



Sviluppo di una app mobile con Nativescript

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Chi sono





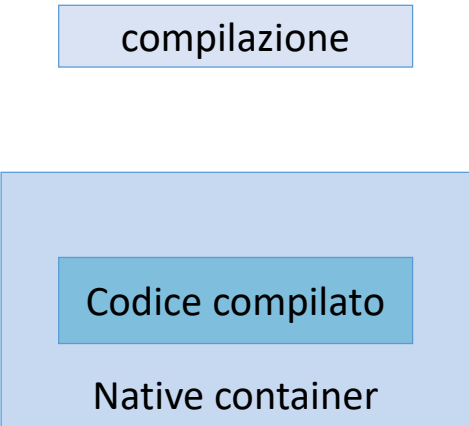
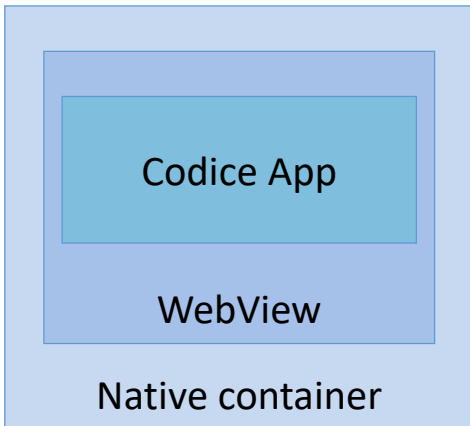

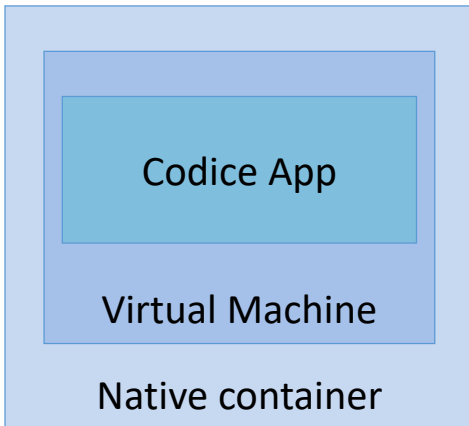
@raffaeler



- Raffaele Rialdi, Senior Software Architect in Vevy Europe – Italy
- Consulente in diversi ambiti:
 - Banking/finanza, healthcare, manufacturing, racing, ...
- Parte del grande gruppo dei Microsoft MVP fin dal 2003
- Speaker & consulente in giro per il globo (sviluppo e sicurezza)
 - Italy, Romania, Bulgaria, Russia , USA, ...



Le alternative nel mondo Mobile

				
<i>architettura</i>	<i>cross compilazione</i>	<i>app ibride</i>	<i>app native</i>	<i>compilazione JIT</i>
<i>linguaggi</i>	<i>C# / VB.NET / F#</i>	<i>javascript / typescript</i>	<i>Java / Kotlin + Objective C / Swift</i>	<i>javascript / typescript</i>
<i>vantaggi</i>	<i>ecosistema .NET</i>	<i>95% tecnologie web</i>	<i>top performance</i>	<i>performance</i>
<i>svantaggi</i>	<i>doppio GC, dimensione package</i>	<i>performance, sicurezza</i>	<i>una app per platform</i>	<i>javascript / typescript</i>
<i>struttura</i>				



