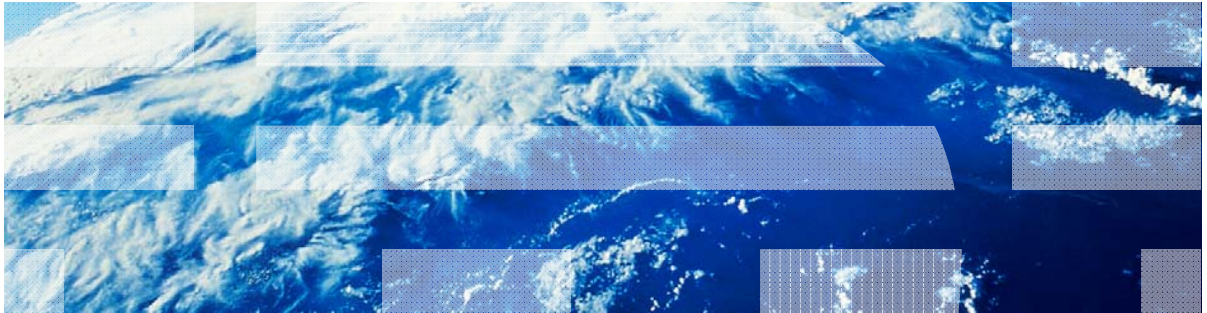


IBM Worklight V6.0.0 Getting Started

Building a multi page application



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Agenda

- Multi-page application basics
- Loading an external HTML file
- Implementing page navigation with history
- Exercise

Multi-page application basics

- IBM Worklight® hybrid application uses a single DOM model.
- Single DOM model means that you must never navigate between various HTML files by using hyperlinks or changing **window.location** property.
- Instead, multi-page interfaces must be implemented by loading external HTML file content, by using Ajax requests and injecting into existing DOM.
- This is because the main application HTML file loads the Worklight client side JavaScript™ framework files, and when the browser navigates from one HTML file to another, the JavaScript context and loaded scripts are lost.
- Most JavaScript UI frameworks (for example, jQuery Mobile, Sencha Touch, Dojo Mobile) available today provide extensive APIs to achieve required multi-page navigation.
- In this module, you learn how to build a multi-page Worklight application by using built-in functionality only.
- Important: You must not use the built-in functionality that is described in this module if you are using JavaScript UI framework. You must use these framework APIs instead.

Multi-page application basics

- Applications with multiple pages can be built in two ways:

Single HTML file that contains all the application pages

Application.html

```
<div id="loginPage">  
  <div id="Page1">  
    <div id="Page2">  
      <div id="Page3">  
        <div id="Page4">  
          <div id="Page5">
```

.....

A separate HTML file for each application page

loginPage.html

Page1.html

Page2.html

Page3.html

Page4.html

Page5.html

Multi page application basics

- A single HTML file is the preferred model for simpler applications
- Developer is responsible for showing the “current” page <div> and hiding the rest
- However, large applications present a challenge:
 - The developer must take full responsibility for which DIVs are shown and which DIVs are hidden at any moment
 - If you want to add some new content to a page, for example a table, you cannot load a prepared template but must generate it manually
 - Single large HTML files with many pages take longer to load
 - It is easy to get lost in a single HTML file that contains multiple pages. Separate files are easier to manage

Multi-page application basics

- Building a rich dynamic application with multiple pages can be easier with dynamic pages loading.
- You can use built-in jQuery APIs to dynamically load, update, and insert DOM elements in your application.
- HTML pages with CSS and JavaScript can be inserted as needed.
- Possible to implement navigation history.
- JavaScript™ code can be run when pages are loaded or unloaded.
- In the following slides, you learn how to implement a simple multi-page navigation interface.

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Loading an external HTML file

- External HTML file is a segment of HTML code that can be injected into any location in the existing DOM.
- A single HTML file can contain a multiple HTML element hierarchy.
- Might include JavaScript by using `<script>` tag
- Might include CSS files by using `<link>` tag
- Injected into parent element, usually `<div>`, but not mandatory
- Implemented by using jQuery **`$.load()`** API

Loading an external HTML file

- To load an HTML file, use the following syntax:


```
$(containerSelector).load(filePath, callbackFunction);
```

- **containerSelector** – jQuery CSS selector of element to host the loaded content
- **filePath** – Relative path to an HTML file. Always relative to main HTML file
- **callbackFunction** - a JavaScript function to run when loading completes

Loading an external HTML file

- Example

```
$("#pagePort").load("pages/MainPage.html", function(){  
    alert("loaded!");  
});
```



```
<div id="AppBody">  
  <!-- This is static header, it will be shown always -->  
  <div id="header">  
    <h1>Pages and Fragments</h1>  
  </div>  
  
  <!-- This is a placeholder for dynamic page content -->  
  <div id="pagePort"></div>  
</div>
```

- This code loads the **MainPage.html** file and inserts its content into the **pagePort** <div> element.
- JavaScript and CSS references from the **MainPage.html** are loaded to DOM.
- alert("loaded!")** is run when the **MainPage.html** load completes.

