HYBRID APP DEV

PRACTICE SESSION 2: Persistent Data

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CREATIVE APPS, DEC2016

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Session Theme: Data Persistence

- Data in memory
  - Scope: App
  - Temporary use
  - Examples from previous week
- Data in LocalStorage
  - Scope: App & potentially other Apps (in device)
  - Extended use
  - Example: localStorage -today
- Data in external databases
  - Scope App & other users of same App & potentially other Apps
  - Long-term use
  - Example FireBase -today

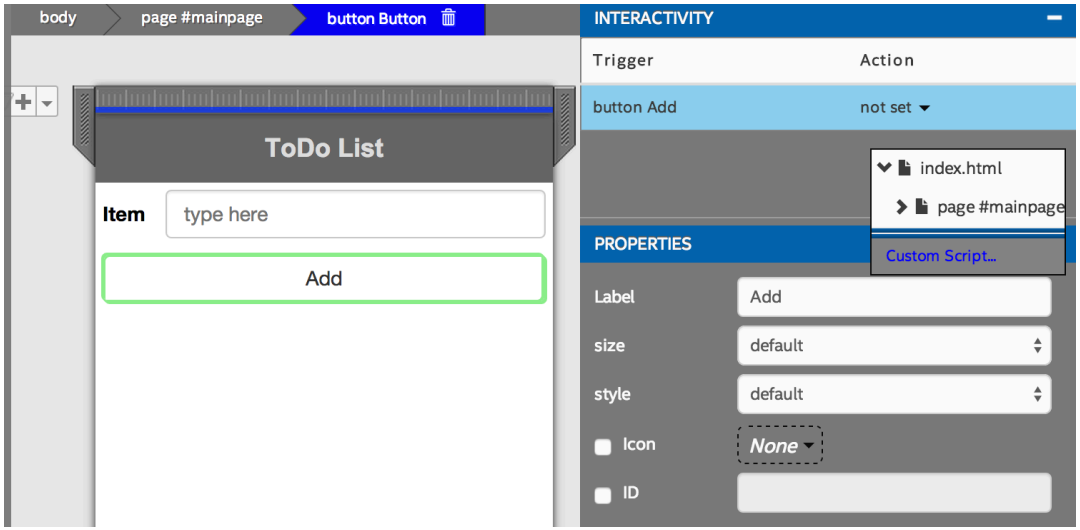
Overview

- Use XDK's designer tools for coding event
- Persistent Data
  - LocalStorage
  - FireBase

Exercise 1: Trigger Event with Designer Tools

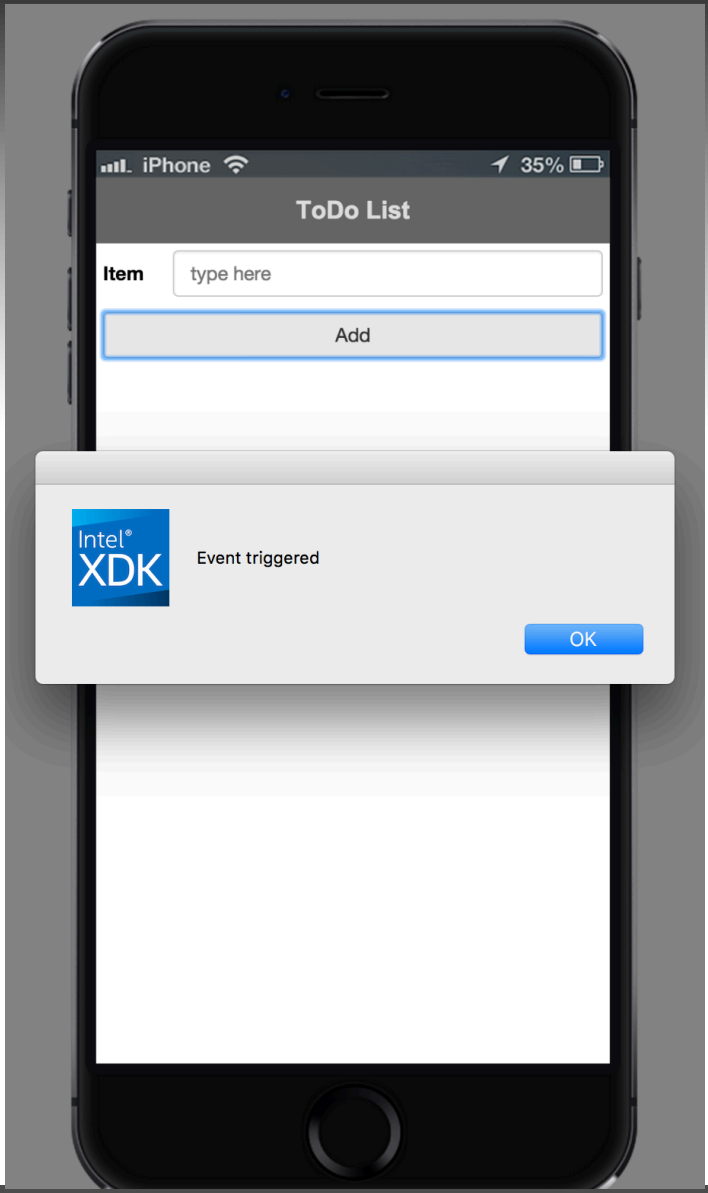
- Choose a UI element
- Click on the right under *Action*: *"Custom script"* (on "Interactivity" tab)

