



Hibridne mobilne aplikacije u APEX-u

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Sažetak

- Zašto mobilne aplikacije?
- Native vs Web vs Hybrid
- PhoneGap Framework
- PhoneGap i APEX
- Zaključak

Zašto mobilne aplikacije?



- 80% svjetske populacije posjeduje mobilni uređaj
- 91% Amerikanaca posjeduje mobilni uređaj, od toga je 63% pametnih telefona
- Više od 91 milijuna pametnih telefona u SAD-u
- U svijetu ima više mobilnih uređaja nego računala
- Dnevno se aktivira više Android uređaja nego što se rodi djece – oko 700 000



Zašto mobilne aplikacije?

Mobile Phones Account for 17% of Global Web Usage

Percentage of page views coming from mobile devices*



* StatCounter defines mobile as a pocket-sized computing device, excluding tablets

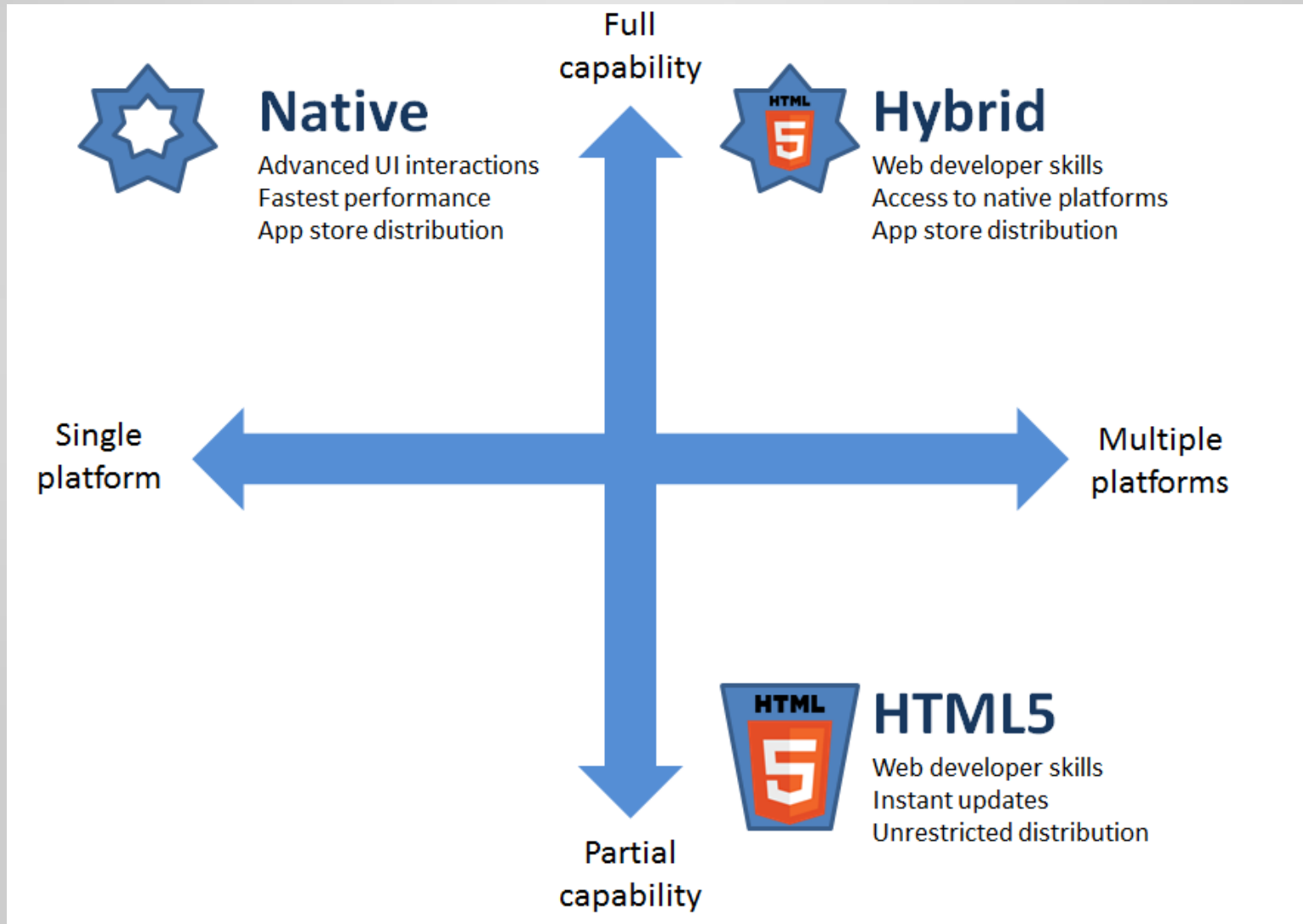
Zašto mobilne aplikacije?



