Web natívan

JS a mobilon

```
const speakers = [ ‘Tamás Csaba’,  ‘Kálóczi Dávid’ ];
```

Before we start

install tools 🔨

- node and npm
- npm i -g expo-cli
- Android/iOS: nativescript (playground, preview), expo

https://tlk.io/openacademy

Today

Today

- iOS and Android dev.
- Sync UI
- Implement BL twice

“You only need an iframe with a responsive website.”

–voice in your head

Browsers!

- browsers evolved significantly
- You only need an iframe with a responsive website.
- have so many advanced APIs
- let’s call them PWAs

Browsers?

- Its okay, but I need
  - Camera
  - Push Notifications
  - MicroTransactions
  - NFC support
  - a new Ferrari!

Pimp up browsers

- WebView, iframe
  - “`navigator.camera`”
- let’s call it ApacheCordova

Goodn’t

Goodn’t

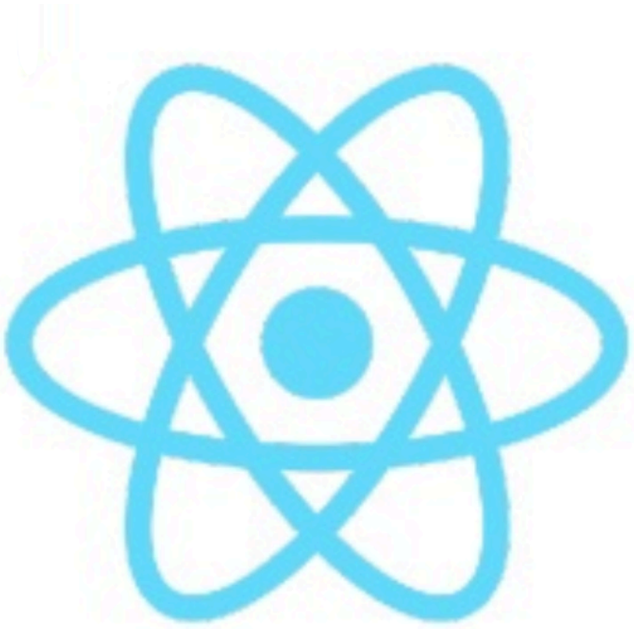
- “Write once, run everywhere”
- It still a web app
- does not really adapts the host

“Learn once, use it everywhere.”

different approach

Better?

- Learn a framework
- Pimp the framework
- JS of course!
- Let’s call it...

