

COVID Tracker Component View

Context

The COVID Tracker app backend is described in using the following models and tables.

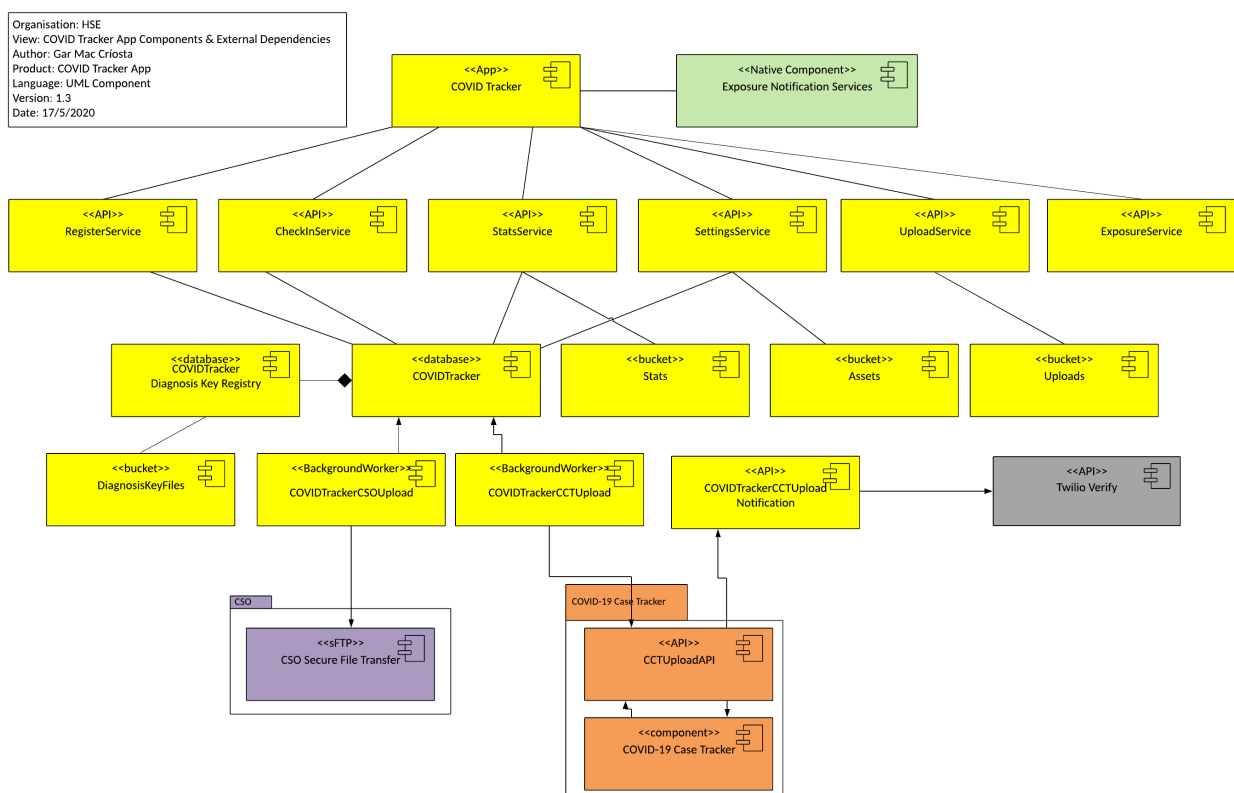
Concerns

COVID Tracker App

Stakeholders

- Architects
- Developers/Engineers
- DevOps Engineers

Model



Model Notation: AWS Architecture

Model Elements

Component	Type	Description
COVID Tracker App	App	COVID-19 pandemic response mobile application called the COVID Tracker
RegisterService	Service	Service encompasses all onboarding, authentication checking and session management operations
CheckInService	Service	Service delivers all checkin related operations
StatsService	Service	Service delivers all statistical and content based data to the app
SettingsService	Service	Service delivers all settings related information to the app
UploadService	Service	Service supports upload of diagnosis keys and follow-on call messages to the app

