
Lock notification to prevent multi-user overwriting - Rule Set,
Form and Wizard

FIRELIGHT BASE



**LOCK NOTIFICATION TO PREVENT MULTI-USER OVERWRITING - RULE SET, FORM
AND WIZARD**

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iConnect 250574 Design Approach - Lock notification to prevent multi-user overwriting - Rule Set, Form and Wizard

Project Overview

There are a few things FireLight needs to complete in the admin to enable working with multiple users at the same time making edits.

Enhancements to the multi-use admin notification is required. Currently, FireLight only notifies on save that someone else was in the form. wizard or in the rule set. The only option is to discard or overwrite the changes.

Upfront notification that another user is in the Rule Set and Form/Wizard,

Today, any time you open a Rule Set or Form/Wizard you are in edit mode. For this enhancement, the system will notify if another user is currently in edit mode and only 1 person can be in edit at a time.

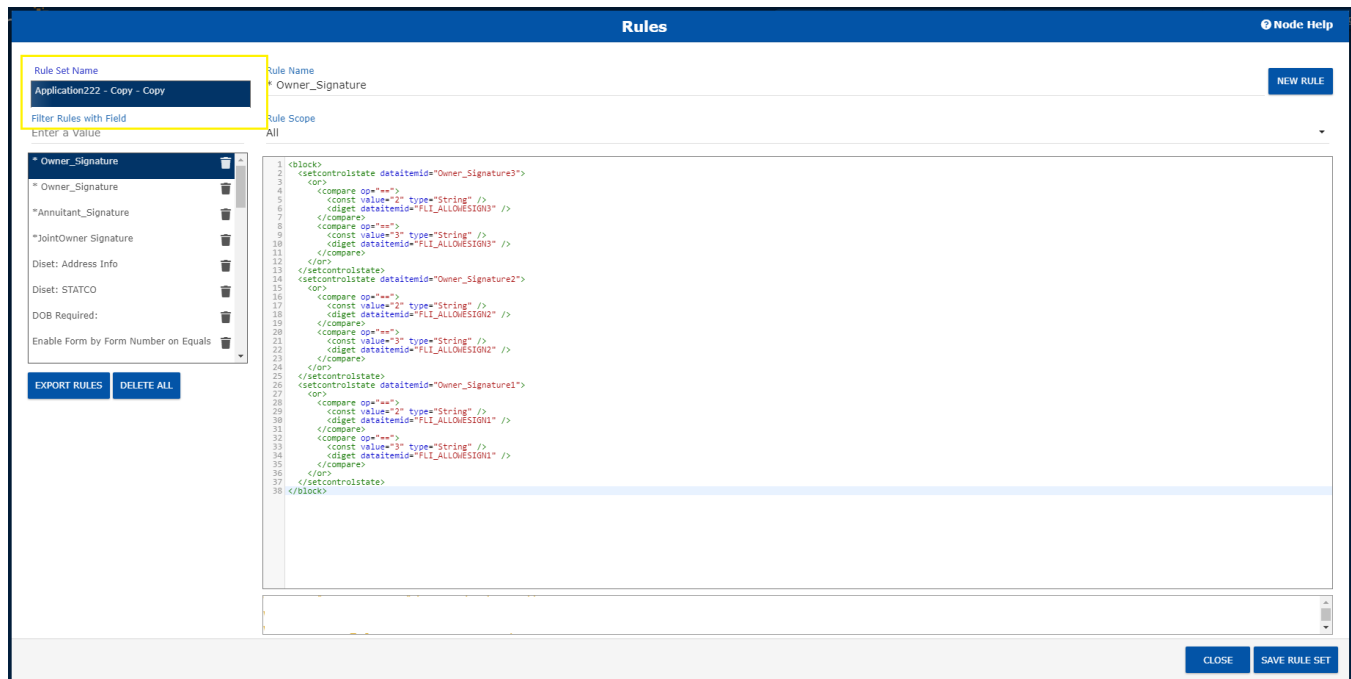
Impacts: Multi-user edit changes will be done for Rule Set, Form and Wizard screens.

1. Product Config -> Rule Sets -> Rule Set Detail (tab) -> Rules Window (link)
2. Designer -> Form Designer -> Rules Window (link)
3. Designer -> Wizard Designer -> Rules Window (link)
4. Designer -> Form Designer
5. Designer -> Wizard Designer

1 Show Rule Set name on Rules Window

Rules Window on page Product Config -> Rule Sets -> Rule Set Detail (tab) currently does not display Rule Set Name. Changes will be made to this Rules Window to display name of the Rule Set.

Highlighted section on below mock-up indicates placement of Rule Set name. This change is required for the enhancement of multi-user editing.



Acceptance Criteria

- Rule Set name is shown on Rules Window.

2 Manage multi-user editing - Rule Set & Edit Rules on Wizard Designer

The requirement is to manage Rule Set editing when more than one user have opened a Rule Set for editing. The system will lock a rule set for the first user who starts to make changes to the rule set and will inform other users that the rule set is locked for edit. So, they will wait for the first user to complete and save their work or contact them offline to release the lock.

Lock Time:

Default lock time will be one hour. Hence when rule set is locked for edit, system will record lock time of one hour. After making changes, when the user clicks at "Save Rule Set" button, the lock will be released.

(1) When the user continues to make changes to the rule set without saving the rule set in between, in that case, after 55 mins lock time will automatically roll over to one more hour.

(2) In case user is not continuing to make changes to the rule set, system will prompt user to save data after 55 mins (just 5 mins before one hour lock timeout). On the alert box, if the user clicks at CLOSE button, changes will not save, and rule set will unlock after 5 mins (i.e., after one hour lock timeout). If the user clicks at SAVE button on the alert box, system will save the changes and extend the lock time to another hour.

Instances when the edit lock will be released are:

(1) When the lock time expires (based on what is set into the database).

In this case, system will alert the user 5 minutes before the lock time expires to save their work. Alert message will be "Edit lock will release automatically after 5 mins. Save your changes to avoid losing work. Saving will reset lock time for another hour."