- Razvoj mobilnih uređaja – iPhone (2007.), Android (2008.)
- Sve veća upotreba mobilnih uređaja i tableta u poslovnom svijetu
- Potreba od strane krajnjih korisnika
- Dostupnost aplikacije 24/7
- Mobilni Internet (3G – 20Mbps, 4G – 75Mbps+)



Mogućnosti



Native



PROS:

- bolje performanse
- korištenje svih funkcionalnosti uređaja
- UI prilagođen uređaju, poznat korisnicima
- distribucija (App store)
- pozadinski rad
- implicitna instalacija na ekranu uređaja
- dostupne offline



CONS:

- poseban razvoj za svaku platformu
- distribucija (ažuriranje aplikacije)
- proces odobravanja (App store)



Web (HTML5)



PROS:

- jedna aplikacija za sve platforme
- poznate tehnologije (HTML, CSS, JS)
- cijena i vrijeme izrade i održavanja
- brzo ažuriranje – aplikacija na serverskoj strani
- nije potreban proces odobravanja (App store)
- responsive Web dizajn (Web + mobile)
- UI Framework (jQuery Mobile, Dojo, Sencha Touch) - *"write less, do more,"*
- offline rad korištenjem HTML5 (Web storage, App cache - manifest)



CONS:

- pristup samo nekim funkcionalnostima uređaja (GPS, kamera)
- jedinstven UI
- brzina i renderiranje u preglednicima
- pozadinski rad
- distribucija (nema App Storea)

Hibridne aplikacije

- Kombinacija HTML5 + native (API)



PROS:

- jedna aplikacija, više platformi
- korištenje gotovo svih funkcionalnosti uređaja
- poznata tehnologija (HTML, CSS, JS)

CONS:

- problematičan proces odobravanja (App store)
- performanse ovise o brzini preglednika

