

Intro to AngularJS

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Resources

- [AngularJS Documentation](#)
- [AngularJS API Reference](#)
- [W3Schools AngularJS Tutorial](#)
- [TutorialsPoint AngularJS Tutorial](#)



Style

- We use the [JohnPapa Angular 1 style guide](#) to structure our code.
- Familiarize yourself with this guide. You must follow the guide when writing any Angular code.
- This structure allows files to be minified, and creates a clear and expressive structure that is easy for others to understand.



Basics

Modules

[Modules: W3Schools](#)

- A **module** is used to define an application. It's the starting point to which we connect everything else.

```
var app = angular.module("myApp", ['onsen',  
  'firebase']);
```

```
<div ng-app="myApp">  
  ...  
</div>
```

- You must add a dependency array (even if it's empty: []) to instantiate the module.
- For our purposes, you only need to worry about declaring one module.
- The module in Opal is called "MUHCAApp".

Views / Templates

[Templates: Developer Guide](#)

- **Views** are "pages" that get swapped out in a one-page AngularJS application (creating the illusion of a multi-page app) to be shown to the user.
 - You may also see these referred to as **templates**. A template refers to the static HTML that is loaded into a view.

```
<div ng-controller="CustomerController as vm">
  {{ vm.name }}
</div>
```



Controllers

[Controllers: W3Schools](#)

- Each view (HTML) is linked in a 1-to-1 relationship to a **controller** (JavaScript) which controls the values of its variables.

```
angular
  .module('myApp')
  .controller('CustomerController', CustomerController);

function CustomerController() {
  var vm = this;
  vm.name = "MyName";
}
```

- We use `vm` (picked by the style guide) instead of `this` because `this` changes reference based on context.

Services

[Creating Services: Developer Guide](#)

- Controllers should be short, containing only the minimum logic used to display the required information in their view.
- All other logic should go in a **service**.
- Services are used to store data or provide functions relating to a specific purpose.

```
angular
  .module('myApp')
  .factory('Logger', Logger);

function Logger() {
  return {
    logError: function(msg) {
      ...
    }
  };
}
```

Note: though there exists a `.service` function, our style guide recommends using `.factory`. For our purposes, factories and services are interchangeable (they are both instantiated once per application).



Other Useful Features

Directives

- Most programming languages offer ways to make *reuse* (of code, components, etc.) easier.
- A **directive** is a reusable component with HTML (a template) and behavior.
- Custom directives can be used to make components that may need to be reused elsewhere in the code.
- For example: search bars, loading wheels, etc.

```
angular
  .module('myApp')
  .directive('searchBar', SearchBar);

function SearchBar() {
  return {
    restrict: 'E',
    scope: {
      "searchText": "=",
      "placeholder": "@",
      "styleClass": "=",
    },
    replace: false,
    transclude: false,
    template:
      `<div class="...">
        ...
      </div>`
  }
}
```

Filters

[Filters: Developer Guide](#)

- **Filters** are used to format data.
- They can be used in HTML files, or in JS files.
- Filters are used most often in Opal to order data, format dates, and translate strings.

In HTML Template Binding

```
{{ filter_expression | filter : expression : comparator : anyPropertyKey }}
```