This alert box will have two buttons - 'Save' and 'Close'. Clicking on 'Extend' will save the rule set and lock for that user for next one hour. When 'Save Now' button is clicked, it will save the rule set and release the lock. When no button is clicked on this alert box, it closes automatically after 5 mins of prompt, releasing the lock without saving any change. At this instance, lock icon will turn to grey color indicating that the application is in inactive state. A text will appear below the grey lock icon "The application is inactive."

(2) When user closes the Rule Set window.

The current alert that confirms user to Save Changes will still be in place. If the user selects "Yes" on the confirm box, changes will be saved, lock will be released from that rule set. If the user selects "No", system will release the lock without saving any changes.

(3) When user loads another page from the menu.

The current alert that confirms user to leave page will still be in place. If the user selects "Leave" on the confirm box, lock will be released from the Rule Set and selected page will load without saving any changes to that Rule Set. Clicking on "Cancel" button will do nothing keeping the current rule set loaded as-it-is.

Once Edit Lock is released, that rule set can be locked by another user for edit.

All these changes will impact below screens where Rule Sets are managed. This Backlog Item explains changes required on first two screens below.

1. Product Config -> Rule Sets -> Rule Set Detail (tab) -> Rules Window (link)
2. Designer -> Wizard Designer -> Rules Window (link)
3. Designer -> Form Designer -> Rules Window (link)

Currently on Rules Window, when a user tries to edit a Rule Set by clicking on "New Rule" button or typing into a Rule code, a client variable (Is_Dirty) keeps track of such changes and enables "Save Rule Set" button. Same variable (Is_Dirty) will be used to trigger the system to check if selected Rule Set has been opened by another user for edit. System will check if the current Rule Set is opened for edit by any user on below instances.

1. On load of Rules Window (On load will also save the latest timestamp from selected Rule Set History)
2. After loading Rules Window, based on the client variable that tracks to enable "Save Rule Set" button

Case 1: When a Rule Set is already opened for edit by another user on load of window or when current user attempts to edit Rules.

In case a Rule Set has been opened for edit by another user, it will be indicated on the screen by an edit lock text "User <username> is currently working on the Rule Set". Also, all the below action buttons will be disabled allowing user to view/export rules or close the window.

1. NEW RULE
2. DELETE ALL
3. SAVE RULE SET

Case 2: When User applies lock to Rule Set.

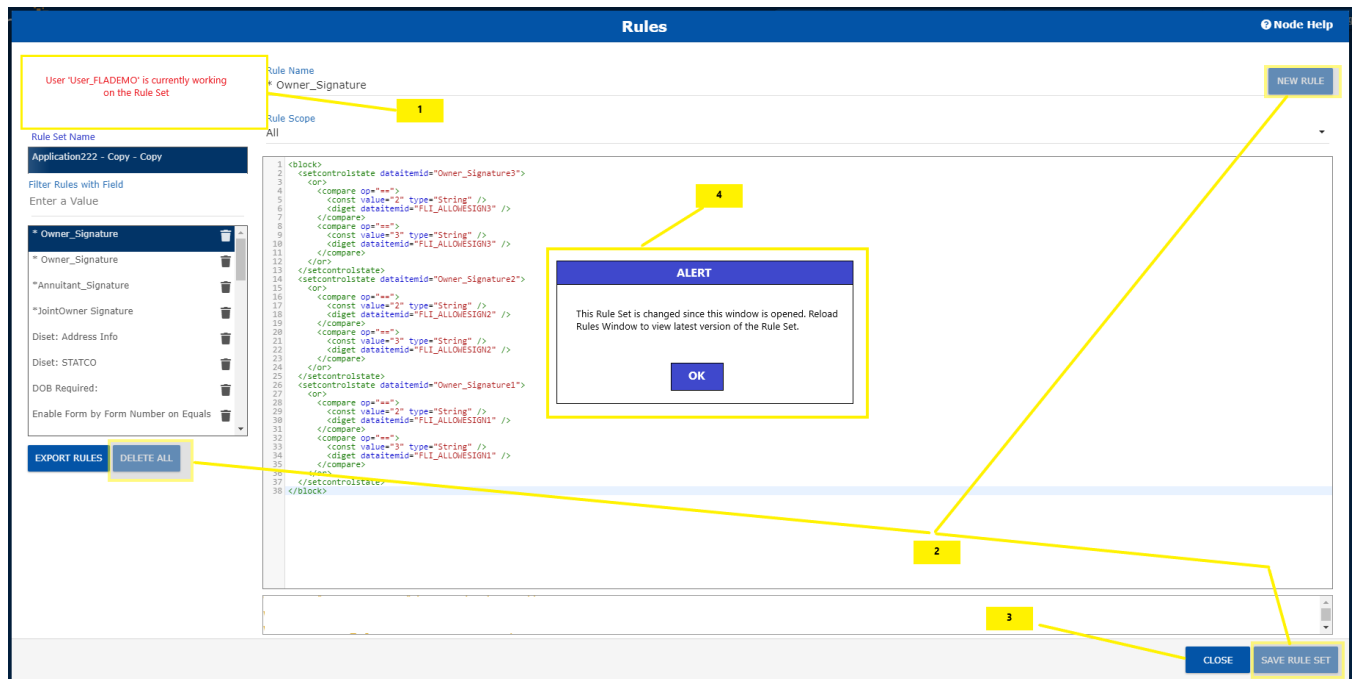
When the system checks at server if the selected Rule Set is locked by another user, and it is not locked, system will then lock the Rule Set for the current user.

At the time of loading Rules Window, system will also save the latest timestamp from selected Rule Set History. When the system checks to see if Rule Set is locked, it will also check to see if the ruleset has

been updated since load by comparing timestamp value save at load time and the latest timestamp in history. If it has, user will be prompted to reload.

