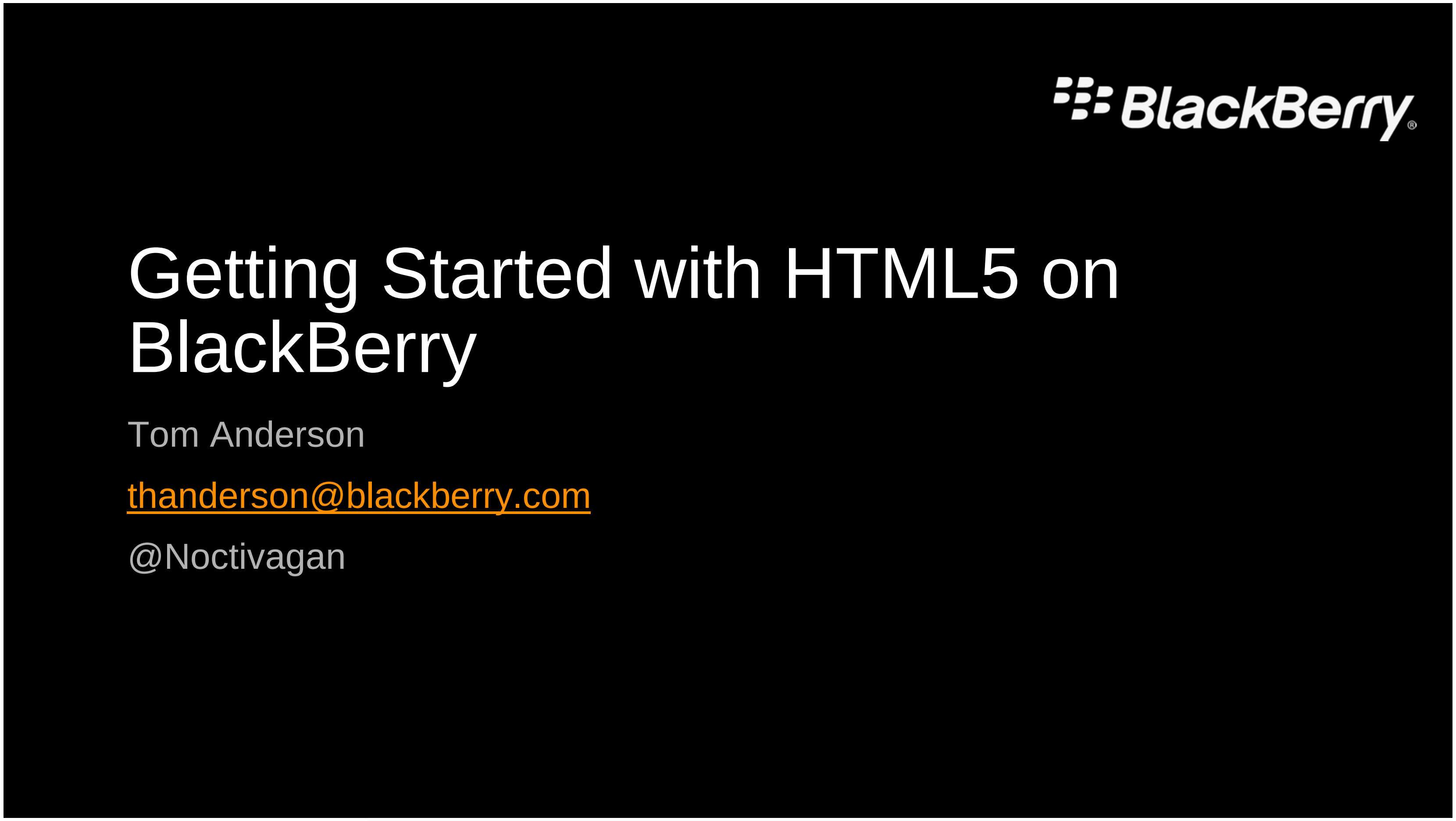


Getting Started with HTML5 on BlackBerry

Tom Anderson

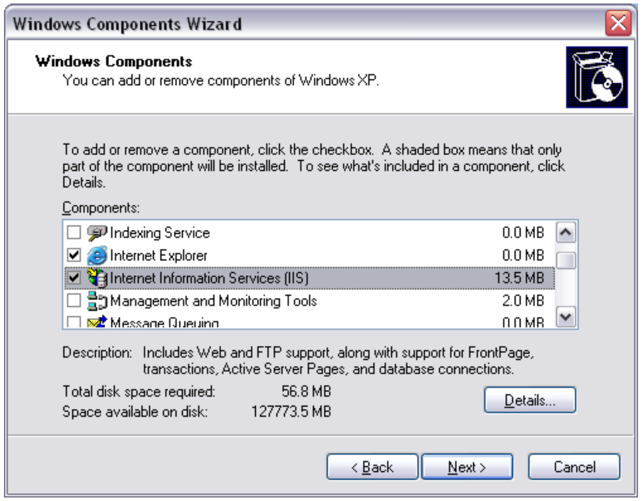
thanderson@blackberry.com

@Noctivagan

Intro to Tools and Environment

Setting up a web server

- Windows: Enable Internet Information Services (ISS)
  - **XP :** Control Panel → Add / remove programs → Windows Components
  - **Win7**: Control Panel → Programs → Windows Features



Windows Components Wizard

Windows Components
You can add or remove components of Windows XP.

To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.

Components:

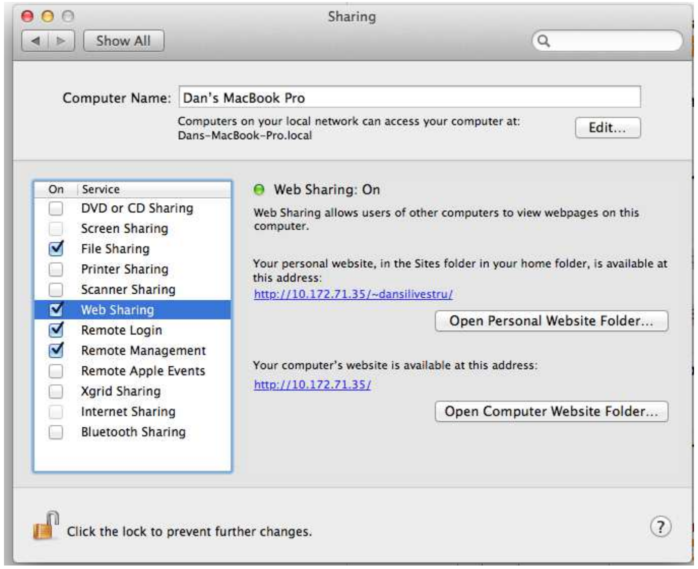
☐	Indexing Service	0.0 MB
☑	Internet Explorer	0.0 MB
☑	Internet Information Services (IIS)	13.5 MB
☐	Management and Monitoring Tools	2.0 MB
☐	Message Queuing	0.0 MB

Description: Includes Web and FTP support, along with support for FrontPage, transactions, Active Server Pages, and database connections.

Total disk space required: 56.8 MB
Space available on disk: 127773.5 MB

Setting up a web server

- Mac: Enable Web sharing
  - System Preferences →Sharing → Web Sharing



Computer Name: Dan's MacBook Pro

Computers on your local network can access your computer at: Dans-MacBook-Pro.local

On	Service
□	DVD or CD Sharing
□	Screen Sharing
☑	File Sharing
□	Printer Sharing
□	Scanner Sharing
☑	Web Sharing
☑	Remote Login
☑	Remote Management
□	Remote Apple Events
□	Xgrid Sharing
□	Internet Sharing
□	Bluetooth Sharing

● Web Sharing: On

Web Sharing allows users of other computers to view webpages on this computer.

Your personal website, in the Sites folder in your home folder, is available at this address:
http://10.172.71.35/~dansilivestru/

Your computer's website is available at this address:
http://10.172.71.35/

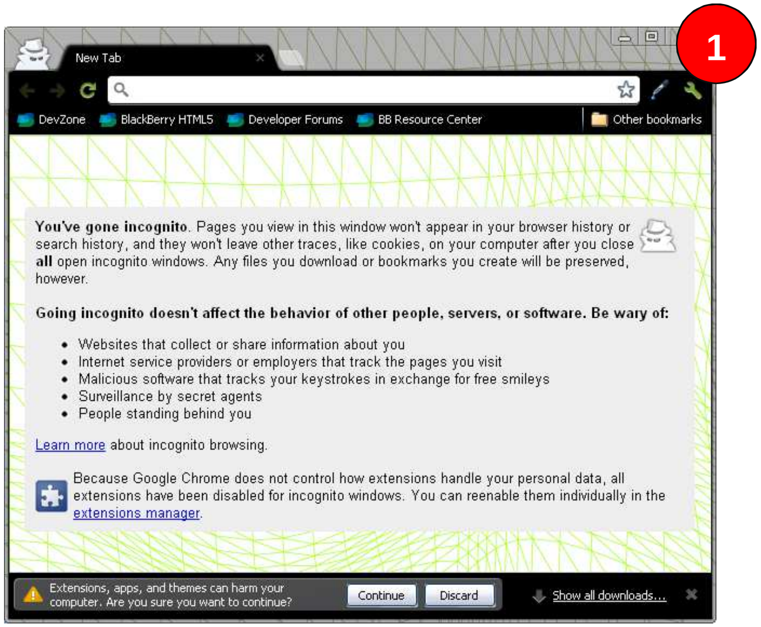
Click the lock to prevent further changes.

Install Ripple extension

BlackBerry

- Open your Google Chrome browser and go to **Tools > Extensions.**
- Drag **ripple_ui.crx** into the Chrome browser

1



You've gone incognito. Pages you view in this window won't appear in your browser history or search history, and they won't leave other traces, like cookies, on your computer after you close **all** open incognito windows. Any files you download or bookmarks you create will be preserved, however.

Going incognito doesn't affect the behavior of other people, servers, or software. Be wary of:

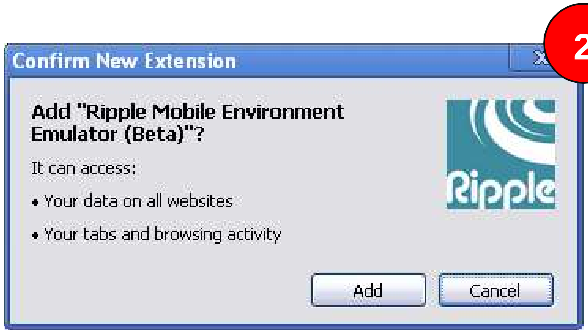
- Websites that collect or share information about you
- Internet service providers or employers that track the pages you visit
- Malicious software that tracks your keystrokes in exchange for free smileys
- Surveillance by secret agents
- People standing behind you

Learn more about incognito browsing.

Because Google Chrome does not control how extensions handle your personal data, all extensions have been disabled for incognito windows. You can reenable them individually in the extensions manager.

Extensions, apps, and themes can harm your computer. Are you sure you want to continue?

2

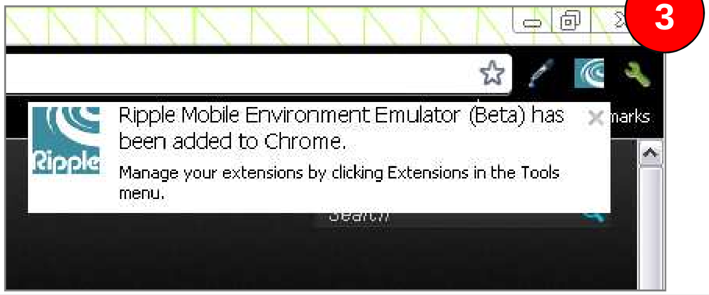


Add "Ripple Mobile Environment Emulator (Beta)"?

It can access:

- Your data on all websites
- Your tabs and browsing activity

3



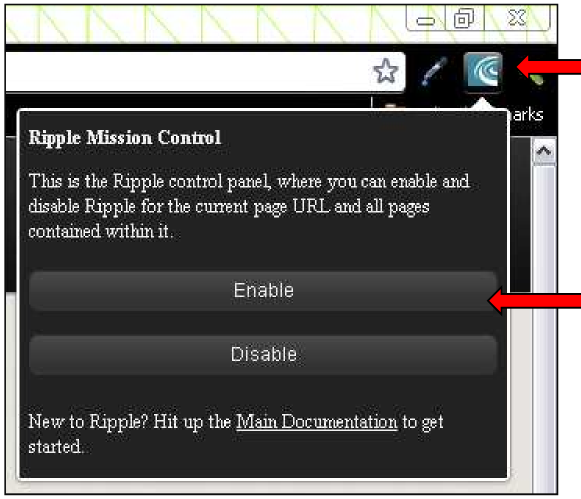
Ripple Mobile Environment Emulator (Beta) has been added to Chrome.

Manage your extensions by clicking Extensions in the Tools menu.

Install Ripple extension

BlackBerry

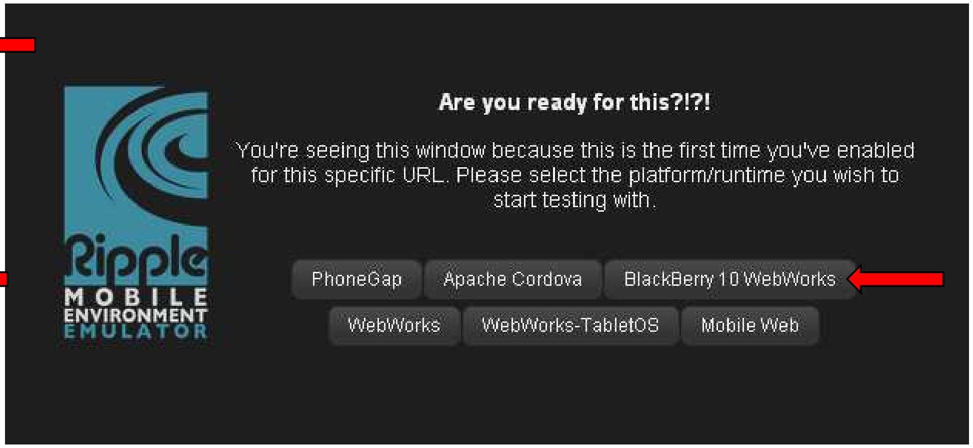
- Open http://devblog.blackberry.com using Chrome browser
- Click on Ripple extension icon → Enable
- Choose 'BlackBerry 10 WebWorks' platform



Ripple Mission Control

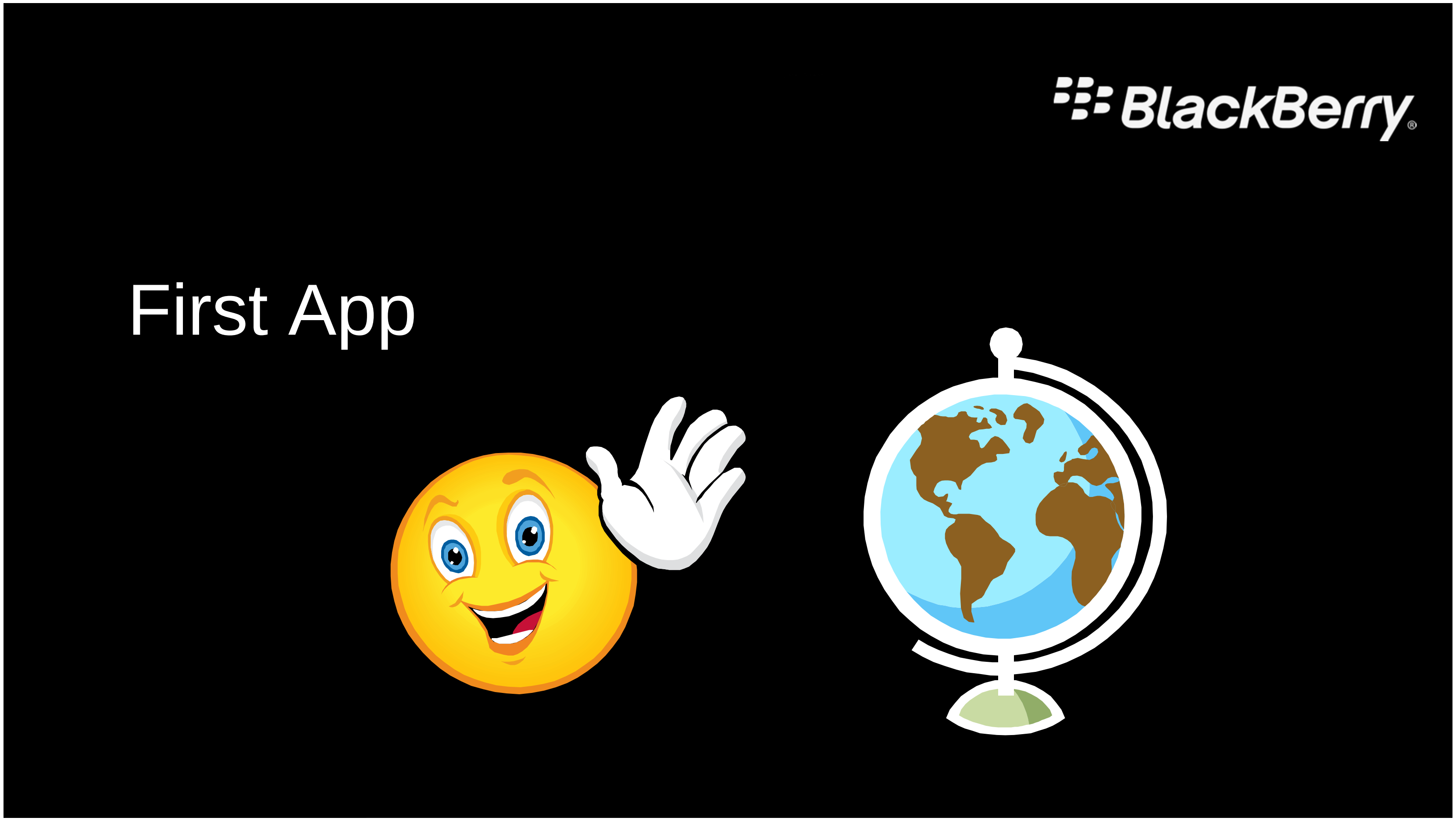
This is the Ripple control panel, where you can enable and disable Ripple for the current page URL and all pages contained within it.

