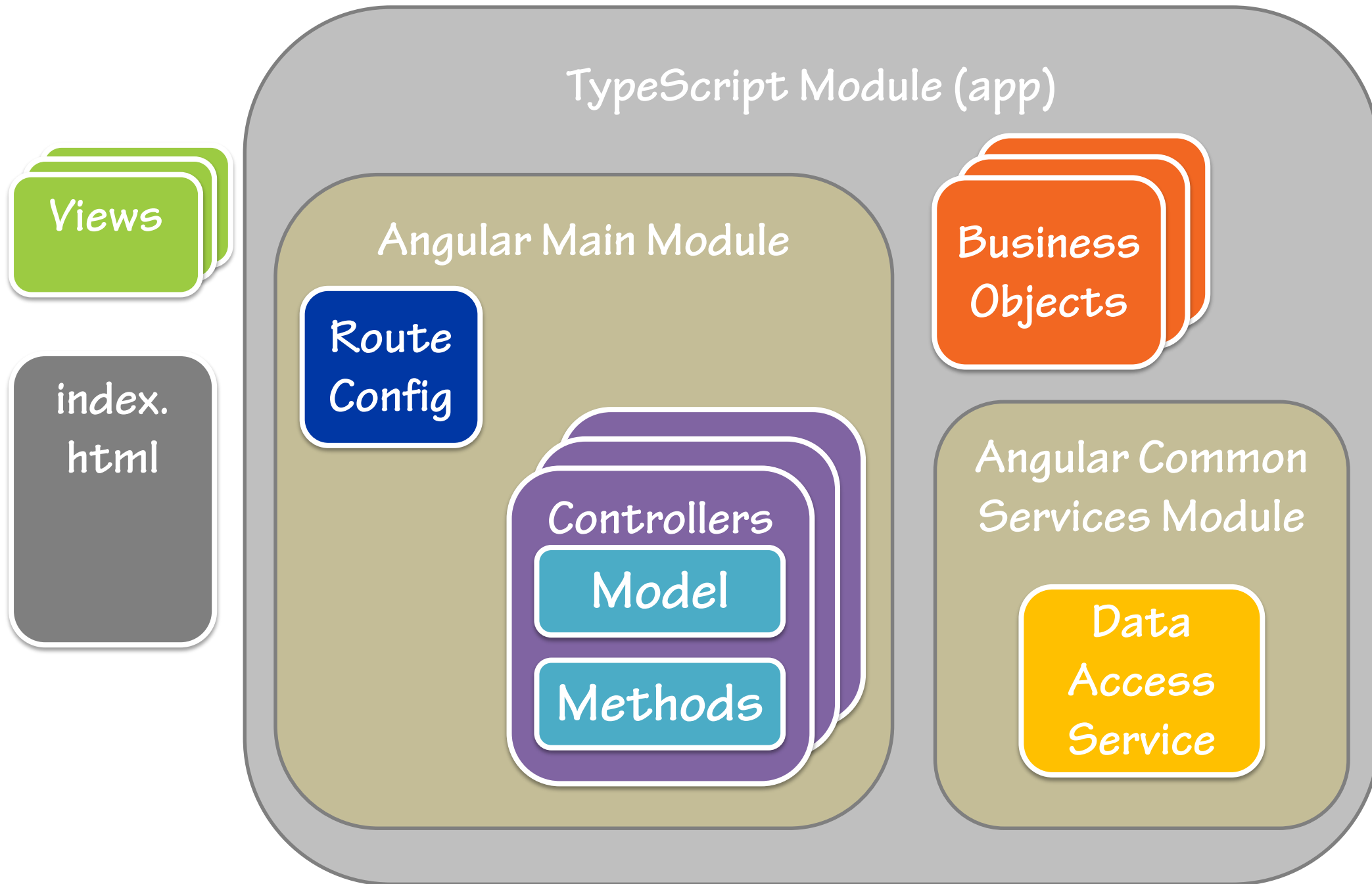


Angular Modules and Controllers



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productListView.html

```
<div ng-controller=  
    "ProductListCtrl as vm">  
    ...  
</div>
```

index.html

```
<body ng-app=  
    "productManagement">  
  
    <ng-include=  
        "'productListView.html'">  
  
</body>
```

app.ts
(productManagement)