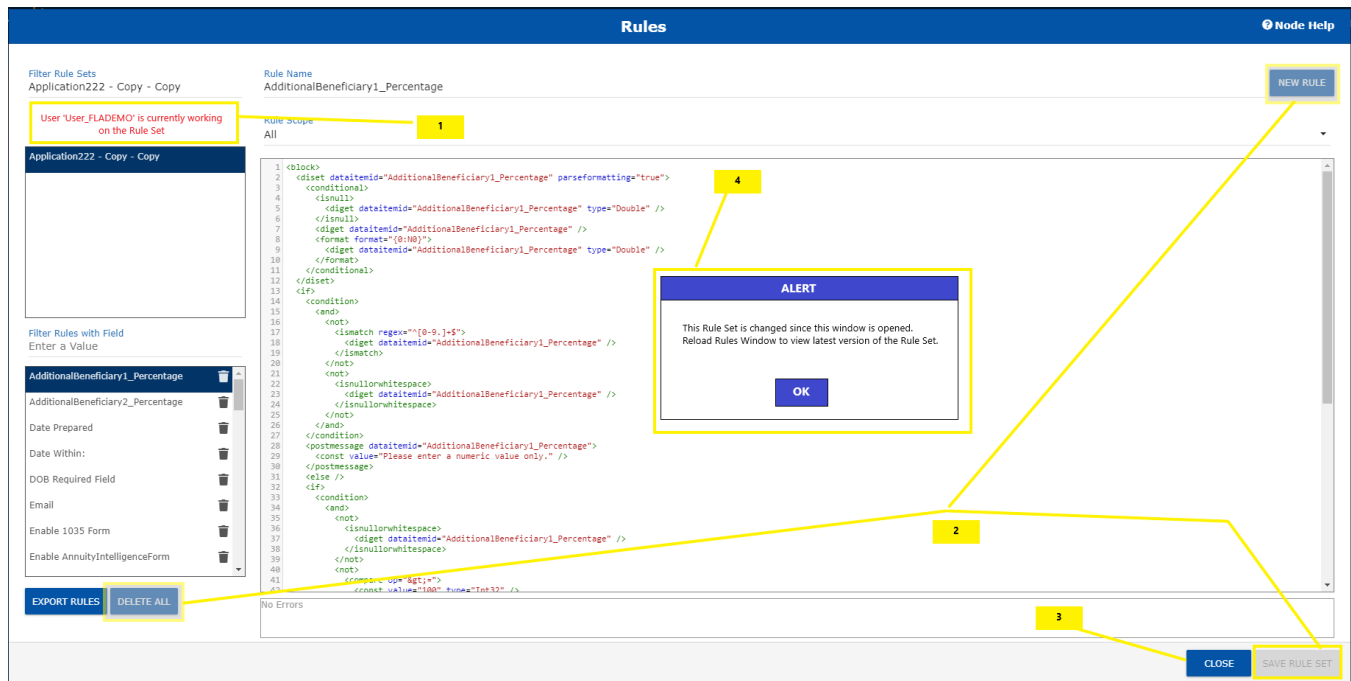
Below Mock-up displays placement of the new text and other changes that will happen when selected rule set is opened for edit by multi-user. This mock-up is for page Product Config -> Rule Sets -> Rule Set Detail (tab) -> Rules Window (link).

1. When the Rule Set is locked by another user, to the current user, text "User <username> is currently working on the Rule Set" will be displayed beside the Rule Set Name. This text will only show when the Rule Set is locked for edit by another user. With this change, text that displays currently when read-only lock is applied will be changed to "Rule Set is locked by user <username>".
2. When the Rule Set is locked for edit by another user, action buttons will also be disabled to avoid editing to the selected rule set.
3. When a user has locked the rule set for edit, clicking the "Close" button will release their Edit Lock.
4. When edit lock on the rule set is released by another user, the user who has the rules window already open for edit will be prompted to reload window if they attempt to lock the Rule Set. Alert Message will be "This Rule Set is changed since this window is opened. Reload Rules Window to view latest version of the Rule Set."



Same changes will be implemented on Primary Rule Set window on Wizard Designer. See below mockup for Designer -> Wizard Designer -> Rules Window (link):

1. When the Rule Set is locked by another user, to the current user, text "User <username> is currently working on the Rule Set" will be displayed beside the Rule Set Name. This text will only show when the Rule Set is locked for edit by another user. With this change, text that displays currently when read-only lock is applied will be changed to "Rule Set is locked by user <username>".
2. When the Rule Set is locked for edit by another user, action buttons will also be disabled to avoid editing to the selected rule set.
3. When a user has locked the rule set for edit, clicking the "Close" button will release their Edit Lock.
4. When edit lock on the rule set is released by another user, the user who has the rules window already open for edit will be prompted to reload window if they attempt to lock the Rule Set. Alert Message will be "This Rule Set is changed since this window is opened. Reload Rules Window to view latest version of the Rule Set."



Example 1: User A loads Rule Set "Master Rule Set". It is locked by User B.

To User B, Rules Window show edit lock text beside the rule set name. Delete, Create New Rule and Save Rule Set buttons are disabled.

User A can either view/export rules or close the rules window.

Example 2: User A and User B loads Rule Set "Master Rule Set" together.

To both the users, Rules Window shows editable.

Both the users start to make changes to the rule set. System captures changes made by the first user (for this example - User A) and saves into the database that the rule set is locked by User A and lock time as one hour from the time when lock was enabled.

The time lapse when both the users start to make changes could be in microseconds, hence system will ensure that no two users lock the rule set together, or there is no edit lock entry already there for the rule set.

When system records edit lock by User A, at the same time it will prompt User B that the rule set is locked by User A by displaying lock text beside rule set name. Delete, Create New Rule and Save Rule Set buttons are disabled.

User B can either view/export rules or close the rules window.

At this time, User B can communicate offline with User A to complete their changes and close Rules Window.

Example 3: User A and User B loads Rule Set "Master Rule Set" together. User B lock the Rule Set "Master Rule Set" after some time. User A does not attempt to lock Rule Set "Master Rule Set" hence views it as unlocked.

After completing work User B closes Rules Window and edit lock is released.

At this time, if User A attempts to lock the rule set, system will prompt to inform that there has been changes to the Rule Set since the window is loaded and User A should reload the rule set before edit.

To reload the page, User A can close the Rules Window or hit browser refresh/reload button.