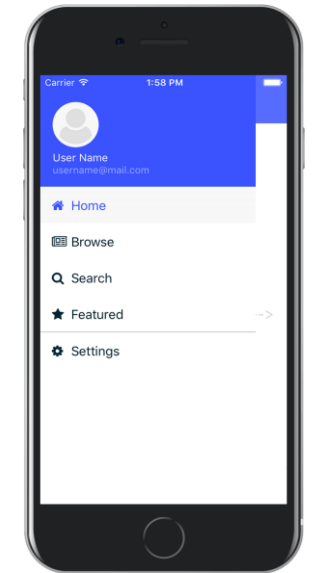
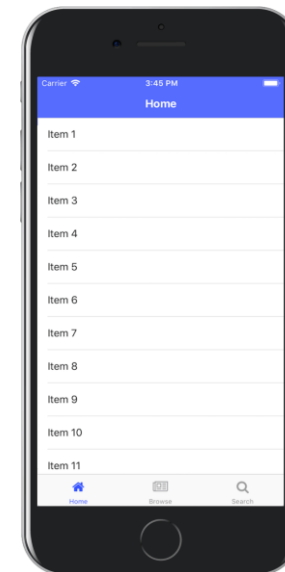
Requisiti

- NodeJS
 - Scarica e installa i 'packages' da un repo centralizzato
- Nativescript CLI → TNS (Telerik NativeScript)
 - Scaffolding dei progetti
 - Aggiunta / rimozione delle Platform → Android, iOS
 - 'Watch' debug e CI/CD
 - ...
- Editor
 - Visual Studio Code ha plugin dedicati a NativeScript
- Emulatore Android e Mac 'fisico' per iOS

Templates

```
tns create my-app-name --template tns-template-hello-world-ng
```

- I template di Angular nel marketplace oppure su GitHub
 - <https://market.nativescript.org/?tab=templates>
 - <https://github.com/NativeScript?q=template>
- Alcuni esempi:
 - tns-template-hello-world
 - tns-template-hello-world-ng
 - tns-template-drawer-navigation-ng
 - tns-template-tab-navigation-ng
 - vue-cli-template
 - Da usarsi con la CLI di Nativescript-Vue



Costruire una App

- Il progetto è descritto nel file package.json
 - il folder "**app**" contiene i nostri file e un secondo package.json
 - Motivo del secondo package.json: "app" è lui stesso un package di node
 - in "**node_modules**" ci sono moduli usati nella app
 - "**platforms**" contiene i file Nativescript per Android e iOS
 - le platform si aggiungono e rimuovono tramite la CLI
- Ogni pagina della App è costituita da 1 folder con 3 files
 - **Codice**
 - Un file javascript o typescript
 - **View**
 - Un file xml con il markup Nativescript (platform independent per iOS e Android)
 - **CSS**
 - Un file css standard

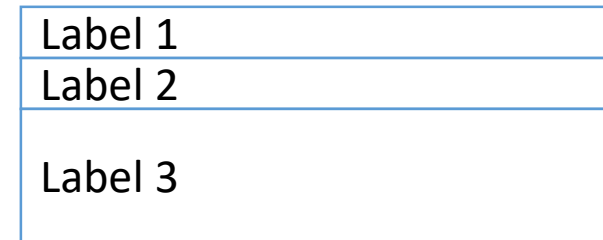


Comandi utili

- Creazione progetti
 - `tns create <name> --template <template>`
 - `<name>` a new folder will be created
 - `<template>` a template on [npmjs.com](https://www.npmjs.com) or a full github url
- Installazione di plugin
 - `tns plugin add nativescript-plugin-firebase`
 - `tns plugin add nativescript-speech-recognition`
 - `tns plugin add nativescript-texttospeech`
- Lista di tutti i device collegati
 - `tns device`
- Deploy e watch dei file di progetto
 - `tns run`

Layout più comuni 1/2

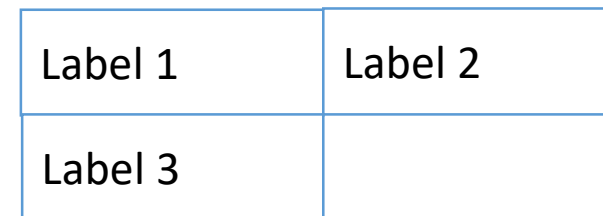
```
<GridLayout rows="50, auto, *" >  
  <Label text="Label 1" row="0" />  
  <Label text="Label 2" row="1" />  
  <Label text="Label 3" row="2" />  
</GridLayout>
```



```
<StackLayout orientation="vertical">  
  <Label text="Label 1" />  
  <Label text="Label 2" />  
</StackLayout>
```



```
<WrapLayout orientation="horizontal" >  
  <Label text="Label 1" width="70" height="70" />  
  <Label text="Label 2" width="70" height="70" />  
</WrapLayout>
```

