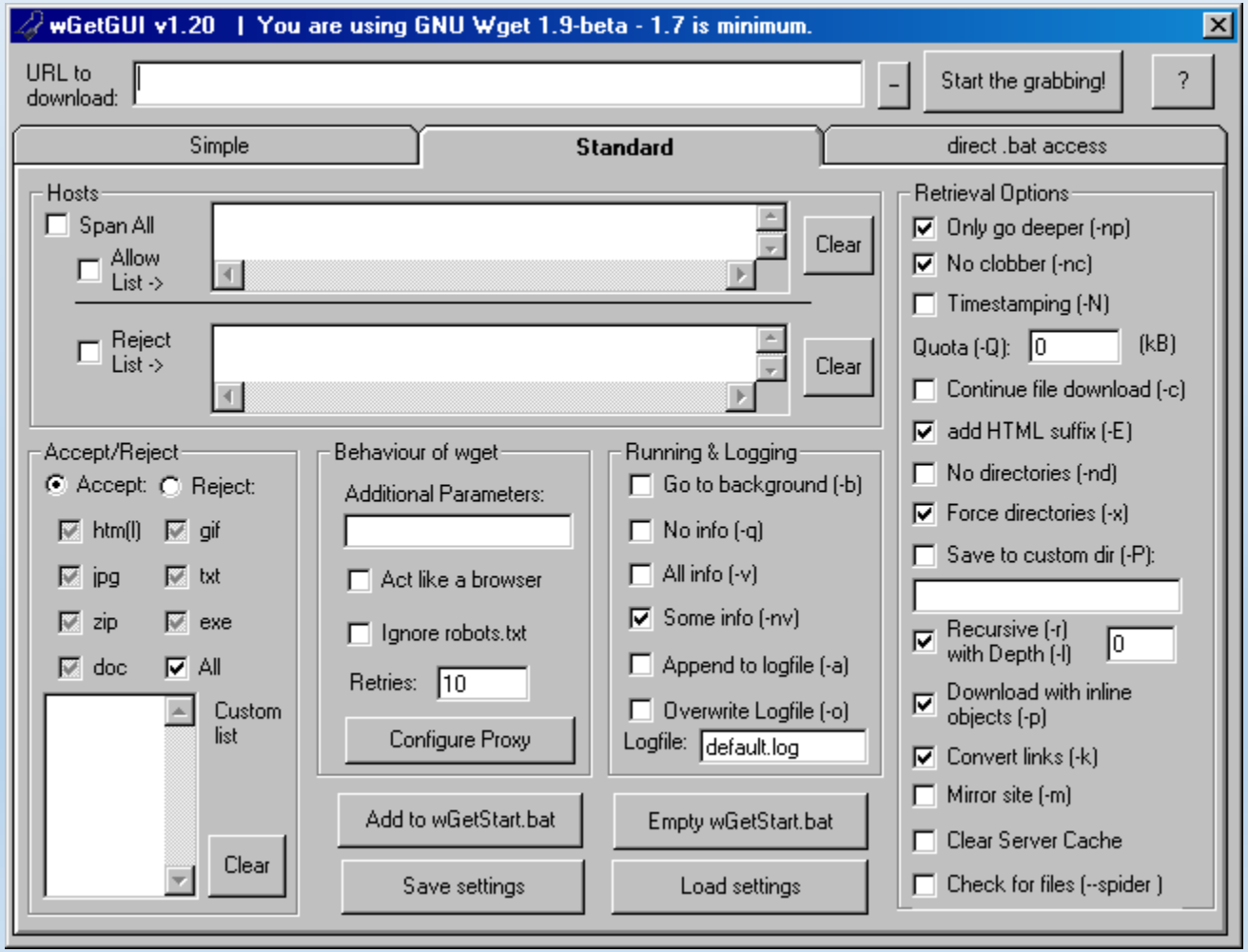
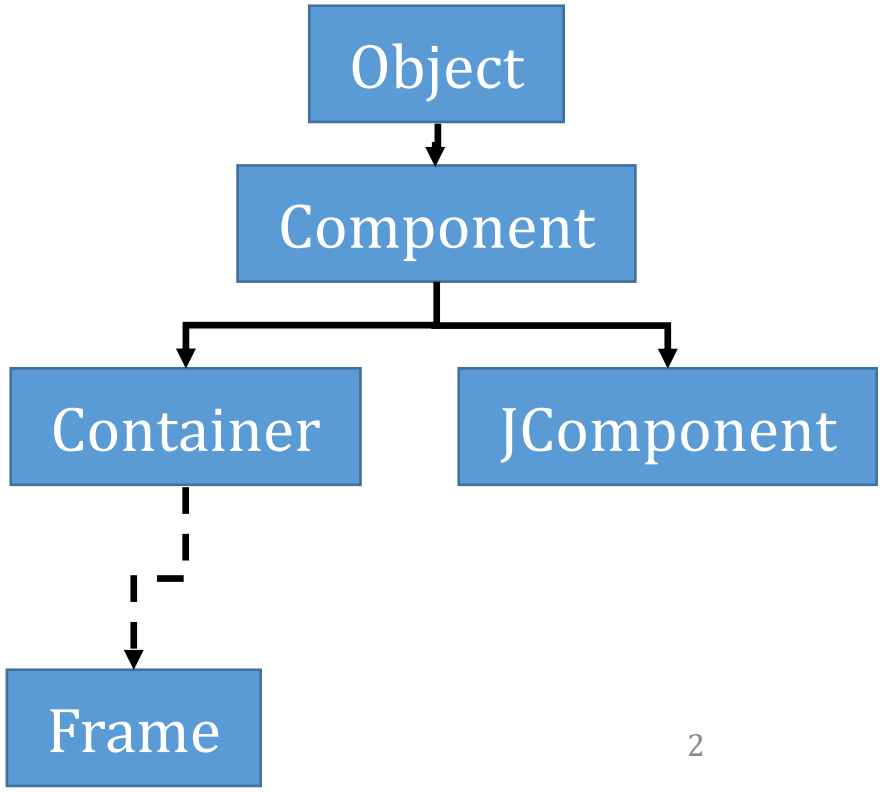
Swing Introduction



