Course API Comparison
Chapter C10: A JavaFX Application

For an introduction see: **JavaFX** and **http://javafx.com**.
Comparison JavaFX vs. Flash vs. Silverlight: **by Terence Tsang**

JavaFX is a **Domain Specific Language DSL** intended to create GUIs. It wraps Java's old fashioned **Swing** and **Java 2D-**APIs and simplifies their usage.
The JavaFX-compiler just produces normal Java byte code and its result runs on any Java virtual machine.

Preliminaries

Sun Microsystems offers two popular development environments to write JavaFX-code: **NetBeans IDE 6.5.1** and **JavaFX Plugin for Eclipse**.
They are equivalent but both are far away from being luxurious GUI programming tools.
They offer a poor component library, no graphic editor and no layout manager.
Consequence: Up to now JavaFX cannot compete with Flash/Flex and Silverlight.

The following description is for NetBeans.

1) Download and install **NetBeans IDE 6.5.1 Download** → `jdk-6u14-javafx-1_2-windows-i586.exe` → 118 MB.
2) Create a directory `C:\temp\JavaFX`.

Main.fx

Start NetBeans 6.5.1 IDE → `File → New Project... → Choose File Type → Project: compareJavaFX Categories: JavaFX → Next → Name and Location → Class Name: compareJavaFX → Finish`.
Open `Main.fx` and replace any existing code by:

```
package comparejavafx;

import javafx.scene.Scene;
import javafx.scene.text.Font;
import javafx.stage.Stage;
import javafx.scene.control.Button;
import javafx.scene.layout.HBox;
import javafx.scene.control.TextBox;
import javafx.scene.transform.Scale;
```

```
var button1Width:Float  = 100;
var button2Width:Float  = 100;
var labelWidth  :Float  = 400;
var width       :Float  = button1Width + button2Width + labelWidth + 10;
var height      :Float  =  40;
var startText   = "JavaFx Application. Resize!";
var font        = Font { size: 18 }
var text        = startText;
var scene: Scene = bind Scene
{ width  :width
  height :height
  content:hBox
}
var scaleW :Float = bind scene.width /width;
var scaleH :Float = bind scene.height/height;
var scale  :Float = bind if ( scaleW < scaleH ) then scaleW else scaleH;

def button1 = Button
{ text      :"Talk!"
  font      :bind font
  width     :bind button1Width;
  action    :function() { text = startText }
}
def button2 = Button
{ text      :"Clear"
  font      :bind font
  width     :bind button2Width;
  action    :function() { text = ""; }
}
def label = TextBox
{ text      :bind text
  font      :bind font
  width     :bind labelWidth;
  editable  :true
}
def hBox = HBox
{ content   :[button1, label, button2]
  transforms:bind [Scale.scale( scale, scale )]
  spacing   :5
};
def stage = Stage
{ title     :"JavaFX Resizable Text"
  scene     :scene
}
```

Run → Run Main Project F6.
NetBeans will create a `C:\temp\JavaFX\compareJavaFX`-directory containing the whole Project.
Sub-directory `C:\temp\JavaFX\compareJavaFX\dist` will contain the executable result `compareJavaFX.jar`.

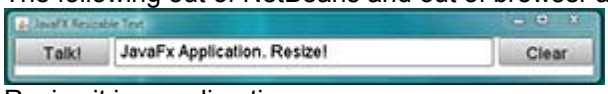
Start compareJavaFX.jar without NetBeans

Unfortunately `*.jar`-files do not start as `*.exe`-files do.
They must be started by a tedious console **JAR-launcher program**.
The JavaFX-SDK which has been installed during the NetBeans IDE 6.7 installation contains such a JAR-launcher named `javafx.exe`.
It is hidden in a directory such as `C:\Program Files\NetBeans\javafx2\javafx-sdk\bin`.
The path can be different depending on your choices during the NetBeans installation dialogue.
Here is a batch program that you should copy via Notepad into an `execute.bat` file.
Then you must find out where the launcher `javafx.exe` and where the `compareJavaFX.jar` really are and you have to edit `execute.bat` accordingly.

```
cd C:\Program Files\NetBeans\javafx2\javafx-sdk\bin
javafx -jar C:\temp\JavaFX\compareJavaFX\dist\compareJavaFX.jar
cd C:\temp\JavaFX\compareJavaFX
```

After having adjusted the paths, store `execute.bat` to the project directory `C:\temp\JavaFX\compareJavaFX`.
Now you have to start the black console window.
Click the Windows-icon in the lower left corner of your screen.
Type `cmd` in the `Start Search` text field. The console window will open.
Now you have to switch the directory by typing `cd C:\temp\JavaFX\compareJavaFX` into the last line of the console.
After arriving in this directory type `dir` and check whether you detect `execute.bat`.
Type `execute` + return key.

The following out of NetBeans and out of browser application starts:



Resize it in any direction.
The fluid content is not very fluid. It follows quite slowly with some delay and looses a lot of resize events.
Bad performance seems to be a general problem of JavaFX programs.
Close the window `JavaFX Resizable Text` and you return to the console where you can start `execute` again.

In order to start the program from the desktop, you have to create a shortcut of `execute.bat` on the desktop:
Windows Explorer → `Computer` → `C:\temp\JavaFX\compareJavaFX` → right click `execute.bat` → context menu → `Send To` → `Desktop (create shortcut)`.
Whenever you click the shortcut, the console window will start first and (after a considerable delay) the window `JavaFX Resizable Text` follows.