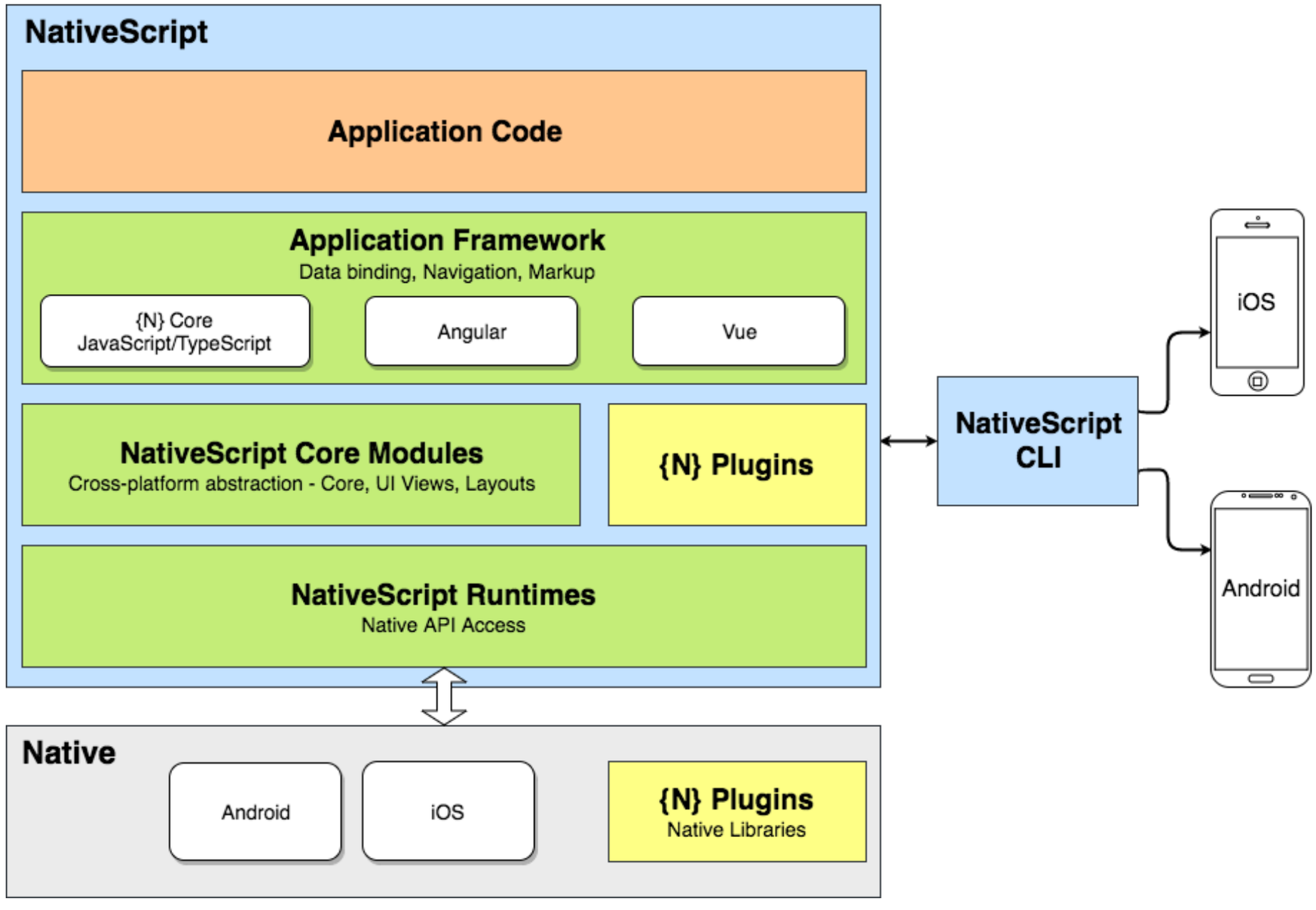


React Native
(by Facebook)

NativeScript
(by Telerik)

NativeScript

Architecture



Android and iOS Examples

```
var view1 = UIView.alloc().init();
// Or with the short-cut
var view2 = UIView.new();
```

```
UIView *view1 = [[UIView alloc] init];
// Or with the short-cut
UIView *view2 = [UIView new];
```

```
var myObject = java.lang.Object.extend({
    hashCode: function(){
        return 10;
    }
});
```

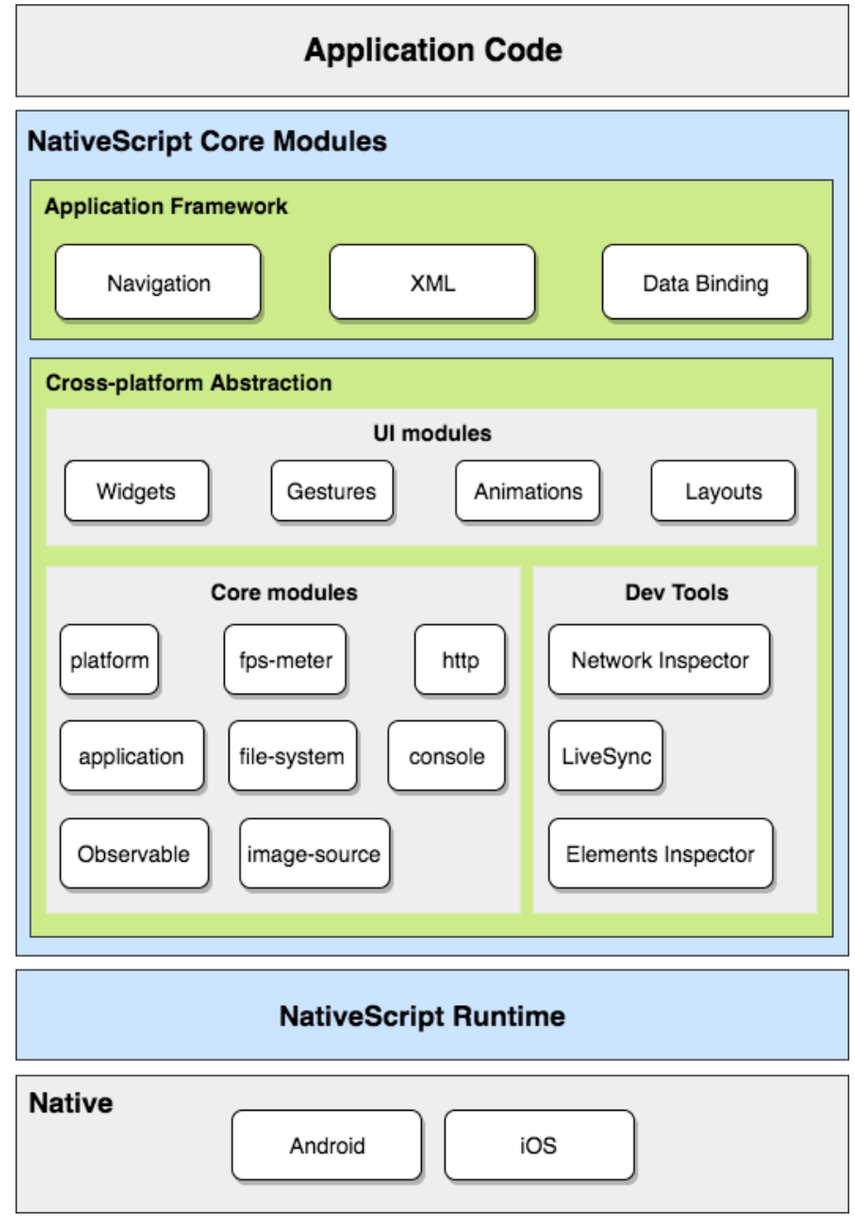
```
public class MyObject {
    @Override
    public int hashCode(){
    return 10;
    }
}
```

