

# KKBOX Interview Presentation

Test KKBOX Web Player using Selenium

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# Outline

- ◆ Preface
- ◆ Test Case
- ◆ Selenium IDE
- ◆ Selenium WebDriver
- ◆ Test Program and Demo
- ◆ Sum Up
- ◆ Q&A

# Preface

- ◆ Purpose: Test KKBOX web player using Selenium
- ◆ Tools: Selenium IDE, Selenium WebDriver, Firebug, Firepath
- ◆ Test Platform: Chrome
- ◆ Language: Java

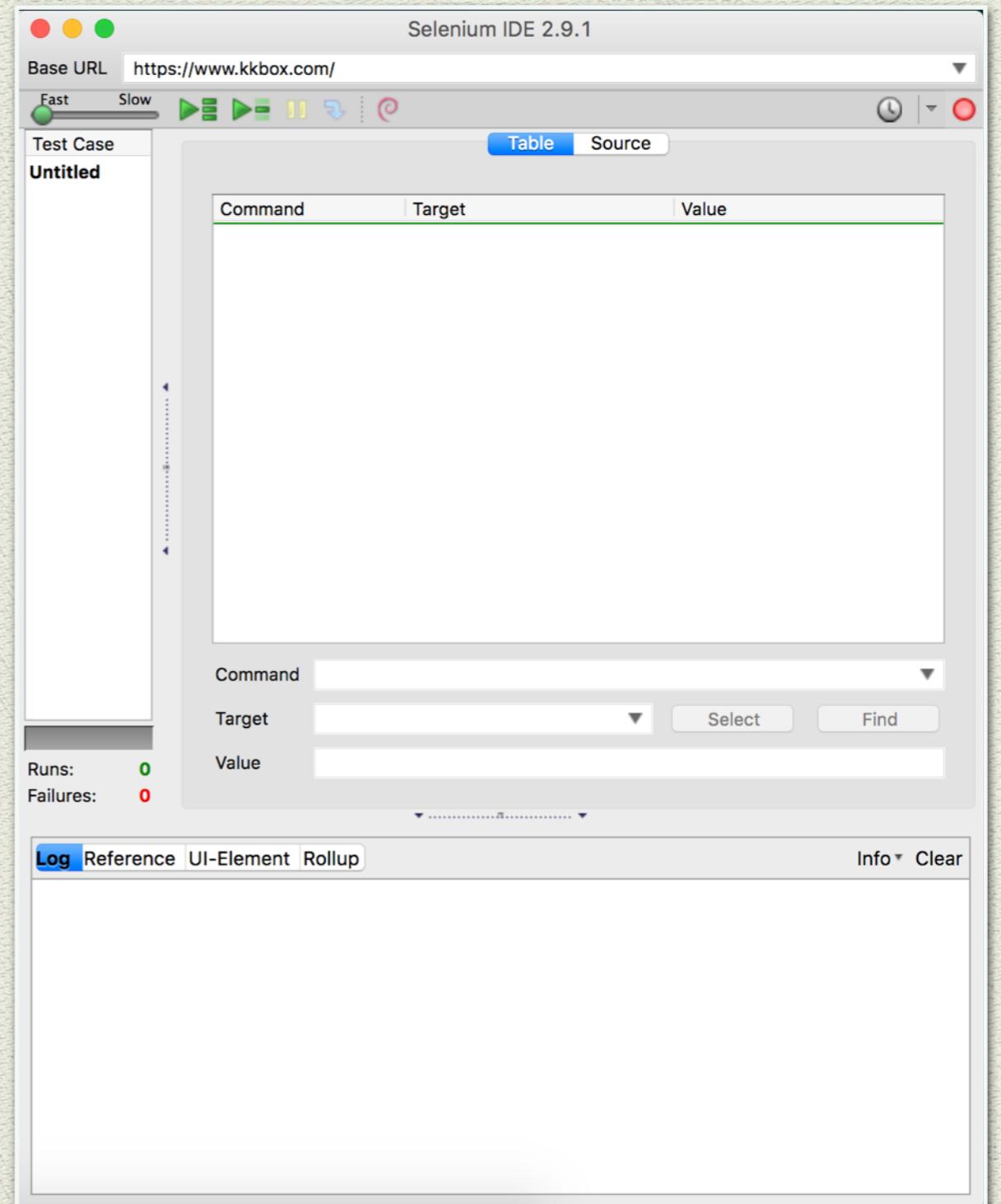
# Test Case

- ◆ 登入：在登入頁面輸入正確帳號、密碼，可以成功登入，左方顯示「我的音樂庫」、「線上精選」、「電台」、「一起聽」4 個頁籤。
- ◆ 搜尋：搜尋「清平調」，可找到王菲與鄧麗君合唱的「清平調」。
- ◆ 電台播放的 Dislike 按鈕：播放任一電台，點擊 Dislike 按鈕，自動切到下一首歌曲開始播放。

