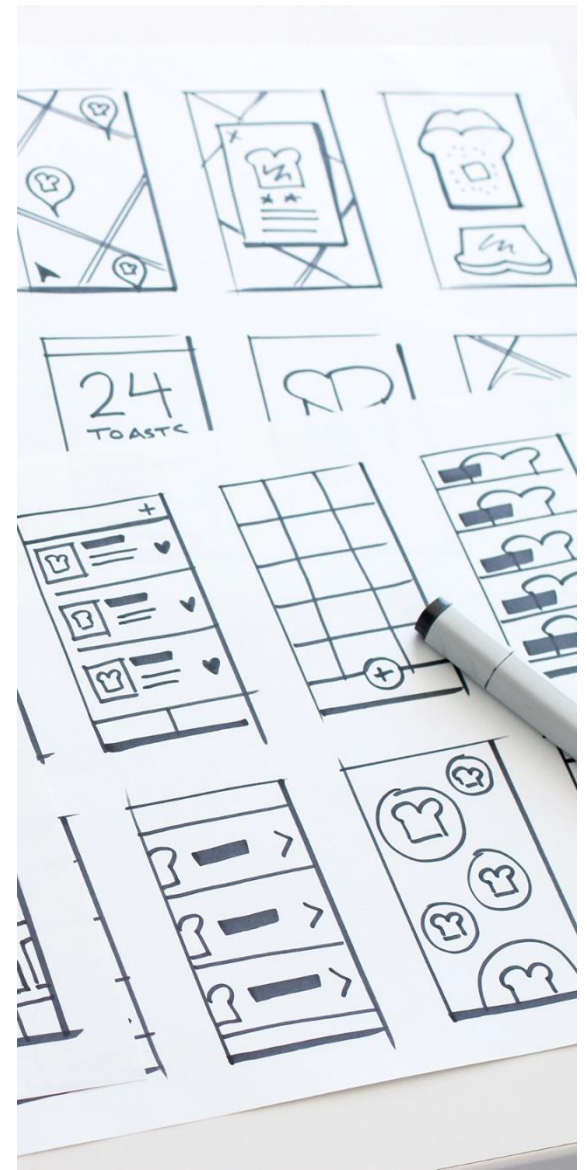


Prototyping a Social Network

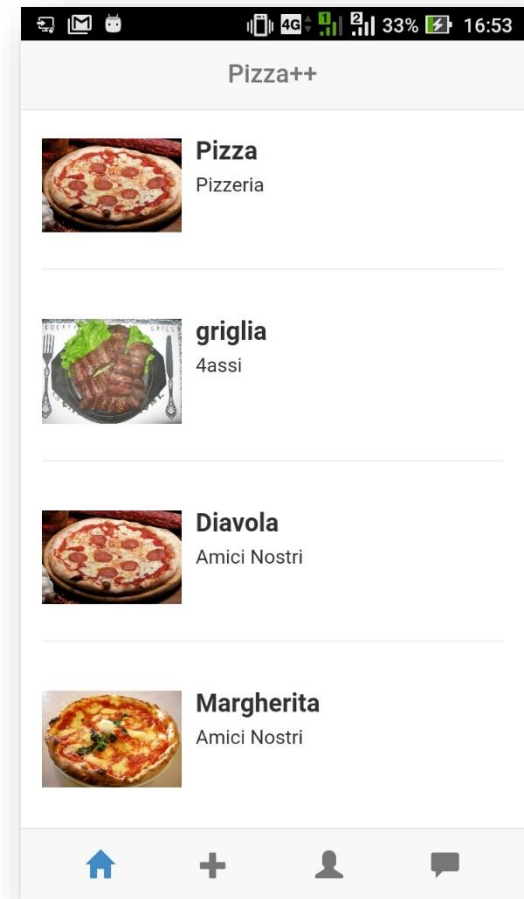
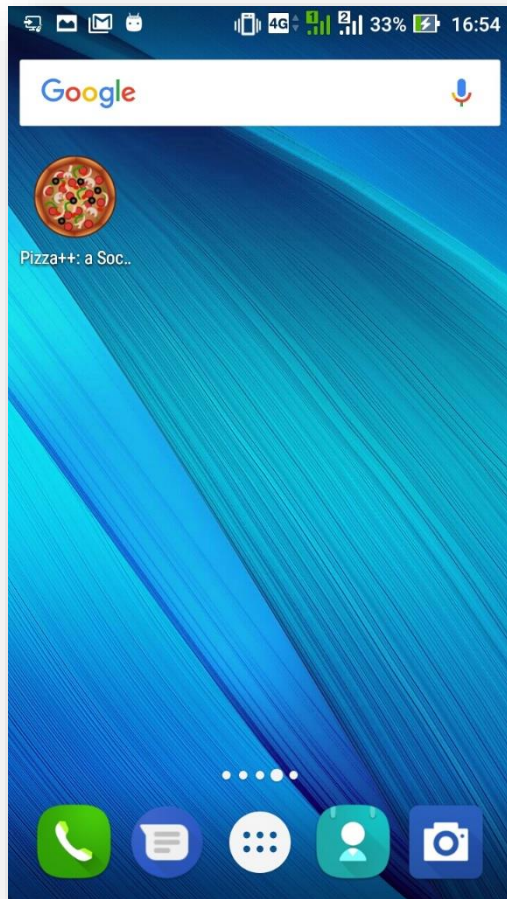
AngularJS: Firebase integration with AngularFire



POLITECNICO
DI TORINO



Pizza++



Pizza++ Feature Set

- Find top pizzas to eat near me
- Post pizzas
- Rate pizzas
- Review (comment) pizzas
- Discuss about pizzas with my friends

Pizza++

- Ingredients for frontend
 - HTML5
 - CSS3, with the help of the Bootstrap framework (<http://getbootstrap.com>)
 - JS, with the AngularJS framework (<http://angularjs.org/>)
- Ingredients for backend
 - *None*
 - We will rely on Firebase (<https://firebase.google.com>)



Getting started...