- New Javascript file will be created where you can code the UI element's behaviour



Exercise 1a:

- When user clicks on button there is a message: “Event Triggered”
- Tip:
  - Use as much as you can the XDK Designer tools



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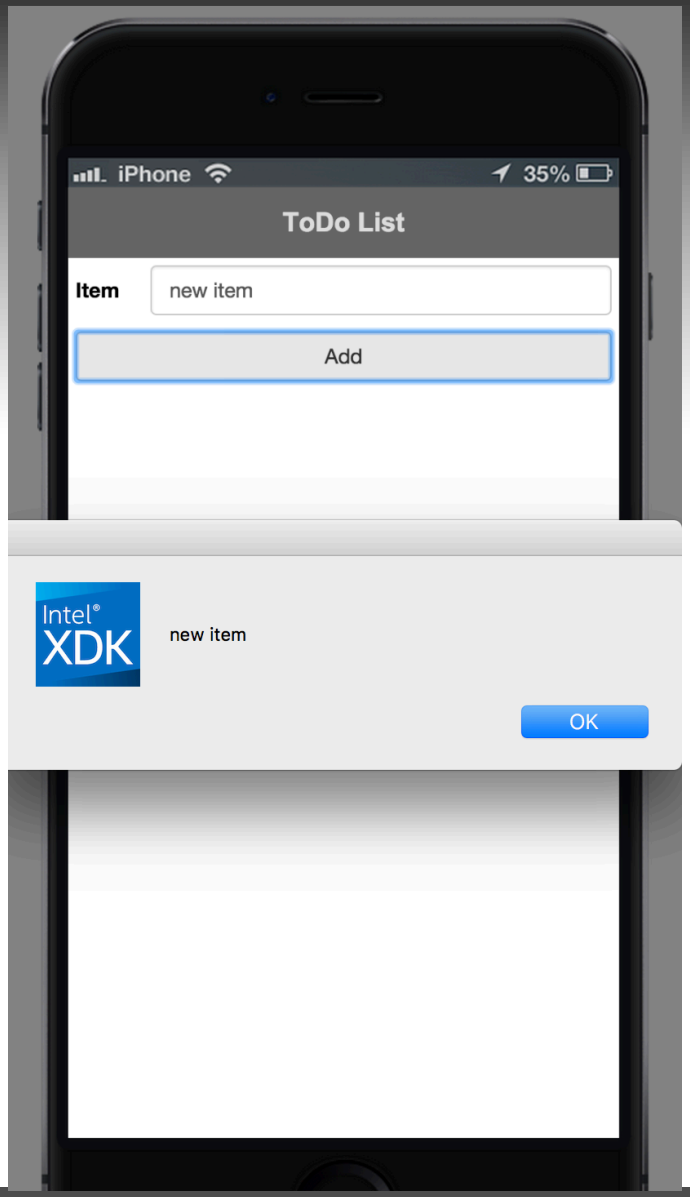
Exercise 1b:

- When user clicks on button there is a message with the text inserted as input
- Tip: give the input box an *id* first



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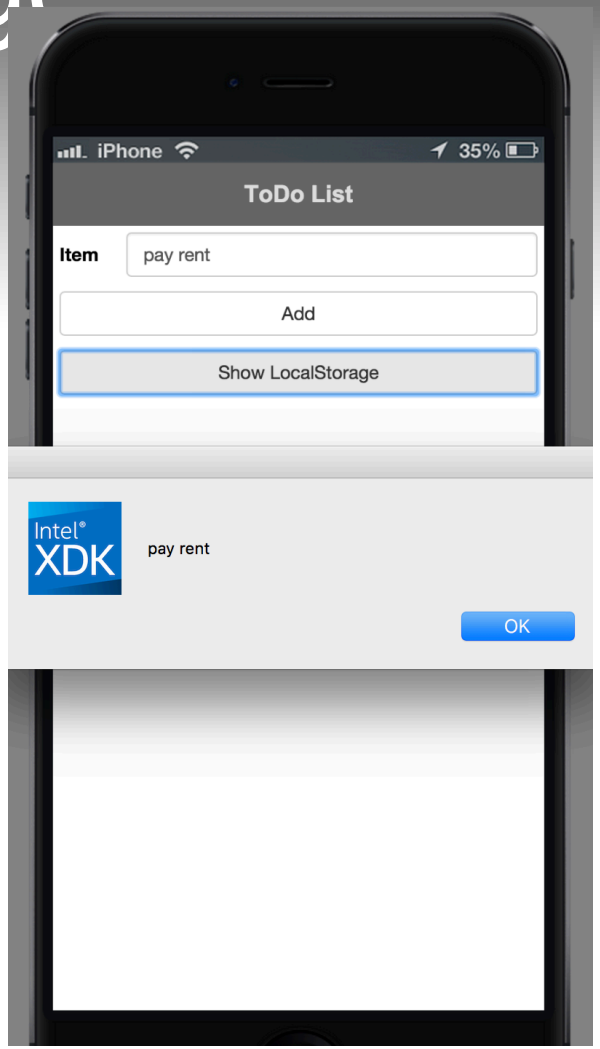
Exercise 2: LocalStorage

- Save value on LocalStorage
- When user clicks on another button the stored value will appear on a message
- Tip: http://www.w3schools.com/html/html5_webstorage.asp
- *Values will be persistently stored on your device but not on the emulator*



Exercise: ToDo List app

- Complete example code on Wiki
- Main idea: have one key “myData” and set / delete values in JSON format

- Btw. emulator erases LocalStorage when shut down −try app in App Preview (on your phone)

Exercise 3: Firebase

- "*Firebase is a mobile platform that helps you quickly develop high-quality apps, grow your user base, and earn more money. Firebase is made up of complementary features that you can mix-and-match to fit your needs.*" https://firebase.google.com/

