iOS Development II

Introduction to the Cloud

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oneset

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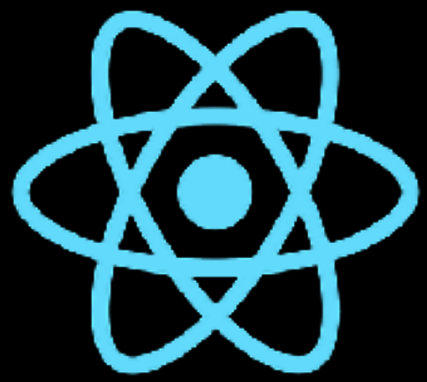
ENGINE



What you need

- A device running OSX
- Xcode (Latest)
- Understanding of:
  - iOS Development
  - Cocoapods
  - OOP
  - Swift
  - The Cloud

Database

Push Notifications

A/B Testing

Storage

Authentication

Machine Learning

The Cloud

Analytics

Synchronization

Dynamic Links

Messaging

Backup

Authentication

Database

Firebase

Authentication

Setup

Podfile

```
pod 'Firebase/Core'
pod ‘Firebase/Auth'
```

AppDelegate

```
import Firebase
```

AppDelegate —> didFinishLaunchingWithOptions

```
FirebaseApp.configure()
```

https://firebase.google.com/docs/auth/ios/start

Authentication

Login & Register

Sign up new users

```
Auth.auth().createUser(withEmail: email, password: password) { (authResult, error) in
  // ...
  guard let user = authResult?.user else { return }
}
```

Sign in existing users

```
Auth.auth().signIn(withEmail: email, password: password) { (user, error) in
  // ...
}
```

https://firebase.google.com/docs/auth/ios/start

Authentication

State management

Listen for authentication state

```
handle = Auth.auth().addStateDidChangeListener { (auth, user) in
  // ...
}
```

Detatch auth-state listener

```
Auth.auth().removeStateDidChangeListener(handle!)
```

https://firebase.google.com/docs/auth/ios/start

Authentication

User Model

Get user information

```
if let user = user {
  let uid = user.uid
  let email = user.email
  let photoURL = user.photoURL
  // ...
}
```

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Authentication

Database

Firebase

Database

Setup

Podfile

```
pod 'Firebase/Core'
pod ‘Firebase/Database
```

AppDelegate

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import Firebase
```

AppDelegate —> didFinishLaunchingWithOptions

```
FirebaseApp.configure()
```

https://firebase.google.com/docs/database/ios/start

Database

Structure

JSON

```
{
  "users": {
    "alovelace": {
      "name": "Ada Lovelace",
      "contacts": { "ghopper": true },
    },
    "ghopper": { ... },
    "eclarke": { ... }
  }
}
```

Arrays?

Dictionaries

Heavy Nesting?

Flatten data structures

https://firebase.google.com/docs/database/ios/start

Database

Writing

Step 1. Reference

```
var ref: DatabaseReference!
ref = Database.database().reference()
```

Step 2. Write

```
self.ref.child("users").child(user.uid).setValue(["username": username])
```

OR

```
self.ref.child("users/\(user.uid)/username").setValue(username)
```

https://firebase.google.com/docs/database/ios/start

Database

Reading

Step 1. Reference

```
var ref: DatabaseReference!
ref = Database.database().reference()
```

Step 2. Listen

```
let userID = Auth.auth().currentUser?.uid
ref.child("users").child(userID!).observeSingleEvent(of: .value, with: { (snapshot) in
  // Get user value
  let value = snapshot.value as? NSDictionary
  let username = value?["username"] as? String ?? ""
  let user = User(username: username)

  // ...
  }) { (error) in
    print(error.localizedDescription)
}
```

https://firebase.google.com/docs/database/ios/start

Database

Listening

```
let userID = Auth.auth().currentUser?.uid
ref.child("users").child(userID!).observeSingleEvent(of: .value, with: { (snapshot) in
}
```

```
/// A new child node is added to a location.
FIRDataEventTypeChildAdded,
/// A child node is removed from a location.
FIRDataEventTypeChildRemoved,
/// A child node at a location changes.
FIRDataEventTypeChildChanged,
/// A child node moves relative to the other child nodes at a location.
FIRDataEventTypeChildMoved,
/// Any data changes at a location or, recursively, at any child node.
FIRDataEventTypeValue
```

https://firebase.google.com/docs/database/ios/start

Potential

Authentication + Database

Demo