FIREBASE

Firebase

- A powerful platform for mobile or web applications
 - <https://firebase.google.com>
- Overview (video)
 - <https://youtu.be/ySmWIU9j3j4>
- Quickstart for the Web
 - <https://firebase.google.com/docs/web/setup>



Realtime Database



Authentication



Hosting </>



Cloud Storage

Realtime Database



- The Firebase Realtime Database is a **cloud-hosted database**
- Data in our Firebase database
 - stored as JSON
 - synchronized in realtime to every connected client
- Automatically scales with your app
- Works offline

Realtime Database



The screenshot shows the Firebase Realtime Database console for the project 'ProvaSoNet'. The left sidebar contains navigation options: Overview, Analytics, SVILUPPO, Authentication, Database (selected), Storage, Hosting, Functions, Test Lab, Crash Reporting, CRESCITA, Notifications, Remote Config, and Spark. The main content area is titled 'Realtime Database' and has tabs for DATI, REGOLE, BACKUP, and UTILIZZO. A warning message states: 'Le regole di sicurezza predefinite richiedono che gli utenti siano autenticati'. Below this, a JSON tree structure is displayed for the path 'provasonet/personas':

```
provasonet
├── personas
│   ├── persona1
│   │   ├── name: "Teodoro"
│   │   └── surname: "Montanaro"
│   ├── persona2
│   │   ├── name: "Laura"
│   │   └── surname: "Farinetti"
│   └── persona3
│       ├── name: "Gabriella"
│       └── surname: "Taddeo"
```


Realtime Database: Structuring Data

- "Everything is a JSON"
- Avoid nesting data:
 - with nested design, iterating through the data becomes problematic

```
{  
  // This is a poorly nested data architecture, because iterating the children  
  // of the "chats" node to get a list of conversation titles requires  
  // potentially downloading hundreds of megabytes of messages  
  "chats": {  
    "one": {  
      "title": "Historical Tech Pioneers",  
      "messages": {  
        "m1": { "sender": "ghopper", "message": "Relay malfunction found. Cause: mot  
        "m2": { ... },  
        // a very long list of messages  
      }  
    },  
    "two": { ... }  
  }  
}
```

Realtime Database: Structuring Data

- Prefer flattened data:
 - split data into separate paths

```
{
  // Chats contains only meta info about each conversation stored under the chats's unique ID
  "chats": {
    "one": {
      "title": "Historical Tech Pioneers",
      "lastMessage": "ghopper: Relay malfunction found. Cause: moth.",
      "timestamp": 1459361875666
    },
    "two": { ... },
    "three": { ... }
  },
  // Conversation members are easily accessible and stored by chat conversation ID
  "members": {
    // we'll talk about indices like this below
    "one": {
      "ghopper": true,
      "alovelace": true,
      "eclarke": true
    },
    "two": { ... },
    "three": { ... }
  },
  // Messages are separate from data we may want to iterate quickly but still easily paginated and
  // queried, and organized by chat conversation
  "messages": {
    "one": {
      "1": {

```

Authentication



- Built-in support for user authentication
- Support
 - Social Login (Facebook, Twitter, GitHub, Google)
 - Anonymous Login
 - Login with username and password
 - Custom auth system integration
- Handle user login entirely with client-side code
- Integrate authentication with your existing backend
 - if needed

Authentication



The screenshot shows the Firebase Authentication console. The top navigation bar includes the Firebase logo, the project name 'ProvaSoNet', and a link to 'Vai alla documentazione'. The left sidebar contains a navigation menu with options like Overview, Analytics, and various development tools. The main content area is titled 'Authentication' and has tabs for 'UTENTI', 'METODO DI ACCESSO', and 'MODELLI EMAIL'. Below the tabs is a search bar and an 'AGGIUNGI UTENTE' button. A table header lists columns: 'Indirizzo email', 'Provider', 'Data creazione', 'Accesso eseguito', and 'UID utente'. Below the table is a promotional card with an ID card icon, the text 'Autentica e gestisci gli utenti da una vasta gamma di provider senza codice lato server', a link to 'Ulteriori informazioni', and a blue button labeled 'IMPOSTA METODO DI ACCESSO'. At the bottom, there is a footer with the text 'Hai bisogno di aiuto per configurare l'app?' and icons for iOS, Android, and code editor.

Hosting



- Deploy your web app in seconds
 - Hosting gives you the infrastructure, features, and tooling tailored to **deploying and managing static websites**
- Hosting gives your project a subdomain on the **firebaseapp.com** domain
- All of your content is served over **HTTPS**
 - SSL by default

Hosting



Overview

Analytics

SVILUPPO

Authentication

Database

Storage

Hosting

Functions

Test Lab

Crash Reporting

CRESCITA

Notifications

Remote Config

Spark
Gratuito \$ 0/mese
[ESEGUI L'UPGRADE](#)

Hosting

DASHBOARD UTILIZZO

Implementa applicazioni web e app web per dispositivi mobili in pochi secondi utilizzando una rete di distribuzione dei contenuti globale e sicura

[Ulteriori informazioni](#)

