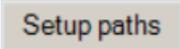


B4X Booklets

B4A B4i B4J B4R

B4X Help tools

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Main contributors: Klaus Christl (klaus), Erel Uziel (Erel)

To search for a given word or sentence use the Search function in the Edit menu.

All the source code and files needed (layouts, images etc.) of the example projects in this booklet are included in the SourceCode folder.

For each program there are three folders.

SourceCode

 MyFirstProgram

 B4A

 MyFirstProgram.b4a

 B4i

 MyFirstProgram.b4i

 B4J

 MyFirstProgram.b4j

Both programs MyFirstProgram and SecondProgram are almost the same for B4A, B4i and B4J.

Updated for following versions:

B4A version 12.80

B4i version 8.50

B4J version 10.00

B4R version 4.00

[B4X Booklets:](#)

B4X Getting Started

B4X Language

B4X IDE Integrated Development Environment

B4X Visual Designer

B4X Help tools

B4XPages Cros-platform projects

B4X CustomViews

B4X Graphics

B4X XUI B4X User Interface

B4X SQLite Database

B4X JavaObject NativeObject

B4R ExamplePrograms

You can consult these booklets online in this link [\[B4X\] Documentation Booklets](#).

Be aware that external links don't work in the online display.

1 B4X platforms

B4X is a suite of programming languages for different platforms.

B4X suite supports more platforms than any other tool

ANDROID | IOS | WINDOWS | MAC | LINUX | ARDUINO | RASPBERRY PI | ESP8266 | AND MORE...

- **B4A**  **Android**

B4A is a **100% free** development tool for Android applications, it includes all the features needed to quickly develop any type of Android app.

- **B4i**  **iOS**

B4i is a development tool for native iOS applications.

B4i follows the same concepts as B4A, allowing you to reuse most of the code and build apps for both Android and iOS.

- **B4J**  **Java / Windows / Mac / Linux / Raspberry PI**

B4J is a **100% free** development tool for desktop, server and IoT solutions.

With B4J you can easily create desktop applications (UI), console programs (non-UI) and server solutions.

The compiled apps can run on Windows, Mac, Linux and ARM boards (such as Raspberry Pi).

- **B4R**  **ARDUINO** **Arduino / ESP8266**

B4R is a **100% free** development tool for native Arduino and ESP8266 programs.

B4R follows the same concepts of the other B4X tools, providing a simple and powerful development tool.

B4R, B4A, B4J and B4i together make the best development solution for the Internet of Things (IoT).

- **B4XPages**

B4XPages is an internal library for B4A, B4i and B4J allowing to develop easily cross-platform programs.

B4XPages is explained in detail in the B4XPages Cross-platform projects booklet.

Even, if you want to develop only in one platform it is interesting to use the B4XPages library it makes the program flow simpler especially for B4A.

2 Help tools

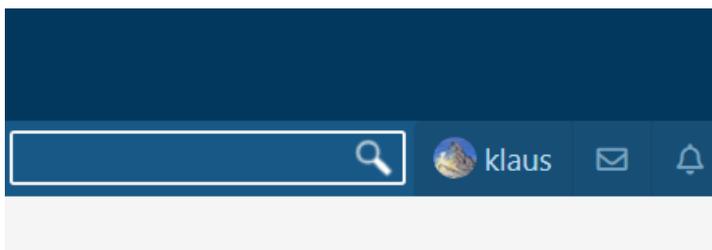
To find answers to many questions about B4X the following tools are very useful.

2.1 Erel is Teaching Programming

Erel has made video tutorials for different subjects

These tutorials can be found in the forum at this link: <https://www.b4x.com/etp.html>

2.2 Search function in the forum



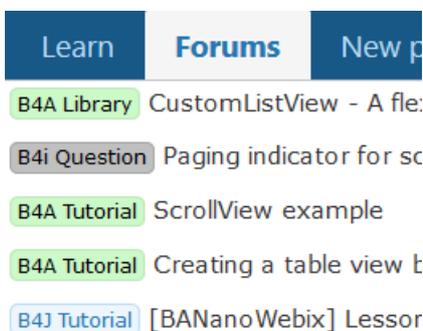
In the upper left corner, you find the search box for the forum. Depending on the window size it can be on the top right side.

Enter a question or any keywords and press 'Return'.

The function shows you the posts that match your request.



Example: Enter the keyword ScrollView.



A list of the result is displayed below the menu.

Click on an item to show the thread.

And the result:

Search Results

All products ▾ Any time ▾ Any prefix ▾ Author

Object documentation: [ScrollView](#)

B4A Library [CustomListView - A flexible list based on ScrollView - Erel](#) Jul 15, 2012

Edit: latest version of CustomList**View** is available here: <https://www.b4x.com/android/#content> The native List**View** is optimized for very large lists. Instead of creating optimization makes it very difficult to customize the items. CustomList**View** is an improvement up to 1000 or...

B4A Tutorial [ScrollView example - Erel](#) Nov 16, 2010 (4 reactions)

The **ScrollView** is a very useful container which allows you to show many other **views** contains the other **views**. The user... add those to a **ScrollView**. <http://www.basic4android.com/forum/thread.php?p=1000000> done by calling: **ScrollView.Panel.AddView(...)** In order to avoid "out... panel height 200dip...

Click on the title to show the selected post.

On the left you have a list of forums which you can filter by products.

Example with B4i:



Search Results

Object documentation: [ScrollView](#)

B4i Question [Paging indicator for scrollview - Keith Yong](#) Apr 21, 2016

Understand that there is a option to set the scrollview with paging function, but how do i show the...
[link](#): Change this line in Page1_Resize: PageControl.SetLayoutAnimated(500, 0.5, 0, 80%y, 100%x, 40dip) O...
[link](#): Change this line in Page1_Resize: PageControl.SetLayoutAnimated(500, 0.5, 0, 80%y, 100%x, 40dip) ...
[link](#): How can I move (and remove) the paging indicator in another position?...

2.3 Search the forum with Google

Sometimes it is interesting to search in the forum with the Google search engine.

Example:

```
site:b4x.com -"Search Results" "[B4X] B4XPages" "Android Tutorial" -questions
```

- -"Search Results" searches for results
- "[B4X] B4XPages" search text filter
- "Android Tutorial" sub forum

Possible sub forums:

- "Android Question"
- "Android Tutorial"
- "Android Example"
- "Android Library"
- "iOS Question"
- "iOS Tutorial"
- "iOS Example"
- "iOS Library"
- "B4J Question"
- "B4J Tutorial"
- "B4J Example"
- "B4J Library"
- Etc

2.4 Latest libraries widget in the forum

In the top right corner, you find the Latest libraries widget which lists the latest updated library versions.

Like B4X? Help us spread the word 

Latest libraries

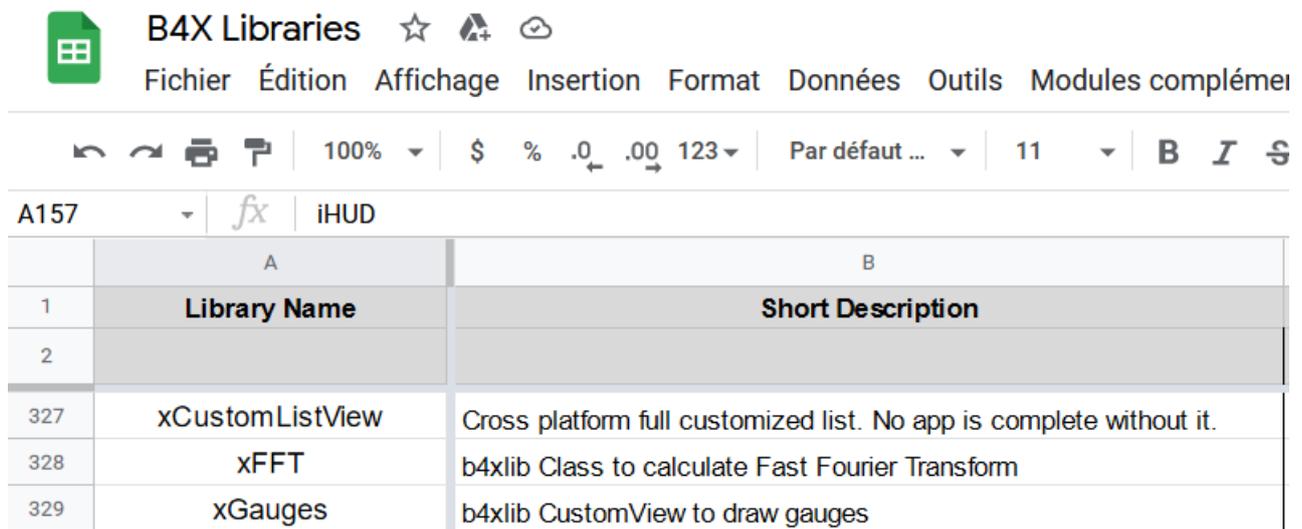
ABMServer
By: Alwaysbusy · version: 1.07
Platforms: B4J

BANanoServer
By: Alwaysbusy · version: 1.23
Platforms: B4J

xChart
By: klaus · version: 6.80
Platforms: B4A, B4i, B4J

2.5 Libraries Google sheet

This [site](#) shows all the libraries available in the forum.



