Criando aplicações usando AngularJS e Firebase





Objetivos





- Visão geral (Muita abstração)
- Foco nas partes mais interessantes
 - Real time database
 - Authentication
 - Storage
- Template no github
 - SPA
 - Setup de conexão com o firebase app

About















- Graduando em Ciência da Computação pela UFAL
- Laboratório de computação móvel e pervasiva IC/UFAL
- Tribunal de Contas do estado de Alagoas
- BlackBerry Tech Center
- Justiça Federal em Alagoas
 - QuantoGastei 🛕 👜 cordova
- Stebam (A) > Firebase

Stack













AngularJS - Versões







AngularJS - Requisitos





Camada de

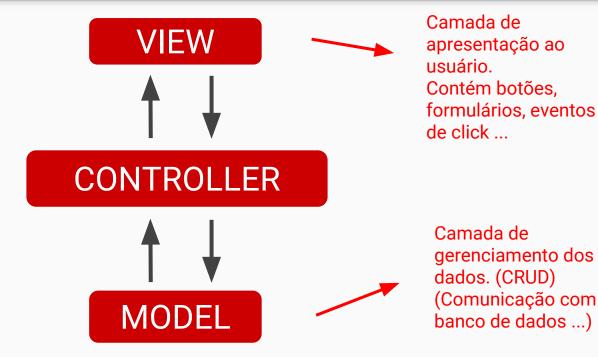
dados. (CRUD)

gerenciamento dos

(Comunicação com o

banco de dados ...)

AngularJS - Requisitos





AngularJS

- Base para um app
 - Ferramentas
- Define um padrão arquitetural
 - Desenvolvimento em paralelo
 - Manutenção
- Ensina novos truques ao HTML
 - Comportamentos
 - Componentes











Comunidade é Compartilhamento

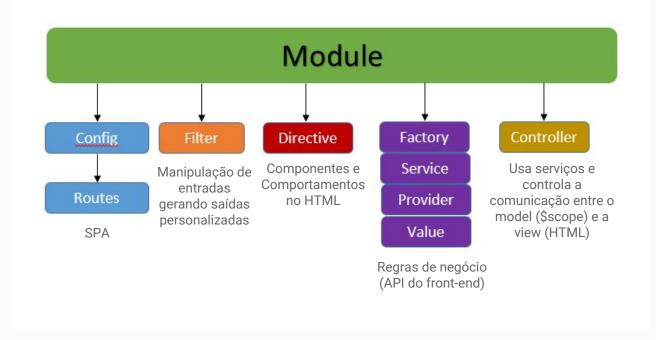




Desenvolvimento Paralelo









AngularJS - SETUP

- Criar um diretório para o app
- Criar o *index.html*
- Baixar a lib **angular.js**
 - https://angularjs.org
 - https://github.com/angular/angular.js
 - o install angularjs
- Incluir a lib **angular.js** no **index.html**
- Criar o módulo principal
- Informar o módulo principal (ng-app) no index.html

AngularJS - SETUP

```
index.html

√!DOCTYPE html>

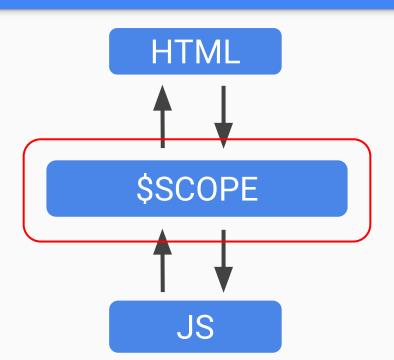
    html ng-app="app">
        <meta charset="UTF-8">
        <title>Two Way Data Binding</title>
 8 </head>
   <script src="node_modules/angular/angular.min.js"></script>
    <script src="app.js"></script>
16 </html>
                                                                                Tab Size: 4 HTML (Angular.js)
```

AngularJS - SETUP

```
app.module.js
  angular.module('app', [])
      // CONFIG
      .config([function () {
      }1)
      .filter('filterName', [function(){
      }1)
      .directive('directiveName', [function () {=
      }1)
      .factory('serviceName', [function () {
      }1)
      .controller('', ['$scope', function ($scope) {
      }1)
```



Área de compartilhamento de objetos, arrays ...



