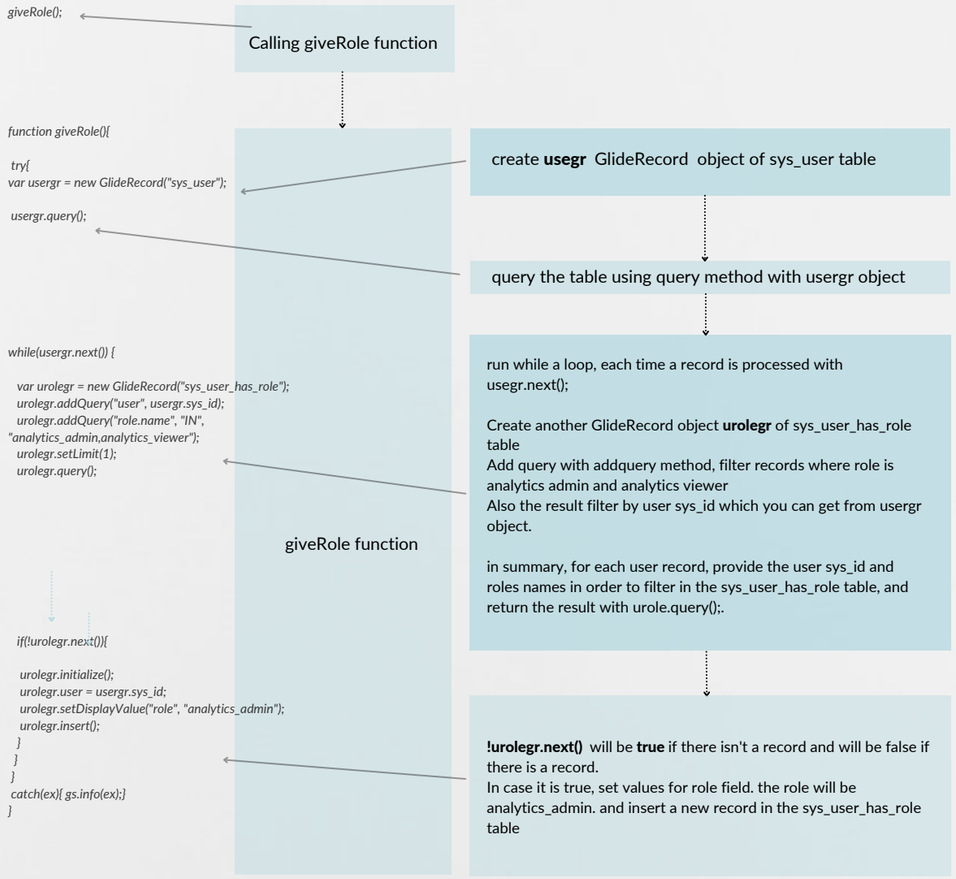
REQUIREMENT

For every hour automatically assign analytics_admin role for users who don't have analytics_admin or analytics_viewer role.

01

The goal is to assign a role to specific users within a time period, write the script which will check the conditions, make sure that all users don't have analytics_admin or analytics_viewer role, use the the script in a scheduled script, scheduled for every hour.



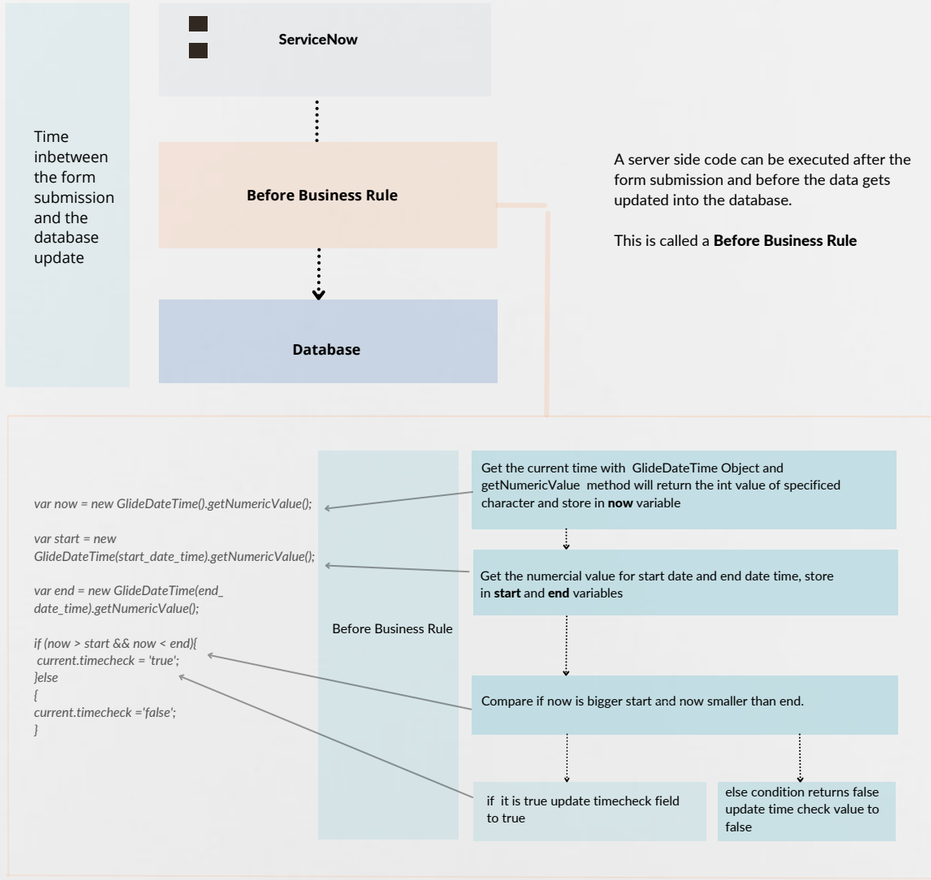
REQUIREMENT

Check if the current time is greater than start date time and smaller than end date time. We assume here start date time and end date time are two Date/Time fields in a form.

02

A before BR can be executed to check if the current date is between start date time and end date time, if it is true, it can update timecheck field to true. Create two date fields in a custom table, then write a before business rule for that table.

Before Business Rule



REQUIREMENT

Hide an Icon in the incident form.

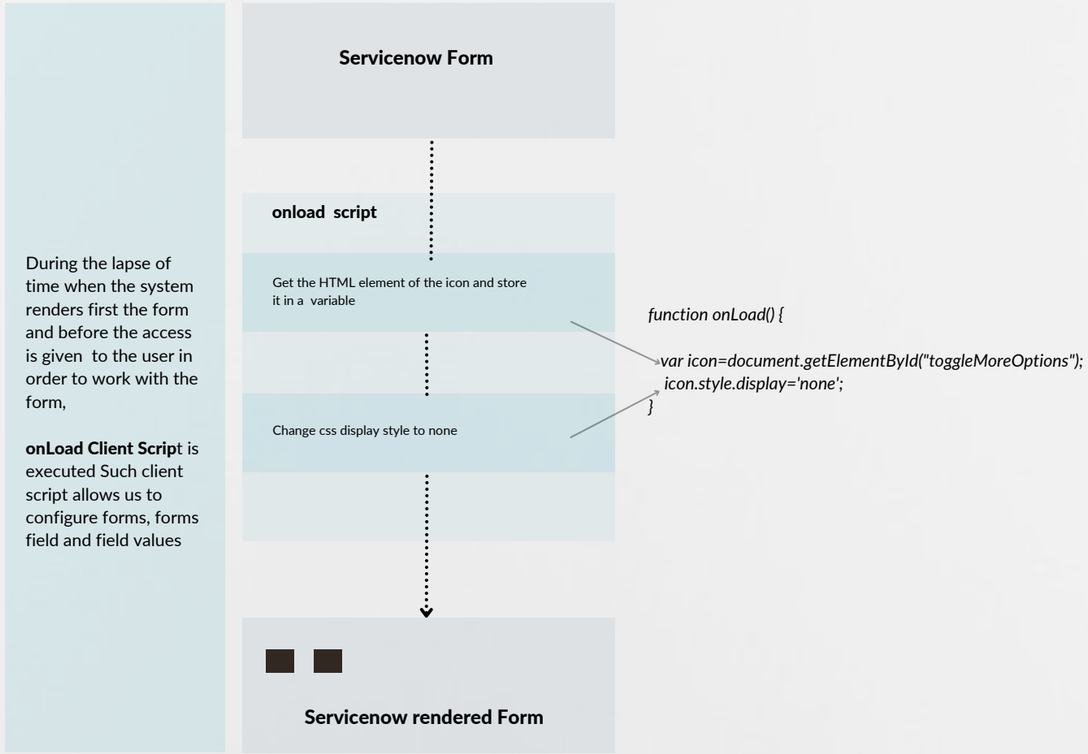
03

While the form is loading, onLoad script code will change the css style display value to none of the 3 dotted icon, the html element id of the icon can be found by using chrome developer tool.

onLoad Client Script

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form,

onLoad Client Script is executed Such client script allows us to configure forms, forms field and field values



REQUIREMENT

Group incidents by assigned to and list only grouped records where the assigened to have more than one record

04

Test the script in background to see the result

```
var agg = new GlideAggregate('incident');
agg.addAggregate('COUNT', 'assigned_to');
agg.query();
```

Creating a on Object of from the class GlideAggregate for incident table, GlideAggregate is an extension of GlideRecord. It provides the capability to do aggregation (COUNT, SUM, MIN, MAX, AVG)

And quering the table

Incident table query result 1

```
var arr = [];
```

creating an empty array

While loop

Abel Tuter	2
Fred Luddy	0
Chris Grimes	1

```
while (agg.next()) {
//do things on the results
var incidentCount = agg.getAggregate('COUNT', 'assigned_to');
```

for each count result processed by the system during a while loop, store the count value in a incidentCount variable

for examples if Abel Tuter have **5** incidents
store **5**

if incident count >1

```
if (incidentCount > 1) {

//  gs.info('Display the count {0}', [incidentCount]);

var inc = new GlideRecord('incident');

    inc.addEncodedQuery('assigned_to=' + agg.assigned_to);
    inc.query();
```

When the incident count is more than one, create *Inc* Object of the class GlideRecord for incident table.

add encoded query with **agg.assigned.to,** query incident table, here the user have more than one record assigned to him

Incident table query result 2

INC01	Abel Tuter
INC02	Abel Tuter

```
while (inc.next())
        arr.push(inc.sys_id.toString());
}}
```

```
return arr;
```

Create another while loop to store all records sys_id into the empty array.

this while loop is inside the previous loop.

Arr =[inc01_sys_id, inc02_sys_id];

While loop inside the first while loop

REQUIREMENT

Create a Knowledge Base article using an UI macro

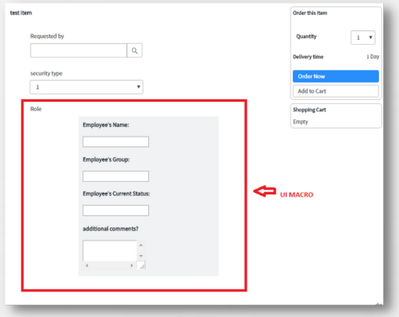
05

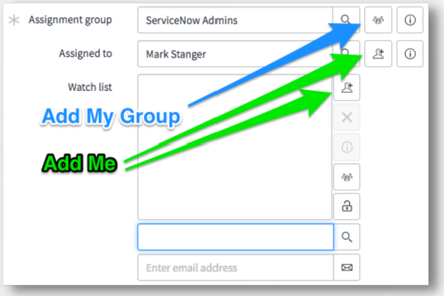
UI Macro

UI macros are scripted components in servicenow that admins can add to the user interface.

The script is written in between Jelly Tags and the ui macro can be invoked from an ui page, from another ui macro or by defining specific attributes in a reference field.

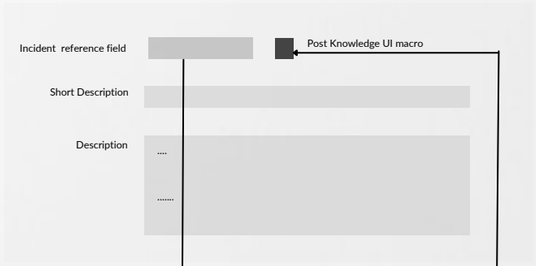
See below few examples of ui macros





For our requirement, we will have an ui macro created next to the incident reference field and we will take as inputs data from two other fields (Short Description and Description) in order to create the knowledge base.

UI macro script and UI macro rendering



Dictionary Fields list view

Defining an attribute value for the incident reference field such as
ref_contributions=create_kb will render the ui macro next to the incident reference field.

create_kb is a ui macro name.

UI Macro Script

Jelly

```
<?xml version="1.0" encoding="utf-8" ?>
<j:jelly trim="false" xmlns:j="jelly:core" xmlns:g="glide"
xmlns:j2="null" xmlns:g2="null">
```

Post Knowledge Button Html element

```
<button id="button" onclick="kbCreate();">Post
Knowledge</button>
<script>
```

KB create function

```
function kbCreate(){
```

Create a GlideRecord Object of kb_knowledge table

```
var gr= new GlideRecord('kb_knowledge');
gr.initialize();
gr.short_description =
g_form.getValue('incident.short_description');
gr.text=g_form.getValue('incident.description');
```

Initialize and get short description, description and store in short description, text field values - text is a database name for artical body field.

```
gr.insert();
}
</script>

</j:jelly>
```

insert record

Jelly

New Record in KB Knowledge Table

The ui macro name is create_kb, which is a database name, mention it in the attributes field,attributes is a dictionary field of the incident reference field, the ui macro script has the html code to render the icon, and call a function when the ui macro is clicked,
the function will simply run a query in Kb_Knowledge base, get short description and description from the form and insert a new record.

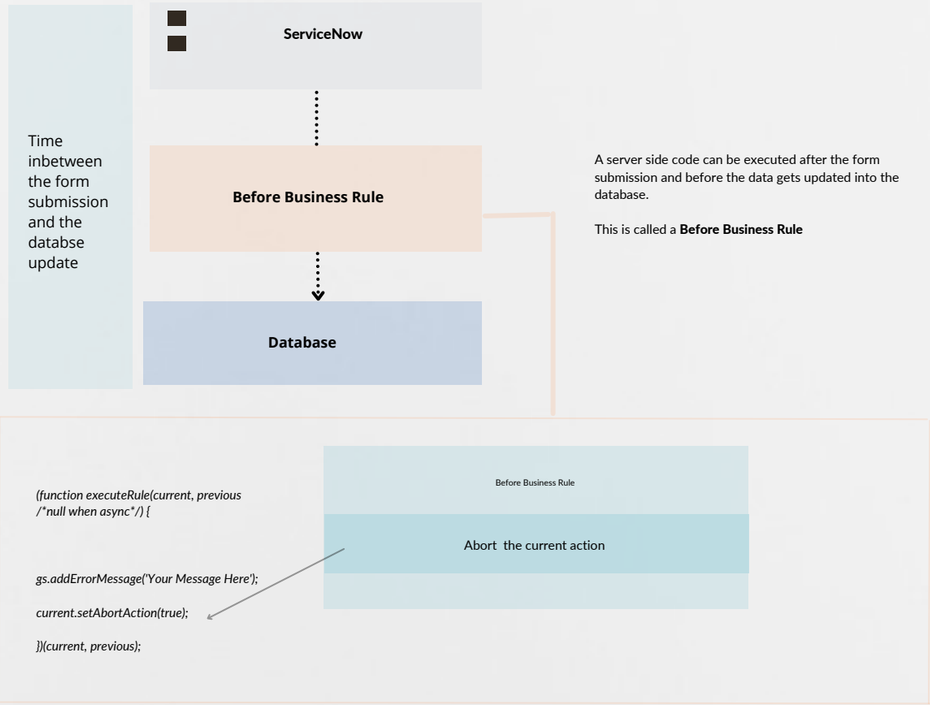
REQUIREMENT

Restrict Submission on a incident form when the description field is empty and the state field value is 2 or 3.