The screenshot shows a Google Sheet interface with the title 'B4X Libraries'. The menu bar includes 'Fichier', 'Édition', 'Affichage', 'Insertion', 'Format', 'Données', 'Outils', and 'Modules compléme...'. The toolbar shows various icons for undo, redo, print, and zoom, along with a zoom level of 100%. The sheet content is as follows:

	A	B
1	Library Name	Short Description
2		
327	xCustomListView	Cross platform full customized list. No app is complete without it.
328	xFFT	b4xlib Class to calculate Fast Fourier Transform
329	xGauges	b4xlib CustomView to draw gauges

C	D	E	F
Files Names (without extension)			
B4A	B4i	B4J	B4R
xCustomListView	xCustomListView	xCustomListView	
xFFT	xFFT	xFFT	
xGauges	xGauges	xGauges	

G	H	I	J
Last Update		Author	IDE Comment
Version	Date		
1.73	25-Mar-2020	Erel	
1.2	14-Aug-2020	klaus	
1.7	25-Jun-2020	klaus	

Columns:

- Library name.
- Short description.
- Files Names (without extension) for each platform.
- Last update.
- Author.
- IDE Comment, shown in the IDE in the Libraries Manager Tab.
- Forum link, not shown in the images.

2.6 Ask a question in the forum

If you have looked for an answer to your problem with the search function in the forum and didn't find a solution, you can ask a question in the forum.

Below you find a list with several points to take into account when you ask a question.

This is the best way to get rapidly a concrete solution.

The list is a summary of this thread in the forum:

[For new\(er\) members: How to post a question / issue.](#)

The numbering is a bit different from the post in the forum.

2.6.1 Before asking a question in the forum

Assume you're not the first person having that question.

1. Have you already looked in the forum for a solution?
2. Have you installed B4x as described?
3. Have you read relevant tutorials and / or the documentation?
[\[B4X\] Erel Teaches Programming - video tutorials.](#)
[B4X Booklets.](#)

2.6.2 How to ask a question in the forum

Before asking the question, select the right sub-forum for the right platform and type of question.

Click on the Forums tab  to show all forums.
Select the right one.

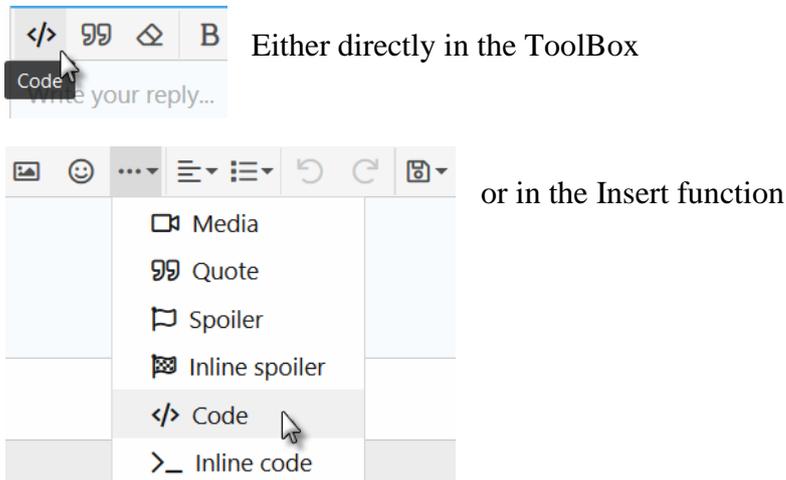
Click on the  button to start.

And then:

1. Always start a new thread for your question.
2. Give the title a meaningful sentence.
3. Describe what the problem is (full sentences, not 3 words, not "my car doesn't work - guess what it is")

4. Please post the code within **CODE TAGS** and the error message from the Logs as **TEXT**. Give the helpers a starting point , a code sample, a stripped out project that we can look at, analyse and **POINT YOU IN THE RIGHT DIRECTION...** Helpers may even provide a fully working solution based on **YOUR WORK IN PROGRESS!**

To add code samples use the function `</>` :



This window is shown, you can copy code from the IDE directly in it.

Insert code
✕

Code block title:	<input style="width: 90%;" type="text"/> <small>Optional. If specified, the default code language name will be replaced with title text at code block header. For example, can be used for specifying filename.</small>
Highlight lines:	<input style="width: 90%;" type="text"/> <small>Optional. Line numbers you want to highlight. For example, "2, 4-6" will highlight lines 2, 4, 5 and 6.</small>
Language:	<div style="border: 1px solid #ccc; padding: 2px;">B4X</div>

```

1 Sub AppStart (Form1 As Form, Args() As String)
2   MainForm = Form1
3   MainForm.RootPane.LoadLayout("Main") 'Load the layout file.
4   MainForm.Show
5
6   InitLineChart
7   InitYXChart1
8 End Sub

```

Continue

Add some code, the result is below.

And the result.

Preview

```
B4X:
1 Sub AppStart (Form1 As Form, Args() As String)
2   MainForm = Form1
3   MainForm.RootPane.LoadLayout("Main") 'Load the layout file.
4   MainForm.Show
5
6   InitLineChart
7   InitYXChart1
8 End Sub
```

You can also add another title than B4X and highlight lines.

Insert code
✕

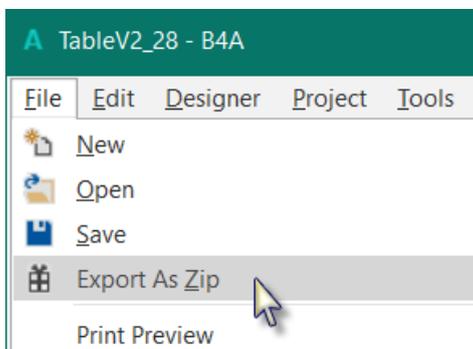
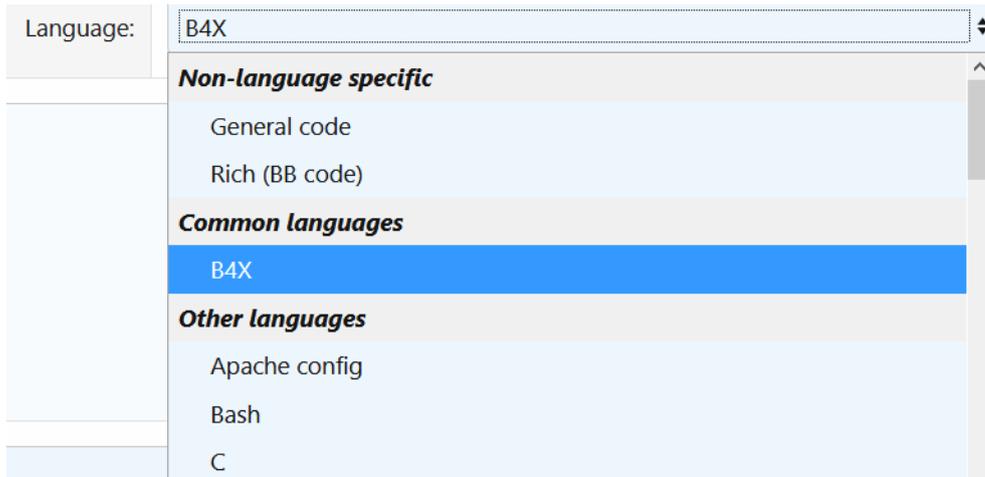
Code block title:	<input style="width: 90%;" type="text" value="AppStart"/>
	Optional. If specified, the default code language name will be replaced with title text at code block header. For example, can be used for specifying filename.
Highlight lines:	<input style="width: 90%;" type="text" value="6,7"/>
	Optional. Line numbers you want to highlight. For example, "2, 4-6" will highlight lines 2, 4, 5 and 6.
Language:	<input style="width: 90%;" type="text" value="B4X"/>

```
1 Sub AppStart (Form1 As Form, Args() As String)
2   MainForm = Form1
3   MainForm.RootPane.LoadLayout("Main") 'Load the layout file.
4   MainForm.Show
5
6   InitLineChart
7   InitYXChart1
8 End Sub
```

