





Titanium Tutorial



Your instructors

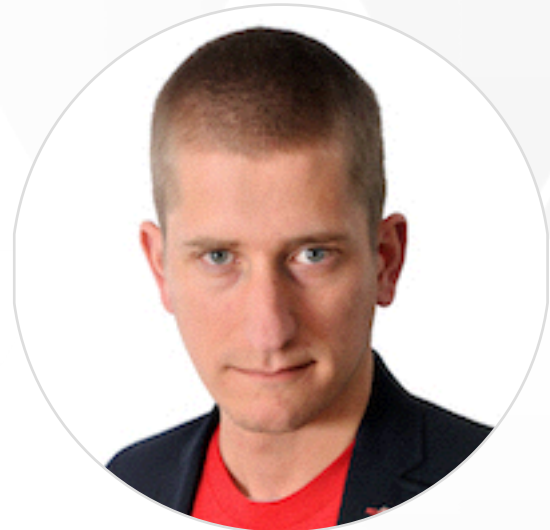


Jason

Titan

Certified Instructor
Self-employed

[@JasonKneen](#)



Fokke

Titan

Certified Instructor
Self-employed

[@FokkeZB](#)

Program

- **What is Titanium?**
 - Finding resources
 - Setting up
- **What is Alloy?**
- **Build your first app**
 - Using TiShadow
 - Step by step assignments
- **What's next?**



Titanium

... and what is Appcelerator?

Founded
In **2007**

Mountain View

London
Tokyo
Beijing

150
Employees

\$50M

Mayfield,
Translink, Storm,
Sierra, eBay, Red
Hat



About Appcelerator

Gartner.

**Gartner 2013
Magic Quadrant**

Highest placement in
both vision and
execution thereof.

You've probably already used Titanium



600K

Developers



70K

Apps



230M

Devices



WappZapp

- News
- Sport
- Opmerkelijk
- Docu's & Achtergronden
- Eye-openers
- Lachen
- Muziek & Concerten
- Tech & Science
- Series
- Men
- Art & Design
- Fashion & Lifestyle
- Achterklap
- Kids
- Business & Politics
- Bronnen

Browse door
tv-gemist, concerten,
webseries en nog
veel meer.



Native UI



Swift? We have Hyperloop!

OBJECTIVE-C

```
UITableView *myTableView = [[UITableView alloc] initWithFrame:CGRectZero  
style:UITableViewStyleGrouped];
```

SWIFT

```
let myTableView: UITableView = UITableView(frame: CGRectZero, style: .Grouped)
```



HYPERLOOP

```
var myTableView = new UITableView({ frame: CGRectZero(), style: UITableView.Grouped });
```

TITANIUM

```
var myTableView = Ti.UI.createTableView({ style: Ti.UI.TableView.GROUPED });
```





Resources

Where to get your information?

Resources



- tidev.io/resources
- appcelerator.com/developers
- docs.appcelerator.com
- ticonf.org/#amsterdam
June 28-29th, European conference
- amsterdam-titanium.nl
July 2nd, every 1st Wednesday / month

Assignment

- Repeat after me: “Titanium is Native”
- Bookmark tidev.io/resources
- Get a last-minute ticonf.org/#amsterdam



Set-up

Getting Ready!

What makes Titanium?

- NodeJS CLI
- SDK
- Titanium Studio (optional)
- Target platform SDKs



Assignment

- Sign up and [download Studio](#)
- Install Studio and its dependencies
 - JAVA, NodeJS, CLI, SDK
- Use the Platform Configuration Tool
- Create the **Classic / Default Project**
- Run in a simulator or device
- Investigate **Resources/app.js**



Alloy

Conventions vs Chaos

This might be confusing



Classic vs Alloy

CLASSIC: APP.JS

```
var win = Ti.UI.createWindow({backgroundColor:"white"});  
win.open();
```