Modules

```
var fileSystemModule = require( "file-system" );
new fileSystemModule.File( path );
```

```
new java.io.File( path );
```

```
NSFileManager.defaultManager();
fileManager.createFileAtPathContentsAttributes(path);
```



Plugins

```
tns plugin add nativescript-accelerometer
```

- **npm packages**
- **native functionality**

```
var acc = require("nativescript-accelerometer");

acc
  .startAccelerometerUpdates(function(data) {
    console.log(data.x, data.y,data.z);
}, { sensorDelay: "ui" });
```

Accelerometer plugin for NativeScript

30 commits | **1** branch | **0** relea

Branch: **master** | New pull request

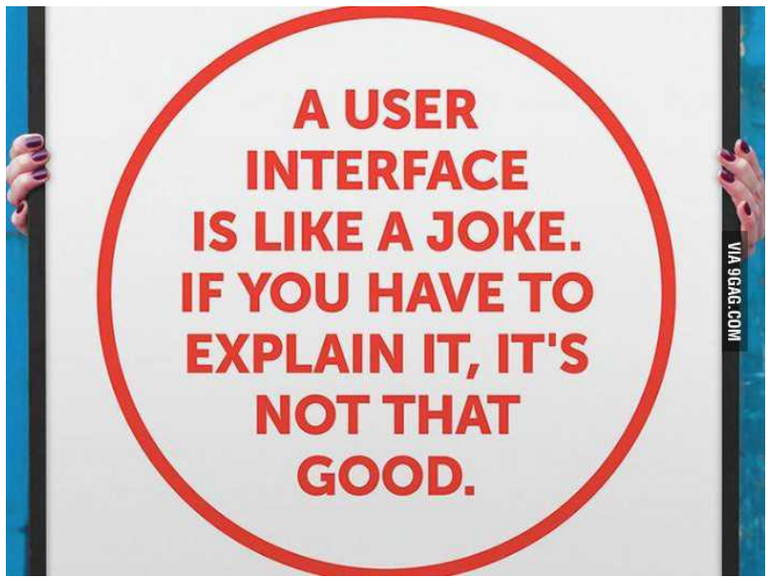
vakrilov FIX: IOS updates do not work when done in the update callback

demo	Added sensor delay option and version bump.
.gitignore	Added sensor delay option and version bump.
.npmignore	update to {N} 2 + demo
LICENSE	Initial commit
README.md	Added sensor delay option and version bump.
index.android.ts	Added sensor delay option and version bump.
index.d.ts	Added sensor delay option and version bump.
index.ios.ts	FIX: IOS updates do not work when done in the
package.json	FIX: IOS updates do not work when done in the
tsconfig.json	Updated the plugin to {N}3.0

Application code

What about the UI

- Use JS/TS and XML
- Simple data-binding
- Use shared or specific UI
- Style with CSS/SCSS/LESS

