Hybrid Apps

Hybrid App?

Native app

    Can be sold in App Stores

    Can access all device features

Wrapped around a web app

    Single code base

    Simpler development?

How?

Web app embedded in native app

   not dynamically loaded from web

Native app stub

Javascript APIs to device features

Tools

Large selection

http://en.wikipedia.org/wiki/
Multiple_phone_web_based_application_framework

Many based on HTML, CSS & JavaScript

We'll look at Apache Cordova

aka Adobe PhoneGap

PhoneGap Build - cloud compiling

Apache Cordova

http://cordova.apache.org

Develop with HTML, CSS & JavaScript

Compile with Cordova for native apps

Includes JS APIs for native features

Has support for custom plugins

General Prereqs

Node.js

iOS Prereqs

Apple Mac laptop or desktop

Xcode

  Mac App Store, or

  https://developer.apple.com/xcode/
  downloads/

ios-sim

  https://github.com/phonegap/ios-sim

Android Prereqs

Android SDK

https://developer.android.com/sdk/index.html
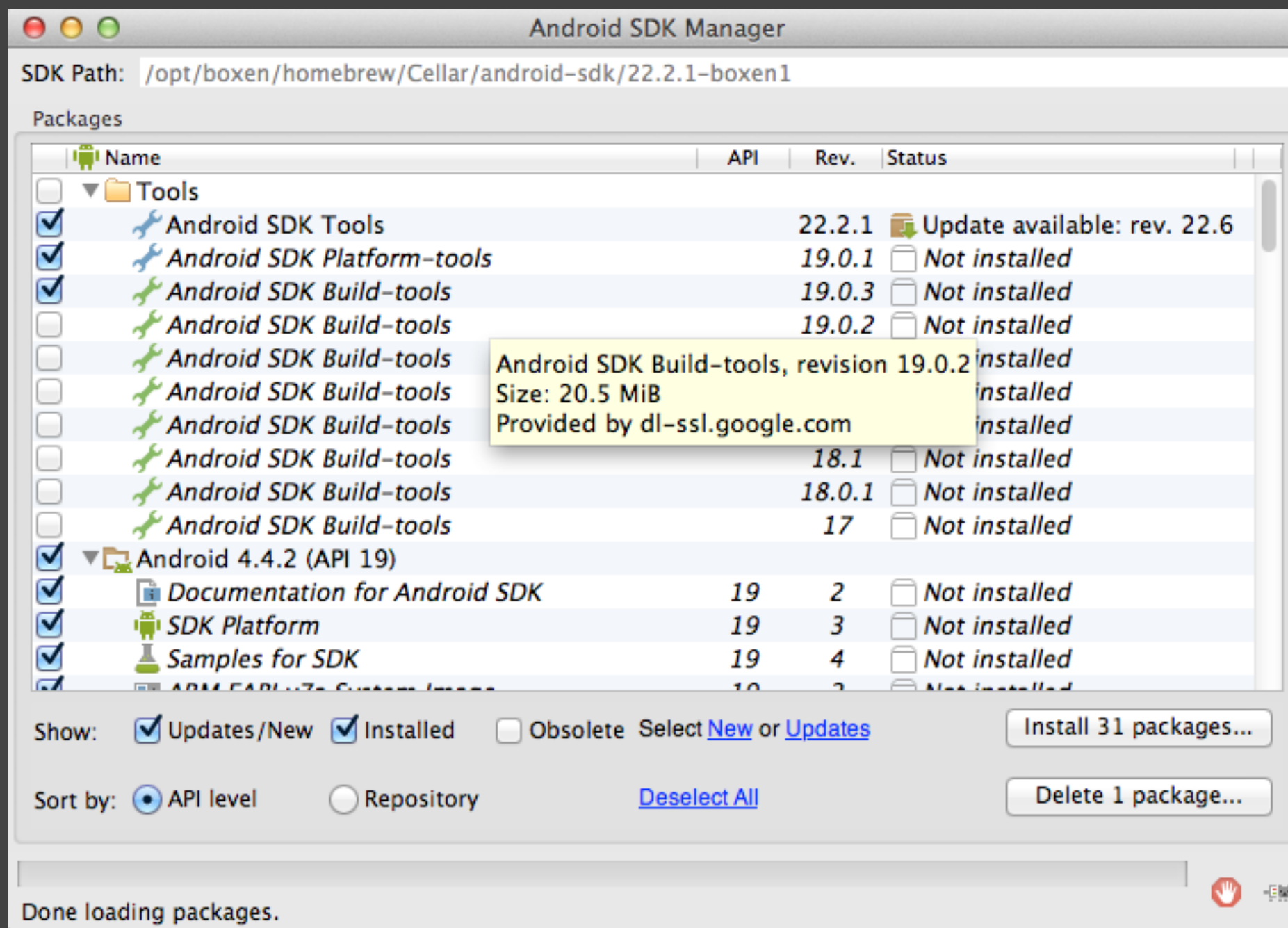
Ant