06

Before the database gets updated, restrict the form submission if the state of the incident is either 2 or 3, mention the condition in the before business rule and the script to abort the action, this br is written on insert and updates.

Before Business Rule



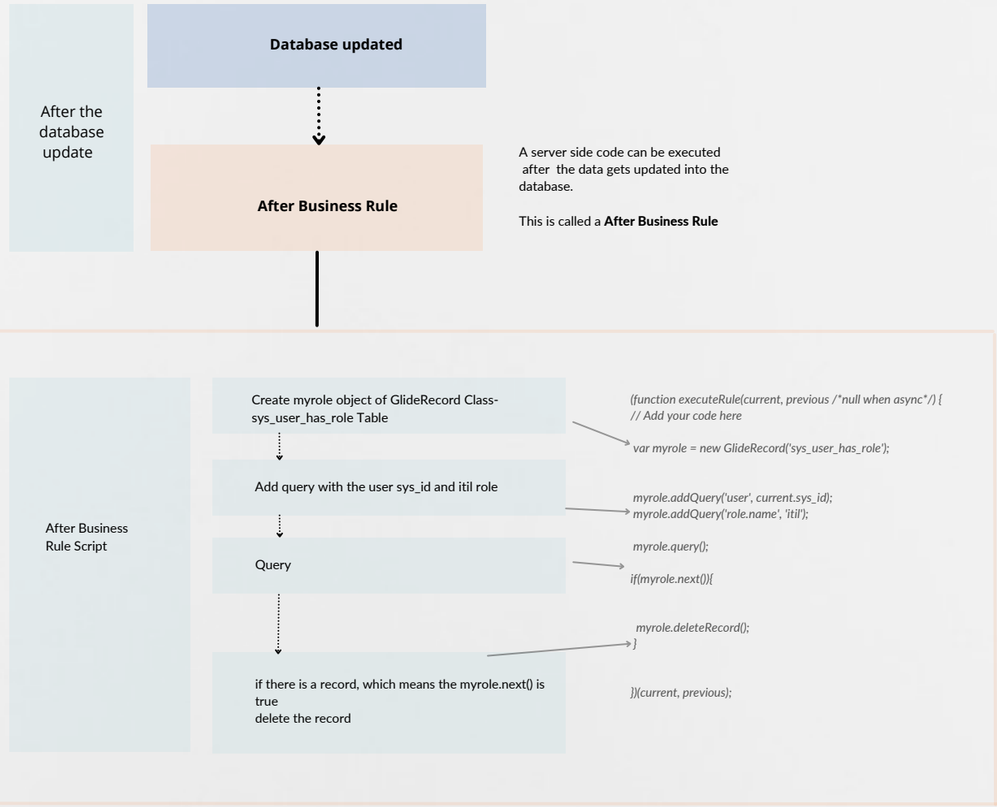
REQUIREMENT

If a user in his profile has position equal to non-agent , position is a custom field in the user table and the user has ITIL role, remove ITIL role for the user.

07

This requirement is a verification of field values and action taken based on the value, therefore, write an after business rule, for updates and insert. This br will have in condition : postion is equal to non-agent, run a script which will the current user and verify if the user has ITIL role, if yes it will remove the role by deleting the record.

After Business Rule

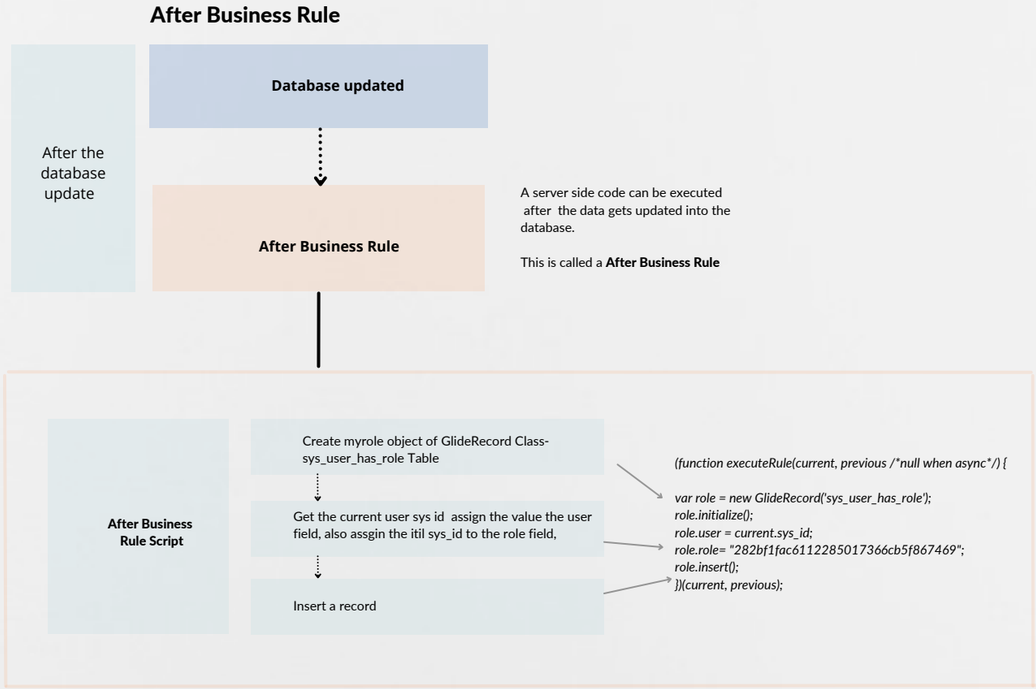


REQUIREMENT

If a user in his profile has position equal to agent , position is a custom field in the user table, add ITIL role to the user.

08

This requirement is a verification of field values and action taken based on the value, therefore, write an after business rule, for updates and insert. This br will have in condition : postion is equal to agent, run a script which will get the current user and add itil role.

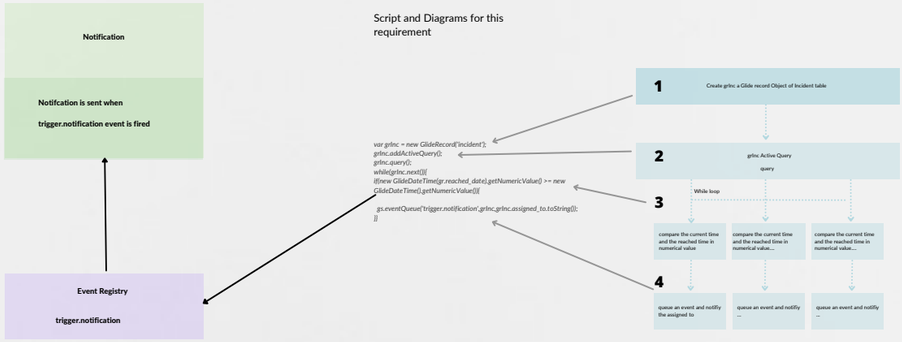


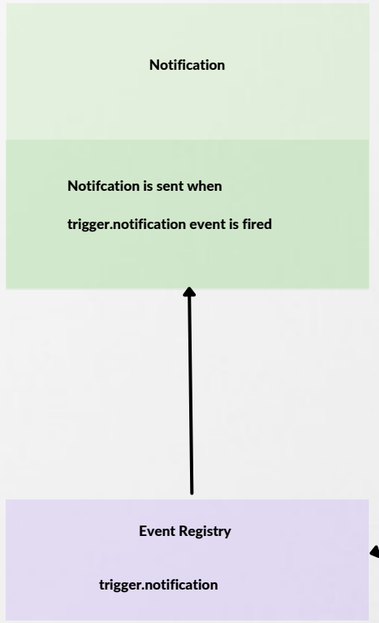
REQUIREMENT

Send a notification to the assigned to of an incident , whenever a custom date field is superieur than the current date time.

09

Regiser an trigger.notification event for the incident table, create as well a beta notification triggerd when the event is fire, then write a scheduled script to query the incident table for meeting the condition above, if there are records overdue 30, 60, 90 days , generate overdue reminder from the script, which will automaticatlly send the notifications.





Script and Diagrams for this requirement

```
var grInc = new GlideRecord('incident');
grInc.addActiveQuery();
grInc.query();

while(grInc.next()){

if(new GlideDateTime(gr.reached_date).getNumericValue() >= new GlideDateTime().getNumericValue()){

  gs.eventQueue('trigger.notification',grInc,grInc.assigned_to.toString());
}}
```

Create **grInc** object of GlideRecord Class- incident Table

Query the table to find all active records

While the system process in each record, compare the numerical value of the current time to the reached_date time, reached is a custom date field, if the reached_date is bigger than the current time, queue an event gs.eventQueue, trigger.notification event is created in the event registry, as a parameter mention the assigned_to string value.

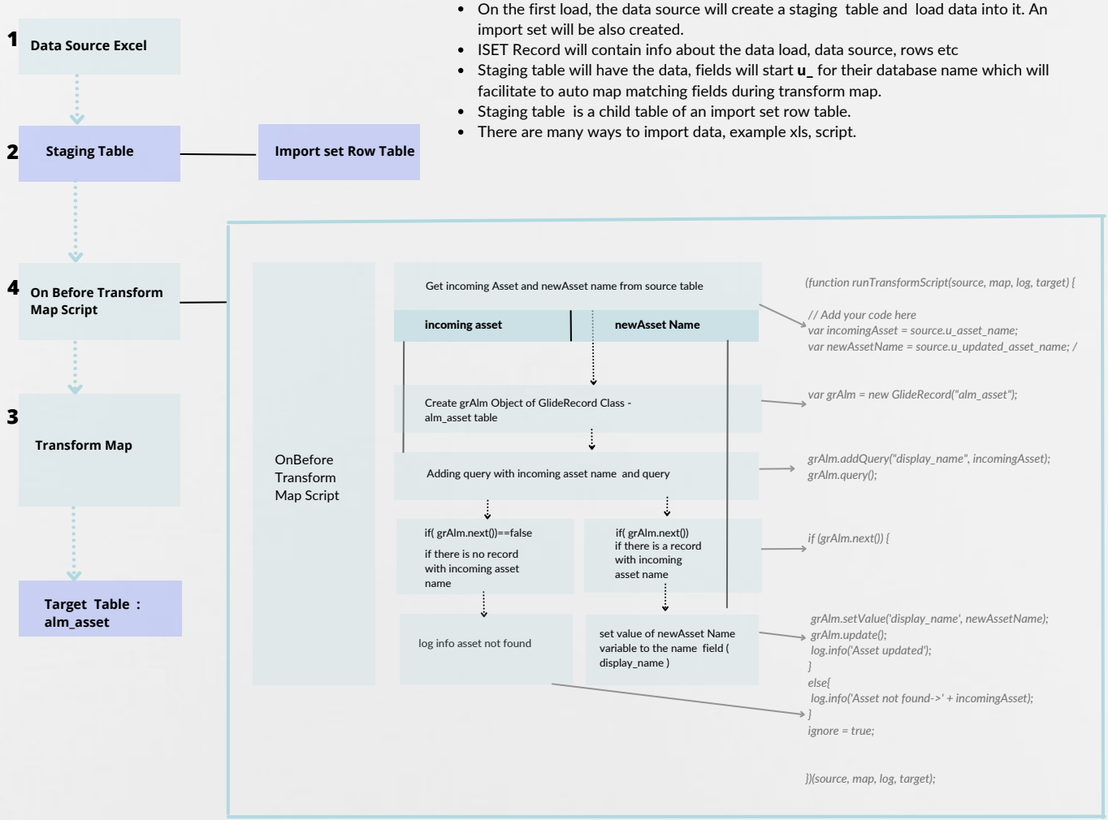
REQUIREMENT

There is an import set with 2 columns u_asset_name and u_updated_asset_name example Surface Pro and Surface Pro 16. Update the display name field value in the alm_asset target table with the updated asset name value.

10

For this exercise, create an excel file sheet with some dummy data, the file should have two columns : asset name and updated asset name, for asset name, use the names values available in the asset table and for updated asset name, put some text as per your wish. Create the datasource, run it to have a staging table with some data, then create a transform to map data in between staging table and target table, write the onbefore transform script to get data from staging table, then use the incoming asset name to find records in alm asset table with similar names, it there is such records, update then nw values with updated newAssetname

Tables and Data Import Process



Key Information

- On the first load, the data source will create a staging table and load data into it. An import set will be also created.
- ISET Record will contain info about the data load, data source, rows etc
- Staging table will have the data, fields will start **u_** for their database name which will facilitate to auto map matching fields during transform map.
- Staging table is a child table of an import set row table.
- There are many ways to import data, example xls, script.

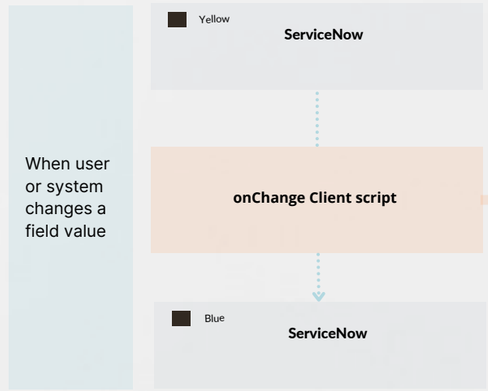
REQUIREMENT

In problem record, hide the Notes section when state is equal to '102'.

11

The onchange client script will if there is a new value for state field, here if the database value is equal to 102, it wil hide the note changing section display value to false, this client script will also check the state value while the form is loading.

onChange Client Script



When a user or systems changes the value of a field, we can run onChange client script.

The script is written on a specific field.

The client script is excuted once the change is occured.

when the state field will get a new value or current value is 102 onChange script can be called to hide the notes tab

```
function onChange(control, oldValue, newValue, isLoading, isTemplate) {
  if (isLoading) {
   if(g_form.getValue('state') == '102'){
   g_form.setSectionDisplay('notes', false);
  }
    return;
}

  if (newValue == "102") {
    g_form.setSectionDisplay('notes', false);
  } else {
    g_form.setSectionDisplay('notes', true);
  }
}
```

Onchange client script

On load

Get the state value and if it is equal to 102 , change the display value to false for notes

On Change

if the new state value is to 102 , change the display value to true for notes

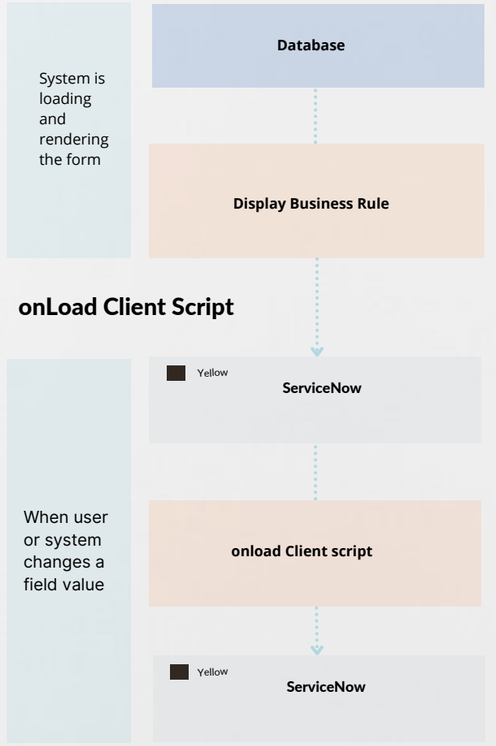
REQUIREMENT

In the Incident form make the contact type field editable only for Assignment group members.

12

For this requirement use a scratchpad object which will have a boolean value either true or false, if the current user is not member of that particular assignment group it will be false, based on the scratchpad value, modify field attributes. write a display Business Rule on Insert and update, which will have a scratchpad object, the value it will be true if the logged in user is member of the assignement group, use the scratchpad on the client side, if the value is false, meaning the user is not member then you set the field read only, the opposite condition will let the user access the field.