PhoneGap Framework

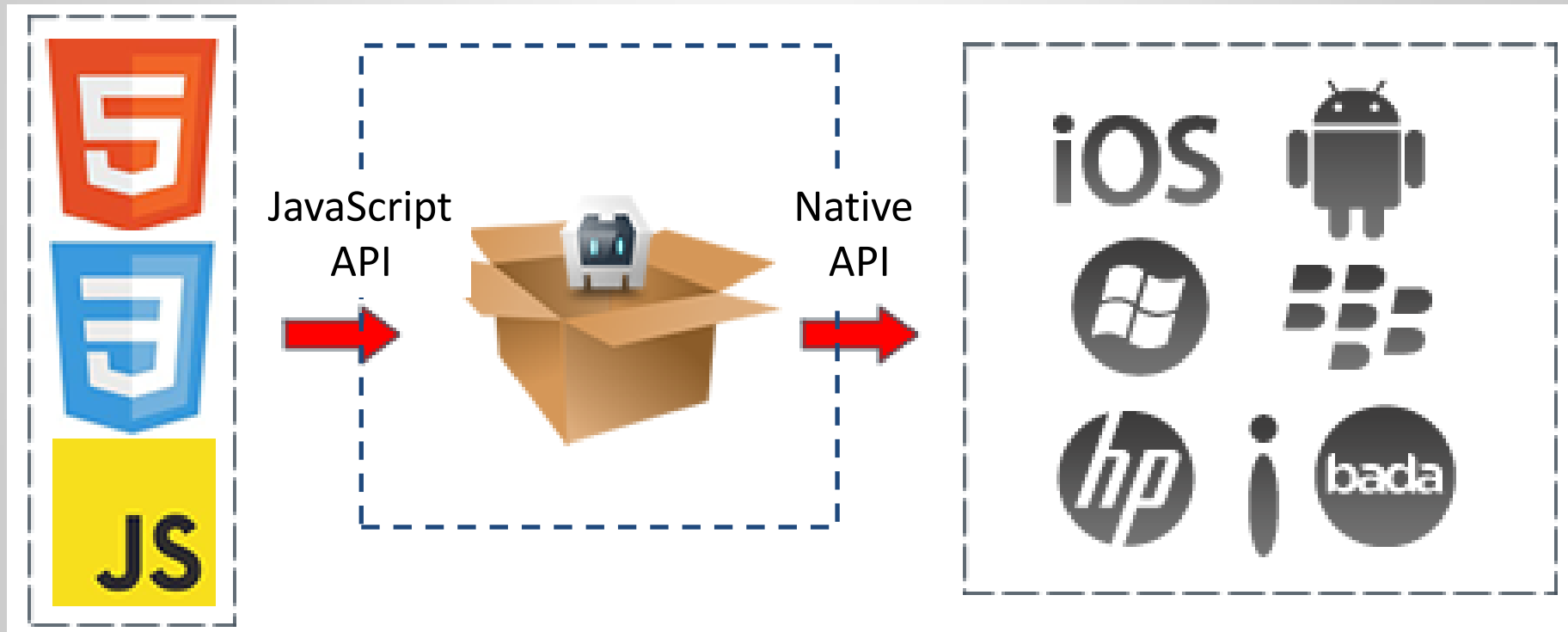


- Besplatan alat za izradu višepatformskih mobilnih aplikacija (HTML5, CSS i JS)
- Distribucija Apache Cordove (koristi ga i Oracle ADF Mobile)
- Sadrži API koji omogućava pristup OS-u uređaja (JS)
- 2 sloja:
 - JS sa standardiziranim metodama za sve platforme
 - API sučelje napisano u jeziku uređaja



PhoneGap Framework

- PhoneGap arhitektura:

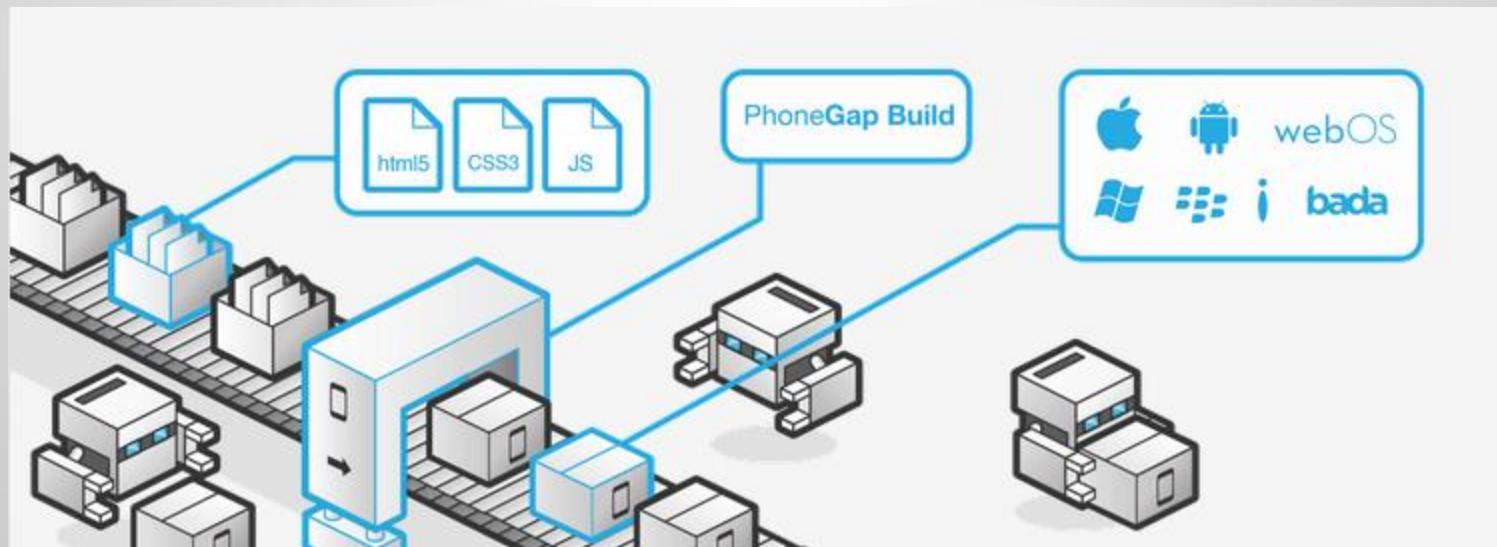


PhoneGap Framework

	iPhone (iOS)	Android	Blackberry OS 6.0+	Windows Phone 7 + 8
Accelerometer	✓	✓	✓	✓
Camera	✓	✓	✓	✓
Compass	✓	✓	X	✓
Contacts	✓	✓	✓	✓
File	✓	✓	✓	✓
Geolocation	✓	✓	✓	✓
Media	✓	✓	X	✓
Network	✓	✓	✓	✓
Notification (Alert)	✓	✓	✓	✓
Notification (Sound)	✓	✓	✓	✓
Notification (Vibration)	✓	✓	✓	✓
Storage	✓	✓	✓	✓

PhoneGap Framework


- Izrada aplikacije:
 - Android SDK (Eclipse), iOS (Xcode, iOS SDK)...
 - Adobe PhoneGap Build – cloud servis




APEX i PhoneGap

- APEX aplikacija:


Application 62507 - HROUG 2013



Run Application



Supporting Objects



Shared Components

Q- Go [Grid] [List] [List] Actions ▾

Page ▲	Name	Updated	Updated By	Page Type	User Interface	Group	Lock	Run
1	Naslovna	2 weeks ago	user	Home	Desktop	Unassigned	🔒	▶
101	Login	2 weeks ago	-	Login	Desktop	Unassigned	🔒	▶

1 - 2

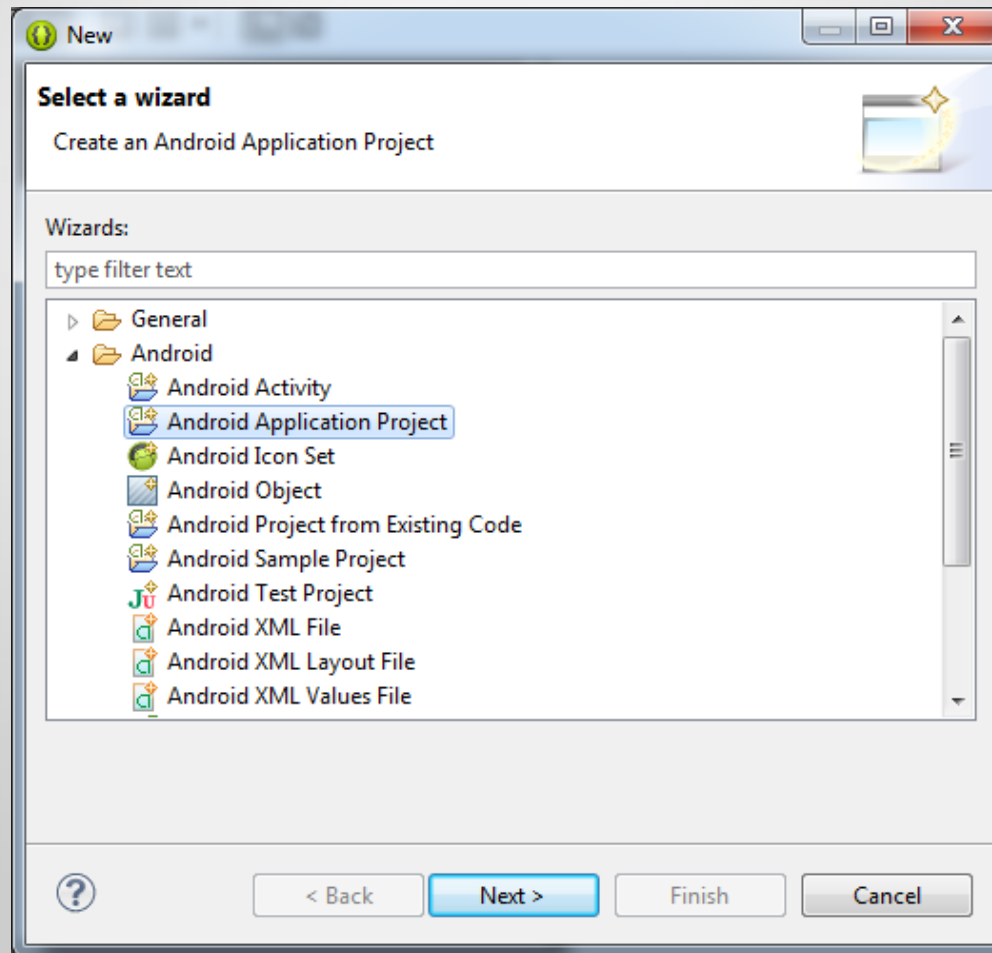
APEX i PhoneGap

- Konfiguracija okoline - Android:
 - Eclipse Classic IDE (Java)
 - Java JDK
 - Android SDK
 - ADT plugin
 - PhoneGap