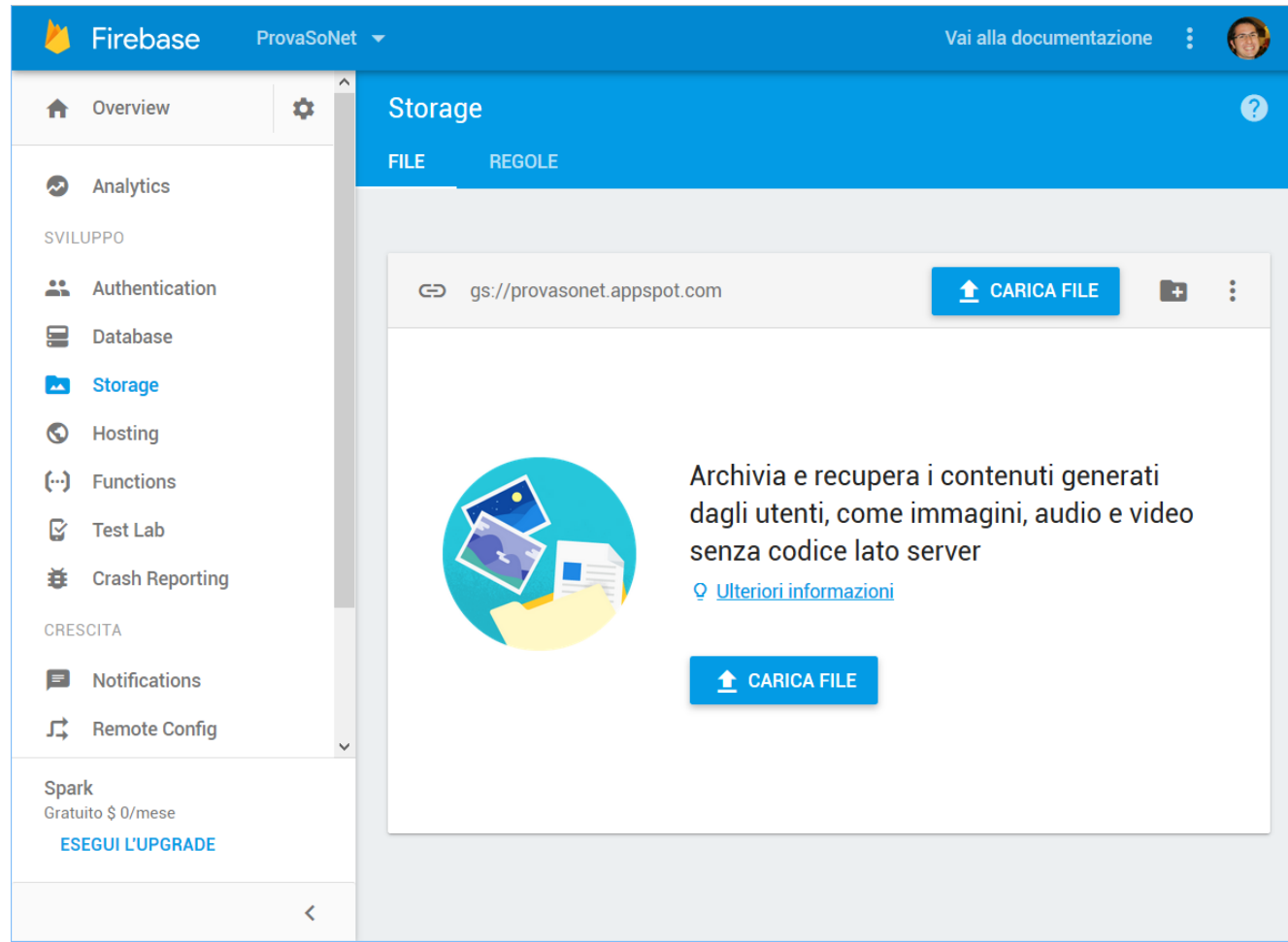
INIZIA

Cloud storage



- store and serve user-generated content
 - It is possible to store images, audio, video, or other user-generated content
- It adds Google security to file uploads and downloads
- On the server, use Google Cloud Storage to access the same files

Cloud storage

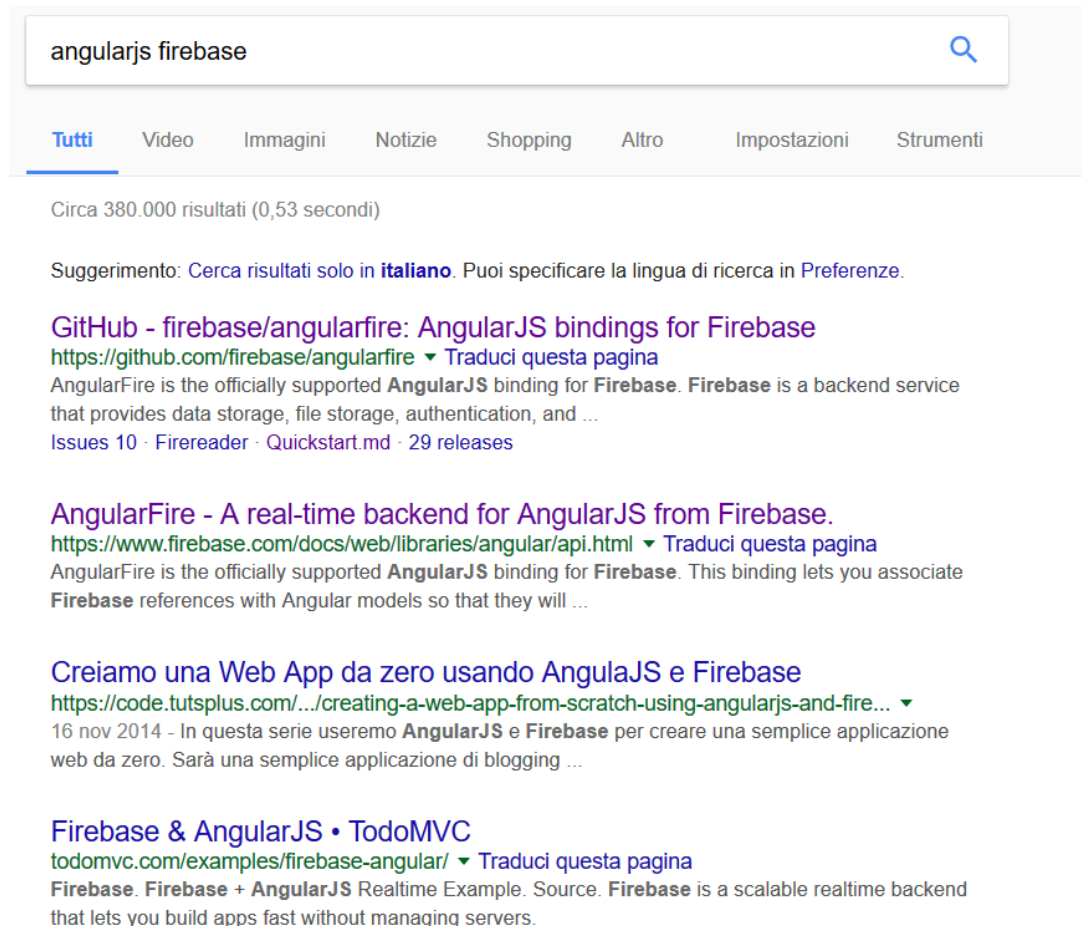


The screenshot shows the Firebase Storage console for a project named 'ProvaSoNet'. The interface is in Italian. On the left is a navigation sidebar with options like Overview, Analytics, Authentication, Database, Storage (selected), Hosting, Functions, Test Lab, Crash Reporting, Notifications, and Remote Config. The main area is titled 'Storage' and has tabs for 'FILE' and 'REGOLE'. Below the tabs is a URL bar showing 'gs://provasonet.appspot.com' and a 'CARICA FILE' button. The main content area features a circular graphic of photos and a document, with the text: 'Archivia e recupera i contenuti generati dagli utenti, come immagini, audio e video senza codice lato server'. Below this text is a link for 'Ulteriori informazioni' and another 'CARICA FILE' button.

Getting started with Pizza++ and Firebase

HOW TO INTEGRATE FIREBASE IN ANGULARJS

Integrate Firebase in AngularJS



angularjs firebase

Tutti Video Immagini Notizie Shopping Altro Impostazioni Strumenti

Circa 380.000 risultati (0,53 secondi)

Suggerimento: Cerca risultati solo in **italiano**. Puoi specificare la lingua di ricerca in [Preferenze](#).

GitHub - firebase/angularfire: AngularJS bindings for Firebase
<https://github.com/firebase/angularfire> ▼ Traduci questa pagina
AngularFire is the officially supported **AngularJS** binding for **Firebase**. **Firebase** is a backend service that provides data storage, file storage, authentication, and ...
[Issues 10](#) · [Firereader](#) · [Quickstart.md](#) · [29 releases](#)

AngularFire - A real-time backend for AngularJS from Firebase.
<https://www.firebase.com/docs/web/libraries/angular/api.html> ▼ Traduci questa pagina
AngularFire is the officially supported **AngularJS** binding for **Firebase**. This binding lets you associate **Firebase** references with Angular models so that they will ...

Creiamo una Web App da zero usando AngularJS e Firebase
<https://code.tutsplus.com/.../creating-a-web-app-from-scratch-using-angularjs-and-fire...> ▼
16 nov 2014 - In questa serie useremo **AngularJS** e **Firebase** per creare una semplice applicazione web da zero. Sarà una semplice applicazione di blogging ...