# First Attempt: Selenium IDE

# Selenium IDE - Intro

- ◆ Firefox add-on
- ◆ Record and replay
- ◆ Export test script



# Selenium IDE - Recording

The screenshot shows a dual-pane interface. On the left is a browser window displaying the KKBOX homepage (<https://www.kkbox.com>). The right pane is the Selenium IDE interface titled "KKBOX\_test (untitled suite) - Selenium IDE 2.9.1".

**Selenium IDE Right Pane:**

- Base URL: <https://www.kkbox.com/>
- Test Case: KKBOX\_test
- Table View of recorded commands:

Command	Target	Value
open	/play/	
type	id=uid	aahshen@gmail.com
type	id=pwd	abc012345
click	id=login-btn	
type	//input[@type='text']	清平調
click	id=search_btn_cnt	
click	link=王菲&鄧麗君 (Faye Wong...	
click	css=div.main > div.overlay	
click	link=電台	
click	//div[@id='player']/div[6]/a/i	
click	//div[@id='player']/div[6]/a/i	
click	//a[@id='pauseBtn']/i	
click	css=span.user-name	
clickAndWait	link=登出	

- Run Statistics: Runs: 0, Failures: 0
- Log, Reference, UI-Element, Rollup tabs at the bottom.

**KKBOX Left Pane (Browser View):**

- Search bar: 請輸入關鍵字
- Navigation menu:
  - 我的音樂庫
  - 線上精選
  - 電台
  - 一起聽
- 你可能會喜歡的電台:
  - Wawa
  - MC HotDog
  - 長情入細座 LOVER ONLY
  - 情人節特輯
  - soul samba
  - THE QUERICO TENCHI SAM
  - globe new deal
  - PARADISE
  - JOHN FOLLI
- Bottom navigation:
  - 金曲獎加持
  - 華語男女對唱
  - 咖啡館
  - 派對動物
- Notification icon: 通知中心

# Selenium IDE - Replay

The screenshot shows the KKBOX website interface. On the left, there's a sidebar with icons for '我的音樂庫', '線上精選', '電台', and '一起聽'. The main content area features a large banner for 'Nicki Minaj vs Remy Ma' with the text '饒舌女神的牛肉事件簿'. Below the banner are smaller sections for 'SOLO-KYUN! SONGS VOL.1' and '一起聽'.

KKBOX\_test (untitled suite) - Selenium IDE 2.9.1

Base URL: https://www.kkbox.com/

Test Case: KKBOX\_test

Command	Target	Value
open	/play/	
type	id=uid	aahshen@gmail.com
type	id=pwd	abc012345
click	id=login-btn	
type	//input[@type='text']	清平調
click	id=search_btn_cnt	
click	link=王菲&鄧麗君 (Faye Wong...)	
click	css=div.main > div.overlay	
click	link=電台	
click	//div[@id='player']/div[6]/a/i	
click	//a[@id='pauseBtn']/i	
click	css=span.user-name	
clickAndWait	link=登出	

Runs: 1 Failures: 1

Log Reference UI-Element Rollup

[error] Element id=search\_btn\_cnt not found

[info] Test case failed

[info] Playing test case KKBOX\_test

[info] Executing: |open| /play/ |

[info] Executing: |type| id=uid | aahshen@gmail.com |

[info] Executing: |type| id=pwd | the04081003 |

[info] Executing: |click| id=login-btn |

[info] Executing: |type| //input[@type='text'] | 清平調 |

[info] Executing: |click| id=search\_btn\_cnt |

[error] Element id=search\_btn\_cnt not found

[info] Test case failed

# Selenium IDE - Time Issue

The screenshot shows a Mac desktop with two windows open. On the left is a web browser window titled "Let's music - KKBOX" displaying the KKBOX login page. The page features a large "KKbox" logo, a "使用 facebook 登入" button, and a "登入" button. On the right is the "KKBOX\_test (untitled suite) - Selenium IDE 2.9.1" window. It displays a test case named "KKBOX\_tes..." with a table of commands. The table shows the sequence of actions taken on the KKBOX site, including opening the play page, logging in with email and password, clicking the login button, and performing various interactions like clicking links and spans. The Selenium IDE interface includes a toolbar at the top, a status bar at the bottom, and a detailed command editor on the right.