New to Ripple? Hit up the Main Documentation to get started.

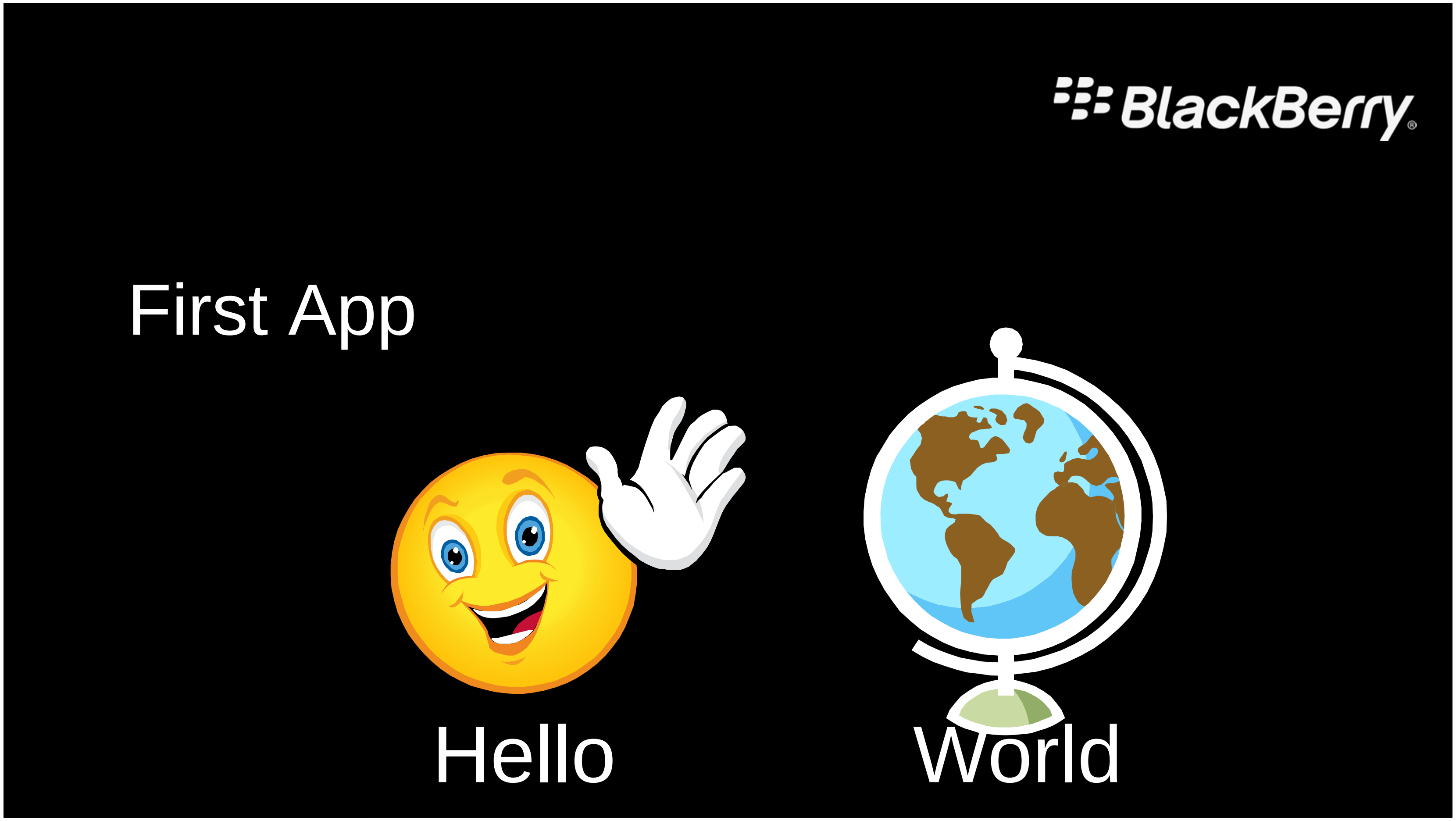


Are you ready for this?!?!

You're seeing this window because this is the first time you've enabled for this specific URL. Please select the platform/runtime you wish to start testing with.



First App



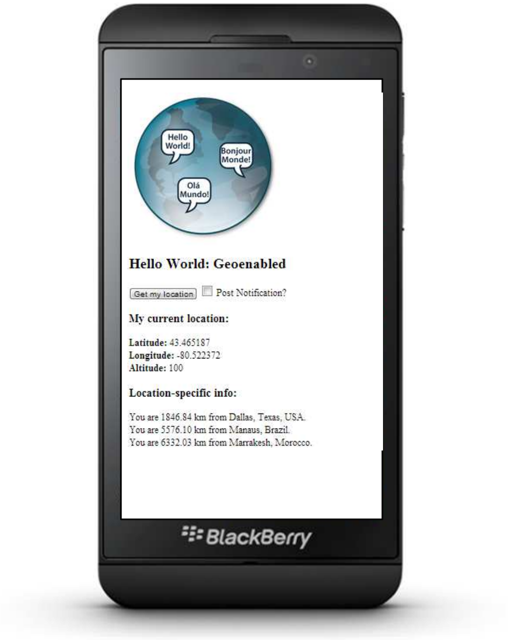
First App

Hello

World

Anatomy of a WebWorks App

- Web Assets
- Configuration File
- WebWorks SDK
- Favorite Text Editor



Hello World: Geoenabled

Get my location □ Post Notification?

My current location:

Latitude: 43.465187
Longitude: -80.522372
Altitude: 100

Location-specific info:

You are 1846.84 km from Dallas, Texas, USA.
You are 5576.10 km from Manaus, Brazil.
You are 6332.03 km from Marrakesh, Morocco.

Intro to config.xml

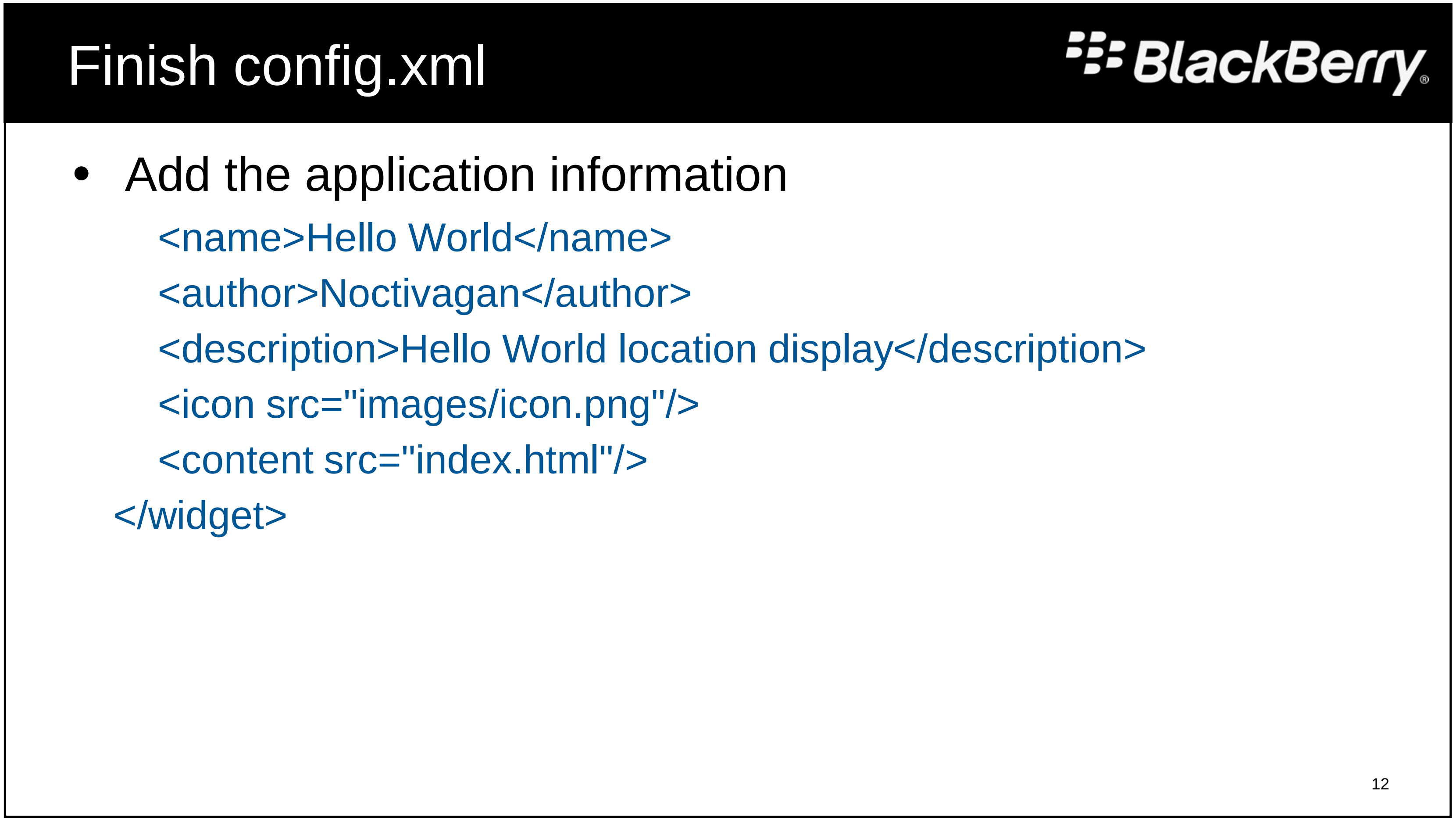
- An .xml file that contains the elements to define the BlackBerry WebWorks application namespace
- The name of the application
- Application permissions
- The start page
- The icons to use for the application.
- General information (author and description)
- Name: config.xml (yes, it is case sensitive)

Create config.xml

BlackBerry®

- User your editor to create a filed named config.xml
- Put this file in the root of your Web Project
  - C:\inetpub\wwwroot\helloworld
- As the first two lines add:

```
<?xml version="1.0" encoding="UTF-8"?>
<widget xml:lang="en“ id="HelloWorld"
xmlns=http://www.w3.org/ns/widgets
xmlns:rim=http://www.blackberry.com/ns/widgets version="1.0.0.0">
```

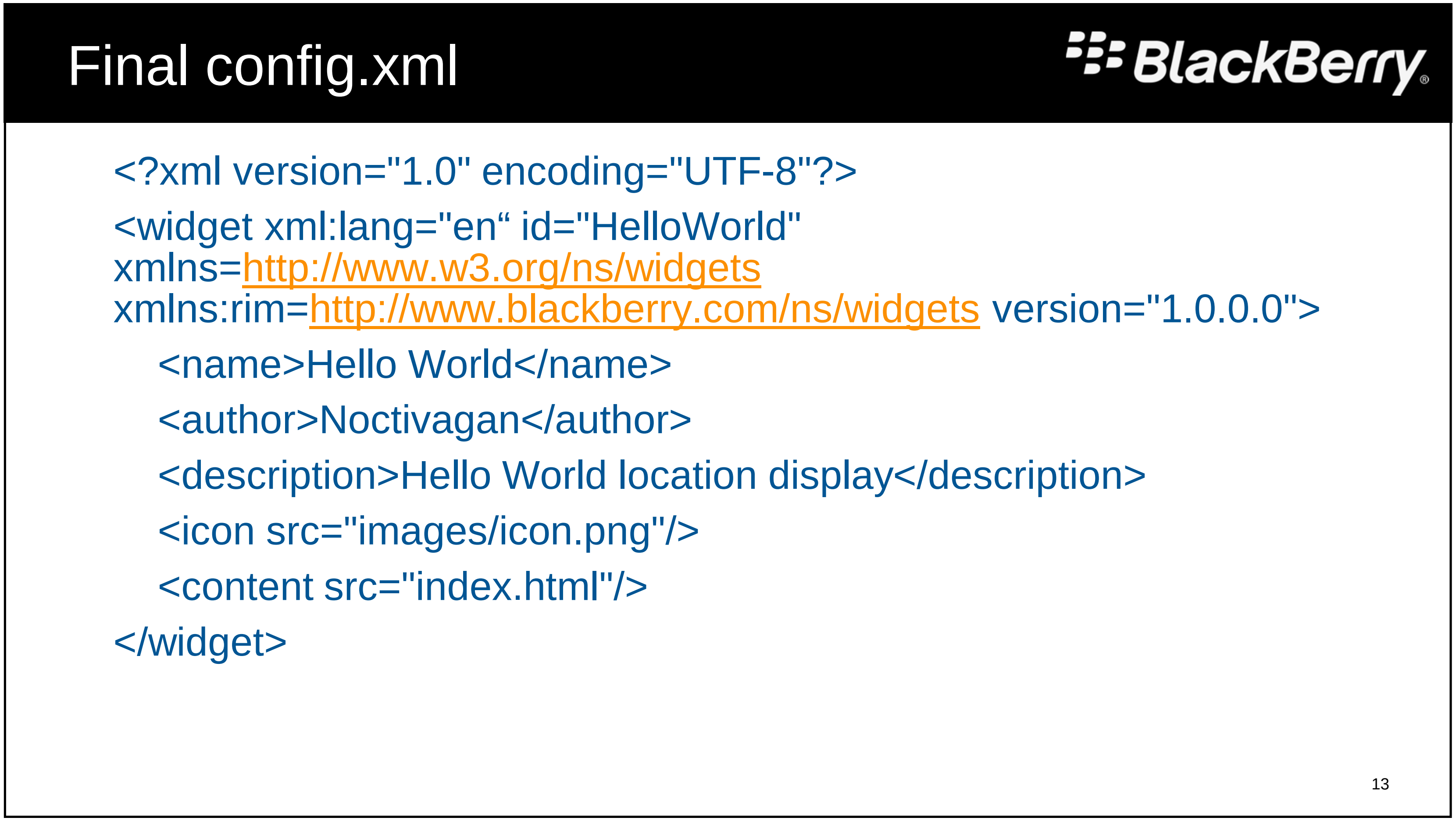


Finish config.xml

BlackBerry

- Add the application information

```
    <name>Hello World</name>
    <author>Noctivagan</author>
    <description>Hello World location display</description>
    <icon src="images/icon.png"/>
    <content src="index.html"/>
</widget>
```