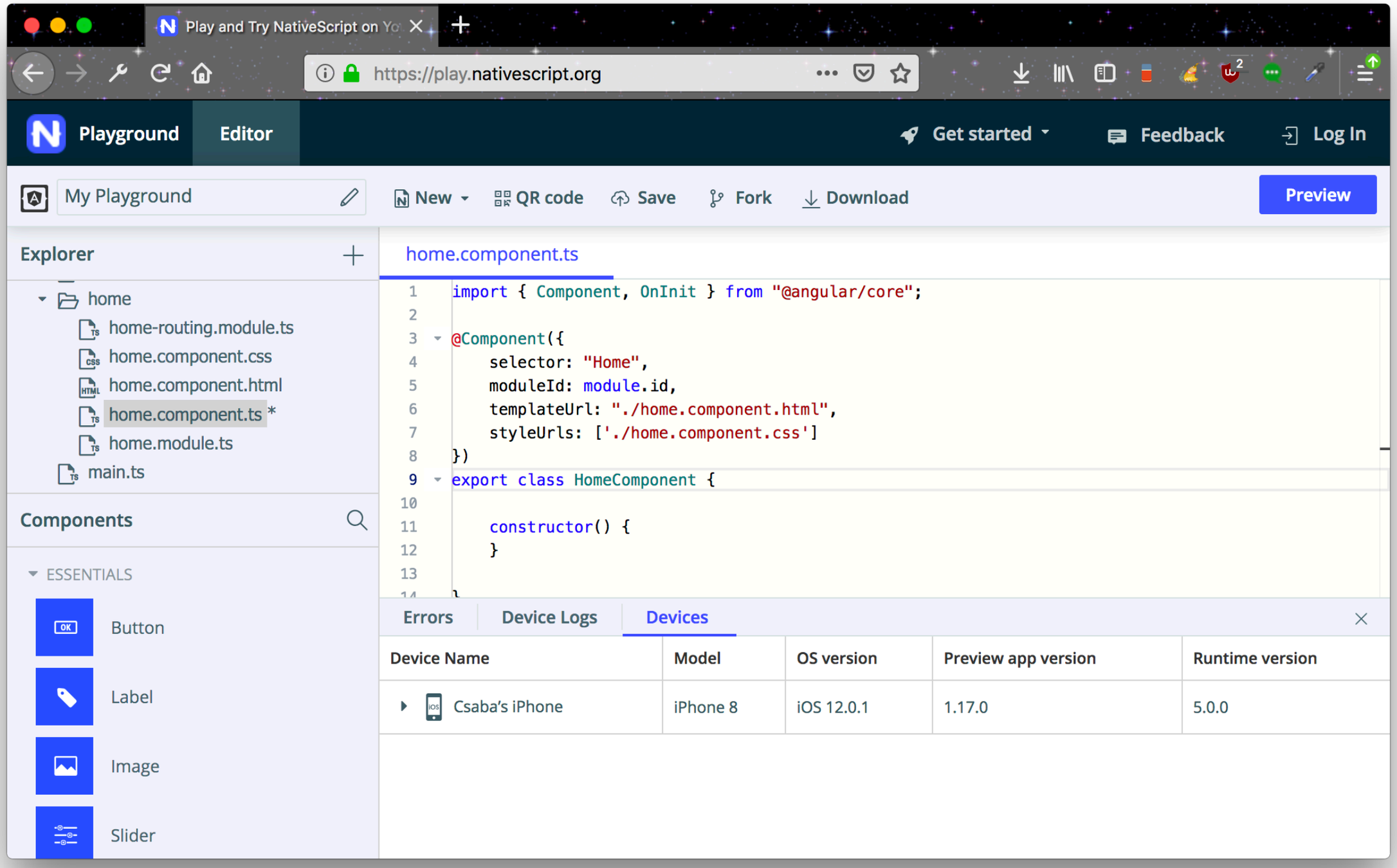



```
<StackLayout>
  <Button text="Test Button For Binding" tap="{{ onTap }}" />
  <TextField text="{{ textSource | dateConverter('YYYY') }}" />
</StackLayout>
```

Layouts


Learn NativeScript Layouts - A
https://www.nslayouts.com
LEARN {N} LAYOUTS
Level 1 of 16
Get ready to Learn NativeScript Layouts! Inspired by Flexbox Froggy, this tool is a fun and easy way for you to learn about mobile app layouts with NativeScript. Each level presents a different mobile app view that needs native UI elements laid out a certain way. NativeScript provides a variety of layout tags to help with this:
<StackLayout> stacks components on top of (or next to) each other;
<WrapLayout> uses available space to wrap components on new rows/columns;
<AbsoluteLayout> places components with absolute top/left coordinates;
<GridLayout> acts like an HTML table, with rows and columns;
<DockLayout> positions components in docked containers (top/bottom/left/right);
<FlexboxLayout> lets you leverage CSS flexbox.
Let's start with a <StackLayout>. By default, a <StackLayout> will stack components vertically. Change the code below to make it so the UI components align each other, in a horizontal orientation 😉.
<StackLayout orientation="vertical">
<Image src="res://nativescript" stretch="none"></Image>
<Image src="res://angular" stretch="none"></Image>
<Image src="res://vue" stretch="none"></Image>
</StackLayout>
Help!
Next
Try NativeScript in Your Browser: Playground
Find NativeScript on GitHub • Twitter • Slack • Stack Overflow
Carrier
10:46 AM
Learn NativeScript Layouts