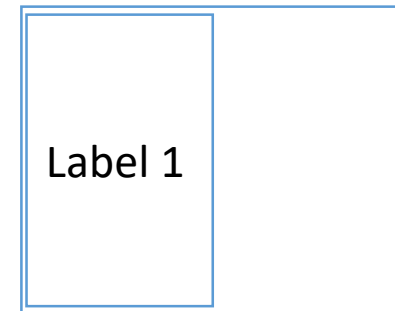
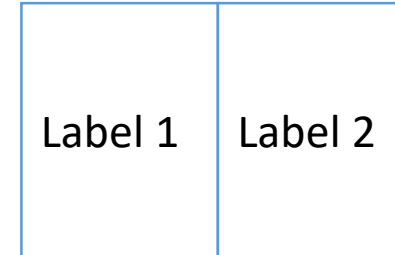


Layout più comuni 2/2

```
<FlexboxLayout width="300" height="300">  
  <Label text="Label 1" width="70" height="70" />  
  <Label text="Label 2" width="70" height="70" />  
</FlexboxLayout>
```

```
<AbsoluteLayout width="210" height="210">  
  <Label text="10, 10" left="10" top="10"  
    width="90" height="90" />  
</AbsoluteLayout>
```

```
<DockLayout width="210" height="210"  
  stretchLastChild="false">  
  <Label text="left" dock="left" width="60"/>  
</DockLayout>
```



Navigazione contenuti

- La navigazione avviene grazie al contenitore "Frame"
 - Possono anche esserci più Frame uno dentro l'altro

JS

```
const frameModule =
  require("tns-core-modules/ui/frame");
const topmostFrame = frameModule.topmost();

const myFrame =
  frameModule.getFrameById("myFrame");

const Page =
  require("tns-core-modules/ui/page").Page;
const page = button.page;
page.frame.navigate("second/second-page");
```

TS

```
import { Frame, topmost } from
  "tns-core-modules/ui/frame";
const topmostFrame: Frame = topmost();

const myFrame: Frame =
  getFrameById("myFrame");

import { Page } from
  "tns-core-modules/ui/page";
const page: Page = button.page;
page.frame.navigate("second/second-page");
```

Firebase plugin

- Creare un progetto in <https://console.firebase.google.com>
 - Ogni progetto può avere più App
- Creare una App nel progetto (bundle id == nativescript id!)
 - Scaricare il file json in `app/App_Resources/Android/google-services.json`
- Installare il plugin di Firebase
`tns plugin add nativescript-plugin-firebase`
- Configurare i servizi selezionati
 - Facebook => `app/App_Resources/Android/src/main/AndroidManifest.xml`
 - `<meta-data android:name="com.facebook.sdk.ApplicationId" android:value="@string/facebook_app_id"/>`
 - `app/App_Resources/Android/src/main/res/values/facebooklogin.xml`
 - Dizionario con il valore specificato nella chiave `facebook_app_id`

```
H:\dev.tns\start\FirebaseNG>tns plugin add nativescript-plugin-firebase
```

```
> nativescript-plugin-firebase@6.1.1 postinstall H:\dev.tns\start\FirebaseNG\node_modules\nativescript-plugin-firebase  
> node postinstall-hooks.js && node scripts/postinstall.js
```

NativeScript Firebase Plugin Installation

No existing firebase.nativescript.json config file found, so let's configure the Firebase plugin!