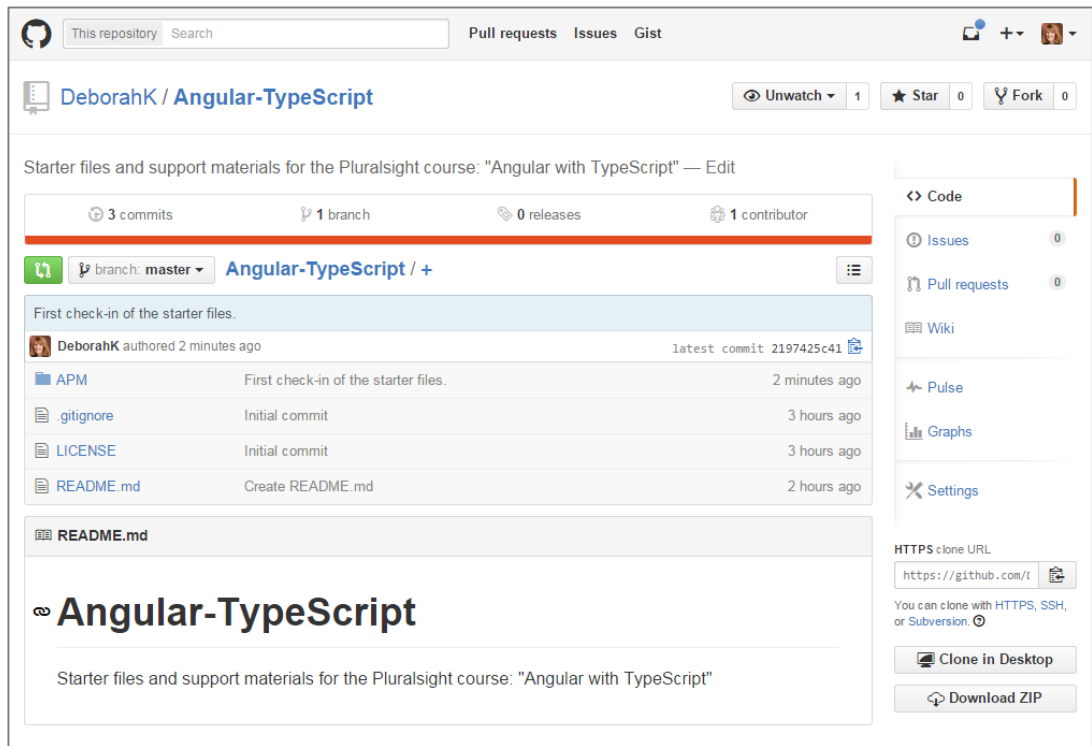
productListCtrl.ts

Model

Methods

Coding Along

- Set up the development environment
- Download the starter files
 - <https://github.com/DeborahK/Angular-TypeScript>



Module Objectives

Create an Angular Module

- Similar to JavaScript

Create an Angular Controller

- Defining an Interface for the Model
- Building a Controller Class
- Registering the Controller

Sample Application

productListView.html

```
<div ng-controller=  
    "ProductListCtrl as vm">  
    ...  
</div>
```

index.html

```
<body ng-app=  
    "productManagement">  
    <ng-include=  
        "'productListView.html'">  
</body>
```

app.ts
(productManagement)

productListCtrl.ts

Model

Methods

Angular Modules

- One main module
- Separate module(s) for common code
- Separate module(s) for related functionality
- Each controller and service is registered with a module

Creating a Module

```
angular.module("productManagement",  
    []);
```


Angular Controller



The diagram consists of two adjacent rectangular boxes. The left box is orange and contains the word 'Model' in white text. The right box is green and contains the word 'Methods' in white text.

Model

Methods

Creating an Angular Controller in JavaScript

```
angular
  .module("productManagement")
  .controller("ProductListCtrl",
    ["productResource",
     ProductListCtrl]);

function ProductListCtrl(productResource) {
  var vm = this;
  vm.title = "Product List";
  vm.showImage = false;
  vm.toggleImage = function() {
    vm.showImage = !vm.showImage;
  }
  productResource.query(function(data) {
    vm.products = data;
  });
}
```

Creating an Angular Controller in TypeScript

- Interface for our intent
- Class for the controller
 - Properties
 - Methods for the actions
 - Constructor function
- Registration with an Angular module

Interface for Our Intent

Angular Controller (JavaScript)

```
angular
  .module("productManagement")
  .controller("ProductListCtrl",
    ["productResource",
     ProductListCtrl]);

function ProductListCtrl(productResource) {
  var vm = this;
  vm.title = "Product List";
  vm.showImage = false;
  vm.toggleImage = function() {
    vm.showImage = !vm.showImage;
  }
  productResource.query(function(data) {
    vm.products = data;
  });
}
```