Display Business Rule



Server

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form, a server side script can be executed, this is a called a **Display Business Rule.**

Passing the scratchpad object to the client side

A Display Business Rule can instantiate g_scratchpad object which can be passed to the client side and it can be used in client script.

Client

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form, **onLoad Client Scrip**t is executed

Such client script allows us to configure forms, forms field and field values

Display Business Rule

```
(function executeRule(current, previous /*null when
async*/) {

g_scratchpad.isMember =
gs.getUser().isMemberOf(current.assignment_group.toStr
ing());

})(current, previous);
```

1 Create a Display Business Rule for the incident table, use the script which checks if the current user is part the assignment group and stores the value in a scratchpad object **g_scratchpad.isMember**

System is loading and rendering the form

Database

Display Business Rule

Server

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form, a server side script can be executed, this is a called a **Display Business Rule.**

g_scratchpad

Passing the scratchpad object to the client side

A Display Business Rule can instantiate g_scratchpad object which can be passed to the client side and it can be used in client script.

onLoad Client Script

```
function onLoad(){

 if(g_scratchpad.isMember.toString() == 'false'){
  g_form.setReadOnly('contact_type', true);
  // add few more fields as per your requirement
 }

}
```

2 Create a onLoad Client script on the incident table use the scratchpad object in a onload client script if the value is false, meaning the user is not part of the group, make the contact type read only with setReadOnly method

When user or system changes a field value

Yellow

ServiceNow

onload Client script

Yellow

ServiceNow

Client

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form, **onLoad Client Scrip**t is executed

g_scratchpad

Such client script allows us to configure forms, forms field and field values

REQUIREMENT

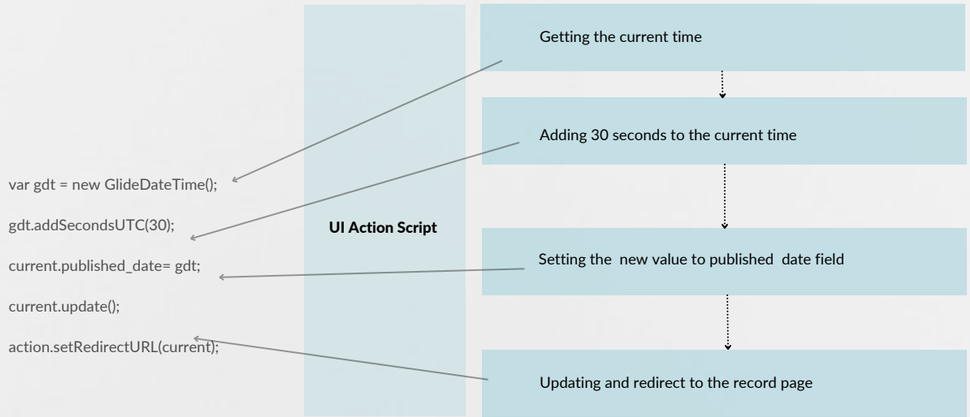
Add 30 seconds to the current date/time and set this value to a custom date time field from an UI Action.

13

create an ui action, it will have a script which will get the current time, add 30 seconds and then the new value to the custom date field, the script is called whenever you click on the ui action.

We can create a UI action to provide any of these controls:

A button on a form.
A context menu item on a form that appears when you open the form context menu or right-click the form header.
A related link in a form.
A button in the banner on top of a list.
A button at the bottom of a list.
A context menu item on a list that appears when you open the list context menu or right-click the list header.
A menu item for the action choice list at the bottom of a list.
A related link at the bottom of a list.



REQUIREMENT

The user should select only the Stage in the below order, It's basically a drop-down menu where a user is allowed to update values in a defined order.

This is the order : ->Start->Assigned->WIP->Resolved->Closed For Ex: the user cannot select WIP before choosing Assigned as previous value for the drop down menu, he/she cannot select resolved as value before choosing wip as previous value.

14

The property values of ***Previous object*** are the values for the record fields when they were loaded from the database and before any changes were made.

The property values of the ***Current Object*** are the values as they exist in the runtime environment.

previous.stage

current.stage

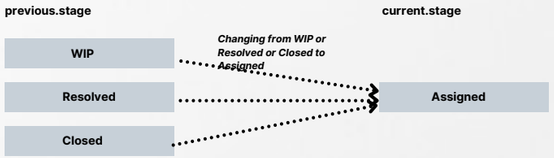
The change that you can see above can be translated in programming with the follwowing code **current.stage == 'assigned' && previous.stage != 'start',** start being one of the stages.

If the condition is true we do not allow user to submit the form,
with the following code **current.setAbortAction(true);**

We replicate this logic for all the rest possible current stages such as WIP, Resolved and Closed

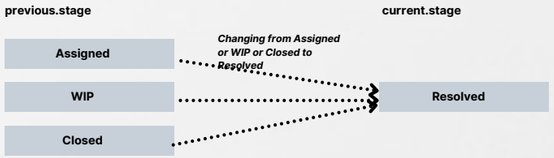
Remember that **start** should not consider for the current stage, because theoricaly there is no stage before start, therefore we have only 4 condition to establish or test.

```
if(current.stage == 'assigned' && previous.stage != 'start'){
  gs.addErrorMessage('You are allowed to change stage from Start to Assigned only');
  current.setAbortAction(true);
```




```
 if(current.stage == 'assigned' &&
previous.stage != 'start'){
  gs.addErrorMessage('You are allowed to
change stage from Start to Assigned
only');
  current.setAbortAction(true);
```

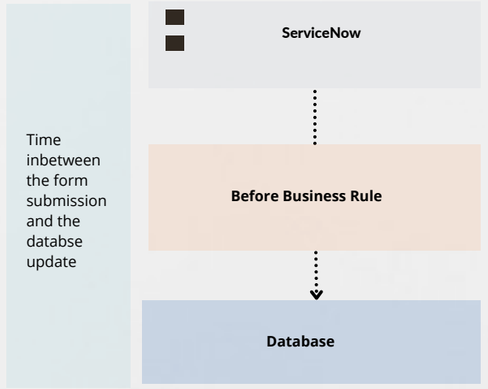

```
if(current.stage == 'wip' && previous.stage
!= 'assigned'){
  gs.addErrorMessage('You are allowed to
change stage from Assigned to WIP only');
  current.setAbortAction(true);
 }
```




```
if(current.stage == 'resolved' &&
previous.stage != 'wip'){
  gs.addErrorMessage('You are allowed to
change stage from WIP to Resolve only');
  current.setAbortAction(true);
 }
```


```
 if(current.stage == 'closed' && previous.stage
!= 'resolved'){
  gs.addErrorMessage('You are allowed to
change stage from Resolve to Closed only');
  current.setAbortAction(true);
 }
```

Before Business Rule



A server side code can be executed after the form submission and before the data gets updated into the database.

This is called a **Before Business Rule**

For this requirement, write a Before Business Rule with the following condition **description is empty and state is either 2 or 3.**
Add state is one of in Progress and on Hold for filter conditions.

In this code we check four conditions, for example if the current stage is assigned and the previous stage is different than start, BR will abort the submission, the same logic is applied to allow changes only from start to assigned or assigned to wip or wip to resolved or resolved to closed.

For this requirement, Create a before business rule on the incident table and on update, with the filter condition states changes.

REQUIREMENT

Get the current date time using a client script.

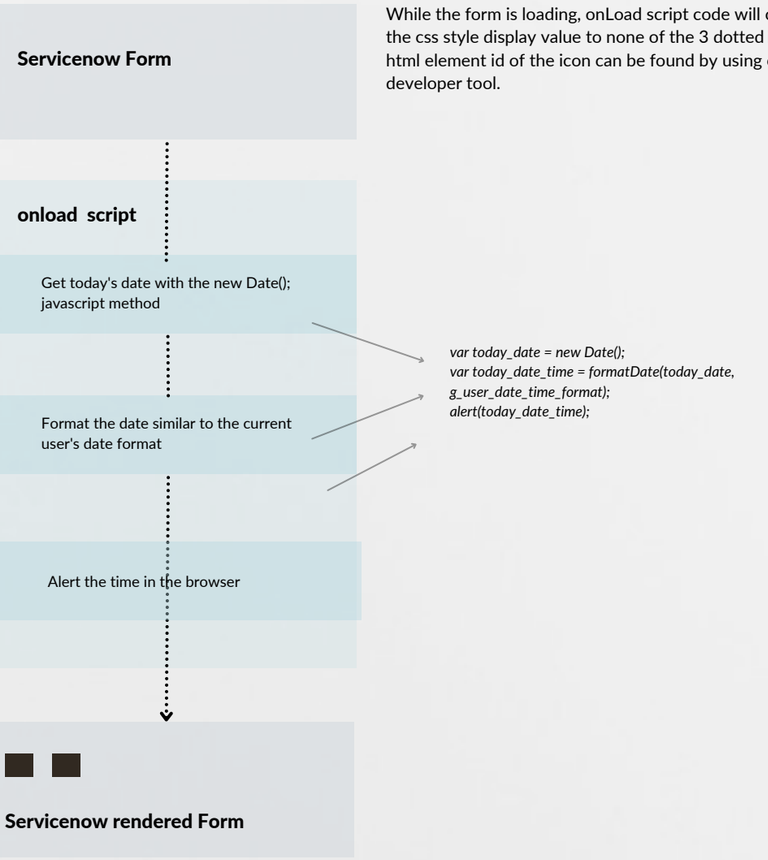
15

Get the current date time using a client script, format the date and alert it

onLoad Client Script

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form,

onLoad Client Script is executed Such client script allows us to configure forms, forms field and field values



While the form is loading, onLoad script code will change the css style display value to none of the 3 dotted icon, the html element id of the icon can be found by using chrome developer tool.

```
var today_date = new Date();
var today_date_time = formatDate(today_date,
g_user_date_time_format);
alert(today_date_time);
```

REQUIREMENT

Create an incident through an inbound email action, the incident short description should be same as the attachment file name.

16

Sys_email Table

Sys_id	...	...
515dfef	..	...

1 When the inbound email is triggered, it creates a record in sys_email table to validate the creation of email. Get the sys_id.

Attachement table

File name	Table Name	sys_id
script.pdf	sys_email	515dfef

2 query the attachment table with sys_email sys_id, if there is a record, we can retrieve the pdf file name. use the pdf file name and set it as value in for short description field

State of the Attachement table once the pdf file is attached to incident record

File name	Table Name	sys_id
script.pdf	Incident	545fdsd

Sequence of events

notice it is not sys-email but incident table for the same record in the attachement table

Inbound Email Script

sys_email.sys_id contains the sys id of sys_email record,
store it in a test variable and create attachementName an empty variable

```
(function runAction( current, event, email,logger,classifier) {

var attachmentName = '';
var test = sys_email.sys_id;
```

Creating grAtt Object GlideRecord Class - sys_attachement table

```
var grAtt = new GlideRecord('sys_attachment');
grAtt.addQuery('table_name','sys_email');
grAtt.addQuery('table_sys_id',test);
```

Adding and Querying the table with sys_id and table name

```
grAtt.query();
```

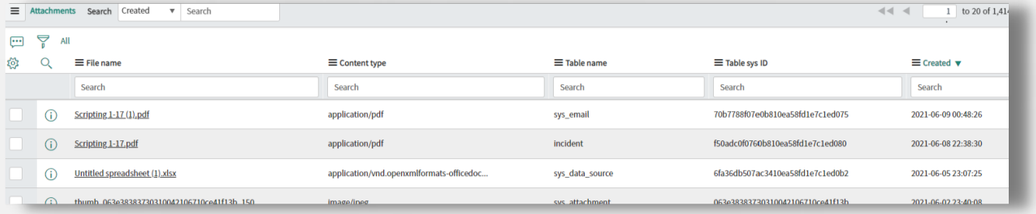
if there is a record , meaning gr.next()==true
store the file name in attachment name locale variable

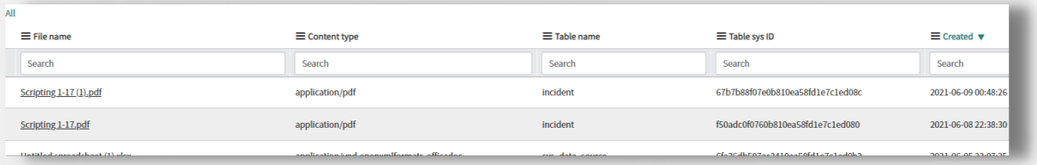
```
if(grAtt.next()){
 attachmentName = grAtt.file_name;
}
```

Defining values caller id , comments and notice for short_description we use attachmentName variable, we then insert a new record.

```
current.caller_id = "Abel Tuter";
current.short_description =  attachmentName;
current.comments = "received from: " + email.origemail + "\n\n" + email.body_text;
current.insert();
})(current, event, email, logger, classifier);
```

Create an inbound email action for the incident table, with the action type record action.



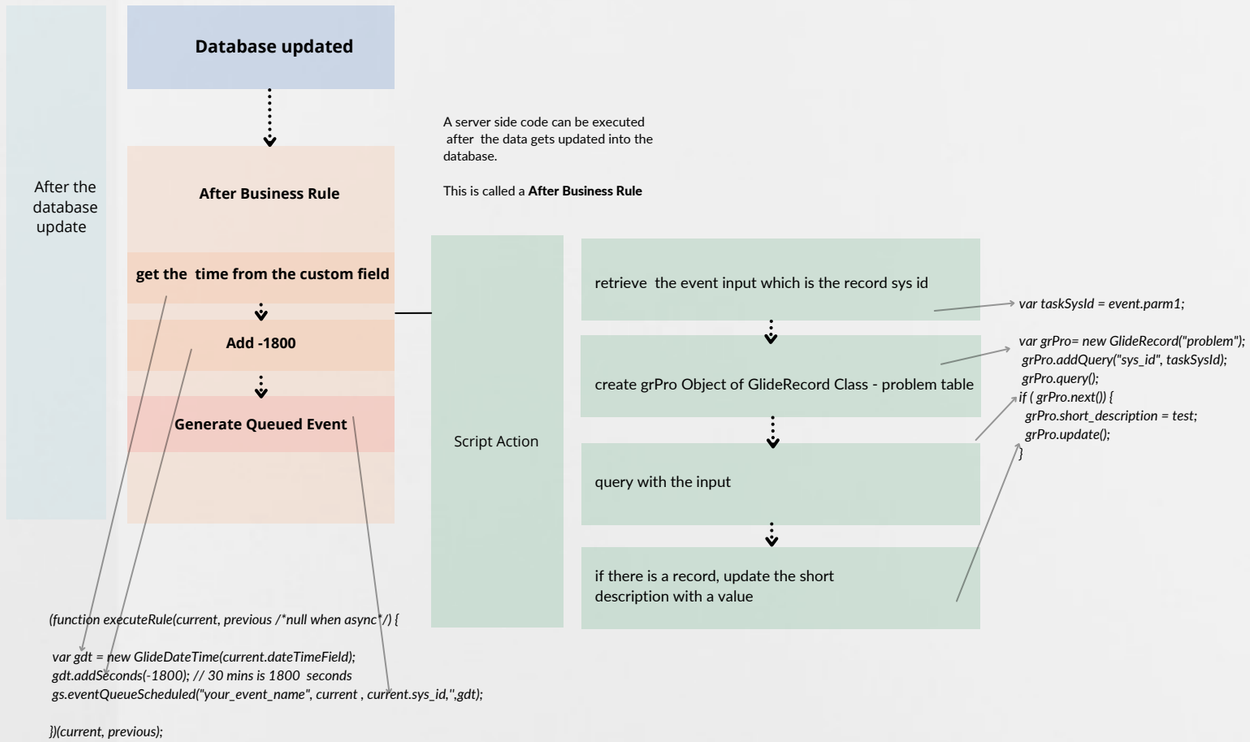


REQUIREMENT

Change the short description of a problem ticket 30 minutes before a time set in a custom date/time field.

