

Three small squares in purple, grey, and green are positioned in the top left corner of the slide.

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A cluster of four squares in white, grey, green, and blue is located in the bottom right corner of the slide.

Using \$http For Ajax Request

May 2015

Agenda

- **Different Ways to send Ajax Request**
- The \$http Service
- The \$http Example & Promise Object
- Using \$http as Function
- \$http – Setting Http Headers at Global Level
- \$http & JSONP – Cross Domain Access

Different Ways to send Ajax Request

- In AngularJS you can send AJAX requests in several different ways:
 - AJAX calls via the \$http service.
 - JSONP calls via the \$http service.
 - REST type calls.

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The \$http Service (1/4)

- The \$http service is the easiest way to send AJAX calls to your web server.
- It internally uses browser's [XMLHttpRequest](#) object or [JSONP](#).

- // Simple GET request example :

```
$http.get('/someUrl').  
success(function(data, status, headers, config) {  
  // this callback will be called asynchronously  
  // when the response is available }).  
error(function(data, status, headers, config) {  
  // called asynchronously if an error occurs  
  // or server returns response with an error status.  
});
```

- // Simple POST request example :

```
$http.post('/someUrl', {msg:'hello word!'}).  
success(function(data, status, headers, config) {  
  // this callback will be called asynchronously  
  // when the response is available }).  
error(function(data, status, headers, config) {  
  // called asynchronously if an error occurs  
  // or server returns response with an error status. });
```

The \$http Service (2/4)

- If the AJAX call succeeds (the server sends back an HTTP code between 200 and 209), the function passed to the success() function is executed.
- If the AJAX call fails (all other codes except for redirects), the function passed to the error() method is executed.

The \$http Service (3/4)

- \$http success and error callback functions take four parameters:
 - data
 - status
 - headers
 - config
- data - It is the JSON object returned by the server. The \$http service assumes that your server sends back JSON.
- status - It is the HTTP status code returned by the server along with the response.
- headers - It is a function that can be used to obtain any HTTP response headers returned along with the response.
- You get a header by calling headers([headerName]);.
- config - It is the configuration object that was passed as parameter to the \$http ajax function call

The \$http Service (4/4)

- The \$http service has following functions that can be used to send AJAX requests:
 - \$http.get(url, config)
 - \$http.post(url, data, config)
 - \$http.put(url, data, config)
 - \$http.delete(url, config)
 - \$http.head(url, config)

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\$http Example & Promise Object

- The \$http.get() function returns a "promise" object.
- A promise represents the eventual result of an operation.

```
var promise = $http.get("/angularjs-examples/json-test-data.jsp");  
    promise.success(function(data, status, headers, config)  
        { console.log(data.title); });  
    promise.error(function(data, status, headers,  
        config) { alert("AJAX failed!"); }); } );
```
- The promise object has a success() and an error() callback function - It is used to specify what to do when an operation eventually succeeds or fails.

Real World Ajax example:

- http://ctgit/silviap/angularjsdemosandlabs/blob/master/Day5/day5_Demo/1_RealWorld_Ajax_example/index.html

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Using \$http as Function (1/2)

- You can also use the \$http service as a function directly:
 - `var promise = $http(config);`
- The config parameter passed to the \$http function controls the HTTP request sent to the server.
- The config parameter is a JavaScript object which can contain the following properties:
 - Method, url, params, headers, timeout, cache, transformRequest, transformResponse
 - Promise can also use 'then' method to register call-backs that receive response object as an argument

Using \$http as Function (2/2)

```
// To remove the friend with the given ID from the remote collection.
function removeFriend(id) {
  // var request is a 'promise' object returned by $http
  var request = $http({ method: "delete", url: "api/index.cfm",
                        params: { action: "delete"},
                        data: {id: id}  });

  //see the 'then' method used to register the call-backs.
  return( request.then( handleSuccess, handleError ) );
}

function handleSuccess( response ) {
  return( response.data );
}

function handleError ( response ) {
  console.log( response.data.message);
}
```

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\$http – Setting Http Headers at Global Level (1/2)

- The \$http service will automatically add certain HTTP headers to all requests.
- Following is the default configuration for \$httpProvider.defaults.headers configuration object.
 - \$httpProvider.defaults.headers.common - headers that are common for all requests
 - Accept: application/json, text/plain, * / *
 - \$httpProvider.defaults.headers.post - header defaults for POST requests
 - Content-Type: application/json
 - \$httpProvider.defaults.headers.put - header defaults for PUT requests
 - Content-Type: application/json

\$http – Setting Http Headers at Global Level (2/2)

- To add or overwrite these defaults for all http messages, simply add or remove a property from these configuration objects as follows:

```
module.config(function ($httpProvider)
{
  $httpProvider.defaults.headers.post['Accept'] = 'application/json, text/javascript';
  $httpProvider.defaults.headers.post['Content-Type'] = 'application/json; charset=utf-8';
});
```
- The defaults can also be set at runtime via the \$http.defaults object in the same fashion. For example:

```
module.run(function($http)
{
  $http.defaults.headers.common.Authorization = 'Basic YmVlcDpib29w' });
```


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\$http & JSONP – Cross Domain Access

- Angular's \$http service is also capable of sending JSONP requests.
- We can make cross-domain Ajax calls using JSONP
- JSONP calls can be made via the \$http service like this:
 - `$http.jsonp(url, config);`
- ```
var url = http://jenkov.com/theService.json?callback=JSON_CALLBACK";
var resPromise = $http.jsonp(url, { params : { p1 : "v1" ,
p2 : "v2" }
});
resPromise.success(function(data)
{ // do something with the returned JavaScript object
// (in the "data" parameter). });
```
- The JSON\_CALLBACK function must be present in your HTML page already. Inside this function you process the response sent back from the service.

# Using \$http for Ajax Request - Finding your way (1/2)

## Technical Questions:

1. Give the scenario where deferred promise object can be used?
2. What is the use of \$resource?

**As you start to work with AngularJS - using \$http for Ajax request, you will frequently encounter technical issues which are not covered by this training.**

**How will you resolve these technical issues on AngularJS - Using \$http for Ajax request?**

# Using \$http for Ajax Request - Finding your way (2/2)

| Resources                                                                                                                                                                                                     | Remarks                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="http://tutorials.jenkov.com/angularjs/ajax.html">http://tutorials.jenkov.com/angularjs/ajax.html</a>                                                                                                 | Good blog post on \$http                                                                                                                                          |
| <a href="https://docs.angularjs.org/api/ng/service/\$http">https://docs.angularjs.org/api/ng/service/\$http</a>                                                                                               | AngularJS official doc on \$http                                                                                                                                  |
| <a href="http://www.bennadel.com/blog/2612-using-the-http-service-in-angularjs-to-make-ajax-requests.htm">http://www.bennadel.com/blog/2612-using-the-http-service-in-angularjs-to-make-ajax-requests.htm</a> | Good blog, example on \$http                                                                                                                                      |
| <a href="http://www.bennadel.com/?site-photo=557">http://www.bennadel.com/?site-photo=557</a>                                                                                                                 |                                                                                                                                                                   |
| CurioCT - <a href="https://interct/SitePages/CurioCT.aspx">https://interct/SitePages/CurioCT.aspx</a>                                                                                                         |                                                                                                                                                                   |
| CTCourses – Using \$http for Ajax Request                                                                                                                                                                     | In addition to updated course material, CTCourse contains reference sites (Library) and list of project teams with expertise on 'Using \$http using Ajax Request' |

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- In case of any questions please log on to <https://interct/SitePages/CurioCT.aspx>

# Thank You