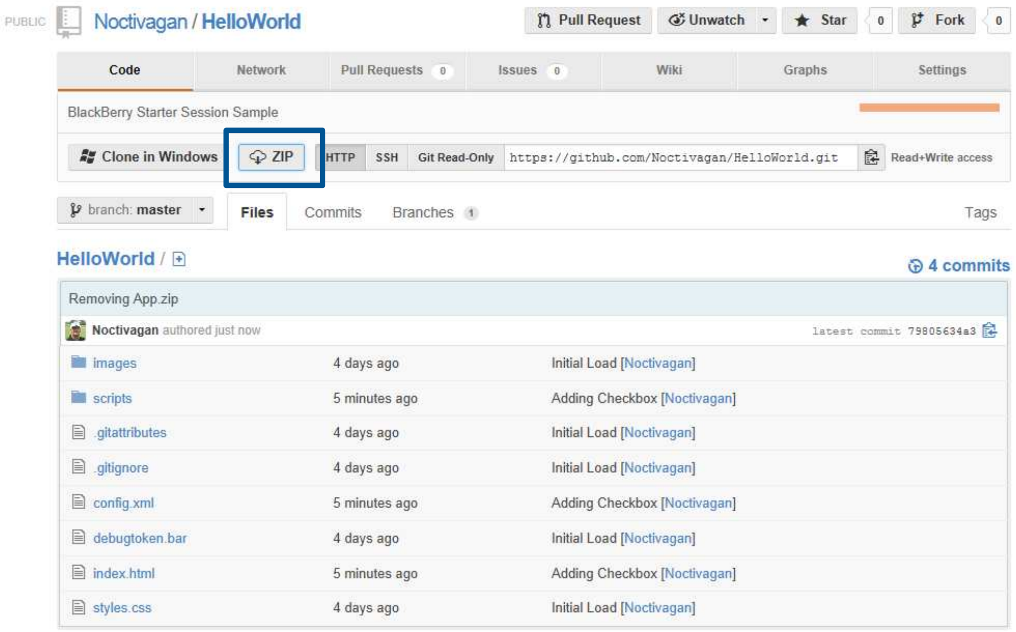


Final config.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<widget xml:lang="en“ id="HelloWorld"
xmlns=http://www.w3.org/ns/widgets
xmlns:rim=http://www.blackberry.com/ns/widgets version="1.0.0.0">
    <name>Hello World</name>
    <author>Noctivagan</author>
    <description>Hello World location display</description>
    <icon src="images/icon.png"/>
    <content src="index.html"/>
</widget>
```

Completed Source Code

- https://github.com/Noctivagan/HelloWorld



BlackBerry Starter Session Sample

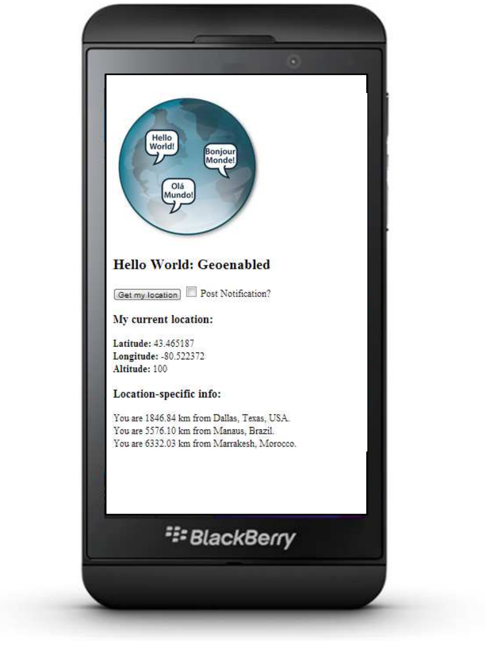
https://github.com/Noctivagan/HelloWorld.git

HelloWorld /

Removing App.zip

Noctivagan authored just now — latest commit 79805634a3

images	4 days ago	Initial Load [Noctivagan]
scripts	5 minutes ago	Adding Checkbox [Noctivagan]
.gitattributes	4 days ago	Initial Load [Noctivagan]
.gitignore	4 days ago	Initial Load [Noctivagan]
config.xml	5 minutes ago	Adding Checkbox [Noctivagan]
debugtoken.bar	4 days ago	Initial Load [Noctivagan]
index.html	5 minutes ago	Adding Checkbox [Noctivagan]
styles.css	4 days ago	Initial Load [Noctivagan]



Hello World: Geoenabled

☐ Post Notification?

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Altitude: 100

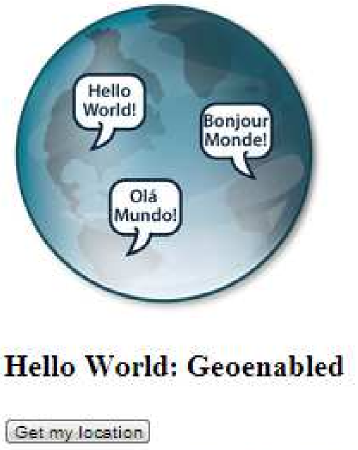
Location-specific info:

You are 1846.84 km from Dallas, Texas, USA.
You are 5576.10 km from Manaus, Brazil.
You are 6332.03 km from Marrakesh, Morocco.

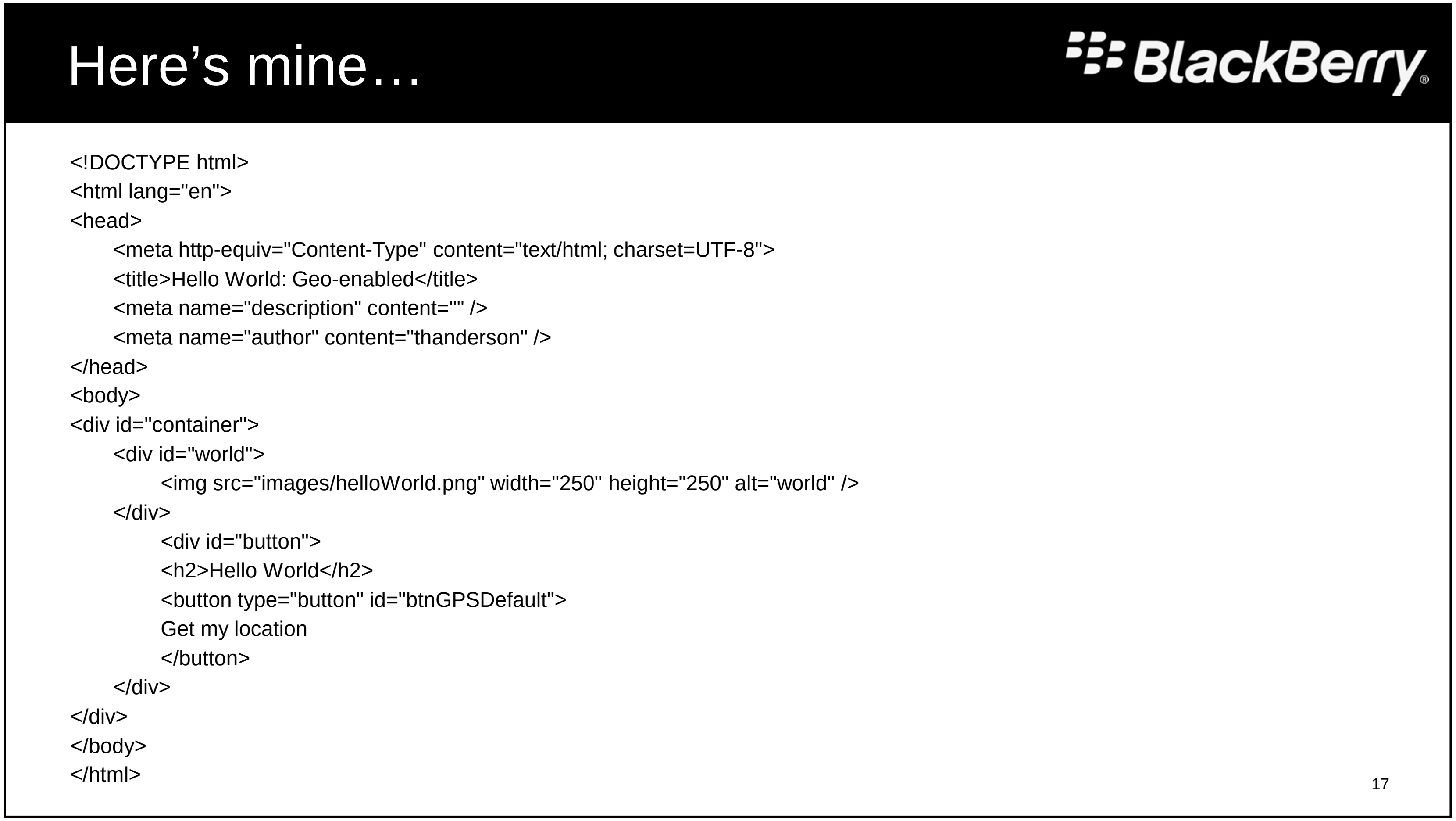
Building Index.html

Walk before we run….

- Build the skeleton of our index.html
- Globe image at top (or whatever image you want)
- Title Line
- Get Location Button
- Save File to your root



Hello World: Geoenabled



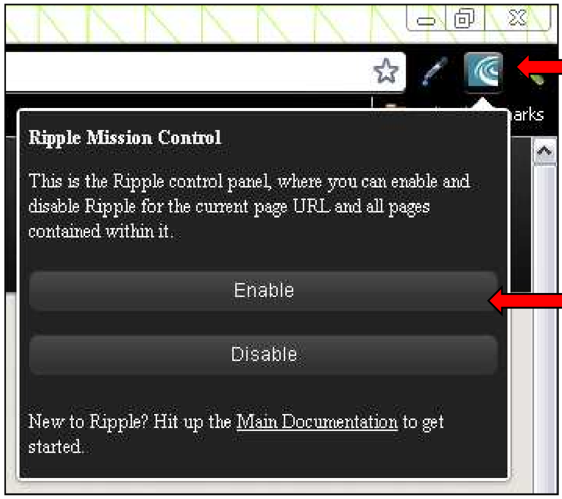
Here’s mine…

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Hello World: Geo-enabled</title>
    <meta name="description" content="" />
    <meta name="author" content="thanderson" />
</head>
<body>
<div id="container">
    <div id="world">
        <img src="images/helloWorld.png" width="250" height="250" alt="world" />
    </div>
        <div id="button">
        <h2>Hello World</h2>
        <button type="button" id="btnGPSDefault">
        Get my location
        </button>
    </div>
</div>
</body>
</html>
```

Load your new app in Ripple

BlackBerry

- Point Chrome to your root
  - http://localhost/helloworld
- Enable Ripple



Ripple Mission Control

This is the Ripple control panel, where you can enable and disable Ripple for the current page URL and all pages contained within it.

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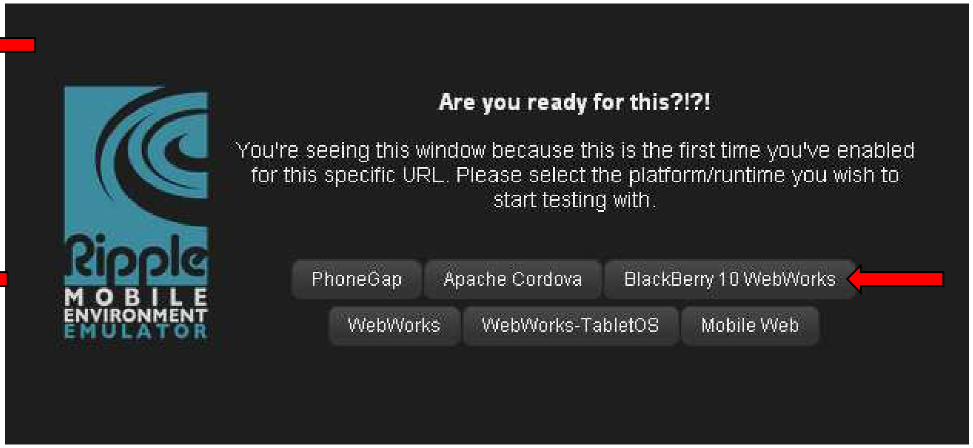
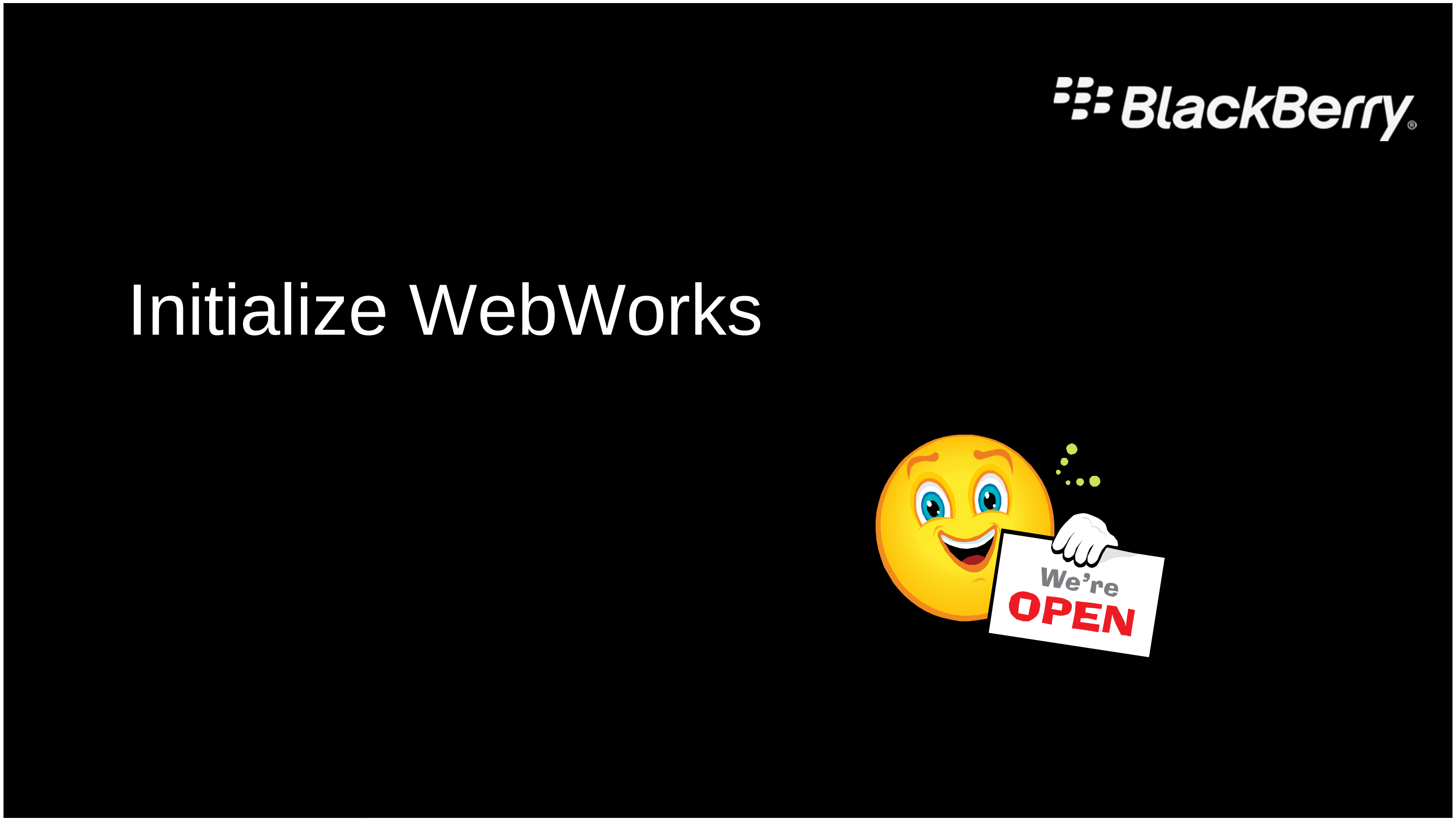


Are you ready for this?!?!

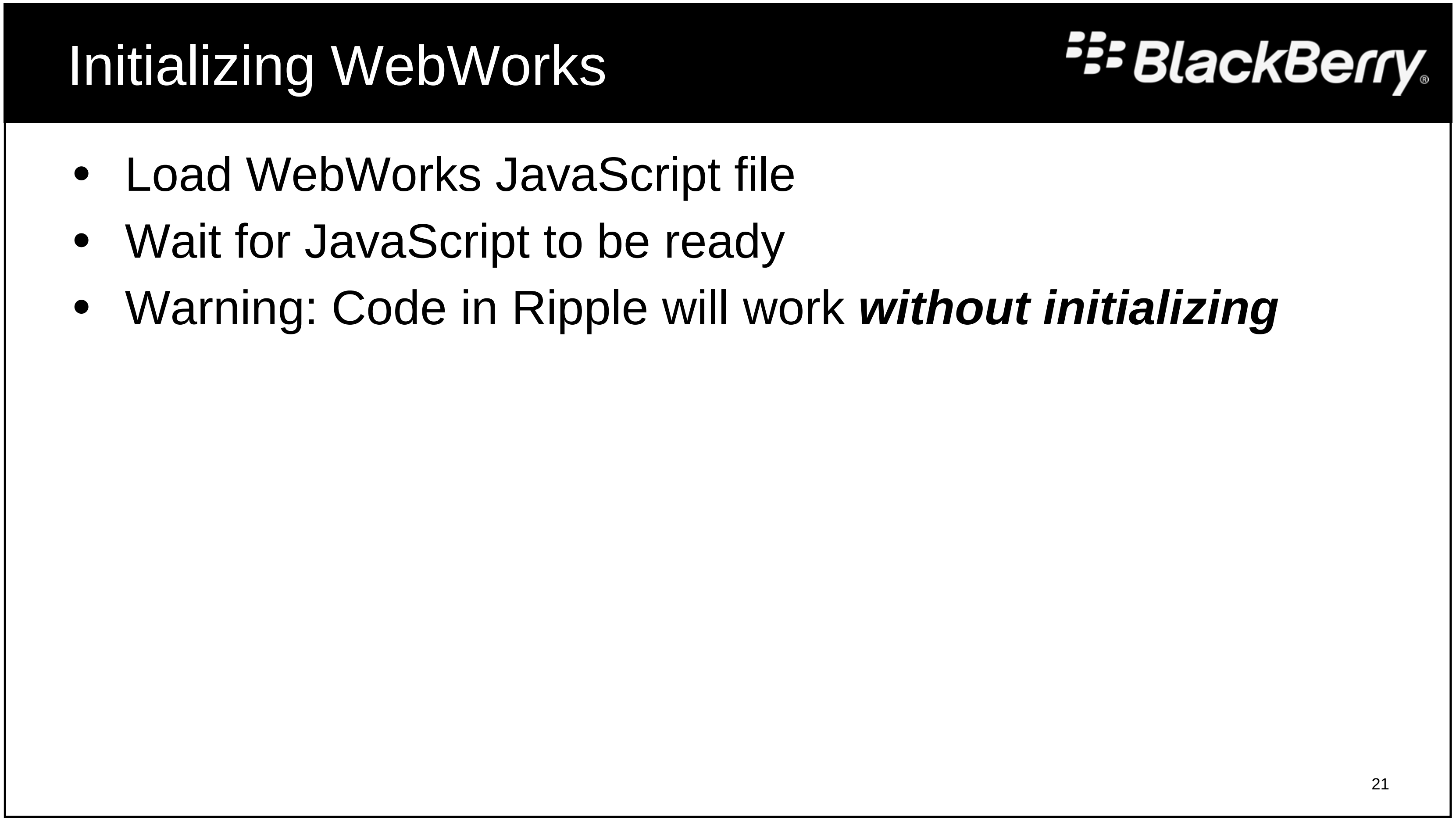
You're seeing this window because this is the first time you've enabled for this specific URL. Please select the platform/runtime you wish to start testing with.