Example 4: User A loads Primary Rule Set "Master Rule Set" for Form XYZ on Form Designer page. This rule set is locked by User B at Rule Set window.

To User B, Rules Window show edit lock text beside the rule set name. Delete, Create New Rule and Save Rule Set buttons are disabled.

User A can either view/export rules or close the rules window.

Example 5: User A loads Rule Set "Master Rule Set" and User B loads Primary Rule Set "Master Rule Set" for Wizard XYZ at Wizard Designer page. Both User A and User B loads the rule set at the same instance.

To both the users, Rules Window shows editable.

Both the users start to make changes to the rule set. System captures changes made by the first user (for this example - User A on Rules Admin page) and saves into the database that the rule set is locked by User A and lock time as one hour from the time when lock was enabled.

The time lapse when both the users start to make changes could be in microseconds, hence system will ensure that no two users lock the rule set together, or there is no edit lock entry already there for the rule set.

When system records edit lock by User A, at the same time it will prompt User B that the rule set is locked by User A by displaying lock text beside rule set name. Delete, Create New Rule and Save Rule Set buttons are disabled.

User B can either view/export rules or close the rules window.

At this time, User B can communicate offline with User A to complete their changes and close Rules Window.

Acceptance Criteria

- If the Rule Set is locked by another user, Rules Window displays Edit Lock and shows username who has locked.
- If the Rule Set is not locked by anyone and the current user attempts to make changes, system locks that Rule Set for the current user.
- When a user after locking a Rule Set moves away from the Rule Set by closing it, system prompts to Save changes and when after saving changes, releases Edit Lock.
- When a Rule Set is locked by another user, current user is not able to make any changes to the Rules.
- After a user loads the Rule Set without locking it and another user updates that Rule Set, system prompts to reload Rule Set to view latest changes.
- Rule Set screen indicates if it is locked by another user, so that no parallel work overwriting is possible.
- Rule Set screen on Wizard Designer indicates if it is locked by another user, so that no parallel work overwriting is possible.

3 Manage multi-user editing - Rules Window on Form Designer

The requirement is to manage Rule Set editing when more than one user have opened a Rule Set for editing from Form Designer screen. The system will lock a rule set for the first user who starts to make changes to the rule set and will inform other users that the rule set is locked for edit. So, they will wait for the first user to complete and save their work or contact them offline to release the lock. Below changes are specific to the Designer -> Form Designer -> Rules Window (link) screen.

Lock Time:

Default lock time will be one hour. Hence when rule set is locked for edit, system will record lock time of one hour. After making changes, when the user clicks at "Save Rule Set" button, the lock will be released.

(1) When the user continues to make changes to the rule set without saving the rule set in between, in that case, after 55 mins lock time will automatically roll over to one more hour.

(2) In case user is not continuing to make changes to the rule set, system will prompt user to save data after 55 mins (just 5 mins before one hour lock timeout). On the alert box, if the user clicks at CLOSE button, changes will not save, and rule set will unlock after 5 mins (i.e., after one hour lock timeout). If the user clicks at SAVE button on the alert box, system will save the changes and extend the lock time to another hour.

Instances when the edit lock will be released are:

(1) When the lock time expires (based on what is set into the database).

In this case, system will alert the user 5 minutes before the lock time expires to save their work. Alert message will be "Edit lock will release automatically after 5 mins. Save your changes to avoid losing work. Saving will reset lock time for another hour."

This alert box will have two buttons - 'Extend' and 'Save Now'. Clicking on 'Extend' will save the rule set and lock for that user for next one hour. When 'Save Now' button is clicked, it will save the rule set and release the lock. When no button is clicked on this alert box, it closes automatically after 5 mins of prompt, releasing the lock without saving any change. At this instance, lock icon will turn to grey color indicating that the application is in inactive state. A text will appear below the grey lock icon "The application is inactive."

(2) When user closes the Rule Set window.

The current alert that confirms user to Save Changes will still be in place. If the user selects "Yes" on the confirm box, changes will be saved, lock will be released from that rule set. If the user selects "No", system will release the lock without saving any changes.

(3) When user loads another page from the menu.

The current alert that confirms user to leave page will still be in place. If the user selects "Leave" on the confirm box, lock will be released from the Rule Set and selected page will load without saving any changes to that Rule Set. Clicking on "Cancel" button will do nothing keeping the current rule set loaded as-it-is.

Once Edit Lock is released, that rule set can be locked by another user for edit.

Currently on Rules Window, when a user clicks at "Update" button after adding a new rule or editing an existing one, a client variable (Is_Dirty) keeps track of such changes. Same variable (Is_Dirty) will be used to trigger the system to check if selected Rule Set has been opened by another user for edit.

Based on the client variable (Is_Dirty) that tracks Rule Set editing, system will lock the Rule Set for editing.

At the same instance,

1. System will also check if the current Rule Set is opened for edit by another user.
2. If there were changes made to the Rule Set by another user in the meantime Rules Window was loaded and user clicked at "Update" button. (On load will also save the latest timestamp from selected Rule Set History).

Case 1: When a Rule Set is already opened for edit by another user on load of window or when current user attempts to edit Rules.

In case a Rule Set has been opened for edit by another user, it will be indicated on the screen by an edit lock text "User <username> is currently working on the Rule Set". Also, all the below action buttons will be disabled allowing user to view/export rules or close the window.

1. NEW RULE
2. DELETE ALL
3. SAVE RULE SET

Case 2: When User applies lock to Rule Set.

