Android

+

Facebook

Introduction

@ME (About)

Marcelo Cyreno

Skype: marcelocyreno
Linkedin: marcelocyreno
Mail: marcelocyreno@gmail.com

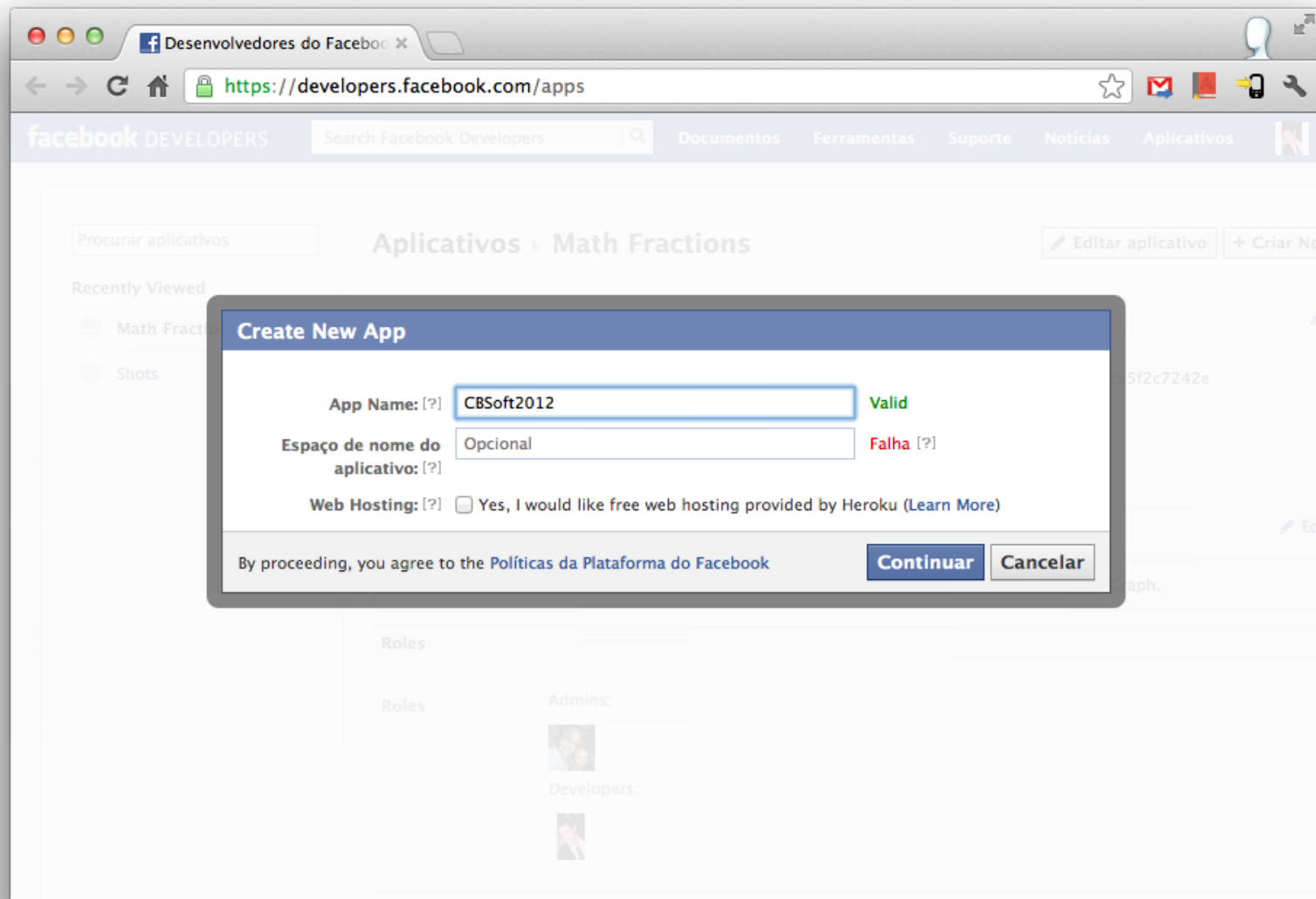# Prerequisites

- Eclipse :
  http://eclipse.org/

- Android SDK :
  http://developer.android.com/sdk/index.html

- Eclipse Plugin (ADT):
  http://developer.android.com/tools/sdk/eclipse-adt.html