Play around in Ripple

- Live load of your code
- Change the title in your code
- Refresh Ripple
- If you make changes to config.xml, need to clear cache

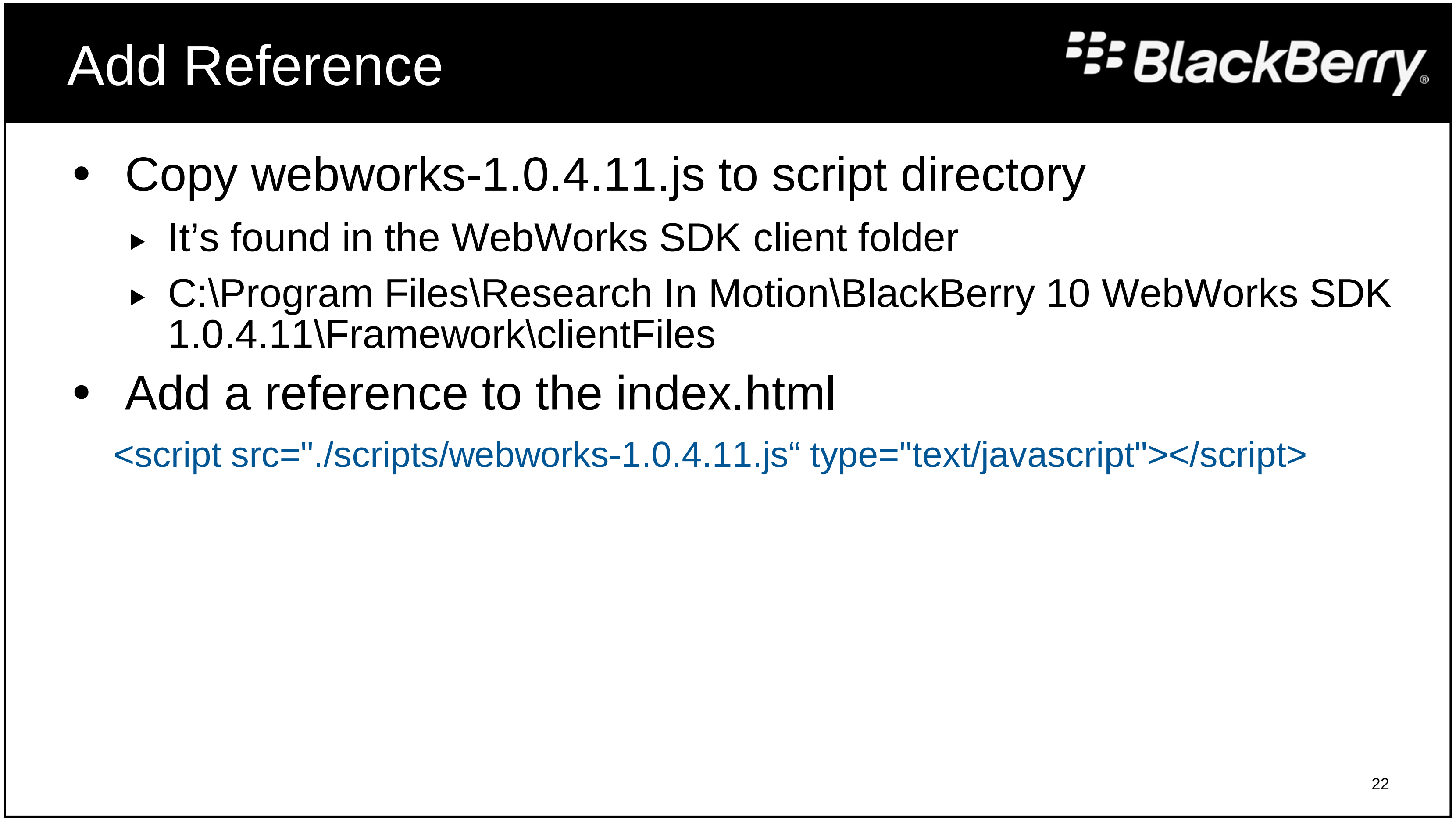


Initialize WebWorks



Initializing WebWorks

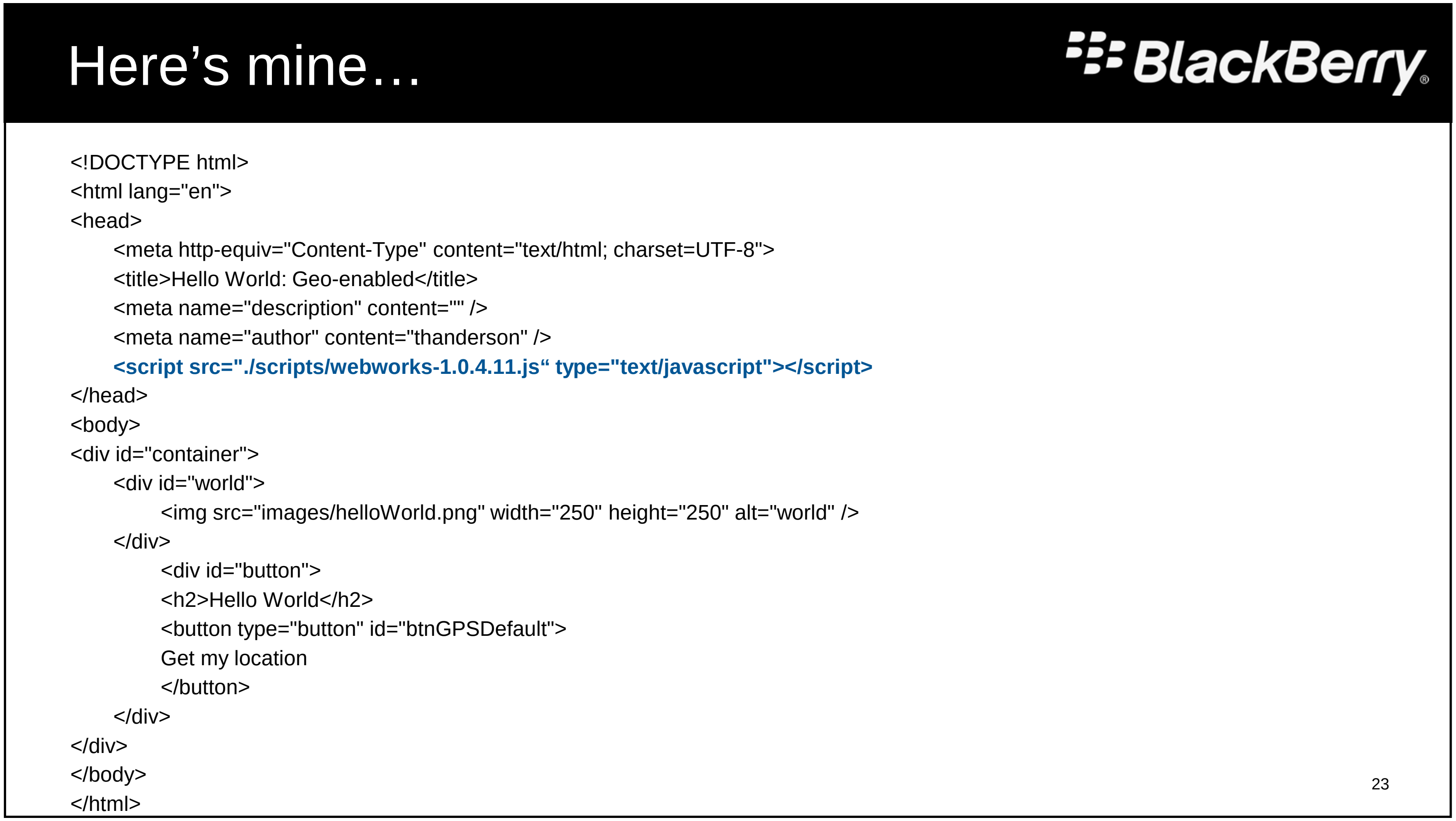
- Load WebWorks JavaScript file
- Wait for JavaScript to be ready
- Warning: Code in Ripple will work ***without initializing***



Add Reference

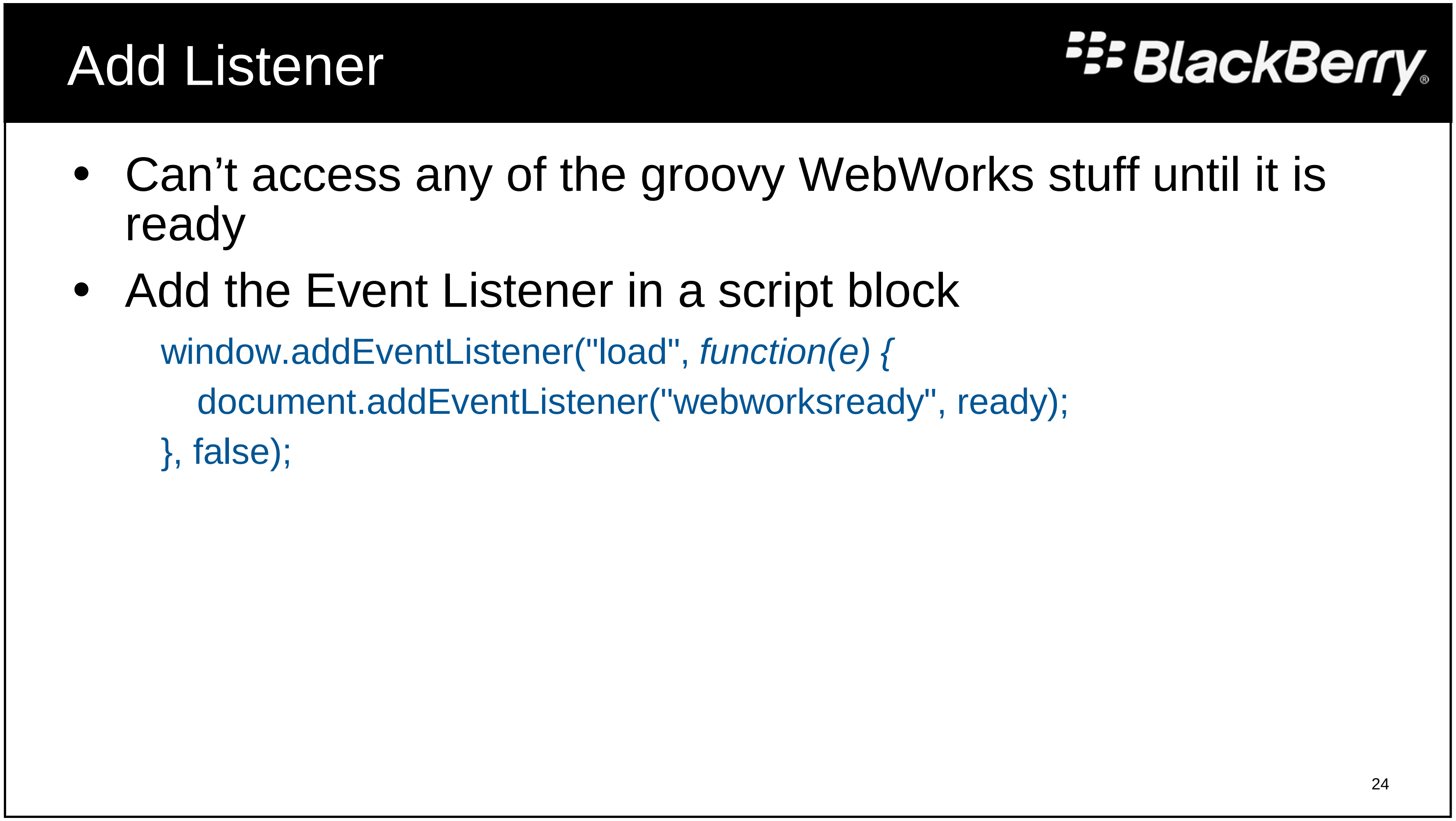
- Copy webworks-1.0.4.11.js to script directory
  - It’s found in the WebWorks SDK client folder
  - C:\Program Files\Research In Motion\BlackBerry 10 WebWorks SDK 1.0.4.11\Framework\clientFiles
- Add a reference to the index.html

```
<script src="./scripts/webworks-1.0.4.11.js“ type="text/javascript"></script>
```



Here’s mine…

```
<!DOCTYPE html>
<html lang="en">
<head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>Hello World: Geo-enabled</title>
      <meta name="description" content="" />
      <meta name="author" content="thanderson" />
      <script src="./scripts/webworks-1.0.4.11.js“ type="text/javascript"></script>
</head>
<body>
<div id="container">
      <div id="world">
             <img src="images/helloWorld.png" width="250" height="250" alt="world" />
      </div>
             <div id="button">
             <h2>Hello World</h2>
             <button type="button" id="btnGPSDefault">
             Get my location
             </button>
      </div>
</div>
</body>
</html>
```



Add Listener

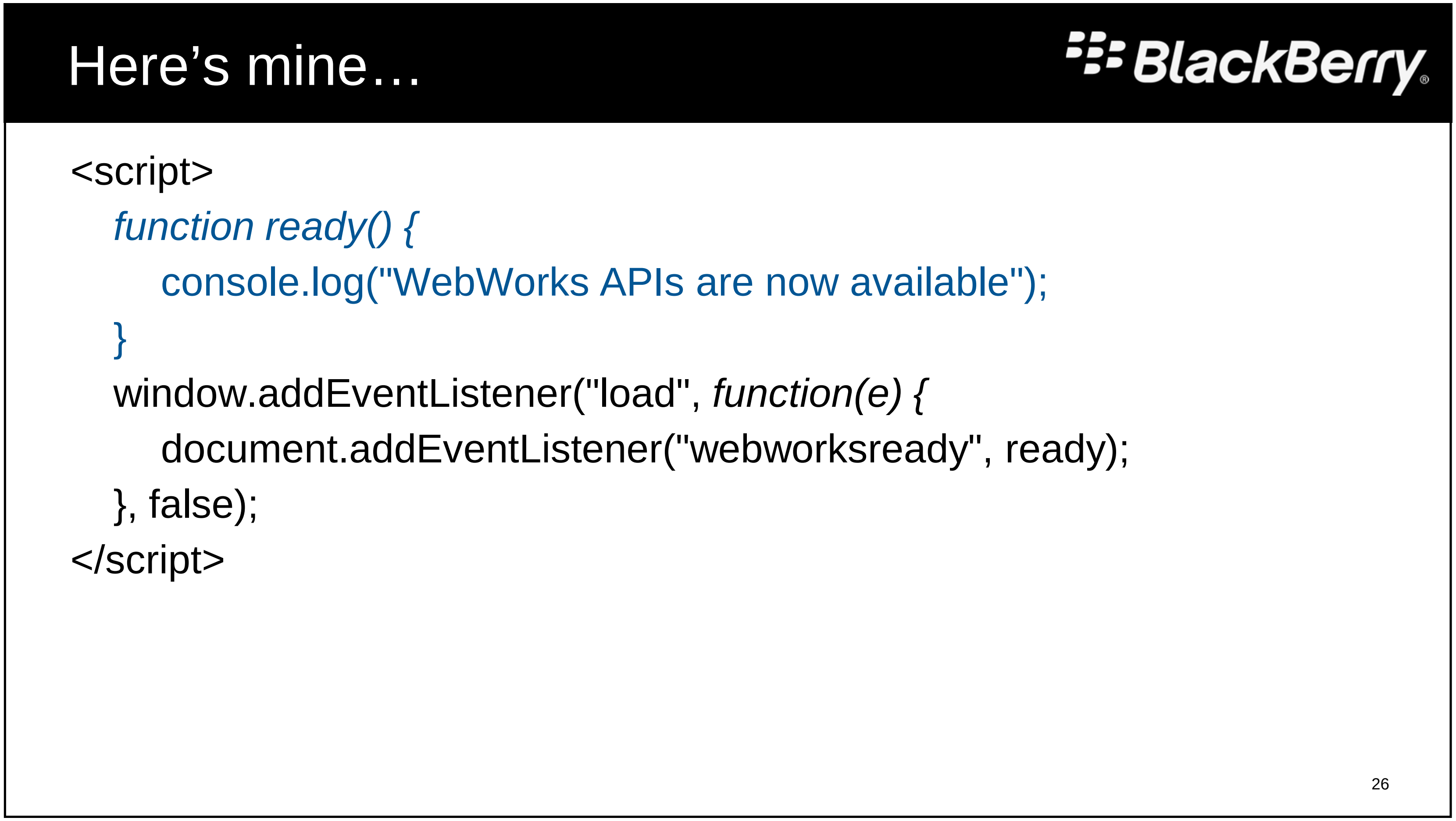
- Can’t access any of the groovy WebWorks stuff until it is ready
- Add the Event Listener in a script block

```
window.addEventListener("load", function(e) {
   document.addEventListener("webworksready", ready);
}, false);
```

