Updated: 15 November 2023

Sage X3 Workflow Part 1

Mike Shaw — 15th November 2023

Contents

Introduction

- Workflows allow you to specify certain actions to be triggered when certain conditions are met.
- For example, you may wish to trigger a Workflow when:
  - User updates a certain field on a record
  - New record is created or deleted
  - Batch task completes
  - Certain function is launched
  - As part of the flow of a process (i.e. launch from 4GL code)

Introduction

- The actions you may wish to trigger could include:
  - Send email message to user or group of users
  - Create notification for user(s) to review
  - Update data automatically, or after approval from a user

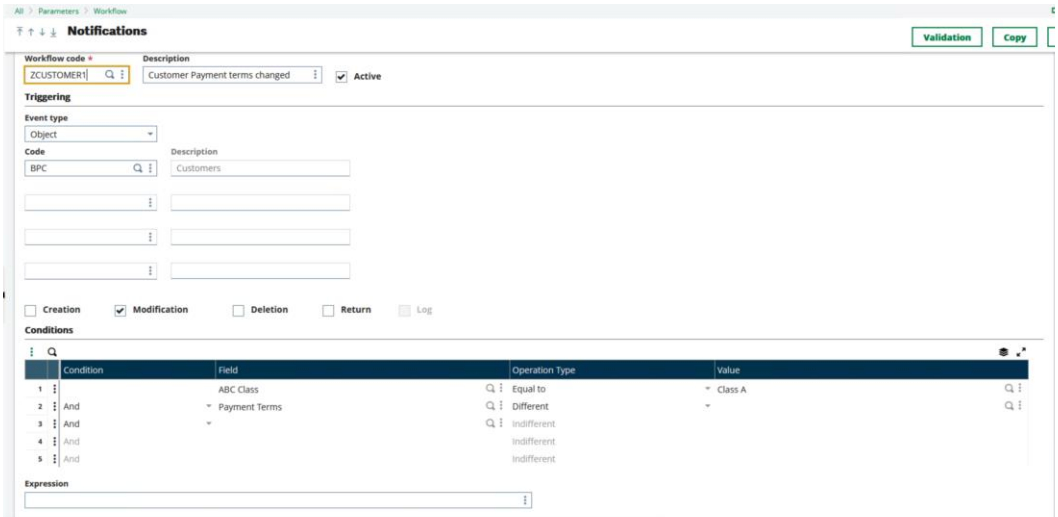
Probably most often encountered when used for Purchasing approvals (i.e. approval of Orders, Invoices, Payments, changes to bank details, etc.)

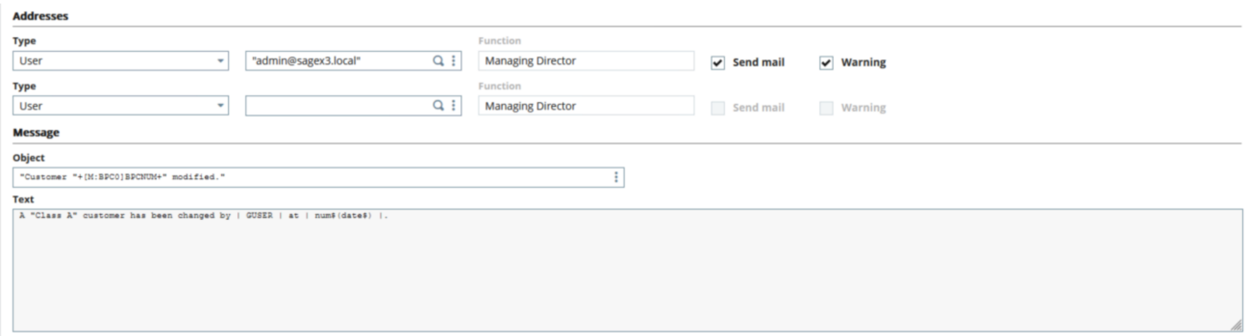
Notifications

Simple version of Workflow Rules, but uses same Workflow engine.

