iConnect 200032 Design Approach - API Insights Tool

Project Overview

FireLight needs a way for clients to evaluate requests and responses in our REST APIs in a self-service manner. This will require a change within the Admin tool to accommodate for this manner that will affect the dashboard layout, purge policy, and other features. We will be creating an Analysis tool and tracing capabilities in order for clients to be able to identify the issues and allow for faster reporting.

Requirements / User Stories

REST API - Trace ID to track requests

The API insights tool will provide the ability to trace requests through various points in the lifecycle of an activity, which requires an ID that uniquely identifies each request. The trace ID will be created automatically by FireLight when a request is made. When the request is complete, even if an exception or other error occurs, the trace ID will be reflected in the response.

Acceptance Criteria

- A trace ID is created for each request to the REST API.
- The trace ID is reflected in the response header in the following scenarios
- We were able to successfully fulfill the request.
- We were unable to fulfill the request due to an invalid or incomplete request.
- We were unable to fulfill the request due to an unhandled exception caught by our global error handling module.

REST API - Global error handling

Currently, we have to implement try/catch logic for all of our REST API endpoints. This needs to be changed so exceptions are handled globally for all calls to the Web API controllers. Existing try/catch logic should be removed, unless it is specific to a route.

See: https://docs.microsoft.com/en-us/aspnet/web-api/overview/error-handling/web-api-global-error-handling

Acceptance Criteria

- Exceptions are globally handled for all Web API routes.
- Developers have verified that all existing try/catch logic has been removed, unless it is needed for specific route response behavior.

Create an Analysis flow tool for clients to view API details

Creating an analysis tool that will show the data at each step in the workflow for a given trace ID.

Acceptance Criteria

- An API Insights page opens when the user selects API Insights on the admin home page.
- The page contains a dropdown to select the organization that initiated the trace. This list will contain all organizations with sales agreements with the current organization.
- The page contains the ability to specify a request trace ID and retrieve the data for it.
- The data for the request is displayed in chronological order.

Capture data for API insights

Data will need to be captured for displaying within the API insights tool.

Acceptance Criteria

- Data is captured in the following situations and saved into the database for future retrieval. This should all relate back to a single trace ID.
- Request payload and headers.
- Results from a rule run, if one is made. This would include the collection of data items and any validation messages returned from the rules.
- Responses from external systems. Specifically, this includes responses from illustration services calls.
- Response payload, including error responses and exceptions.
- Existing audits written via instrumentation are removed so we do not have duplicate information written out in two different places.

Add debugging tools section to Admin home page

Add a new section for debugging to the right side of the admin home page*.*

Acceptance Criteria

- The new debugging tools section is visible on the home page. Availability should be driven by a role.
- The debugging tools section should have buttons for API Insights and Rule Tracing.

API insights purge policy

API traces will be purged from the database every 7 days. This will be globally configured for the entire system*.*

Acceptance Criteria

- Traces more than 7 days old have been purged from the databases.

Admin: Group option to enable access to API insights output

Organizations may only want specific roles to have access to the API insights outputs. A group option will be used to enable this*.*

Acceptance Criteria

- Enabling the option would show the debugging tools sub-option for API insights on the admin home page
- Disabling the option would hide the debugging tools sub-option for API insights on the admin home page

Redesign Admin home page

The admin home page has reached capacity and needs to be re-designed to accommodate this growth. As such, we will no longer have buttons with dropdowns. All actions from the home page will be individual button, and these buttons will be logically grouped. Home screen will be full-width and button groups will flow to use the maximum horizontal space. FontAwesome icons will be used on all buttons instead of the existing images.

Acceptance Criteria

- The options on the right side of the home page are styled similarly to the options on the FireLight app home page.
- Buttons flow when screen is resized horizontally.