17

We can do this by writing a script action which will respond to an scheduled event, and the scheduled event is created in a after business rule, the rule will get the time from the custom field and substract 30 minutes, the event will be scheduled for that specific time.

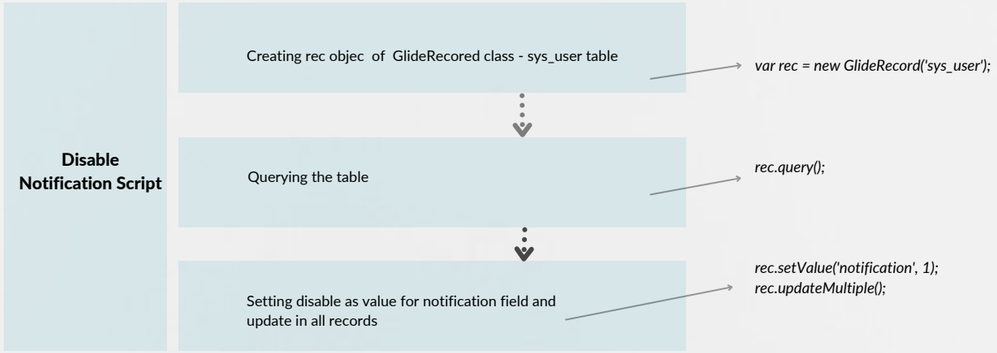


REQUIREMENT

Turn off notifications to all users with a script.

18

A simple script to query the sys_user table and change the notification field value to 1 and update the new value.,



Write a scheduled script or background script to test this requirement

REQUIREMENT

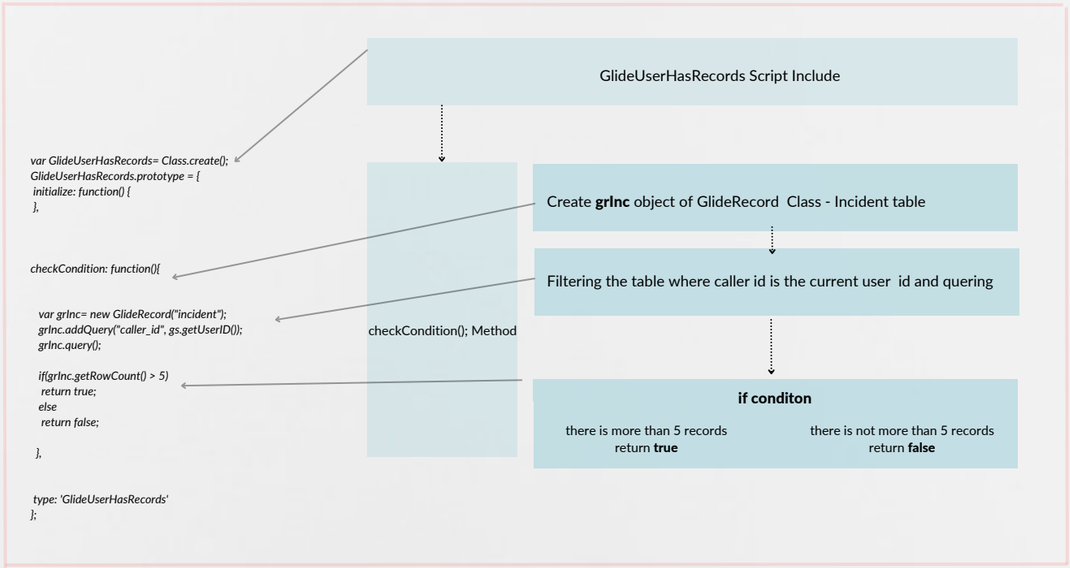
UI Action visible only when the logged in user is an admin, and has more than 5 incident records where he/she is a caller.

19

Create an UI Action for incident table, give it a name you want and use this line as condition
gs.hasRole('admin'&&)new GlideUserHasRecords.checkCondition();

The script include and its method will run a query in the incident table, looking for records where the loggedin is assigned to, if there are more 5 records, it will return true , the ui action will be then visible.

The condition field in the ui action have the code line to check if the user is an admin.

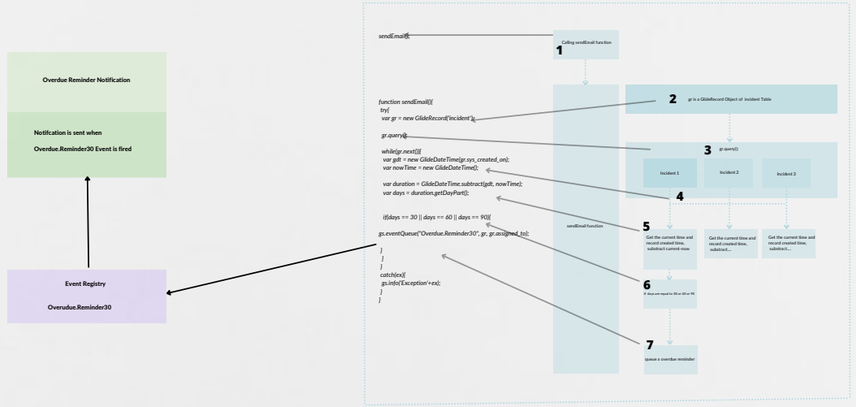


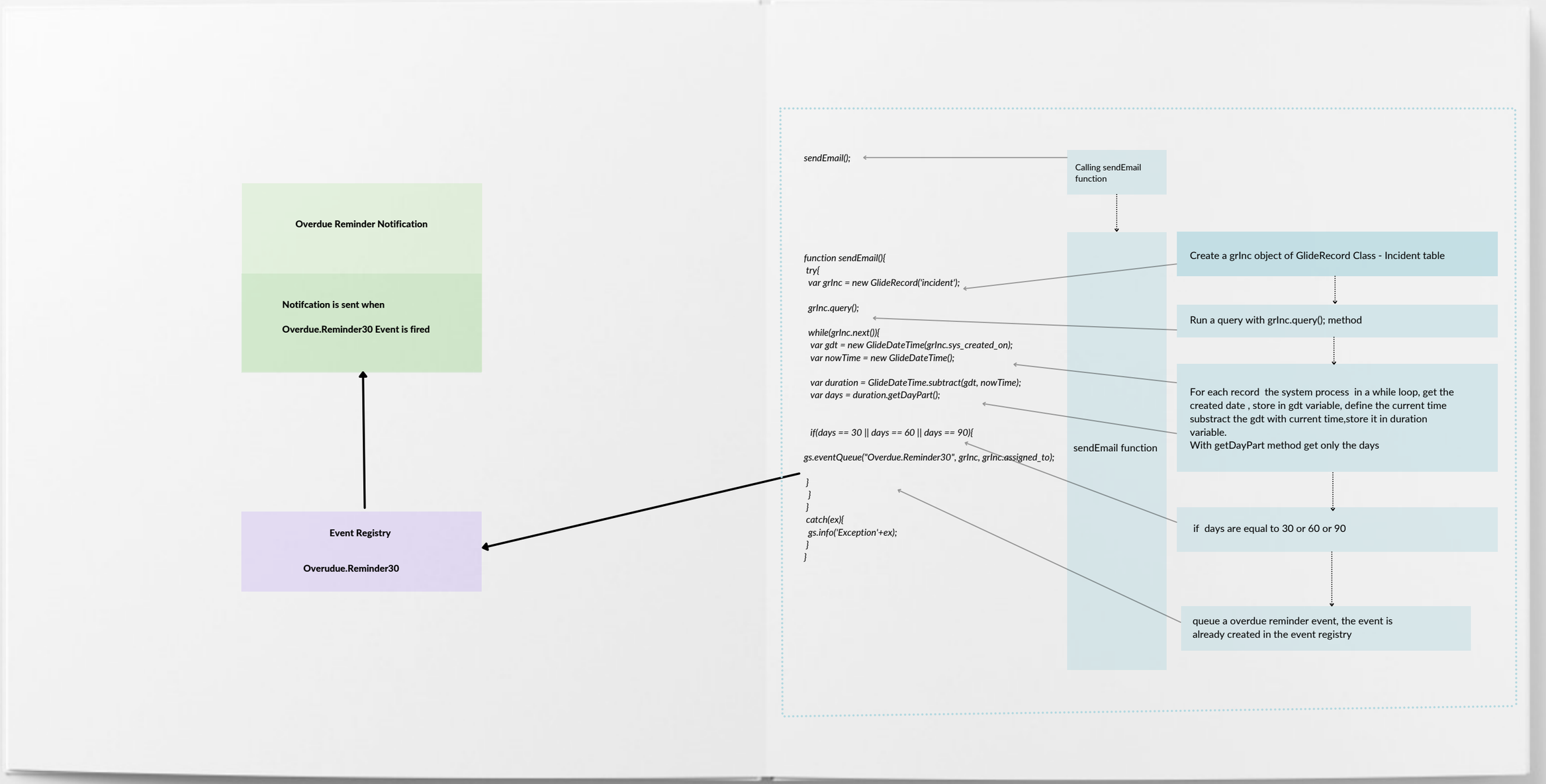
REQUIREMENT

Send overdue 30, 60 and 90 days reminder to the assigned user.

20

Regiser an Overdue.Remider30 event for the incirent table, create as well a beta notification triggerd when the event is fire, then write a scheduled script to query the incident table for meeting the condition above, if there are records overdue 30, 60, 90 days , genearte overdue reminder from the script, which wll automaticatlly send the notifications.




Overdue Reminder Notification
Notifcation is sent when
Overdue.Reminder30 Event is fired
Event Registry
Overudue.Reminder30
sendEmail();
Calling sendEmail function
function sendEmail(){
try{
var grInc = new GlideRecord('incident');
grInc.query();
while(grInc.next()){
var gdt = new GlideDateTime(grInc.sys_created_on);
var nowTime = new GlideDateTime();
var duration = GlideDateTime.subtract(gdt, nowTime);
var days = duration.getDayPart();
if(days == 30 || days == 60 || days == 90){
gs.eventQueue("Overdue.Reminder30", grInc, grInc.assigned_to);
}
}
}
catch(ex){
gs.info('Exception'+ex);
}
}
sendEmail function
Create a grInc object of GlideRecord Class - Incident table
Run a query with grInc.query(); method
For each record the system process in a while loop, get the created date , store in gdt variable, define the current time substract the gdt with current time,store it in duration variable.
With getDayPart method get only the days
if days are equal to 30 or 60 or 90
queue a overdue reminder event, the event is already created in the event registry

REQUIREMENT

Add the form sys_id to the form

21

create a new string type field for the table you want, make it a function field

add the follwing line glidefunction:concat(sys_id) to the function definition field

REQUIREMENT

Alert the caller id while loading the incident form

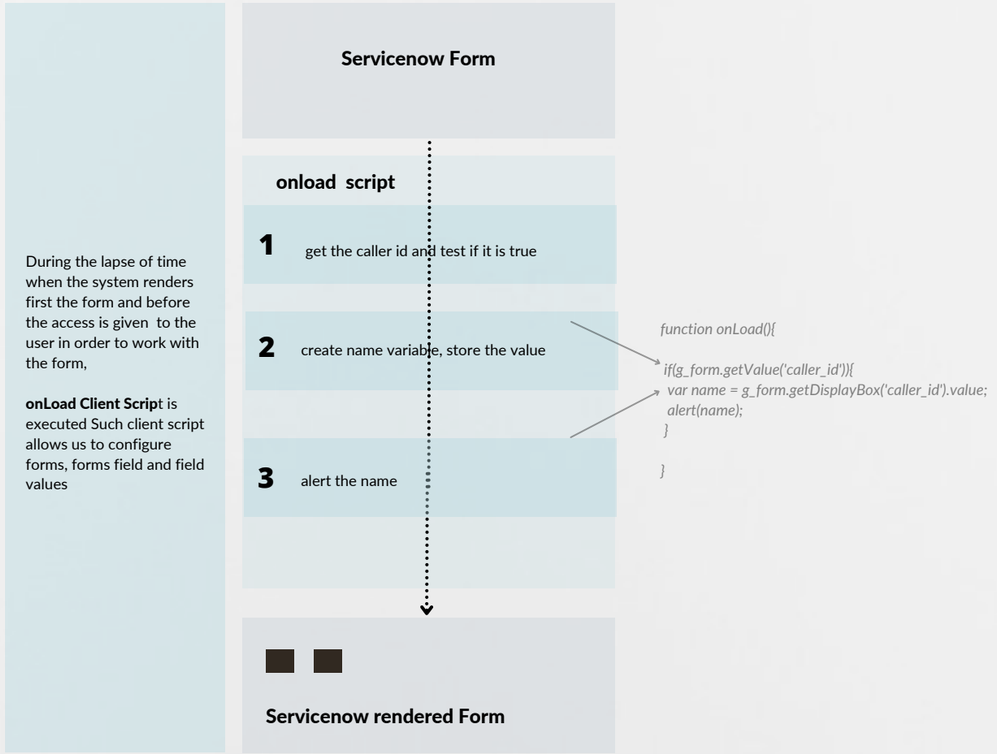
22

Simple client to get the caller id and alert it, this is onload client script

onLoad Client Script

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form,

onLoad Client Script is executed Such client script allows us to configure forms, forms field and field values

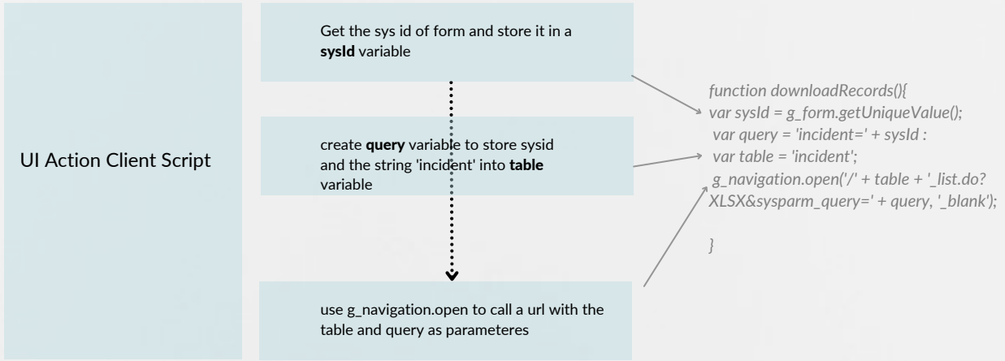


REQUIREMENT

Download all incidents record with an UI Action

23

Construct an url with a client script to download the report



REQUIREMENT

Show only caller id groups in the assignement group field

24

Without writing any script include, write a single code to get the user groups and render for assignement group field, the javascript in the reference qualifier of that field.