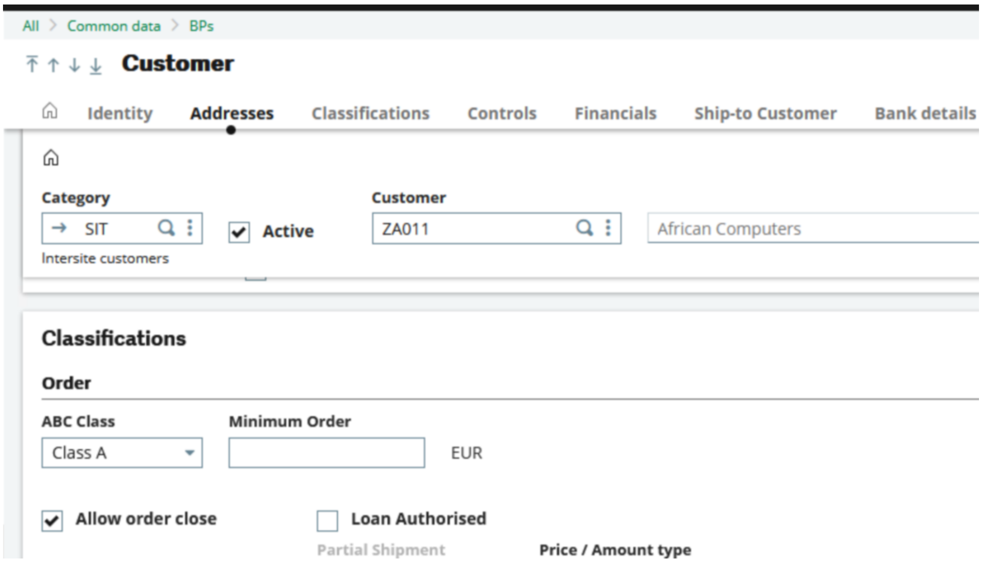
https://online-help.sageerpx3.com/erp/12/staticpost/notifications/

Review notification ZCUSTOMER1

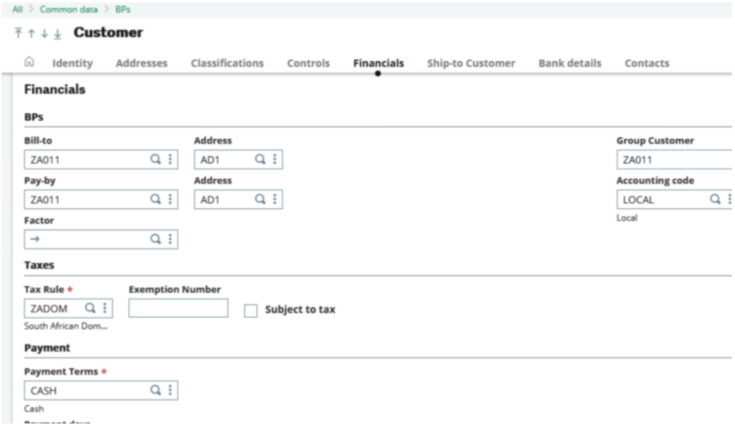




Test the notification by modifying a Class A customer



Need to change the Payment terms, for example from CH30NET to CASH:

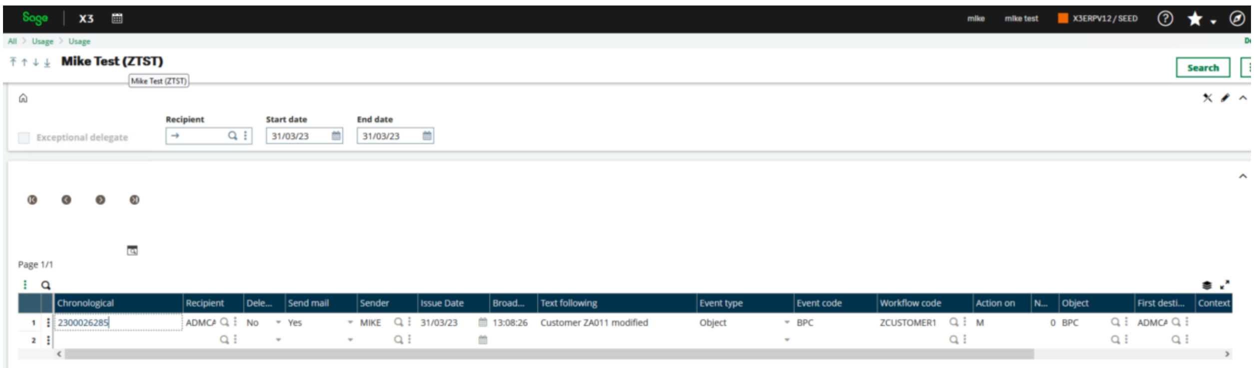


Save the change.