And the result.

```
AppStart:
1 Sub AppStart (Form1 As Form, Args() As String)
2   MainForm = Form1
3   MainForm.RootPane.LoadLayout("Main") 'Load the layout file.
4   MainForm.Show
5
6   InitLineChart
7   InitYXChart1
8 End Sub
```

You can also select another language:

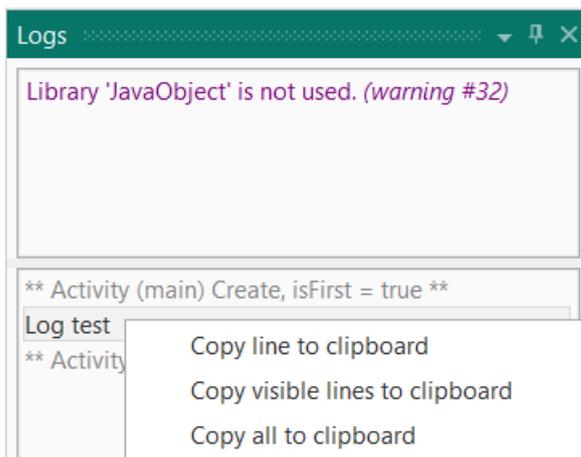


When you post a project, attach it as a zip file.
Generate it from the IDE:

And upload the file



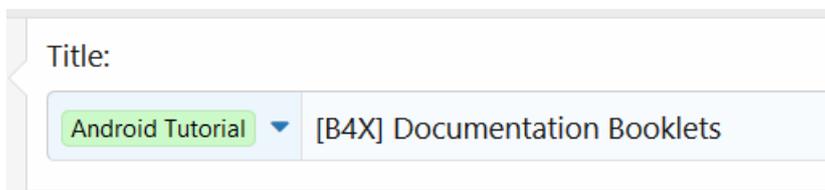
5. Don't post images of screen captures of Logs or error messages.
Post them as text (see point 3)!
Post only images illustrating the problem.



How to copy Logs, in the Logs Tab, right click on the corresponding line:

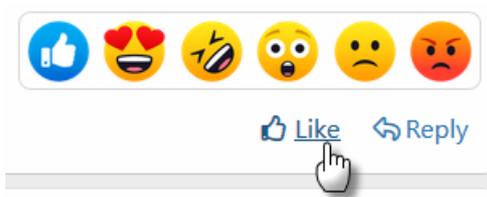
You get a submenu with three options.

6. Assume that there are many experienced users having huge and complex apps. B4X is working 100%. So, if you have an issue, it is mostly a programming mistake. Do not start complex projects without any experience.
7. Many users in the forum love to help, but you need to help them to understand the issue (see esp. 1 - 3).
8. When someone is trying to help you and asks questions for clarification, don't ignore these questions because helpers need to understand what exactly your problem is.
9. Please, don't post the same questions in multiple different threads. After resolving the error or problem, post the solution to share it with other users.
10. When a problem has been solved, and the solution added in the thread, please add [Solved] to the title. You can edit the thread title on top of the editing window.



And mark the post who answers your question as the "solution".

11. When you got help and it was useful, click on Like in the lower right corner of the post.



This shows the helper that you have read the post and his help was useful. No need to answer anything else.

12. And of course, have fun!

2.7 Answer a question in the forum

Several functions are available:

1. CODE Tags [explained here](#).
2. QUOTE Tags, extract from an answer in the forum.

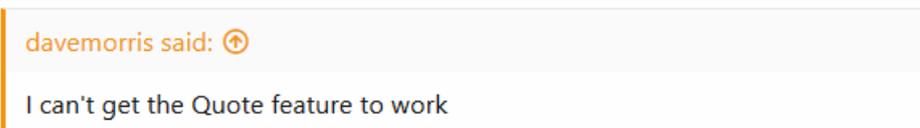
You have different possibilities:

1. Select the text and click on Reply



I can't get the Quote feature to work - when
come from with a clickable link. Tried various

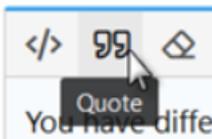
The result is this:



davemorris said: ↑

I can't get the Quote feature to work

2. Click on:



You have diffe

You get [QUOTE]/[/QUOTE]

And [QUOTE]Add the text in between the two QUOTE texts.[/QUOTE]

And the result:



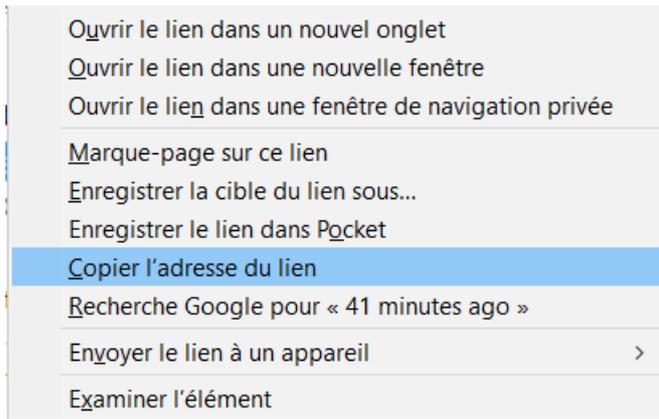
Add the text in between the two QUOTE texts.

3. Add a link to another post.

To get the link to any post right click either:

53 minutes ago on the date / time in the post title

#2 or on the post number in the top right corner .:



You get this window.

Sorry, the texts are in French.

Copy the link address to the clip board.