KKBOX\_test (untitled suite) - Selenium IDE 2.9.1 \*

Base URL: https://www.kkbox.com/

Test Case: KKBOX\_tes...

Command	Target	Value
open	/play/	
type	id=uid	aahshen@gmail.com
type	id=pwd	abc012345
click	id=login-btn	
type	//input[@type='text']	清平調
click	id=search_btn_cnt	
click	link=王菲&鄧麗君 (Faye Wong...)	
click	css=div.main > div.overlay	
click	link=電台	
click	//div[@id='player']/div[6]/a/i	
click	//a[@id='pauseBtn']/i	
click	css=span.user-name	
clickAndWait	link=登出	

Command: click

Target: id=login-btn

Runs: 1

Failures: 1

Value:

Log Reference UI-Element Rollup

click(locator)

Arguments:

- locator - an element locator

Clicks on a link, button, checkbox or radio button. If the click action causes a new page to load (like a link usually does), call waitForPageToLoad.

# Selenium IDE - Pass

The screenshot illustrates the Selenium IDE interface during a test execution. A modal window in the center displays the progress of a test case named "KKBOX\_test". The "Base URL" is set to <https://www.kkbox.com>. The test case details a series of interactions, including navigating to the login page, entering credentials, and logging in. The log panel at the bottom shows the command history, which includes executing various Selenium commands like |type|, |click|, and |login|. The status bar indicates "Runs: 1" and "Failures: 0", confirming the test was successful. The background shows the actual KKBOX login page with its UI elements like the Facebook login button and password input fields.

Base URL: <https://www.kkbox.com>

Test Case: KKBOX\_test

Command	Target	Value
type	/play/	
type	id=uid	aahshen@gmail.com
type	id=pwd	abc012345
click	id=login-btn	
type	//input[@type='text']	清平調
click	id=search_btn_cnt	
click	link=王菲&鄧麗君 (Faye Wong & Teresa Teng) - 清平調 搶先聽	
click	css=div.main > div.overlay	
click	link=電台	
click	//div[@id='player']/div[6]/a/i	
click	//div[@id='player']/div[6]/a/i	
click	//a[@id='pauseBtn']/i	
click	css=span.user-name	
clickAndWait	link=登出	

Log:

```
[info] Executing: |type| //input[@type='text'] | 清平調 |
[info] Executing: |click| id=search_btn_cnt |
[info] Executing: |click| link=王菲&鄧麗君 (Faye Wong & Teresa Teng) - 清平調 搶先聽 |
[info] Executing: |click| css=div.main > div.overlay |
[info] Executing: |click| link=電台 |
[info] Executing: |click| //div[@id='player']/div[6]/a/i |
[info] Executing: |click| //div[@id='player']/div[6]/a/i |
[info] Executing: |click| //a[@id='pauseBtn']/i |
[info] Executing: |click| css=span.user-name |
[info] Executing: |clickAndWait| link=登出 |
[info] Test case passed
```

# Selenium IDE - Limitation

- ◆ Only in Firefox
- ◆ Only can use Selense commands
- ◆ Cannot handle conditions and loops

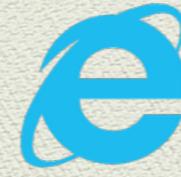
# Next Step: Selenium WebDriver

# Selenium WebDriver

- ◆ Support multiple languages:

Java, Python, C#, Ruby, Javascript...