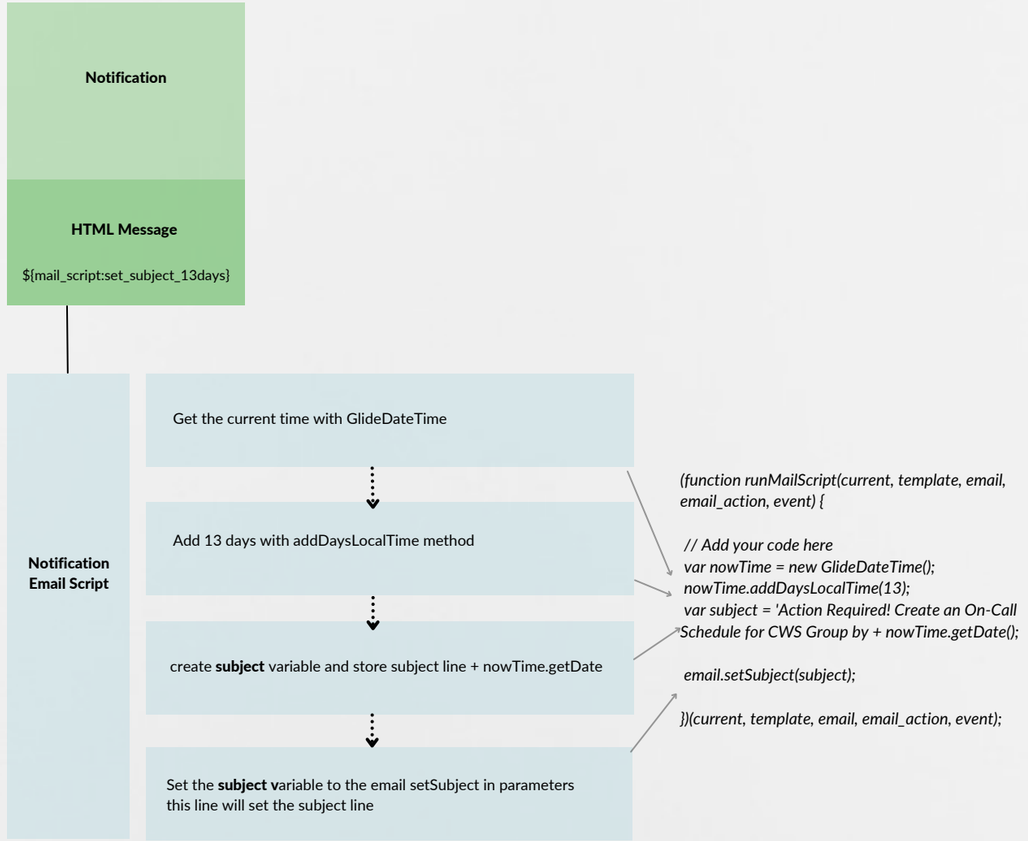
Rendering specific Groups in the assignment group field based on reference qualifier

REQUIREMENT

Add automatically in notification subject line : Action Required! Create an On-Call Schedule for CWS by 13 days from current date

25

To have a custom line in the email subject, create a email notification script, get the current time and add 13 days to it, then use this new value in the subject line, the email notification script will be called from the notification html message body.



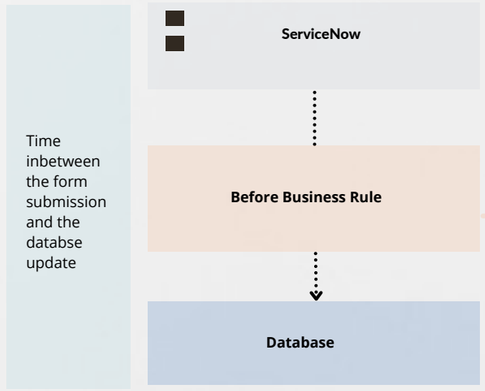
REQUIREMENT

Check if any case task is in open state or not, if it is abort action.

26

Refrain user to update any information on the case if the task is open, for that write a before Business Rule on update, the script will query the customerservice_task table, check if the state is open, if yes, it will abort the action.

Before Business Rule

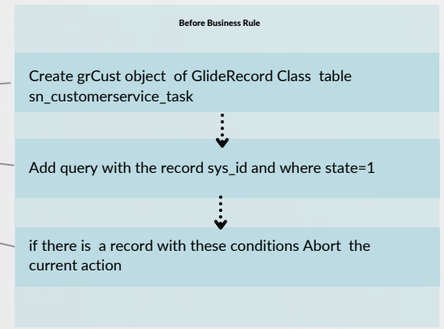


A server side code can be executed after the form submission and before the data gets updated into the database.

This is called a **Before Business Rule**

For this requirement, write a Before Business Rule on update for case table with the following condition case state is resolved

```
(function executeRule(current, previous /*null when async*/) {
// Add your code here

var grCust = new GlideRecord("sn_customerservice_task");
grCust.addQuery("parent", current.getUniqueValue());
 grCust.addEncodedQuery("state=1");
 grCust.setLimit(1);
 grCust.query();if (gr.next()) {
 gs.addErrorMessage("not allowed");
 current.setAbortAction(true);}})(current, previous);
```

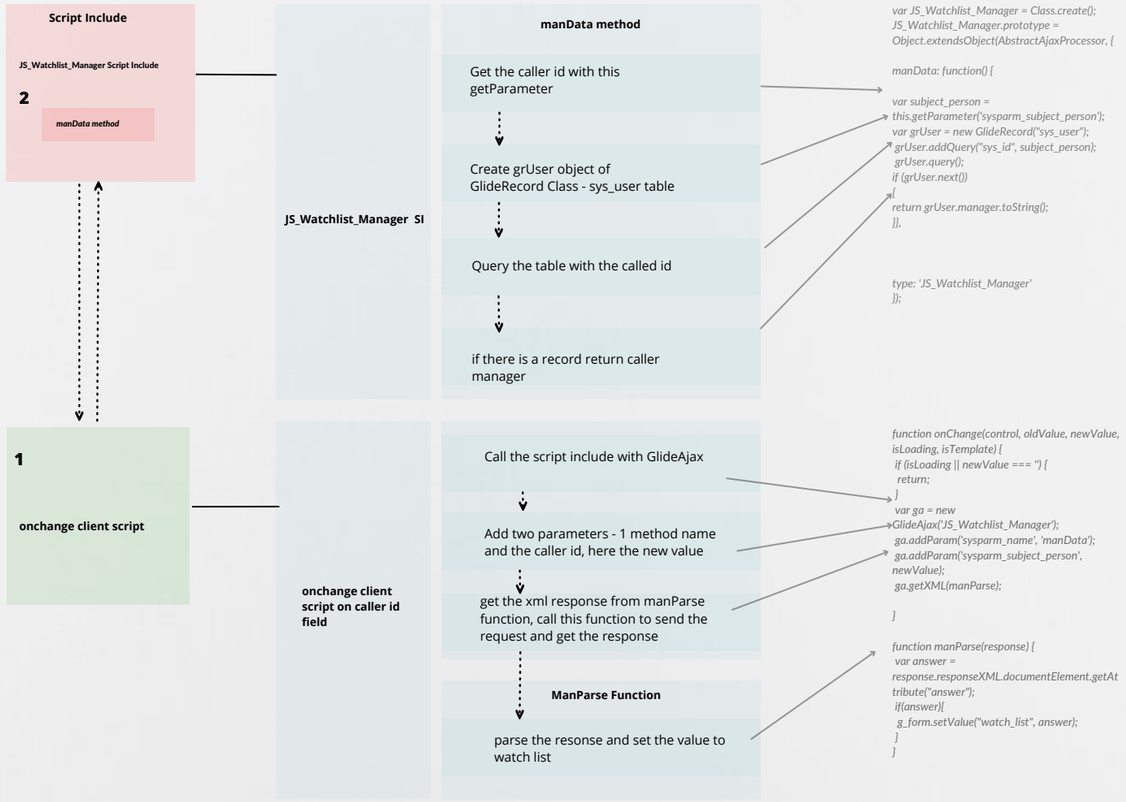


REQUIREMENT

When the caller id changes, change the watch list to the caller manager.

27

Write a onchange client script for the caller field, the script will get the caller id and send this value as input to script include, then the si will will the user id, run a query in the sys_user table to find out the user manager return this value to client script, the client script will receive the manager info and update this value to the caller list field.

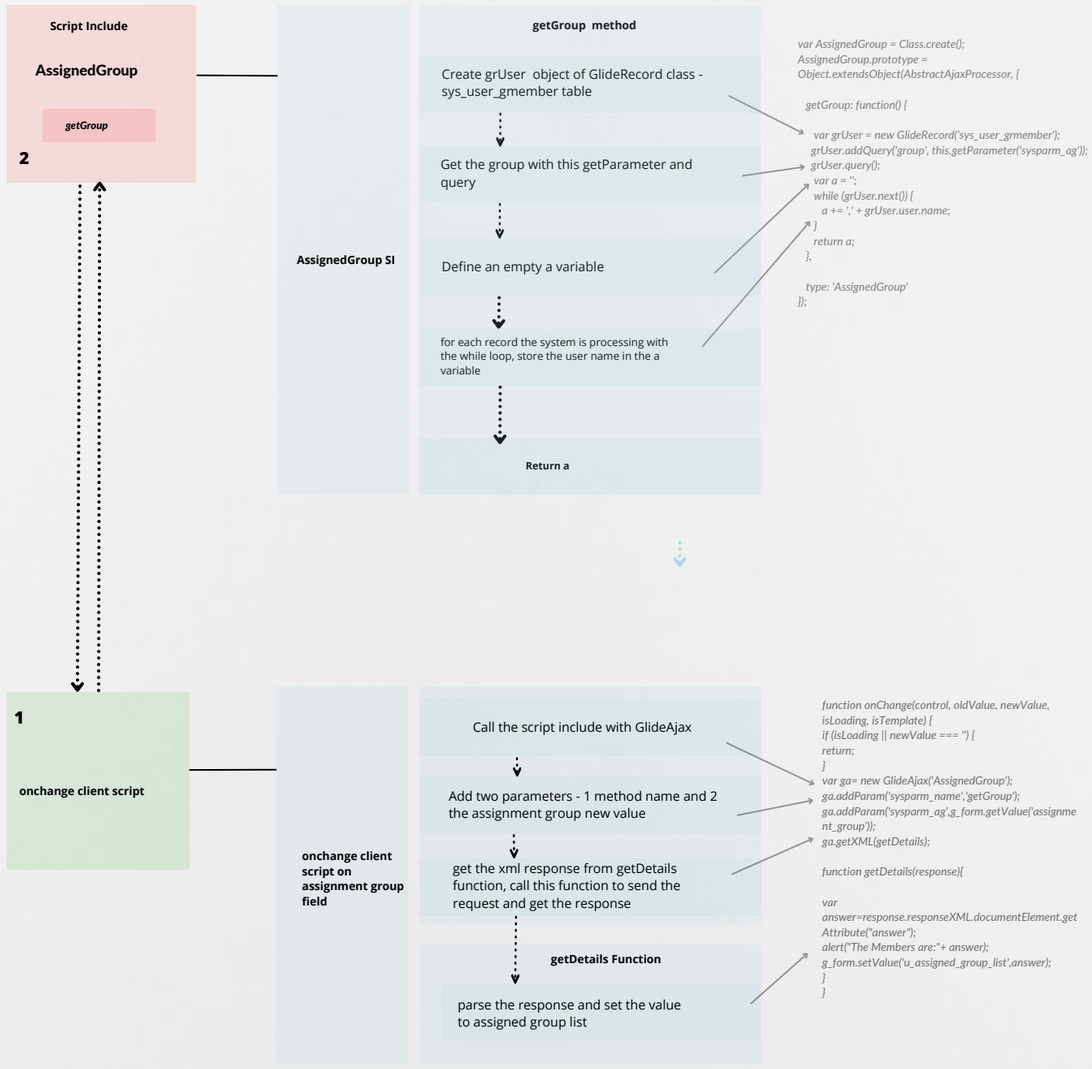


REQUIREMENT

When you select an assignement group, list all users of this group in another custom list field

28

Write a onchange client script for the assignement group field, the script will get the assignment group and send this value as input to script include, then the si will will the group, run a query in the sys_gmember table to find out all users of that particular group return this value to the client script, the client script will receive all users info and update this value to the custom assigned group list field.

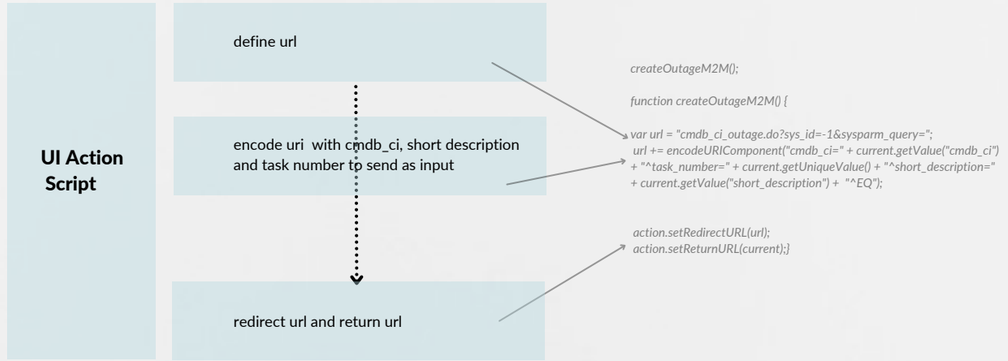


REQUIREMENT

Populate data from incident form to outage form with an ui action.

29

the ui action will call a script, which will have encoded url, the url is created with field names and values, see example in the next page, redirect and return url to update information in outage form



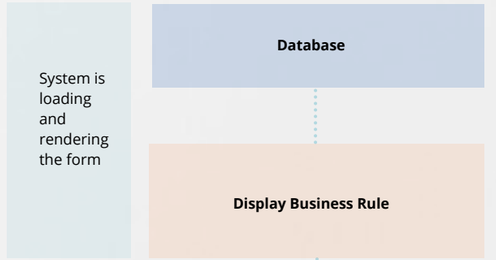
REQUIREMENT

When a user create an incident autopopulate the user as assigned to and aslo mention his first group in assignement group

30

To populate the group, create display business rule, ge the loggedin user groups and assign the first group to the assignement group field, to populate assigned to value on record creation, create a onload client script, check the current record is new record, then get the logged in user id and set the value to assigned to field.

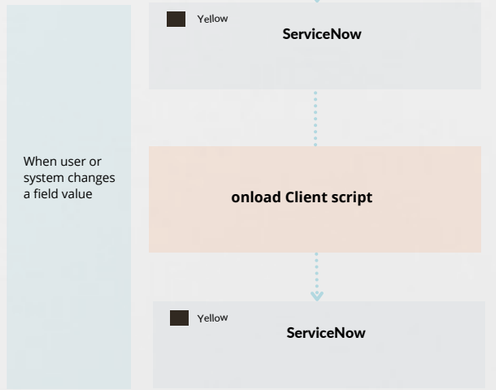
Display Business Rule



Server

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form, a server side script can be executed, this is a called a **Display Business Rule.**

onLoad Client Script



Client

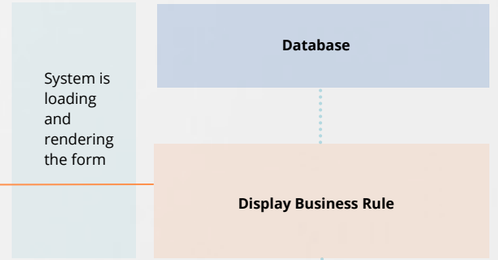
During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form, **onLoad Client Scrip**t is executed

Such client script allows us to configure forms, forms field and field values

Display Business Rule

```
(function executeRule(current, previous /*null when async*/) {
// Add your code here

var groups = new
global.ArrayUtil().convertArray(gs.getUser().getMyGroups());

if(groups.length > 0){

  current.assignment_group = groups[0];

})(current, previous);
```

1 Create a Display Business Rule for the incident table, get the user groups, convert into an array and assign the user first group to assignment group



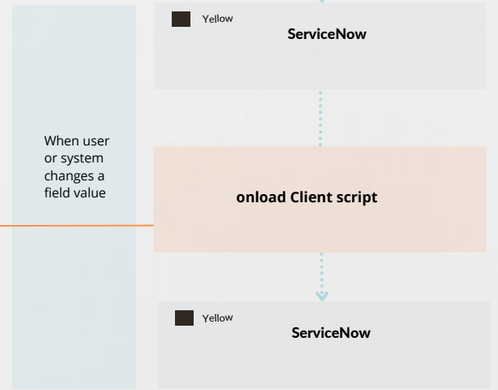
Server

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form, a server side script can be executed, this is a called a **Display Business Rule.**

onLoad Client Script

```
function onLoad(){

if(g_form.isNewRecord()){

g_form.setValue('assigned_to', g_user.userID);

}

}
```