- Git :
  http://msysgit.github.com/

- Facebook SDK:
  git clone git://github.com/facebook/facebook-android-sdk.git

Next Steps

- Create a Facebook Application (on FB)
- Setup Android Support (on FB)
  - Add singing key hash
  - Enable SSO
- Retrieve & Setup Facebook SDK
- Hello World FB App
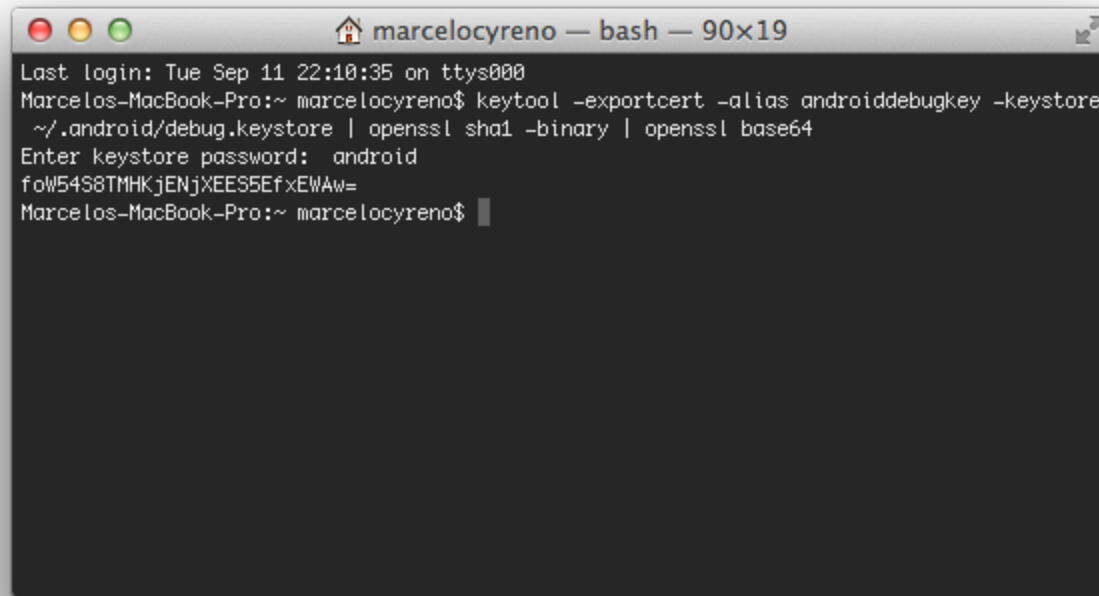- Graph API
- FQL

Create a Facebook Application

https://developers.facebook.com/apps

Retrieving signing key* hash


```
keytool -exportcert -alias androiddebugkey
      -keystore ~/.android/debug.keystore | openssl sha1 -binary | openssl base64
```

Adding signing key hash
+ Enabling SSO

(Next Screen)

Applications Details (Edit button)

Download Facebook SDK for Android


```
Marcelos-MacBook-Pro:~ marcelocyreno$ git clone git://github.com/facebook/facebook-android-sdk.git
Cloning into 'facebook-android-sdk'...
remote: Counting objects: 1816, done.
remote: Compressing objects: 100% (590/590), done.
remote: Total 1816 (delta 845), reused 1667 (delta 732)
Receiving objects: 100% (1816/1816), 3.63 MiB | 434 KiB/s, done.
Resolving deltas: 100% (845/845), done.
Marcelos-MacBook-Pro:~ marcelocyreno$
```