prompt: Are you using iOS (y/n): (y) n

prompt: Are you using Android (y/n): (y)

prompt: Are you using Cloud Firestore? (y/n): (n)

prompt: Are you using Realtime DB? (y/n): (n)

prompt: Are you using Firebase RemoteConfig? (y/n): (n) y

prompt: Are you using Firebase Messaging? (y/n): (n) y

prompt: Are you using Firebase Crashlytics? (y/n): (n)

prompt: Are you using Firebase Crash Reporting? (answer "n" if you want to use Crashlytics instead) (y/n): (n)

prompt: Are you using Firebase Storage? (y/n): (n)

prompt: Are you using Firebase Facebook Authentication? (y/n): (n) y

prompt: Are you using Firebase Google Authentication? (y/n): (n) y

prompt: Are you using AdMob? (y/n): (n)

prompt: Are you using Firebase Invites and/or Dynamic Links? (y/n): (n)

prompt: Are you using ML Kit? (y/n): (n) y

prompt: With ML Kit, do you want to recognize text? (y/n): (n) y

prompt: With ML Kit, do you want to scan barcodes? (y/n): (n) y

prompt: With ML Kit, do you want to detect faces? (y/n): (n) y

prompt: With ML Kit, do you want to label images? (y/n): (n)

prompt: With ML Kit, do you want to use a custom TensorFlow Lite model? (y/n): (n)

```
+ nativescript-plugin-firebase@6.1.1
```

```
added 20 packages in 282.418s
```

```
Successfully installed plugin nativescript-plugin-firebase.
```

tns cheat sheet



General

```
help <Command>
autocomplete
usage-reporting
error-reporting
doctor
info
proxy
update
```

Global

```
--help, -h, /?
--path <Directory>
--version
--log trace
```

Publishing

```
appstore
appstore upload
```

Environment

```
setup
setup cloud
```

Device

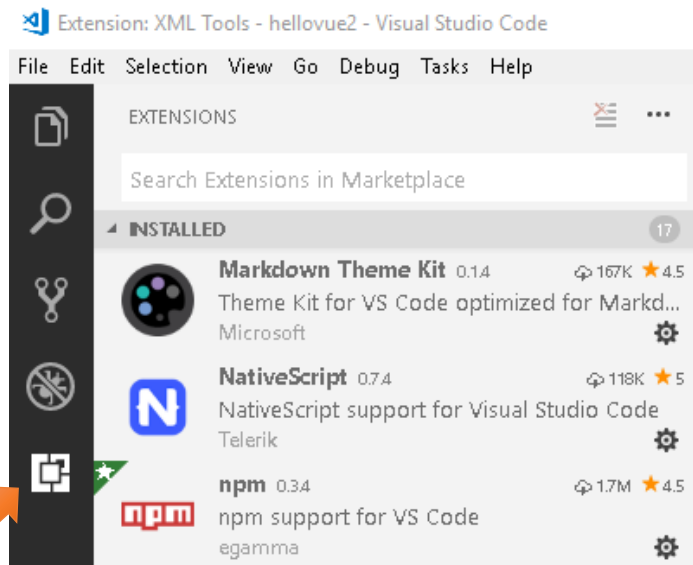
```
device
device log
device run
device list-applications
```