Acessada via "{{ }}"
pelo html e via
\$scope pelo JS

```
app.module.js
angular.module('app', [])
    .controller('AppCtrl', ['$scope', function ($scope) {
        // ADDING USER-OBJECT ON $SCOPE(MODEL)
       // MAKING VISIBLE TO HTML
        $scope.user = {
            name: "Iago Barboza",
            age: 24,
            email: "iagobarboza@gmail.com"
    }1)
                                                                           Tab Size: 4
```

```
index.html
   <!DOCTYPE html>
   <html ng-app="app">
       <meta charset="UTF-8">
        <title>Angular-Firebase Web App</title>
    </head>
   <body ng-controller="AppCtrl">
       Name: {{user.name}}
       Age: {{user.age}}
       Email: {{user.email}}
       <input type="text" ng-model="user.name" placeholder="NAME">
       <input type="text" ng-model="user.age" placeholder="AGE">
       <input type="email" ng-model="user.email" placeholder="EMAIL">
   </body>
18
19
   <!-- LIBS -->
   <script src="node_modules/angular/angular.min.js"></script>
   <script src="app_modules/app/app.module.js"></script>
26 </html>
                                                                          Tab Size: 4 HTML (Angular.is
```

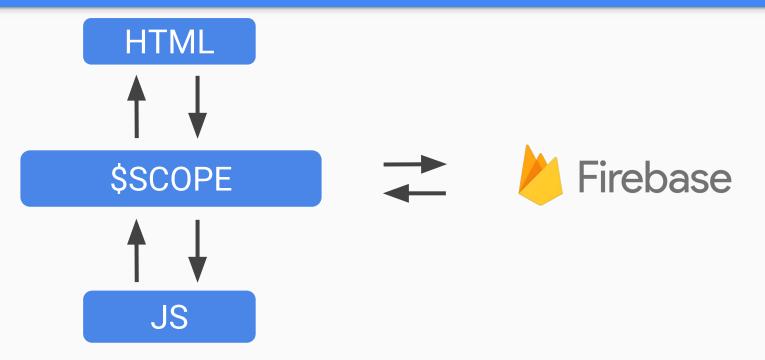
Região onde os dados do \$scope do AppCtrl podem ser acessados via "{{ }}"



