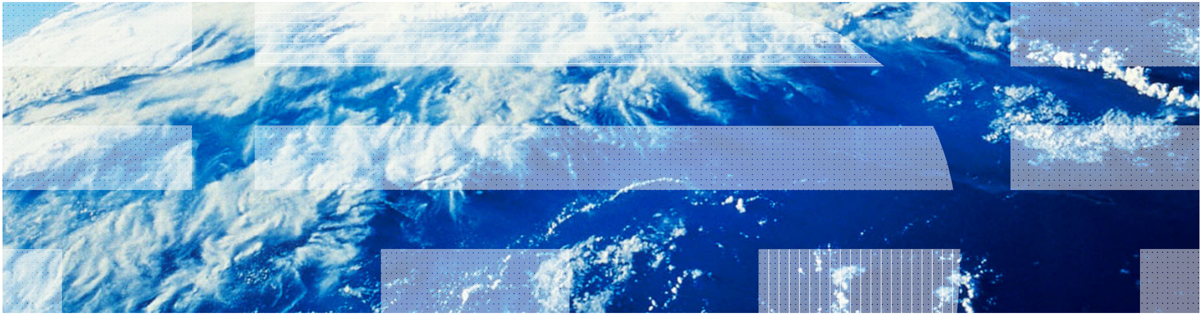
# IBM Worklight V5.0.5
# Getting Started

## Module 7.5 – Building a multi page application



18 January 2013

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# Agenda

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

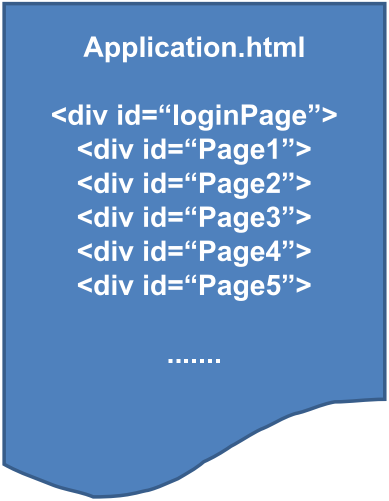
# *Multi page application basics*

- IBM Worklight® hybrid application uses a single DOM model
- Single DOM model means that you should never navigate between various HTML files by using hyperlinks or changing **window.location** property
- Instead, multi page interfaces should be implemented by loading external HTML file content using Ajax requests and injecting it into existing DOM
- This is due to a fact that main application HTML file loads Worklight client side JavaScript framework files and once browser navigates from one HTML file to another the JavaScript context and loaded scripts are lost
- Most JavaScript UI frameworks (e.g jQuery Mobile, Sencha Touch, Dojo Mobile) available today provide an 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 should not use the built-in functionality that is described in this module if you are using JavaScript UI framework. You should use this framework APIs instead.

# *Multi page application basics*

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

Single HTML file containing all application pages

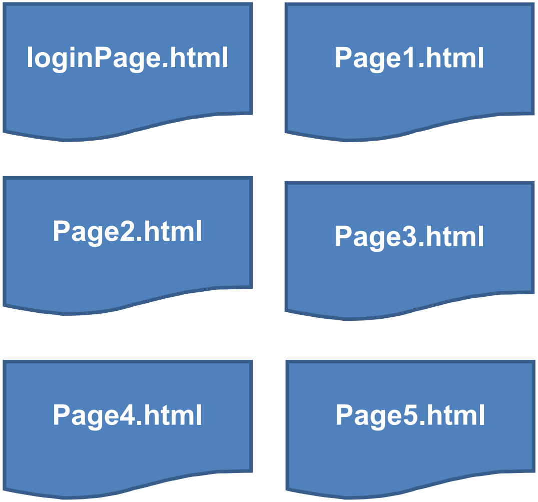


Application.html

```
<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 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 lots of pages take longer to load.
  - It is easy to get lost in a single HTML file containing 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 on the fly.
- Possible to implement navigation history
- JavaScript code can be executed when pages are loaded or unloaded
- In the following slides you will learn and implement a simple multi page navigation interface

# *Agenda*

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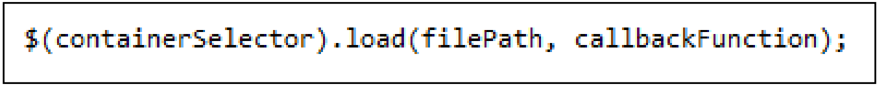
# *Loading an external HTML file*

- 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 multiple HTML element hierarchy
- May include JavaScript by using <script> tag
- May include CSS files by using <link> tag
- Injected into parent element, usually <div>, but not mandatory
- Implemented using jQuery **$().load()** API

# *Loading an external HTML file*

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

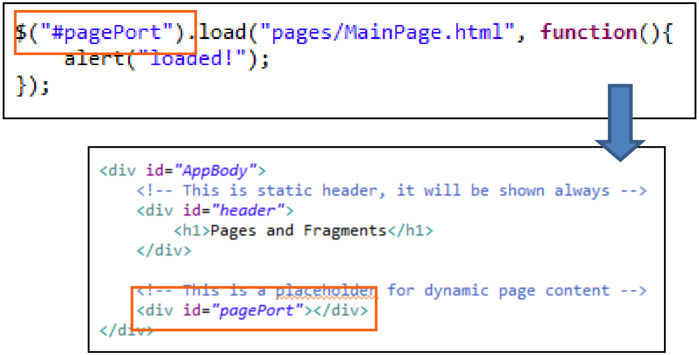