Component	Type	Description
ExposuresService	Service	Service delivers the distribution of exposure keys periodically through the network
COVIDTracker Database	Database	Data Store for all app collected data and setting information
Diagnosis Key Registry	Registry	Registry containing the diagnosis keys
Stats	Data Store	Data Store for all statistical and content
Assets	Data Store	Data Store for all app related assets
Upload	Data Store	Transient data Store for all upload data
DiagnosisKeyFiles	Data Store	Diagnosis Keys are structured into files, this is the store
COVIDTrackerCSOUpload	Worker Task	Background worker task used to prepare files sent to CSO
COVIDTrackerCCTUpload	Worker Task	Background worker task used to send Follow-on Messages to CCT
COVIDTrackerCCTUploadNotification	Service	Service supports notification of positive user via SMS for Diagnosis Key Upload

COVID Tracker API View

Context

The COVID Tracker app

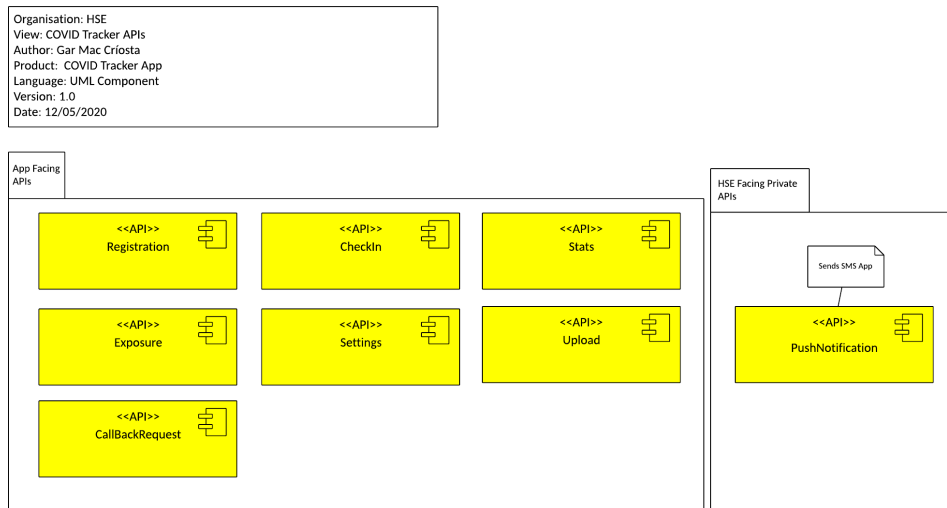
Concerns

COVID Tracker App

Stakeholders

- Architects
- Developers/Engineers
- DevOps Engineers

Model



Model Notation: AWS Architecture

Model Elements

API Name	Purpose	Operations
Registration Service	Used as part of the onboarding process to verify and create an app registration Used to manage session information and API authentications	POST – Initial Registration GET – session management DELETE – support Leave
Checkin Service	Used to upload check-in data	POST – check-in
Stats Service	Used to supply News & Information with stats data	GET - stats
Exposure Service	Used to manage diagnosis key file distribution	GET – diagnosis keys & files
Settings Service	Used to manage setting date	GET – get settings
Upload Service	Used to upload diagnosis keys based on a positive test result	POST – diagnosis keys
CallBackRequest Service	Used to upload Call Back Request	POST – call back request
PushNotification Service	Used by CCT to trigger and SMS containing OTC to be sent to a user to enable upload of Diagnosis Keys	POST - notify

Request/Response Message Data

API	Request	Request Body	Response Body (200)
HealthCheck	GET https://covidtracker.ie/api/healthcheck		{ "version":"1.0.0", "serverTimestamp":"2020-05-15T08:18:19.244Z", "status":"ok", "memoryUsage":

API	Request	Request Body	Response Body (200)
Settings	GET https://covidtracker.ie/api/data/settings		See settings Setting Keys
Register	POST https://covidtracker.ie/api/register		{"nonce":"..."}
	PUT https://covidtracker.ie/api/register	nonce: "..."	
Auth	POST https://covidtracker.ie/api/refresh		{"expires":"2020-05-16T10:04:20.235Z", "token":"..."}
Check-In	POST https://covidtracker.ie/api/check-in	{ "ageRange": "21-30", "locality": "Dublin", "sex": "m", "ok": true, "data": [{ "status": "u", "date": "20/04/2020", "fever": 0, "cough": 1, "breath": 0, "flu": 0 },] //repeating }	
Notify	POST https://covidtracker.ie/api/notify/positive	mobile: "+353858048193" dateoflastexposure: "20/04/2020"	{"code":670619}
Exposure Verify	POST https://covidtracker.ie/api/exposures/verify	{"hash": "..."} {"token": "...", "exposures": [{ "keyData": "Bx2gNAKTbQqUKwxjgwJ5g==", "rollingStartNumber": 2647440,"transmissionRiskLevel": 0},]}	{"token":"..."}
Exposure Upload	POST https://covidtracker.ie/api/exposures		
Exposure List	GET POST https://covidtracker.ie/api/exposures?since=0		
Forget (Leave)	DELETE https://covidtracker.ie/api/register		