DEMO

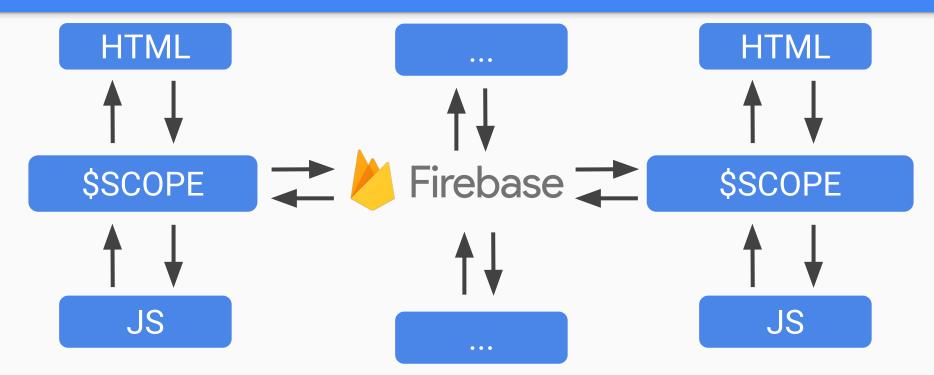


Three Way Data Binding





N Way Data Binding

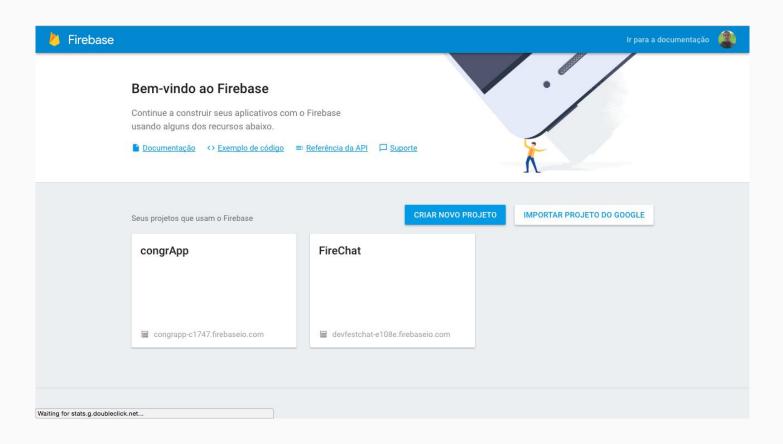




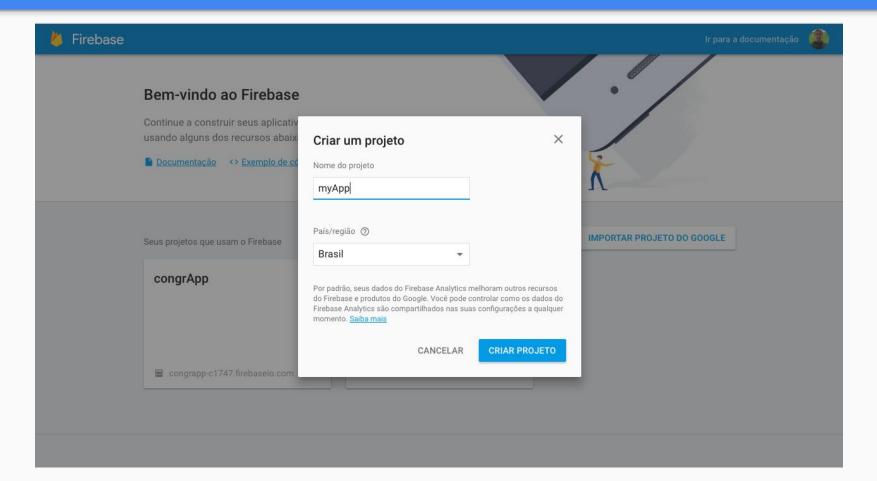
Firebase - Backend Services

- Autenticação (email, facebook, google, twitter, github)
- Real Time Database
- Storage
- Hosting
- ...