ALLOY: INDEX.XML

```
<Alloy><Window id="win" /></Alloy>
```

ALLOY: INDEX.TSS

```
"#win": { backgroundColor: 'white' }
```



ALLOY: INDEX.JS

```
$.win.open();
```

Few more things

Widgets

Project Configuration File

Built-ins

Controller-less views

Sync adapters

Build Configuration File

Backbone.js

Themes

Underscore.js

Moment.js

Source Maps

Require

Dynamic Styling

Data-binding

Open Source Widgets*

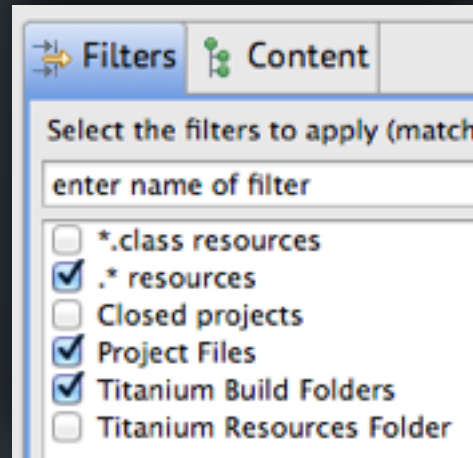
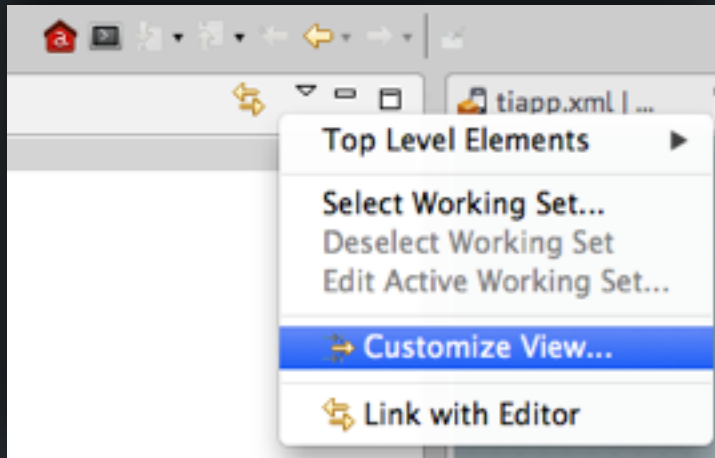
* And Modules



<http://gitt.io>

Assignment

- Create the **Two-tabbed Alloy Application**
- Run in a simulator or device
- Compare **index.xml/tss/js** with classic
- Unhide the Resources folder



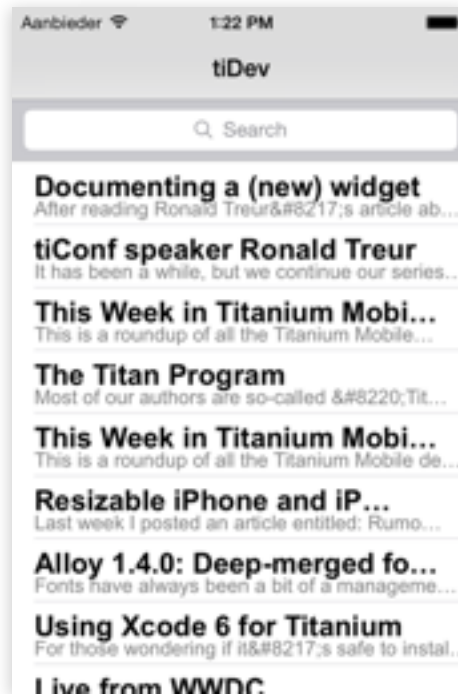
- Compare **app.js** & **iphone/alloy/controllers/index.js**



Zero to App

What you will build today

tiDev RSS reader

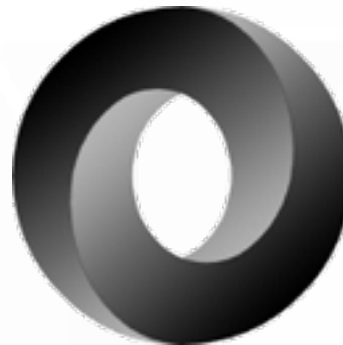


Ingredients

- JSON feed: tidev.io/feed/json
- Repo: github.com/FokkeZB/Tutorial

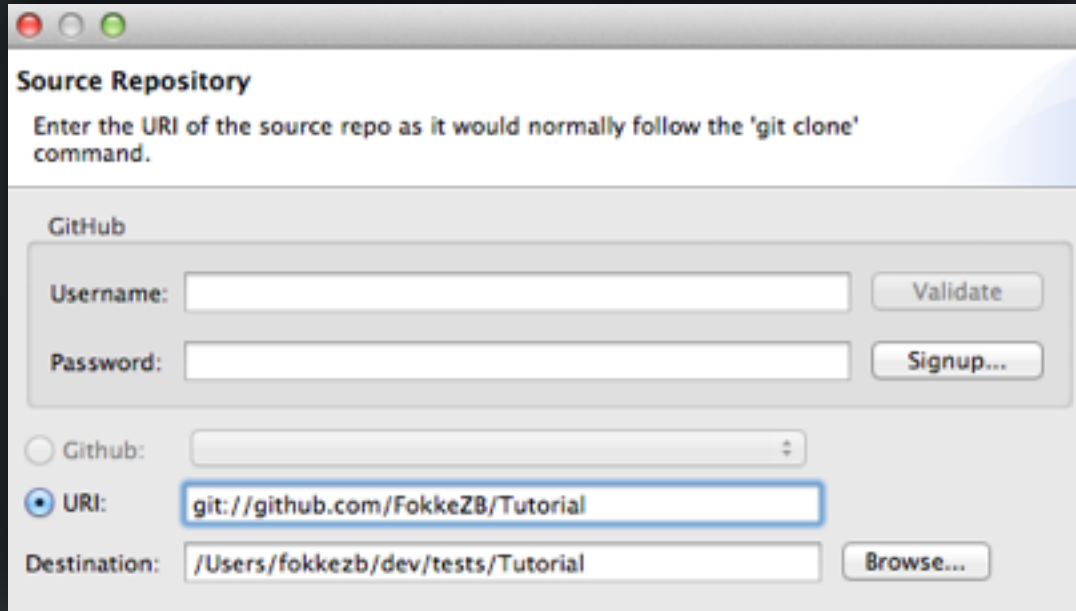


vs



Assignment

- Import a clone of the [repository](#)
 - File > Import > Git > .. as New Project



