

Qwerty

Ingeniería de Software

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Frameworks



Flutter



Flask

Problemática 🙄

Problemática

- Aplicación sin seguridad
- Nuevos cambio pueden traer errores



Técnicas 

Técnicas

- JWT
- Testing & Code coverage
- GraphQL (hubieron problemas)
😓

JWT
JSON WEB TOKEN



HEADER
ALGORITHM
& TOKEN TYPE

```
{  
  "alg": "HS256",  
  "typ": "JWT"  
}
```

+

PAYLOAD
DATA

```
{  
  "sub": "1234567890",  
  "name": "John Doe",  
  "admin": true  
}
```

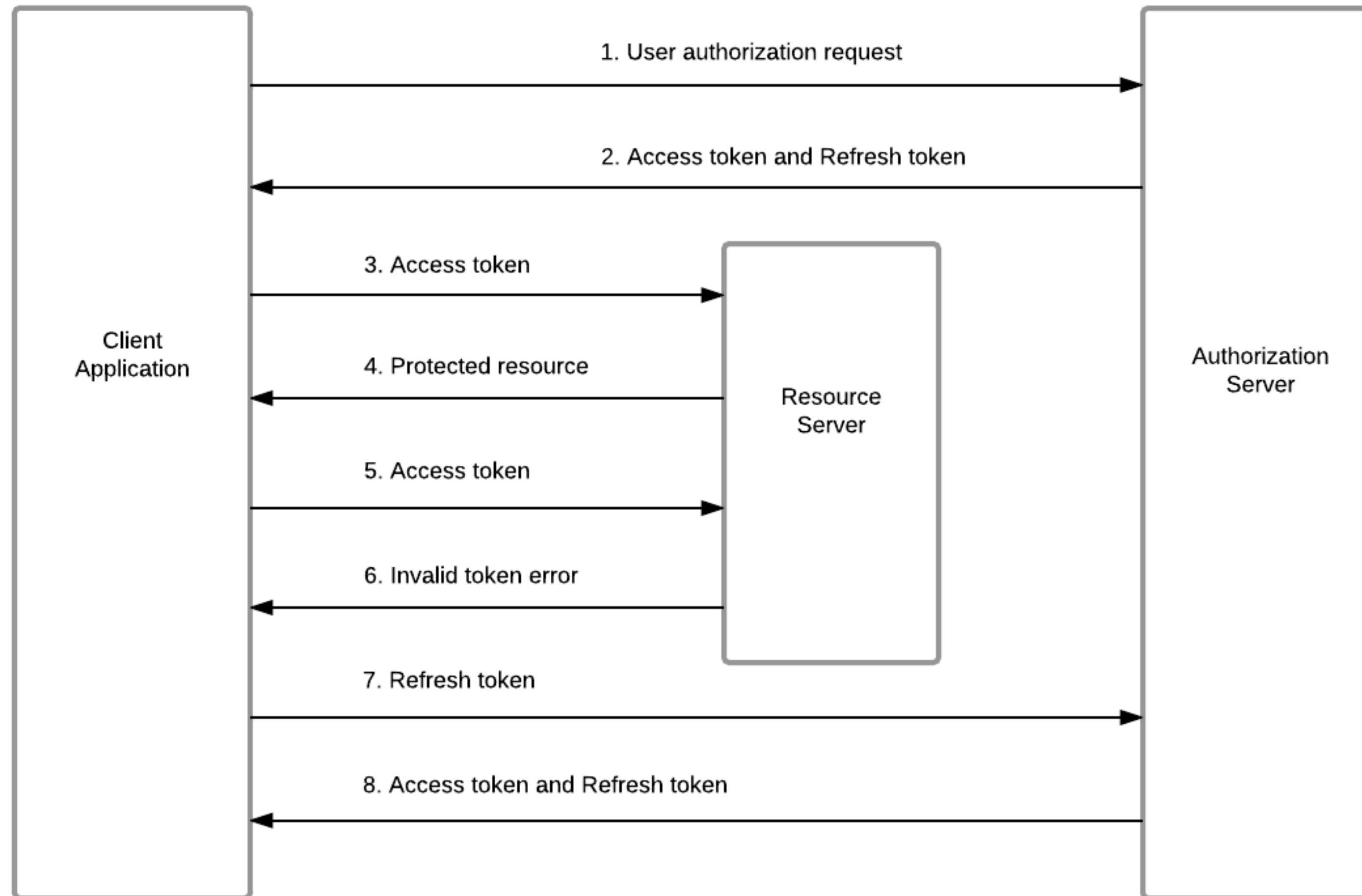
+

SIGNATURE
VERIFICATION

```
HMACSHA256(  
  base64UrlEncode(header) + "." +  
  base64UrlEncode(payload), secretKey)
```