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Implementing page navigation with history

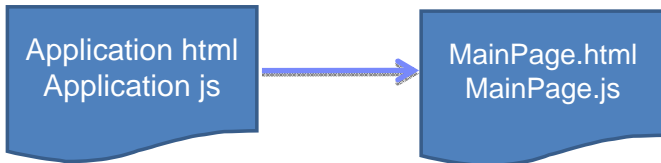
- By using the technique that was described previously, implement a navigation interface with history.



- You must keep the navigation history as a stack in an array object.
- You must also keep a reference to a currently loaded page functionality by using a JavaScript object variable.

```
var pagesHistory = [];  
var currentPage = {};
```

Implementing page navigation with history – step 1

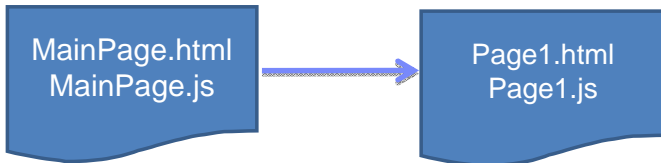


```
$("#pagePort").load("pages/MainPage.html", function(){  
    currentPage.init();  
});
```

```
currentPage = {};  
  
currentPage.init = function(){  
    WL.Logger.debug("MainPage :: init");  
};
```

1. On application start, **MainPage.html** is loaded from the application code and injected into **#pagePort** div
2. **MainPage.js** is loaded as a part of **MainPage.html**
3. **currentPage** object is declared
4. **currentPage.init** function is declared
5. When **MainPage.html** loading completes, **currentPage.init** method is called

Implementing page navigation with history – step 2

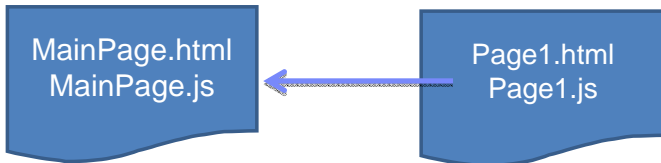


```
currentPage.loadPage = function(pageIndex){  
    WL.Logger.debug("MainPage :: loadPage :: pageIndex: " + pageIndex);  
    pagesHistory.push("pages/MainPage.html");  
    $("#pagePort").load("pages/Page" + pageIndex + ".html", function(){  
        currentPage.init();  
    });  
};
```

```
currentPage={};  
  
currentPage.init = function() {  
    WL.Logger.debug("Page1 :: init");  
};
```

1. **MainPage.html** is pushed into **pagesHistory** stack
2. **Page1.html** is loaded and injected into **#pagePort** div
2. **Page1.js** is loaded as a part of **Page1.html**
3. **currentPage** object is declared (overriding the old one)
4. **currentPage.init** function is declared
5. When **Page1.html** loading completes, a new **currentPage.init** method is called

Implementing page navigation with history – step 3



```

currentPage = {};

currentPage.init = function(){
    WL.Logger.debug("MainPage :: init");
};
  
```

```

currentPage.back = function(){
    WL.Logger.debug("Page1 :: back");
    $("#pagePort").load(pagesHistory.pop(), function(){
        currentPage.init();
    });
};
  
```

3. **MainPage.js** is loaded as a part of **MainPage.html**
4. **currentPage** object is declared (overriding the old one)
5. **currentPage.init** function is declared

1. Previous HTML file name is popped from the **pagesHistory** stack (**MainPage.html**)
2. It is loaded and injected into **#pagePort** div
6. When **MainPage.html** loading completes, **currentPage.init** method is called

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Exercise

- Create a simple application with three pages:
 - Application HTML file must contain only one <div> element as a container for loaded pages
 - **MainPage.html** – A file that is loaded and displayed automatically on application start
 - **MainPage.html** must have two buttons – load page1 and load page2
 - Clicking each button loads the corresponding page
 - Both **Page1.html** and **Page2.html** must include a button that raises a WL.SimpleDialog
 - Both **Page1.html** and **Page2.html** must have a back button
 - **Page1.html** must have a button that dynamically loads and adds an HTML fragment to a predefined placeholder (<div>)
 - **Page2.html** must have a button that loads **Page1.html**

Exercise

The sample for this training module can be found in the Getting Started page of the IBM® Worklight® documentation website at

<http://www.ibm.com/mobile-docs>

The image displays three sequential screenshots of a mobile application interface titled "Multi page app".

- Left Screenshot:** The status bar indicates "Currently **MainPage.html** page is loaded." Below this, it says "Page1.html contains fragments demonstration". At the bottom, there are two buttons: "Load Page1.html" and "Load Page2.html".
- Middle Screenshot:** The status bar indicates "Currently **Page1.html** page is loaded." Below this, there are two buttons: "SimpleDialog from Page1" and "Insert Fragment". At the bottom, there is a "BACK" button.
- Right Screenshot:** The status bar indicates "Currently **Page2.html** page is loaded." Below this, there are two buttons: "SimpleDialog from Page2" and "Load Page1.html". At the bottom, there is a "BACK" button. A white dialog box is overlaid on the screen with the title "Page2", the text "Button on Page2 was clicked", and an "OK" button.

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