- ◆ Support multiple platforms:

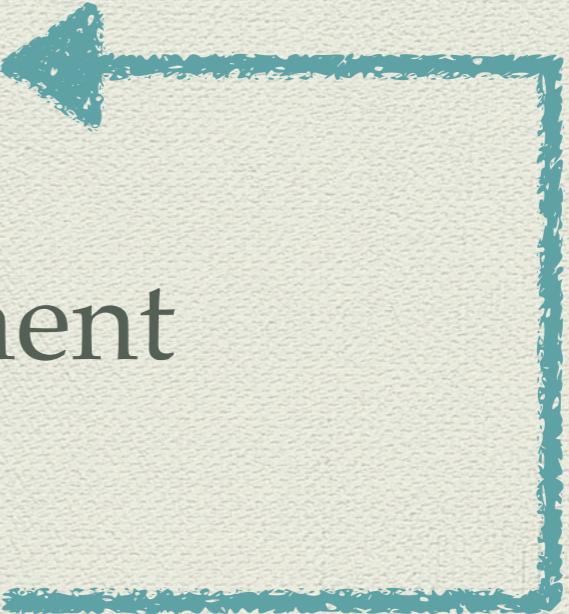


# Selenium WebDriver - Java

```
kkbox_test_java.java
1 package com.example.tests;
2
3+import java.util.regex.Pattern;
11
12 public class KkboxTestJava {
13     private WebDriver driver;
14     private String baseUrl;
15     private boolean acceptNextAlert = true;
16     private StringBuffer verificationErrors = new StringBuffer();
17
18@ Before
19 public void setUp() throws Exception {
20     driver = new FirefoxDriver();
21     baseUrl = "https://www.kkbox.com/";
22     driver.manage().timeouts().implicitlyWait(30, TimeUnit.SECONDS);
23 }
24
25@ Test
26 public void testKkboxTestJava() throws Exception {
27     driver.get(baseUrl + "/play/");
28     driver.findElement(By.id("uid")).clear();
29     driver.findElement(By.id("uid")).sendKeys("aahshen@gmail.com");
30     driver.findElement(By.id("pwd")).clear();
31     driver.findElement(By.id("pwd")).sendKeys(" abc012345 ");
32     driver.findElement(By.id("login-btn")).click();
33     driver.findElement(By.xpath("//input[@type='text']")).clear();
34     driver.findElement(By.xpath("//input[@type='text']")).sendKeys("清平調");
35     driver.findElement(By.id("search_btn_cnt")).click();
36     driver.findElement(By.linkText("王菲&鄧麗君 (Faye Wong & Teresa Teng) - 清平調 搶先聽")).click();
37     driver.findElement(By.linkText("電台")).click();
38     driver.findElement(By.xpath("//div[@id='player']/div[6]/a/i")).click();
39     driver.findElement(By.xpath("//div[@id='player']/div[6]/a/i")).click();
40     driver.findElement(By.xpath("//a[@id='pauseBtn']/i")).click();
41 }
42 }
```

# Selenium WebDriver - Usage

1. Go to a page
2. Locate an element
3. Do something with that element
4. Verify / Assert the result



# Test Program and Demo

# Test Case - Part1: Login

- ◆ 登入：在登入頁面輸入正確帳號、密碼，可以成功登入，左方顯示「我的音樂庫」、「線上精選」、「電台」、「一起聽」4 個頁籤。
- ◆ 搜尋：搜尋「清平調」，可找到王菲與鄧麗君合唱的「清平調」。
- ◆ 電台播放的 Dislike 按鈕：播放任一電台，點擊 Dislike 按鈕，自動切到下一首歌曲開始播放。