Class for the Controller

Angular Controller (JavaScript)

```
angular
  .module("productManagement")
  .controller("ProductListCtrl",
    ["productResource",
     ProductListCtrl]);

function ProductListCtrl(productResource) {
  var vm = this;
  vm.title = "Product List";
  vm.showImage = false;
  vm.toggleImage = function() {
    vm.showImage = !vm.showImage;
  }
  productResource.query(function(data) {
    vm.products = data;
  });
}
```

Registration with an Angular Module

Angular Controller (JavaScript)

```
angular
  .module("productManagement")
  .controller("ProductListCtrl",
    ["productResource",
     ProductListCtrl]);

function ProductListCtrl(productResource) {
  var vm = this;
  vm.title = "Product List";
  vm.showImage = false;
  vm.toggleImage = function() {
    vm.showImage = !vm.showImage;
  }
  productResource.query(function(data) {
    vm.products = data;
  });
}
```

Implementing Methods

Angular Controller (JavaScript)

```
angular
  .module("productManagement")
  .controller("ProductListCtrl",
    ["productResource",
     ProductListCtrl]);

function ProductListCtrl(productResource) {
  var vm = this;
  vm.title = "Product List";
  vm.showImage = false;
  vm.toggleImage = function() {
    vm.showImage = !vm.showImage;
  }
  productResource.query(function(data) {
    vm.products = data;
  });
}
```

Angular Modules and Controllers

Angular Module

TypeScript

```
angular.module("productManagement",  
               []);
```

Hand-Written JavaScript

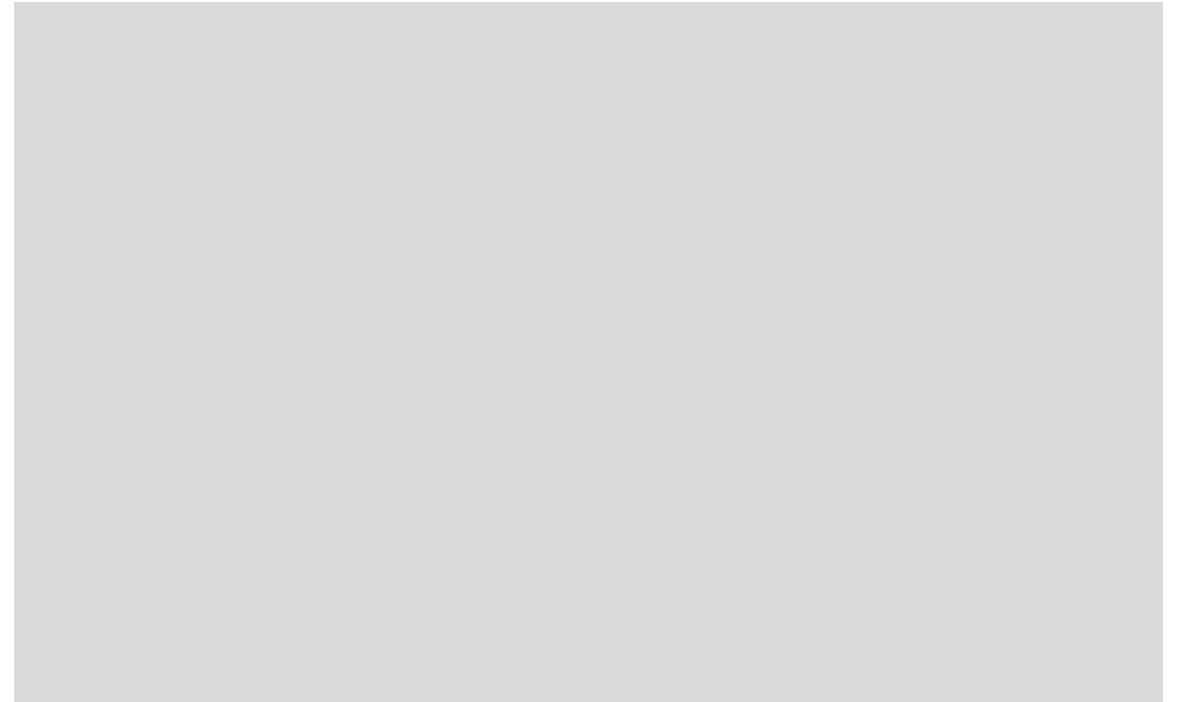
```
angular.module("productManagement",  
               []);
```