- Run the app
- Copy @Slides/slides.pdf to your Desktop



TiShadow

Rapid Application Development



**“If you're not using TiShadow
in your Titanium projects, you
might be wasting hours per
week on builds. Love it.”**

@kevinwhinnery

Compile process

- Compiling for Alloy
- Compiling for Titanium
- Compiling for Xcode/Android
- Deploying to simulator/device
- Starting the app
- Running your code

Few more things

Express

Dynamic localisation

Rooms

Server hosting

Automatic updates

Automated testing

Jasmine

Should.js

REPL

Spies

Appify

Browser interface

Code coverage

Screengrabbing

Assignment

- Install [TiShadow](#)

```
~ $ [sudo] npm install -g tishadow
```

- Run an app using CLI and TiShadow Express

```
~/Tutorial $ ti build -p ios --shadow
```

- Change **backgroundColor** to **red** and save





Window

Creating a Window

Views

- UI components are name-spaced **Ti.UI.***
- Most UI components extend [Ti.UI.View](#)
- Create components: **Ti.UI.create<View>()**
- In [Alloy](#) **<View>** ➤ **Ti.UI.create<View>()**
- XML attributes and TSS properties are merged and passed to the create-method.
- TSS can select by **tag**, **id** **or** **class**.
- JS can refer to **\$.<id>**

Classic vs Alloy

CLASSIC: APP.JS

```
var win = Ti.UI.createWindow({backgroundColor:"white"});  
win.open();
```



ALLOY: INDEX.XML

```
<Alloy><Window id="win" /></Alloy>
```

ALLOY: INDEX.TSS

```
"#win": { backgroundColor: 'white' }
```



ALLOY: INDEX.JS

```
$.win.open();
```

Assignment

- Reset any changes:

```
~/Tutorial $ git reset --hard
```

- Switch to **window** branch.

```
~/Tutorial $ git checkout window
```

- Run the app.
- Add a Label saying **Hello world**.
- Give the label a class.
- Use the class to make the color red.





ListView

Not the most easy component

ListViews

- Docs > Search: [guide: ListViews](#)
- Docs > Search: [UI.ListView](#)
- “Crossing the bridge” has a toll
- **ListView** vs [TableView](#)
- Alloy does most of the hard work

Assignment

- Study the [ListViews](#) guide.
- Compare the [API doc](#) classic & Alloy examples.
- Reset & Switch to the **listview** branch.
- Run the app.
- Try the first API doc Alloy example JS & TSS.
- Compare **Resources/iphone/alloy/controllers/index.js** with the classic examples.
- Remove the blank icons, align the text left, reduce the sections to one and remove the [headerTitle](#) of that section.