# Test Case - Part1: Login

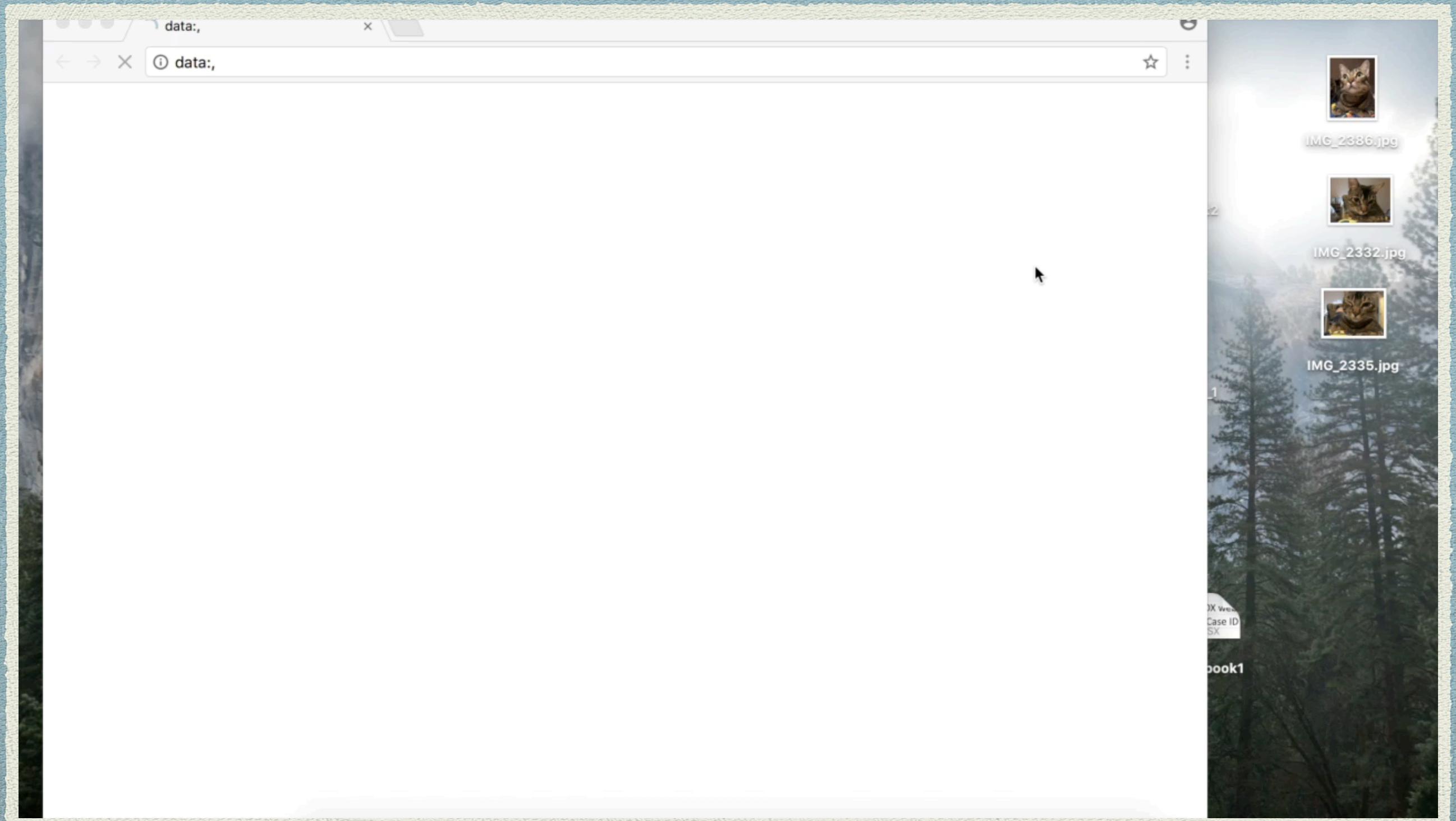
```
// Setup
private WebDriver driver;
private String baseUrl;
driver = new ChromeDriver();
baseUrl = "https://www.kkbox.com";
driver.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);
```

```
// Go to KKBOX web player
driver.get(baseUrl + "/play/");
```

```
// Login
driver.findElement(By.id("uid")).sendKeys("aahshen@gmail.com");
driver.findElement(By.id("pwd")).sendKeys("abc012345");
driver.findElement(By.id("login-btn")).click();
```

```
// Check side-bar
Assert.assertTrue(driver.findElement(By.xpath("//... '我的音樂庫]"))).isDisplayed());
Assert.assertTrue(driver.findElement(By.xpath("//... '線上精選']"))).isDisplayed());
Assert.assertTrue(driver.findElement(By.xpath("//... '電台']"))).isDisplayed());
Assert.assertTrue(driver.findElement(By.xpath("//... '一起聽']"))).isDisplayed());
```

# Test Case - Part1: Login



# Test Case - Part2: Search

- ◆ 登入：在登入頁面輸入正確帳號、密碼，可以成功登入，左方顯示「我的音樂庫」、「線上精選」、「電台」、「一起聽」4 個頁籤。
- ◆ 搜尋：搜尋「清平調」，可找到王菲與鄧麗君合唱的「清平調」。
- ◆ 電台播放的 Dislike 按鈕：播放任一電台，點擊 Dislike 按鈕，自動切到下一首歌曲開始播放。

# Test Case - Part2: Search

```
// Search song

driver.findElement(By.xpath("//... '請輸入關鍵字']")).sendKeys("清平調");
driver.findElement(By.id("search_btn_cnt")).click();
driver.findElement(By.partialLinkText("王菲&鄧麗君")).click();
WebDriverWait waitMediaInfo = new WebDriverWait(driver,10);
waitMediaInfo.until(ExpectedConditions.visibilityOf(... ("media"))));
```

# Test Case - Part2: Search

Screenshot of the KKBOX website interface during a search test.