git clone git://github.com/facebook/facebook-android-sdk.git

Create a Android Project for the Facebook SDK #1
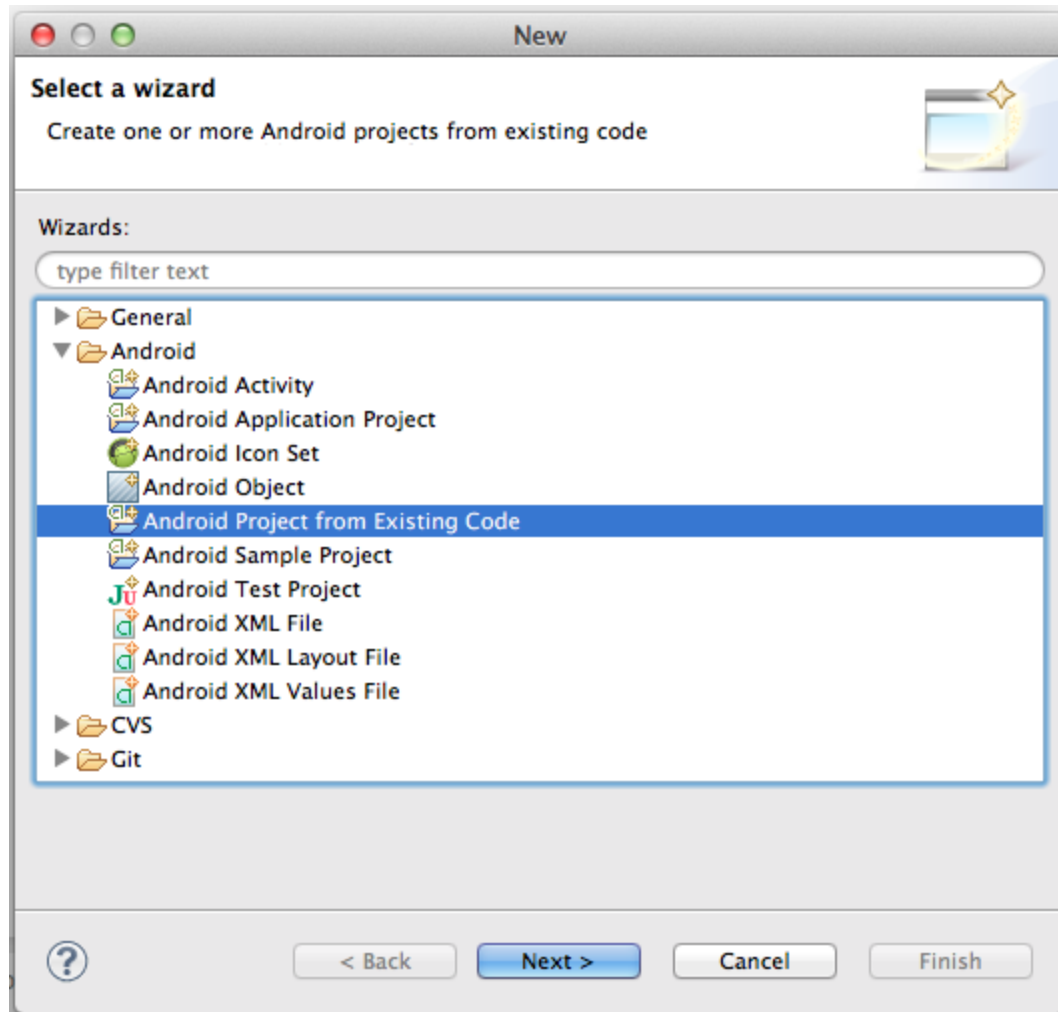