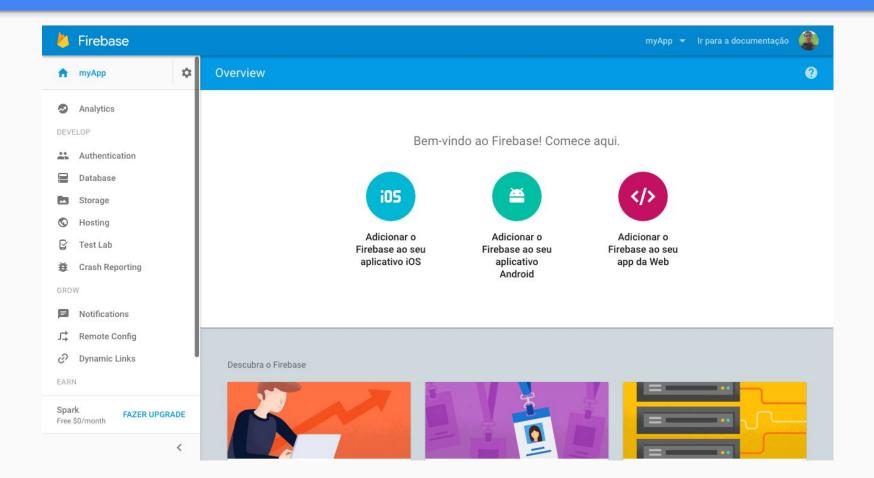
Firebase - Setup



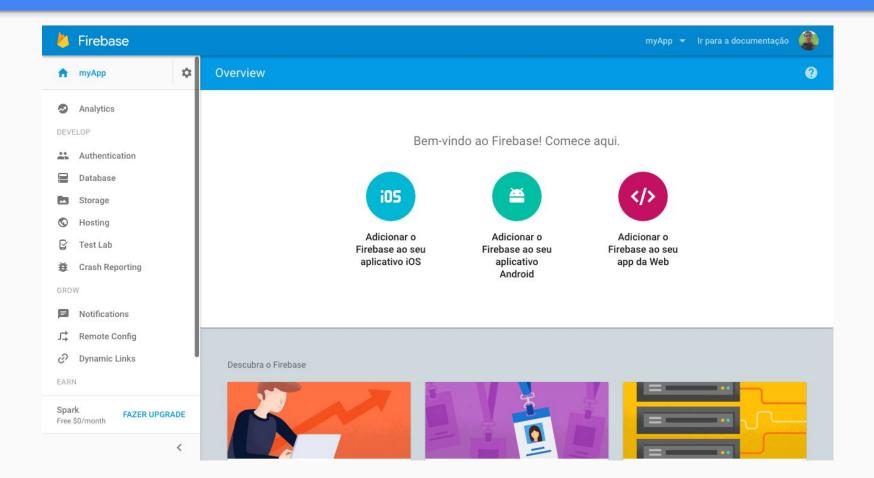
Firebase - Setup



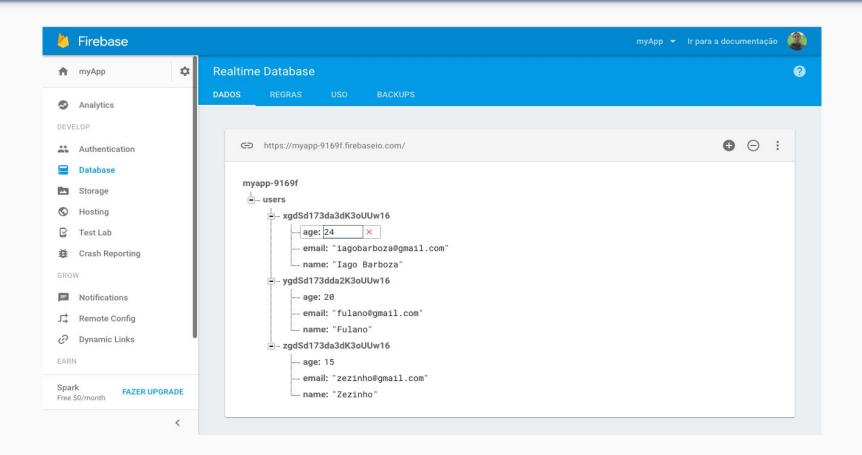
Firebase - Console



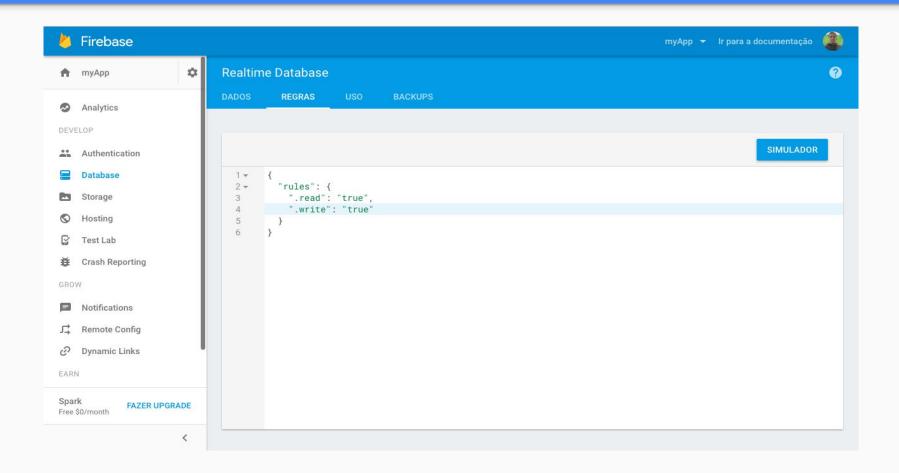
Firebase - Console



Firebase - Database



Firebase - Database



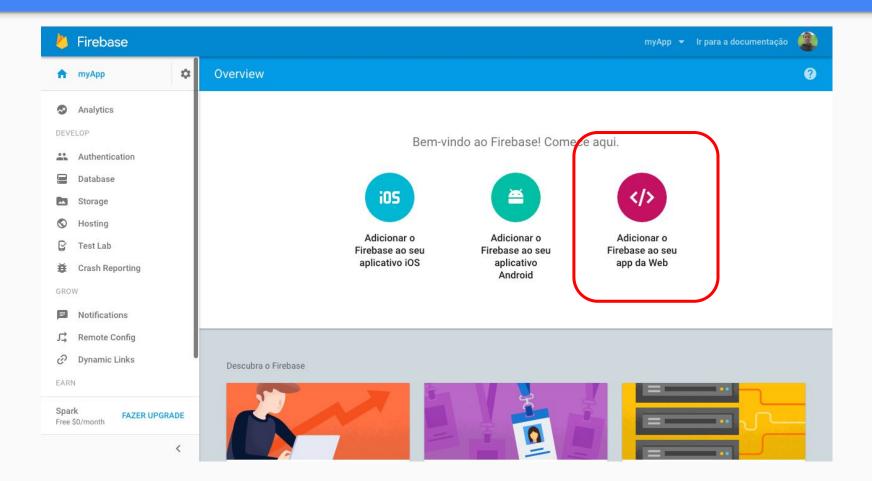




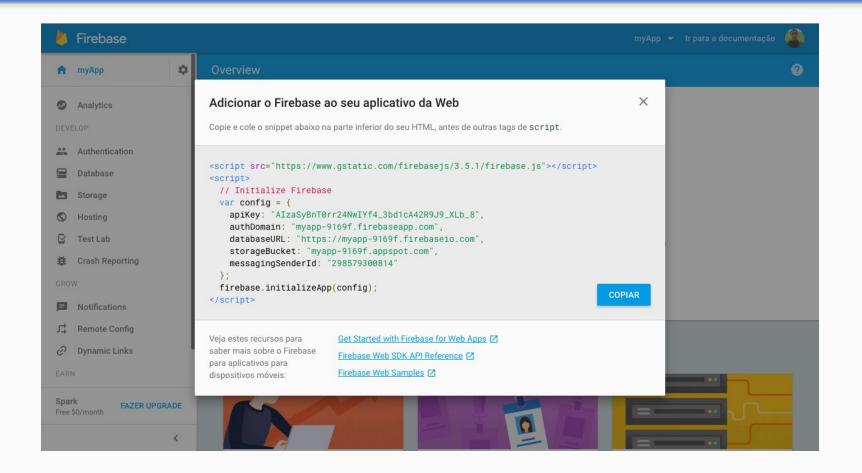
SETUP

- Inserir a lib firebase.js no index.html
- Inserir o script de conexão do web-app com o firebase-app

Firebase - Console



Setup



SETUP





- Baixar o módulo do firebase (angular-fire.js)
 - Github
 - o NPM
 - 0 ...
- Inserir o angular-fire.js no index.html
- Inserir o módulo angular-fire no módulo app





AngularFire



\$firebaseObject

\$firebaseArray

\$firebaseAuth

firebase.database().ref()

firebase.auth()

```
<!DOCTYPE html>
    <html ng-app="app">
     <head>
        <meta charset="UTF-8">
        <title>Three Way Data Binding</title>
    </head>
10
    <script src="https://www.gstatic.com/firebasejs/3.5.1/firebase.js"></script>
    <!-- FIREBASE APP CONNECTION -->
14
    <script>
        var config = {
            apiKey: "AIzaSyBnT0rr24NwIYf4_3bd1cA42R9J9_XLb_8",
            authDomain: "myapp-9169f.firebaseapp.com",
18
            databaseURL: "https://myapp-9169f.firebaseio.com",
            storageBucket: "myapp-9169f.appspot.com",
20
            messagingSenderId: "298579300814"
        firebase.initializeApp(config);
24
    </script>
25
26