The page title is "Let's music - KKBOX". The URL in the address bar is <https://www.kkbox.com/play/>.

The user profile "阿沈" is visible in the top right corner.

The search bar contains the placeholder text "請輸入關鍵字" (Please enter keyword).

The sidebar on the left includes links for "我的音樂庫" (My Library), "線上精選" (Online Selection), "電台" (Radio), "一起聽" (Listen Together), and "通知中心" (Notification Center).

The main content area features:

- A large promotional image for the group BTOB, titled "Feel'eM".
- A "搶先聽" (Premiere Listen) section with a "更多" (More) button.
- A "話題焦點 / 演唱會歌單" (Topic Focus / Concert Setlist) section featuring "BEAUTY AND THE BEAST" and other items.
- A "另類新歌金榜" (Alternative New Song Chart) section.
- A "獨立音樂推薦" (#J-TNDTE) section.
- A dark player interface on the right showing a large musical note icon, playback controls, and the message "這歌目前還沒有歌詞" (This song currently has no lyrics).

# Test Case - Part3: Dislike Button

- ◆ 登入：在登入頁面輸入正確帳號、密碼，可以成功登入，左方顯示「我的音樂庫」、「線上精選」、「電台」、「一起聽」4 個頁籤。
- ◆ 搜尋：搜尋「清平調」，可找到王菲與鄧麗君合唱的「清平調」。
- ◆ 電台播放的 Dislike 按鈕：播放任一電台，點擊 Dislike 按鈕，自動切到下一首歌曲開始播放。

# Test Case - Part3: Dislike Button

```
// Go to radio and random choose a radio station  
  
driver.findElement(By.linkText("電台")).click();  
Actions action = new Actions(driver);  
String radioXPATH = randomSelectRadio();
```

```
// Play radio  
  
action.moveToElement(... xpath(radioXPATH)).build().perform();  
WebDriverWait waitBtnRadio = new WebDriverWait(driver,10);  
String playRadioBtnXPATH = radioXPATH + "/a";  
waitBtnRadio.until(ExpectedConditions.visibilityOf(...xpath(playRadioBtnXPATH)));  
driver.findElement(By.xpath(playRadioBtnXPATH)).click();
```

```
// Dislike button  
  
driver.findElement(By.xpath("//a[contains(@title, '不喜歡')]")).click();
```