Create a Android Project for the Facebook SDK #2
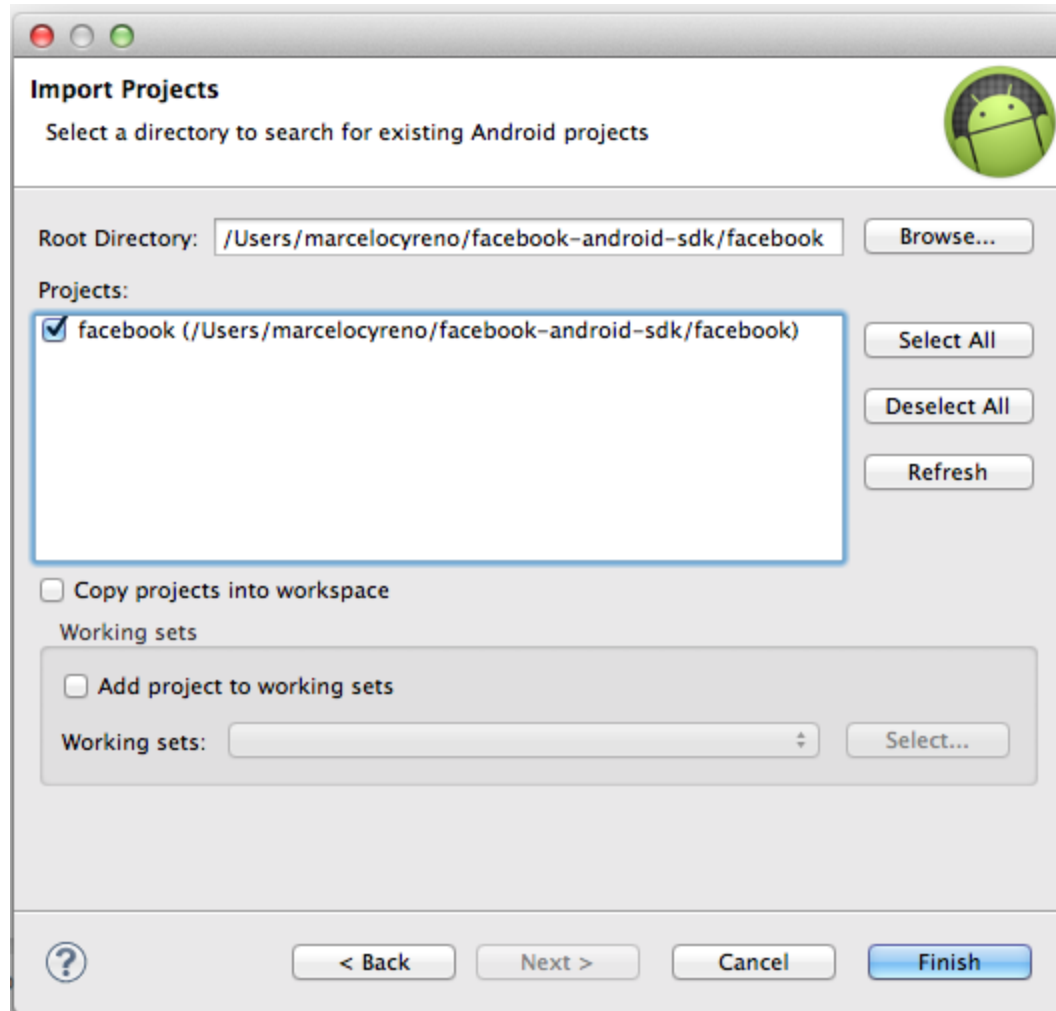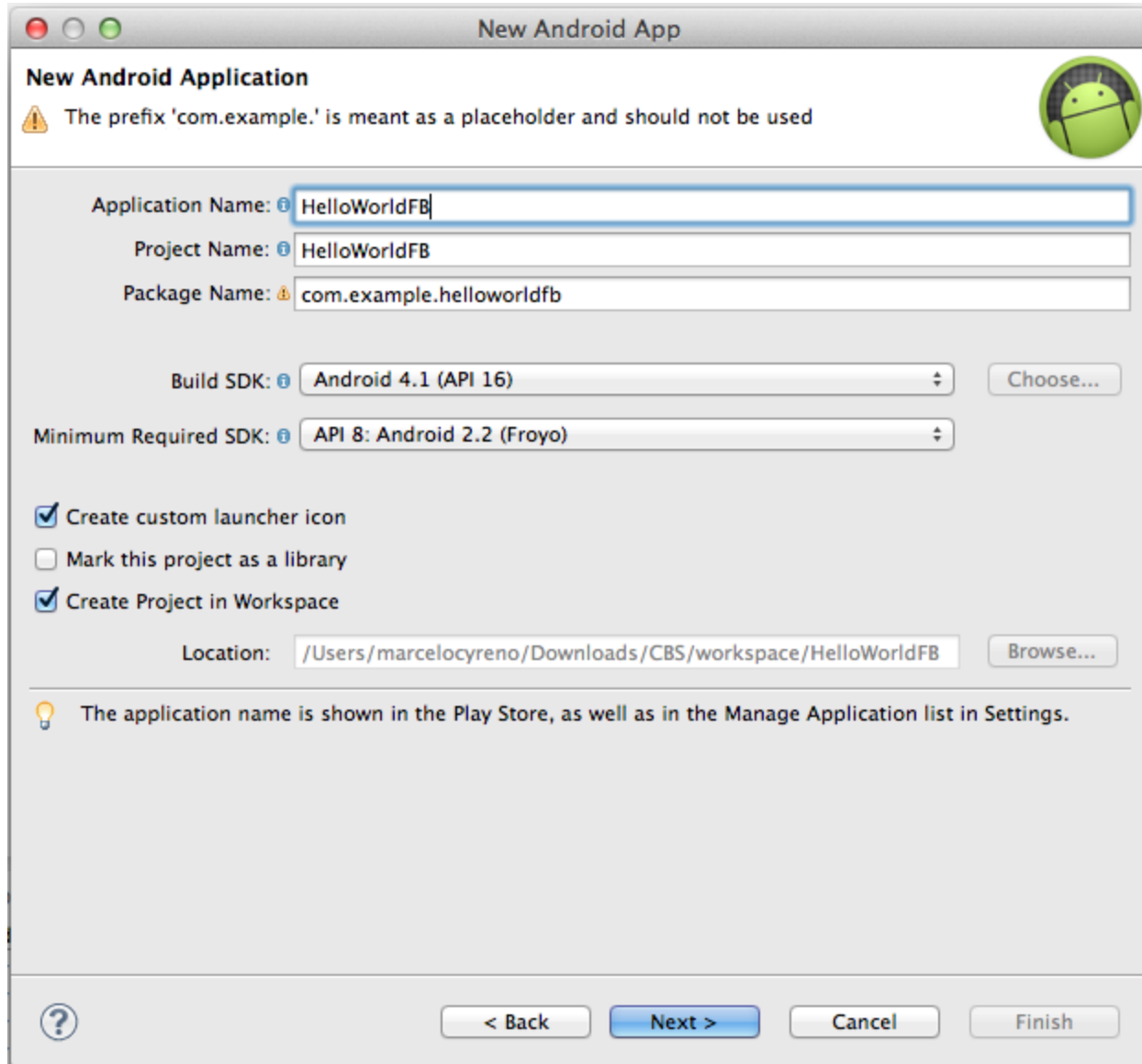
Java Compiler Compliance level