Insert a link

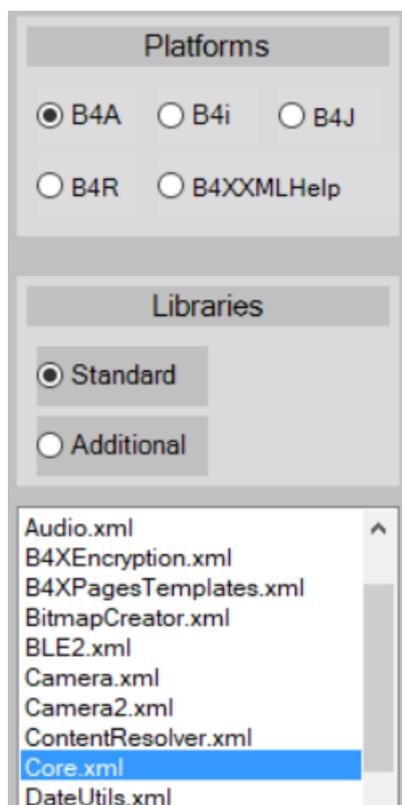
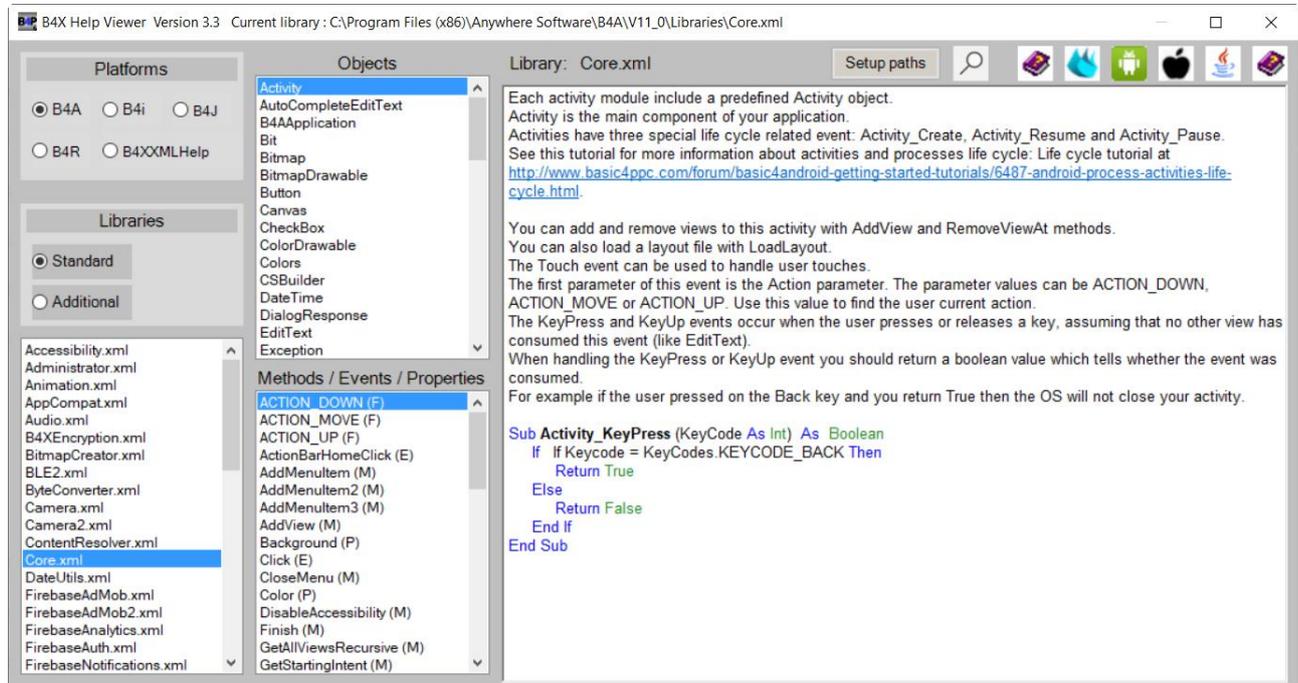
A screenshot of a dialog box for inserting a link. It contains two text input fields: 'URL' and 'Text'. Below the fields is a blue 'Insert' button.

and paste the address into the URL field.

2.8 B4X Help Viewer

This program shows xml help files. It was originally written by Andrew Graham (agrham) for B4A. I modified it, with Andrews' agreement, to show B4A, B4J, B4i, B4R and b4xlib xml help files.

The program can be [downloaded](#) from the forum.

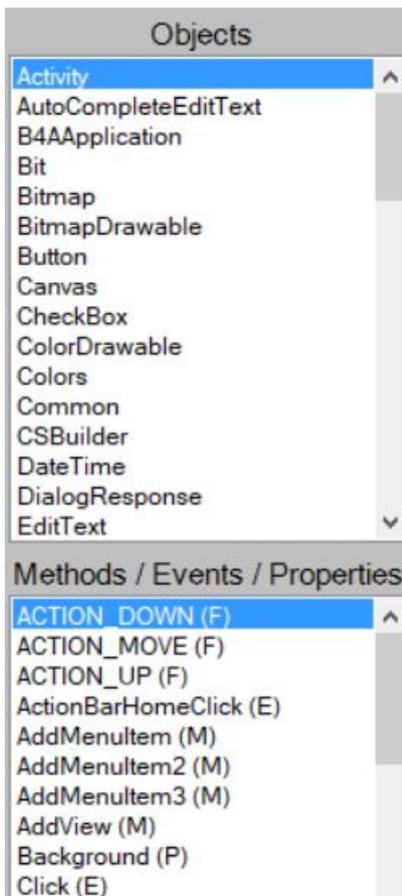


In the top left corner, you can select the platform.

[B4XXMLhelp](#) are xml files for b4xlib libraries.

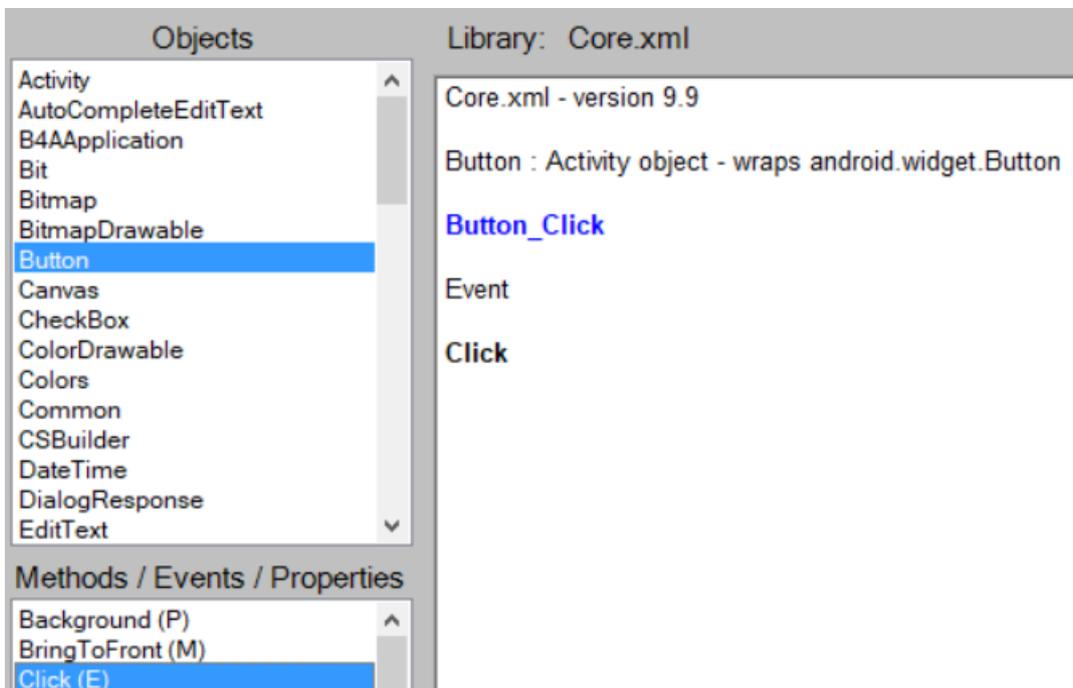
Here you can select 'Standard' or 'Additional' libraries.

And here, you find the list of the available libraries for the selected platform and library type.



Then you find the list of objects for the selected library.

And below the objects list you find the list of all fields (F), methods (M), events (E), and properties (P).

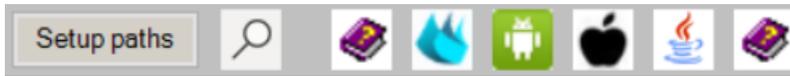


On the right side you find the details of the selected item.

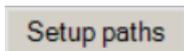
The title on the top left contains the program name, its version and the full path of the current selected library.

2.8.1 Toolbar

On the top right you have a toolbar:



With following buttons:



[Setup paths](#) displays the path setup form, where you can define the paths for the different libraries and select the platforms you want to use.



[Search engine](#) for the selected library.



Link to the online Help in the forum. Link to this booklet.



Link to the B4X forum.



Link to the Android developpers site.



Link to the iOS developpers site.

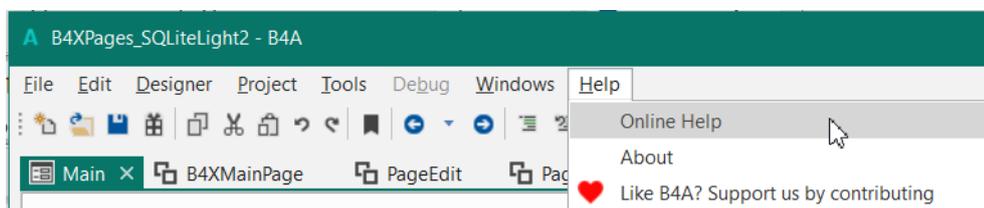


Link to the Java developpers site.