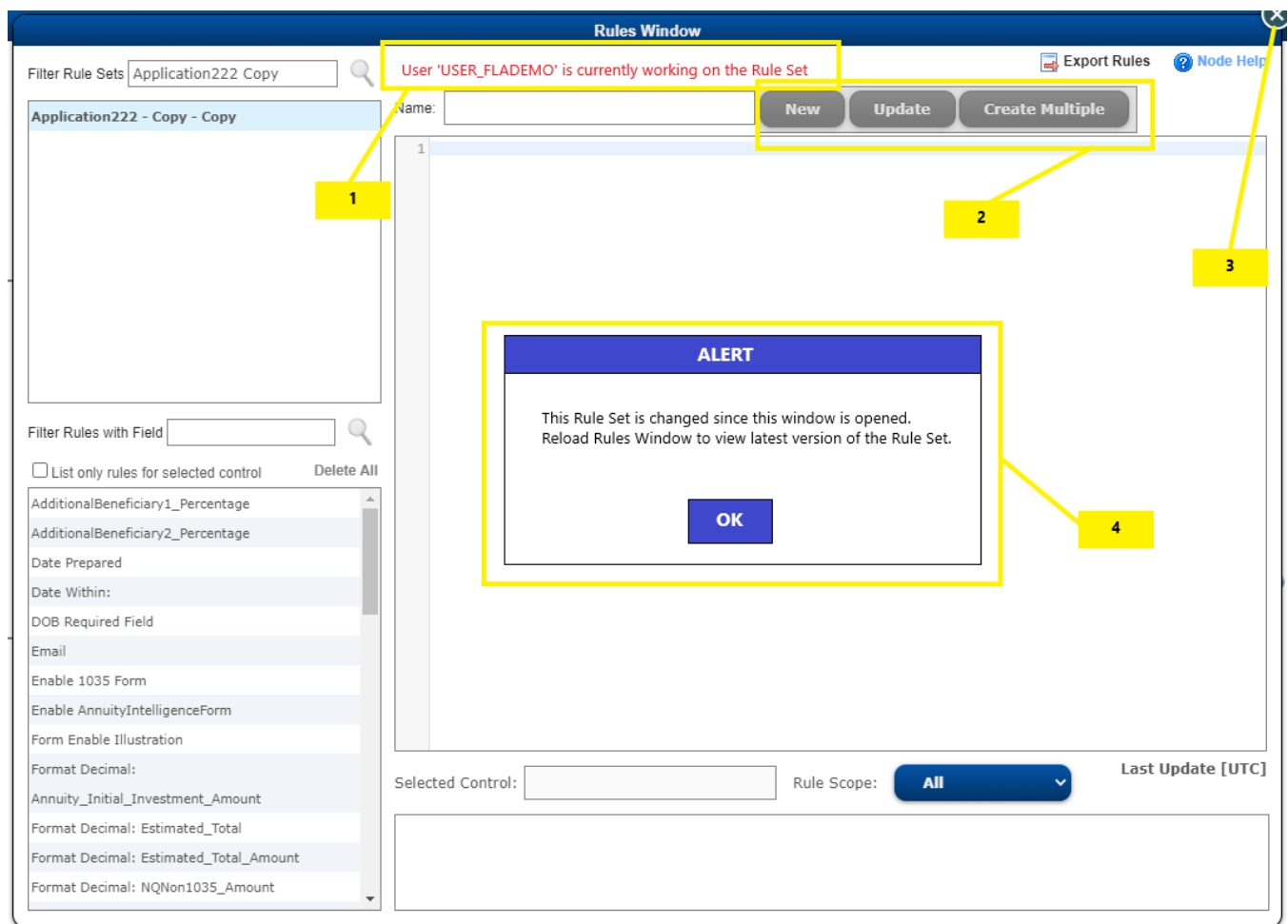
When the system checks at server if the selected Rule Set is locked by another user, and it is not locked, system will then lock the Rule Set for the current user.

At the time of loading Rules Window, system will also save the latest timestamp from selected Rule Set History. When the system checks to see if Rule Set is locked, it will also check to see if the ruleset has been updated since load by comparing timestamp value save at load time and the latest timestamp in history. If it has, user will be prompted to reload.

Below Mock-up displays placement of the new text and other changes that will happen when selected rule set is opened for edit by multi-user. This mock-up is for page Designer -> Form Designer -> Rules Window (link):

1. When the Rule Set is locked by another user, to the current user, text "User <username> is currently working on the Rule Set" will be displayed beside the Rule Set Name. This text will only show when the Rule Set is locked for edit by another user. With this change, text that displays currently when read-only lock is applied will be changed to "Rule Set is locked by user <username>".

2. When the Rule Set is locked for edit by another user, action buttons will also be disabled to avoid editing to the selected rule set.
3. When a user has locked the rule set for edit, clicking the "Close" button will release their Edit Lock.
4. When edit lock on the rule set is released by another user, the user who has the rules window already open for edit will be prompted to reload window if they attempt to lock the Rule Set. Alert Message will be "This Rule Set is changed since this window is opened. Reload Rules Window to view latest version of the Rule Set."



Example 1: User A loads Rule Set "Master Rule Set". It is locked by User B.

To User B, Rules Window show edit lock text beside the rule set name. Delete, Create New Rule and Save Rule Set buttons are disabled.

User A can either view/export rules or close the rules window.

Example 2: User A and User B loads Rule Set "Master Rule Set" together.

To both the users, Rules Window shows editable.

Both the users start to make changes to the rule set. System captures changes made by the first user (for this example - User A) and saves into the database that the rule set is locked by User A and lock time as one hour from the time when lock was enabled.

The time lapse when both the users start to make changes could be in microseconds, hence system will ensure that no two users lock the rule set together, or there is no edit lock entry already there for the rule set.

When system records edit lock by User A, at the same time it will prompt User B that the rule set is locked by User A by displaying lock text beside rule set name. Delete, Create New Rule and Save Rule Set buttons are disabled.

User B can either view/export rules or close the rules window.

At this time, User B can communicate offline with User A to complete their changes and close Rules Window.

Example 3: User A and User B loads Rule Set "Master Rule Set" together. User B locks the Rule Set "Master Rule Set" after some time. User A does not attempt to lock Rule Set "Master Rule Set" hence views it as unlocked.

After completing work User B closes Rules Window and edit lock is released.

At this time, if User A attempts to lock the rule set, system will prompt to inform that there has been changes to the Rule Set since the window is loaded and User A should reload the rule set before edit.

To reload the page, User A can close the Rules Window or hit browser refresh/reload button.

Example 4: User A loads Primary Rule Set "Master Rule Set" for Form XYZ on Form Designer page. This rule set is locked by User B at Rule Set window.