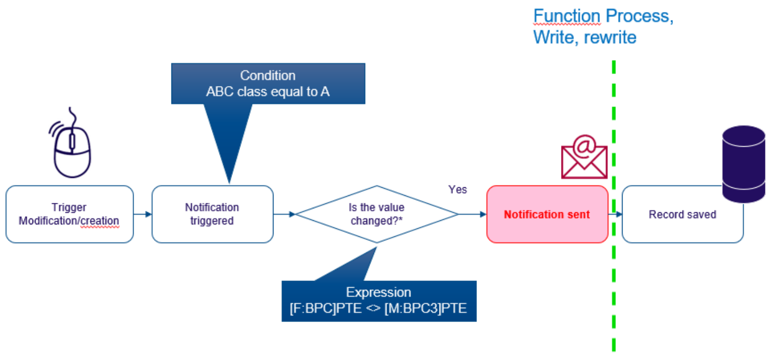
Monitoring Workflow notifications

Navigate to Usage, Usage, Workflow Monitor

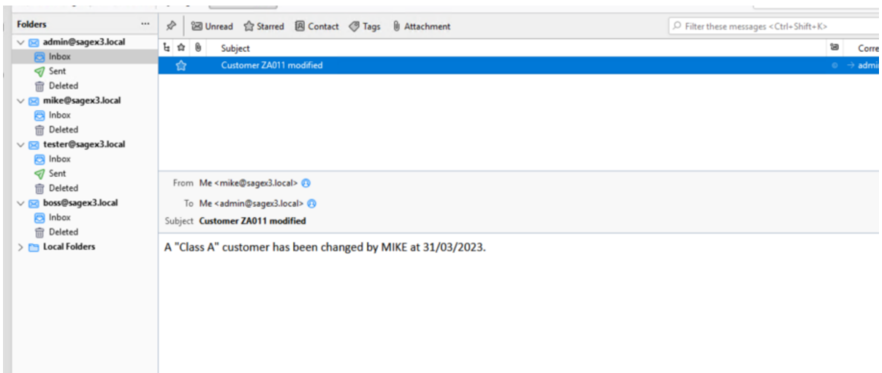
Select ZTST



What just happened?



Check email and will see it has been received.



Before we move away from Workflow Monitor…

Navigate to Parameters, Workflow, Workbench parameters

https://online-help.sageerpx3.com/erp/12/staticpost/workbench-parameters/

Review custom notification “ZTST” which we just reviewed and explain we can pick and choose fields, etc. Bit like a transaction entry screen for data entry…

Can check the same data through SSMS

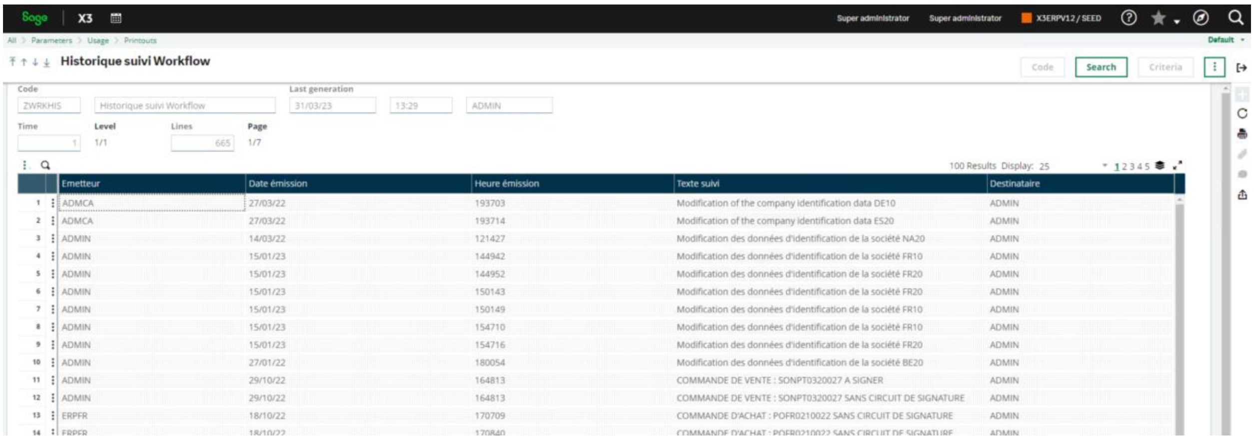
```
select *
from SEED.AWRKHISSUI
where CREDATTIM_0 >= DATEADD(day, -1, CURRENT_TIMESTAMP)
order by CREDATTIM_0 desc
```