On your own…

```
window.addEventListener("load", function(e) {
   document.addEventListener("webworksready", ready);
}, false);
```

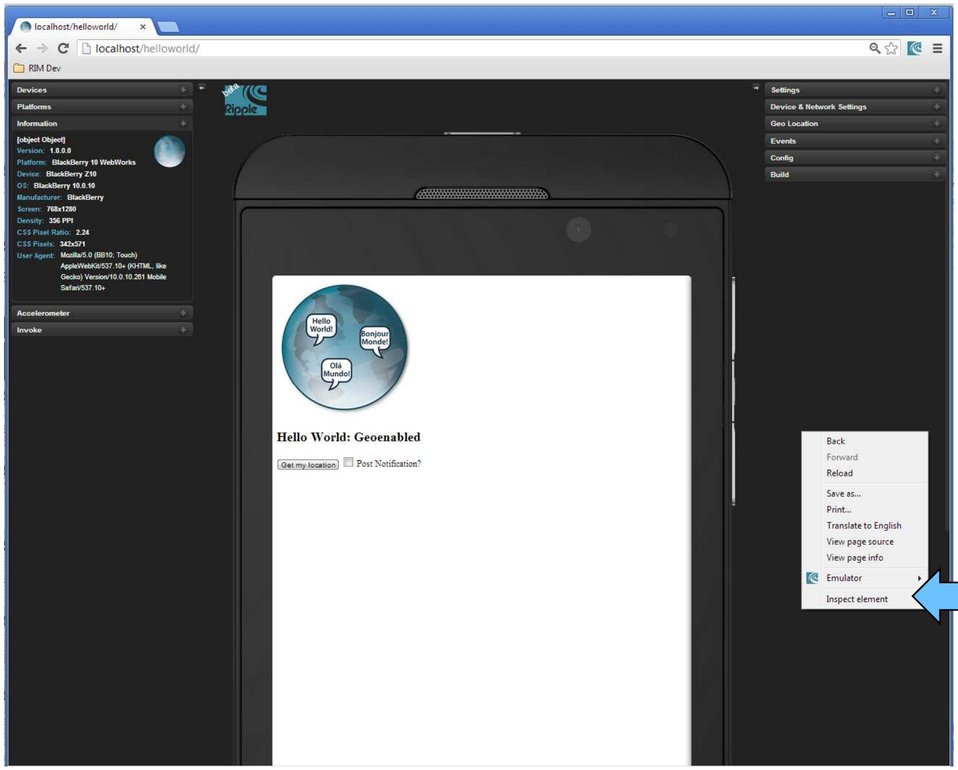
- Create something to happen in the ready event.



Here’s mine…

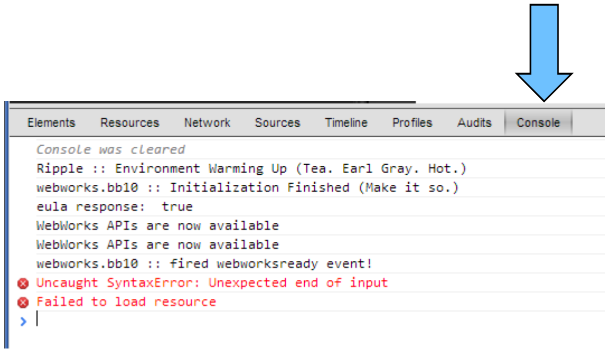
```
<script>
    function ready() {
        console.log("WebWorks APIs are now available");
    }
    window.addEventListener("load", function(e) {
        document.addEventListener("webworksready", ready);
    }, false);
</script>
```

Loading Console



[object Object]
Version: 1.0.0.0
Platform: BlackBerry 10 WebWorks
Device: BlackBerry Z10
OS: BlackBerry 10.0.10
Manufacturer: BlackBerry
Screen: 768x1280
Density: 356 PPI
CSS Pixel Ratio: 2.24
CSS Pixels: 342x571
User Agent: Mozilla/5.0 (BB10; Touch) AppleWebKit/537.10+ (KHTML, like Gecko) Version/10.0.10.261 Mobile Safari/537.10+

Hello World: Geoenabled

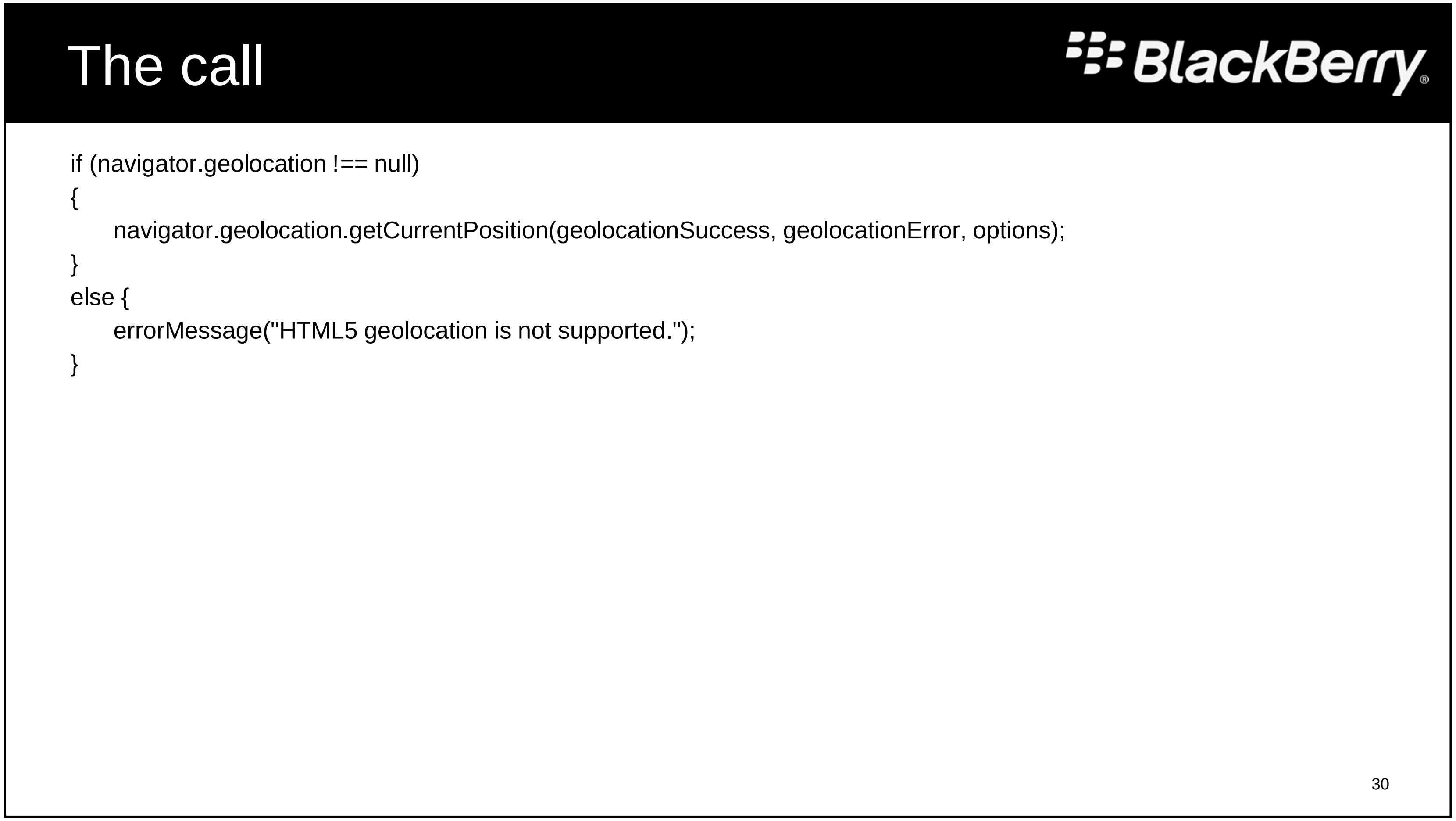


```
Console was cleared
Ripple :: Environment Warming Up (Tea. Earl Gray. Hot.)
webworks.bb10 :: Initialization Finished (Make it so.)
eula response:  true
WebWorks APIs are now available
WebWorks APIs are now available
webworks.bb10 :: fired webworksready event!
Uncaught SyntaxError: Unexpected end of input
Failed to load resource
>
```

Add Geolocation

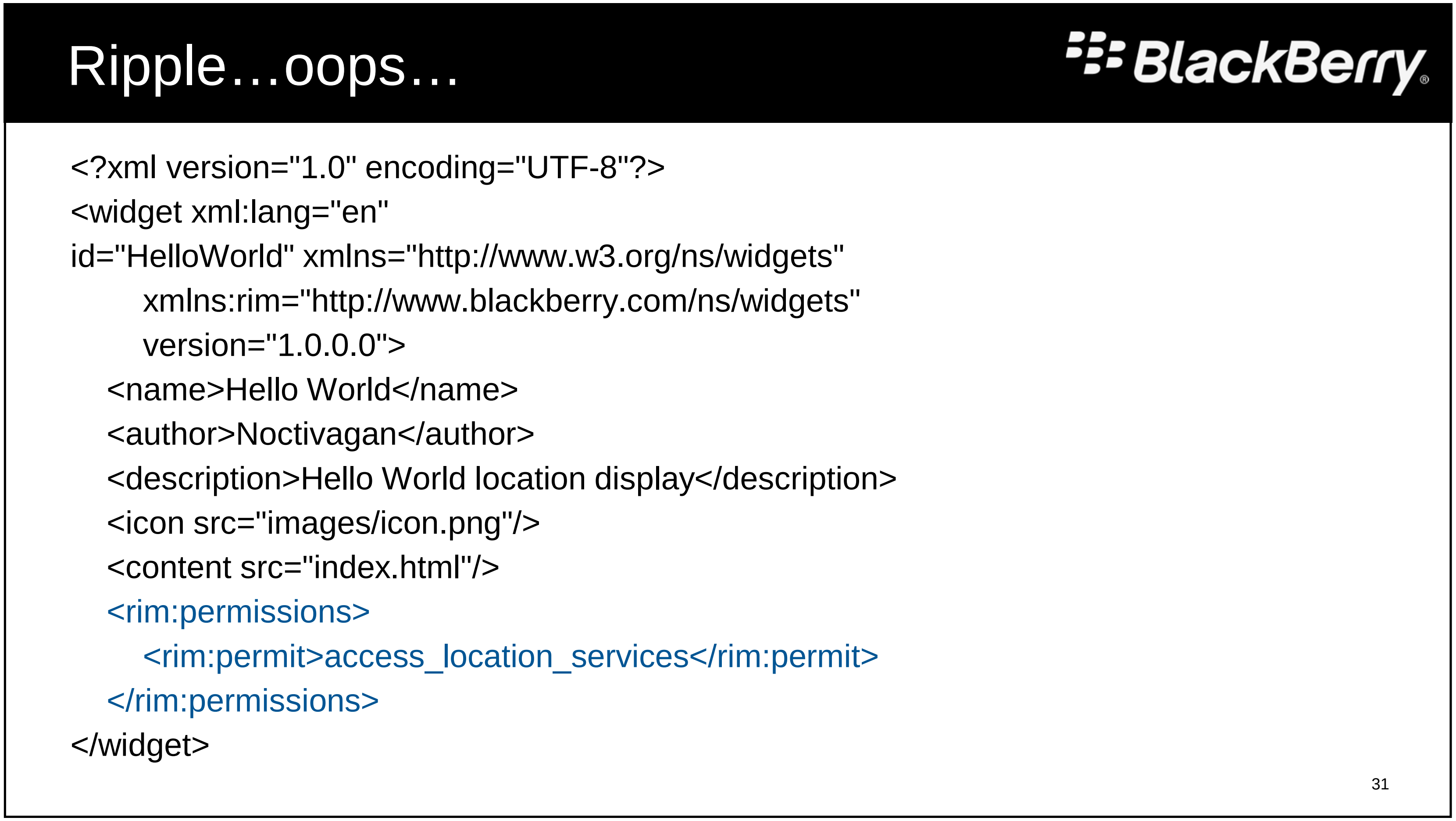
Where are we?

- Add an onclick to the Button
- Get your location
- Show the coordinates (alert or console)
- Api signature
  - static void navigator.geolocation.getCurrentPosition (positionCallback: function(position : Position), *[positionErrorCallback: function([error: PositionError])]*, *[options : PositionOptions]*)
- https://developer.blackberry.com/html5/apis/navigator.geolocation.html



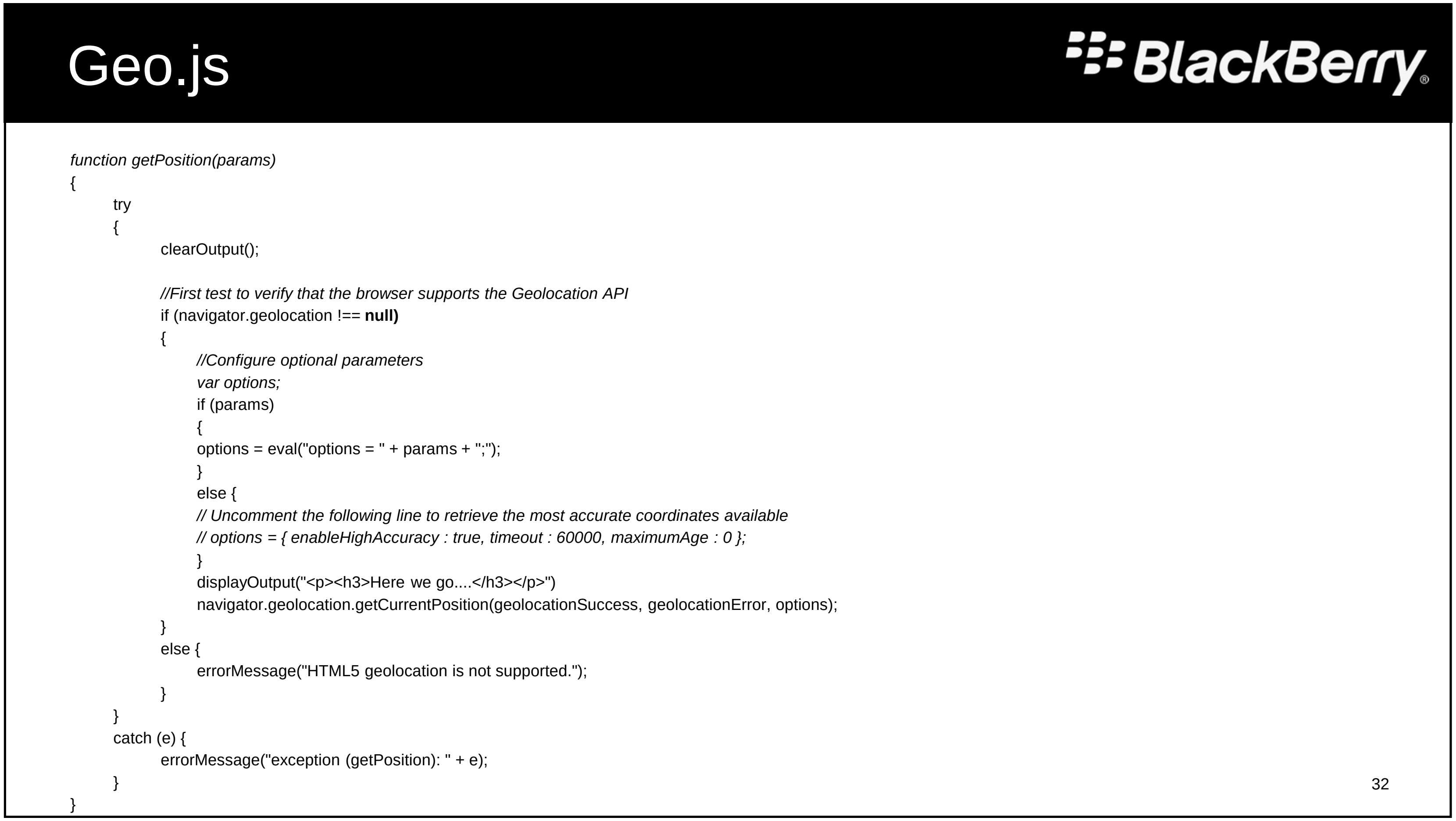
The call

```
if (navigator.geolocation !== null)
{
      navigator.geolocation.getCurrentPosition(geolocationSuccess, geolocationError, options);
}
else {
      errorMessage("HTML5 geolocation is not supported.");
}
```



