

# Прекрасный мир Java

Часть 9.

SWT, AWT, Swing

## ОСНОВНЫЕ КЛАССЫ

- Display
- Shell

```
Display display = new Display();
Shell shell = new Shell(display);
shell.open();
while (!shell.isDisposed()) {
    if (!display.readAndDispatch()) {
        display.sleep();
    }
}
display.dispose();
```

Библиотеку SWT, как и другие библиотеки, необходимо подключать к проекту и публиковать вместе с ним.

MANIFEST.MF:

Require-Bundle: org.eclipse.swt

Традиционно конструкторы виджетов принимают 2 аргумента:  
родительский виджет и битовую маску стилей.

```
new Button(shell, SWT.PUSH);
```

```
new Button(shell, SWT.CHECK);
```

<http://www.eclipse.org/swt/widgets/>

```
Button button = new Button(shell, SWT.PUSH);

button.addSelectionListener(
    new SelectionAdapter() {

        @Override
        public void widgetSelected (SelectionEvent e)
        {
            System.out.println("Selected!");
        }
    });
```

# Global key listener

```
display.addFilter(SWT.KeyDown, new Listener() {  
  
    @Override  
    public void handleEvent(Event event) {  
        char c = event.character;  
        System.out.println(c);  
    }  
});
```

- Composite
- Group
- SashForm
- TabFolder



LayoutManager – определяет  
расположение виджетов  
относительно контейнера

- AbsoluteLayout
- FillLayout
- RowLayout
- GridLayout
- FormLayout

# LayoutData – специфические особенности виджета

```
button = new Button(parent, SWT.PUSH);  
GridData gridData = new GridData();  
gridData.horizontalSpan = 2;  
button.setLayoutData(gridData);
```

Тип LayoutData должен совпадать с типом LayoutManager.

Для каждого виджета свой экземпляр LayoutData.

# FillLayout

SWT.HORIZONTAL / SWT.VERTICAL

spacing

marginWidth

marginHeight

```
FillLayout fillLayout = new FillLayout();  
fillLayout.type = SWT.VERTICAL;  
  
shell.setLayout(fillLayout);  
  
new Button(shell, SWT.PUSH).setText("B1");  
  
new Button(shell, SWT.PUSH).setText(  
    "Wide Button 2");  
  
new Button(shell, SWT.PUSH).setText(  
    "Button 3");
```

# GridLayout и GridData

horizontalAlignment	Горизонтальное выравнивание (SWT.LEFT, SWT.CENTER, SWT.RIGHT, SWT.FILL)
verticalAlignment	Вертикальное выравнивание (SWT.TOP, SWT.CENTER, SWT.BOTTOM, SWT.FILL).
grabExcessHorizontalSpace grabExcessVerticalSpace	Захват свободного места
horizontalSpan	Количество столбцов
verticalSpan	Количество строк
heightHint	Желаемая высота
widthHint	Желаемая ширина

```
GridLayout gridLayout = new GridLayout();  
gridLayout.numColumns = 3;  
shell.setLayout(gridLayout);
```

```
new Button(shell, SWT.PUSH).setText("B1");  
new Button(shell, SWT.PUSH).setText(  
    "Wide Button 2");  
new Button(shell, SWT.PUSH).setText(  
    "Button 3");  
new Button(shell, SWT.PUSH).setText("B4");  
new Button(shell, SWT.PUSH).setText(  
    "Button 5");
```

```
shell.pack();
```

```
GridData gridData = new GridData();  
gridData.horizontalAlignment = GridData.FILL;  
gridData.grabExcessHorizontalSpace = true;  
button5.setLayoutData(gridData);
```

Window

Label TextInput

Label ComboBox Button

Label

Item One  
Item Two  
Item Three  
Item four  
Item five

Button

Button

GroupBox

☐ CheckBox TextInput

☐ Option 1  
☒ Option 2 (selected)  
☐ Option 3 (disabled)  
☐ Option 4 (selected and disabled)

Button

Button

Window

Label TextInput

Label ComboBox Button

Label

Item One  
Item Two  
Item Three  
Item four  
Item five

Button

Button

GroupBox

☐ CheckBox TextInput

☐ Option 1  
☒ Option 2 (selected)  
☐ Option 3 (disabled)  
☐ Option 4 (selected and disabled)

Button

Button



## FormLayout, FormData, FormAttachment

```
FormData data = new FormData();  
data.top = new FormAttachment(0, 5);  
data.bottom = new FormAttachment(100, -5);  
data.left = new FormAttachment(0, 5);  
data.right = new FormAttachment(100, -5);  
button.setLayoutData(data);
```

FormAttachment(a, b)

$$X = width \cdot a + b$$

FormAttachment (button, 0, SWT.CENTER);

Window

Label TextInput

Label ComboBox Button

Label

Item One  
Item Two  
Item Three  
Item four  
Item five

Button

Button

GroupBox

☐ CheckBox TextInput

☐ Option 1  
☒ Option 2 (selected)  
☐ Option 3 (disabled)  
☒ Option 4 (selected and disabled)

Button

Button

Window

Label TextInput

Label ComboBox Button

Label

Item One  
Item Two  
Item Three  
Item four  
Item five

Button

Button

GroupBox

☐ CheckBox TextInput

☐ Option 1  
☒ Option 2 (selected)  
☐ Option 3 (disabled)  
☒ Option 4 (selected and disabled)

Button

Button