‘Domain’	Table	Description	Abbr.	Notes
Settings	AWRKLNK	Data models	AWM	Data models header (GESAWM)
Settings	AWRKPAR	Workflow rules	AWA	Workflow rules header, conditions (GESAWA)
Settings	AWRKPARC	Workflow rules (actions)	AWC	Workflow rules’ actions (GESAWA)
Settings	AWRKPARF	Workflow rules (signature)	AWF	Workflow rules’ milestone text/signature (GESAWA)
Settings	AWRKPARH	Workflow rules (recipient)	AWF	Workflow rules’ recipients (first and second) (GESAWA)
Settings	AWRKPARX	Simplified workflow	AWX	Notification (GESAWX)
Settings	AWRKREG	Assignment rules	AWR	User rules of assignment (GESAWR)
Settings	AWRKREGVAL	User assignment	AWV	User assignment (GESAWV)
Settings	AWRKTAB	Data models (lines)	AWK	Data models lines (GESAWM)
Settings	AWRKTRN	Workflow workbench	AWW	Workbench parameters (GESAWW)
Settings	AWRKTRND	Workflow workbench (sections)	AWD	Workbench parameters’ sections (GESAWW)
Settings	AWRKUSR	User delegates	AWU	User delegates (GESAWU)
Workflow	AWRKHISDES	Workflow history	AWO	
Workflow	AWRKHISJOI	Workflow history	AWJ	
Workflow	AWRKHISSUI	Workflow tracking archive	AWS	Workflow tracking archives (extracted from SAIWRKPLN)

A small improvement on the above SQL, to include the message itself:

```
select N.CHRONO_0, N.EMETTEUR_0, N.CODWRK_0,  N.DEST_0, N.DATENV_0, N.TIMENV_0,
N.TEXSUI_0, M.TEXTE_0
from SEED.AWRKHISSUI as N
       full outer join SEED.AWRKHISMES as M on N.CHRONO_0 = M.CHRONO_0
where N.CREDATTIM_0 >= DATEADD(day, -10, CURRENT_TIMESTAMP)
order by N.CREDATTIM_0 desc
```

Could consider using or creating a requester with similar SQL to put on users landing pages. There is a standard Graphical Requester "ZWRKHIS" you could use as a starting point.



Or… I created my own ZWRK request and attached to ZWFmonitor menu item. This can be added to home page if needed.

Review ZWRK requester (Parameters, Usage, Printouts, Query tool) Execute to show results.

Review ZWFmonitor menu item (Administration, Authoring, Pages, Menu items) This can be added to the home page if you want...

Also review the Purchase and Sales workflow home pages

Workflow Rules

https://online-help.sageerpx3.com/erp/12/staticpost/workflow-rules/

Now we will "convert" our notification to a Workflow Rule. This means we can use the full facilities the Workflow Engine provides!

You can of course create all your workflows directly in Workflow Rules.