Firebase

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Firebase

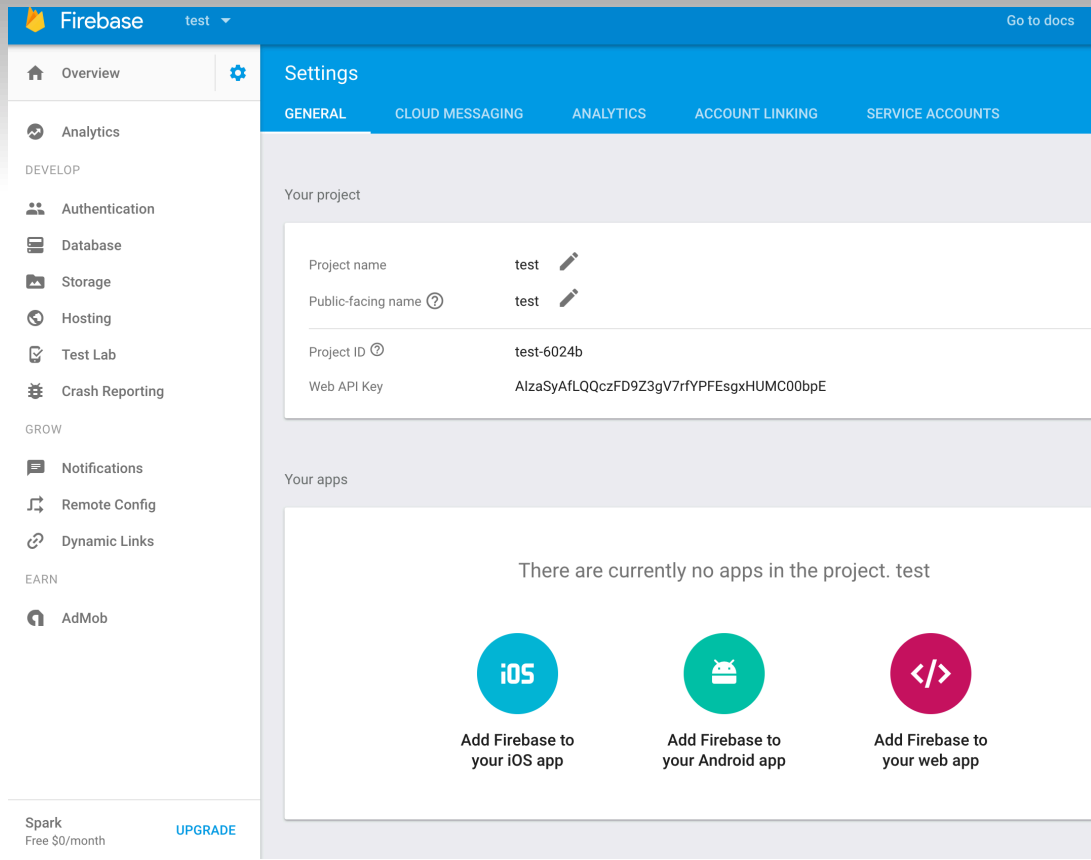
- A tool made by Google
  - Fast real time data (chat, web-games)
  - Storage (online storage, so stored when you close the app).
  - Sharing (across different users, different platforms, different devices)
  - Build in support for failing network connection, data will be added to queue
  - Safety (It is relativly easy to hide the data for not logged in users).

Firebase (it’s just JSON)

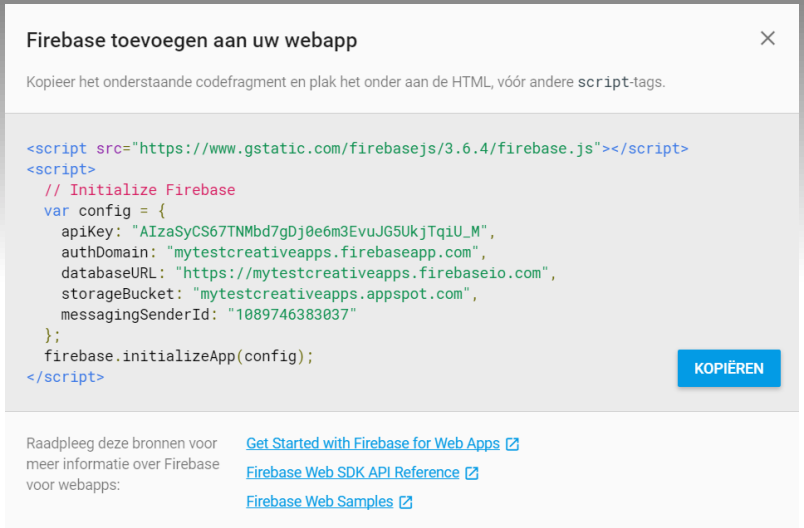
firebase.database().ref();

Steps

- Make a new Firebase
- Click “Add Firebase to your web app”
  - Settings Icon -> Project Settings
  - Copy value of var config
  - Paste value in XDK project (in Wiki)