API to Backend Entity Mapping

Mapping of APIs to Backend entities based on Create, Read, Update, Delete of records

	Registrations	Exposures	Exposure_Export_Files	Verifications	UploadTokens	Check_Ins	Settings
Registration Service	CRUD	-	-	-	-	-	R
Checkin Service	R	-	-	-	-	CR	R
Stats Service	R	-	-	-	-	-	R
Exposure Service	R	-R	R	-	-	-	R
Settings Service	R	-	-	-	-	-	-
Upload Service	R	CR	CR	CR	CR	-	R
CallBackRequest Service	R	-	-	-	-	-	-
PushNotification Service	-	-	-	-	-	-	-

AWS Infrastructure View

Context

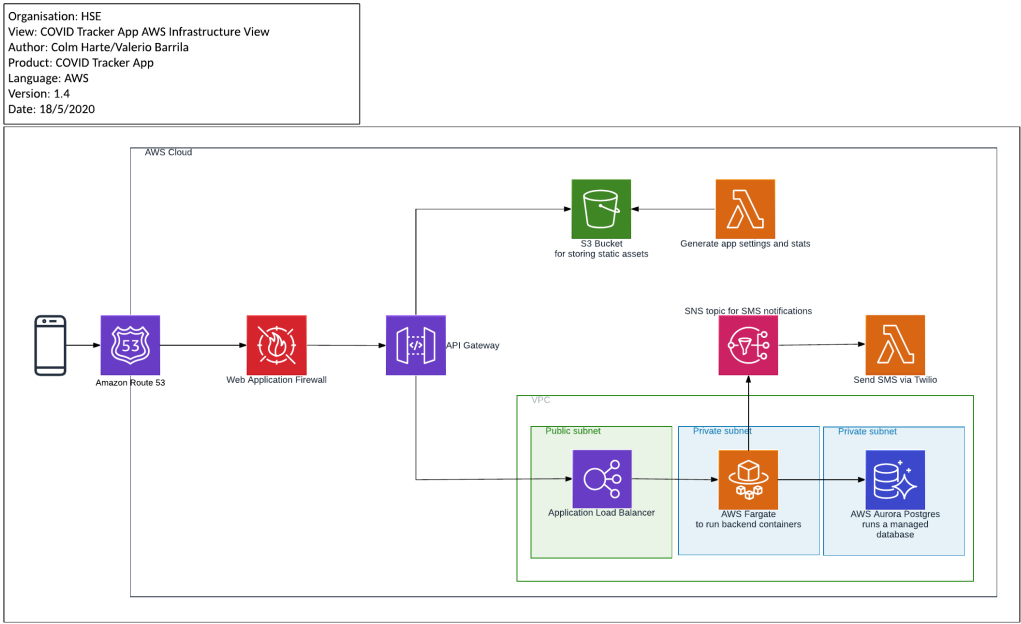
Concerns

COVID Tracker App

Stakeholders

- Architects
- Developers/Engineers
- DevOps Engineers

Model



Model Notation: AWS Architecture

Model Elements

App Backend	Type	Provider	Description
Amazon Route 53	DNS	AWS	Amazon Route 53 is a scalable domain name system (DNS) service intended to give business and developers a reliable way to direct end users to applications
Web Application Firewall	Firewall	AWS	AWS WAF is a web application firewall that helps protect your web applications or APIs against common web exploits that may affect availability, compromise security, or consume excessive resources
API Gateway	API Gateway	AWS	Amazon API Gateway is an AWS service for creating, publishing, maintaining, monitoring, and securing REST, HTTP, and WebSocket APIs at any scale.
VPC	File Transfer	AWS	Amazon Virtual Private Cloud (Amazon VPC) enables you to launch AWS resources into a virtual network that you've defined. This virtual network closely resembles a traditional network that you'd operate in your own data center, with the benefits of using the scalable infrastructure of AWS.