```
$(containerSelector).load(filePath, callbackFunction);
```

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

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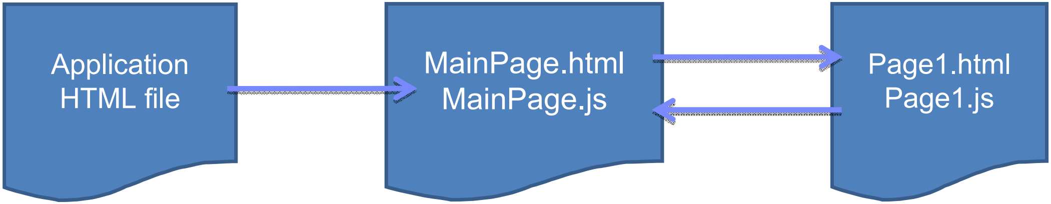
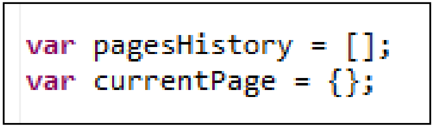
# *Implementing page navigation with history*

- By using the technique described previously, you will implement a navigation interface with history in the following slides.

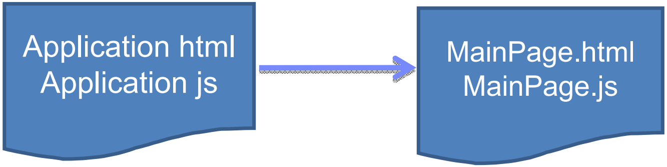


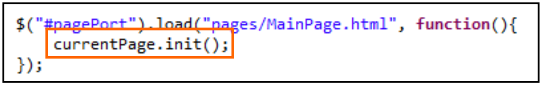
- You will keep the navigation history as a stack in an array object
- You will also keep a reference to a currently loaded page functionality by using a JavaScript object variable



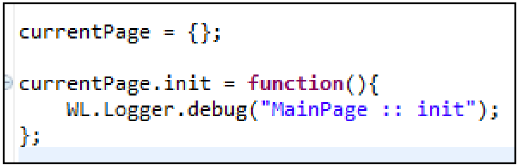
```
var pagesHistory = [];
var currentPage = {};
```

# *Implementing page navigation with history – step 1*





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



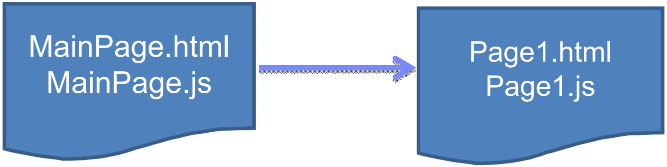
```
currentPage = {};

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

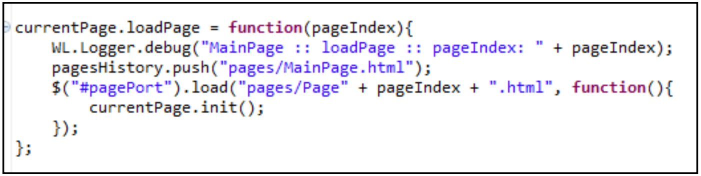
1. On application start **MainPage.html** is loaded from the application code and injected into **#pagePort** div

2. ***MainPage.js*** *is loaded as a part of* ***MainPage.html***
3. ***currentPage*** object is declared
4. ***currentPage.init*** function is declared

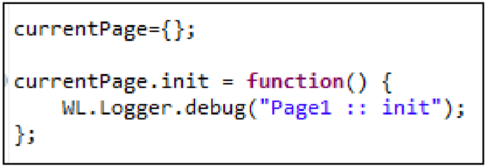
5. When **MainPage.html** loading completes, ***currentPage.init*** method is called

# 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

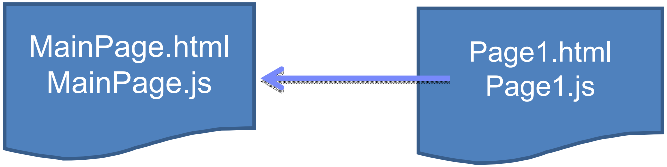
*2.* ***Page1.js*** *is loaded as a part of* ***Page1.html***