Firebase & AngularJS • TodoMVC
<todomvc.com/examples/firebase-angular/> ▼ Traduci questa pagina
Firebase. **Firebase** + **AngularJS** Realtime Example. Source. **Firebase** is a scalable realtime backend that lets you build apps fast without managing servers.

<http://imgtfy.com/?q=angularjs+firebase>

AngularFire

- Firebase library for AngularJS
 - <https://github.com/firebase/angularfire>
- The officially supported AngularJS binding for Firebase
- Getting started guide
 - <https://github.com/firebase/angularfire/blob/master/docs/quickstart.md>

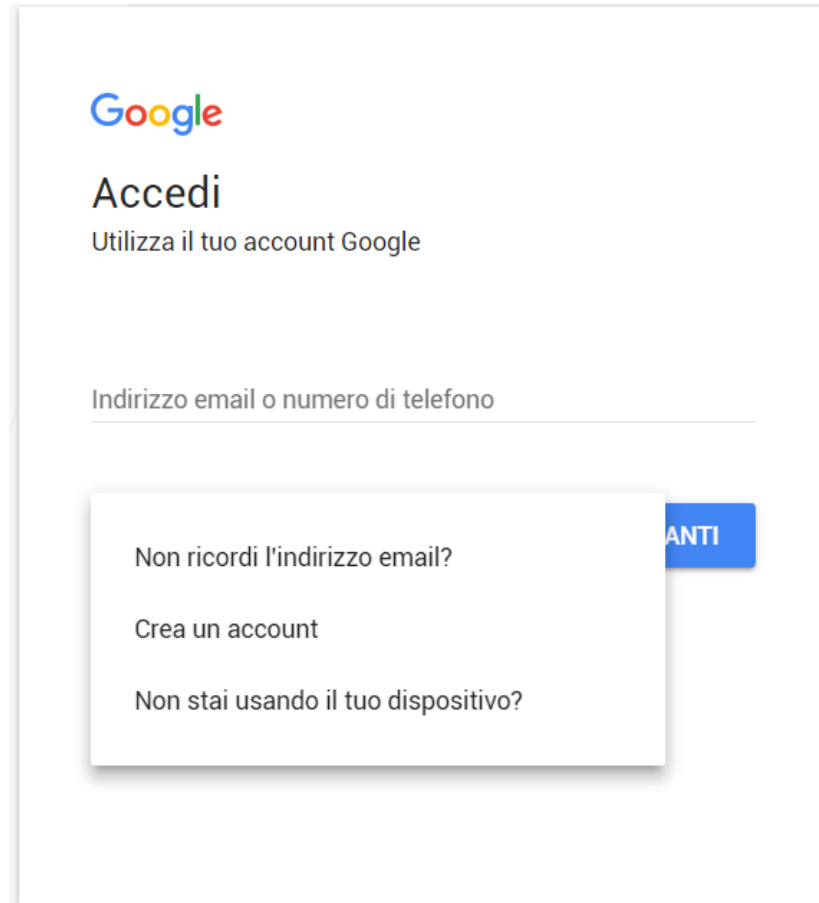
Getting started with Pizza++ and Firebase

(GUIDED) EXERCISE

(Guided) Exercise

- Starting from the knowledge of the previous lab...
 - <https://github.com/SoNet-2017/angularjs-lab7/releases>
1. integrate AngularFire and Firebase
 2. read/write the JSON data from/to Firebase

Step 1: create a Google account



The image shows a screenshot of the Google login page. At the top left is the Google logo. Below it, the text "Accedi" is displayed in a large font, followed by "Utilizza il tuo account Google" in a smaller font. Below this is a text input field with the placeholder text "Indirizzo email o numero di telefono". A dropdown menu is open from the input field, containing three options: "Non ricordi l'indirizzo email?", "Crea un account", and "Non stai usando il tuo dispositivo?". To the right of the dropdown menu, a blue button with the text "ANTI" is partially visible.

Step 2: create a new project

The screenshot shows the Firebase console interface. At the top, there is a blue header with the Firebase logo and the word "Firebase". Below the header, the text "Welcome to Firebase" is displayed, followed by a description: "Tools from Google for developing great apps, engaging with your users, and earning more through mobile ads." There are three links: "Learn more", "Documentation", and "Support".

The main content area is titled "Recent projects" and contains a large blue plus sign with the text "Add project" below it. Below this is a button labeled "Explore a demo project".

Overlaid on the right side of the console is a "Create a project" dialog box. It has a close button (X) in the top right corner. The dialog contains the following fields:

- "Project name" text input field containing "pizzaSoNet2017".
- "Country/region" dropdown menu with a question mark icon, currently set to "Italy".

Below the fields, there is a paragraph of text: "By default, your Firebase Analytics data will enhance other Firebase features and Google products. You can control how your Firebase Analytics data is shared in your settings at anytime. [Learn more](#)".

At the bottom of the dialog, there are two buttons: "CANCEL" and "CREATE PROJECT".