2 Create a onLoad Client script on the incident table get the user id and assign the value to assign_to field



Client

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form, **onLoad Client Scrip**t is executed

Such client script allows us to configure forms, forms field and field values

REQUIREMENT

Get specific value from a string

31

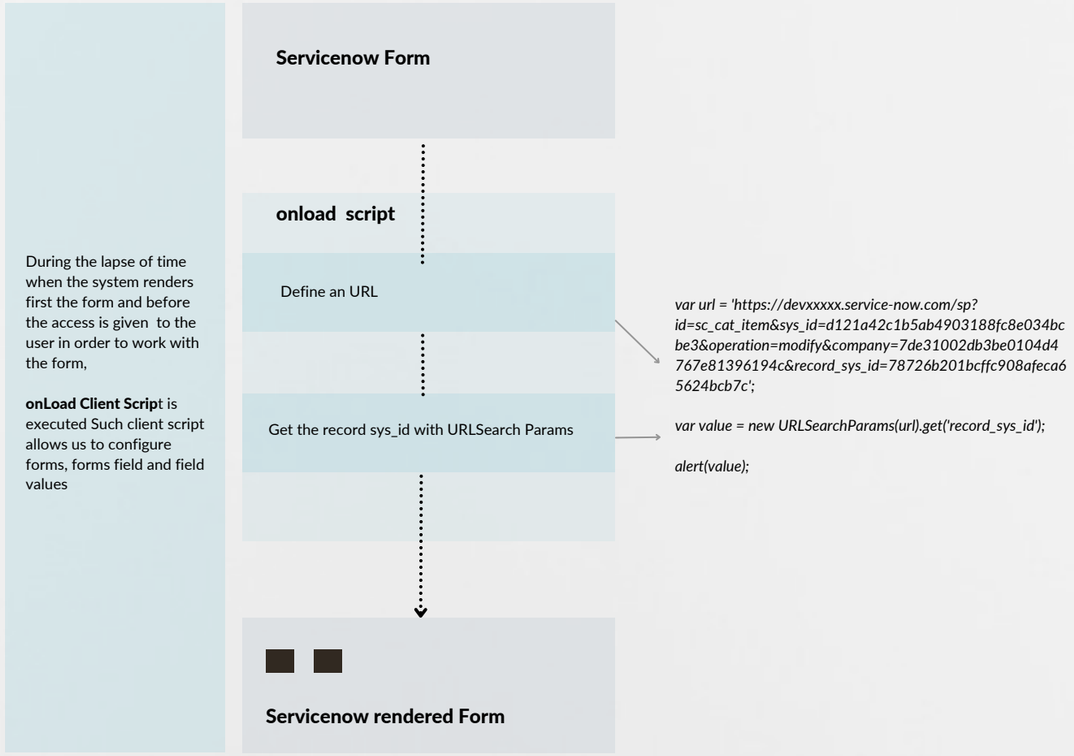
Good To Know :
onLoad Client Script

User URLSearchParams class to get specific values from a string, try this code on onload client script.

onLoad Client Script

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form,

onLoad Client Script is executed Such client script allows us to configure forms, forms field and field values



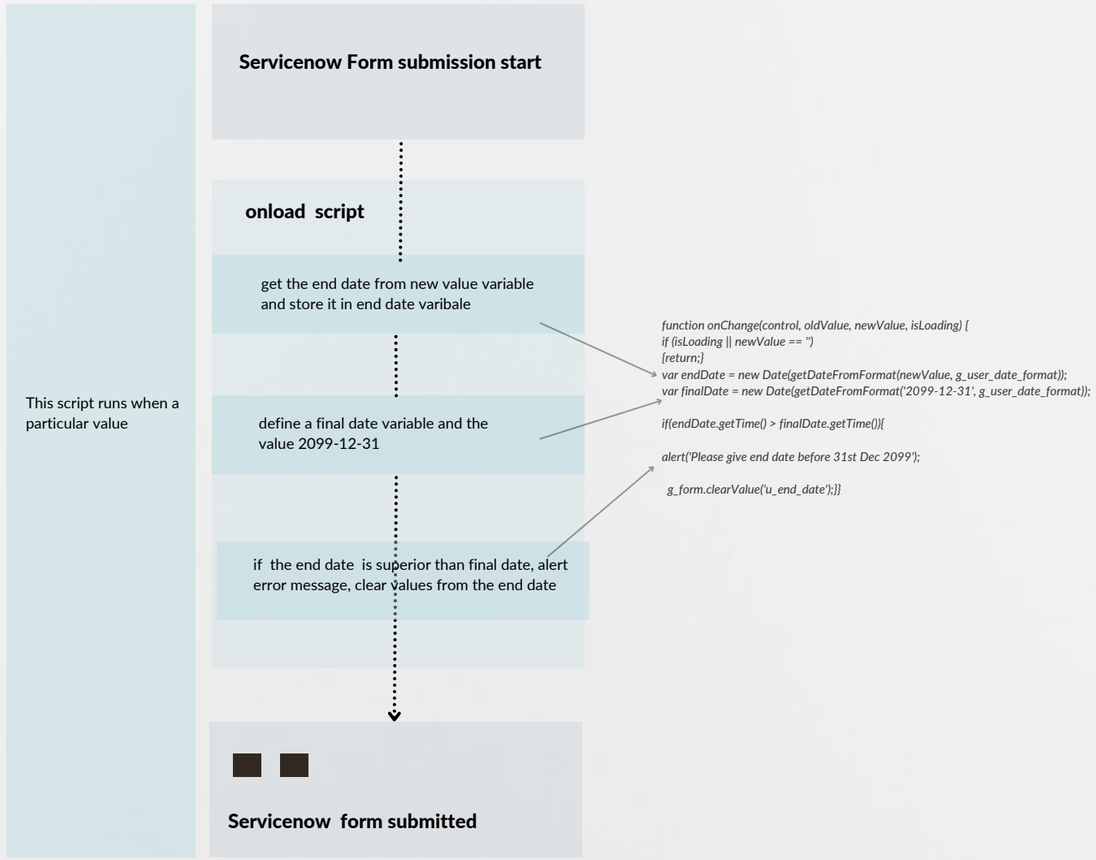
REQUIREMENT

Check for a custom date field, if is smaller than 31st Dec 2099, if not clear the field value

32

Write onchange client script for end date custom date field for the incident table, define end date variable and get the value from newValue, define final date variable , set a 2099-12-31 as value in the parameter, compare end date to final date, if it is bigger, alert error message and clear value for the end date field

onchange Client Script



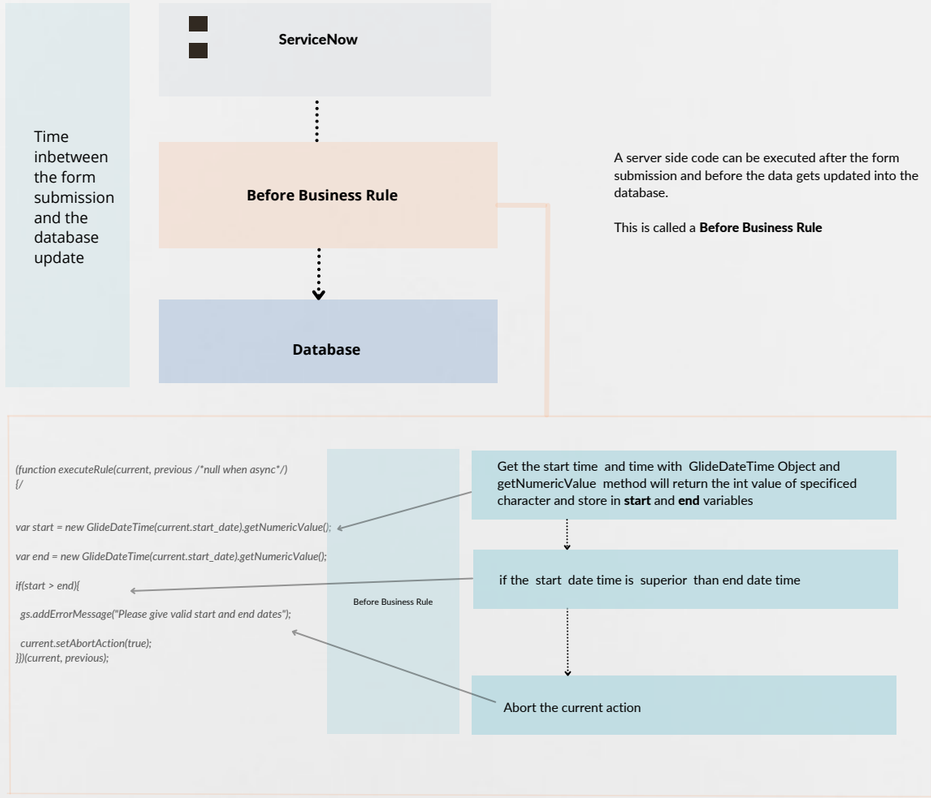
REQUIREMENT

End date on incident form should not be smaller than the Start date.

33

For this requirement, write a rule before database update, on record creation and updates, if the start date is superior than end date, it will abort the action

Before Business Rule



REQUIREMENT

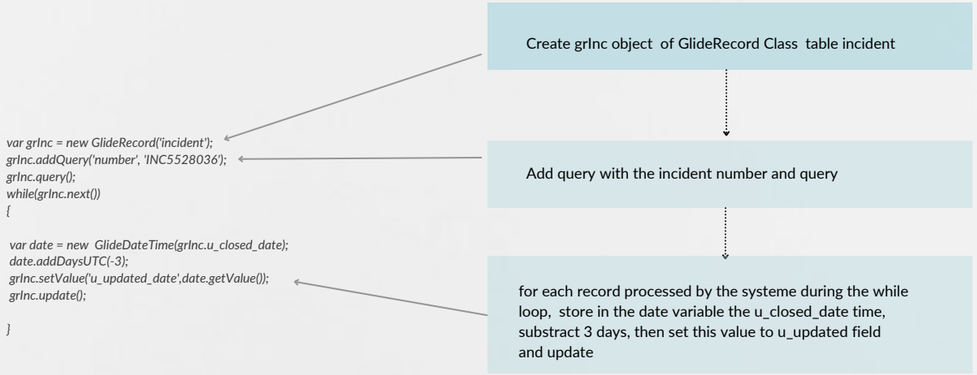
Substract 3 days to a date field in the incident form with a script

34

Write a server script which will get values from a custom date field (u_closed_date) and substract three days, then set this value to another custom date field, updated date field, test this script in the background script for a specific incident.

Script and Diagrams for this requirement

```
var grInc = new GlideRecord('incident');
grInc.addQuery('number', 'INC5528036');
grInc.query();
while(grInc.next())
{

 var date = new  GlideDateTime(grInc.u_closed_date);
 date.addDaysUTC(-3);
 grInc.setValue('u_updated_date',date.getValue());
 grInc.update();

}
```



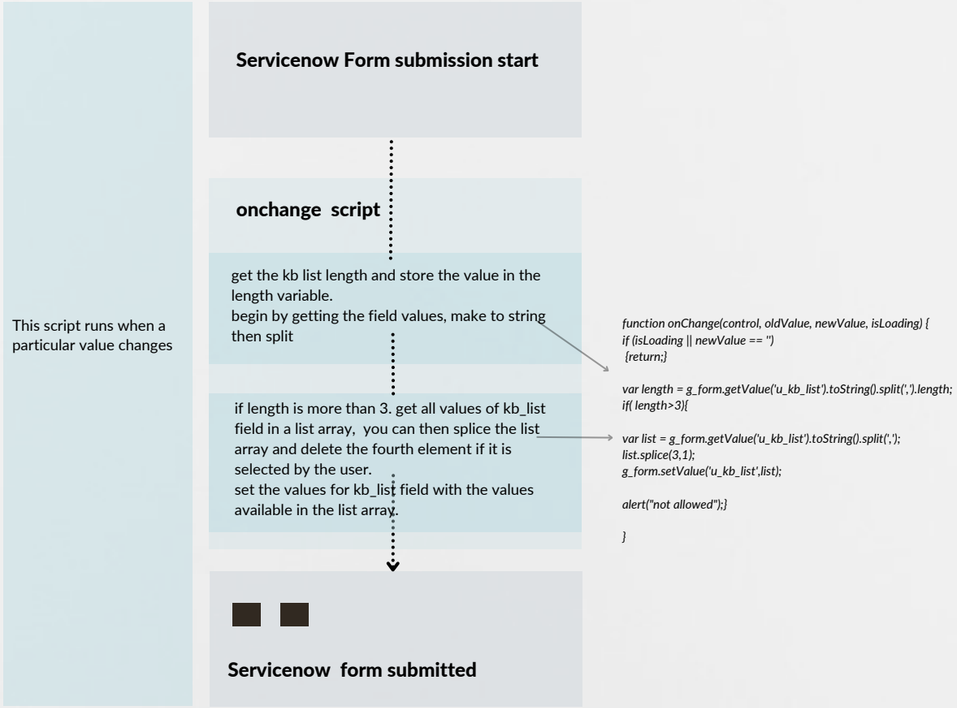
REQUIREMENT

In a list type referencing kb records, limit the selection up to 3 records

35

Create a onchange client script for the list type field, and get the kb value, make it as string then split it, check if the length is more than 3, if yes alert not allowed. see the script in the next page.

onchange Client Script



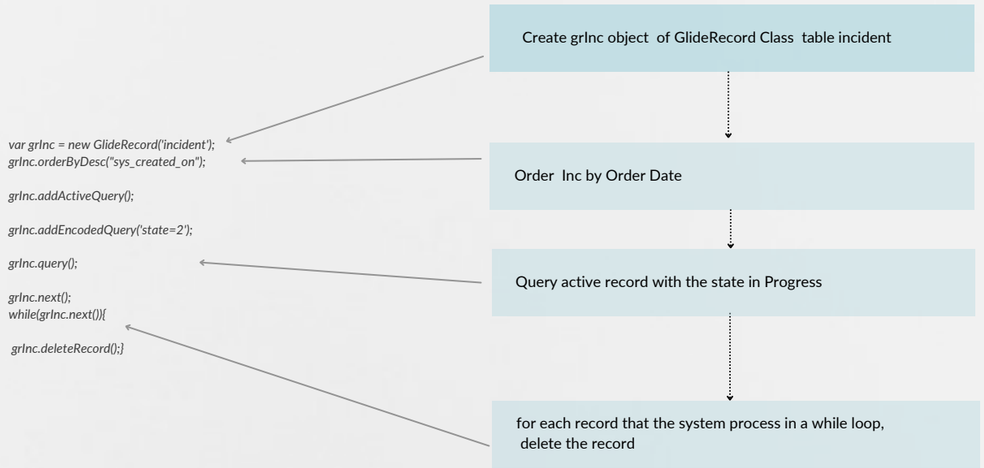
REQUIREMENT

Delete record which are work in progress

36

Write a background script, begin first to query all active records with the state in progress and then delete it.

Script and Diagrams for this requirement



REQUIREMENT

Get the number of tickets assigned to each assignment group in incident table with a script

37

Write a script which will filter all incidents by group and count the number record for each group.

```
var count = new GlideAggregate('incident');
count.groupBy('assignment_group');
count.addAggregate("COUNT");
count.query();
while (count.next()) {
var category = count.assignment_group.getDisplayValue();
var cnt = count.getAggregate("COUNT");
 gs.info("NO. of incidents assigned to "+category+ " is "+cnt);
}
```

Creating count Object of the class GlideAggregate for incident table, GlideAggregate is an extension of GlideRecord. It provides the capability to do aggregation (COUNT, SUM, MIN, MAX, AVG).

Group By assignment group and with groupBy method and count, and then query, this is giving a filtered list of incidents by assignment group and their count. ex hardware 13

For each group records processed by the system in while loop, assign the assign group value to category variable and count number to cnt. print category and cnt.

