Workshop 10: A New Future for Tackling Back-End Authentication

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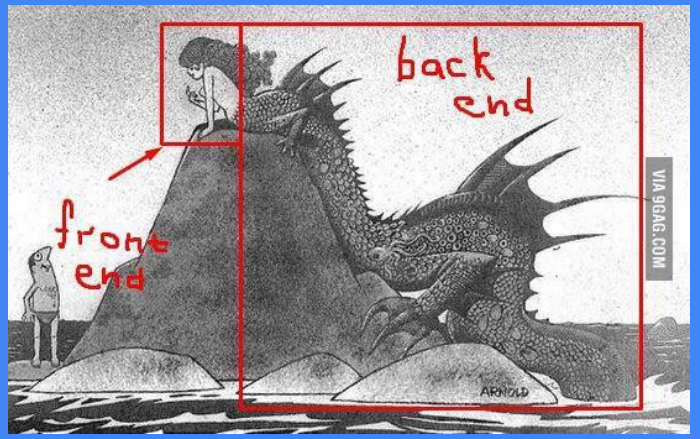
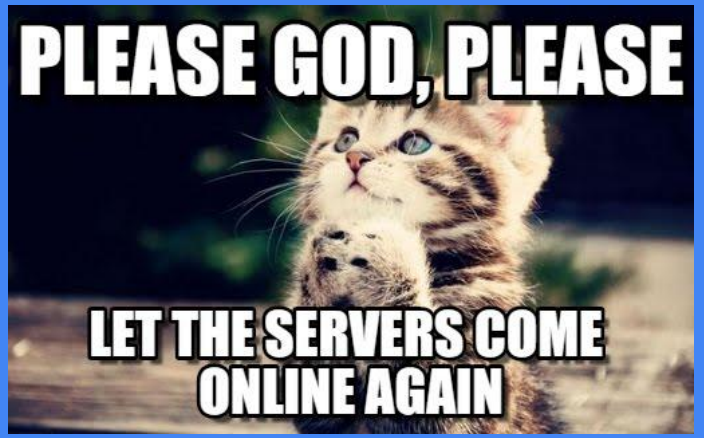
MOSCMY