Angular Controller

TypeScript

```
interface IProductListModel {  
    title: string;  
    showImage: Boolean;  
    products: any[];  
    toggleImage(): void;  
}
```

Hand-Written JavaScript



Angular Controller

TypeScript

```
class ProductListCtrl
    implements IProductListModel {
    constructor() {
    }
}
```

Hand-Written JavaScript

```
function ProductListCtrl () {
}
```

Angular Controller

TypeScript

```
class ProductListCtrl
    implements IProductListModel {
    constructor(pResource) {
    }
}
```

Hand-Written JavaScript

```
function ProductListCtrl (pResource) {
}
```


Controller Registration

TypeScript

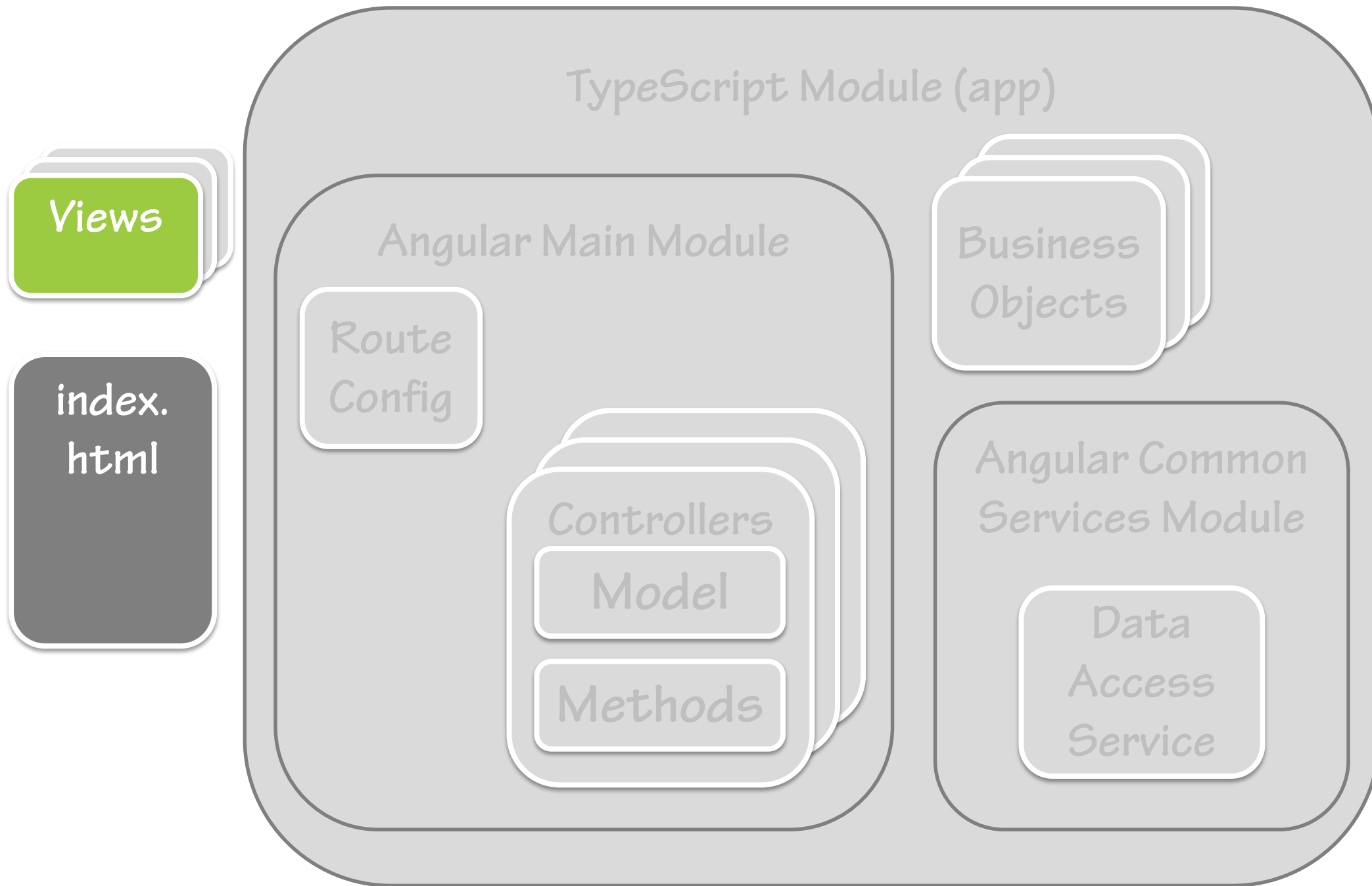
```
class ProductListCtrl
    implements IProductListModel {
    constructor(pResource) {
    }
}
```