http://ant.apache.org

Homebrew for Mac

Package Manager

Install from http://brew.sh/

Install reqs with

```
% brew install nodejs ios-sim \
> ant android-sdk
```

Then run android to install platform tools

Android SDK Manager

SDK Path: /opt/boxen/homebrew/Cellar/android-sdk/22.2.1-boxen1

Packages

	Name	API	Rev.	Status
☐	▼ 📁 Tools			
☑	🔧 Android SDK Tools		22.2.1	📥 Update available: rev. 22.6
☑	🔧 Android SDK Platform-tools		19.0.1	☐ Not installed
☑	🔧 Android SDK Build-tools		19.0.3	☐ Not installed
☐	🔧 Android SDK Build-tools		19.0.2	☐ Not installed
☐	🔧 Android SDK Build-tools			installed
☐	🔧 Android SDK Build-tools			installed
☐	🔧 Android SDK Build-tools			installed
☐	🔧 Android SDK Build-tools		18.1	☐ Not installed
☐	🔧 Android SDK Build-tools		18.0.1	☐ Not installed
☐	🔧 Android SDK Build-tools		17	☐ Not installed
☑	▼ 📁 Android 4.4.2 (API 19)			
☑	📄 Documentation for Android SDK	19	2	☐ Not installed
☑	📱 SDK Platform	19	3	☐ Not installed
☑	⚗ Samples for SDK	19	4	☐ Not installed
☑	🖥 ARM EABI v7a System Image	19	3	☐ Not installed

> Android SDK Build-tools, revision 19.0.2
> Size: 20.5 MiB
> Provided by dl-ssl.google.com

Show: ☑ Updates/New ☑ Installed ☐ Obsolete Select New or Updates   [Install 31 packages...]

Sort by: ● API level   ○ Repository   Deselect All   [Delete 1 package...]

Done loading packages.

Boxen

For the more "adventurous"

http://boxen.github.com

puppet + github + homebrew

Manage your laptop like a server

Install Cordova CLI

```
% npm install -g cordova
% cordova --version
3.4.0-0.1.3
%
```

Creating a Project

```
% cordova create cordova-demo \
> com.scottylogan.cordova.demo
Creating a new cordova project with name
"HelloCordova" and id
"com.scottylogan.cordova.demo" at
location "/Users/swl/src/cs50/cordova-
demo"
Downloading cordova library for www...
Download complete
% cd cordova-demo
```

Adding iOS

```
% cordova platform add ios
Downloading cordova library for ios...
Download complete
Creating ios project...
```

Add Android

```
% cordova platform add android
Creating android project...
Creating Cordova project for the Android platform:
    Path: platforms/android
    Package: com.scottylogan.cordova.demo
    Name: HelloCordova
    Android target: android-19
Copying template files...
Running: android update project --subprojects --path "platforms/android" --target android-19 --
library "CordovaLib"
Resolved location of library project to: /Users/swl/src/cs50/cordova-demo/platforms/android/
CordovaLib
Updated and renamed default.properties to project.properties
Updated local.properties
No project name specified, using Activity name 'HelloCordova'.
If you wish to change it, edit the first line of build.xml.
Added file platforms/android/build.xml
Added file platforms/android/proguard-project.txt
Updated project.properties
Updated local.properties
No project name specified, using project folder name 'CordovaLib'.
If you wish to change it, edit the first line of build.xml.
Added file platforms/android/CordovaLib/build.xml
Added file platforms/android/CordovaLib/proguard-project.txt

Project successfully created.
```

Try It!

```
% cordova emulate ios
...
% cordova emulate android
...
```

Task App Test

```
% cordova create TaskApp com.scottylogan.TaskApp
Creating a new cordova project ...
% cd TaskApp
% cordova platform add ios android
% rm -rf www
% git clone \
> git@github.com:scs-cs-50/task-app.git www
Cloning into 'www'...
...
% git checkout 7_pages_and_theme
...
% cordova emulate ios
```

🔍

Add Task

Name:

Your new task ✕

Details:

Cancel   **Add**

Tasks

🔍

Add Task

Name:

Your new task

Details:

Cancel   **Add**