Ripple…oops…

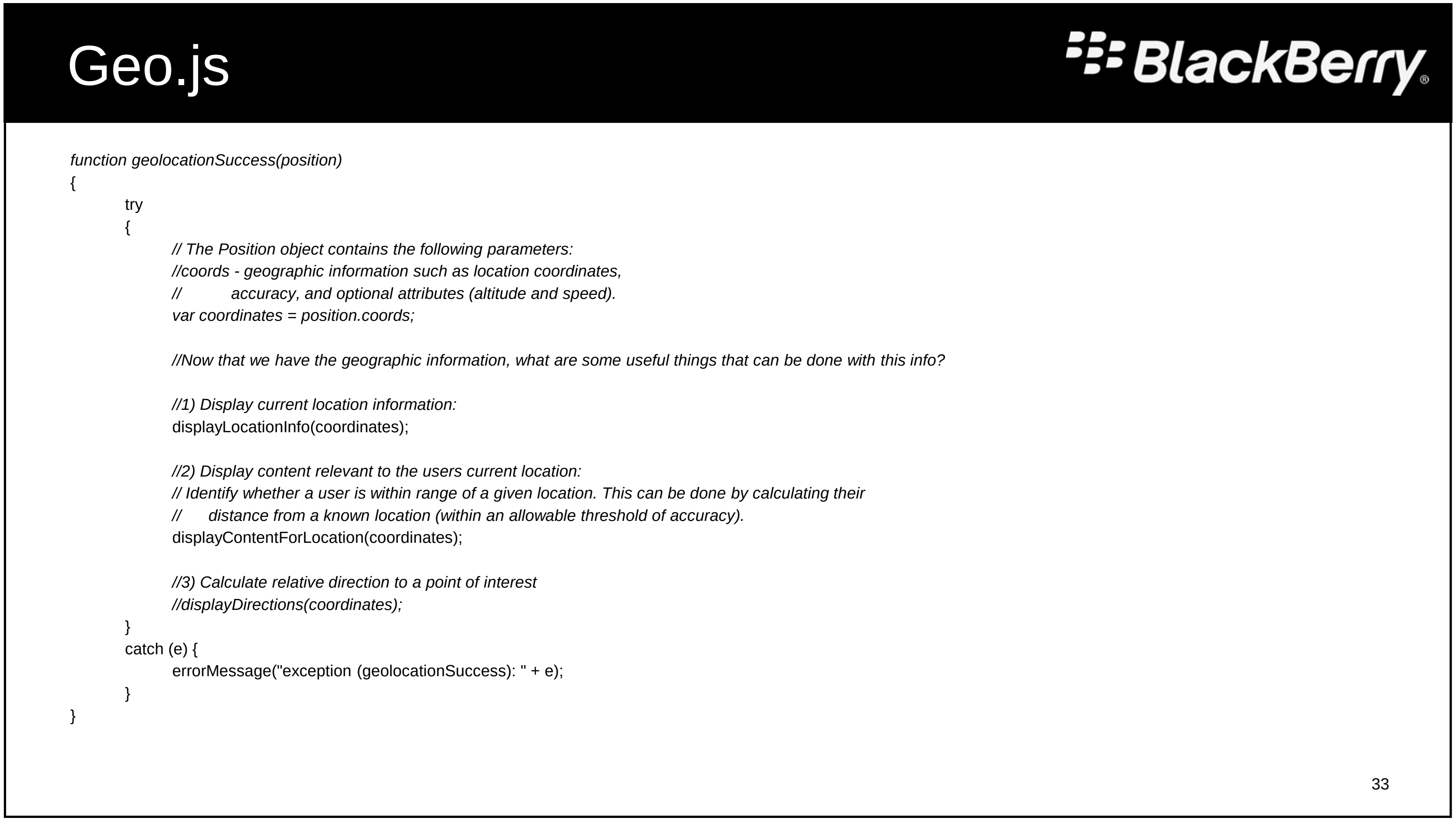
```
<?xml version="1.0" encoding="UTF-8"?>
<widget xml:lang="en"
id="HelloWorld" xmlns="http://www.w3.org/ns/widgets"
        xmlns:rim="http://www.blackberry.com/ns/widgets"
        version="1.0.0.0">
    <name>Hello World</name>
    <author>Noctivagan</author>
    <description>Hello World location display</description>
    <icon src="images/icon.png"/>
    <content src="index.html"/>
    <rim:permissions>
        <rim:permit>access_location_services</rim:permit>
    </rim:permissions>
</widget>
```



Geo.js

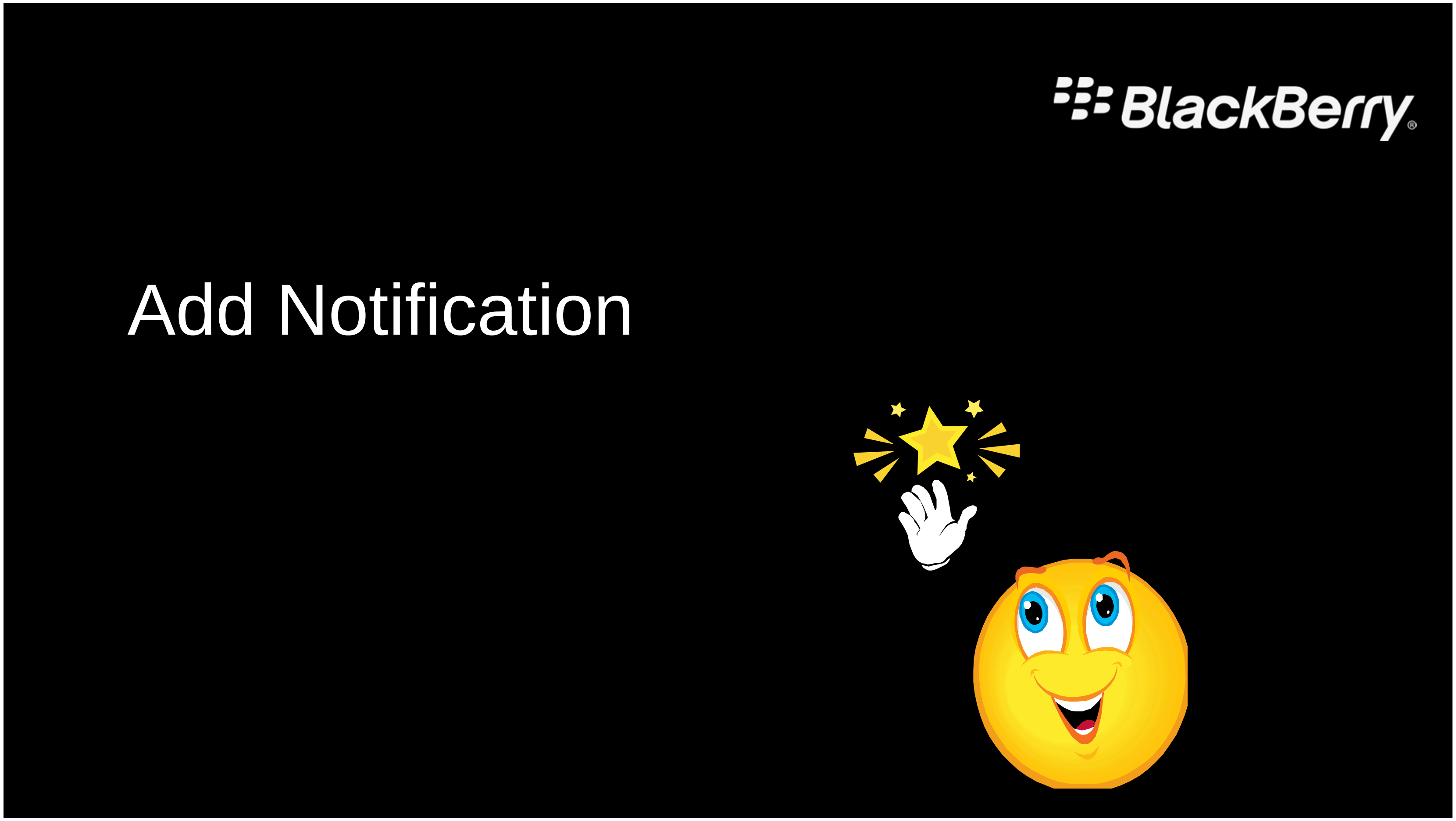
```
function getPosition(params)
{
    try
    {
        clearOutput();

        //First test to verify that the browser supports the Geolocation API
        if (navigator.geolocation !== null)
        {
            //Configure optional parameters
            var options;
            if (params)
            {
            options = eval("options = " + params + ";");
            }
            else {
            // Uncomment the following line to retrieve the most accurate coordinates available
            // options = { enableHighAccuracy : true, timeout : 60000, maximumAge : 0 };
            }
            displayOutput("<p><h3>Here we go....</h3></p>")
            navigator.geolocation.getCurrentPosition(geolocationSuccess, geolocationError, options);
        }
        else {
            errorMessage("HTML5 geolocation is not supported.");
        }
    }
    catch (e) {
        errorMessage("exception (getPosition): " + e);
    }
}
```

32

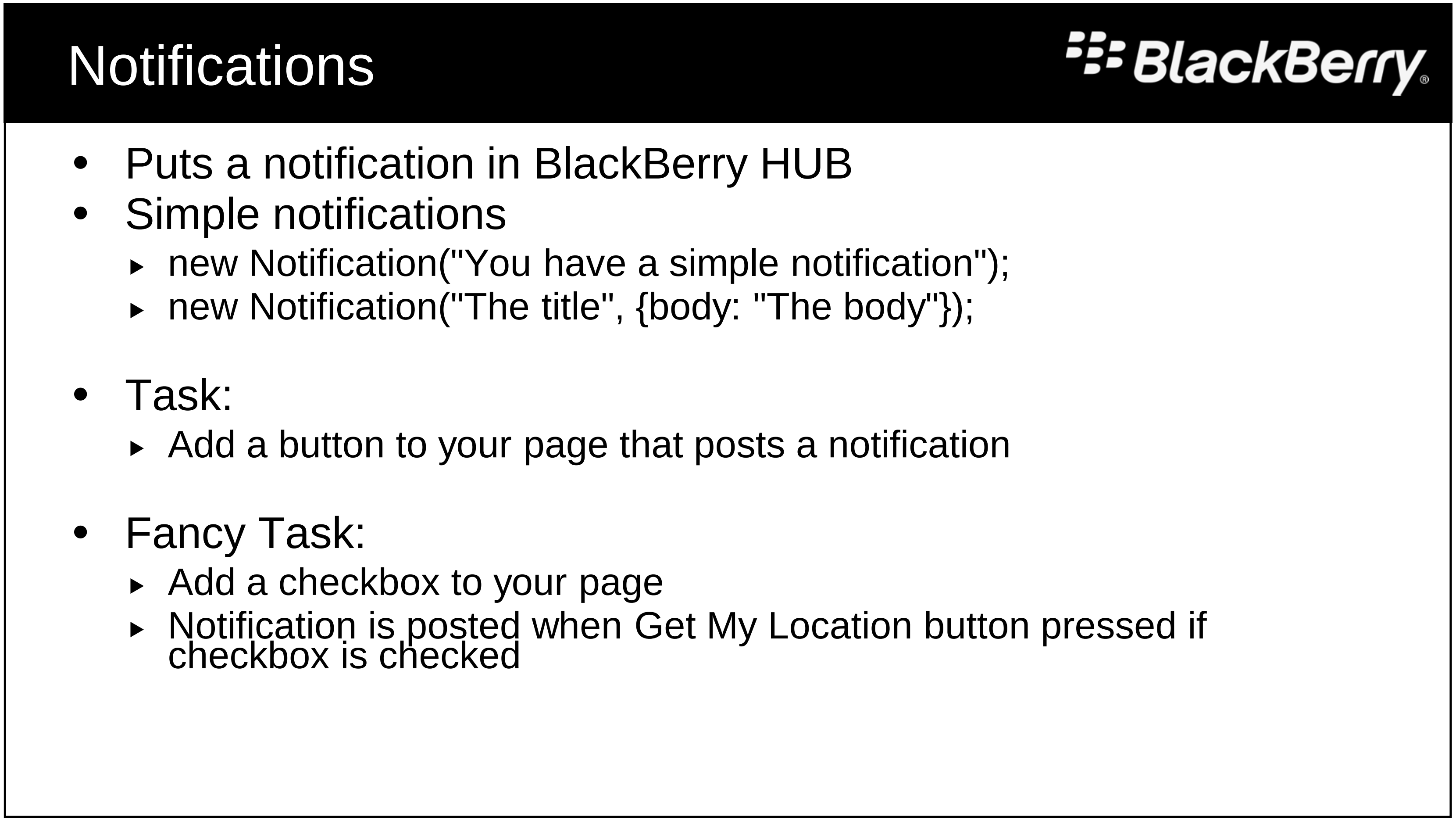


Geo.js

```
function geolocationSuccess(position)
{
        try
        {
               // The Position object contains the following parameters:
               //coords - geographic information such as location coordinates,
               //         accuracy, and optional attributes (altitude and speed).
               var coordinates = position.coords;

               //Now that we have the geographic information, what are some useful things that can be done with this info?

               //1) Display current location information:
               displayLocationInfo(coordinates);

               //2) Display content relevant to the users current location:
               // Identify whether a user is within range of a given location. This can be done by calculating their
               //     distance from a known location (within an allowable threshold of accuracy).
               displayContentForLocation(coordinates);

               //3) Calculate relative direction to a point of interest
               //displayDirections(coordinates);
        }
        catch (e) {
               errorMessage("exception (geolocationSuccess): " + e);
        }
}
```

