APPMOB - AngularJS Scopes

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What is a Scope?

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The **scope** is the glue between application controller and the view.

Every time you use a directive like **ng-app**, **ng-controller** or **ng-repeat**, a new scope is created.

```
<div ng-controller="GreetCtrl">
  Hello {{ name }}!
</div>
```

```
.controller("GreetCtrl", function($scope) {
  $scope.name = "World";
}])
```

This first scope is **limited** to this **div** tag.

```
<div ng-controller="ListCtrl">
  <ol>
    <li ng-repeat="name in names">
      {{ name }}
    </li>
  </ol>
</div>
```

```
.controller("ListCtrl", function($scope) {
  $scope.names = ["Igor", "Misko", "Vojta"];
})
```

With this **ng-repeat**, Angular will automatically create 3 new scopes, **one for each line**. Each of these scopes will have the **name** property set to the next name in the list.

Scope Hierarchy

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Scopes form a hierarchy. Each new scope is added as a **child scope** of their **parent scope**.

```
<!DOCTYPE html>
▼<html ng-app class="ng-scope">                                          $scope
  ▶<head>…</head>
  ▼<body>
    ▼<div>
      <div ng-controller="GreetCtrl" class="ng-scope ng-binding">        $scope
          Hello World!                                                   name='Wold'
      </div>
      ▼<div ng-controller="ListCtrl" class="ng-scope">                   $scope
        ▼<ol>                                                            names=[...]
          <!-- ngRepeat: name in names -->
          <li ng-repeat="name in names" class="ng-scope ng-binding">     $scope
            Igor                                                         name='Igor'
          </li>
          <li ng-repeat="name in names" class="ng-scope ng-binding">     $scope
            Misko                                                        name='Misko'
          </li>
          <li ng-repeat="name in names" class="ng-scope ng-binding">     $scope
            Vojta                                                        name='Vojta'
          </li>
        </ol>
      </div>
    </div>
  </body>
</html>
```

Scope Prototypal Inheritance

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Child scopes prototypically inherit from their parent scope.

The **ng-app** directive creates the special **$rootScope**, the top-level scope of your whole application.

```
<html ng-app="scope-demo">
  <head>…</head>
  <body>
    <div ng-controller="GreetCtrl">
      Hello {{ name }}!
    </div>
```

```
angular.module("scope-demo", [])
.controller("GreetCtrl", function($scope, $rootScope) {
  $scope.name = "World";
  $rootScope.department = "Angular";
})
```

You can inject the **$rootScope** in any controller or service.

Anything you add on the **$rootScope** is available on all scopes.

```
    <div ng-controller="ListCtrl">
      <ol>
        <li ng-repeat="name in names">
          {{ name }} from {{ department }}
        </li>
      </ol>
    </div>
  </body>
</html>
```

```
.controller("ListCtrl", function($log, $scope) {
  $scope.names = ["Igor", "Misko", "Vojta"];
  $log.debug($scope.department); // "Angular"
});
```

The **department** property was not defined on the **ng-repeat scope**. It is available because it is **prototypically inherited** through the scope created by **ListCtrl** and the **$rootScope**.

Scope Events

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Scopes can propagate **events** in similar fashion to DOM events. Events can be **broadcasted to the scope children** or **emitted to scope parents**.

```
.controller("AnyCtrl", function($scope) {

  // Emit an event to all parent scopes.
  $scope.$emit("somethingHappened", { data: "foo" });

  // Broadcast an event to all child scopes.
  $scope.$broadcast("somethingElseHappened", 1, 2, 3);

  // Listen for an event.
  $scope.$on("eventName", function(event, arg1, arg2) {
    // The callback function will be called with an event object
    // and the arguments passed to $emit or $broadcast.
  });
}])
```

http://codepen.io/AlphaHydrae/pen/emQPzY/

More Information

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https://docs.angularjs.org/guide/scope/

https://github.com/angular/angular.js/wiki/Understanding-Scopes/