SADO Project Reentry App Reference

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# Overview

This is a reference document for the SADO Project Reentry application ([reentry.sado.org](https://reentry.sado.org/)).

# Technology Stack

* Angular v9 (frontend application)
* Google Analytics (web analytics for app)
* Google Firebase (app hosting, Firestore database)
* Google Cloud API’s (Google Maps API’s)

# Project Resources

## GitHub Repository

GitHub is where the Project Reentry application code repository is maintained.

<https://github.com/harryseong/project-reentry>

* Keep track of different feature branches.

## Firebase Project Console

Google Firebase is the platform used to host of the Project Reentry application.

<https://console.firebase.google.com/u/0/project/project-reentry/overview>

* View Firebase billing.
* View Firebase service usages.
* View Project Reentry application’s Firestore database.

## Google Analytics Console

Google Analytics keeps track of basic site analytics including overview of users, visit counts, devices used, OS of devices, etc.

<https://analytics.google.com/analytics/web/#/report-home/a98195126w189025292p185468143>

# Potential Costs and Billing

Project Reentry utilizes Google Firebase and Google Maps API’s, both of which provide free pricing schemes up to specified thresholds. Service usages should be monitored at least every week for the first few months to determine usage baselines; if necessary, adjustments can then be made to reduce service calls.

## Google Firebase

**Firebase Pricing Details:** <https://firebase.google.com/pricing?authuser=0>

**Firebase Billing Console:** <https://console.firebase.google.com/project/project-reentry/usage>

|  |  |  |  |
| --- | --- | --- | --- |
| **Cloud Firestore** | **Description** | **Free Tier** | **Price Per 100K Requests** |
| **Document Reads\*** | Each organization document fetched | 50K reads / day | $0.06 |
| **Document Writes** | Each organization created or edited. | 20K reads / day | $0.18 |
| **Document Deletes** | Each organization deleted. | 20K reads / day | $0.02 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Hosting** | **Description** | **Free Tier** | **Price** |
| **Downloads** | Aggregate of downloads triggered by users loading the application. | 360MB / day | $0.026 / GB |
| **Storage** | Size of application package uploaded for hosting. | 10GB total | $0.15 / GB |

## Google Maps API

**Google Maps Platform Pricing Details:** <https://cloud.google.com/maps-platform/pricing/>

**Google Cloud Console:** <https://console.cloud.google.com/google/maps-apis/overview?project=project-reentry&folder=&organizationId=>

*First* ***$200*** *of aggregate usage of Google Maps API’s is* ***free each month****.*

|  |  |  |
| --- | --- | --- |
| **Google Maps API** | **Description** | **Price Per 1K Requests** |
| **Distance Matrix API\*** | Invoked to determine distances between a user’s inputted address and the filtered organizations. | $5 |
| **Maps JavaScript API\*** | Invoked to plot the organization’s GPS coordinates onto the map on organization’s page. | $7 |
| **Geocoding API** | Invoked whenever an organization is newly created or edited to convert the organization’s address into GPS coordinates to be used by the Maps JavaScript API when plotting the organization on the map. | $5 |

\**Monitor at least weekly during the first few months of the application’s launch. Based on observed trends and baseline usage, adjustments may be considered.*

# Reference for Developers

## Prerequisites to Development

### Install Angular CLI

* <https://angular.io/cli>

### Install Firebase CLI

* <https://firebase.google.com/docs/cli>

### Install NPM and Node v12.16.3

* <https://docs.npmjs.com/downloading-and-installing-node-js-and-npm>

## Suggested Tools

### WebStorm

* JetBrains IDE for web development.
* Requires subscription after 30-day trial.
* <https://www.jetbrains.com/webstorm/>

### Visual Studio Code

* Robust IDE for development.
* Free.
* <https://visualstudio.microsoft.com/>

### GitKraken Git GUI

* Tool for managing GitHub repository branches and commits with robust GUI.
* Free for non-enterprise use.
* <https://www.gitkraken.com/>

### GitHub Desktop

* Tool for managing GitHub repository branches and commits.
* Free.
* <https://desktop.github.com/>