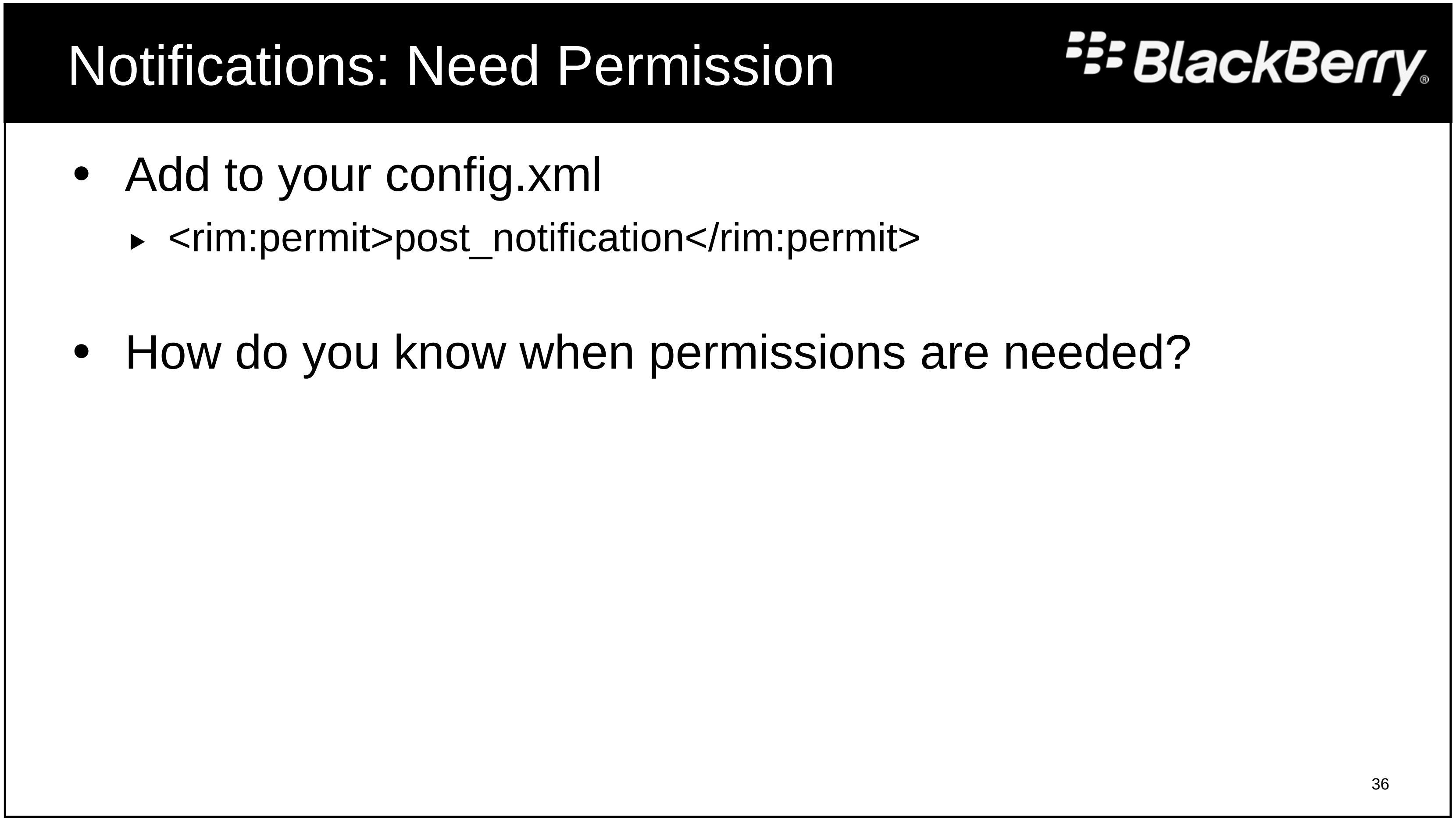


Add Notification



Notifications

- Puts a notification in BlackBerry HUB
- Simple notifications
  - new Notification("You have a simple notification");
  - new Notification("The title", {body: "The body"});
- Task:
  - Add a button to your page that posts a notification
- Fancy Task:
  - Add a checkbox to your page
  - Notification is posted when Get My Location button pressed if checkbox is checked



Notifications: Need Permission

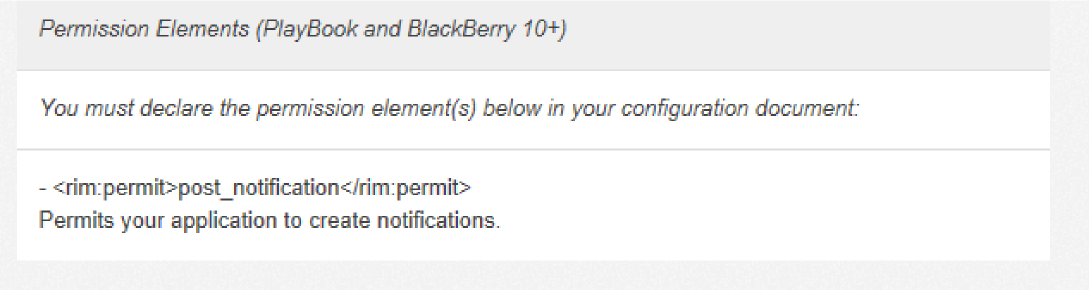
- Add to your config.xml
  - <rim:permit>post_notification</rim:permit>

- How do you know when permissions are needed?

Notifications: Need Permission

- Add to your config.xml
  - <rim:permit>post_notification</rim:permit>

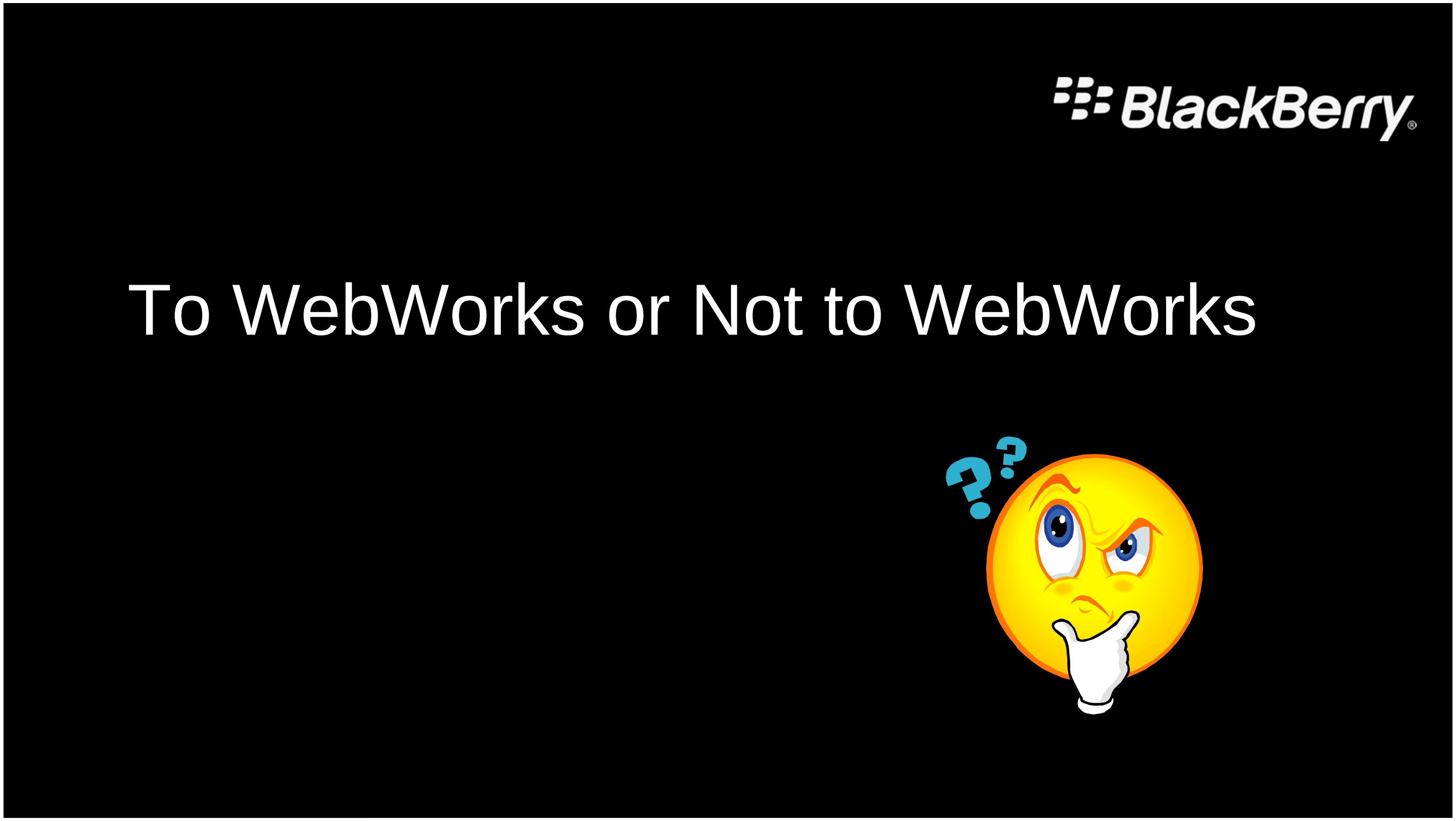
- How do you know when permissions are needed?
  - API Documentation will tell you



Permission Elements (PlayBook and BlackBerry 10+)

You must declare the permission element(s) below in your configuration document:

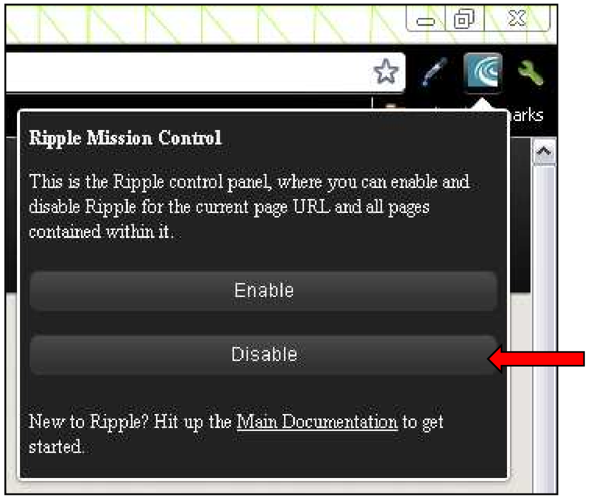
- <rim:permit>post_notification</rim:permit>
Permits your application to create notifications.



To WebWorks or Not to WebWorks

What happens?

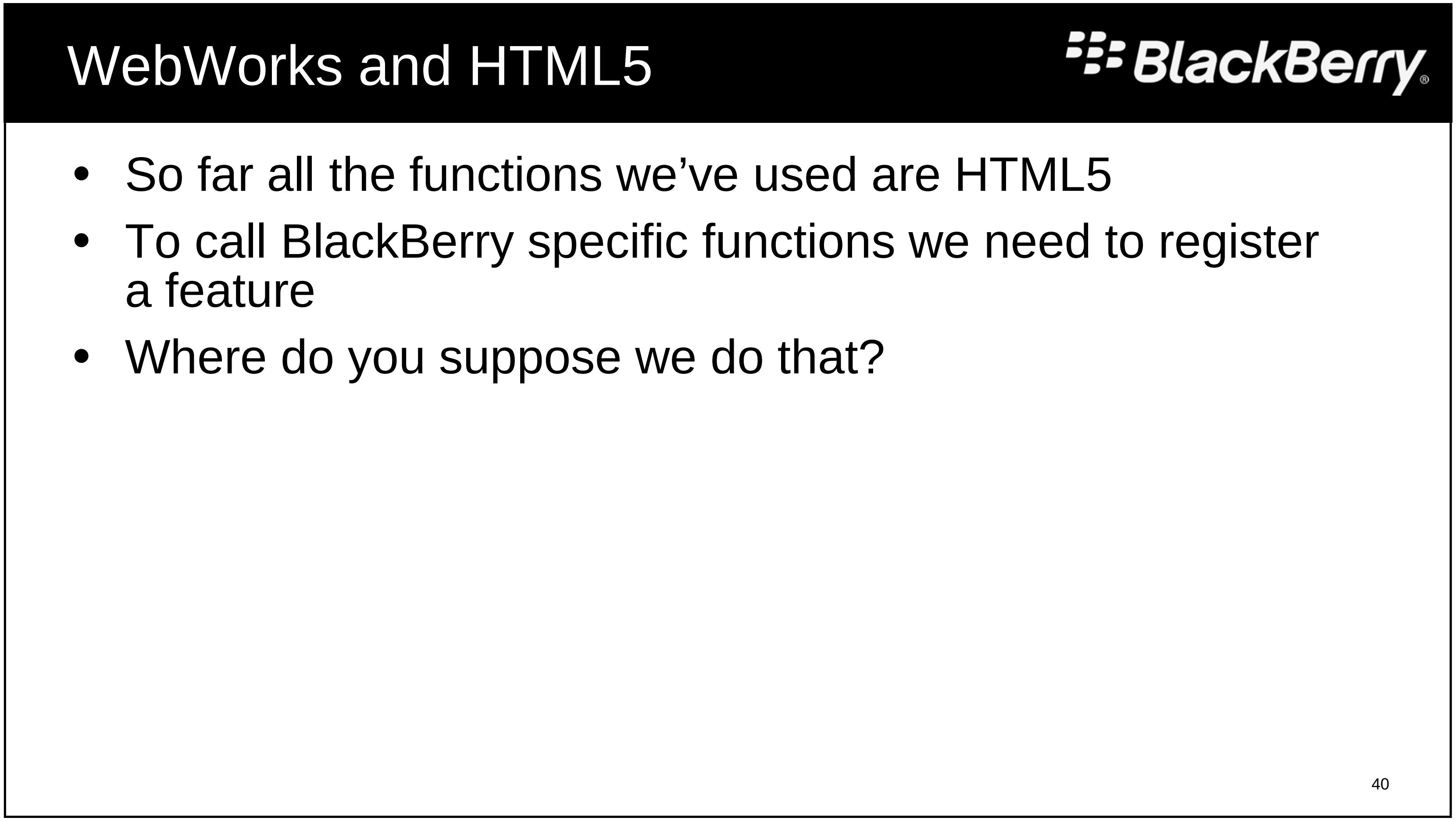
- Load your app in Chrome.
- Turn off Ripple.
- Run your Application
- Did it work?



Ripple Mission Control

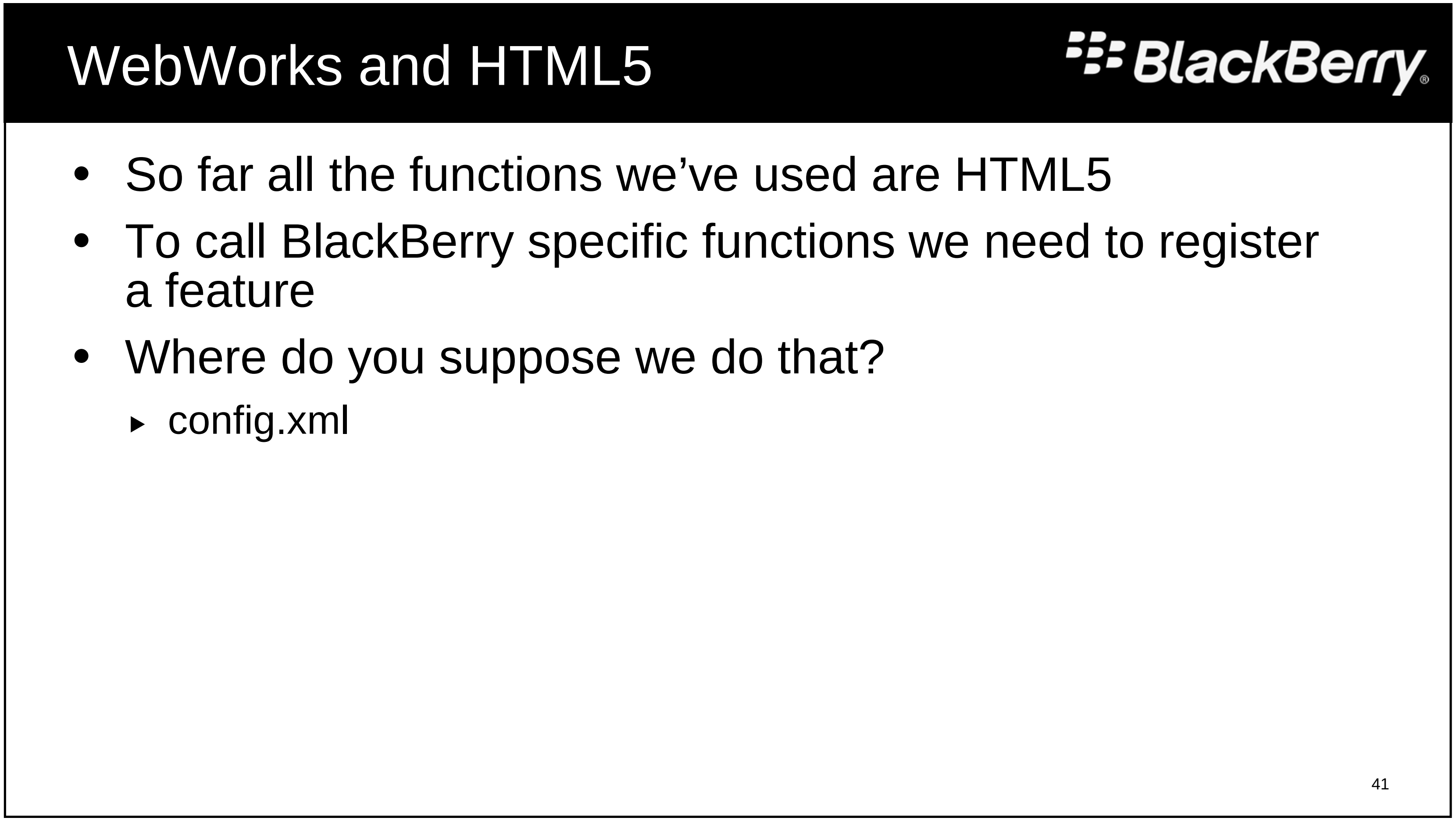
This is the Ripple control panel, where you can enable and disable Ripple for the current page URL and all pages contained within it.

New to Ripple? Hit up the Main Documentation to get started.



WebWorks and HTML5

- So far all the functions we’ve used are HTML5
- To call BlackBerry specific functions we need to register a feature
- Where do you suppose we do that?