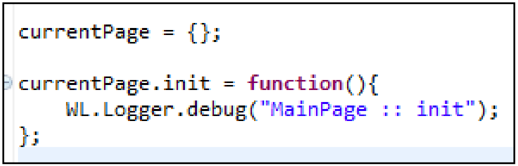
*3.* ***currentPage*** object is declared (overriding the old one)

*4.* ***currentPage.init*** function is declared

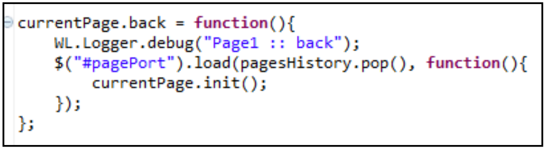
5. When ***Page1.html*** loading completes, a new ***currentPage.init*** method is called

# *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();
    });
};
```

1. *Previous html file name is popped from the **pagesHistory** stack (**MainPage.html**)*
2. It is loaded and injected into **#pagePort** div

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

6. When **MainPage.html** loading completes, ***currentPage.init*** method is called

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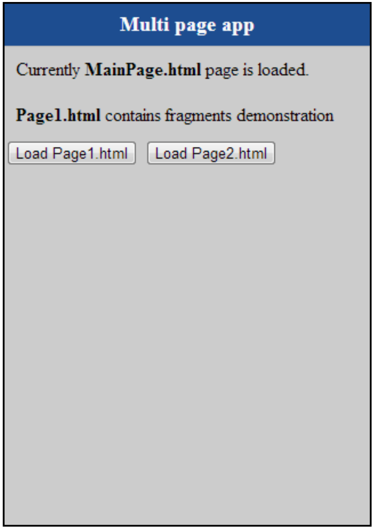
# *Exercise*

- Create a simple application with 3 pages as follows:
  - Application HTML file should contain only one <div> element that will be used as a container for loaded pages
  - **MainPage.html** – A file that will be loaded and displayed automatically on application start
    - **MainPage.html** must have two buttons – load page1 and load page2
    - Clicking on 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**

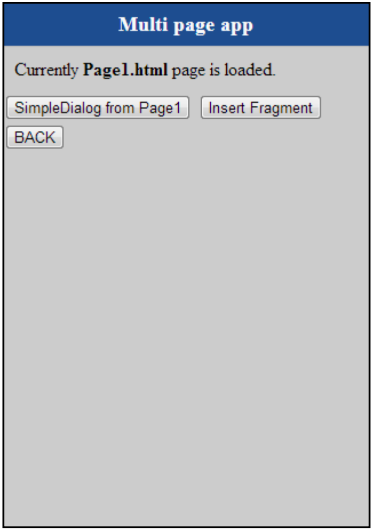
# *Exercise*

- 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

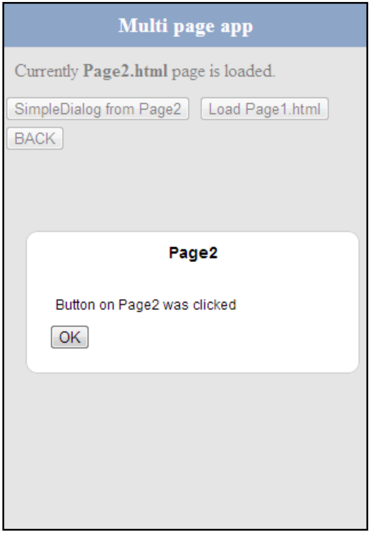


Currently **MainPage.html** page is loaded.

**Page1.html** contains fragments demonstration



Currently **Page1.html** page is loaded.



Currently **Page2.html** page is loaded.

**Page2**

Button on Page2 was clicked

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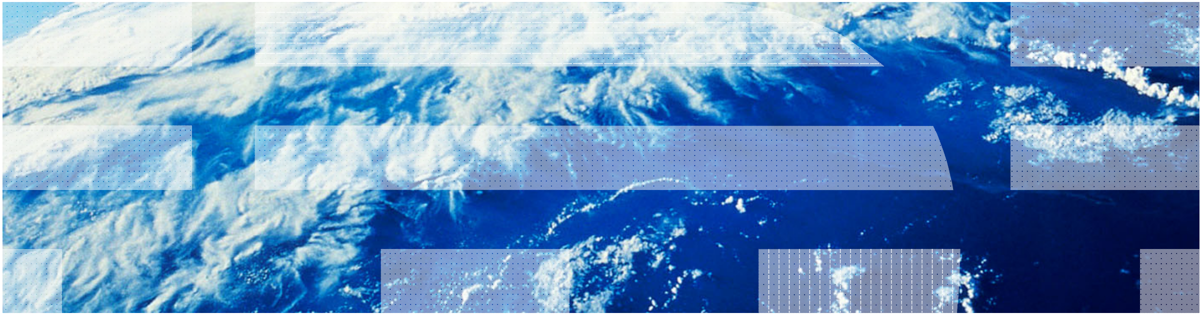

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