    <script src="node modules/angular/angular.min.js"></script>
     <!-- ANGULAR FIRE -->
28
     <script src="node modules/angularfire/dist/angularfire.min.js"></script>
30
    <script src="app.js"></script>
    <body ng-controller="AppCtrl">
33
        <h1>USER</h1>
34
        Name: {{user.name}}
        Age: {{user.age}}
36
        Email: {{user.email}}
37
        <input type="text" ng-model="user.name" placeholder="NAME">
38
        <input type="text" ng-model="user.age" placeholder="AGE">
39
        <input type="email" ng-model="user.email" placeholder="EMAIL">
40
41
        <h1>USERS</h1>
42
        <div ng-repeat='user in users'>
43
44
            <hr>
45
            Name: {{user.name}}
            Age: {{user.age}}
            Email: {{user.email}}
48
        </div>
49
    </body>
```

Index.html — 06-storage × app.js × Index.html — 04-sign-in-with-email × Index.html — 03-create-user-with-e × Index.html — 02-three-way-data-bil ×

Firebase + Angular Setup

```
index.html
                         app.js
     // APP MODULE
    angular.module('app', ['firebase'])
         .controller('AppCtrl', ['$scope', '$firebaseObject', '$firebaseArray', function ($scope, $firebaseObject, $firebaseArray) {
             var user = $firebaseObject(firebase.database().ref('users/xgdSd173da3dK3oUUw16'));
             user.$loaded(function(){
                 user. $bindTo($scope, 'user');
10
             });
             $scope.users = $firebaseArray(firebase.database().ref('users'));
        11)
```