Creating Successful App isn’t easy

Esp. Back_End

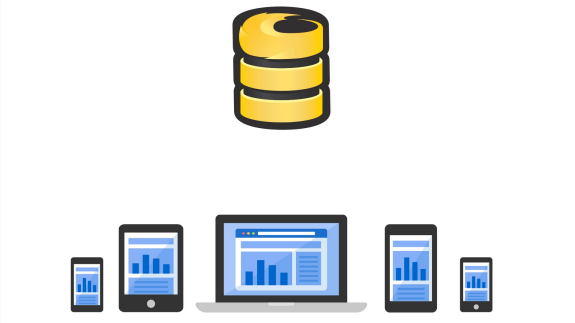




Introducing Firebase

What is Firebase Technically

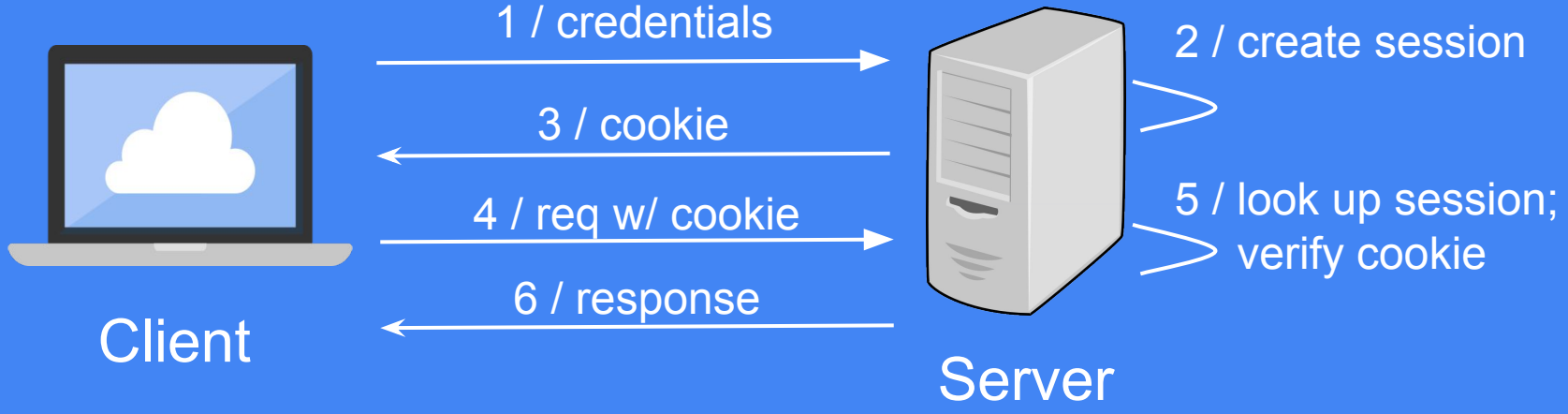
- MBaaS (Mobile BackEnd as a Service) without managing back-end
- Reached Growth of 450,000 Developers using Firebase
- Consist of:
  - Real Time Database (Cloud Hosted NoSQL)
  - Authentication APIs (Email password, Anonymous, Facebook, Twitter, Github, Google)
  - Hosting (Serve Static Assets, SSL By Default)
- Suite of Integrated Products to help Grow, Develop, Earn (Adwords, Analytics, Test Labs)



Let’s talk abit about Auth

Security Matters

Cookie Based Authentication



However, there’s flaw in Cookies-Auth ..

Requires stateful servers

Requires server lookup

Limited to one domain

Susceptible to CSRF

Lack of mobile support

So, let’s go JWT (JSON Web Tokens)

JWT

Not encrypted

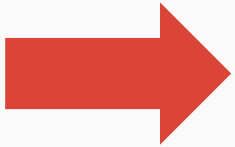
Claims contains custom data

Stored in local storage

Server generates and validates JWTs

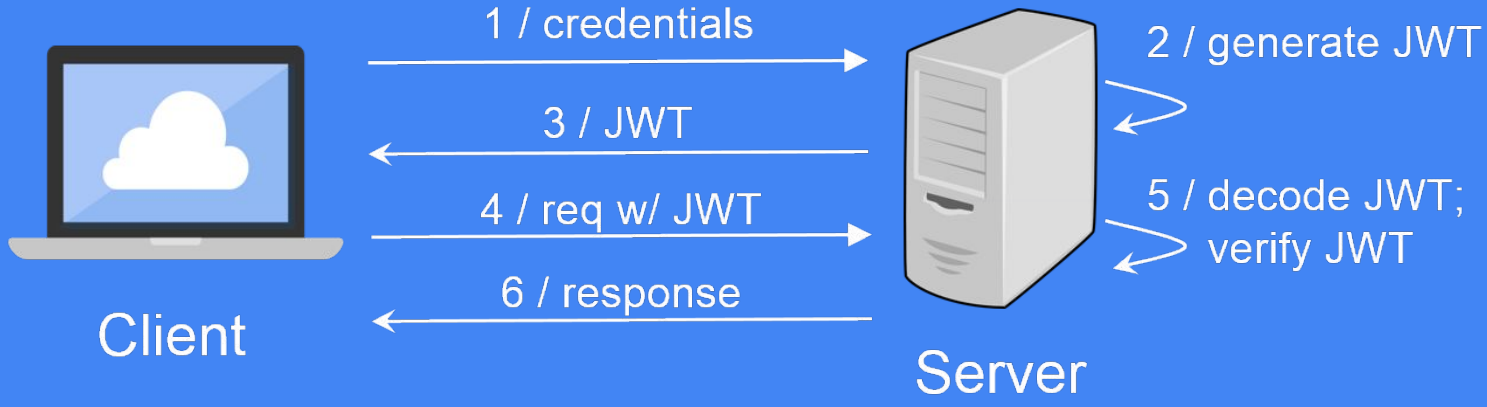
JWT

eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1
NiJ9 eyJ2IjowLCJkIjp7InVpZCI6ImFu
b255bW91czotSnJRcXhESThMX2ZCL
VFndnVjbiIsInByb3ZpZGVyIjoiYW5vbn
ltb3VzIn0sImlhdCI6MTQzMzkxMjcyNX
0 L9G282A3G6qgAds3YWEFzdX4olcyT
z_S9q9ptJSH0T_nc



```
{
    "typ": "JWT",
    "alg": "HS256"
}
{
    "sub": "jwngr",
    "exp": 1433913414641
}
HMACSHA256(base64(hea
der) + base64(payload) +
secret);
```