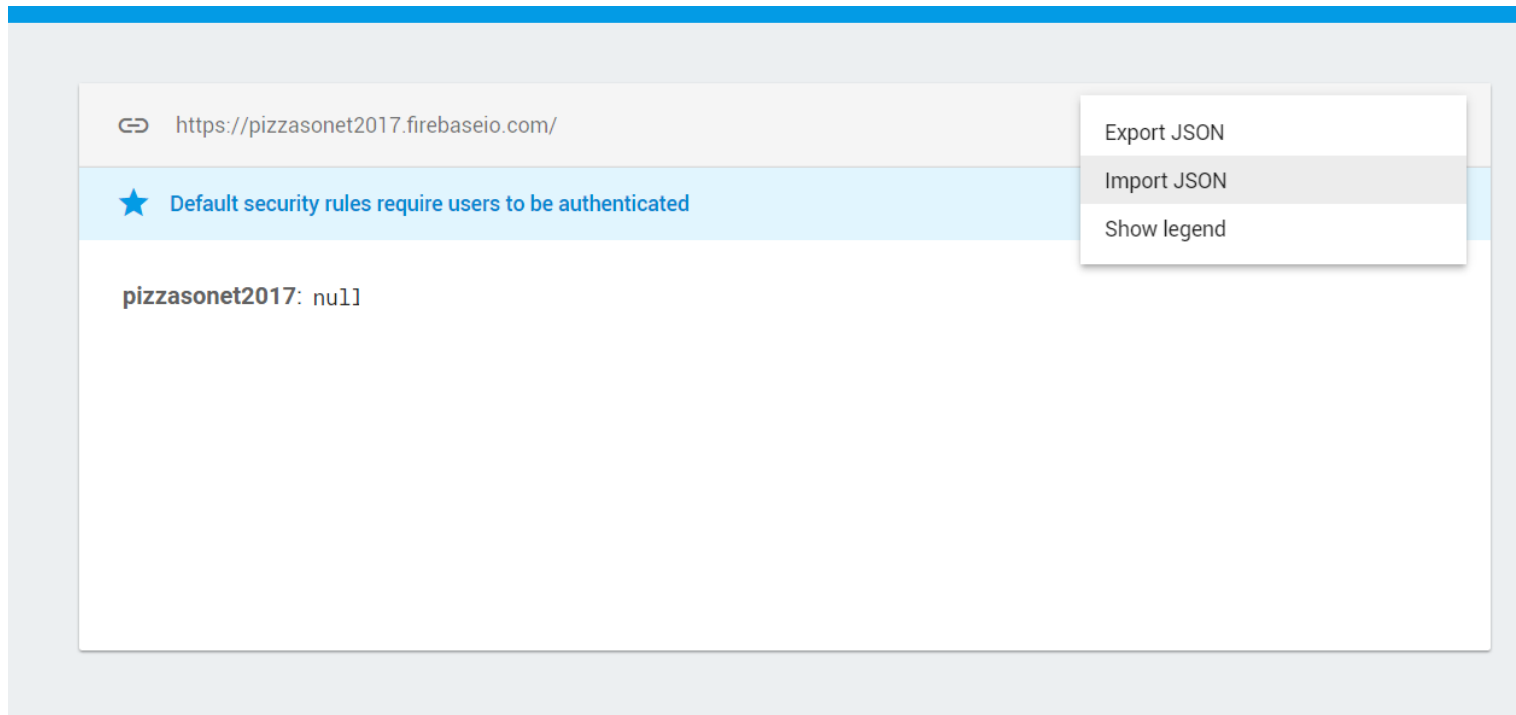
Step 3: recreate the pizza++ data structure

- Open the file data/pizzas.json
- Modify the structure so that it has a "pizzas" path as origin of the tree:

```
{
  "pizzas": {
    "amiciNostridiavola": {
      "id": "amiciNostridiavola",
      "nome_pizza": "Diavola",
      "nome_pizzeria": "Amici Nostri",
      "img_url": "images/amici-nostri-diavola.jpg",
      "img_alt": "Diavola di Amici Nostri"
    },
    "amiciNostrimargherita": {
      "id": "amiciNostrimargherita",
      "nome_pizza": "Margherita",
      "nome_pizzeria": "Amici Nostri",
      "img_url": "images/amici-nostri-margherita.jpg",
      "img_alt": "Margherita di Amici Nostri"
    },
    ...
  }
}
```