Project development

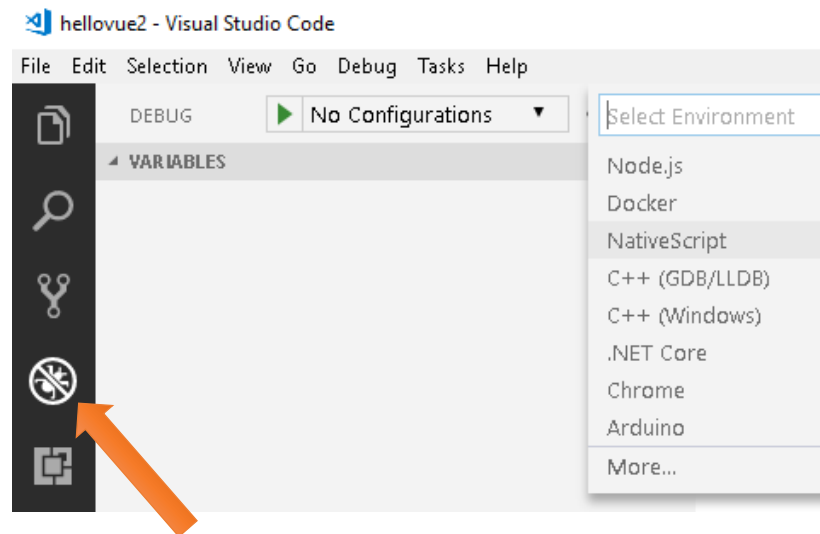
```
create
init
platform add <Platform>
platform list
platform remove <Platform>
platform update <Platform>
resources update
prepare <Platform>
build <Platform>
deploy <Platform>
run
run <Platform>
debug <Platform>
test init
test <Platform>
install
plugin
```

Debug con Visual Studio Code

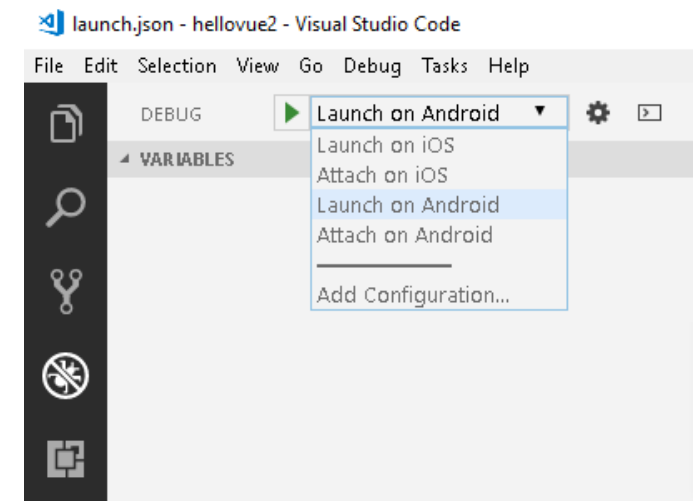
Installare l'estensione
NativeScript by Telerik



In debug, selezionare
i settings di NativeScript



Prima di debuggare
selezionare la configurazione



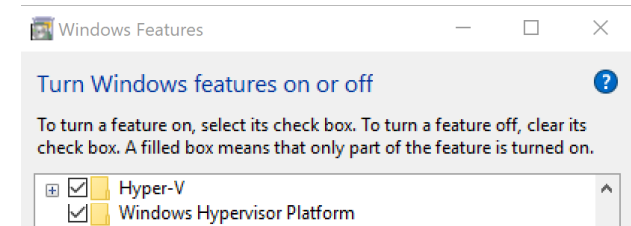
Hyper-V e l'emulatore Google

- Possono coesistere!

1. Windows: deve essere almeno la versione 1803
2. Abilitare Hyper-V e Windows Hypervisor Platform
3. Installare l'emulatore google di versione $\geq 27.3.4$
 - cmd amministrativa
 - `cd C:\Program Files (x86)\Android\android-sdk\tools\bin`
 - `sdkmanager.bat emulator --channel=3`
4. (optional) Lanciare l'emulatore da command line
`emulator -list-avds`
`emulator -avd Android_Accelerated_x86_Oreo -no-snapshot-load`

```
c:\> winver
```

```
Microsoft Windows  
Version 1803 (OS Build 17134.48)
```



Channel 3 significa 'Canary'
(Alpha release)

In futuro non sarà necessario

Conclusione

- Link alle slides sul nostro sito di DotNetLiguria
- Nativescript tutorials sui siti ufficiali:
 - <https://www.nativescript.org/>
 - <https://nativescript-vue.org/>
- Il mio handle Twitter [@raffaeler](https://twitter.com/raffaeler)

Domande?



Grazie!