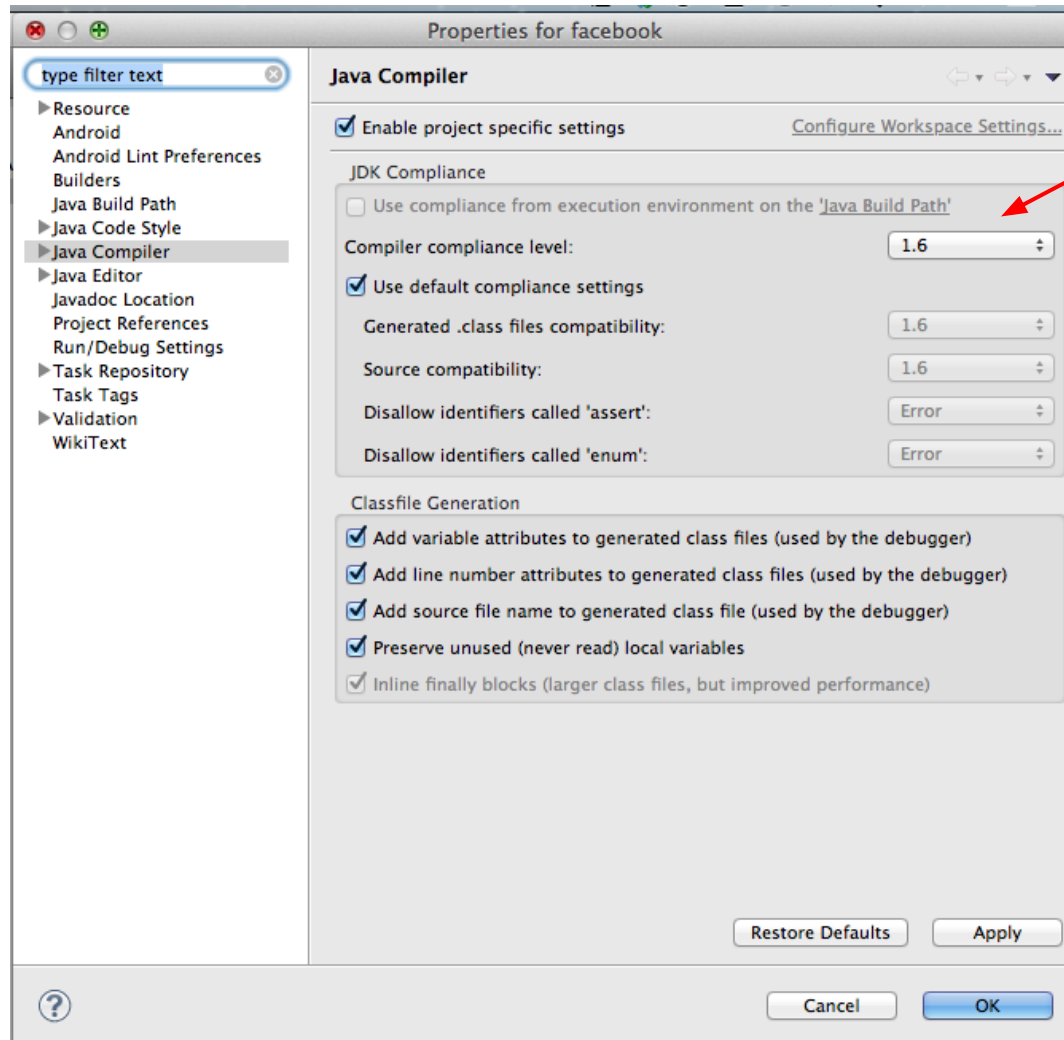
Create a new Android App #1
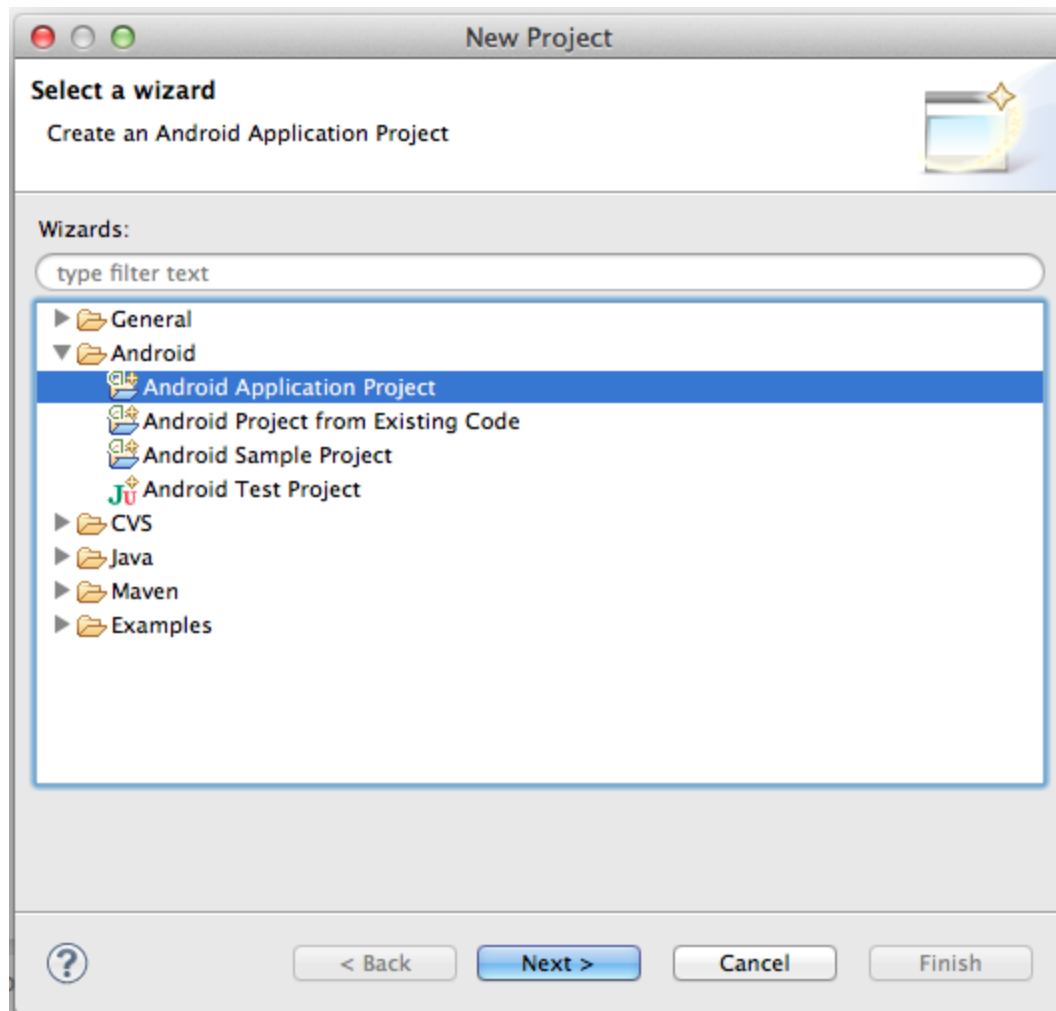
Create a new Android App #2