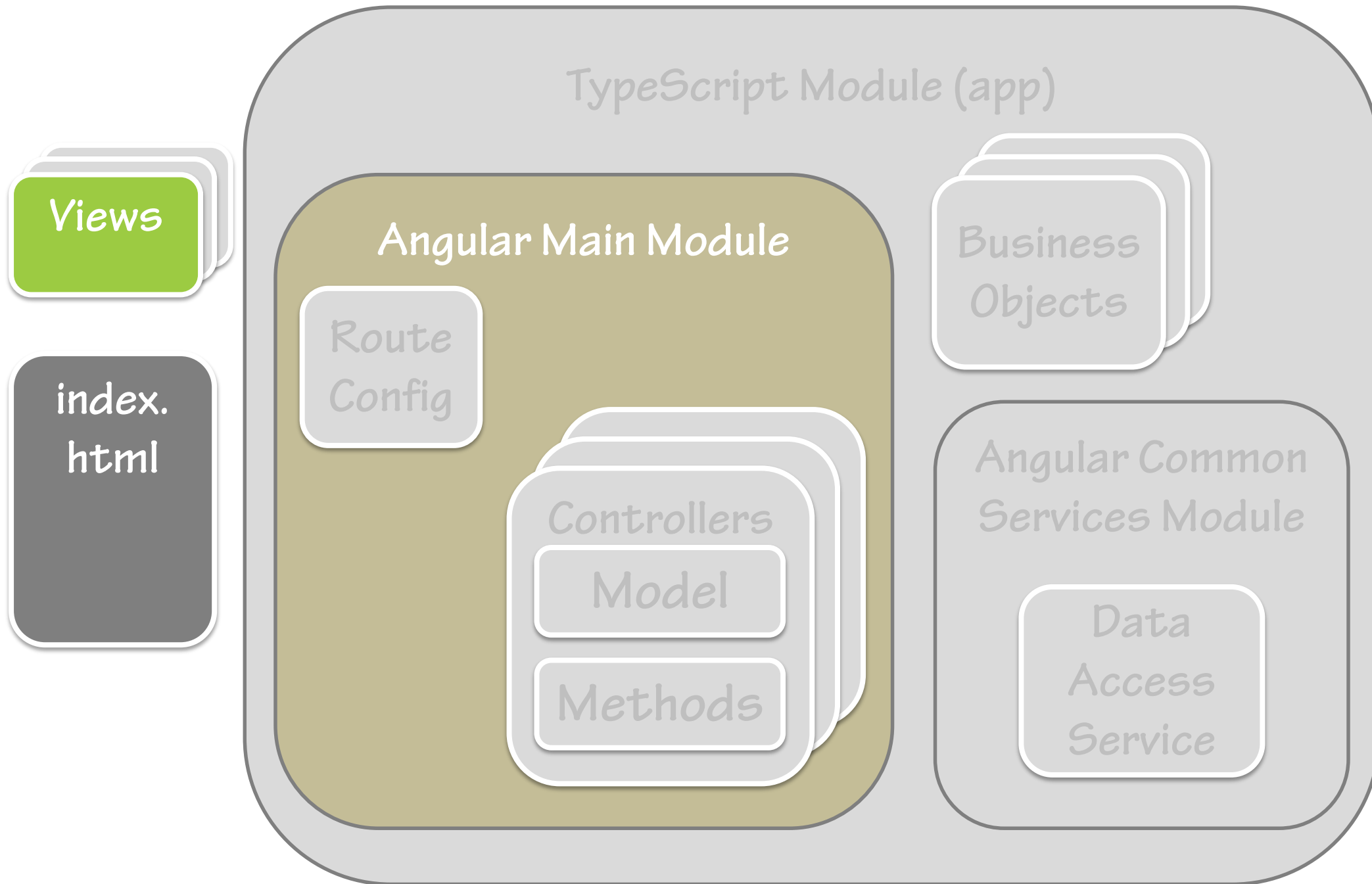
```
angular
    .module("productManagement")
    .controller("ProductListCtrl",
        ProductListCtrl);
```