To User B, Rules Window show edit lock text beside the rule set name. Delete, Create New Rule and Save Rule Set buttons are disabled.

User A can either view/export rules or close the rules window.

Example 5: User A loads Rule Set "Master Rule Set" and User B loads Primary Rule Set "Master Rule Set" for Wizard XYZ at Wizard Designer page. Both User A and User B loads the rule set at the same instance.

To both the users, Rules Window shows editable.

Both the users start to make changes to the rule set. System captures changes made by the first user (for this example - User A on Rules Admin page) and saves into the database that the rule set is locked by User A and lock time as one hour from the time when lock was enabled.

The time lapse when both the users start to make changes could be in microseconds, hence system will ensure that no two users lock the rule set together, or there is no edit lock entry already there for the rule set.

When system records edit lock by User A, at the same time it will prompt User B that the rule set is locked by User A by displaying lock text beside rule set name. Delete, Create New Rule and Save Rule Set buttons are disabled.

User B can either view/export rules or close the rules window.

At this time, User B can communicate offline with User A to complete their changes and close Rules Window.

Acceptance Criteria

- If the Rule Set is locked by another user, Rules Window displays Edit Lock and shows username who has locked.
- If the Rule Set is not locked by anyone and the current user attempts to make changes, system locks that Rule Set for the current user.
- When a user after locking a Rule Set moves away from the Rule Set by closing it, system prompts to Save changes and when after saving changes, releases Edit Lock.
- When a Rule Set is locked by another user, current user is not able to make any changes to the Rules.
- After a user loads the Rule Set without locking it and another user updates that Rule Set, system prompts to reload Rule Set to view latest changes.
- Rule Set screen on Form Designer indicates if it is locked by another user, so that no parallel work overwriting is possible.

4 Manage multi-user editing - Wizard Designer

The requirement is to manage Wizard editing on Wizard Designer screen when more than one user have opened a Wizard for editing. The system will lock a wizard for the first user who starts to make changes to the wizard and will inform other users that the wizard is locked for edit. So, they will wait for the first user to complete and save their work or contact them offline to release the lock.

Lock Time:

Default lock time will be one hour. Hence when wizard is locked for edit, system will record lock time of one hour. After making changes, when the user clicks at "Save Wizard" button, the lock will be released.

(1) When the user continues to make changes to the wizard without saving the wizard in between, in that case, after 55 mins lock time will automatically roll over to one more hour.

(2) In case user is not continuing to make changes to the wizard, system will prompt user to save data after 55 mins (just 5 mins before one hour lock timeout). On the alert box, if the user clicks at CLOSE button, changes will not save, and wizard will unlock after 5 mins (i.e., after one hour lock timeout). If the user clicks at SAVE button on the alert box, system will save the changes and extend the lock time to another hour.

Instances when the edit lock will be released are:

(1) When the lock time expires (based on what is set into the database).

In this case, system will alert the user 5 minutes before the lock time expires to save their work. Alert message will be "Edit lock will release automatically after 5 mins. Save your changes to avoid losing work. Saving will reset lock time for another hour."

This alert box will have two buttons - 'Save Now' and 'Extend'. Clicking on 'Extend' will save the rule set and lock for that user for next one hour. When 'Save Now' button is clicked, it will save the rule set and release the lock. When no button is clicked on this alert box, it closes automatically after 5 mins of prompt, releasing the lock without saving any change.

(2) When user loads another wizard from Wizard drop-down.

The current alert that confirms user to Save Changes will still be in place. If the user selects "Yes" on the confirm box, changes will be saved, lock will be released from that wizard and another selected Wizard will be loaded. If the user selects "No", system will release the lock and load another Wizard without saving any changes. At this instance, lock icon will turn to grey color

indicating that the application is in inactive state. A text will appear below the grey lock icon "The application is inactive."

(3) When user moves away from Wizard Designer window by clicking link "View in Library" or by clicking any of the Top Menu item.

The current alert that confirms user to leave page will still be in place. If the user selects "Leave" on the confirm box, lock will be released from the Wizard and selected page will load without saving any changes to that Wizard. Clicking on "Cancel" button will do nothing keeping the current wizard loaded as-it-is.

Once Edit Lock is released, that wizard can be locked by another user for edit.

All these changes will impact below screen where Wizards are managed.

1. Designer -> Wizard Designer

Currently on Wizard Designer screen, when a user tries to edit a Wizard by making any changes, a client variable (Is_Dirty) keeps track of such changes and enables "Save Wizard" button. Same variable/instance (Is_Dirty) will be used to trigger the system to check if selected Wizard has been opened by another user for edit. System will check if the current Wizard is opened for edit by any user on below instances.

1. On load of Wizard Designer screen for the selected Wizard (On load will also save the latest timestamp from selected Wizard History).
2. After loading Wizard Designer screen, based on the client variable that tracks to enable "Save Wizard" button.

Case 1: When a Wizard is already opened for edit by another user on load of designer screen or when current user attempts to edit wizard.

In case a Wizard has been opened for edit by another user, it will be indicated on the screen by a text "User <username> is currently working on the Wizard". Also, all the below action buttons will be disabled allowing user to view the wizard and navigate between pages or close the window.

1. EDIT RULES
2. SAVE WIZARD

Case 2: When User applies a lock to Wizard.

When the system checks at server if the selected Wizard is locked by another user, and it is not locked, system will then lock the Wizard for the current user.

At the time of loading Wizard Designer screen, system will also save the latest timestamp from selected Wizard History. When the system checks to see if Wizard is locked, it will also check to see if the wizard has been updated since load by comparing timestamp value save at load time and the latest timestamp in history. If it has, user will be prompted to reload.

Case 3: When User locks a Wizard and clicks on UNDO button.

When the user starts to make changes to the wizard it locks the wizard for that user. After a few changes if the user clicks at UNDO button till the first change, system does not unlock the wizard. Lock stays intact even when UNDO button is clicked.