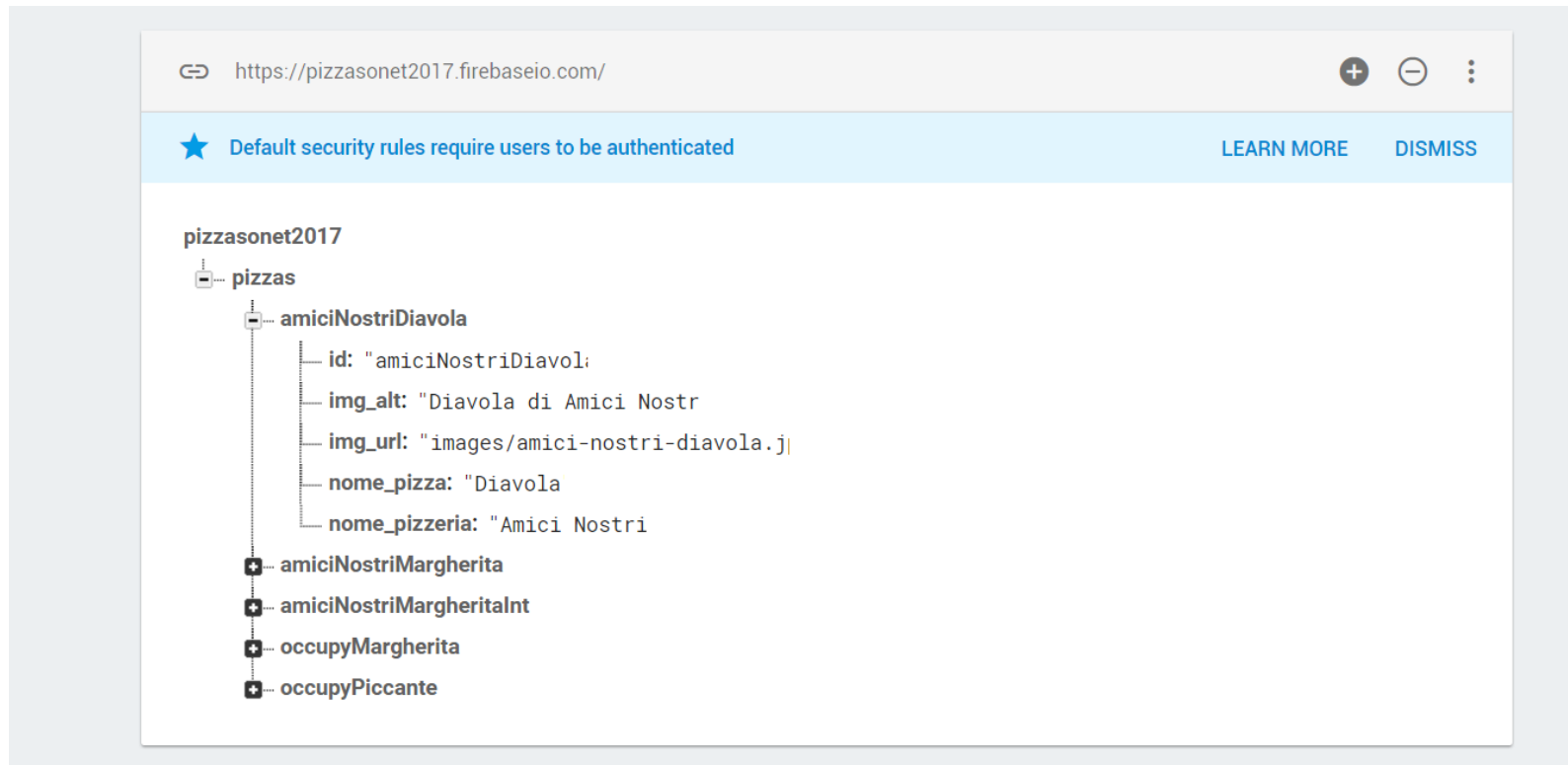

Step 3: recreate the pizza++ data structure

- Import the data in Firebase



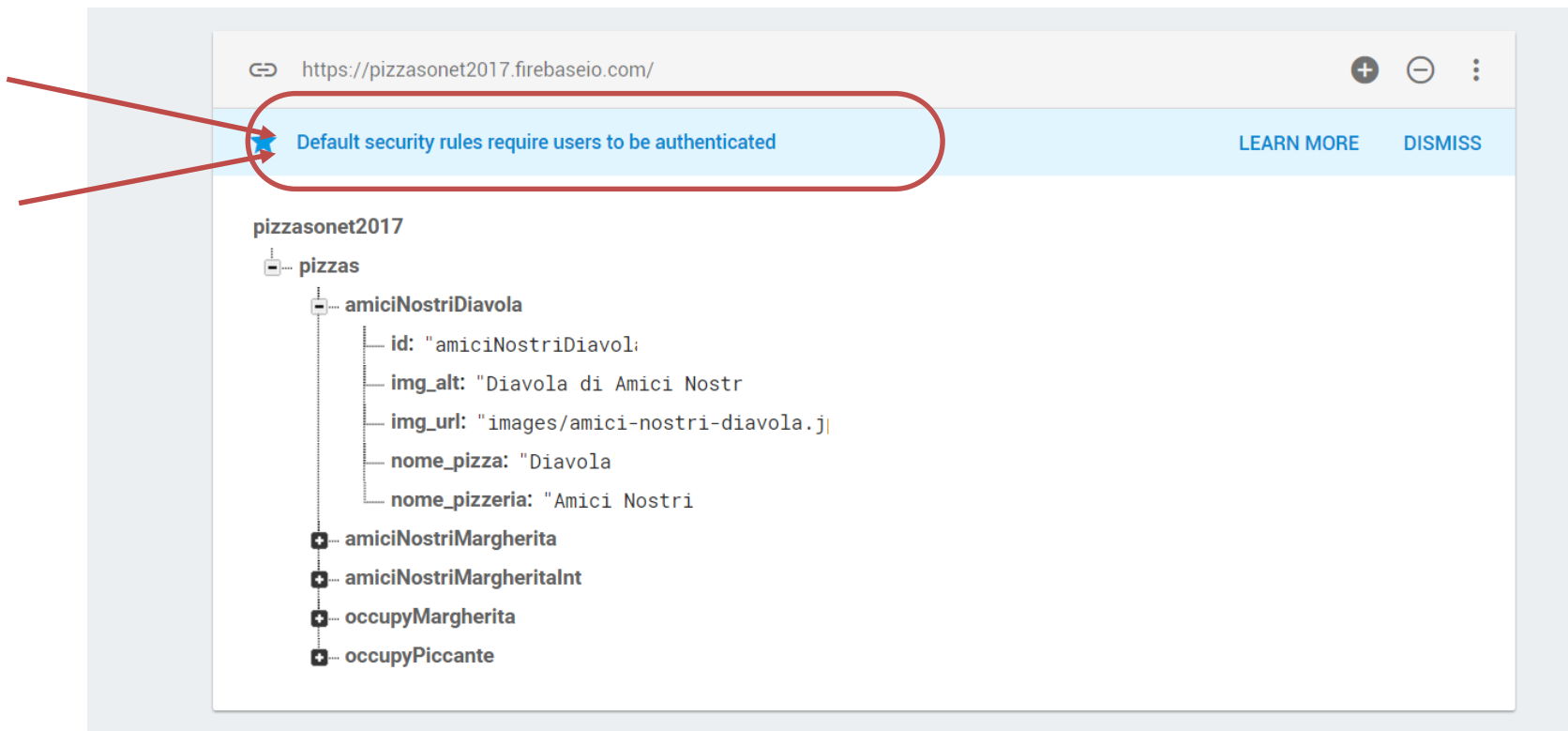
Step 3: recreate the pizza++ data structure

- Import the data in Firebase



Step 4: Don't forget RULES

- Default security rules require users to be authenticated



Step 4: Don't forget RULES

- We want to read data without authentication, so -> Deactivate this rule by typing the following code (and pressing PUBLISH):