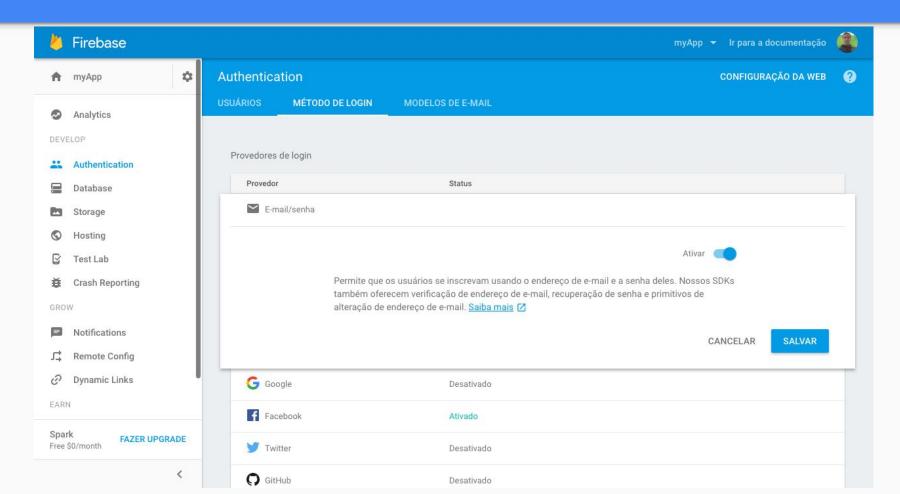


AngularJS - Three Way Data Binding

DEMO

FIREBASE - DB

Authentication - Email and Password



Authentication - Criando usuário com Email e Senha

```
index.html - 06-storage ×
                                index.html - 04-sign-in-with-email-and-password ×
                                                                       index.html — 03-create-user-with-email-and-password
    <!DOCTYPE html>
    <html ng-app="app">
        <meta charset="UTF-8">
        <title>Create user with email and password</title>
    </head>
11 <script src="https://www.gstatic.com/firebasejs/3.5.1/firebase.js"></script>
   <!-- FIREBASE APP CONNECTION --->
14 <script>
        var config = {
             apiKey: "AIzaSyBnT0rr24NwIYf4_3bd1cA42R9J9_XLb_8",
             authDomain: "myapp-9169f.firebaseapp.com",
             databaseURL: "https://myapp-9169f.firebaseio.com",
             storageBucket: "myapp-9169f.appspot.com",
             messagingSenderId: "298579300814"
        firebase.initializeApp(config);
    </script>
   <!-- ANGULAR -->
27 <script src="node_modules/angular/angular.min.js"></script>
   <!-- ANGULAR FIRE -->
   <script src="node_modules/angularfire/dist/angularfire.min.js"></script>
   <script src="app.js"></script>
34
   <body ng-controller="AppCtrl">
38 </body>
40 </html>
                                                                                          Tab Size: 4
                                                                                                    HTML (Angular.is)
```

Authentication - Criando usuário com Email e Senha

```
app.js - 03-create-us × app.js - 05-sign-in-v × app.js - 04-sign-in-v × index.html - 03-creat × index.html - 04-sign × index.html - 05-sign ×
   angular.module('app', ['firebase'])
        .controller('AppCtrl', ['$scope', '$firebaseAuth', function ($scope $firebaseAuth)
            var auth = $firebaseAuth(firebase.auth());
            // CREATE USER WITH EMAIL AND PASSWORD
            auth.$createUserWithEmailAndPassword('iagobarboza@gmail.com', '123456').then(
                 function(response){
                     console.log(response);
                 function(error)
                     console.log(error.message)
            );
        }1)
                                                                                     Tab Size: 4
                                                                                                  JavaScript
```



Criando usuário com email e senha

DEMO

FIREBASE - AUTH

Authentication - Login do usuário com Email e Senha

```
index.html - 06-storage × app.js
                                         index.html - 04-sign-in-with-email-and-password ×
    <!DOCTYPE html>
    <html ng-app="app">
    <head>
        <meta charset="UTF-8">
        <title>Sign In with email and password</title>
    </head>
10 <!-- FIREBASE-->
    <script src="https://www.gstatic.com/firebasejs/3.5.1/firebase.js"></script>
   <!-- FIREBASE APP CONNECTION --->
14 <script>
        var config = {
            apiKey: "AIzaSyBnT0rr24NwIYf4_3bd1cA42R9J9_XLb_8",
            authDomain: "myapp-9169f.firebaseapp.com",
            databaseURL: "https://myapp-9169f.firebaseio.com",
            storageBucket: "myapp-9169f.appspot.com",
            messagingSenderId: "298579300814"
        firebase.initializeApp(config);
    </script>
   <!-- ANGULAR --->
   <script src="node_modules/angular/angular.min.js"></script>
29 <!-- ANGULAR FIRE -->
   <script src="node_modules/angularfire/dist/angularfire.min.js"></script>
   <script src="app.js"></script>
36 <body ng-controller="AppCtrl">
38 </body>
40 </html>
```