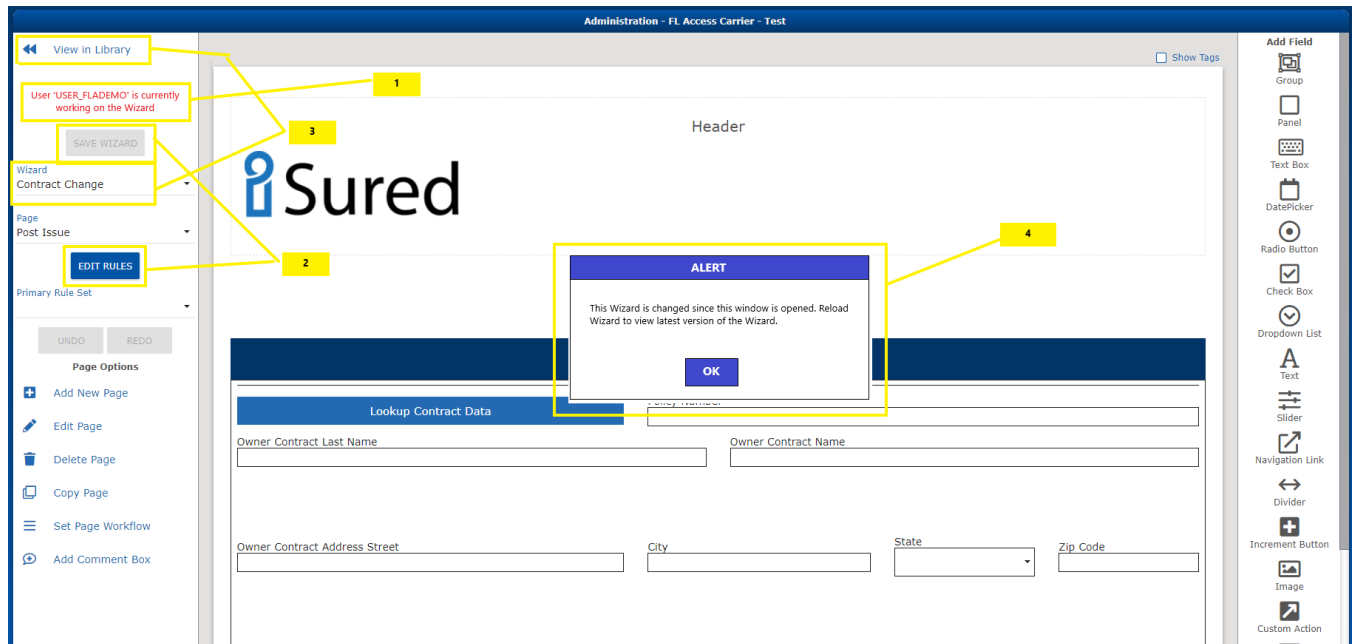
Case 4: When User locks a Wizard and clicks on EDIT RULES button.

When a user locks a wizard, lock time for that wizard will be set for one hour. After 10 mins, user clicks on EDIT RULES button and it locks the rule set for one hour. Currently, lock time for the wizard resets to that of the rule set timeout (so that both wizard and rule set timeout are same) to avoid any conflicts. If the user continues to make changes to the rule set, lock time for both rule set and the wizard gets rolled over to next hour.

Below Mockup displays placement of the text and other changes that will happen when selected wizard is opened for edit by another user.

1. When the Wizard is locked by another user, to the current user, text "User <username> is currently working on the Wizard" will be displayed beside the Wizard Name. This text will only show when the wizard is locked for edit by another user. With this change, text that displays currently when read-only lock is applied will be changed to "Wizard is locked by user <username>".
2. When the Wizard is locked for edit by another user, action buttons will also be disabled to avoid editing to the selected wizard.
3. When a user has locked the wizard for edit, clicking link "View in Library", reloading another wizard, or clicking on any of the menu item will release the Edit Lock.
4. When edit lock on the Wizard is released by another user, the user who has the wizard already open for edit will be prompted to reload window if they attempt to lock the Wizard. Alert Message will be

"This Wizard is changed since this window is opened. Reload Wizard to view latest version of the Wizard."



Example 1: User A loads Wizard "Application Wizard". It is locked by User B.

To User B, Wizard show edit lock text beside the wizard's name. Edit Rules and Save Wizard buttons are disabled.

User A can either view or close the Wizard Designer screen.

Example 2: User A and User B loads Wizard "Application Wizard" together.

To both the users, Wizard shows editable.

Both the users start to make changes to the wizard. System captures changes made by the first user (for this example - User A) and saves into the database that the wizard is locked by User A and lock time as one hour from the time when lock was enabled.

The time lapse when both the users start to make changes could be in microseconds, hence system will ensure that no two users lock the rule set together, or there is no edit lock entry already there for the wizard.

When system records edit lock by User A, at the same time it will prompt User B that the wizard is locked by User A by displaying lock text beside wizard name. Edit Rules and Save Rule Set buttons are disabled.

User B can either view or close the Wizard Designer.

At this time, User B can communicate offline with User A to complete their changes and close Wizard Designer.

Example 3: User A and User B loads Wizard "Application Wizard" together. User B lock the Wizard "Application Wizard" after some time. User A does not attempt to lock Wizard "Application Wizard" hence views it as unlocked.

After completing work User B closes Wizard Designer and edit lock is released.

At this time, if User A attempts to lock the wizard, system will prompt to inform that there has been changes to the wizard since the window is loaded and User A should reload the wizard before edit.

To reload the page, User A can close the Wizard Designer or hit browser refresh/reload button.

Acceptance Criteria

- If the Wizard is locked by another user, Wizard Designer displays Edit Lock and shows username who has locked.
- If the Wizard is not locked by anyone and the current user attempts to make changes, system locks that Wizard for the current user.
- When a user after locking a Wizard moves away from the Wizard by closing it, system prompts to Save changes and when after saving changes, releases Edit Lock.
- When a Wizard is locked by another user, current user is not able to make any changes to the Wizard.
- After a user loads the Wizard without locking it and another user updates that Wizard, system prompts to reload Wizard to view latest changes.
- Wizard Designer screen indicates if it is locked by another user, so that no parallel work overwriting is possible.