Realtime Database

DATA RULES BACKUPS USAGE

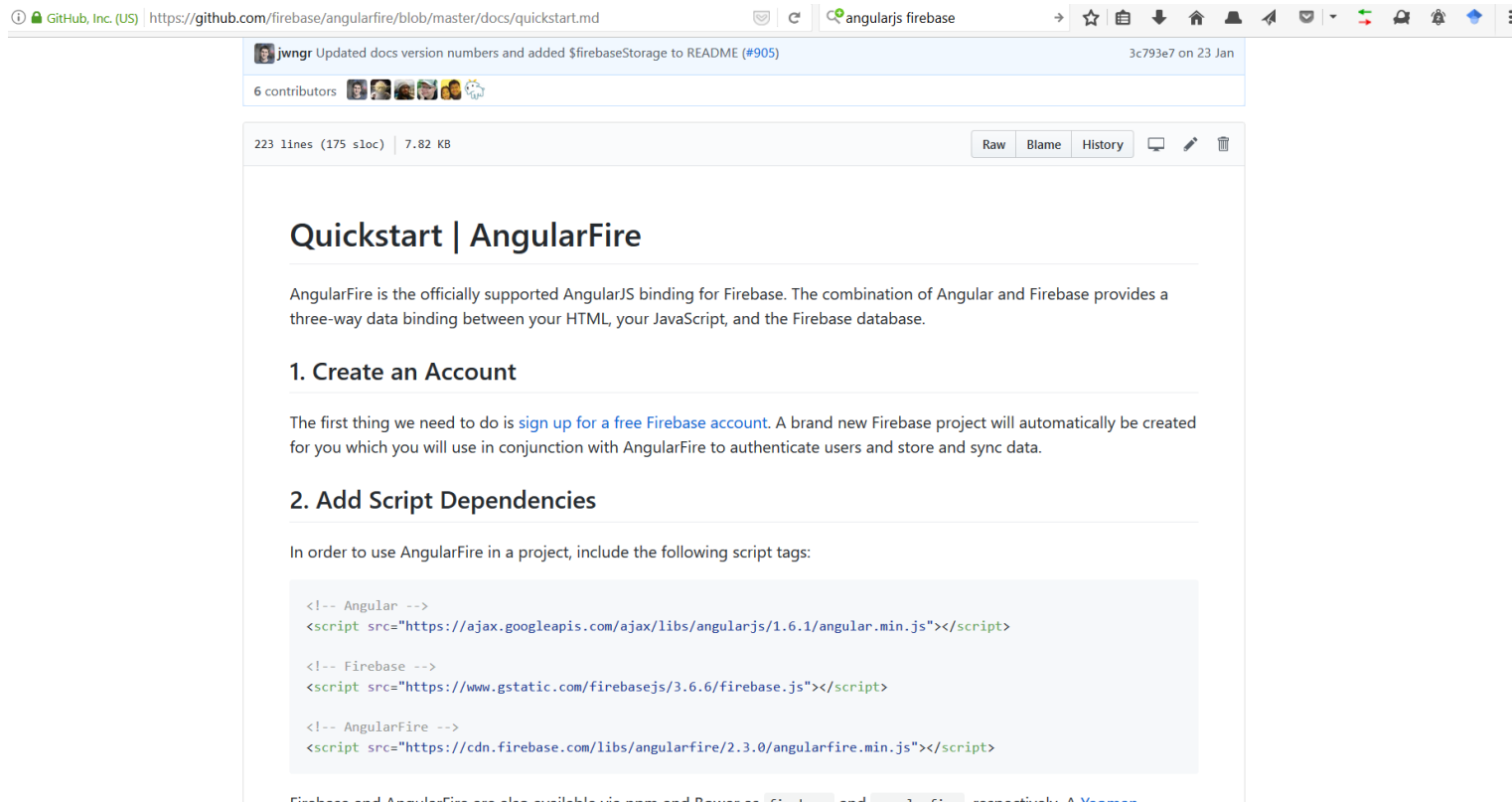
SIMULATOR

⚠ Your security rules are defined as public, anyone can read or write to your database [LEARN MORE](#) [DISMISS](#)

```
1 {
2   "rules": {
3     ".read": true,
4     ".write": true
5   }
6 }
```

Step 5: Use the documentation

- <https://github.com/firebase/angularfire/blob/master/docs/quickstart.md>



GitHub, Inc. (US) | <https://github.com/firebase/angularfire/blob/master/docs/quickstart.md> | angularjs firebase

jwngr Updated docs version numbers and added \$firebaseStorage to README (#905) 3c793e7 on 23 Jan

6 contributors

223 lines (175 sloc) | 7.82 KB

Raw Blame History

Quickstart | AngularFire

AngularFire is the officially supported AngularJS binding for Firebase. The combination of Angular and Firebase provides a three-way data binding between your HTML, your JavaScript, and the Firebase database.

1. Create an Account

The first thing we need to do is [sign up for a free Firebase account](#). A brand new Firebase project will automatically be created for you which you will use in conjunction with AngularFire to authenticate users and store and sync data.

2. Add Script Dependencies

In order to use AngularFire in a project, include the following script tags:

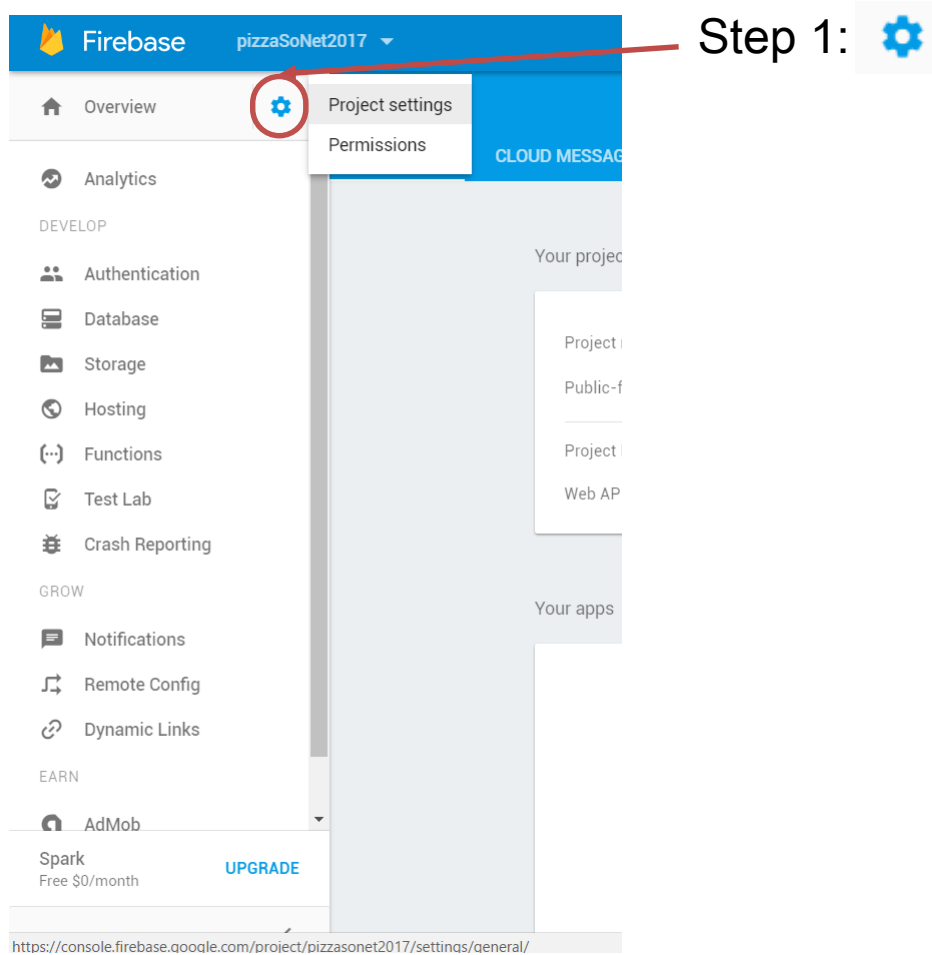
```
<!-- Angular -->
<script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.1/angular.min.js"></script>

<!-- Firebase -->
<script src="https://www.gstatic.com/firebasejs/3.6.6/firebase.js"></script>


<!-- AngularFire -->
<script src="https://cdn.firebase.com/libs/angularfire/2.3.0/angularfire.min.js"></script>
```

Firebase and AngularFire are also available via npm and Bower as `firebase` and `angularfire`, respectively. A Yeoman