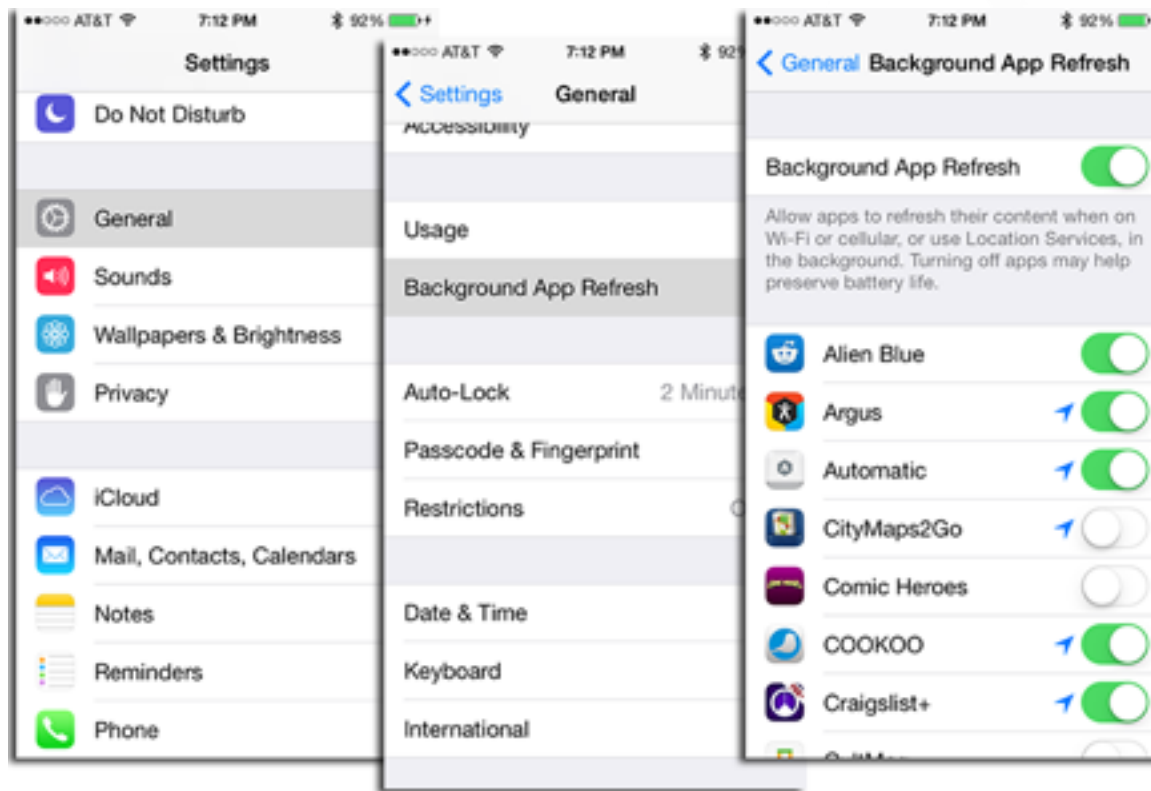


NavigationWindow

Stacking Windows

NavigationWindow

- Docs > Search: [NavigationWindow](#)
- iOS only



Event Handling

- Docs > Search: [Alloy XML Markup](#)
- HTML-like **on[Event]** attribute

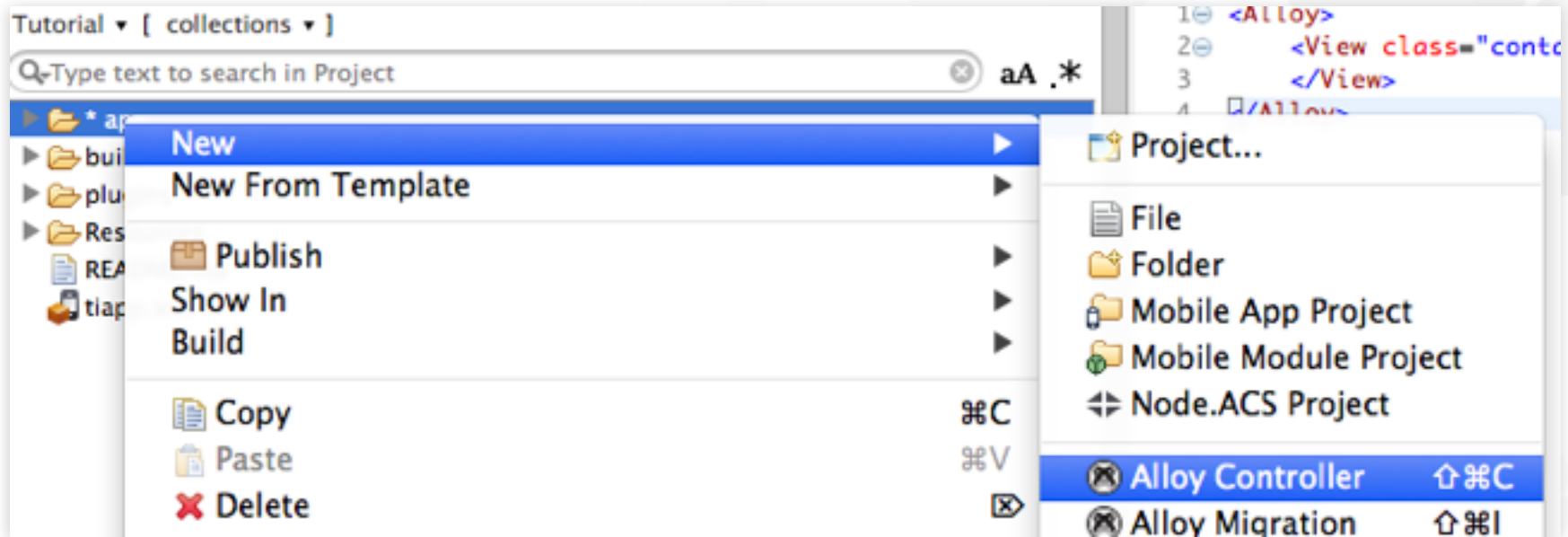
INDEX.XML

```
<Button onClick="talkToMe" />
```

INDEX.JS

```
function talkToMe(e) {  
    alert("hello world");  
}
```

Creating Controllers



```
~/Tutorial $ alloy generate controller detail
```

Using Controllers

- Use [<Require>](#) to create + add in XML
- Use [Alloy.createController](#) in JS

INDEX.XML

```
<Window id="win">  
  <Require src="detail" />  
</Window>
```

INDEX.JS

```
var detailController = Alloy.createController('detail');  
var rootView = detailController.getView();  
$.win.add(rootView);
```