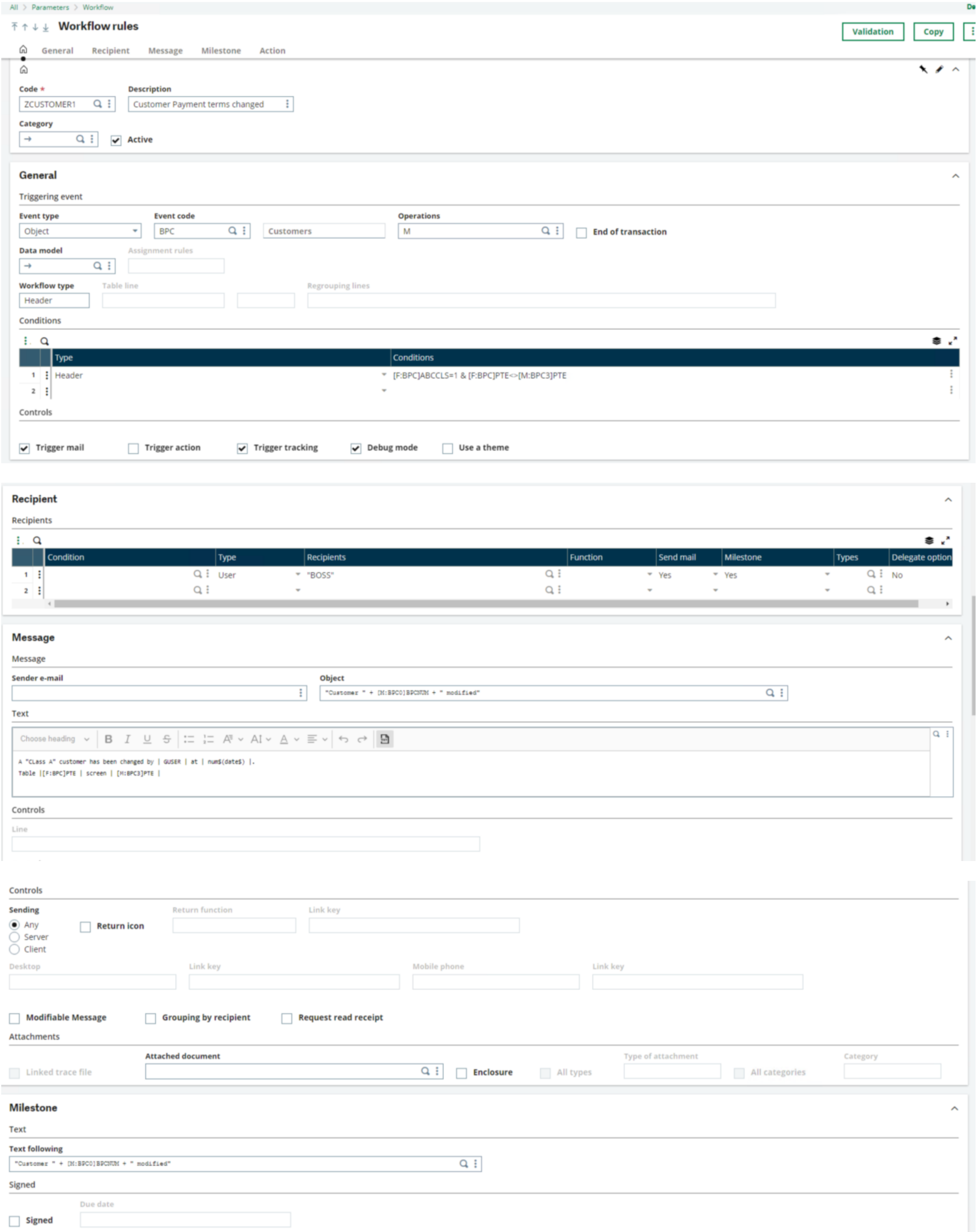
Navigate to Parameters, Workflow, Workflow Rules

Query back "ZCUSTOMER1"

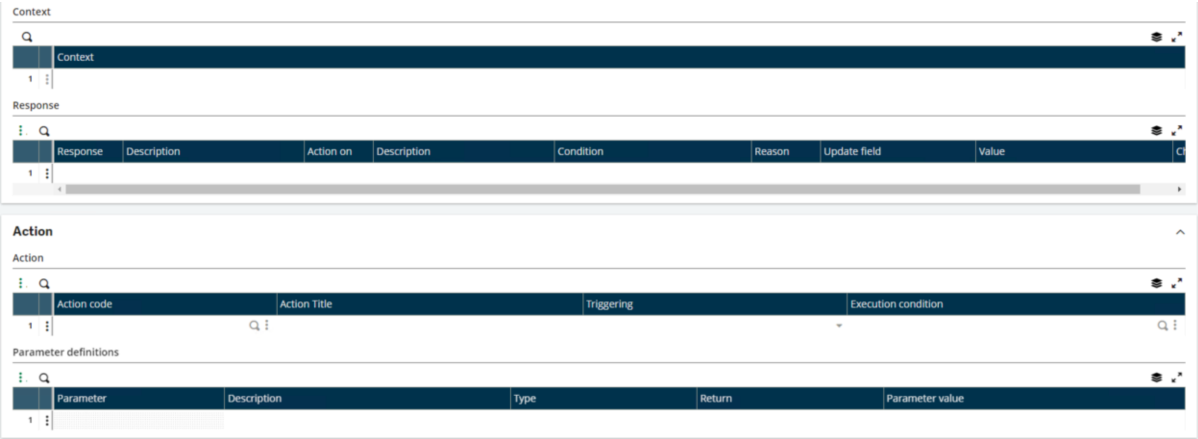
Change anything and save. (Note the warning message)

Review the workflow rule sections/fields, noting differences:

Sage



All > Parameters > Workflow
Workflow rules
Validation
Copy
General
Recipient
Message
Milestone
Action
Code
ZCUSTOMER1
Description
Customer Payment terms changed
Category
Active
General
Triggering event
Event type
Object
Event code
BPC
Customers
Operations
M
End of transaction
Data model
Assignment rules
Workflow type
Header
Table line
Regrouping lines
Conditions
Type
Conditions
Header
[F:BPC]ABCCLS=1 & [F:BPC]PTE<>[M:BPC3]PTE
Controls
Trigger mail
Trigger action
Trigger tracking
Debug mode
Use a theme
Recipient
Recipients
Condition
Type
Recipients
Function
Send mail
Milestone
Types
Delegate option
User
"BOSS"
Yes
Yes
No
Message
Message
Sender e-mail
Object
"Customer " + [M:BPC0]BPCNUM + " modified"
Text
A "CLass A" customer has been changed by | GUSER | at | num$(date$) |.
Table |[F:BPC]PTE | screen | [M:BPC3]PTE |
Controls
Line
Controls
Sending
Any
Server
Client
Return icon
Return function
Link key
Desktop
Link key
Mobile phone
Link key
Modifiable Message
Grouping by recipient
Request read receipt
Attachments
Attached document
Linked trace file
Enclosure
All types
Type of attachment
All categories
Category
Milestone
Text
Text following
"Customer " + [M:BPC0]BPCNUM + " modified"
Signed
Due date
Signed



More conditions, more controls, more recipients/more options, signatures, context, etc…

Category: (optional) grouping, can add your own codes to the list

Event types, operations: more options available

End of transaction: trigger before data is saved (can access screen and table data) or if checked after data is saved to tables (table data only).

Update "Conditions" to add "[M:BPC3]PTE" `[F:BPC]ABCCLS=1 & [F:BPC]PTE<>[M:BPC3]PTE`

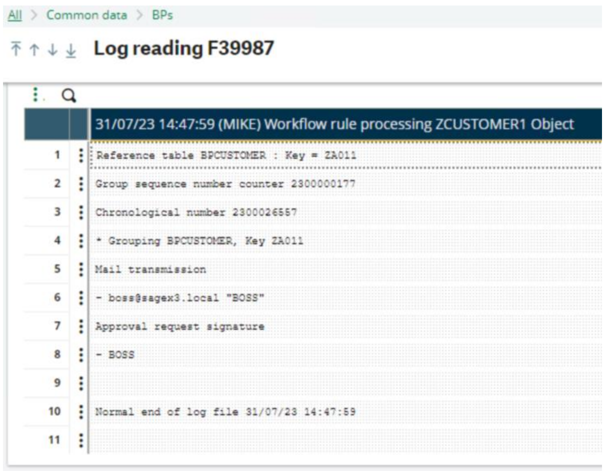
Changed recipients to be "BOSS"

Add "Debug mode"

Add Message text : `Table | [F:BPC]PTE | screen | [M:BPC3]PTE | .`

Save and validate

Test results by making change to customer and will now see "debug" message



Check the email.

NOTE: the table (**[F:BPC]PTE**) is a different value to the screen (**[M:BPC3]PTE**) at the point the WF is triggered.

NOTE: I'll disable this workflow rule now, so it doesn't interfere in my later demos.

How to create an alert if a specific user is currently logged in?

https://www.sagecity.com/gb/sage-x3/b/sage-x3-uk-support-insights/posts/how-to-check-if-a-specific-user-is-currently-logged-in

A customer has setup their instance such that the default ADMIN user is not to be used routinely (which is great and considered best-practise) but did not want to disable the ADMIN user completely. They do however want to get an alert whenever the ADMIN user logs in, to ensure no-one is using it for any reason.

There are various possible ways to achieve this, but the obvious choice within X3 would be to use a Workflow rule…

The first port of call was to look at the provided "LOGON" workflow rule. This does work OK, but during testing this option found a few issues which made it not entirely satisfactory:

- Workflow rules run in the context of a folder, so needs to be setup for every folder.
- The rule is not triggered when the user logs in to X3 and sits on the home page, but only when the user launches then exits a classic function.
- On the customer system there were a lot of alerts generated which did not seem to be due to interactive users (It is still not clear why this is happening at the time of writing)

