Require JS

Introduction

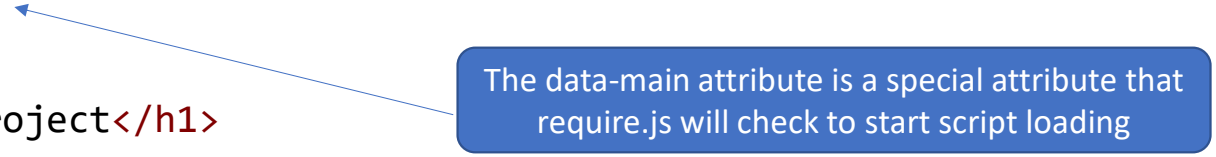
- RequireJS is a JavaScript file and module loader.
- It is optimized for in-browser use, but it can be used in other JavaScript environments as well such as Node
- Using a modular script loader like RequireJS will improve the speed and quality of your code.

Directory Structure

- **project-directory/**
  - **project.html**
  - **scripts/**
    - **main.js**
    - **require.js**
    - **helper/**
      - **util.js**

Including Require JS in HTML

```
<!DOCTYPE html>
<html>
    <head>
        <title>My Sample Project</title>
        <!-- data-main attribute tells require.js to load
             scripts/main.js after require.js loads. -->
        <script data-main="scripts/main" src="scripts/require.js"></script>
    </head>
    <body>
        <h1>My Sample Project</h1>
    </body>
</html>
```



Usage

HTML

```
<script data-main="js/main.js" src="js/require.js"></script>
```

main.js

```
requirejs.config({
    //By default load any module IDs from js/lib
    baseUrl: 'scripts',
    paths: {
        app: '../helper'
    }
});

// Start the main app logic.
requirejs(['jquery', 'canvas', '.app/sub'],
function   ($,        canvas,   sub) {
    //jQuery, canvas and the app/sub module are all
    //loaded and can be used here now.
});
```

Usage

```
require.config({
    paths: {
        foo: 'libs/foo-1.1.3'
    }
});

<script src="scripts/require.js"></script>
<script>
    require(['scripts/config'], function() {
        // Configuration loaded now, safe to do other require calls
        // that depend on that config.
        require(['foo'], function(foo) {

        });
    });
</script>
```

Define Blocks

- A module is different from a traditional script file in that it defines a well-scoped object that avoids polluting the global namespace.
- It can explicitly list its dependencies and get a handle on those dependencies
- If the module does not have any dependencies, and it is just a collection of name/value pairs

```
define({
    color: "black",
    size: "unisize"
});
```

Dependency Management using Define

```
//my/main.js now has some dependencies, a cart and inventory
//module in the same directory as main.js
define(["./cart", "./inventory"], function(cart, inventory) {
    //return an object to define the "my/shirt" module.
    return {
        color: "blue",
        size: "large",
        addToCart: function() {
            inventory.decrement(this);
            cart.add(this);
        }
    }
}
);
```

Define Module as a Function

- Modules do not have to return objects.
- Any valid return value from a function is allowed.

```
define(["my/cart", "my/inventory"],
    function(cart, inventory) {
        //return a function to define "foo/title".
        //It gets or sets the window title.
        return function(title) {
            return title ? (window.title = title) :
                   inventory.storeName + ' ' + cart.name;
        }
    }
);
```

Loading jQuery

```
require(['jquery'], function($) {
    //code here
    var text = $(“div”).text();
 }
```

require() vs define()

- The require() function is used to run immediate functionalities, while define() is used to define modules for use in multiple locations.

Installation

- Two options
  - npm install requirejs
  - Download: https://requirejs.org/