Authentication - Login do usuário com Email e Senha

```
app.js
2 angular.module('app', ['firebase'])
       .controller('AppCtrl', ['$scope', '$firebaseAuth', function ($scope | $firebaseAuth) {
           var auth = $firebaseAuth(firebase.auth());
           // CREATE USER WITH EMAIL AND PASSWORD
           auth.$signInWithEmailAndPassword('iagobarboza@gmail.com', '123456').then(
               function(response){
                   console.log(response);
               // ERROR CALLBACK
               function(error)
                   console.log(error.message)
           );
       }1)
                                                                               Tab Size: 4
                                                                                           JavaScript
```



Login do usuário com email e senha

DEMO

FIREBASE - AUTH

Authentication - Login do usuário com facebook

```
<!DOCTYPE html>
    <html ng-app="app">
        <meta charset="UTF-8">
        <title>Sign In with Facebook</title>
    </head>
    <script src="https://www.gstatic.com/firebasejs/3.5.1/firebase.js"></script>
   <!-- FIREBASE APP CONECTION --->
14 <script>
        var config = {
            apiKey: "AIzaSyBnT0rr24NwIYf4_3bd1cA42R9J9_XLb_8",
            authDomain: "myapp-9169f.firebaseapp.com",
            databaseURL: "https://myapp-9169f.firebaseio.com",
            storageBucket: "myapp-9169f.appspot.com",
            messagingSenderId: "298579300814"
        firebase.initializeApp(config);
    </script>
26 <!-- ANGULAR -->
27 <script src="node_modules/angular/angular.min.js"></script>
29 <!-- ANGULAR FIRE -->
   <script src="node_modules/angularfire/dist/angularfire.min.js"></script>
33 <script src="app.js"></script>
34
36 <body ng-controller="AppCtrl">
38 </body>
39
40 </html>
```

Authentication - Login do usuário com facebook

```
app.js — 05-sign-in-with-fa × app.js — 04-sign-in-with-ea × index.html — 03-create-use × index.html — 04-sign-in-with = 05-sign-in-with-ea × index.html — 05-sign-in-with-ea × index.html — 05-sign-in-with-ea × index.html
   angular.module('app', ['firebase'])
         .controller('AppCtrl', ['$scope', '$firebaseAuth', function ($scope, $firebaseAuth) {
              var auth = $firebaseAuth(firebase.auth());
              // FACEBOOK LOGIN
              var fbProvider = new firebase.auth.FacebookAuthProvider();
              auth.$signInWithPopup(fbProvider);
              firebase.auth().signInWithPopup(fbProvider).then(function(result) {
                   console.log(result);
              .catch(function(error) {
                   console.log(error);
              });
         }1)
                                                                                                 Tab Size: 4
                                                                                                               JavaScript
```