Link to the B4X Documentation page.

It's the same as if you click on Online Help in a B4X IDE.



When you click on one of the square buttons you will see a tooltip.



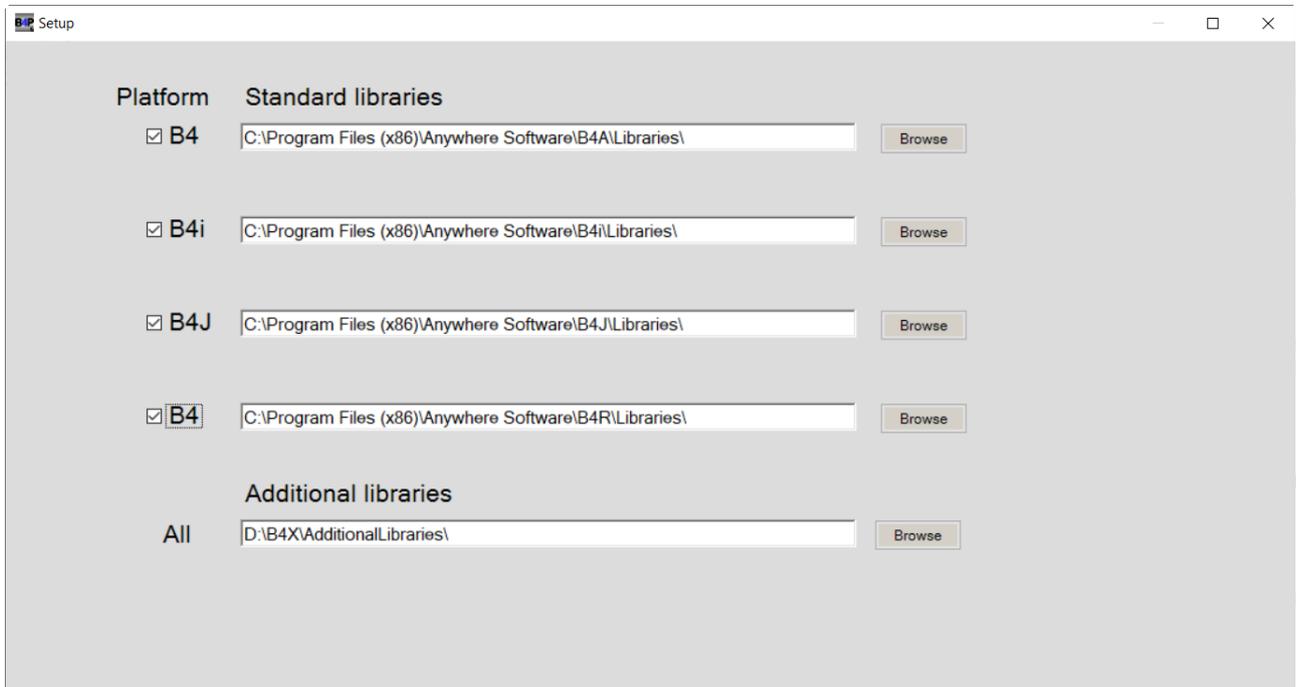
If you release the button outside its surface nothing happens.

2.8.2 Setup paths Setup paths

When you first run the application, or when you click on **Setup paths**, you will be shown the form below.

It contains default paths already preset.

You can uncheck unused platforms, these can be activated later when needed.

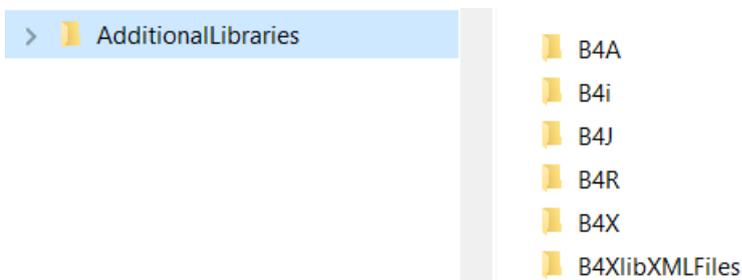


If your paths are different, enter them or use the **Browse** to select the directory.

The directory will probably be like this for B4A and similar for the other platforms:

C:\Program Files (x86)\Anywhere Software\B4A\Libraries\	32 bytes
C:\Program Files\Anywhere Software\B4A\Libraries\	64 bytes

The Additional Libraries folder must have followed structure:



- B4A, B4i, B4J and B4R, one folder for each platform.
- B4X, one folder for the b4xlib libraries.
- [B4XlibXMLFiles](#), one folder for b4xlib XML help files.

2.8.3 b4xlib XML help files

Standard and additional libraries are composed of two files, a library file and a help file which has the xml extension.

b4xlibs don't have an xml file by default.

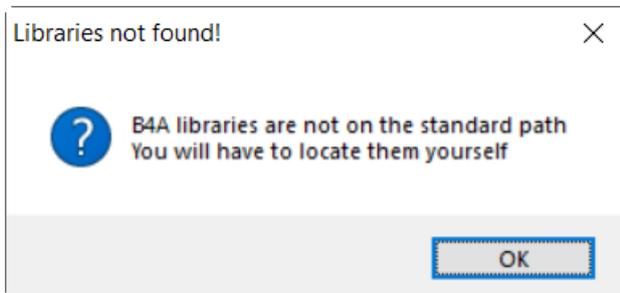
To be able to display help for these libraries, Erel has written the b4xlib2XML program to generate xml files for b4xlibs.

The b4xlib2XML program can be downloaded from:

<https://www.b4x.com/android/forum/threads/tool-b4xlib-xml-generation.101450/#content>

b4xlib libraries are explained in detail in the [B4X XUI Booklet](#).

If you get this message:



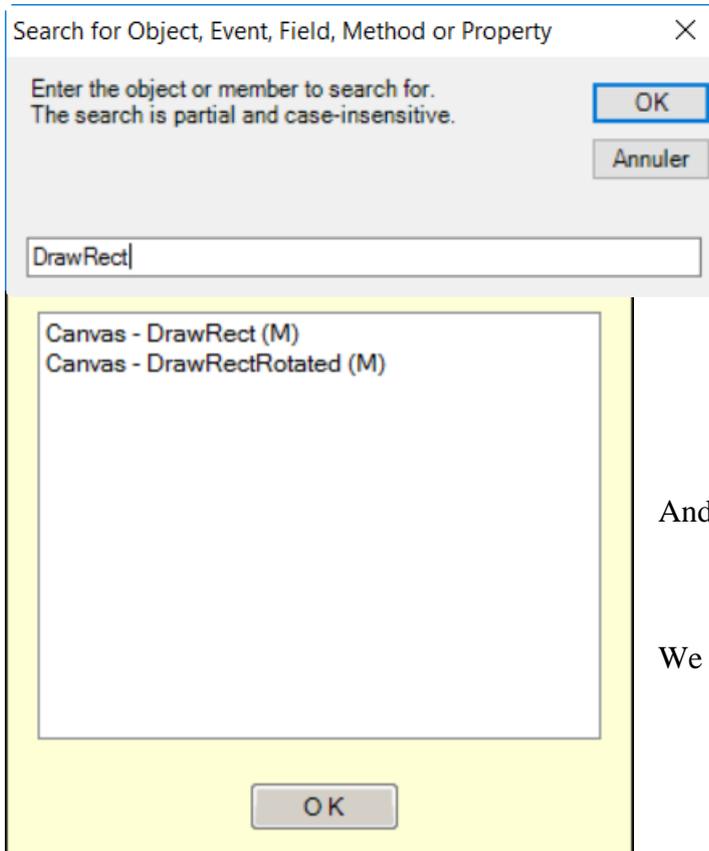
That means that B4A was not installed in the default folder.

[Click on](#) **Libraries** and select the folder where you saved the B4A program, open the Libraies folder and select Core.xml.