Solución 🎉

Solución JWT



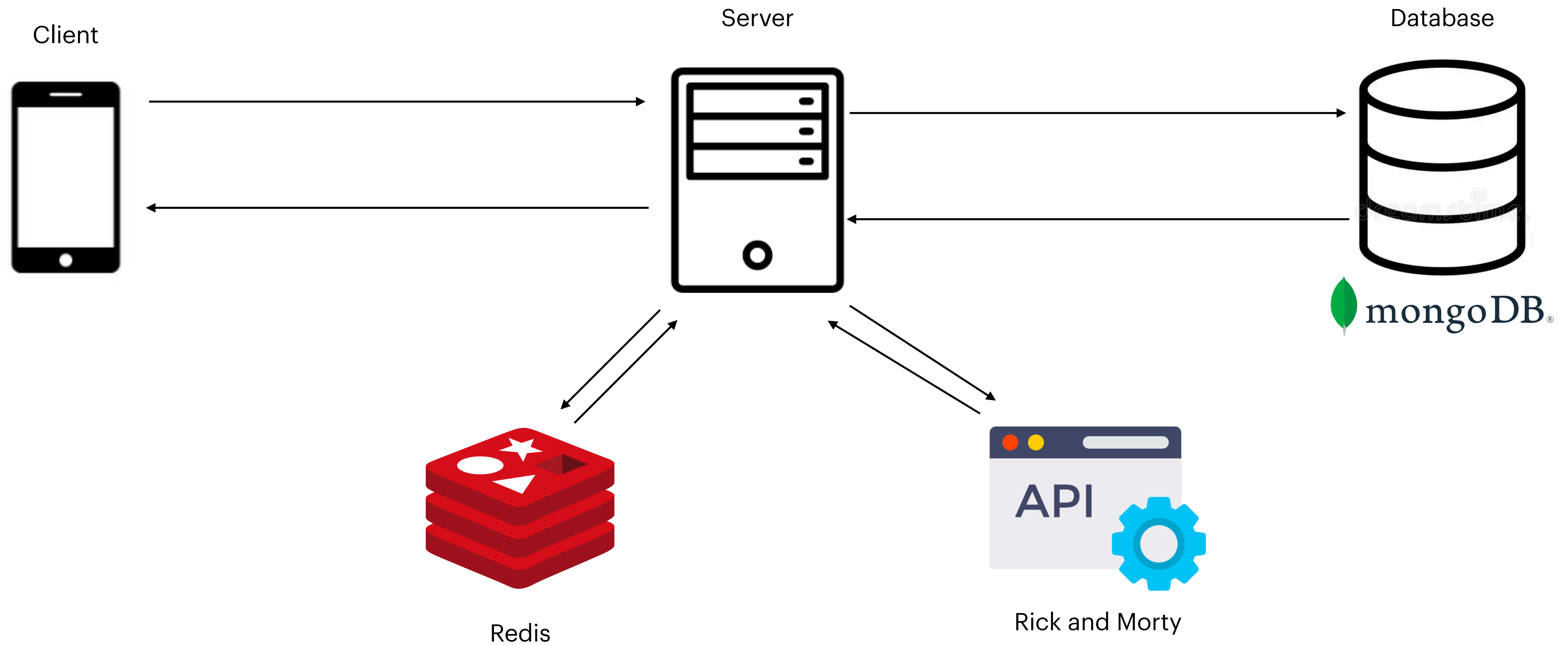
Solución

Unit testing & Code coverage

LCOV - code coverage report

Current view: top level - src/lib/src - secure_storage.dart (source / functions)		Coverage	Total	Hit
Test: lcov.info		Lines: 100.0 %	10	10
Test Date: 2023-07-11 17:42:00		Functions: -	0	0
Line data	Source code			
1	: import 'package:flutter_secure_storage/flutter_secure_storage.dart';			
2	: import 'package:storage/storage.dart';			
3	:			
4	: /// {@template secure_storage}			
5	: /// A Secure Storage client which implements the base [Storage] interface.			
6	: /// [SecureStorage] uses `FlutterSecureStorage` internally.			
7	: /// {@endtemplate}			
8	: class SecureStorage implements Storage {			
9	: /// {@macro secure_storage}			
10	2 : const SecureStorage({FlutterSecureStorage? secureStorage})			
11	: : _secureStorage = secureStorage ?? const FlutterSecureStorage();			
12	:			
13	: final FlutterSecureStorage _secureStorage;			
14	:			
15	1 : @override			
16	: Future<String?> read({required String key}) async {			
17	: try {			
18	2 : return await _secureStorage.read(key: key);			
19	: } catch (error, stackTrace) {			
20	2 : Error.throwWithStackTrace(StorageException(error), stackTrace);			
21	: }			
22	: }			
23	:			
24	1 : @override			
25	: Future<void> write({required String key, required String value}) async {			
26	: try {			
27	2 : await _secureStorage.write(key: key, value: value);			
28	: } catch (error, stackTrace) {			
29	2 : Error.throwWithStackTrace(StorageException(error), stackTrace);			
30	: }			
31	: }			
32	:			
33	1 : @override			
34	: Future<void> delete({required String key}) async {			
35	: try {			
36	2 : await _secureStorage.delete(key: key);			
37	: } catch (error, stackTrace) {			
38	2 : Error.throwWithStackTrace(StorageException(error), stackTrace);			
39	: }			
40	: }			
41	: }			

Solución Arquitectura



Demo 🕶️

Conclusiones 🤯

Conclusiones

- JWT nos brinda la seguridad de que los servicios que se ofrecen sea utilizado por aquellos que tengan la autorización de usarlo
- Unit testing nos ayuda a garantizar que las funcionalidades tengan un comportamiento adecuado
- Code coverage nos ayuda a ver que tanto de nuestro código esta protegido a posibles errores.

Bibliografía

- *Access Token Response - OAuth 2.0 Simplified*. (2021, December 16). OAuth 2.0 Simplified. <https://www.oauth.com/oauth2-servers/access-tokens/access-token-response/>
- *RFC 7519: JSON Web Token (JWT)*. (2015, May 19). IETF Datatracker. <https://datatracker.ietf.org/doc/html/rfc7519>
- Sevilla, M. (2022, April 12). Very good layered architecture in Flutter. *A Very Good Blog*. <https://verygood.ventures/blog/very-good-flutter-architecture>