Review LOGON workflow rule

Point out it uses Event Code "CON" which is documented in online help…

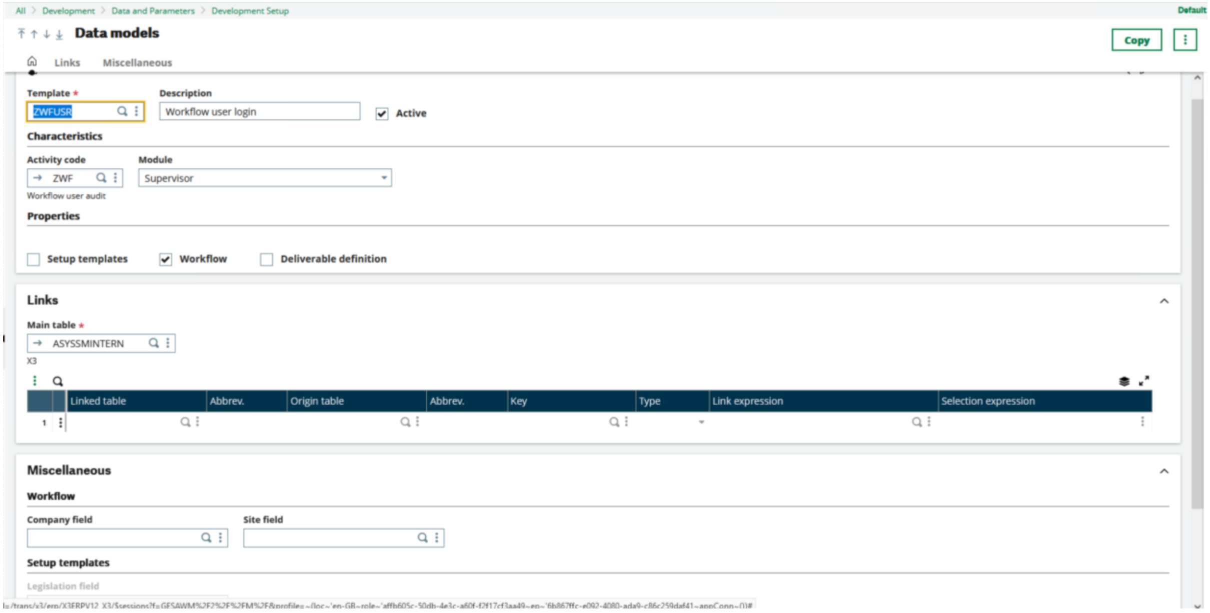
The next option is to see if it is possible to setup a custom workflow rule to do a better job. I have documented below a proof-of-concept that I think fits the bill for the customer requirements outlined above. For my testing I setup a workflow rule to trigger when the user TESTER is logged in. The concept is to use the X3.ASYSSMINTERN as the trigger, as this table stores all connected user details as soon as they login – with the record being deleted when they logout. To do this I need to use a Manual Workflow which needs to be scheduled to run via the batch server as a Recurring task.

NOTE: this demonstrates the need to have good knowledge of the data model and the way X3 works.

Review Data Model

https://online-help.sageerpx3.com/erp/12/staticpost/data-models/

Although I am connected to SEED folder, I can pick the ASYSSMINTERN from X3 folder



Review workflow rule

https://online-help.sageerpx3.com/erp/12/staticpost/workflow-rules/

I decided to go a little way past the absolute simplest, as thought it would be good to pick up some fields from the ASYSSMINTERN table in the alert email.   If you want the absolute simplest option, you can remove the Trigger tracking and milestone setup.

Review the pre-created ZWFUSR workflow rule.

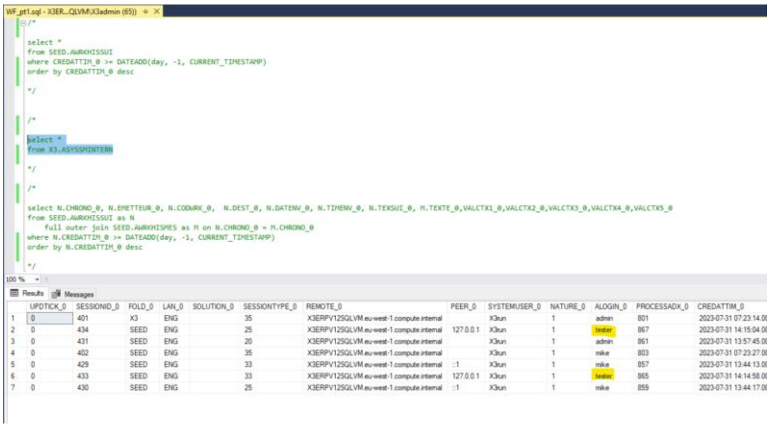
We will also discuss the options in a little more detail as we go through.

- Set the Workflow to be Active
- Point out “Manual”
- Discuss “Context” and that it’s stored in WF table. The “CTX(x)” can be used in messages, etc. with CTX(1) being the first line in the context grid.