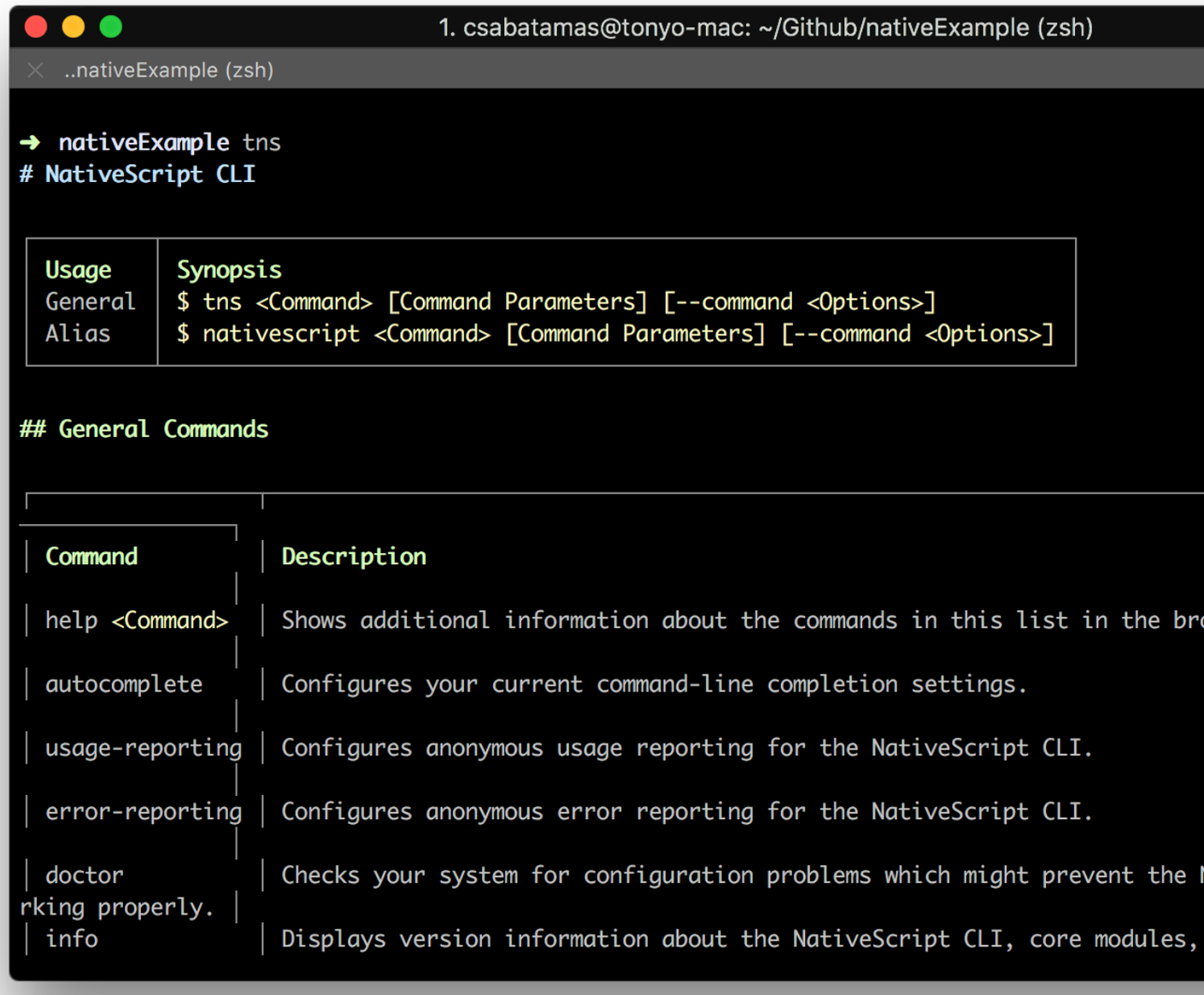
Playground


Play and Try NativeScript on Yo
https://play.nativescript.org
Playground
Editor
Get started
Feedback
Log In
My Playground
New
QR code
Save
Fork
Download
Preview
Explorer
home
home-routing.module.ts
home.component.css
home.component.html
home.component.ts *
home.module.ts
main.ts
Components
ESSENTIALS
Button
Label
Image
Slider
home.component.ts
1 import { Component, OnInit } from "@angular/core";
2
3 @Component({
4 selector: "Home",
5 moduleId: module.id,
6 templateUrl: "./home.component.html",
7 styleUrls: ['./home.component.css']
8 })
9 export class HomeComponent {
10
11 constructor() {
12 }
13
Errors
Device Logs
Devices
Device Name
Model
OS version
Preview app version
Runtime version
Csaba's iPhone
iPhone 8
iOS 12.0.1
1.17.0
5.0.0