Assignment

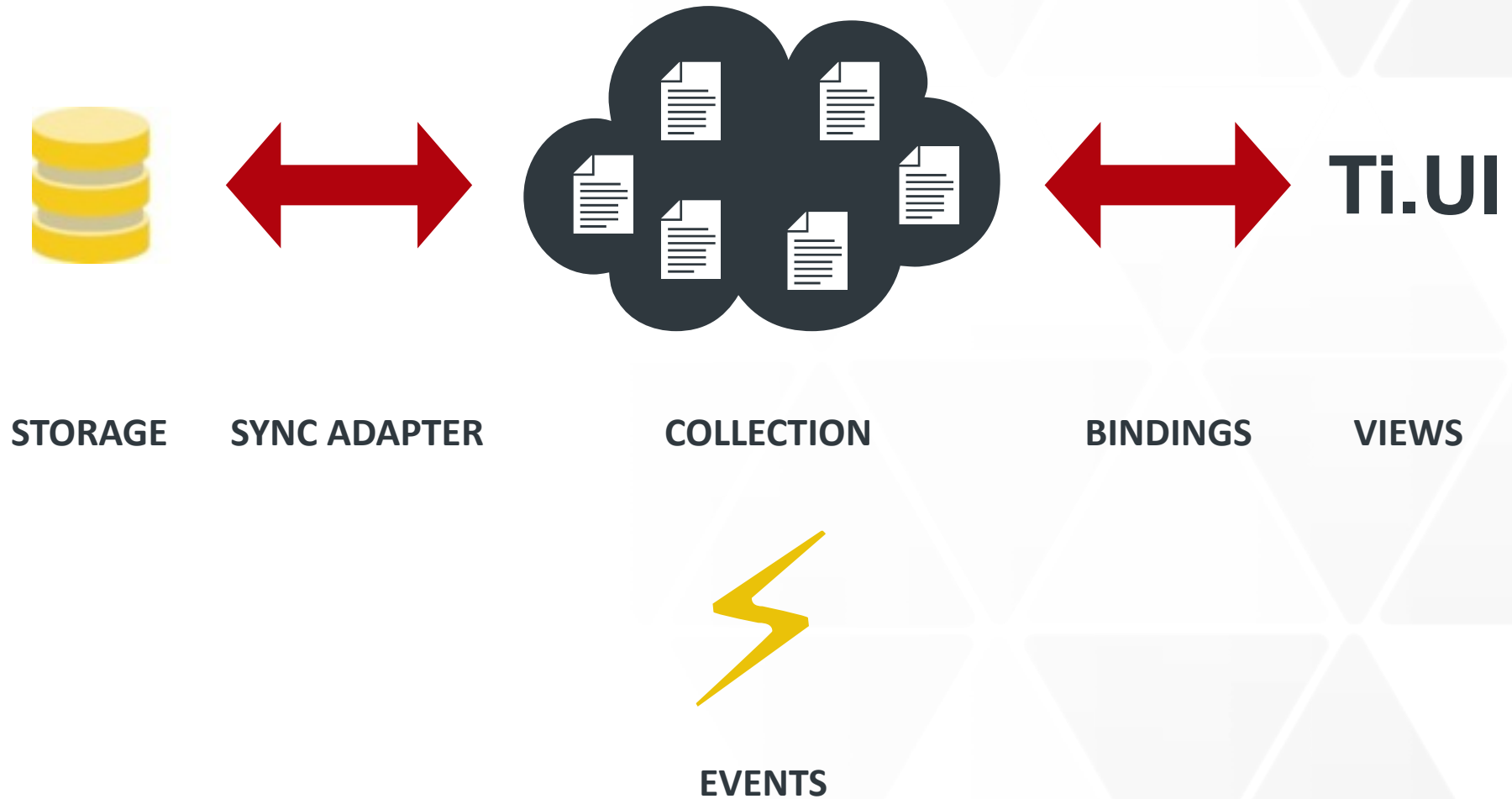
- Study the [NavigationWindow](#) API docs.
- Reset & Switch to the **navwin** branch and run it.
- Wrap the **Window** in a **NavigationWindow**
For Android add **module="xp.ui"** attribute.
- Add an [itemclick](#) listener to the ListView.
- [Create](#) a new **detail** controller and make it a Window. Give both windows a title.
- On click, [create](#) a detail controller instance and [open](#) the window via NavigationWindow.
- Study **lib/xp.ui.js**. What happens on Android?



Collections

Models with brains

BACKBONE.JS





- Docs > Search: [Alloy Models](#)
 - **Note:** Older version (0.9.2)
- In Titanium JS has no DOM
- Instantiate a global collection:
Collection tag
- [Bind](#) a collection to a loop-able view:
dataCollection attribute
- Bind a model attribute to a child view property:
{<attribute>} value

Assignment

- Study the [Alloy Data Binding guide](#).
- Reset & Switch to the **collections** branch and run it.
- Bind the **feed** collection to the **ListSection** so that the list is populated showing the **title** and **excerpt** of the items.
- Study **models/feed.js** and **lib/alloy/sync/json.js**. How do they work? And why that second path?



WebView

Titanium > Phonegap

WebView

- Docs > Search: [guide: Communication](#)
- Docs > Search: [UI.WebView](#)
- Display local, remote and “inline” HTML
- Communicate via events and [evalJS](#)
- Displaying formatted text native is [complex](#)
- Displaying HTML in WebView is easy :)

Assignment

- Study the [WebView](#) docs.
- Reset & Switch to **webview** branch and run it.
- Study **index.xml** to see how we expose the id of the model via [itemId](#).
- Pass the model to the detail controller.
- Add a WebView to the detail Window and use the model to populate it.
- Use the model to set the **title** of the detail Window.