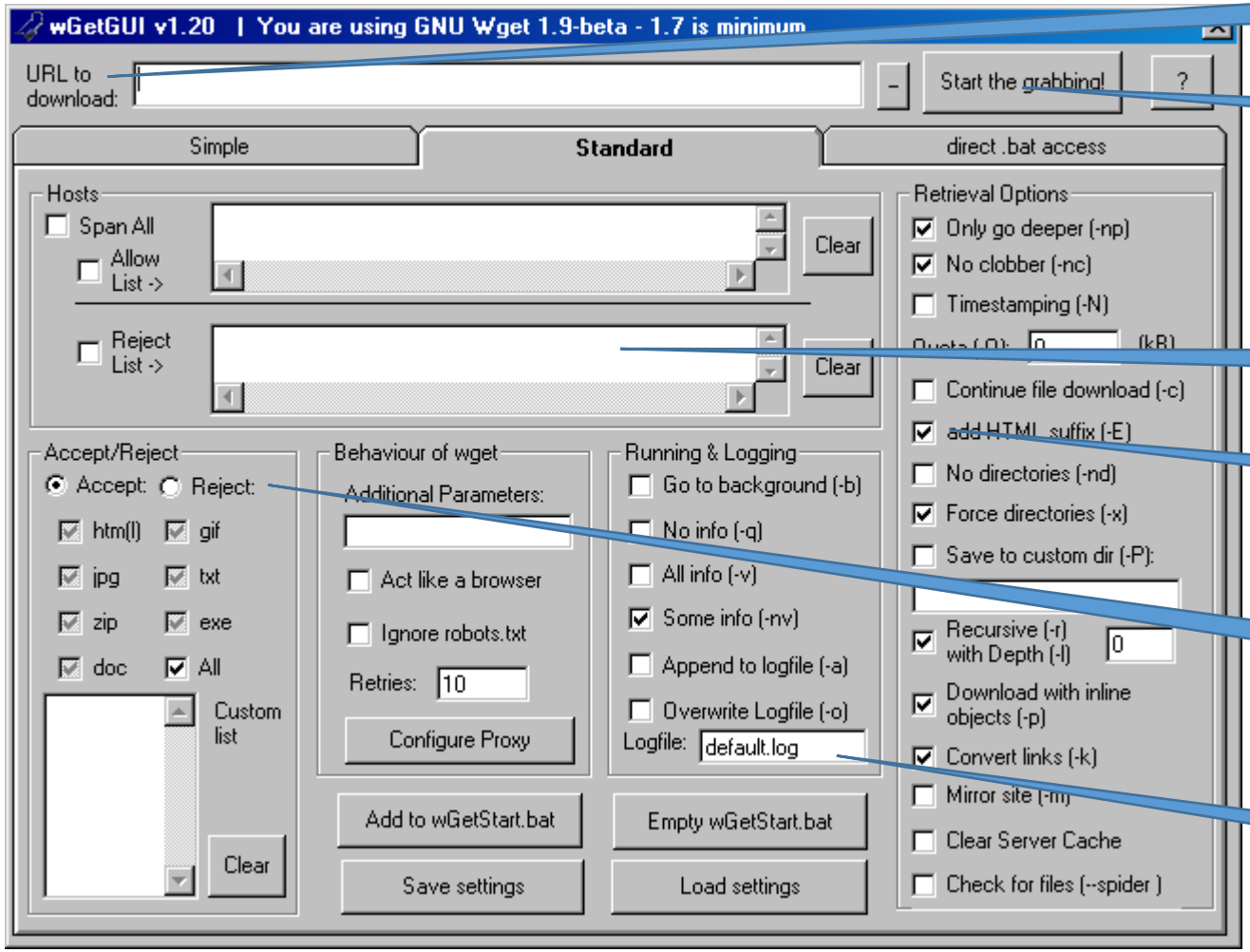
Chapter 20

Swing is Rectangular

- You get a rectangular window from the X server or "Frame"
- You fill up that rectangular window with rectangular components
  - Think of these as two dimensional "blocks"
- The basic class in Swing is "Component"
  - public void setSize(int width,int height)
- There are two kinds of components:
  - Container (Contains other components)
  - JComponent (These are widgets)

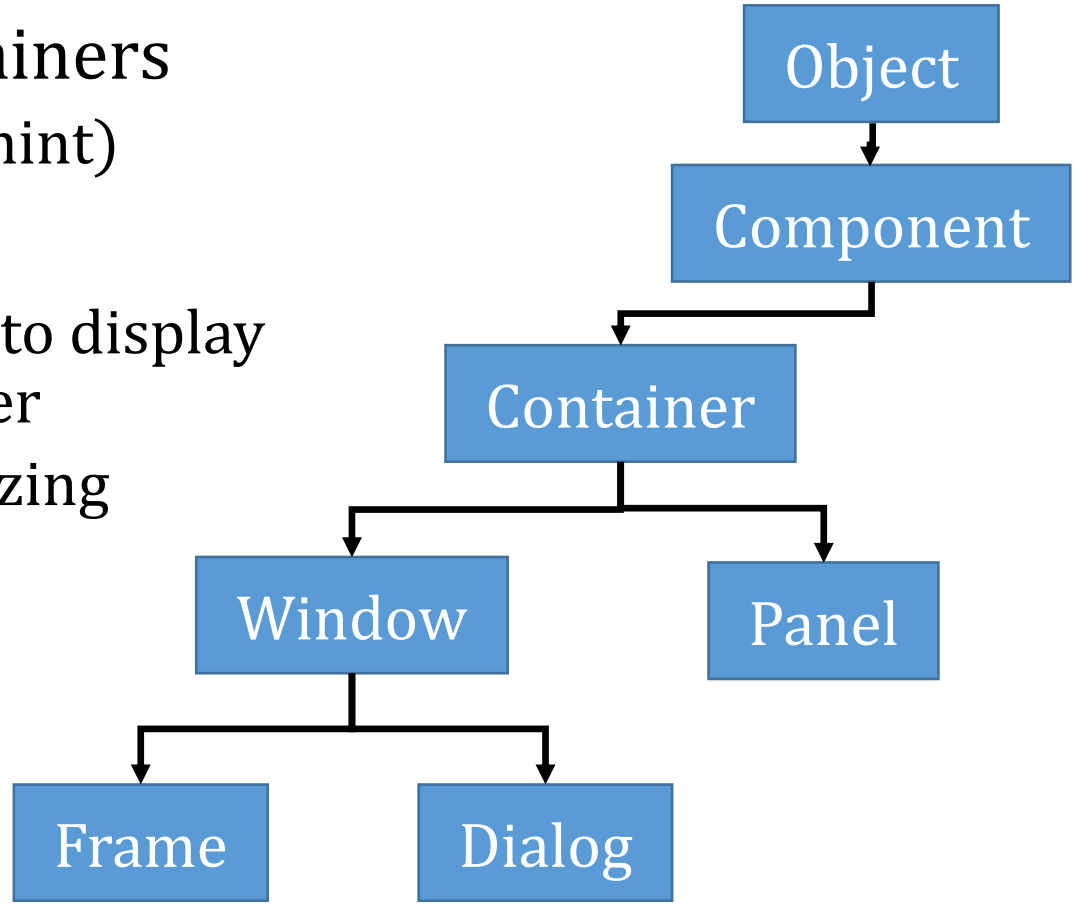


Common Swing Widgets (Components)



Containers

- We put components inside containers
  - container.add(component,layout-hint)
- Layout Management
  - We need to tell the container how to display components relative to one another
  - We need to manage container resizing



BootStrapping the event loop w/lambda

```
class MyGui {
    public void create() {
            // Create and show GUI
        }

    public static void main(String[] args) {
        MyGui gui = new MyGui();
        javax.swing.SwingUtilities.invokeLater(()->gui.create()));
    }
}
```

Runs Event Loop

First event on the queue

Reacting to User Actions

- Swing provides the capability to register a callback
  - When a button is pushed
  - When the value in a widget changes
  - etc.

- Callbacks can:
  - Perform computations
  - Modify the GUI
  - etc.