2.8.4 Search engine



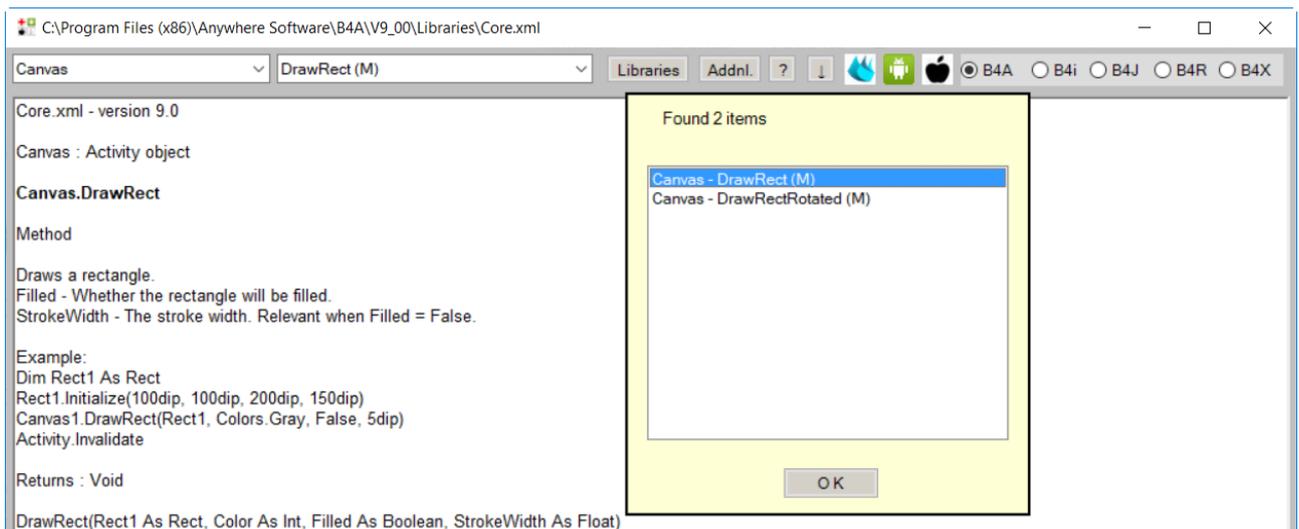
Search engine for the selected library.



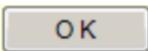
Example:
 Selected library: Core
 Enter *DrawRect*

And the result.

We get the object Canvas and two methods.



Click on an item in the list to show its help.

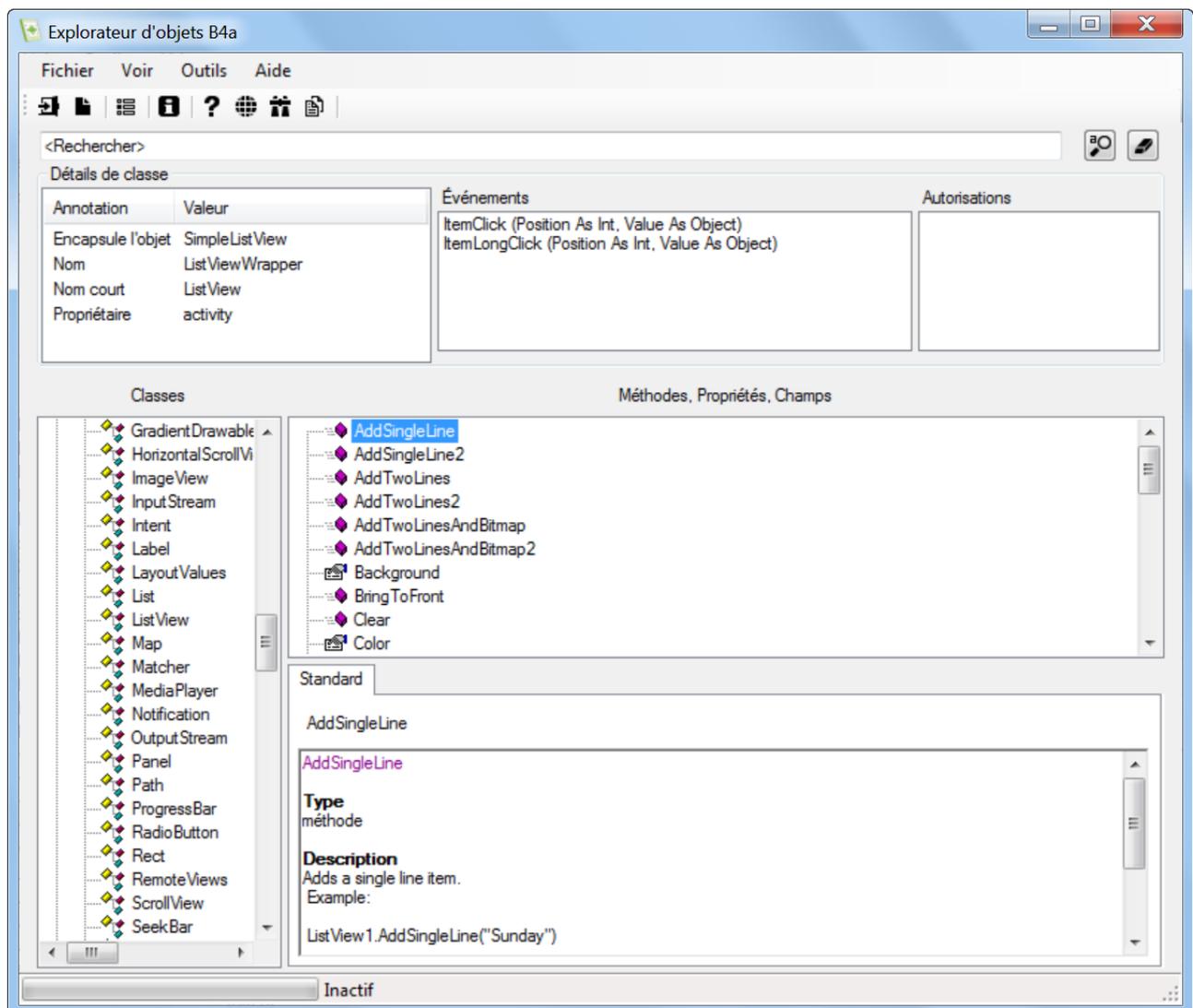
Click on  to leave the search result list.

2.9 Help documentation - B4A Object Browser

This is also a standalone Windows program showing the help files of libraries.

It has been written by Vader and can be downloaded [here](#).

A pdf documentation on how to use the program is part of the download.

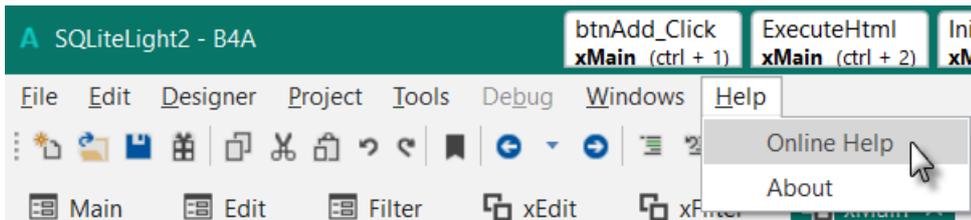


2.10 B4X Booklets online

The B4X Documentation Booklets are available online!

2.10.1 From the IDE

In IDE Help menu / Online Help, you can directly show the main page of the B4X Documentation page.



The links below allow you to display directly the selected booklet in the Internet browser. The only drawback in these displays is that external links don't work, this is a limitation of the tool converting the pdf files.

B4A Documentation

Guides

*** Download All Booklets and Source Code ***

B4X Getting Started - This booklet explains how to start with each B4X product (B4A, B4i, B4J and B4R).

B4X Language - This booklet explains the Language for B4A, B4i, B4J and B4R.

B4X IDE - This booklet explains the Integrated Development Environment for B4A, B4i, B4J and B4R.

B4X Visual Designer - This booklet explains the Visual Designer for B4a, B4i and B4J.

B4X Custom Views - This booklet explains the CustomView subject for B4A, B4i and B4J.

B4XPages - Cross Platform - This booklet explains the steps needed to build cross platform projects.

B4X Graphics - This booklet explains Graphics for B4A, B4i, B4J, XUI And BitmapCreator.