App Backend	Type	Provider	Description
Public Subnet	Network	AWS	A public subnet is a subnet that's associated with a route table that has a route to an Internet gateway. A private subnet with a size /24 IPv4 CIDR block (example: 10.0.1.0/24). This provides 256 private IPv4 addresses
Private Subnet	Network	AWS	This provides 256 private IPv4 addresses. A public subnet is a subnet that's associated with a route table that has a route to an Internet gateway. A private subnet with a size /24 IPv4 CIDR block (example: 10.0.1.0/24). ... This connects the VPC to the Internet and to other AWS services.
Application Load Balancer	Load Balancer	AWS	A load balancer serves as the single point of contact for clients. The load balancer distributes incoming application traffic across multiple targets, such as EC2 instances, in multiple Availability Zones.
AWS Fargate	Container Service	AWS	AWS Fargate is a serverless compute engine for containers that works with both Amazon Elastic Container Service (ECS) and Amazon Elastic Kubernetes Service (EKS).
AWS Aurora PostgreSQL	Database	AWS	Amazon Aurora PostgreSQL is a fully managed, PostgreSQL-compatible, and ACID-compliant relational database engine that combines the speed and reliability of high-end commercial databases with the simplicity and cost-effectiveness of open-source databases.
Lambda Function	Serverless Function	AWS	AWS Lambda is a serverless compute service that runs your code in response to events and automatically manages the underlying compute resources for you. You can use AWS Lambda to extend other AWS services with custom logic, or create your own back-end services that operate at AWS scale, performance, and security.
SNS	Pub/Sub	AWS	Amazon Simple Notification Service (SNS) is a highly available, durable, secure, fully managed pub/sub messaging service that enables you to decouple microservices, distributed systems, and serverless applications
S3 Bucket	Data Store	AWS	Amazon S3 bucket is a public cloud storage resource available in Amazon Web Services' (AWS) Simple Storage Service (S3), an object storage offering. Amazon S3 buckets, which are similar to file folders, store objects, which consist of data and its descriptive metadata.

AWS Network Configuration View

Context

The COVID Tracker app

Concerns

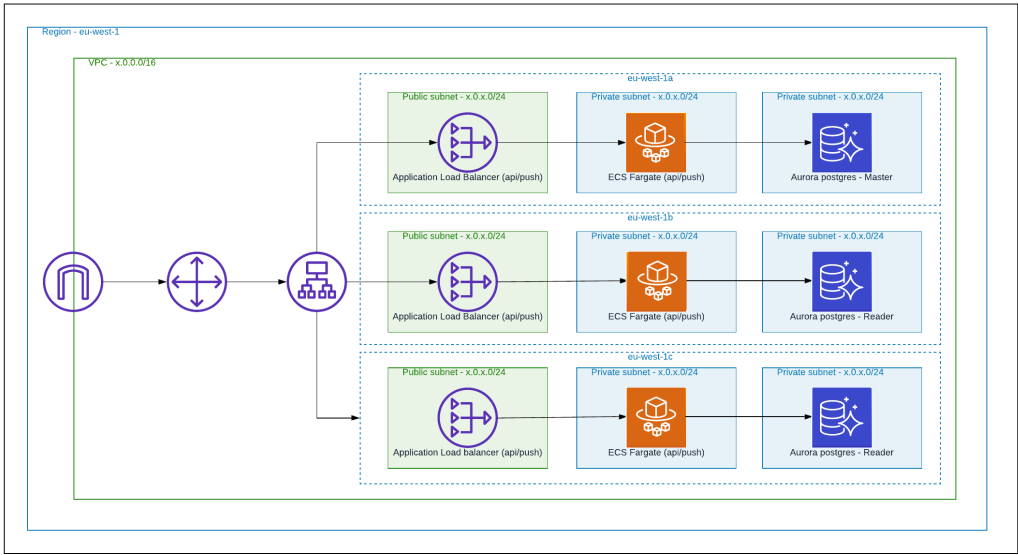
COVID Tracker App

Stakeholders

- Architects
- Developers/Engineers
- DevOps Engineers

Model

Organisation: HSE
View: COVID Tracker App AWS Network Configuration View
Author: Colm Harte/Valerio Barrila
Product: COVID Tracker App
Language: AWS
Version: 1.4
Date: 18/5/2020



Model Notation: AWS Architecture