Panel is the container that doesn't contain title bar and menu bars. It can have other components like button, textfield etc.

Frame

- The Frame is the container that contain title bar and can have menu bars. It can have other components like button, textfield etc.

Applet

- An applet is a Java program that can be embedded into a web page.

Component

- Component is the superclass of most of the displayable classes defined within the AWT.

Methods	Description
public void add(Component c)	inserts a component on this component.
public void setSize(int width,int height)	sets the size (width and height) of the component.
public void setLayout(LayoutManager m)	defines the layout manager for the component.
public void setVisible(boolean status)	changes the visibility of the component, by default false.

Creating Frame

There are two ways to create a frame in AWT

- By extending Frame class (inheritance)
- By creating the object of Frame class (association)

Constructor

- `Frame()`
- `Frame(String title)`

Methods

- `public void setSize(int width,int height)`
- `public void setLayout(LayoutManager m)`
- `public void setVisible(boolean status)`
- `public void remove(Component c)`
- `public void removeAll()`

Label

- The label is a passive control that do not support any interaction with users and used to display stream

Constructor

Label()

Label(String str)

Label(String str,int how)

Method

void setText(String str)

String getText()

void setAlignment(int how)

int getAligment()

Button

It is a component that contains a label and generates an event when it is clicked

Constructor

Button()

Button(String str)

Method

void setLabel(String str)

String getLabel()

Layout Manager

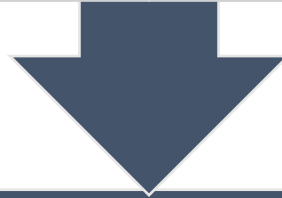
LayoutManager is an interface that is implemented by all the classes of layout managers.

java.awt.BorderLayout

java.awt.FlowLayout

java.awt.GridLayout

java.awt.CardLayout



BorderLayout is the default Layout for AWT Frame

FlowLayout

- Constructor

1. `FlowLayout()`

2. `FlowLayout(int how)`-> `FlowLayout.LEFT`,`FlowLayout.RIGHT`,`FlowLayout.CENTER`,`FlowLayout.LEADING`,`FlowLayout.TRAILING`

3. `FlowLayout(int how,int horz,int vert)`

Fill in the blanks

Panel container doesn't contain title bar and Menu bar but it can have other components like button, textfield etc

setText(String text) method is used to set or change the text in a Label.

BorderLayout is the default Layout of AWT Frame Container.

setLabel(String text) method is used to set or change the text in a Button.

Applet is a Java program that can be embedded into a web page.



Thank You