Add a reference to FB SDK

Adding permission to use Internet

```xml
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.helloworldfb"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="15" />

    <uses-permission android:name="android.permission.INTERNET"/>

    <application
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name=".MainActivity"
            android:label="@string/title_activity_main" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

Modify your Activity

```java
private static final String FB_APP_ID = "262346097220482";  ⬅

Facebook facebook = new Facebook(FB_APP_ID);

@Override
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    facebook.authorize(this, new DialogListener() {
        public void onComplete(Bundle values) {...}

        @Override
        public void onFacebookError(FacebookError error) {
        }

        @Override
        public void onError(DialogError e) {
        }

        @Override
        public void onCancel() {
        }
    });
}

@Override
public void onActivityResult(int requestCode, int resultCode, Intent data) {
    super.onActivityResult(requestCode, resultCode, data);
    facebook.authorizeCallback(requestCode, resultCode, data);
}
```

Facebook SSO

Facebook Permissions

```java
@Override
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    String permissions[] = { "user_birthday", "friends_birthday" };

    facebook.authorize(this, permissions, new DialogListener() {
        @Override
        public void onComplete(Bundle values) {
        }

        @Override
        public void onFacebookError(FacebookError error) {
        }

        @Override
        public void onError(DialogError e) {
        }

        @Override
        public void onCancel() {
        }
    });
}
```

https://developers.facebook.com/docs/authentication/permissions/
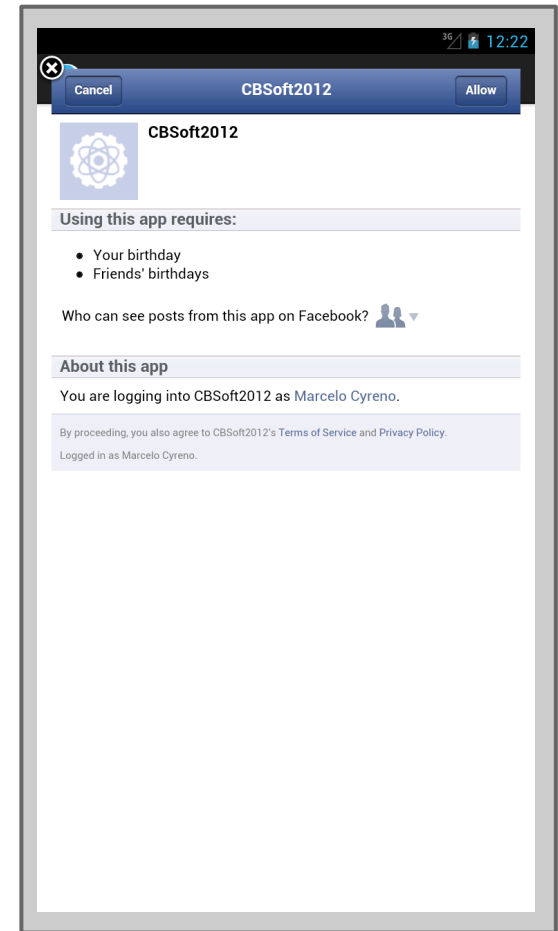
Access Token - Loading

```java
private Facebook mFacebook = new Facebook(FB_APP_ID);
private SharedPreferences mPrefs;

@Override
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    // Access Token
    mPrefs = getPreferences(MODE_PRIVATE);
    String access_token = mPrefs.getString("access_token", null);
    long expires = mPrefs.getLong("access_expires", 0);
    if (access_token != null) {
        mFacebook.setAccessToken(access_token);
    }
    if (expires != 0) {
        mFacebook.setAccessExpires(expires);
    }

    if (!mFacebook.isSessionValid()) {
        authorize();
    }

}
```

Access Token - Saving

```java
private void authorize() {
    String permissions[] = { "user_birthday", "friends_birthday" };

    mFacebook.authorize(this, permissions, new DialogListener() {
        @Override
        public void onComplete(Bundle values) {
            SharedPreferences.Editor editor = mPrefs.edit();
            editor.putString("access_token", mFacebook.getAccessToken());
            editor.putLong("access_expires", mFacebook.getAccessExpires());
            editor.commit();
        }

        @Override
        public void onFacebookError(FacebookError error) {
        }

        @Override
        public void onError(DialogError e) {
        }

        @Override
        public void onCancel() {
        }
    });
}
```

Access Token - Extending

```java
public void onResume() {
    super.onResume();
    mFacebook.extendAccessTokenIfNeeded(this, null);
}
```

Graph API
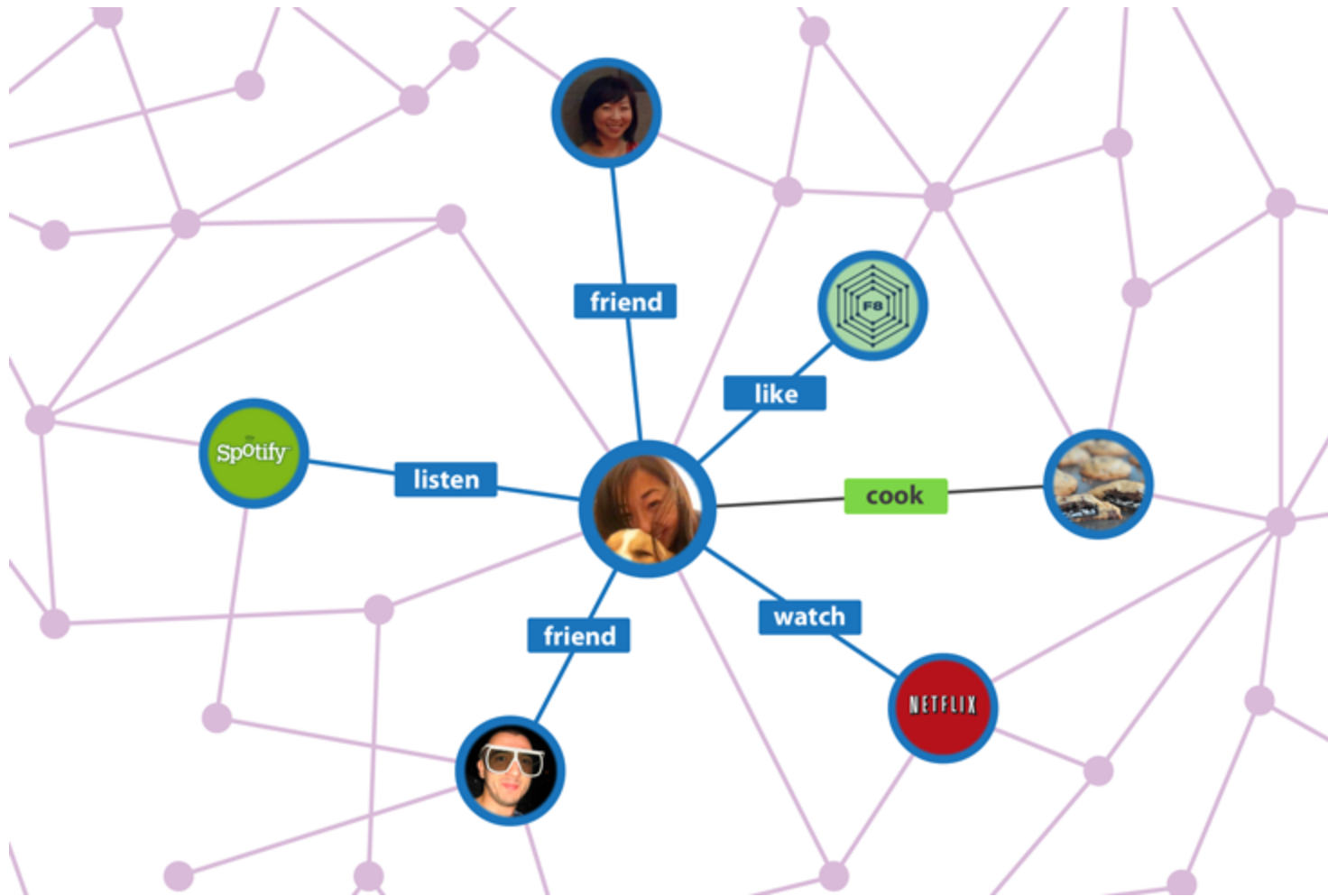
Graph API

https://graph.facebook.com/
<ObjId>

https://graph.facebook.com/
<ObjId>[/connection]?[fields]

access_token

Graph API - Examples #1

https://graph.facebook.com

/google?fields=company_overview,members,birthday,mission