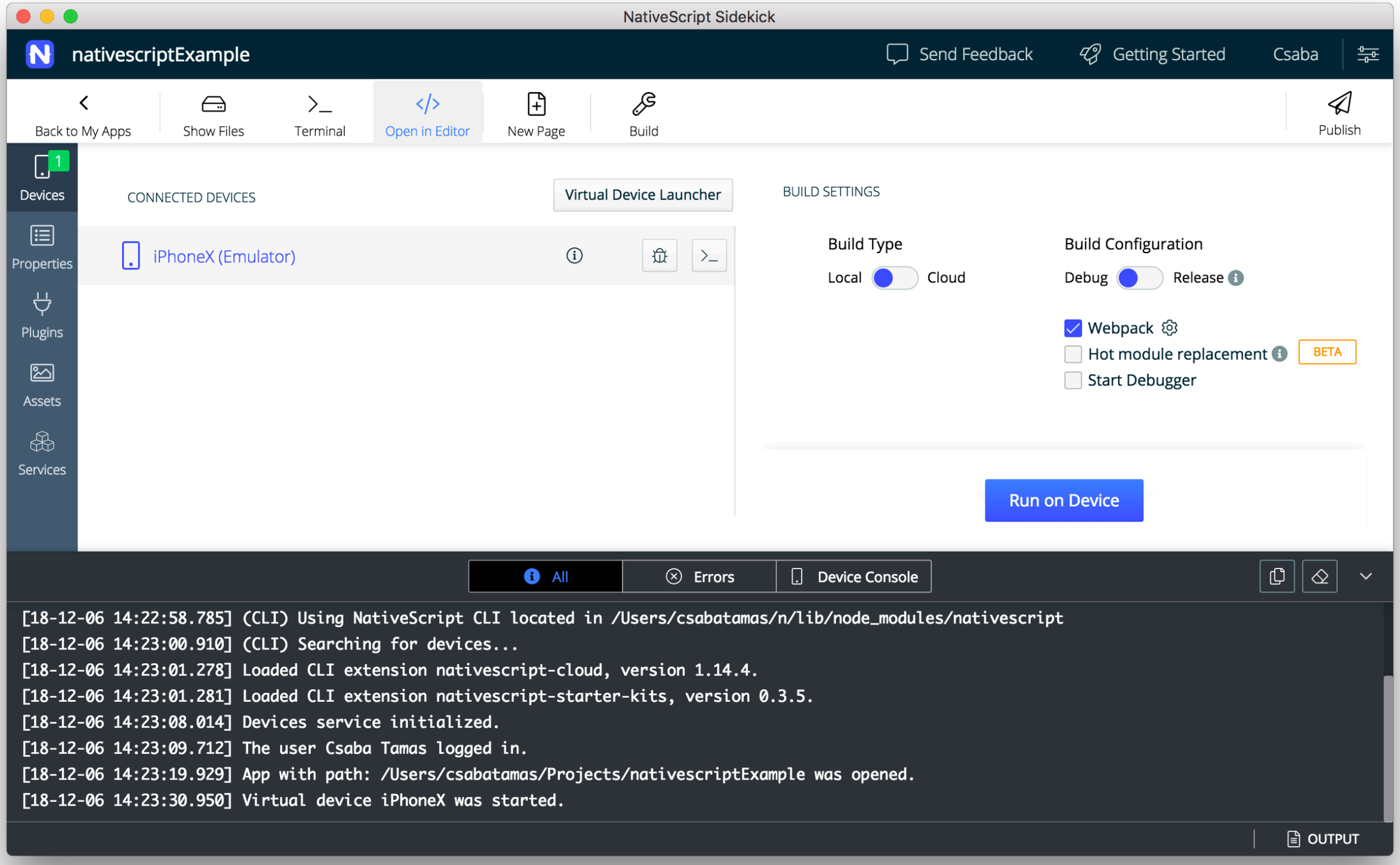
CLI

npm install nativescript

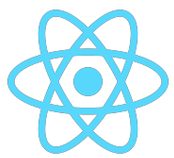
- **tns create my-app-name**
- **tns preview –bundle**
- **tns doctor**
- **tns build ios –release**