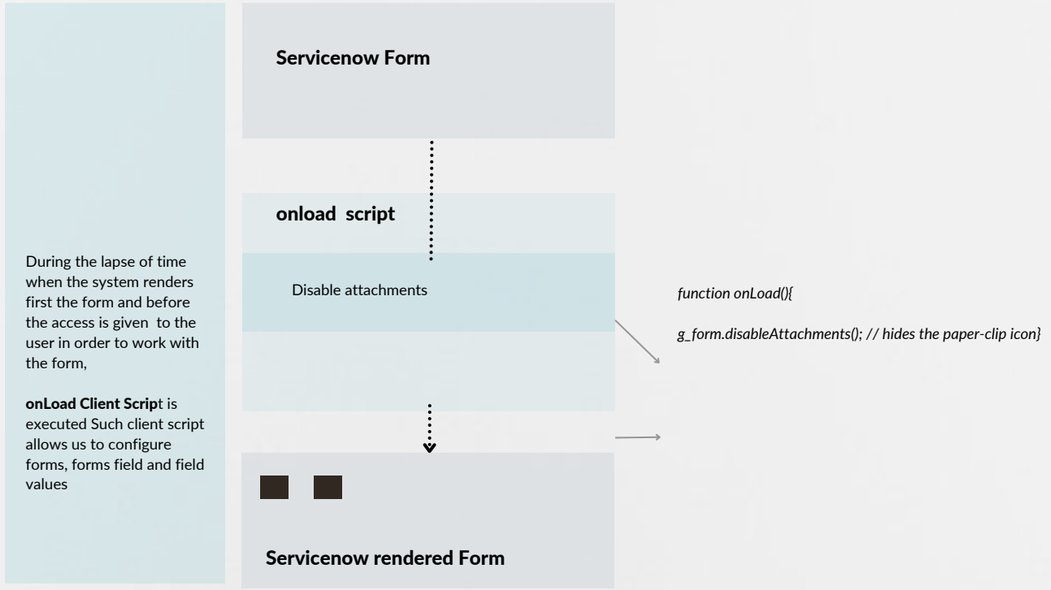
REQUIREMENT

Disable Attachement icon in incident form

38

Hide paper clip icon with a onload client script for the incident table

onLoad Client Script



REQUIREMENT

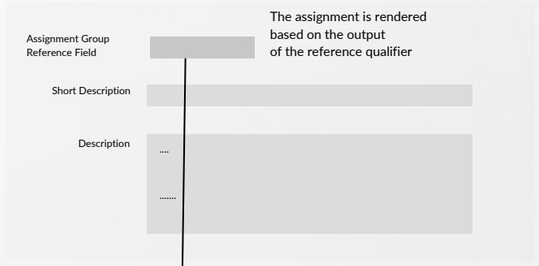
If a logged in user is member of any of those 5 groups then show all groups including those 5.
If a logged in user is not member of any of those 5 groups then show all groups excluding those 5 groups.

39

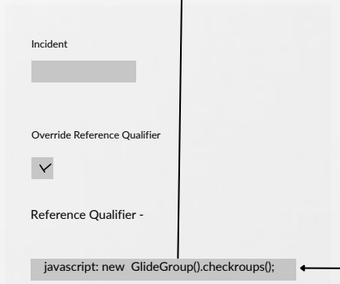
Groups	User View	User
CAB Approval	CAB Approval	Other Groups
Database	Database	
Hardware	Hardware	
Helpdesk	Helpdesk	
Network	Network	
Other Groups	Other Groups	

Example of expected result, a user part of helpdesk, one of the five groups, he/she can see all groups including those five, on the contrary a user who is not part of the five groups can only see all other groups and not those 5 groups.

Rendering specific Groups in the assignment group field based on reference qualifier



Dictionary Override Assignment Group

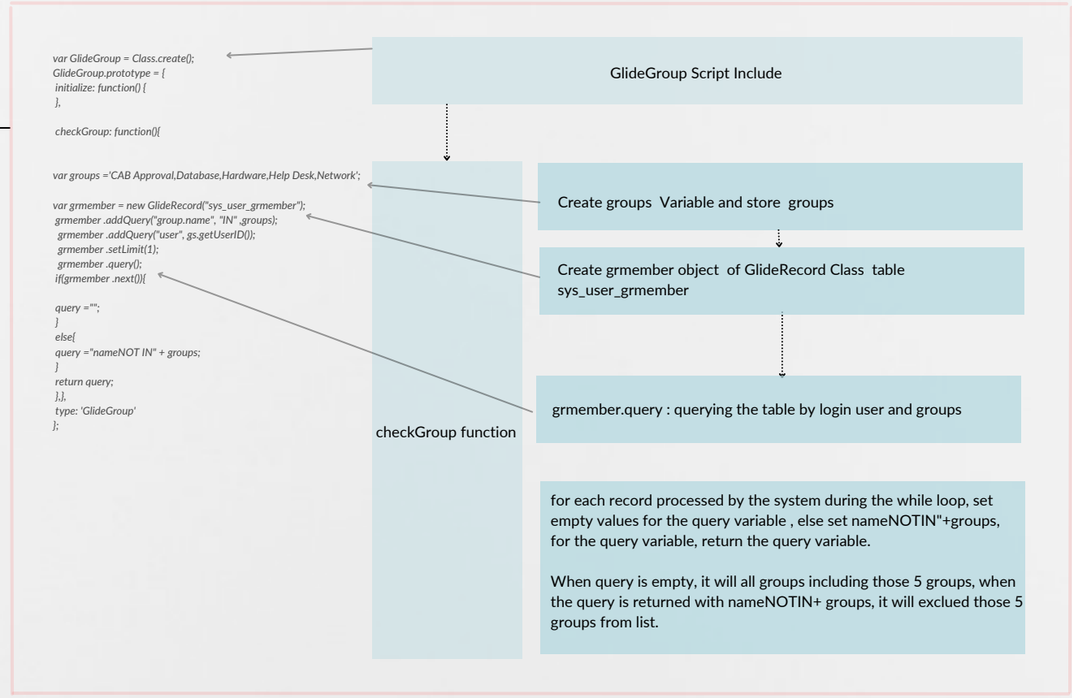


confirgure the dictionayr field, check the Override Reference Qualifier and call the Script include from RQ

Script Include

GildeGroup Script Include

checkGroup(); Method

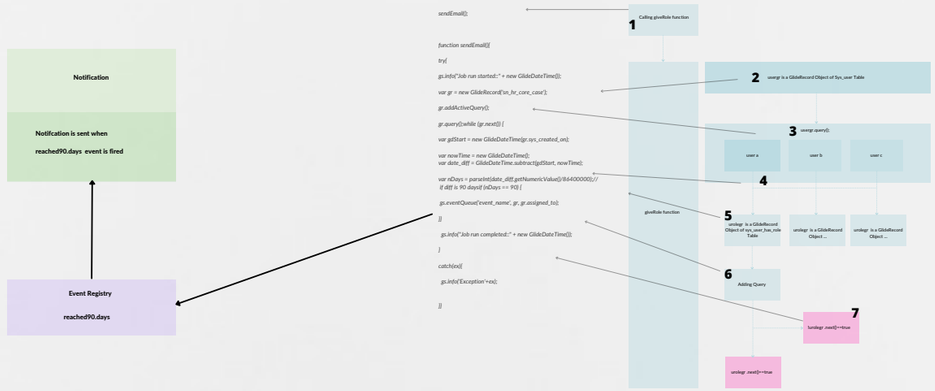


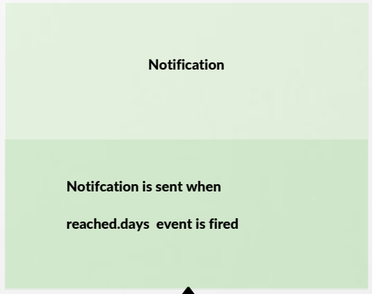
Override the reference qualifier for the assignment group field, the reference qualifier will call a script include and its method, the script will run a query on the user group member table to filter members part of those 5 groups, if there is a user , the code will return an empty value, therefore the assignement group will list all the groups, if the loggedin user is not part of this group, it will return NameNOTIN + groups, which will list all groups and exclude those 5 groups.

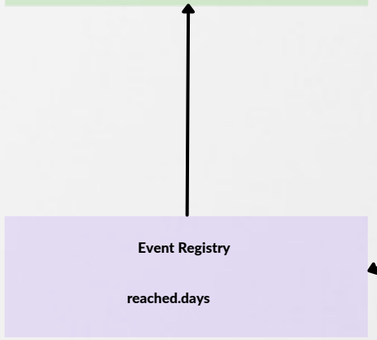
REQUIREMENT

Send email notification for Case is not closed and reached 90 days

40








```
sendEmail();


function sendEmail(){

try{

gs.info("Job run started::" + new GlideDateTime());

var grcase = new GlideRecord('sn_hr_core_case');

grcase.addActiveQuery();

grcase.query();
while (grcase.next()) {

var gdStart = new GlideDateTime(grcase.sys_created_on);

var nowTime = new GlideDateTime();
var date_diff = GlideDateTime.subtract(gdStart, nowTime);

var nDays = parseInt(date_diff.getNumericValue()/86400000);

// if diff is 90 days
if (nDays == 90) {

 gs.eventQueue('event_name', grcase, grcase.assigned_to);

}}

 gs.info("Job run completed::" + new GlideDateTime());

}

catch(ex){

 gs.info('Exception'+ex);


}}
```

Calling giveRole function

giveRole function

Create grInc object of GlideRecord Class table sn_hr_core_case

run query to get all active cases

for each record the system process in a while loop, get create time store in start variable, get the current time and store it nowTime variable,
calculate the difference in numerical value divide by 86400000 to get the number of days

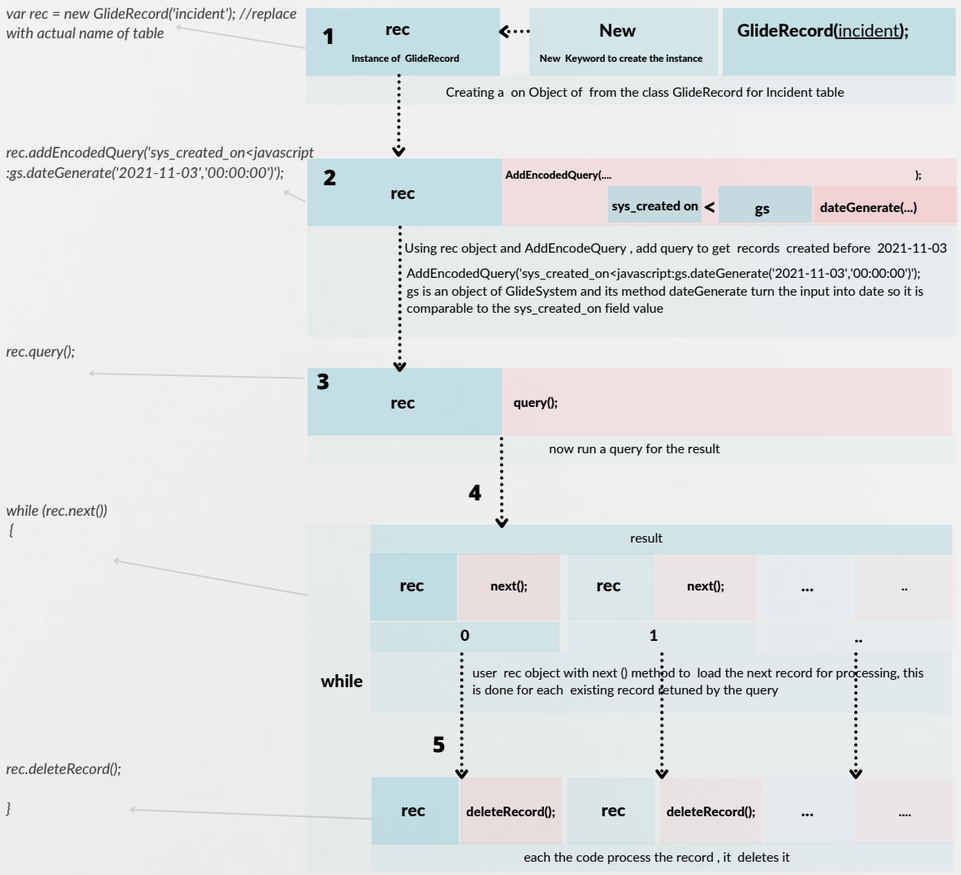
if days is more than 90 , queue reached.days event, the event is already regitered in the event regsitry

REQUIREMENT

Remove Incident Records created before a specific date

41

Test the script in background to see the result.

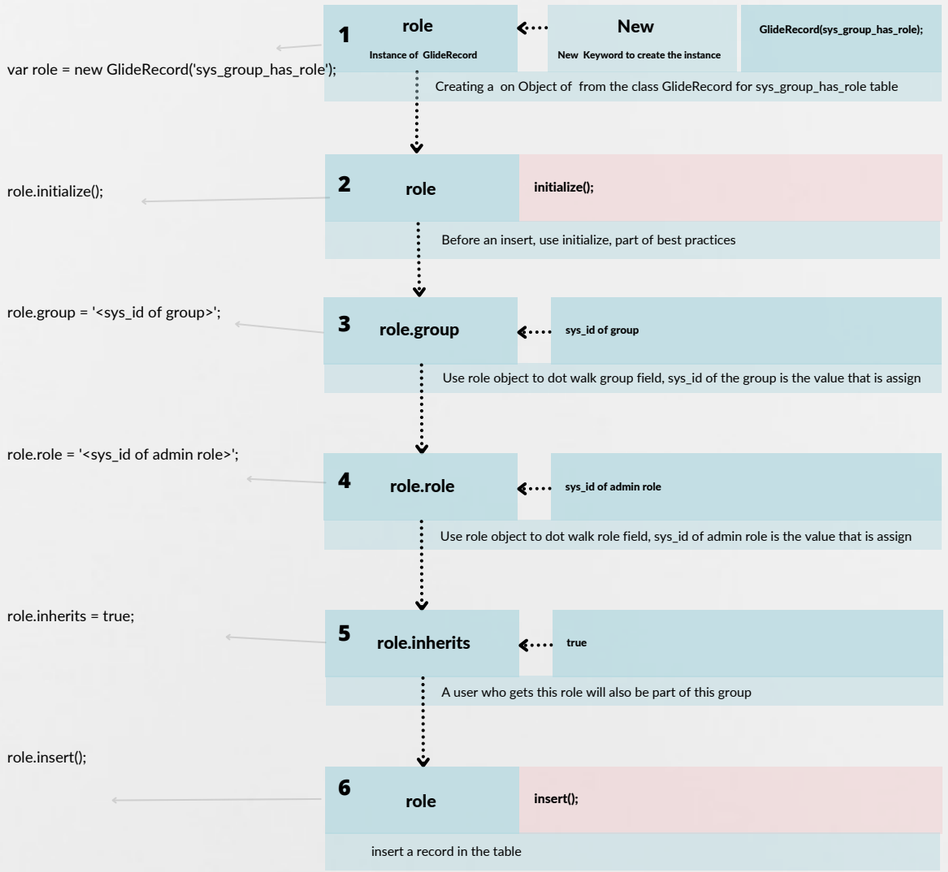


REQUIREMENT

Script to add role to group

42

Test the script in background and check the appropriate group



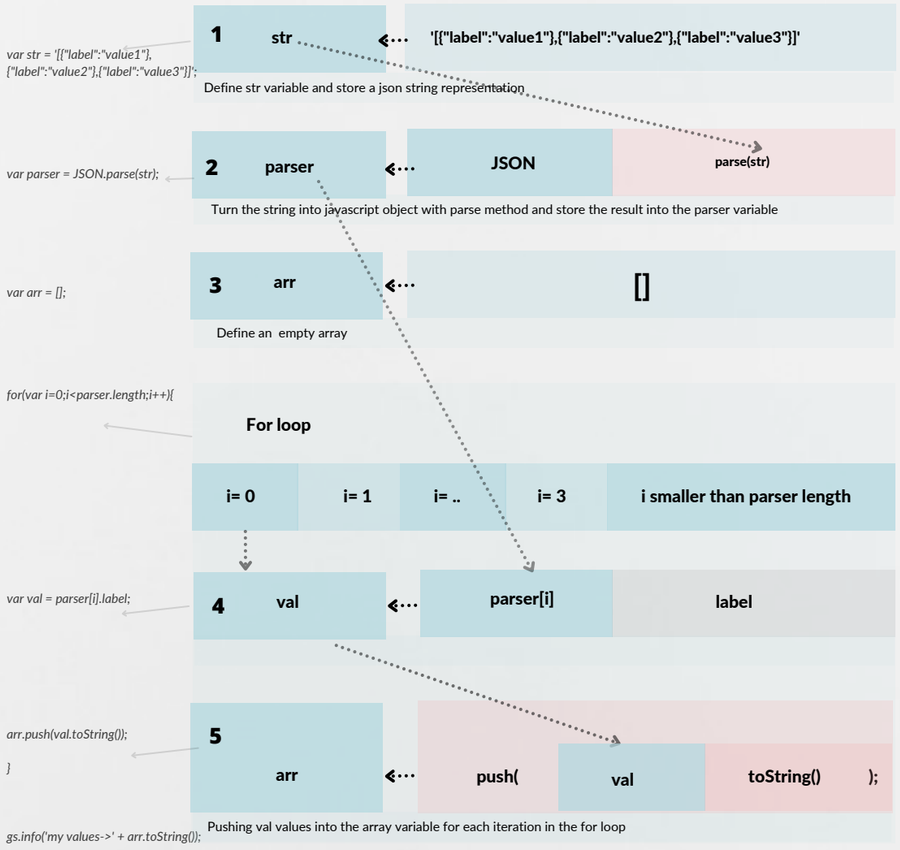
REQUIREMENT

[{"lable":"value1"},{"label":"value2"},{"label":"value3"},{"label":"value4"},{"label":"value5"}..