In JavaScript

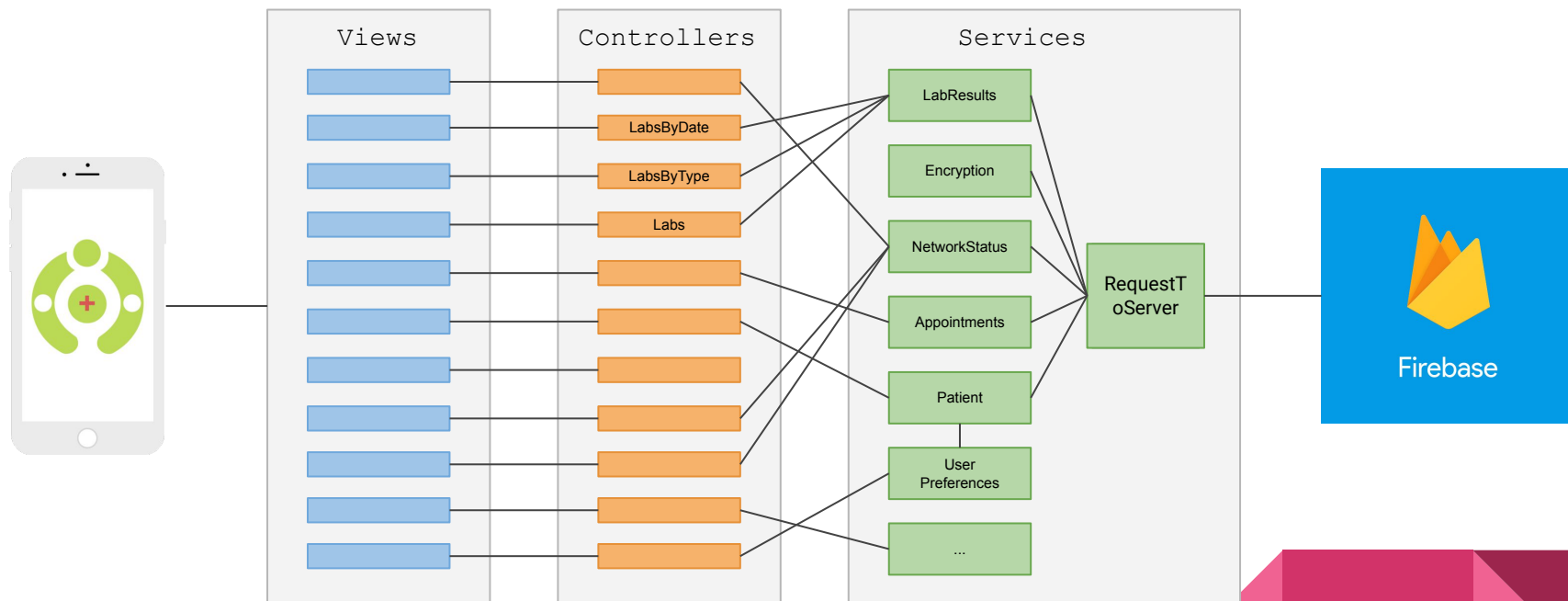
```
$filter('filter')(array, expression, comparator, anyPropertyKey)
```

[from API Reference](#)



Putting it All Together

In Opal



Service (announcementsService.js)

```
(function () {
  'use strict';

  angular
    .module('MUHCApp')
    .factory('Announcements', Announcements);

  Announcements.$inject = ['RequestToServer'];

  /* @ngInject */
  function Announcements(RequestToServer) {

    let announcements = [];

    return {
      fetchAnnouncements: fetchAnnouncements,
      getAnnouncements: getAnnouncements,
      ...
    };

    function fetchAnnouncements() {
      // Call RequestToServer
    }

    function getAnnouncements() {
      return announcements;
    }
    ...
  }
})();
```

Controller (announcementController.js)

```
(function () {
  'use strict';

  angular
    .module('MUHCApp')
    .controller('AnnouncementController', AnnouncementController);

  AnnouncementController.$inject = ['Announcements'];

  /* @ngInject */
  function AnnouncementController(Announcements) {

    let vm = this;
    vm.announcement = '';

    activate();

    function activate() {
      // Get parameters
      vm.announcement = Announcements.getAnnouncement(parameters.Post);
    }
  }
})();
```

Note: this code was simplified to serve as an example and isn't the same in Opal. For example, AnnouncementController is called IndividualAnnouncementController in the app.

View (individual-announcement.html)

```
<ons-page ng-controller=" AnnouncementController  as vm">
  <ons-toolbar fixed-style>
    <div class="left"><ons-back-button> {{ "BACK" | translate }} </ons-back-button></div>
    <div class="center">{{ vm.announcement.Name }} </div>
  </ons-toolbar>
  <div>
    <ons-list>
      <ons-list-item>
        <header>
          {{ vm.announcement .Title }}
        </header>
        <p>
          {{ vm.announcement .DateAdded | date: 'medium' }}
        </p>
      </ons-list-item>
      <ons-list-item>
        <div ng-bind-html=" vm.announcement .Body " style="word-wrap: break-word ;"></div>
      </ons-list-item>
    </ons-list>
  </div>
</ons-page>
```

Note: this HTML code was simplified to serve as an example and is missing some tags such as style tags.

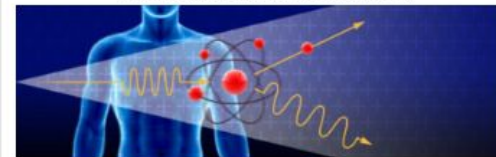
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International Day of Medical Physics

Nov 7, 2018 11:33 AM

The Medical Physics Unit will host an International Day of Medical Physics celebration in the RBC Conference room of the Cedars Cancer Centre at 2 pm on Thursday November 8th. Everyone welcome. Come meet the team that developed the Opal app!

McGill University Medical Physics Unit



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General



Education



Account



Demo