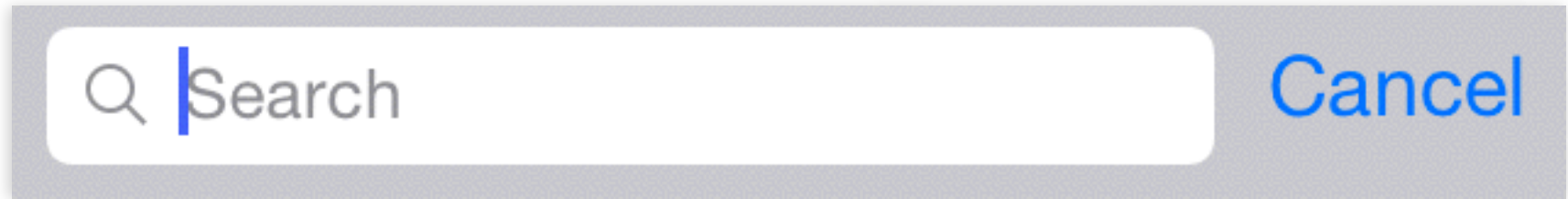


SeachBar

Filtering our feed

SearchBar

- Docs > Search: ListViews > [Search Text and View](#)
- Docs > Search: [UI.ListView](#) (last examples)
- Docs > Search: [UI.SearchBar](#)



- **ListView.searchView** works together with **ListView.searchText** & **ListItem.searchableText**

Assignment

- Study the last two [ListView](#) examples.
- Reset & switch to **searchbar** and run it.
- Add a [SearchBar](#) (also for Android) to the list to search on the **excerpt**.
- If you have time left, try to search on the **content**, after using the [dataTransform](#) attribute to remove HTML tags from it.

HINT: [Google](#) is your friend.





Artwork

Density Hell

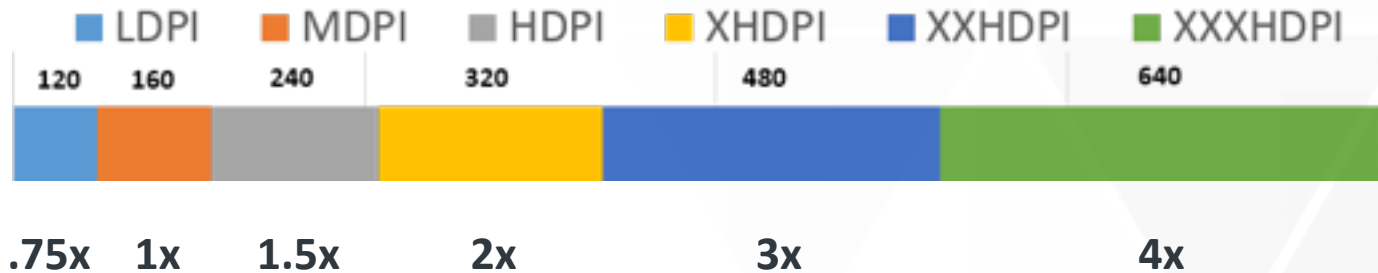
NON-RETINA



RETINA (2X)



Android DPI Categories



Icons & Splashes



| IOS Device | Purpose | Dimensions | DPI | File name | Titanium folder location |
|--|----------------------|-------------|-----|--------------------------|-------------------------------|
| iPhone/iPod retina (iOS 7 and later) | App icon | 120 x 120 | 72 | appicon-60@2x.png | Resources or Resources/iphone |
| iPad non-retina (iOS 7 and later) | App icon | 76 x 76 | 72 | appicon-76.png | Resources or Resources/iphone |
| iPad retina (iOS 7 and later) | App icon | 152 x 152 | 72 | appicon-76@2x.png | Resources or Resources/iphone |
| iPhone/iPod non-retina | App icon | 57 x 57 | 72 | appicon.png | Resources or Resources/iphone |
| iPhone/iPod retina (iOS 6 and prior) | App icon | 114 x 114 | 72 | appicon@2x.png | Resources or Resources/iphone |
| iPad 1 & 2 (iOS 6 and prior) | App icon | 72 x 72 | 72 | appicon-72.png | Resources or Resources/iphone |
| iPad 3 (iOS 6 and prior) | App icon | 144 x 144 | 72 | appicon-72@2x.png | Resources or Resources/iphone |
| Universal non-retina (iOS 7 and later) | Spotlight & settings | 40 x 40 | 72 | appicon-Small-40.png | Resources or Resources/iphone |
| Universal retina (iOS 7 and later) | Spotlight & settings | 80 x 80 | 72 | appicon-Small-40@2x.png | Resources or Resources/iphone |
| iPhone/iPod non-retina | Spotlight & settings | 29 x 29 | 72 | appicon-Small.png | Resources or Resources/iphone |
| iPhone/iPod retina (iOS 6 and prior) | Spotlight & settings | 58 x 58 | 72 | appicon-Small@2x.png | Resources or Resources/iphone |
| iPad 1 & 2 (iOS 6 and prior) | Spotlight & settings | 50 x 50 | 72 | appicon-Small-50.png | Resources or Resources/iphone |
| iPad 3 (iOS 6 and prior) | Spotlight | 100 x 100 | 72 | appicon-Small-50@2x.png | Resources or Resources/iphone |
| iPad 3 (iOS 6 and prior) | Settings | 58 x 58 | 72 | appicon-Small@2x.png | Resources or Resources/iphone |
| iPhone non-retina | Splash screen | 320 x 480 | 72 | Default.png | Resources or Resources/iphone |
| iPhone 4/4S iPod touch 4th generation | Splash screen | 640 x 960 | 72 | Default@2x.png | Resources or Resources/iphone |
| iPhone 5 iPod touch 5th generation | Splash screen | 640 x 1136 | 72 | Default-568h@2x.png | Resources or Resources/iphone |
| iPad 1 & 2 landscape | Splash screen | 1024 x 748 | 72 | Default-Landscape.png | Resources or Resources/iphone |
| iPad 1 & 2 portrait | Splash screen | 768 x 1004 | 72 | Default-Portrait.png | Resources or Resources/iphone |
| iPad 3 landscape | Splash screen | 2048 x 1496 | 72 | Default-Landscape@2x.png | Resources or Resources/iphone |
| iPad 3 portrait | Splash screen | 1536 x 2008 | 72 | Default-Portrait@2x.png | Resources or Resources/iphone |
| Any | iTunes Artwork | 512 x 512 | 72 | iTunesArtwork (no ext) | Resources or Resources/iphone |