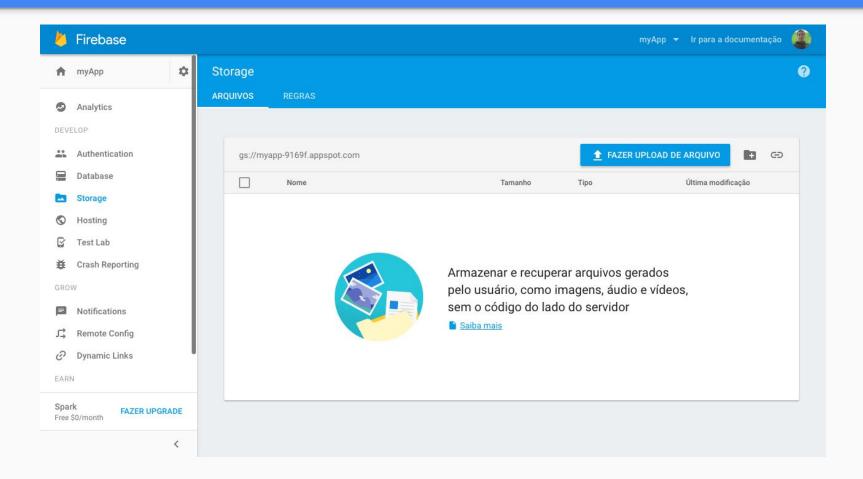


Login do usuário com facebook

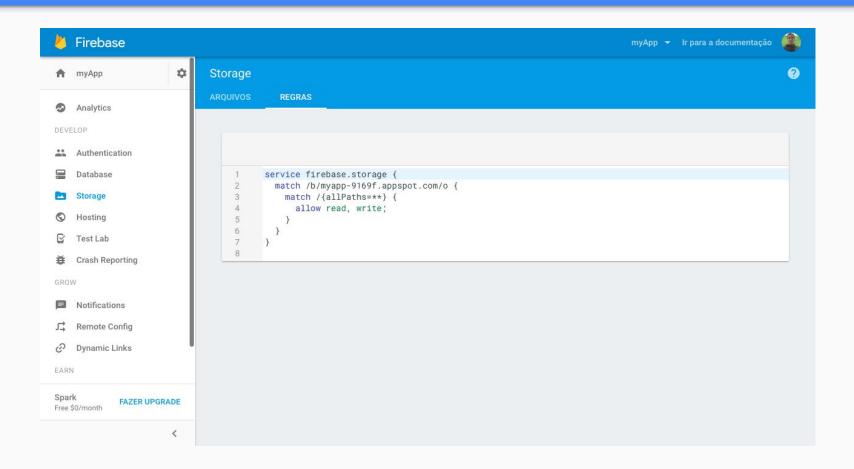
DEMO

FIREBASE - AUTH

Storage



Storage



```
<!DOCTYPE html>
 2
    <html ng-app="app">
    <!-- HEAD -->
    <head>
6
        <meta charset="UTF-8">
        <title>Storage</title>
    </head>
10
    <!-- FIREBASE --->
11
    <script src="https://www.gstatic.com/firebasejs/3.5.1/firebase.js"></script>
12
13
    <!-- FIREBASE APP CONNECTION -->
14
    <script>
        // Initialize Firebase
16
        var config = {
17
            apiKey: "AIzaSyBnT0rr24NwIYf4 3bd1cA42R9J9 XLb 8",
            authDomain: "myapp-9169f.firebaseapp.com",
18
            databaseURL: "https://myapp-9169f.firebaseio.com",
19
20
            storageBucket: "myapp-9169f.appspot.com",
21
            messagingSenderId: "298579300814"
        1:
23
        firebase.initializeApp(config);
24
    </script>
25
26
    <!-- ANGULAR --->
    <script src="node modules/angular/angular.min.js"></script>
28
29
    <!-- ANGULAR FIRE -->
30
    <script src="node_modules/angularfire/dist/angularfire.min.js"></script>
    <script src="app.js"></script>
34
36
    <body ng-controller="AppCtrl">
        <!-- FILE INPUT -->
        <input type="file" onchange="angular.element(this).scope().setFile(this)">
38
        <!-- UPLOAD BUTTON -->
39
40
        <button ng-click="upload()">UPLOAD</button>
    </body>
42
    </html>
```

```
// FILE DOWNLOAD
    storageRef.child('image.png').getDownloadURL().then(function(url) {
        console.log(url);
    .catch(function(error) {
        console.log(error);
    });
    // FILE UPLOAD
    var metadata = {
      contentType: 'image/png'
   };
    $scope.setFile = function(element){
        $scope.file = element.files[0];
    $scope.upload = function(){
        var uploadTask = storageRef.child().put($scope.file, metadata);
        uploadTask.on(firebase.storage.TaskEvent.STATE_CHANGED,
            // UPLOAD RUNNING
            function(snapshot) {
                var progress = (snapshot.bytesTransferred / snapshot.totalBytes) * 100;
                console.log('Upload is ' + progress + '% done');
            },
            // UPLOAD ERROR
            function(error) {
                console.log(error);
            Э.
            // UPLOAD FINOSHED
            function() {
                var downloadURL = uploadTask.snapshot.downloadURL;
                console.log("File URL: ");
                console.log(downloadURL);
        );
}1)
```

app.js

10

11 12

13

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36 37

38 39

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45 46

47

48



Storage

DEMO

FIREBASE - STORAGE



AngularJS - Referências



- angularjs.org
- github.com/angular/angular.js
- Book: AngularJS Uma abordagem prática e objetiva (M. Henrique Pereira)
- Book: AngularJS Up and Running (O'Reilly)



Firebase - Referências

https://firebase.google.com

https://github.com/firebase/angularfire

https://www.firebase.com/docs/web/libraries/angular

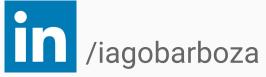
- Exemplos
- Documentação
 - Auth
 - \$firebaseObject
 - \$firebaseArray
 - 0 ..





/iagobarboza (exemplos e template)







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