From the text above, extract on values and push into an Array.

43

Test the script in background to see the result

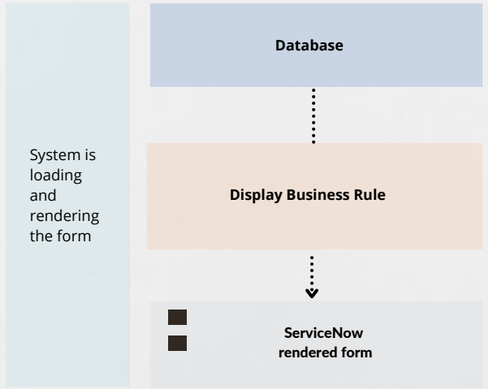


REQUIREMENT

Check if the current user is part of group listed in a system property, if it is true, the channel field should have the following group as value "Help Desk"

44

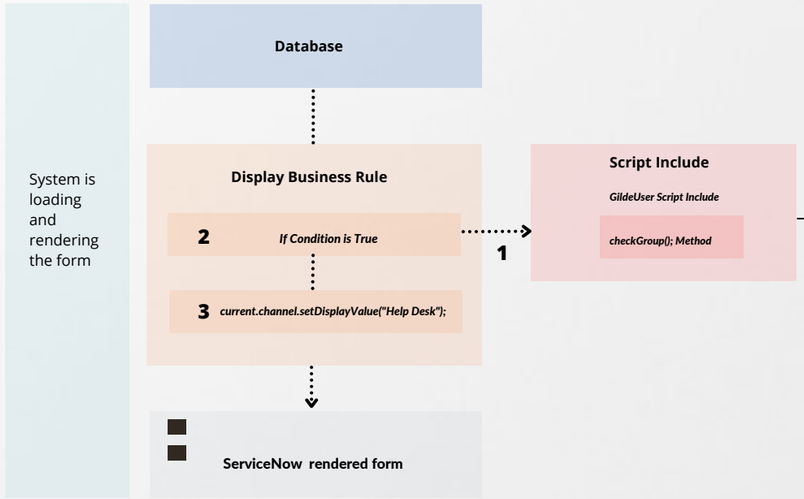
In order to change the value in the channel field based on the current logged in user, make use of a script include to check the user group and a Display Business Rule to update specific value in the channel field.

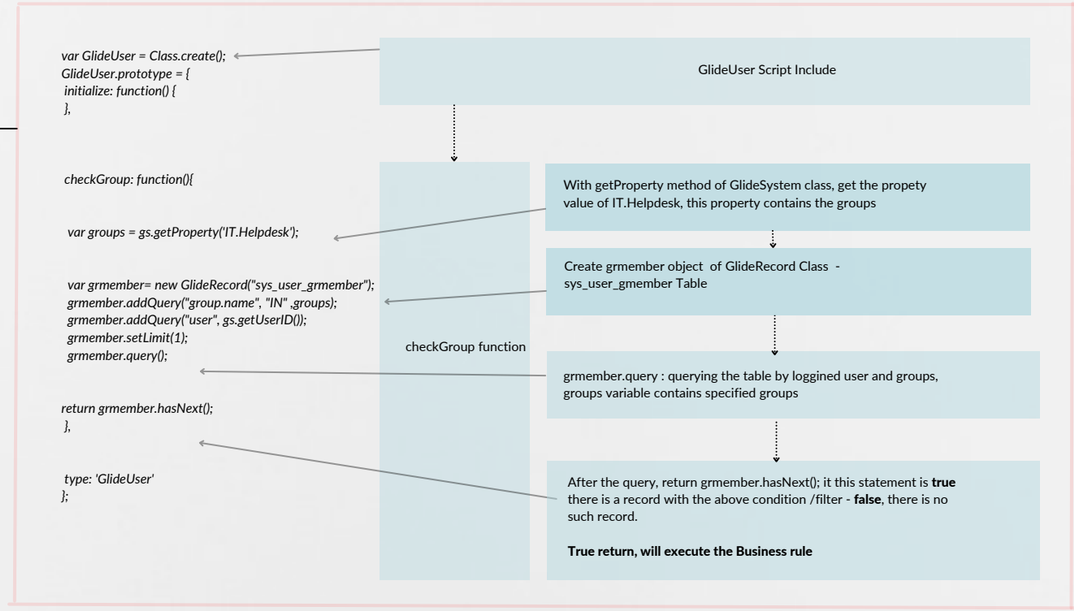


During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form, a server side script can be executed, this is a called a **Display Business Rule.**

g_scratchpad

A Display Business Rule can instantiate g_scratchpad object which can be passed to the client side and it can be used in client script.





Display Business Rule and Script Include

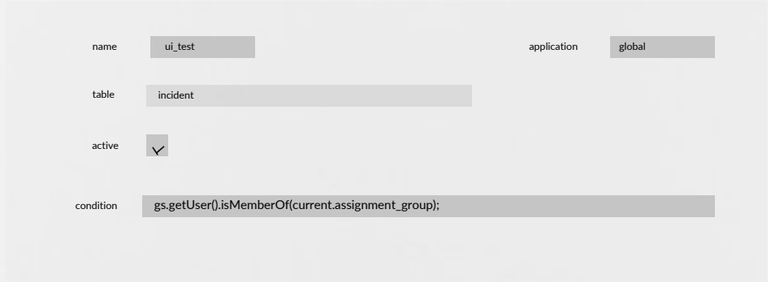
Display Business Rule has two things, the first one is the script which update the channel to Helpdesk, the second one, it is the condition field which contains the script include and the method. the script will check if the current user is part of group listed in the system property, if yes the condition will then be true, which allows the br to update the field. prior to create the br, define the system property with some groups in it.

REQUIREMENT

Make a ui action button make visible to just the members from the assignment group

45

Use a script in the condition field of the ui action, to check the members group and make it visible according to the result



REQUIREMENT

When a user is creating a new incident record, if he doesn't have the incident_impact_urgency_write role remove high and medium impact options

46

Simple client to get the caller id and alert it, this is onload client script

onLoad Client Script

During the lapse of time when the system renders first the form and before the access is given to the user in order to work with the form,

onLoad Client Script is executed Such client script allows us to configure forms, forms field and field values

Servicenow Form

onload script

1 check if the current user has impact urgency role with hasRoleExactly method (part of g_user class) store the result in the user, the result is either true or false

2 With isNewRecord method (part of g_form class) check if the form is loading

3 if the user value is false, which means, the user doesnt have the role. Remove high and medium options with removeOptions method(part of g_form class)
mention the impact database name and its value for remove option

```
function onLoad() {
var user = g_user.hasRoleExactly('incident_impact_urgency_write');
if (g_form.isNewRecord()) {
if (user == false){
g_form.removeOption('impact', '1');
g_form.removeOption('impact', '2');
}
}
}
```

Servicenow rendered Form

REQUIREMENT

Take all values from a certain field on all active records and add them to an array

47

Write a a background script which query the table and collect values

```
var subjectsArray = [];

var auto = new GlideRecord('u_alert_auto_close');


 auto.addQuery('u_active', true);
 auto.query();


while(auto.next()){

var subjects = auto.getValue('u_closed_alert_subject');

   subjectsArray.push(subjects);

}

gs.print(subjectsArray);
```

1 create an empty array

2 create auto object with GlideRecord Class - table u_alert_auto_close

3 With the method addQuery(); look for active record and query

4

While loop, each time the record is processed from the table u_alert_auto_close

get the value with getValue method(part GlideRecord Class)
and with the auto object, store the value in the subject variable

before processing the next record, push the subject value into an subjects Array.

subjects variable value will change each time the record is processed, subjectArray will keep storing all values by indexing them. It's an array

REQUIREMENT

Retrieve particular data from below JSON

{"schemaId":"AzureMonitorMetricAlert","data":{"version":"2.0","properties":null,"status":"Deactivated","context":{"timestamp":"2021-10-12T09:53:09.8443362Z","id":"/subscriptions/933c2f10-9eff-49d0-a490-60ce1c3a0c72/resourceGroups/EU-HUB-PRD-AUT-RG001/providers/microsoft.insights/metricalerts/EU-MON-LINUX-DISK-CRITICAL-Alert01","name":"EU-MON-LINUX-DISK-CRITICAL-Alert01","description":"The Alert is triggered because one of the linux server instance used space is more than 95%.","conditionType":"SingleResourceMultipleMetricCriteria","severity":"3","condition":{"windowSize":"PT15M","allOf":[{"metricName":"Average_% Used Space","metricNamespace":"Microsoft.OperationalInsights/workspaces","operator":"GreaterThan","threshold":"95","timeAggregation":"Average","dimensions":[{"name":"Computer","value":"EU-HUB-MON"},{"name":"InstanceName","value":"/"}],"metricValue":91,"webTestName":null}]},"subscriptionId":"933c2f10-9eff-49d0-a490-60ce1c3a0c72","resourceGroupName":"eu-hub-prd-aut-rg001","resourceName":"EU-HUB-MON-LAWS-01","resourceType":"Microsoft.OperationalInsights/workspaces","resourceId":"/subscriptions/933c2f10-9eff-49d0-a490-60ce1c3a0c72/resourceGroups/eu-hub-prd-aut-rg001/providers/Microsoft.OperationalInsights/workspaces/EU-HUB-MON-LAWS-01","portalLink":"https://portal.azure.com/#resource/subscriptions/933c2f10-9eff-49d0-a490-60ce1c3a0c72/resourceGroups/eu-hub-prd-aut-rg001/providers/Microsoft.OperationalInsights/workspaces/EU-HUB-MON-LAWS-01"}}}

48

Write a script to parse json string

const json = '{"schemaId":"AzureMonitorMetricAlert","data":{"version":"2.0","properties":null,"status":"Deactivated","context":{"timestamp":"2021-10-12T09:53:09.8443362Z","id":"/subscriptions/933c2f10-9eff-49d0-a490-60ce1c3a0c72/resourceGroups/EU-HUB-PRD-AUT-RG001/providers/microsoft.insights/metricalerts/EU-MON-LINUX-DISK-CRITICAL-Alert01","name":"EU-MON-LINUX-DISK-CRITICAL-Alert01","description":"The Alert is triggered because one of the linux server instance used space is more than 95%.","conditionType":"SingleResourceMultipleMetricCriteria","severity":"3","condition":{"windowSize":"PT15M","allOf":[{"metricName":"Average_% Used Space","metricNamespace":"Microsoft.OperationalInsights/workspaces","operator":"GreaterThan","threshold":"95","timeAggregation":"Average","dimensions":[{"name":"Computer","value":"EU-HUB-MON"},{"name":"InstanceName","value":"/"}],"metricValue":91,"webTestName":null}]},"subscriptionId":"933c2f10-9eff-49d0-a490-60ce1c3a0c72","resourceGroupName":"eu-hub-prd-aut-rg001","resourceName":"EU-HUB-MON-LAWS-01","resourceType":"Microsoft.OperationalInsights/workspaces","resourceId":"/subscriptions/933c2f10-9eff-49d0-a490-60ce1c3a0c72/resourceGroups/eu-hub-prd-aut-rg001/providers/Microsoft.OperationalInsights/workspaces/EU-HUB-MON-LAWS-01","portalLink":"https://portal.azure.com/#resource/subscriptions/933c2f10-9eff-49d0-a490-60ce1c3a0c72/resourceGroups/eu-hub-prd-aut-rg001/providers/Microsoft.OperationalInsights/workspaces/EU-HUB-MON-LAWS-01"}}';

```
const obj = JSON.parse(json);
alert(obj.data.version);
alert(obj.data.context.condition.allOf[0].dimensions[0].value);
alert(obj.data.context.condition.allOf[0].dimensions[1].name);
```

1 create a Variable **const** which stores the JSON string

2 Use the JSON parse method to parse it the string and store it in the **obj** variable

3 After scrutinizing the JSON, alert the value you want, example : alert(**obj.**data.version);

REQUIREMENT

Add an additional field on a table which will add values of two different fields from the same table. Example short description and description in one field

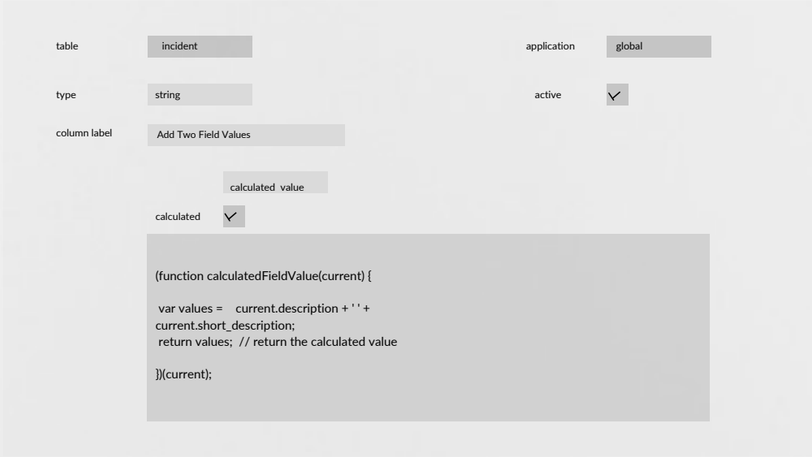
49

Add a string field, in the calculated tab, check calculated
use the script below.

current refers to record object, retrieve description values like this current.description, same logics for other fields.

store the concatenate value in a new field, and return it.

```
var values =    current.description + ' ' + current.short_description;
return values;  // return the calculated value
```



REQUIREMENT

Concatenate the values of the 2 fields and display them in 1 field.

50

Add a string field, make it as function field
use the following code :

glidefunction:concat(description, , ,short_description)