```
{
  "mission": "Google's mission is to organize the world's information and make it universally accessible and useful.",
  "founded": "1998",
  "name": "Google",
  "id": "104958162837"
}
```

Graph API - Examples #2

https://graph.facebook.com
/me/friends?fields=last_name&offset=1&limit=2

```
{
 "data": [
  {
    "last_name": "da Fonte",
    "id": "52424679"
  },
  {
    "last_name": "Duarte",
    "id": "51266422"
  }
 ],
 "paging": {
  "next": "https://graph.facebook.com/690334814/friends?fields=last_name&limit=2&offset=12",
  "previous": "https://graph.facebook.com/690334814/friends?fields=last_name&limit=2&offset=8"
 }
}
```

Graph API - Explorer
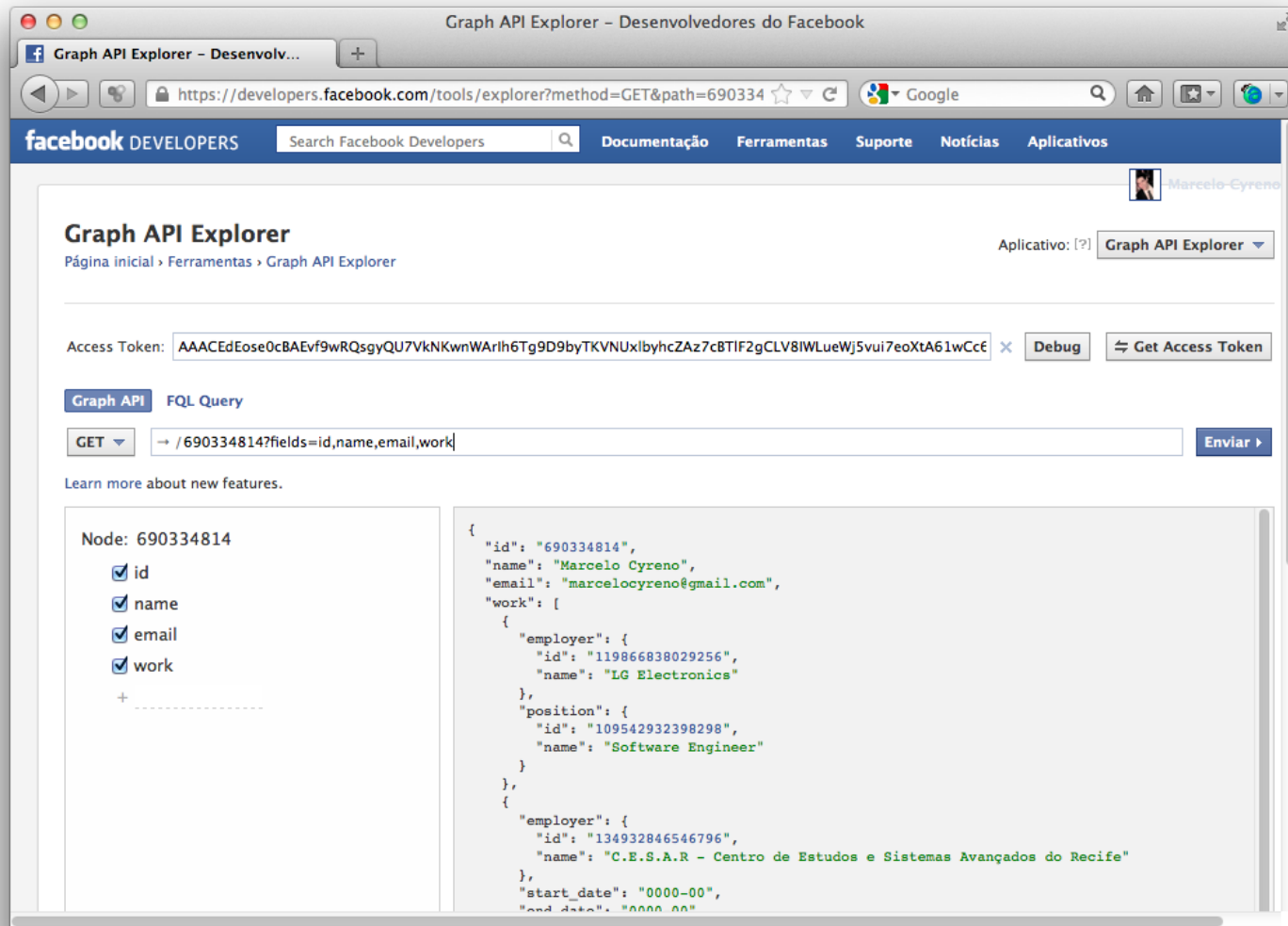
Graph API - **Introspection**

Introspection

"The Graph API supports introspection of objects, which enables you to see all of the connections an object has without knowing its type ahead of time. To get this information, add metadata=1"

*applicable only to a single object (N/A to a list/collection)

Graph API - Introspection

https://graph.facebook.com

/262346097220482?metadata=1