Platform & Density specific folders

```
assets/some_dir/some.file  
assets/android/some_dir/some.file  
assets/iphone/some_dir/some.file
```

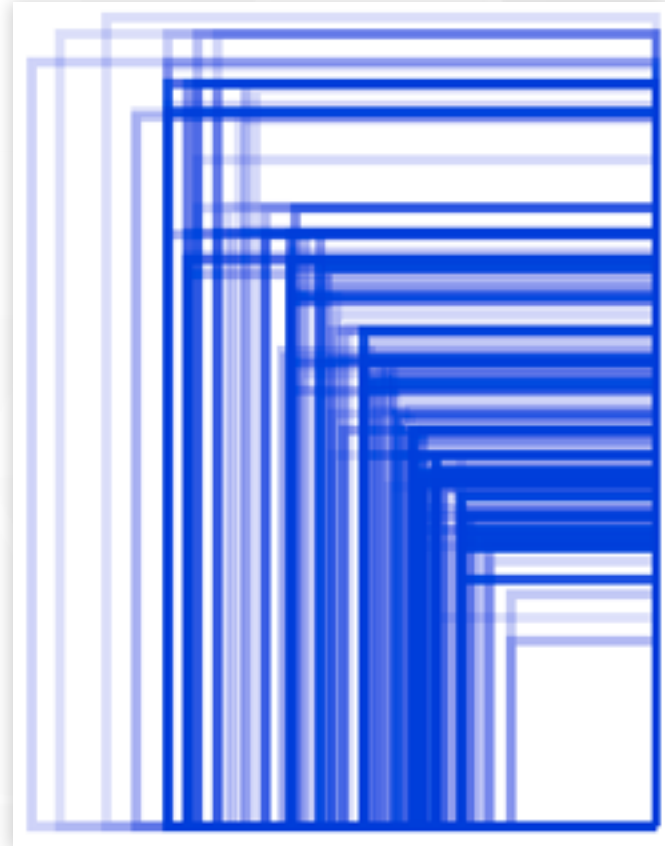
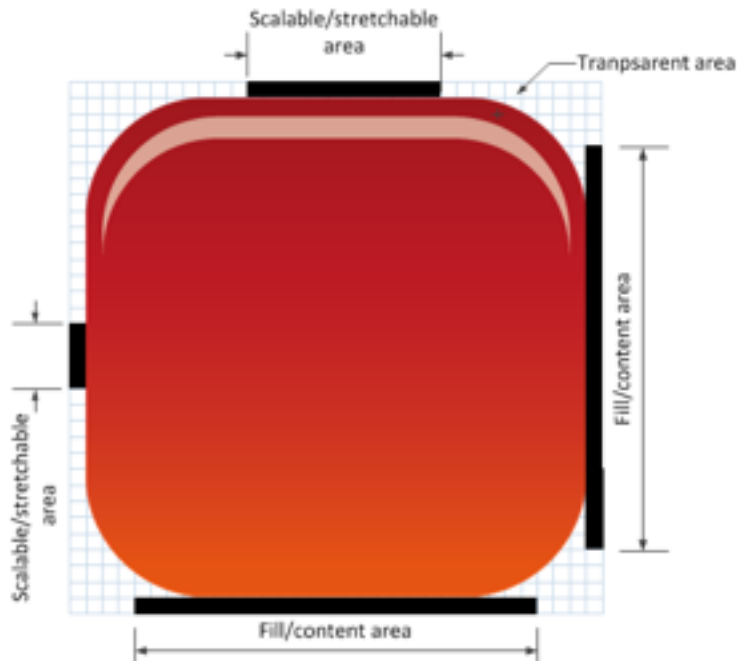
```
assets/android/images/res-xhdpi/some.file  
  
platform/android/res/drawable-xhdpi/some.file  
platform/android/res/drawable-nl-port-xhdpi/some.file
```

```
assets/iphone/images/image@2x.png  
assets/images/image.png  
assets/android/images/res-mdpi/image.png  
assets/android/images/res-xhdpi/image.png
```