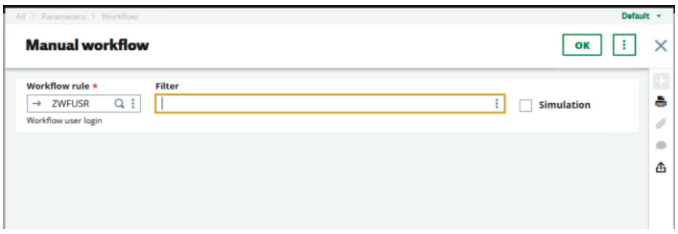
Note: you will get a separate email for every Adonix session the user has open at the time the workflow is triggered, e.g. if the user logs in and launches a classic function, you will get two separate emails. You could use the Regrouping option if you only want one email.

Test the workflow

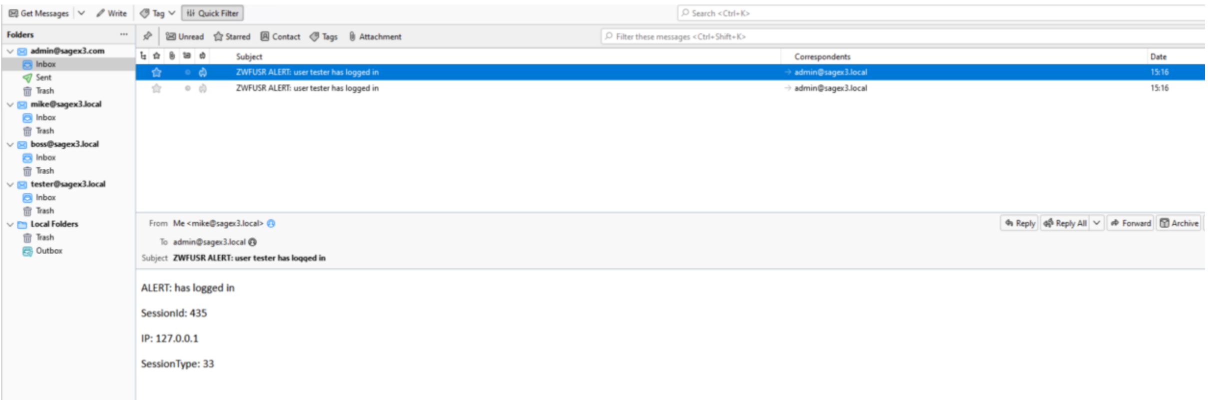
Login as user TESTER, launch a classic function and check there are two records in the X3.ASYSSMINTERN table.



Run the workflow manually to test (or wait one minute for the Batch Server to run it!)



Check an email(s) is generated as expected.

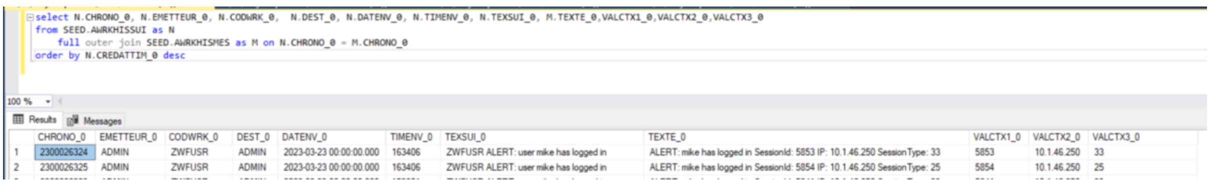


As we can see, I have two emails – this is because in my test I launched a classic function so have two entries in the X3.ASYSSMINTERN table.

Check the Workflow history table.

Can use the SQL below:

```
select N.CHRONO_0, N.EMETTEUR_0, N.CODWRK_0,  N.DEST_0, N.DATENV_0, N.TIMENV_0,
N.TEXSUI_0, M.TEXTE_0,VALCTX1_0,VALCTX2_0,VALCTX3_0
from SEED.AWRKHISSUI as N
       full outer join SEED.AWRKHISMES as M on N.CHRONO_0 = M.CHRONO_0
order by N.CREDATTIM_0 desc
```



Additional thoughts

There are additional steps that could be taken to refine and improve this process, such as setting up assignment rules for who gets notified, adding other tables to the data model to get more useful data in the notification email and maybe even use the signature mechanism to allow the administrator to reply and kill the session immediately.

I hope these steps have given you one basic approach to generate an alert whenever a particular user logs in to your X3 system.

Conclusion

I hope this session has given you the basics of how Workflow works and how it can be used within the Sage X3 environment.