B4X XUI - This booklet explains the XUI library which makes it easier to share code between B4A, B4J and B4i projects.

B4R Example Projects - This booklet explains some B4R example projects.

B4X Help Tools - This booklet lists the various help related resources and tools.

B4X SQLite Database - This booklet explains the use of the SQLite library.

B4X JavaObject-NativeObject This booklet explains the use of JavaObjects (B4A and B4J) and NativeObjects

2.10.2 From an Internet browser

In this link, you get the [B4X Documentation Booklets](#) page in the forum.
Scrolling a bit downwards you will see this:

General booklets:

B4X Getting started

This booklet explains how to start with each B4x product (B4A, B4i, B4J and B4R).

B4X Language

This booklet explains the language for B4A, B4i, B4J and B4R.

B4X IDE

This booklet explains the **I**ntegrated **D**evloppment **E**nvironment for B4A, B4i, B4J and B4R.

B4X Visual Designer

This booklet explains the Visual Designer for B4a, B4i and B4J.

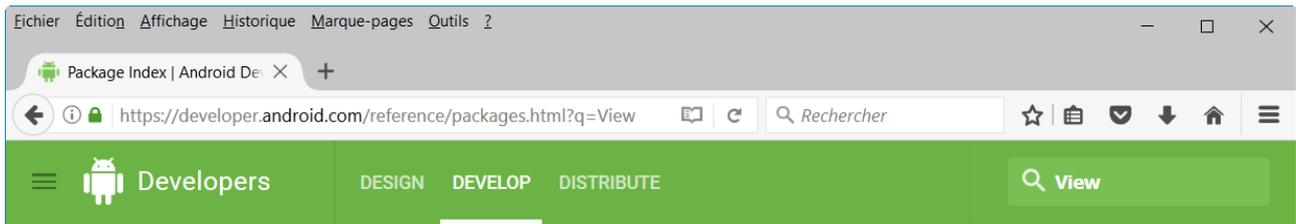
The blue booklet names are links to display the selected booklet directly in the Internet browser.
The only drawback in these displays is that external links don't work, this is a limitation of the tool converting the pdf files.

2.11 Useful links

2.11.1 B4A

Android Developers. [Design](#) [Develop](#) [Distribute](#)

Android Developers searching for any request.



In the upper right corner, you find the search field.

Enter *View* in the field:

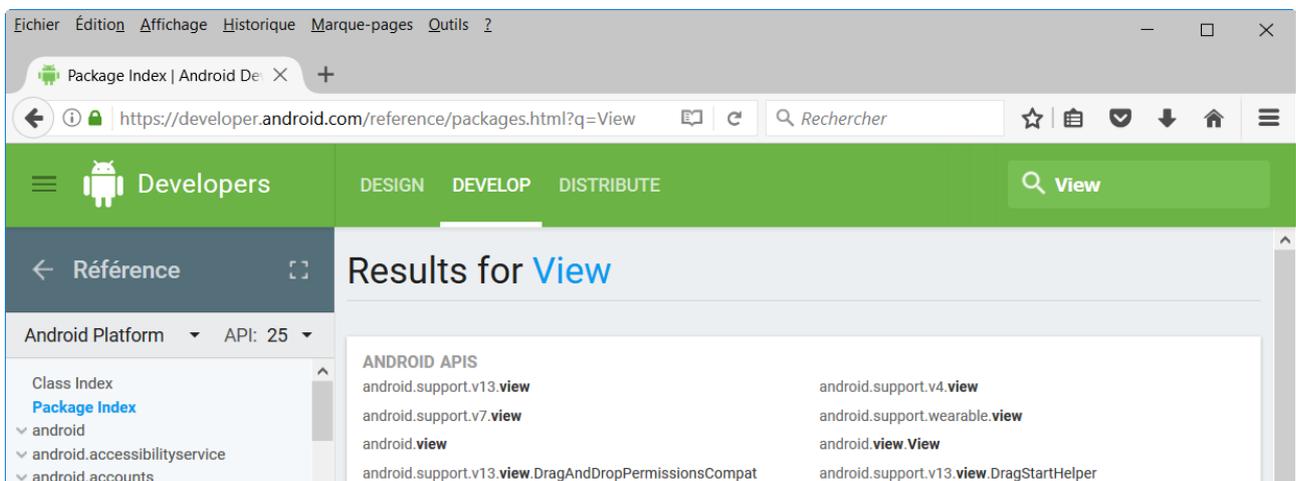


Click on the link View | Android Developers.

Results for View

All	View Android Developers The view group is the base class for layouts and views containers. ViewStub, A ViewStub is an invisible, zero-sized View that can be used to lazily inflate layout ... developer.android.com/reference/android/view/View.html Avec libellé Reference
Design	
Training	
Guides	

And you get all the information about Views.

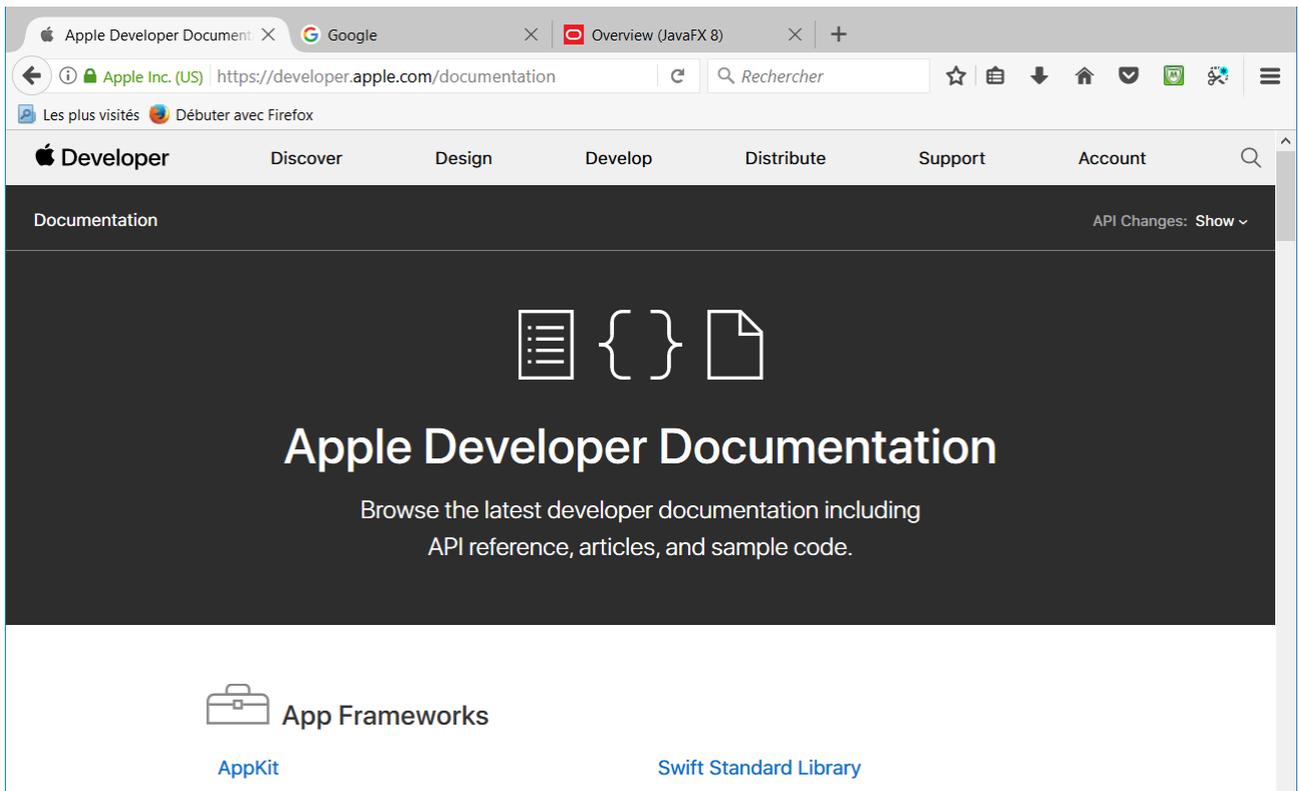


2.11.2 B4i

iOS developers:

<https://developer.apple.com/ios/human-interface-guidelines/overview/themes/>

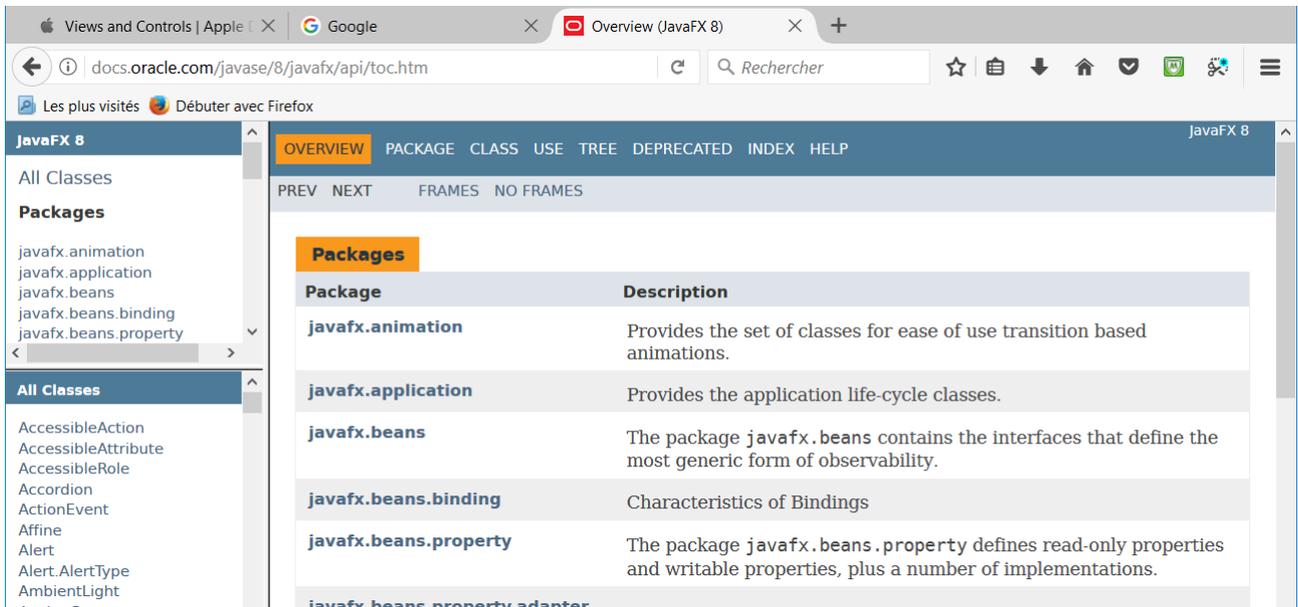
It's the Apple site with all information about iOS.



2.11.3 B4J

Oracle Overview FavaFX API:

<http://docs.oracle.com/javase/8/javafx/api/toc.htm>



The screenshot shows a web browser displaying the Oracle JavaFX 8 API Overview page. The browser's address bar shows the URL `docs.oracle.com/javase/8/javafx/api/toc.htm`. The page has a dark blue header with the title "JavaFX 8" and navigation tabs for "OVERVIEW", "PACKAGE", "CLASS", "USE", "TREE", "DEPRECATED", "INDEX", and "HELP". Below the header, there are navigation links for "PREV", "NEXT", "FRAMES", and "NO FRAMES". The main content area is titled "Packages" and contains a table with two columns: "Package" and "Description".

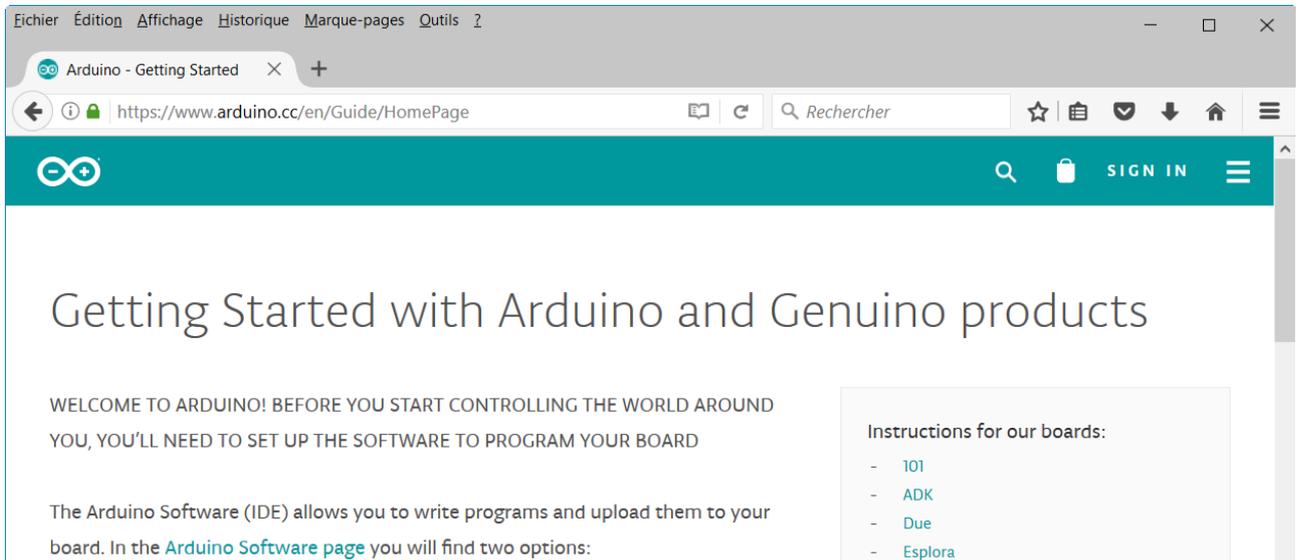
Package	Description
<code>javafx.animation</code>	Provides the set of classes for ease of use transition based animations.
<code>javafx.application</code>	Provides the application life-cycle classes.
<code>javafx.beans</code>	The package <code>javafx.beans</code> contains the interfaces that define the most generic form of observability.
<code>javafx.beans.binding</code>	Characteristics of Bindings
<code>javafx.beans.property</code>	The package <code>javafx.beans.property</code> defines read-only properties and writable properties, plus a number of implementations.
<code>javafx.beans.property.adapter</code>	

The left sidebar of the page lists "All Classes" and "All Packages". The "All Packages" list includes `javafx.animation`, `javafx.application`, `javafx.beans`, `javafx.beans.binding`, and `javafx.beans.property`. The "All Classes" list includes `AccessibleAction`, `AccessibleAttribute`, `AccessibleRole`, `Accordion`, `ActionEvent`, `Affine`, `Alert`, `Alert.AlertType`, and `AmbientLight`.

2.11.4 B4R

Arduino HomePages:

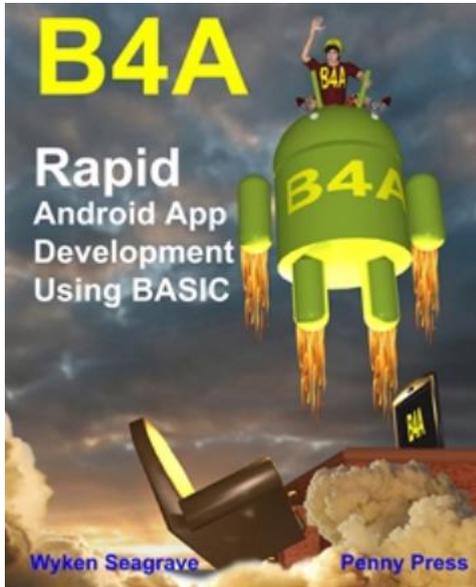
<https://www.arduino.cc/en/Guide/HomePage>



2.12 Books

B4A book

Written by Philip Brown under the pseudo Wyken Seagrave.



<http://pennypress.co.uk/b4a-book/>

MagBook Build your own Android App.

Written by Nigel Whitfield.



<http://www.magbooks.com/product/build-your-own-android-app/>

Elektor Android App development for electronics designers



<https://www.elektormagazine.com/news/book-review-android-apps-development-with-basic-for-android-b4a>