



Tenant Footprint Rental Tracking Application

Background

Marc Evans, the CEO of Tenant Footprint Ltd, engaged Mobilise Cloud Services to build a rental tracking application that would allow rental payments to contribute to a renter's credit score. The application is built on AWS Serverless Technology and uses third-party APIs such as Equifax and True Layer.

Problem

For most people, a rental payment is the largest monthly outgoing, however, this rental payment doesn't contribute towards their credit profile. Not only did a rental payment not count towards their credit score, but it also wasn't taken into consideration when applying for a mortgage either, despite it being the most comparable monthly payment. Tenant footprint had to be able to process bank transactions made by renters to identify rent payments, and therefore security was a concern, along with being able to handle the processing of thousands of transactions.

Solution

The system allows tenants to build a 'Tenant Footprint' profile based on their payment history. This profile can help build their credit score with credit companies such as Equifax and be shared with future landlords & agents to help them secure new properties. This profile can show mortgage lenders 'demonstrated' affordability instead of 'theoretical' affordability over a given period to help de-risk lending decisions. Extensive data sets offer a realistic alternative to large deposits for first time buyers and a pragmatic solution to 'Generation Rent'.

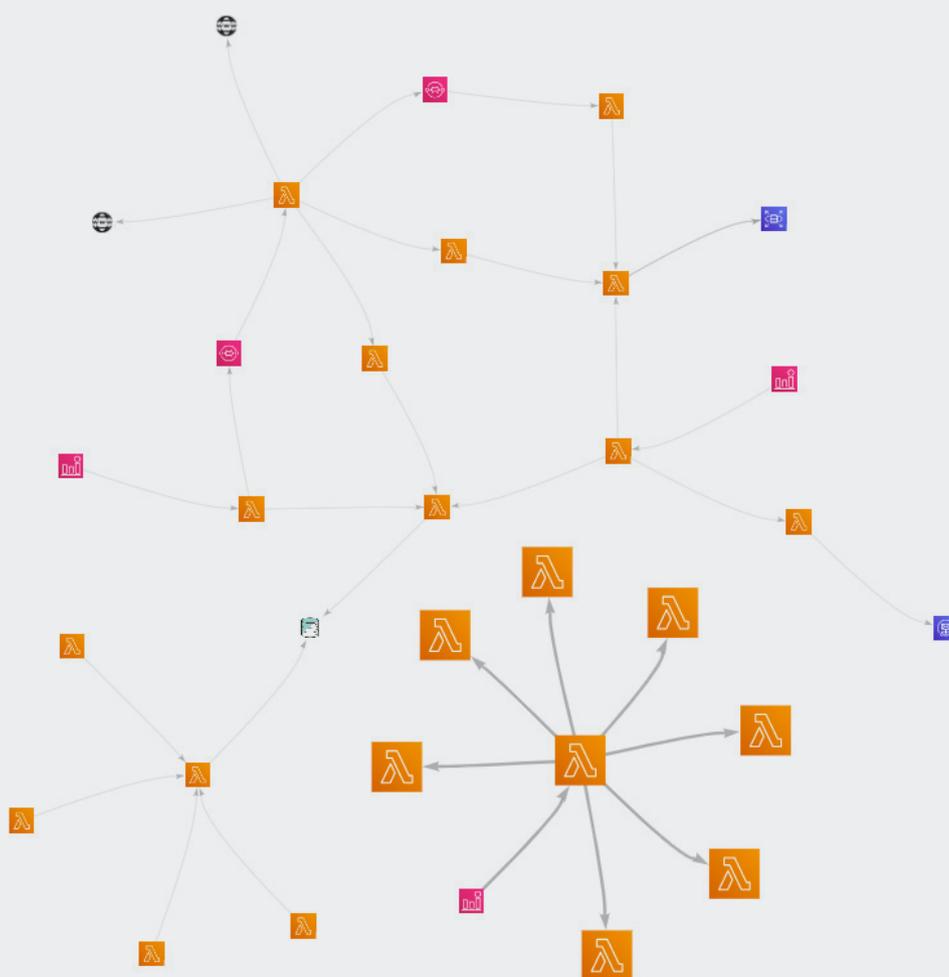
“I had no idea what ‘Serverless’ meant before I spoke to Mobilise. Now I realise I have a scalable platform that will automatically scale with demand and I can forecast run costs as the business scales,” commented Marc Evans.

“Serverless application architecture was perfect for Tenant FootPrint, we look forward to seeing the platform scale up and help generation rent,” said James Carnie, CTO of Mobilise.

Application Architecture

It was decided that the system be built with a largely serverless architecture, with a dedicated server being used only to serve the client-side web application.

Scalability and cost-effectiveness were important factors in deciding the architecture of the application. The application also had to access external APIs, namely Equifax and True Layer. We decided to use serverless Lambda functions for all back-end processing and business logic. Elastic Beanstalk (EC2) for the webserver and an RDS MySQL database for the back end, all of which are deployed using Terraform via Mobilises GitLab CI/CD tool. Cognito is used for secure user authentication and user management such as signup, login, and account recovery flows—enabling us to focus on building the core functionality of the app.



In order to efficiently identify rent payments from bank transactions, SQS Queues have been used to allow for parallel processing so that we can increase throughput and process thousands of tenancy payments simultaneously. Any unsuccessful processes are written to a dead letter queue where they are later re-tried or handled accordingly. This process is triggered daily using Cloudwatch Events.

Tenant Footprint is monitored using Epsagon, where issues are reported and can be tracked easily, along with providing useful architecture maps.

Benefits

- A cost-effective, scalable, and reliable application through the use of serverless Lambdas.
- Automated transaction processing and error handling through the use of SQS and dead letter queues.
- A secure Cloud environment, with DevOps tooling, able to cope with a huge scale without intervention.
- Simple and secure user authentication and management using AWS Cognito.

About Mobilise Cloud

Mobilise helps government and commercial organisations to ensure their migration to Cloud is a success from strategy through to design, delivery and organisational and operational change.

Mobilise has a wealth of experience in gaining best value from IT infrastructure provision, and has partnered with the leading Cloud providers including Amazon Web Services and Microsoft Azure to ensure a range of industry leading options are available to replace IT infrastructure with the 'right cloud' service, and to deliver ongoing IT transformation through cloud native services at pace.

People are key to the transition to Cloud, and Mobilise is experienced in communicating the change and gaining buy-in at all levels of an organisation to create excitement and active participation, and enabling customer teams to ensure they can participate fully in the technology change required.

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