5 Manage multi-user editing - Form Designer

The requirement is to manage Form editing on Form Designer screen when more than one user have opened a Form for editing. The system will lock a form for the first user who starts to make changes to the form and will inform other users that the form is locked for edit. So, they will wait for the first user to complete and save their work or contact them offline to release the lock.

Lock Time:

Default lock time will be one hour. Hence when form is locked for edit, system will record lock time of one hour. After making changes, when the user clicks at "Save" button, the lock will be released.

(1) When the user continues to make changes to the form without saving the form in between, in that case, after 55 mins lock time will automatically roll over to one more hour.

(2) In case user is not continuing to make changes to the form, system will prompt user to save data after 55 mins (just 5 mins before one hour lock timeout). On the alert box, if the user clicks at CLOSE button, changes will not save, and form will unlock after 5 mins (i.e., after one hour lock timeout). If the user clicks at SAVE button on the alert box, system will save the changes and extend the lock time to another hour.

Instances when the edit lock will be released are:

(1) When the lock time expires (based on what is set into the database).

In this case, system will alert the user 5 minutes before the lock time expires to save their work. Alert message will be "Edit lock will release automatically after 5 mins. Save your changes to avoid losing work. Saving will reset lock time for another hour."

This alert box will have two buttons - 'Save Now' and 'Extend'. Clicking on 'Extend' will save the rule set and lock for that user for next one hour. When 'Save Now' button is clicked, it will save the rule set and release the lock. When no button is clicked on this alert box, it closes automatically after 5 mins of prompt, releasing the lock without saving any change. At this instance, lock icon will turn to grey color indicating that the application is in inactive state. A text will appear below the grey lock icon "The application is inactive."

(2) When user loads another Form from Form drop-down.

The current alert that confirms user to Save Changes will still be in place. If the user selects "Yes" on the confirm box, changes will be saved, lock will be released from that form and another selected Form will be loaded. If the user selects "No", system will release the lock and load another Form without saving any changes.

(3) When user moves away from Form Designer window by clicking link "View in Library" or by clicking any of the Top Menu item.

The current alert that confirms user to leave page will still be in place. If the user selects "Leave" on the confirm box, lock will be released from the Form and selected page will load without saving any changes to that Form. Clicking on "Cancel" button will do nothing keeping the current form loaded as-it-is.

Once Edit Lock is released, that form can be locked by another user for edit.

All these changes will impact below screen where Forms are managed.

1. Designer -> Form Designer

Currently on Form Designer screen, when a user tries to edit a Form, a client variable (Is_Dirty) keeps track of such changes that alerts when 'Save' button is clicked. Same variable/instance (Is_Dirty) will be used to trigger the system to check if selected Form has been opened by another user for edit. System will check if the current Form is opened for edit by any user on below instances.

1. On load of Form Designer screen for the selected Form (On load will also save the latest timestamp from selected Form History)
2. After loading Form Designer screen, based on the client variable that tracks to enable "Save" button

Case 1: When a Form is already opened for edit by another user on load of designer screen or when current user attempts to edit form.

In case a Form has been opened for edit by another user, it will be indicated on the screen by an edit lock text "User <username> is currently working on the Form". Also, all the below action buttons will be disabled allowing user to view the Form and navigate between pages or close the window.

1. Rules Window (link)
2. SAVE (button)
3. Form Properties (link)
4. Form History (link)

Case 2: When User applies a lock to Form.

When the system checks at server if the selected Form is locked by another user, and it is not locked, system will then lock the Form for the current user.

At the time of loading Form Designer screen, system will also save the latest timestamp from selected Form History. When the system checks to see if Form is locked, it will also check to see if the Form has been updated since load by comparing timestamp value save at load time and the latest timestamp in history. If it has, user will be prompted to reload.

Below Mockup displays placement of the new text and other changes that will happen when selected form is opened for edit by another user.

1. When the Form is locked by another user, to the current user, text "User <username> is currently working on the Form" will be displayed beside the Form Name. This text will only show when the Form is locked for edit by another user. With this change, text that displays currently when read-only lock is applied will be changed to "Form is locked by user <username>".
2. When the Form is locked for edit by another user, action buttons will also be disabled to avoid editing to the selected form.
3. When a user has locked the form for edit, clicking link "View in Library", reloading another Form, or clicking on any of the menu item will release the Edit Lock.
4. When edit lock on the Form is released by another user, the user who has the form already open for edit will be prompted to reload window if they attempt to lock the Form. Alert Message will be "This Form is changed since this window is opened. Reload Form to view latest version of the Form."



To User B, Form show edit lock text beside the Form name. Save button and other links are disabled.

User A can either view or close the Form Designer screen.

To both the users, Form shows editable.

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The time lapse when both the users start to make changes could be in microseconds, hence system will ensure that no two users lock the rule set together, or there is no edit lock entry already there for the Form.

When system records edit lock by User A, at the same time it will prompt User B that the Form is locked by User A by displaying lock text beside Form name. Save button and other links are disabled.

User B can either view or close the Form Designer.

At this time, User B can communicate offline with User A to complete their changes and close Form Designer.

Example 3: User A and User B loads Form "Application Form" together. User B lock the Form "Application Form" after some time. User A does not attempt to lock Form "Application Form" hence views it as unlocked.

After completing work User B closes Form Designer and edit lock is released.

At this time, if User A attempts to lock the Form, system will prompt to inform that there has been changes to the Form since the window is loaded and User A should reload the Form before edit.

To reload the page, User A can close the Form Designer or hit browser refresh/reload button.

Acceptance Criteria

- If the Form is locked by another user, Form Designer displays Edit Lock and shows username who has locked.
- If the Form is not locked by anyone and the current user attempts to make changes, system locks that Form for the current user.
- When a user after locking a Form moves away from the Form by closing it, system prompts to Save changes and when after saving changes, releases Edit Lock.
- When a Form is locked by another user, current user is not able to make any changes to the Form.
- After a user loads the Form without locking it and another user updates that Form, system prompts to reload Form to view latest changes.
- Form Designer screen indicates if it is locked by another user, so that no parallel work overwriting is possible.