Ionic

Prerequisites

nodejs (latest)

```
sudo apt-get install build-essential
# curl -sL https://deb.nodesource.com/setup_6.x | sudo -E bash -
# sudo apt install nodejs
```

nodeenv

```
sudo apt-get install python-pip
sudo pip install nodeenv
```

Project

Create library

```
LIB=<some-path>
nodeenv --node=0.10.33 $LIB
. $LIB/bin/activate
```

```
npm install -g ionic
# npm install -g bower
```

update

```
npm update -g ionic cordova
```

Create project

- https://devdactic.com/login-ionic-2/
- https://ionicacademy.com/ionic-3-lazy-loading/
- https://www.joshmorony.com/an-introduction-to-observables-for-ionic-2/

Activate library

```
. $LIB/bin/activate
```

```
NAME=PeperStart
ionic start $NAME blank
```

```
cd $NAME
ionic browser add crosswalk #(this command enable also android platform)
```

Update libs

```
. $LIB/bin/activate
npm install -g ionic

cd <project>
ionic lib update
```

Android

It is important to install native gradle or use gradle shipped with android studio (see PATH below)

- ANDROID_HOME=/opt/android-sdk
- PATH=/opt/android-sdk/platform-tools:/opt/android-studio/gradle/gradle-3.2/bin/

example

```
nodeenv lib
. lib/bin/activate
npm install -g ionic cordova
ionic start test1 blank
cd test1
ionic cordova plugin

cd ..
git clone https://github.com/Cloudoki/ImageDetectionCordovaPlugin.git
# create pacakge.json in ImageDetectionCordovaPlugin
cd test1
cordova plugin add ../ImageDetectionCordovaPlugin
ionic cordova platform add android
ionic cordova build android
ionic cordova run android --device
```

example2 with cordova-plugin-camera-preview.git → GianoDroidIonic

```
ionic start MyCameraApp blank --id org.csgalileo.mycameraapp
git clone --depth=1
https://github.com/cordova-plugin-camera-preview/cordova-plugin-camera-previ
ew.git
cd MyCameraApp
ionic cordova platform add android

ionic cordova plugin add ../cordova-plugin-camera-preview
npm install @ionic-native/camera-preview --save
```

```
ionic cordova plugin add cordova.plugins.diagnostic
npm install @ionic-native/diagnostic --save

ionic cordova build android
ionic cordova run android --device
```

Add java sources and native C++ support

Add opencv support http://wiki.csgalileo.org/projects:giano:android#simpler_mode

In <project root> add: CMakeLists.txt

```
cmake_minimum_required(VERSION 3.4.1)
set(CMAKE_VERBOSE_MAKEFILE on)
find_library(log-lib log)

set(OpenCV_DIR "android-opencv/opencv/src/sdk/native/jni")
find_package(OpenCV REQUIRED)
message(STATUS "OpenCV libraries: ${OpenCV_LIBS}")
```

and add to *build-extras.gradle* (this file is copied with hook <hook src="scripts/gradle.sh" type="after*platform*add" />)

```
android {
  externalNativeBuild {
    cmake {
      path "../../CMakeLists.txt"
    }
  }
  packagingOptions {
    // edit also abiFilters and clean project before make apk
    //exclude 'lib/armeabi-v7a/libopencv_java3.so'
    exclude 'lib/mips/libopencv_java3.so'
    exclude 'lib/mips64/libopencv_java3.so'
    exclude 'lib/armeabi/libopencv_java3.so'
    exclude 'lib/x86/libopencv_java3.so'
    exclude 'lib/x86_64/libopencv_java3.so'
  }

}

dependencies {
  compile project(':android-opencv:opencv')
}

ext.postBuildExtras = {
  logger.quiet('adding java sources')
  android {
    sourceSets {
      main.java.srcDirs += '../../src/android/java'
```

```
      main.res.srcDirs += '../../src/android/res'
    }
  }
}
```

from build.gradle of android-opencv comment classpath from dependancies

```
dependencies {
        //classpath 'com.android.tools.build:gradle:2.3.3'

        // NOTE: Do not place your application dependencies here; they
belong
        // in the individual module build.gradle files
    }
```

with <hook src="scripts/gradle.sh" type="after*platform*add" /> apply patch to change settings.gradle in

```
include ":"
include ":CordovaLib"
include ":android-opencv:opencv"
project(":android-opencv:opencv").projectDir = new File("../../android-
opencv/opencv")
```

with <hook src="scripts/config.xml.py" type="before_compile" /> patch **res/xml/config.xml** to export plugin interface, for example

res/xml/config.xml

```
    <feature name="TestPlugin">
        <param name="android-package"
value="org.csgalileo.giano.TestPlugin"></param>
        <param name="onload" value="true"></param>
    </feature>
```

define typescript interface

src/app/test.module.ts

```
import { Injectable } from '@angular/core';

declare var cordova:any;

@Injectable()
export class TestPlugin {
    public testCall() {
        cordova.exec(
                function(data) { console.log("test-plugin
getDate="+data); },
```

```
                function(error) { console.log("test-plugin:"+error); },
                "TestPlugin",
                "getDate",
                []);
    }
}
```

Android Studio

After project creation via cli (see up) import project (Eclipse, ADT, gradle) from folder <project-root>/platforms/android (choose to update gradle).

Now it is possible to develop JAVA code in Android Studio but HTML/TS has to be changed in <project-root>/src and synced with 'ionic build'