Sidekick


NativeScript Sidekick
nativescriptExample
Send Feedback
Getting Started
Csaba
Back to My Apps
Show Files
Terminal
Open in Editor
New Page
Build
Publish
Devices
Properties
Plugins
Assets
Services
CONNECTED DEVICES
Virtual Device Launcher
iPhoneX (Emulator)
BUILD SETTINGS
Build Type
Local
Cloud
Build Configuration
Debug
Release
Webpack
Hot module replacement
BETA
Start Debugger
Run on Device
All
Errors
Device Console
[18-12-06 14:22:58.785] (CLI) Using NativeScript CLI located in /Users/csabatamas/n/lib/node_modules/nativescript
[18-12-06 14:23:00.910] (CLI) Searching for devices...
[18-12-06 14:23:01.278] Loaded CLI extension nativescript-cloud, version 1.14.4.
[18-12-06 14:23:01.281] Loaded CLI extension nativescript-starter-kits, version 0.3.5.
[18-12-06 14:23:08.014] Devices service initialized.
[18-12-06 14:23:09.712] The user Csaba Tamas logged in.
[18-12-06 14:23:19.929] App with path: /Users/csabatamas/Projects/nativescriptExample was opened.
[18-12-06 14:23:30.950] Virtual device iPhoneX was started.
OUTPUT

React Native



React

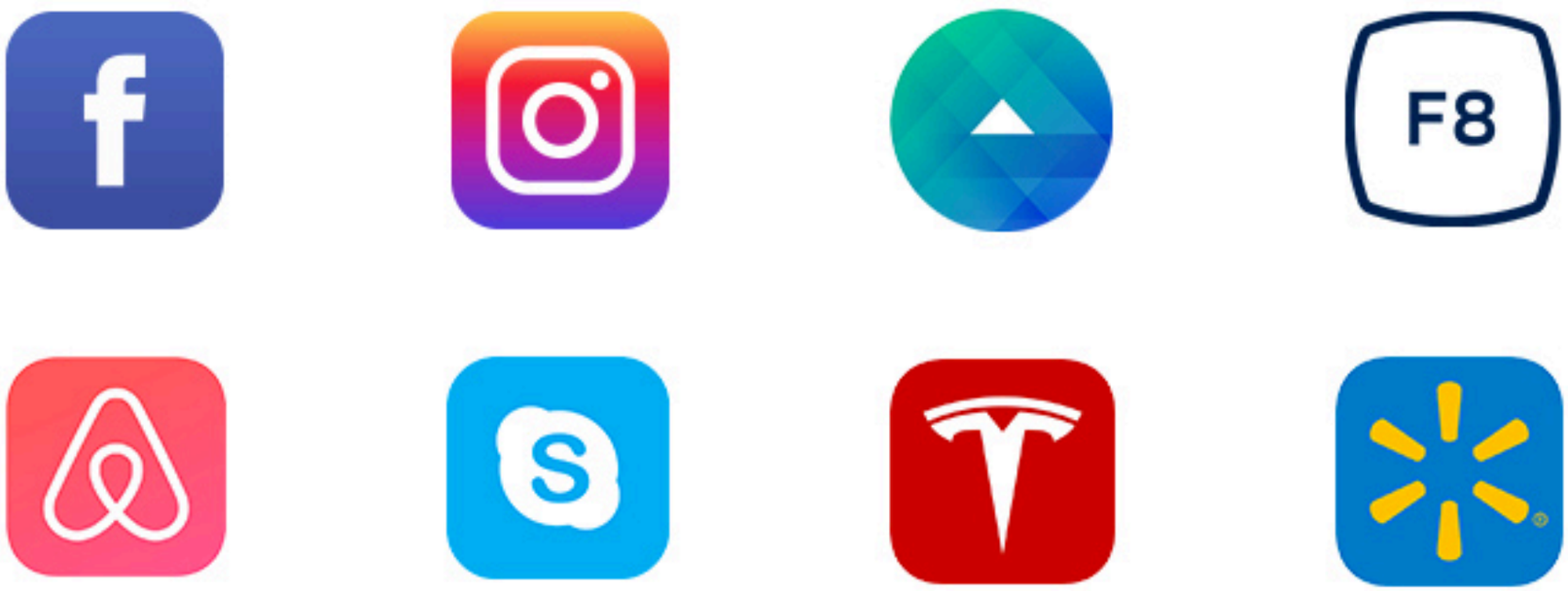
- UI Library for web by Facebook
- component based
- JSX

```
import React, { Component } from ‘react’;

export default class MyComponent extends Component {
  render () {
   return  <div> Hello </div>;
  }
}
```

React Native

- “learn once, use it everywhere”
- writing Mobile app is the same as Web apps
- its a thing