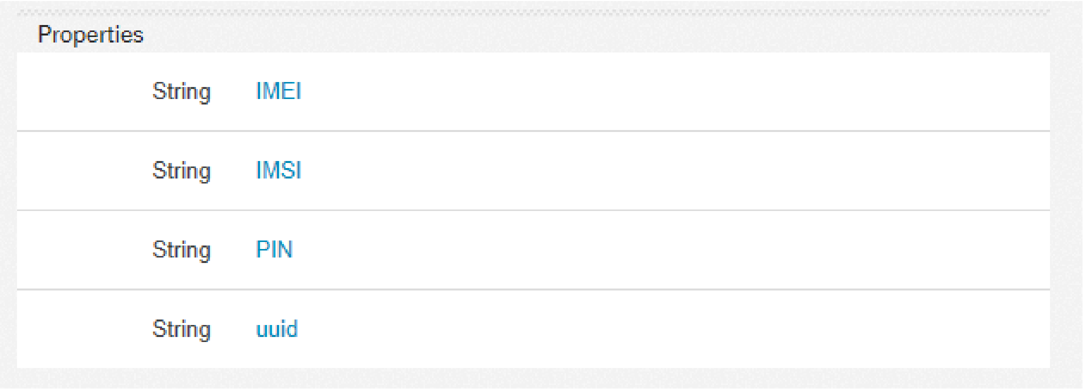


WebWorks and HTML5

- So far all the functions we’ve used are HTML5
- To call BlackBerry specific functions we need to register a feature
- Where do you suppose we do that?
  - config.xml

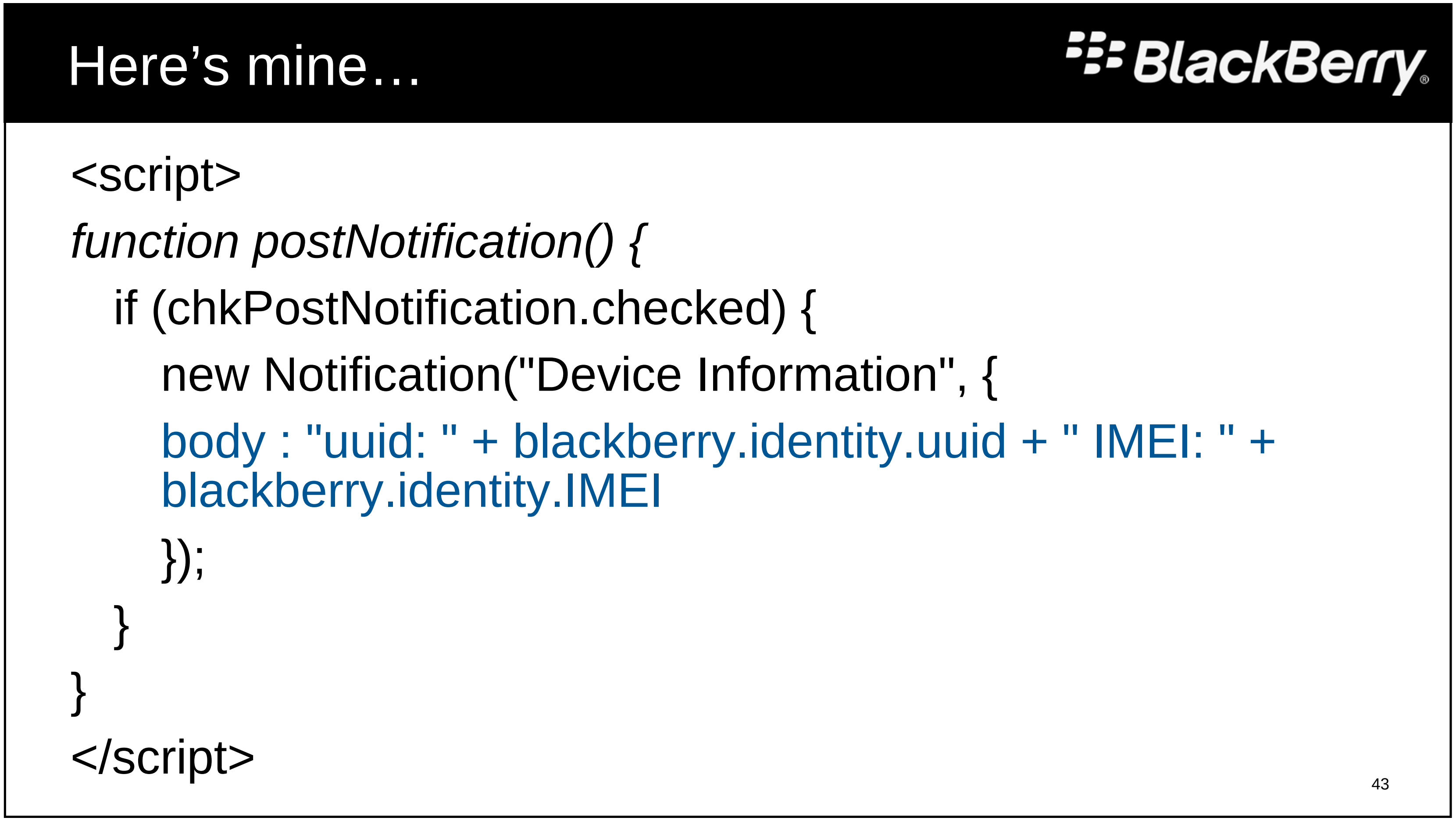
Device Information

- Feature is blackberry.identity
- Add to your config.xml:
  - <feature id="blackberry.identity" />
  - <feature id="blackberry.identity.phone" />
  - blackberry.identity.<property>



Properties

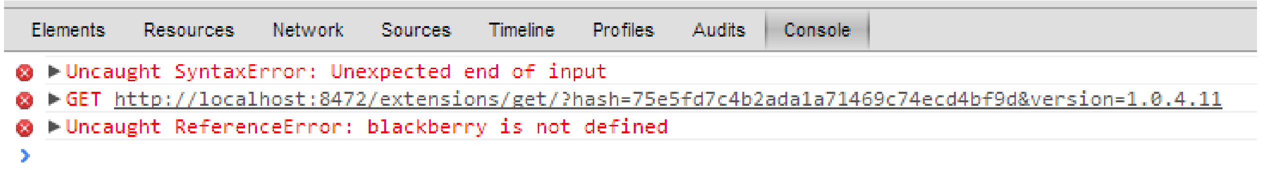
String	IMEI
String	IMSI
String	PIN
String	uuid



Here’s mine…

```
<script>
function postNotification() {
   if (chkPostNotification.checked) {
      new Notification("Device Information", {
      body : "uuid: " + blackberry.identity.uuid + " IMEI: " +
      blackberry.identity.IMEI
      });
   }
}
</script>
```

Turn off Ripple



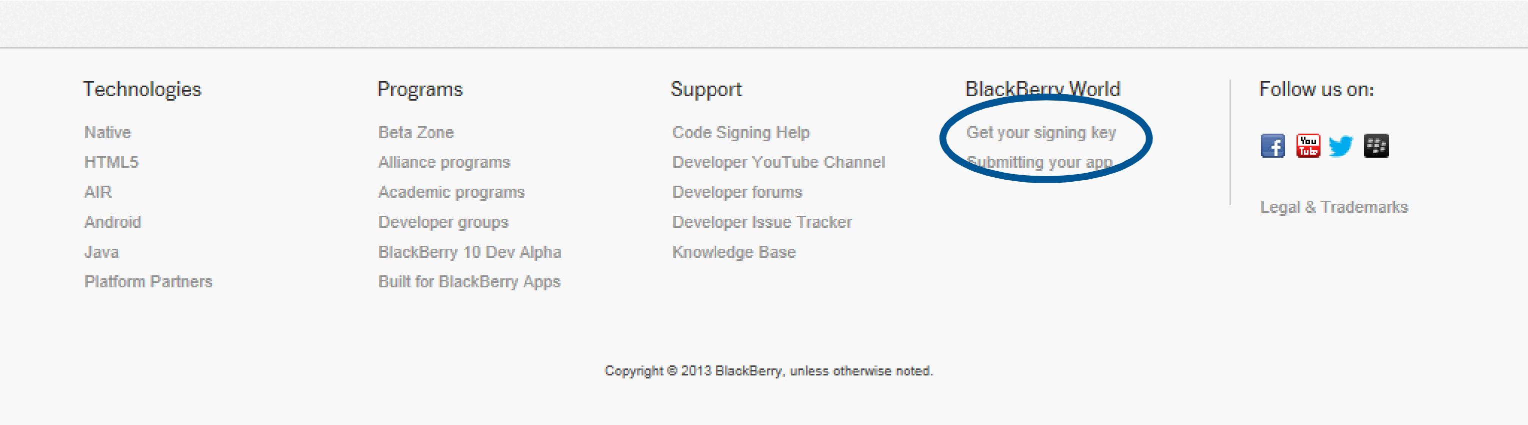
```
▶ Uncaught SyntaxError: Unexpected end of input
▶ GET http://localhost:8472/extensions/get/?hash=75e5fd7c4b2ada1a71469c74ecd4bf9d&version=1.0.4.11
▶ Uncaught ReferenceError: blackberry is not defined
›
```

BlackBerry®

Deploying Applications

Request keys

BlackBerry



Technologies

- Native
- HTML5
- AIR
- Android
- Java
- Platform Partners

Programs

- Beta Zone
- Alliance programs
- Academic programs
- Developer groups
- BlackBerry 10 Dev Alpha
- Built for BlackBerry Apps

Support

- Code Signing Help
- Developer YouTube Channel
- Developer forums
- Developer Issue Tracker
- Knowledge Base

BlackBerry World

- Get your signing key
- Submitting your app

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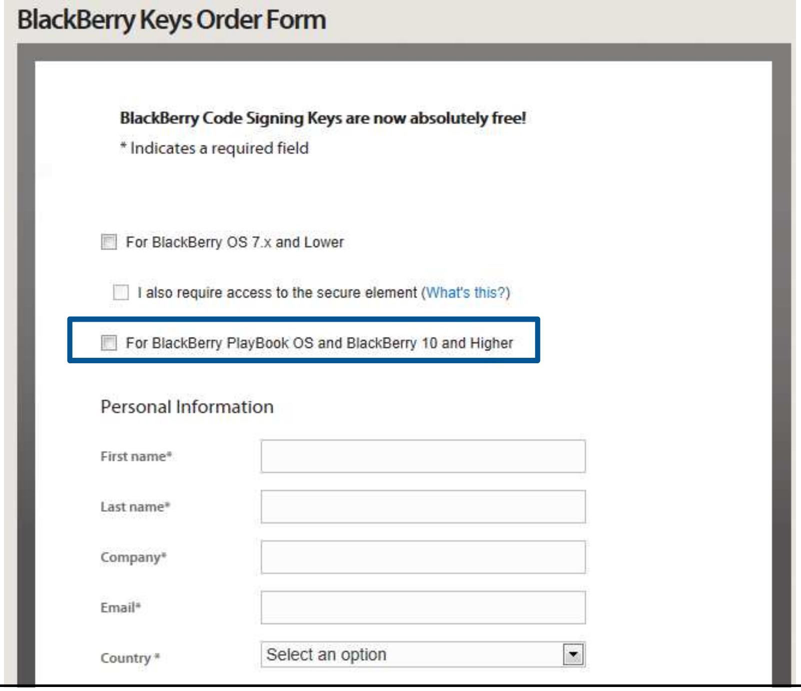
https://developer.blackberry.com/

Request keys

https://www.blackberry.com/SignedKeys



BlackBerry Keys Order Form

BlackBerry Code Signing Keys are now absolutely free!

* Indicates a required field

☐ For BlackBerry OS 7.x and Lower

☐ I also require access to the secure element (What's this?)

☐ For BlackBerry PlayBook OS and BlackBerry 10 and Higher

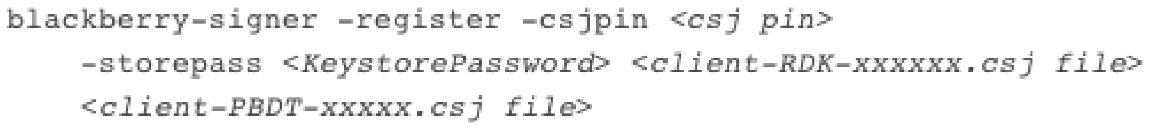
Personal Information

First name*	
Last name*	
Company*	
Email*	
Country *	Select an option

Register your computer

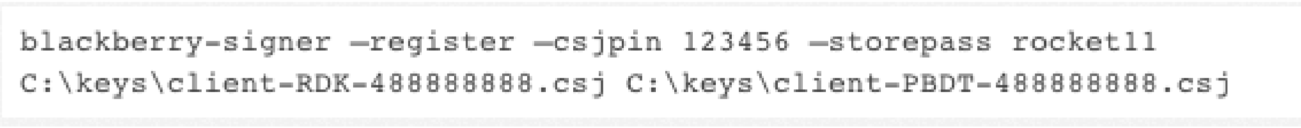
https://developer.blackberry.com/html5/documentation/signing_setup_bb10_apps_2008396_11.html

- client-RDK-xxxxxx.csj - This is the file that you use to sign your applications and publish to the BlackBerry App World storefront.



```
blackberry-signer -register -csjpin <csj pin>
    -storepass <KeystorePassword> <client-RDK-xxxxxx.csj file>
    <client-PBDT-xxxxx.csj file>
```

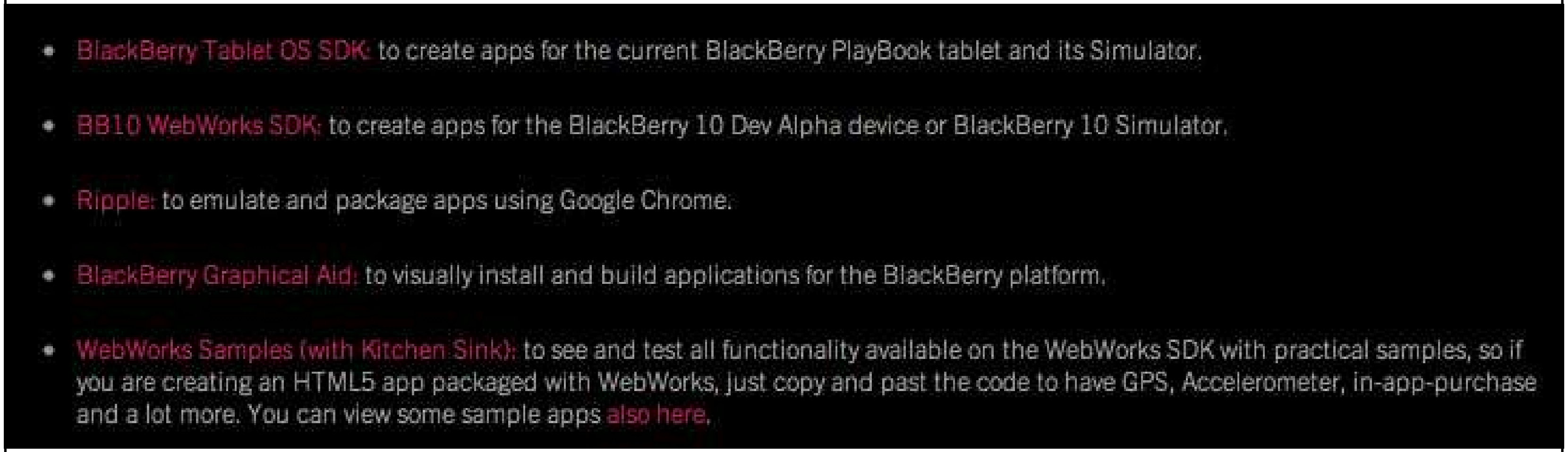
- client-PBDT-xxxxx.csj - This file is used to generate a debug token that you can use to test your application on a device.



```
blackberry-signer –register –csjpin 123456 –storepass rocket11
C:\keys\client-RDK-488888888.csj C:\keys\client-PBDT-488888888.csj
```

Download Tools

http://blackberryjamsessions.com/blackberryjamsessions/getting-ready-for-the-hackathon/html5/



- BlackBerry Tablet OS SDK: to create apps for the current BlackBerry PlayBook tablet and its Simulator.
- BB10 WebWorks SDK: to create apps for the BlackBerry 10 Dev Alpha device or BlackBerry 10 Simulator.
- Ripple: to emulate and package apps using Google Chrome.
- BlackBerry Graphical Aid: to visually install and build applications for the BlackBerry platform.
- WebWorks Samples (with Kitchen Sink): to see and test all functionality available on the WebWorks SDK with practical samples, so if you are creating an HTML5 app packaged with WebWorks, just copy and past the code to have GPS, Accelerometer, in-app-purchase and a lot more. You can view some sample apps also here.

BlackBerry

THANK YOU

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