JWT Based Authentication



Why JWT ?

State is kept on the client, not the server

Work across multiple domains

Work just as well on mobile as they do on web

Generated / validated by anyone with the secret

Susceptible to XSS (so be careful!)

So JWTs are awesome and all…

… but how do get the data to put in them?

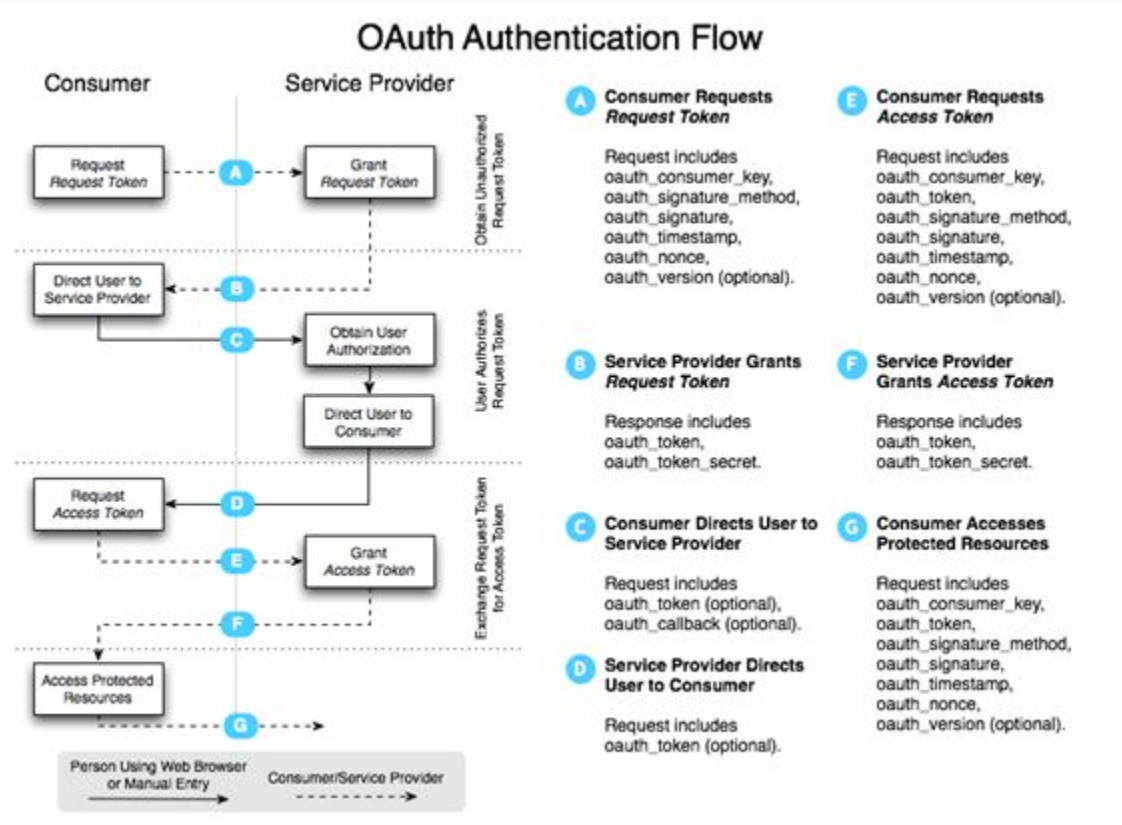
Why Auth being Hard

Need server to generate JWTs

Need database to store users

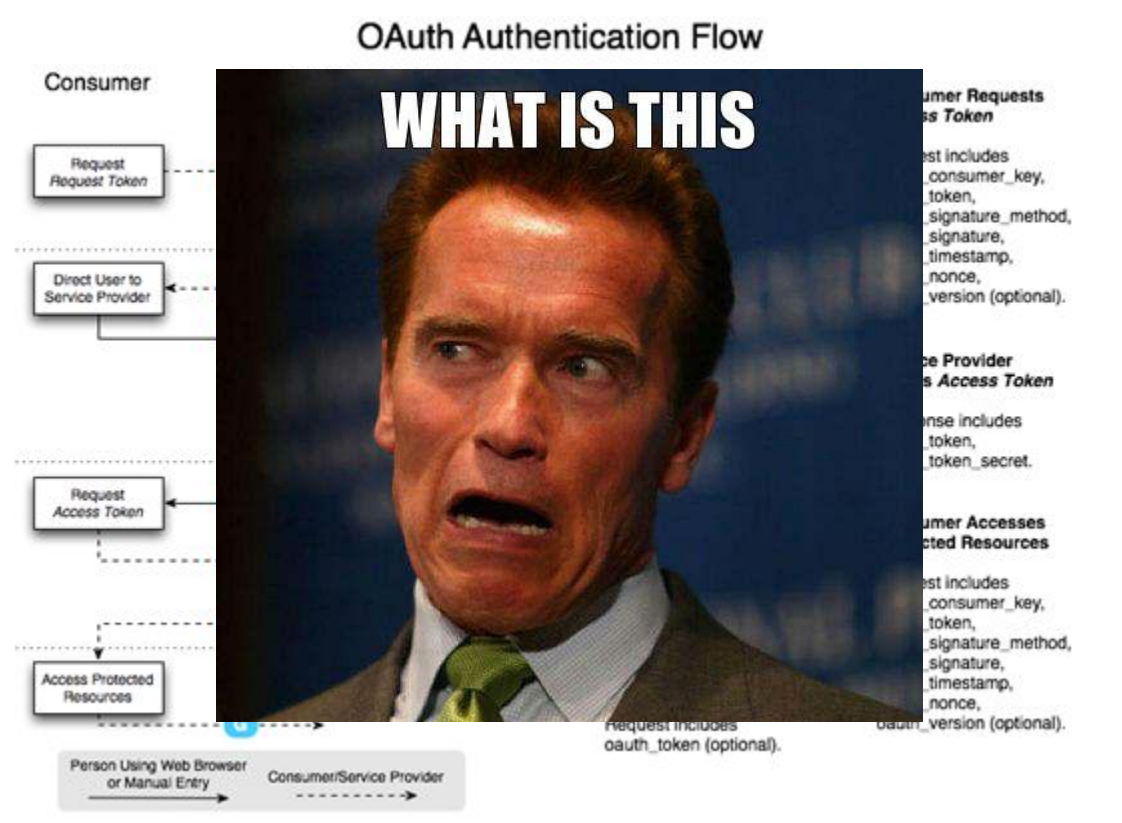
Storing passwords is tricky

OAuth Method



http://p2p.wrox.com/content/sites/default/files/users/17/image/figures%20ch6/531327%20f0602.png

OAuth Method



Here comes Firebase

Authenticating User using Email P/W

```
firebase.auth().signInWithEmailAndPassword(email,
password).catch(function(error) {
  // Handle Errors here.
  var errorCode = error.code;
  var errorMessage = error.message;
  // ...
});
```

Detecting Auth State

```
firebase.auth().onAuthStateChanged(function(user) {
  if (user) {
    // User is signed in.
  } else {
    // No user is signed in.
  }
});
```

Creating Users

```
firebase.auth().createUserWithEmailAndPassword(email,
password).catch(function(error) {
  // Handle Errors here.
  var errorCode = error.code;
  var errorMessage = error.message;
  // ...
});
```

Now Firebase can go Beyond

New Firebase

[redacted]

[redacted]

Let’s Code

Since it’s a ‘workshop’

https://codelabs.developers.google.com