```
{
  "id": "262346097220482",
  "name": "CBSoft2012",
  "link": "https://www.facebook.com/apps/application.php?id=262346097220482",
  "icon_url": "https://s-static.ak.facebook.com/rsrc.php/v2/yT/r/4QVMqOjUhcd.gif",
  "logo_url": "https://s-static.ak.facebook.com/rsrc.php/v2/y_/r/9myDd8iyu0B.gif",
  "daily_active_users": "1",
  "weekly_active_users": "1",
  "monthly_active_users": "1",
  "metadata": {
    "connections": {
      "feed": "https://graph.facebook.com/262346097220482/feed",
      "posts": "https://graph.facebook.com/262346097220482/posts",
      "tagged": "https://graph.facebook.com/262346097220482/tagged",
      "statuses": "https://graph.facebook.com/262346097220482/statuses",
      "links": "https://graph.facebook.com/262346097220482/links",
      "notes": "https://graph.facebook.com/262346097220482/notes",
      "photos": "https://graph.facebook.com/262346097220482/photos",
      "albums": "https://graph.facebook.com/262346097220482/albums",
      "events": "https://graph.facebook.com/262346097220482/events",
      "videos": "https://graph.facebook.com/262346097220482/videos",
      "picture": "https://graph.facebook.com/262346097220482/picture",
      "insights": "https://graph.facebook.com/262346097220482/insights",
      "subscriptions": "https://graph.facebook.com/262346097220482/subscriptions"
    },
    "fields": [
      {
        "name": "id",
        "description": "The application ID.  No `access_token` required.  `string`."
      },
      {
```

```
{
  "id": "262346097220482",
  "name": "CBSoft2012",
  "link": "https://www.facebook.com/apps/application.php?id=262346097220482",
  "icon_url": "https://s-static.ak.facebook.com/rsrc.php/v2/yT/r/4QVMqOjUhcd.gif",
  "logo_url": "https://s-static.ak.facebook.com/rsrc.php/v2/y_/r/9myDd8iyu0B.gif",
  "daily_active_users": "1",
  "weekly_active_users": "1",
  "monthly_active_users": "1"
}
```

Graph API - Objects

Achievement	Group	Post
Album	Insights	Question
Application	Link	QuestionOption
Checkin	Message	Review
Comment	Note	Status
Domain	Offer	message
Event	Order	Thread
FriendList	Page	User
	Photo	Video

Facebook Query Language (FQL)

"The FQL object enables running FQL queries using the Graph API. Facebook Query Language, or FQL, enables you to use a SQL-style interface to query the data exposed by the Graph API. It provides for some advanced features not available in the Graph API, including batching multiple queries into a single call."

https://developers.facebook.com/docs/reference/fql/

FQL - Examples #1

https://graph.facebook.com/fql?q=

SELECT name, email FROM user WHERE uid = me()

```
{
  "data": [
    {
      "name": "Marcelo Cyreno",
      "email": "marcelocyreno@gmail.com"
    }
  ]
}
```

FQL - Examples #2

https://graph.facebook.com/fql?q=
SELECT last_name FROM user WHERE uid IN
(SELECT uid2 FROM friend WHERE uid1= me())
LIMIT 0, 5

```
{
  "data": [
    {
      "last_name": "Sampaio"
    },
    {
      "last_name": "Peixoto"
    },
    {
      "last_name": "Mafra"
    },
    {
      "last_name": "Santos"
    },
    {
      "last_name": "Santos"
    }
  ]
}
```

FQL - Examples #3

https://graph.facebook.com/fql?q=
SELECT last_name FROM user WHERE uid IN
(SELECT uid2 FROM friend WHERE uid1= me())
AND strpos(lower(last_name),"silva") >=0

```
{
  "data": [
    {
      "last_name": "Silva"
    },
    {
      "last_name": "LSilva"
    },
    {
      "last_name": "Vasconcelos Silva"
    },
    {
      "last_name": "da Silva"
    },
    {
      "last_name": "Silva"
    },
    {
      "last_name": "Silva"
    },
    {
      "last_name": "Ruiz da Silva"
    },
    {
      "last_name": "Silva"
    }
  ]
}
```

FQL - Examples #4

https://graph.facebook.com/fql?q=
SELECT name, venue, location, start_time
FROM event WHERE eid = 209798352393506

```
{
  "data": [
    {
      "name": "Pushing millions of lines of code five days a week tech talk",
      "venue": {
        "street": "1050 Page Mill Road B2",
        "city": "Palo Alto",
        "state": "California",
        "country": "United States",
        "latitude": 37.772418672222,
        "longitude": -122.43224061222,
        "id": 100125800051297
      },
      "location": "Facebook",
      "start_time": "2011-05-26T19:00:00"
    }
  ]
}
```

FQL - Functions

now()
rand()
strlen(string)
concat(string, ...)
substr(string, start, length)
strpos(haystack, needle)
upper(string)
lower(string)

FQL - Tables

Go to:

https://developers.facebook.com/docs/reference/fql/

Jobs Opportunities

Questions ?