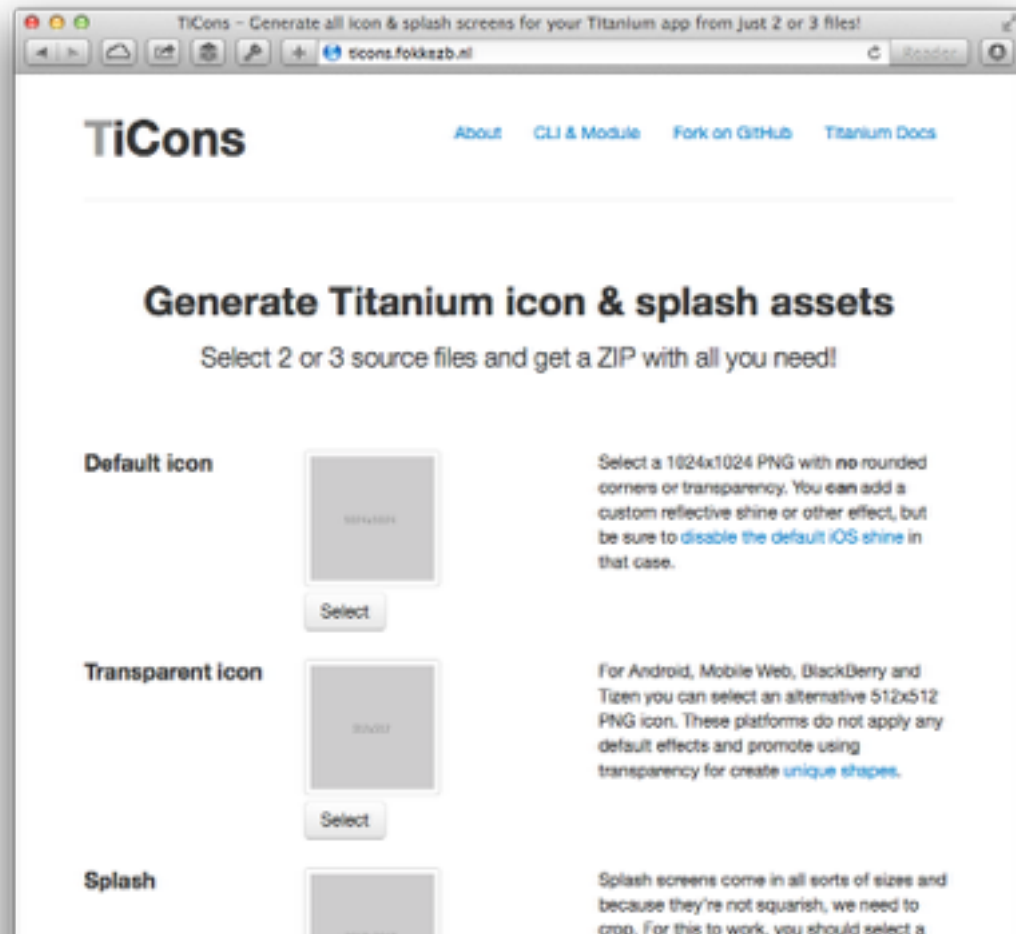
BEST
PRACTICE

Android 9-Patch



No more handwork

```
~ $ [sudo] npm install -g ticons
```



Assignment

- Study the [Icons and Splash Screens guide](#)
- Install the ticons [CLI](#) or visit the [site](#).

```
~ $ [sudo] npm install -g ticons
```

- Reset & Switch to **artwork** branch and run it.
- Generate icons and splashes using the CLI or site on the **logo.png** image.
- For splashes, find out how to prevent the logo from being cropped.



You are a TiDev now!



What's next?

Join the community

Join the community

- Follow [@appcelerator](#) & [@TiDevIO](#).
- Follow [@FokkeZB](#) & [@JasonKneen](#).
- Find a local Titanium Meetup on [DevMap](#).
- Go to a [tiConf](#) on your continent.
- Find help on the [Q&A](#).
- Find widgets & modules on [gitTio](#).
- Share your libraries & widgets on GitHub.

Get certified



training.appcelerator.com/get-certified



Thank you!



Bonus Assignment

- Reset & Switch to **master** branch and run it.
- Fine-tune the app! For example:
 - Replace the list title by the tiDev logo.
 - Add the date and category to the list view.
 - Add a button to open a blog in the browser.
 - Add a button for the user to share a blog.
 - Be creative!