APEX i PhoneGap

- Eclipse - kreiranje Android projekta



New Android Application
Creates a new Android Application

Application Name:

Project Name:


Package Name:

Minimum Required SDK:


Target SDK:

Compile With:

Theme:

 Choose a target API to compile your code against, from your installed SDKs. This is typically the most recent version, or the first version that supports all the APIs you want to directly access without reflection.

New Android Application

New Android Application
Configure Project 


Create custom launcher icon
 Create activity
 Mark this project as a library
 Create Project in Workspace

Location:

Working sets

Add project to working sets


Working sets:



New Android Application

Blank Activity

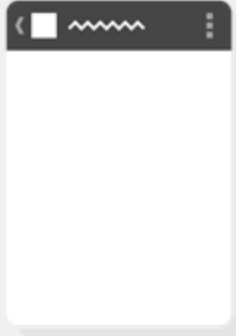
Creates a new blank activity, with an action bar and optional navigational elements such as tabs or horizontal swipe.





Activity Name

Layout Name

Navigation Type



 The name of the activity class to create





Package Explorer

hr.bilog.hroug

- src
 - com.example.hr.bilog.hroug
 - MainActivity.java
- gen [Generated Java Files]
- Android 4.1.2
- Android Private Libraries
- assets
- bin
 - res
- libs
 - android-support-v4.jar
- res
 - drawable-hdpi
 - drawable-ldpi
 - drawable-mdpi
 - drawable-xhdpi
 - drawable-xxhdpi
 - layout
 - menu
 - values
 - values-sw600dp
 - values-sw720dp-land
 - values-v11
 - values-v14
- AndroidManifest.xml
- ic_launcher-web.png
- proguard-project.txt
- project.properties

activity_main.xml MainActivity.java

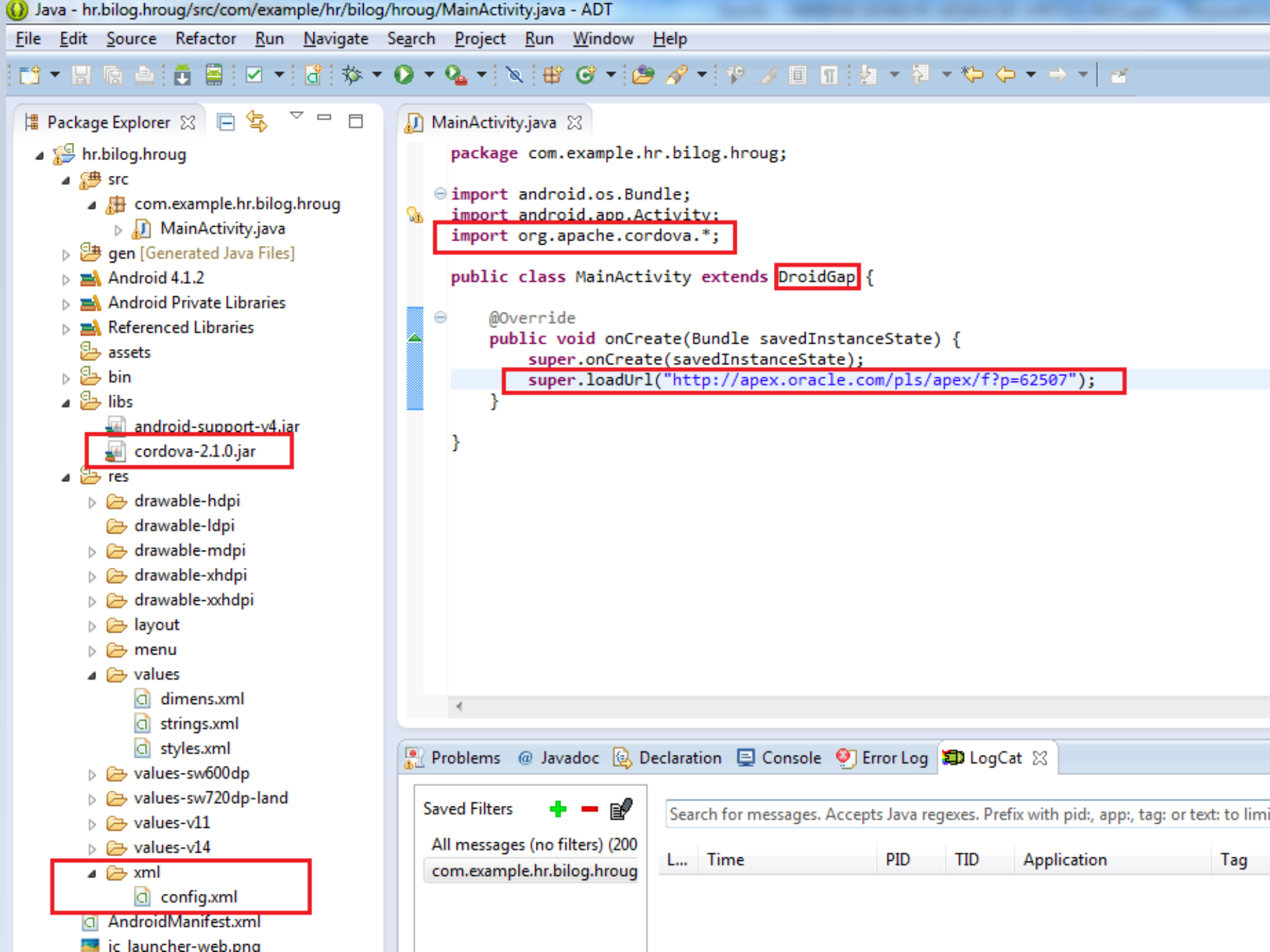
```
package com.example.hr.bilog.hroug;

import android.os.Bundle;

public class MainActivity extends Activity {

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

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }
}
```