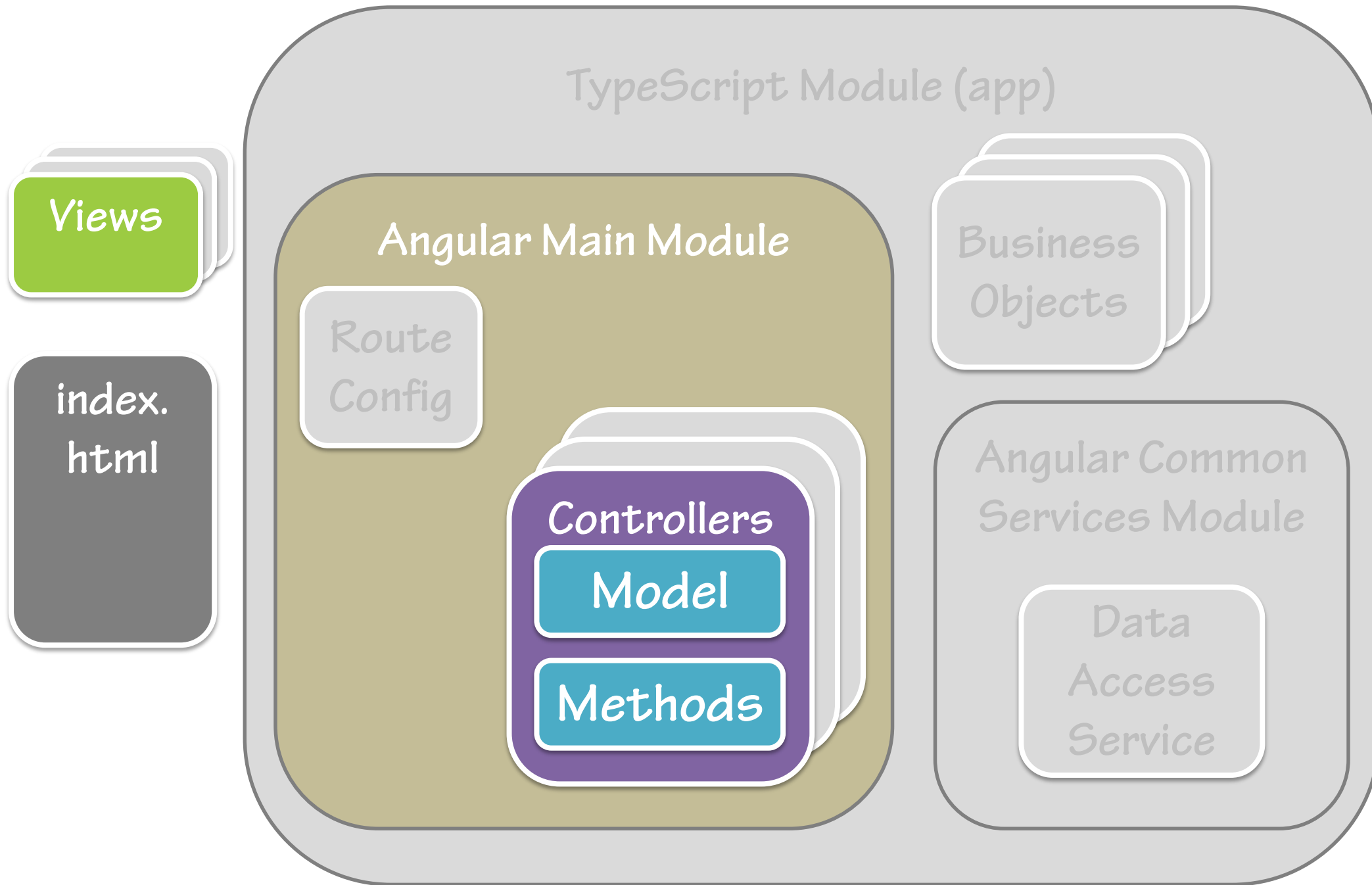
Hand-Written JavaScript

```
angular
    .module("productManagement")
    .controller("ProductListCtrl",
        ProductListCtrl);

function ProductListCtrl(pResource) {
}
```







IIFE

TypeScript

```
class ProductListCtrl
    implements IProductListModel {
    constructor(pResource) {
    }
}

angular
    .module("productManagement")
    .controller("ProductListCtrl",
        ProductListCtrl);
```

Hand-Written JavaScript

```
(function () {
    angular
        .module("productManagement")
        .controller("ProductListCtrl",
            ProductListCtrl);

    function ProductListCtrl(pResource) {
    }
})();
```