# Test Case - Part3: Dislike Button

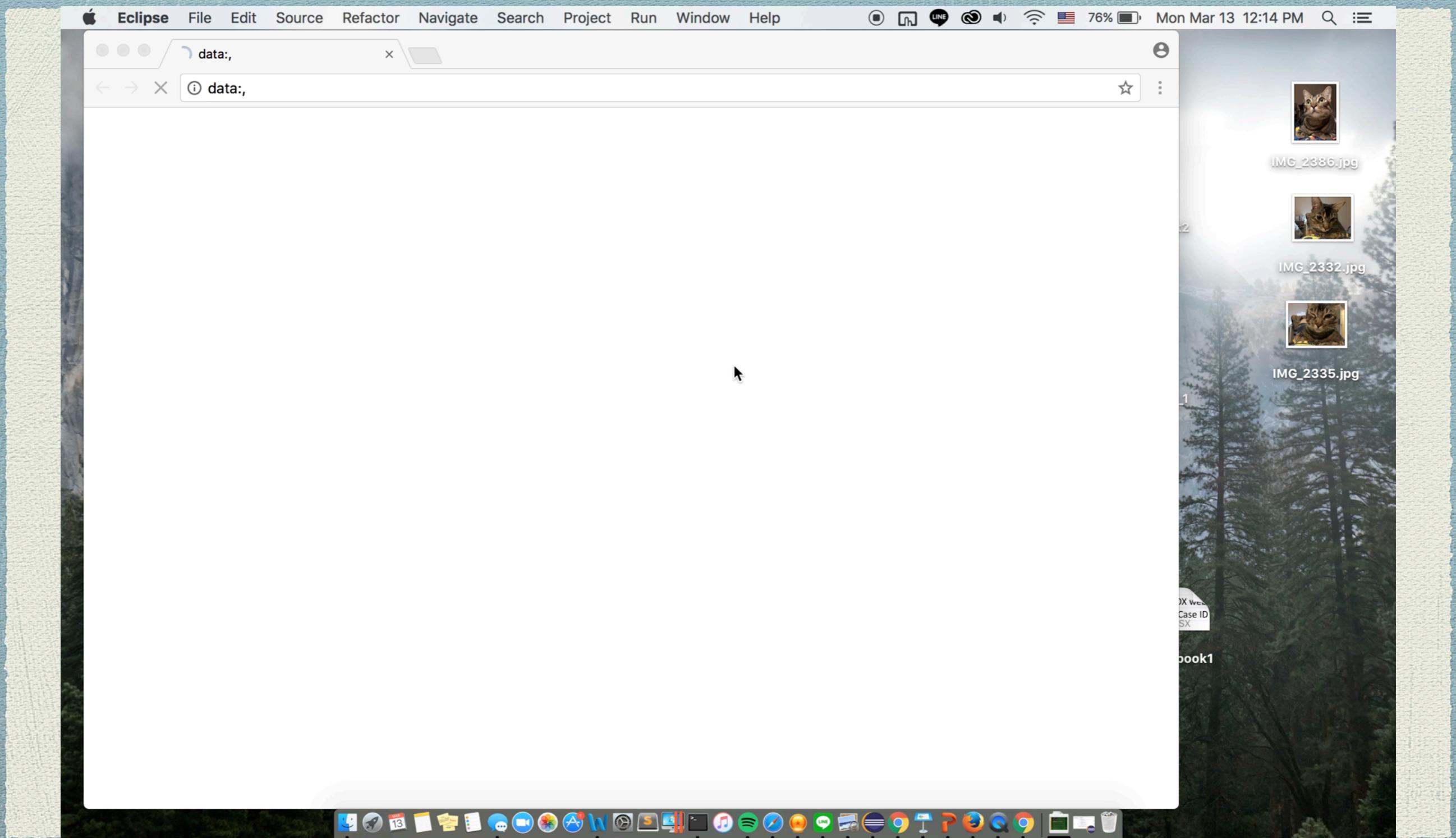
Screenshot of KKBOX music player interface showing a playlist page.

The page displays the following information:

- Playlist Title:** 王菲&鄧麗君 (Faye Wong & Teresa Teng) - 清平調 搶先聽
- Artist:** 王菲 & 鄧麗君 (Faye Wong & Teresa Teng)
- Album:** 清平調
- Length:** 04:34
- Share Information:** 分享者 - Mike | 1首歌曲 | 2015-06-26
- Song Details:** 1. 清平調
- Control Buttons:** Back, Play/Pause, Forward, Volume, Mute, Previous, Next, Stop.
- Text on Player:** 這歌目前還沒有歌詞

The left sidebar shows navigation links: 我的音樂庫, 線上精選, 電台, 一起聽, and 通知中心.

# Demo



# Sum Up

## ◆ Challenges

- ◆ Modify script exported from Selenium IDE  
=> more Selenium WebDriver APIs
- ◆ Time issue  
=> implicit/explicit wait
- ◆ Invisible element  
=> simulate mouse hover actions
- ◆ Pop-up alerts  
=> try-catch block to detect alert
- ◆ More test cases

Q&A

Thank you!

# Backup

# References

- ◆ <https://seleniumhq.github.io/selenium/docs/api/java/>
- ◆ <http://stackoverflow.com/questions>
- ◆ <https://kkboxsqa.wordpress.com>
- ◆ [https://www.slideshare.net/SunTechnlogies/selenium-73088086?qid=7773b6a4-60e1-4b57-8441-38f161a50f9f&v=&b=&from\\_search=7](https://www.slideshare.net/SunTechnlogies/selenium-73088086?qid=7773b6a4-60e1-4b57-8441-38f161a50f9f&v=&b=&from_search=7)

# Test Case

