inConstant

Manage mobile app constants on Cloud!

https://inConstant.hoodoomail.com

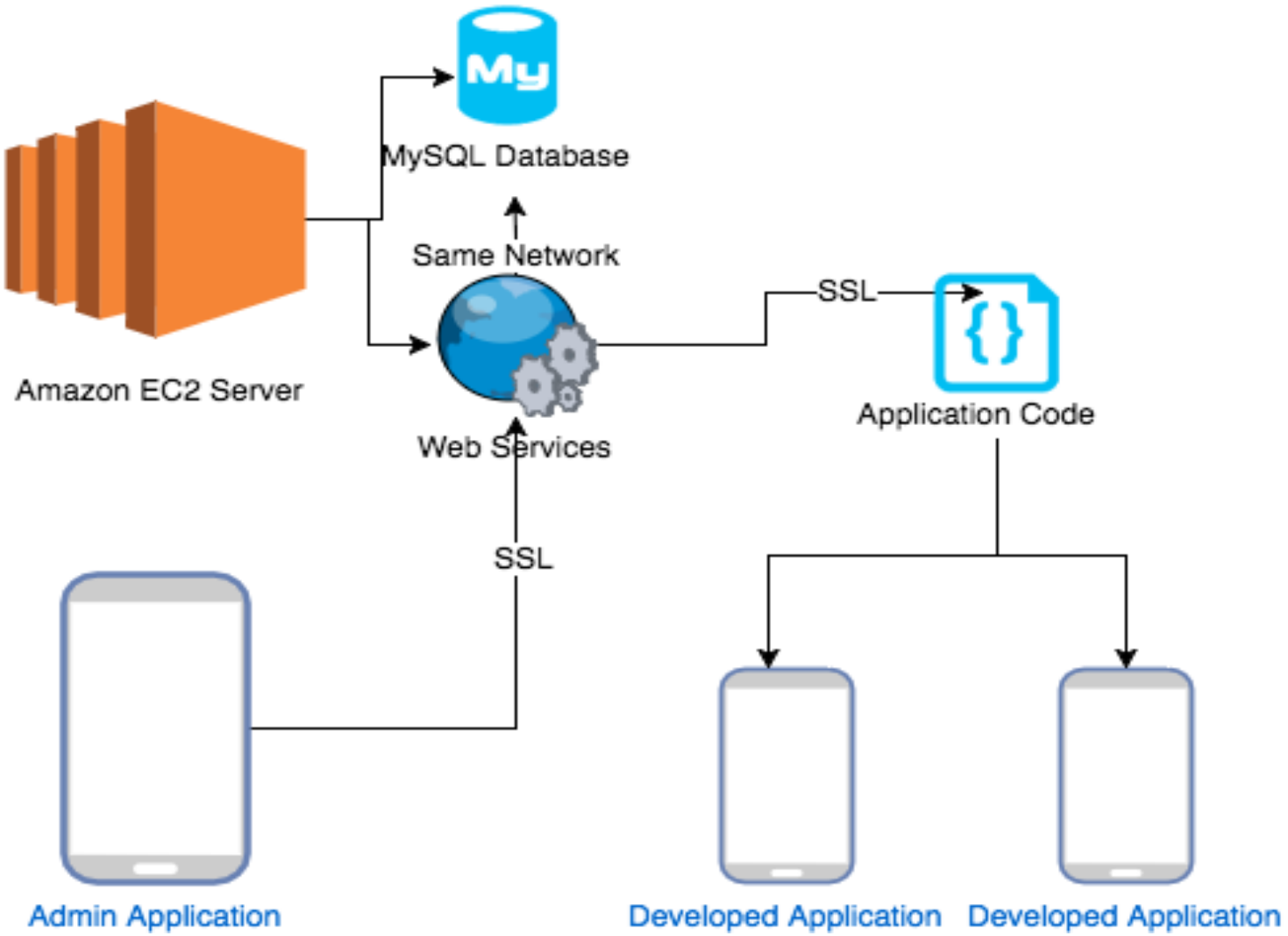
Problem

- For developers, It is pretty obvious and handy to make a constant file and access those constants in different parts of the application.
- Developers store constant values like different Error messages, OAuth credentials, integer limits, color codes etc on a single file.
- Many times it happens that launched application needs some minor changes in constant files. Ie. change in color codes or refreshed OAuth secret. Traditional way is to launch an update of the application and force users to update it, which is very inconvenient.

Solution

- The idea is to develop a backend system that provides a cloud based secure solution to change constant values remotely without manipulating hand written code. The solution will be provided by developing high-quality Android library, good documentation, end-to-end encryption method to secure credentials, other data and easy to use admin panel.

Flow


MySQL Database
Same Network
Amazon EC2 Server
SSL
Application Code
Web Services
SSL
Admin Application
Developed Application
Developed Application

Security Goals

- All Constant values are assets, which must be confidential.
- Every user's data must encrypted using different keys.
- Servers should not be able to read the decrypted data.
- Only authenticated clients should be able to fetch and decrypt constant data to their application.

- Assumption: Line is always secure with SSL.

Security Solution

- All encryption/decryption will occur on the application, not on inConstant servers. This means that the sensitive data does not travel over the Internet and it never touches servers, only the encrypted data does.
- User's encryption key will be created from user's email address and password.
- Client side application will use user's decryption key (as library parameter) for fetching the constant.
- User passwords will never be sent to server, only a one-way hash of password when authenticating.
- So, the components that make up the key remain local on both client library and admin application.