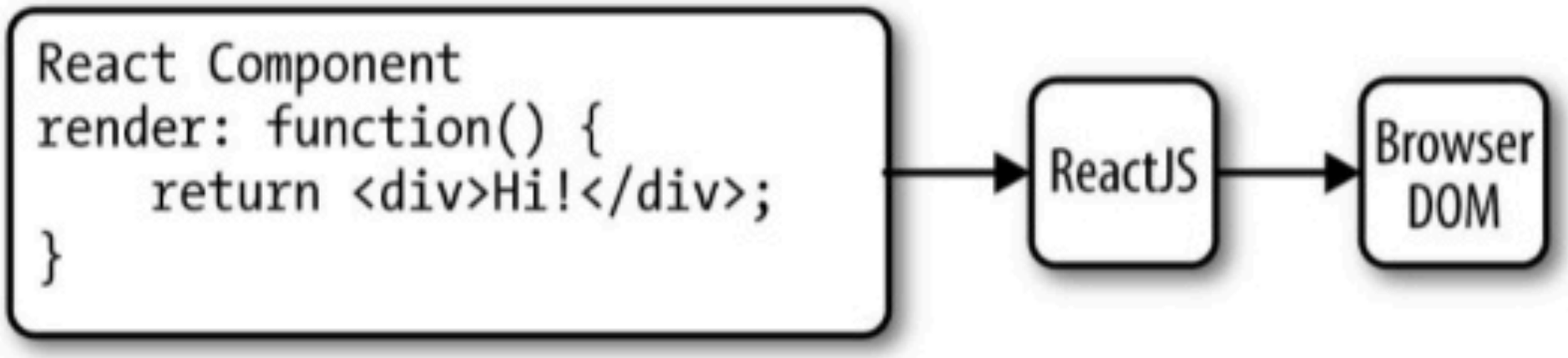


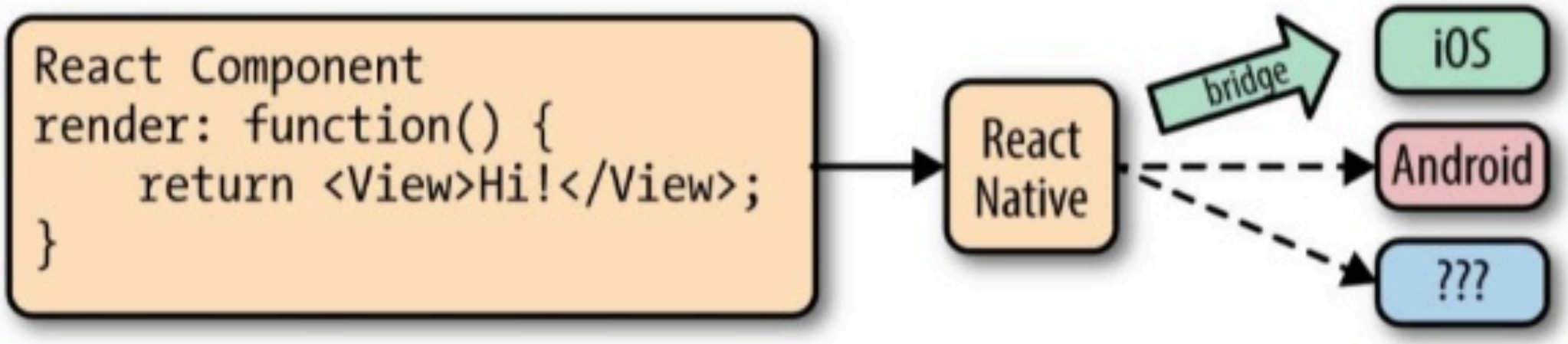
React Native

- The same React, just for mobile OS
- that’s it?

```
import React, { Component } from ‘react’;
import { Text } from ‘react-native’;

export default class MyComponent extends Component {
  render () {
   return  <Text> Hello </Text>;
  }
}
```


React Component
render: function() {
return Hi! ;
}
ReactJS
Browser
DOM


React Component
render: function() {
return <View>Hi!</View>;
}
React
Native
bridge
iOS
Android
???

Bridge 🌉

Native Modules

Andorid - Java
IOS - Obj C /Swift

RN Bridge
(Java/C++)

JS
Virtual Machine

(JavaScriptCore)

not for everything

- Events are on the JS layer, view is on the other side of the bridge
- many native calls can overwhelm the bridge
  - it the bottleneck 🍼
- you can hurt yourself

setting up RN dev.

- npm i react-native 💻
- react-native init myApp 🏃
- install xcode 🍎 / Android Studio 🤖
  - build for your platform 🔨
    - manage codesigns and so.. 🖌
    - deploy🚚

Expo

- provides a shell and platform for jsbundles
- makes React Native development easier
  - restrictions
- only need a single install, and a companion app.

Let’s build
okay, cool
Let’s help Santa