PhoneGap i APEX



100% 100 01:21

Login



Username

Password

Login



PhoneGap i APEX






Name 	Mime Type	Size	Application	Updated	Updated By	Download
cordova.js	application/javascript	184,652	57497	Now	USER	

* Header

```
<!DOCTYPE html>
<html lang="&BROWSER_LANGUAGE.">
<head>
  <meta charset="utf-8" />
  <meta name="apple-mobile-web-app-capable" content="yes">
  <meta name="viewport" content="width=device-width, initial-scale=1, maximum-scale=1, user-scalable=no">
  <title>#TITLE#</title>
  #APEX_CSS#
  #TEMPLATE_CSS#
  <script src="#APP_IMAGES#/cordova.js" type="text/javascript"></script>
  #APEX_JAVASCRIPT#
  #TEMPLATE_JAVASCRIPT#
  #APPLICATION_JAVASCRIPT#
  #HEAD#
</head>
<body #ONLOAD#>
```

PhoneGap i APEX

Page Rendering

- [-]  Naslovna
 - [+] Before Header
 - [+] After Header
 - [-] Before Regions
 - [+]  Computations
 - [+]  Processes
 - [-] Regions
 - [-] Body (3)
 - [-]  Regija
 - [-] Region Buttons
 - [-]  SHOW_NOTIFICATIONS
 - [-] Dynamic Actions
 - [+] **Show notifications**
 - [+] After Regions
 - [+] Before Footer
 - [+] After Footer
 - [-] Dynamic Actions
 - [+] Show notifications

PhoneGap i APEX

- Dodavanje dinamičke akcije

Identification

Dynamic Action: **Show notifications**

* Sequence

* Action
[Show](#), [Hide](#), [Enable](#), [Disable](#), [Set Value](#)

Execution Options

* Fire When Event Result Is

Fire On Page Load

Settings

* Code

```
navigator.notification.vibrate(1000);  
navigator.notification.alert("HROUG 2013");  
navigator.notification.bEEP(1);
```



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 mgoricki Logout

Naslovna

Prikaži notifikacije

release 1.0



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 mgoricki Logout

Naslovna

Prikaži notifikacije

release 1.0

Alert

HROUG 2013

OK



Zaključak

- Native vs HTML5 vs Hybrid?
- Budućnost:





Hvala, pitanja?

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