iConnect 201892 Design Approach - Rule Tracing Tool

Project Overview

This enhancement will create a rule tracing tool that will give users the ability to trace all rule runs for their current session. When rule runs have been traced, the trace information will be available in FireLight admin for users to view, depending on role.

Requirements / User Stories

Admin: Group options for rule tracing

Organizations may only want specific roles to have access to the rule tracing outputs. Organizations may also only want to give certain roles the ability to create rule traces.

Acceptance Criteria

- Enabling the admin visibility option shows the debugging tools sub-option for rule tracing on the admin home page.
- Disabling the admin visibility option hides the debugging tools sub-option for rule tracing on the admin home page.
- Enabling the app creation option shows the rule tracing option in user preferences.
- Disabling the app creation option hides the rule tracing option in user preferences.
- Note that this functionality overlaps with another story for the API insights tool regarding re-design of the FireLight admin home page to accommodate the new tools and future features.

User Preferences: Enable/disable rule tracing for the current session

The user will have the ability to enable or disable rule debugging through user preferences, depending on whether or not the organization has enabled the ability to do so.

Acceptance Criteria

- In the preferences page, an option exists to enable rule tracing for the current session.
- The option exists only when the group option to enable rule tracing has been selected in the admin for the user's group.

Rule runs are traced when enabled

When rule tracing is enabled, all rule runs for the user's session will be captured. The traces will be written into the database in a different story so they can be viewed in the admin.

Acceptance Criteria

- Trace runs for an app are cleared when the app is opened up.
- The following data points are captured and stored:
  - What caused the rules to execute (load, data item change, form addition/removal, etc.).
  - Order of execution, what rule ran.
  - What data items were changed.
  - What rules were triggered from this data change.
  - Previous / New value for data item changes.
  - Timing per rule not per node.
  - View parameter information around nodes. This could be helpful for call external.
  - List of rules that were not loaded for any reason. This could be because data items in them did not exist, etc.
  - Rules that threw exceptions.
  - What forms/wizard/packages and what state they are in.

Rule traces are saved to the database

When an activity is opened, all traces for that activity ID will be cleared. Traces will be saved with a timestamp every time the activity's rules have finished running.

Acceptance Criteria

- Traces for an activity are cleared when the activity is opened.
- Trace data is saved into the database. The traces will be identified by User, Activity ID, and Timestamp.

An indicator is shown when rule tracing is enabled

If a user has enabled rule tracing, an indicator will be visible on the screen to make them aware of it. The indicator should also act as a "pause" button for rule tracing.

Acceptance Criteria

- The indicator appears when tracing is enabled.
- Clicking the indicator pauses tracing for the current session.
- Clicking the indicator again re-enables tracing.

Admin: View rule trace sessions

Admin users with the proper roles will be able to view rule sessions by user.

Acceptance Criteria

- Admin user can see a list of users who have recorded rule traces.
- When a user is selected in the list, a list of applications with trace information will be shown.
- When an app is selected, a list of timestamps for each rule run will appear.
- The following trace data is visible for a selected application timestamp:
  - What caused the rules to execute (load, data item change, form addition/removal, etc.).
  - Order of execution, what rule ran.
  - What data items were changed.
  - What rules were triggered from this data change.
  - Previous / New value for data item changes.
  - Timing per rule not per node.
  - View parameter information around nodes. This could be helpful for call external.
  - List of rules that were not loaded because the data item did not exist.
  - Rules that throws an exception does not throw but writes to instrumentation trace.
  - What forms/wizard/packages have been affected and what state they are in.

User can search an activity's rule runs

Within the rule trace viewer, the user can search for rules by rule name or data item ID.

Acceptance Criteria

- The rule trace data is filtered by the search criteria.

Rule trace purge policy

Rule 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.