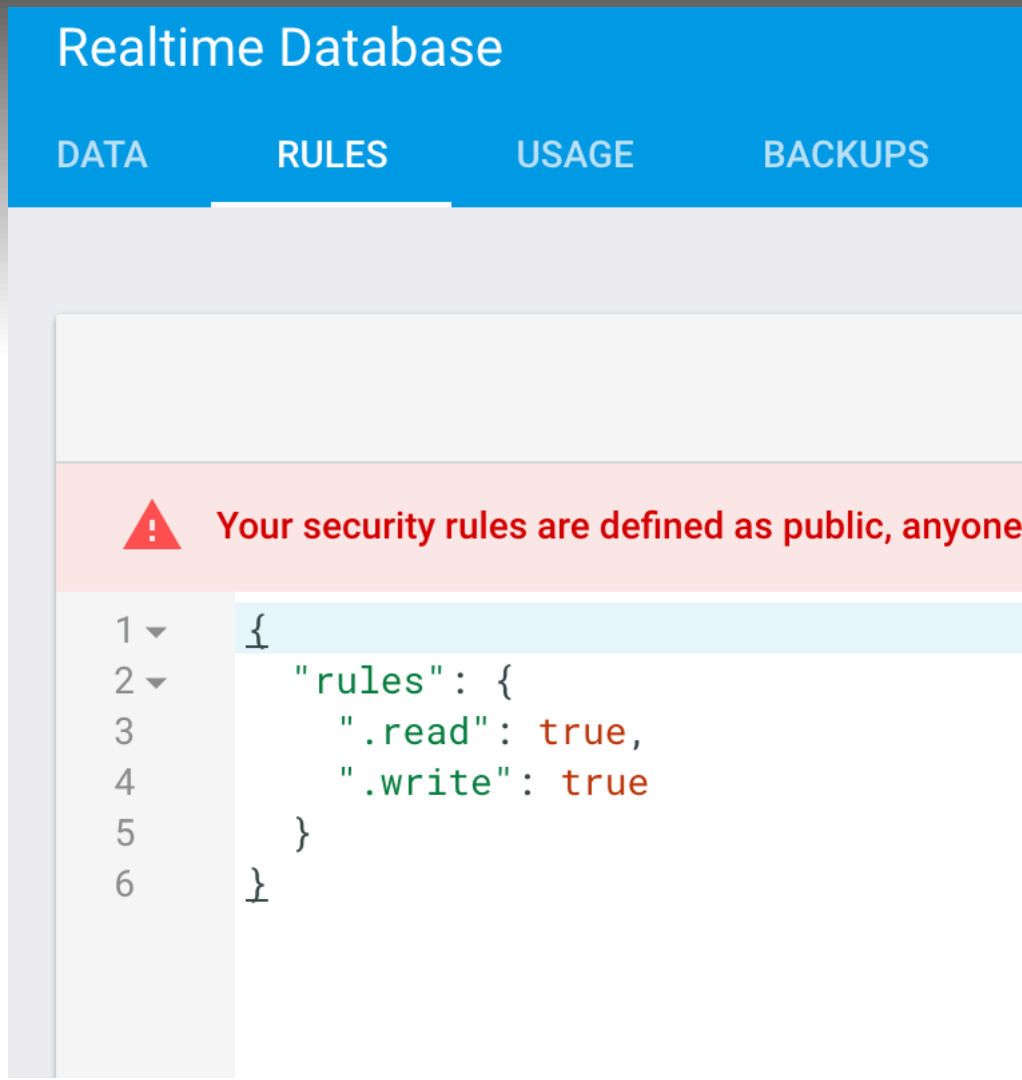
Setup code



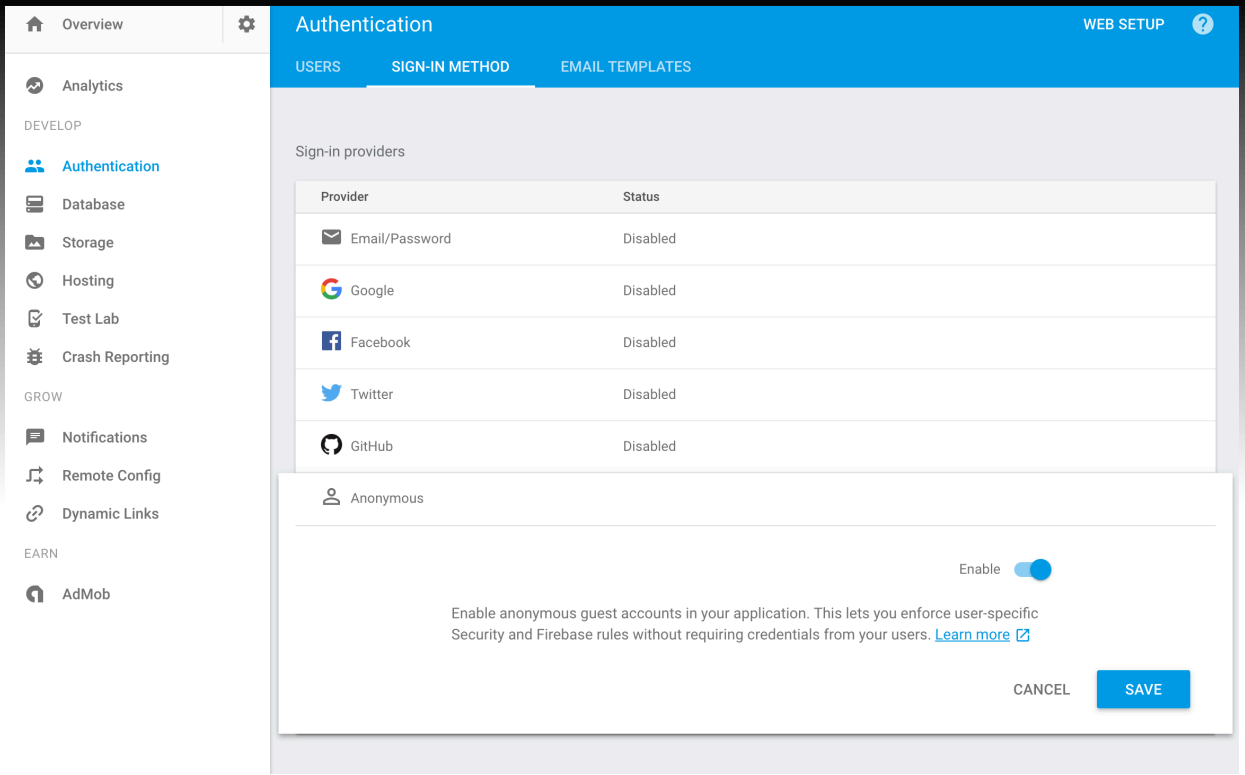

```
//Just some information to make your app connect to firebase
var config = {
        apiKey:
"AIzaSyCS67TNMbd7gDj0e6m3EvuJG5UkjTqiU_M",
        authDomain: "mytestcreativeapps.firebaseapp.com",
        databaseURL: "https://mytestcreativeapps.firebaseio.com",
        storageBucket: "mytestcreativeapps.appspot.com",
        messagingSenderId: "1089746383037"
      };
    firebase.initializeApp(config);
```

Steps

- Change Rules
  - Database -> Rules
  - Click “Publish”



Steps



- Enable Anonymous authentication
  - Authentication -> Sign-in method
- Run on emulator & see real-time changes on Database

Some array functions

Try out: http://jsbin.com/vomasuqidi/edit?js,console

```
var a = ["apple","pinda","carrot"]
a.forEach(function (element,id){
    console.log("element " + element)
    console.log("id " + id)
})
```

element apple
id 0
element pinda
id 1
element carrot
id 2

```
var a = ["apple","pinda","carrot"]
a.push("banana")
a.forEach(function (element,id){
    console.log(element + ",")
})
```

apple,
pinda,
carrot,
banana,

```
var a = ["apple","pinda","carrot","banana"]
a = a.splice(1,2)
a.forEach(function (element,id){
    console.log(element)
})
```

apple
banana

```
console.log(a.indexOf("carrot"))
```

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More on Firebase

- https://firebase.google.com/docs/web/setup

Solutions

- In WIKI

SUMMARY

- Exercises on Persistent Data

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