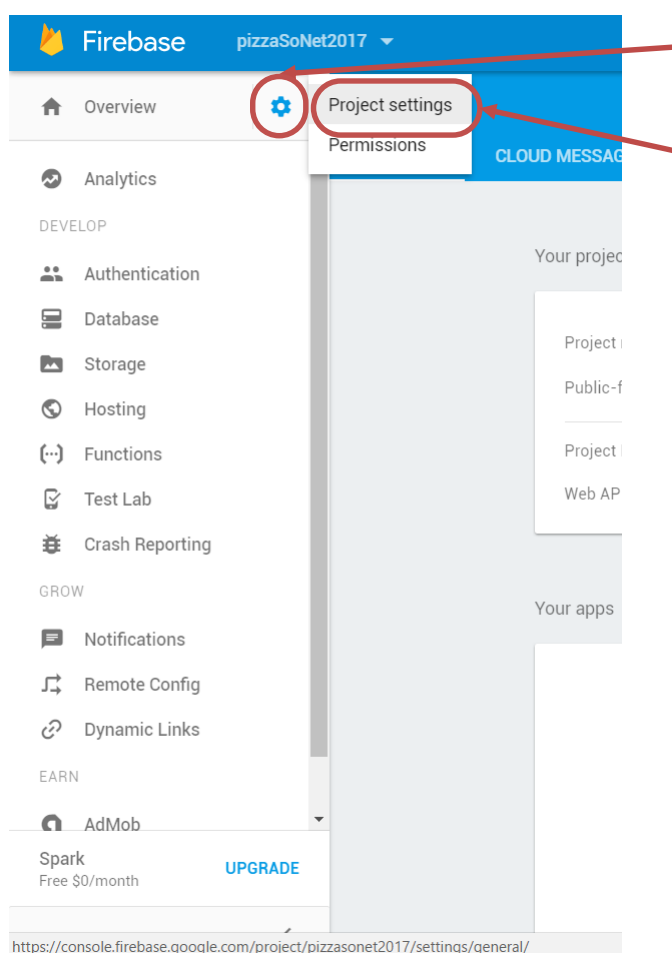
Tip: to get config info




The image shows a screenshot of the Firebase console interface. At the top, the header displays the Firebase logo, the project name "pizzaSoNet2017", and a dropdown arrow. Below the header is a navigation menu with several categories: Overview, Analytics, DEVELOP (Authentication, Database, Storage, Hosting, Functions, Test Lab, Crash Reporting), GROW (Notifications, Remote Config, Dynamic Links), and EARN (AdMob). A red circle highlights the gear icon in the Overview section, which opens a dropdown menu containing "Project settings" and "Permissions". A red arrow points from the text "Step 1:" and a gear icon to this dropdown menu. The "Project settings" option is highlighted in blue. Below the navigation menu, there are sections for "Your projects" and "Your apps". At the bottom left, there is a "Spark" section with "Free \$0/month" and an "UPGRADE" button. The URL at the bottom of the screenshot is <https://console.firebase.google.com/project/pizzasonet2017/settings/general/>.

Step 1: 

Tip: to get config info



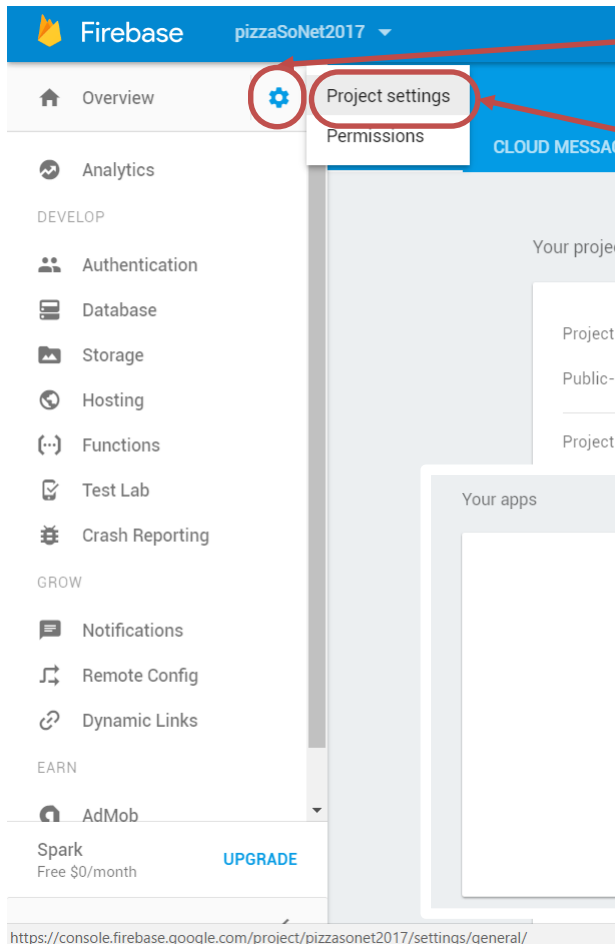
The screenshot shows the Firebase console interface for a project named 'pizzaSoNet2017'. The left-hand navigation menu is visible, with a gear icon next to the 'Project settings' option. A red circle highlights this gear icon, and a red arrow points from it to the text 'Step 1: [gear icon]'. Another red arrow points from the 'Project settings' text in the dropdown menu to the text 'Step 2: Project Settings'. The dropdown menu also shows 'Permissions' and 'CLOUD MESSAGES'. The main content area is partially visible, showing 'Your project' and 'Your apps' sections. At the bottom of the screenshot, the URL <https://console.firebase.google.com/project/pizzasonet2017/settings/general/> is displayed.

Step 1: 

Step 2: Project Settings

<https://console.firebase.google.com/project/pizzasonet2017/settings/general/>

Tip: to get config info



Step 1: 

Step 2: Project Settings

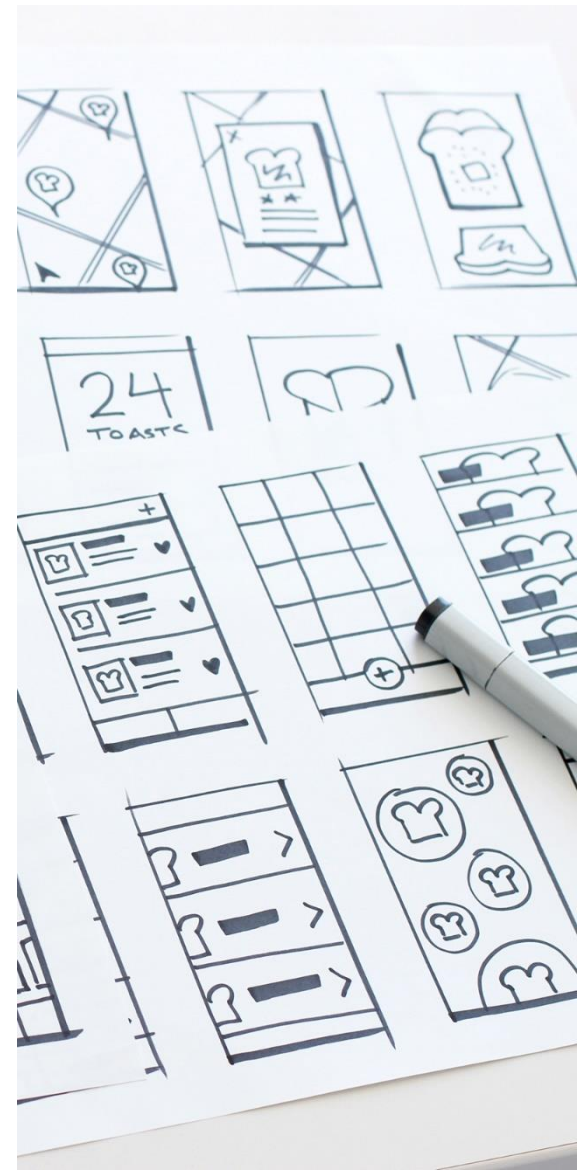
Step 3: Add Firebase to your web app

Questions?




01QYAPD SOCIAL NETWORKING: TECHNOLOGIES AND APPLICATIONS

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