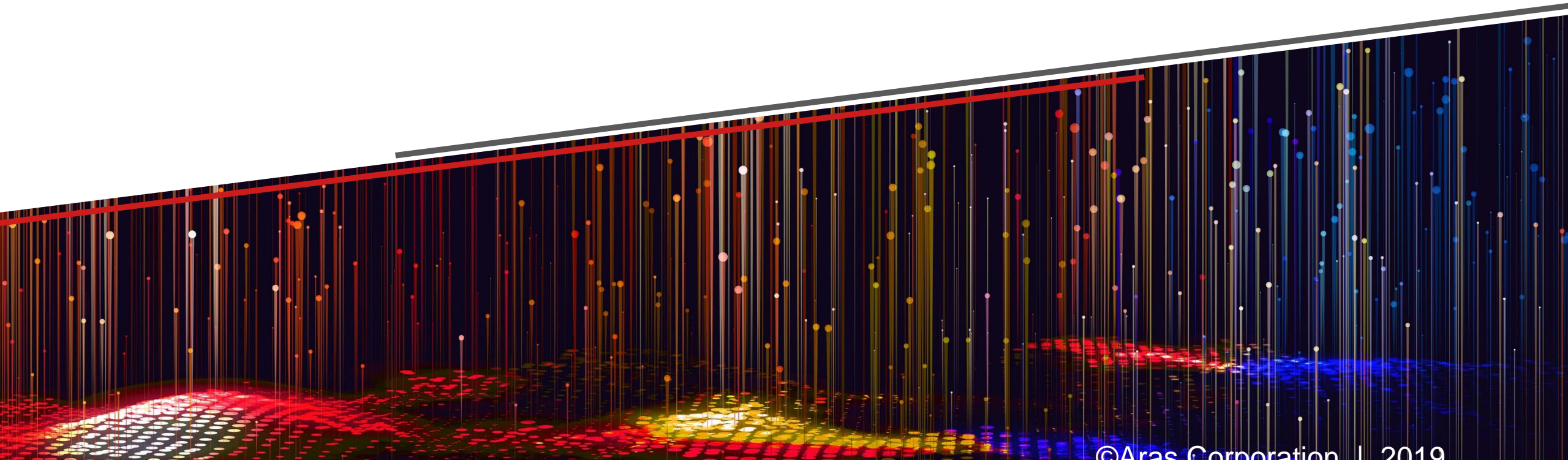




Property Advanced Validation Rules

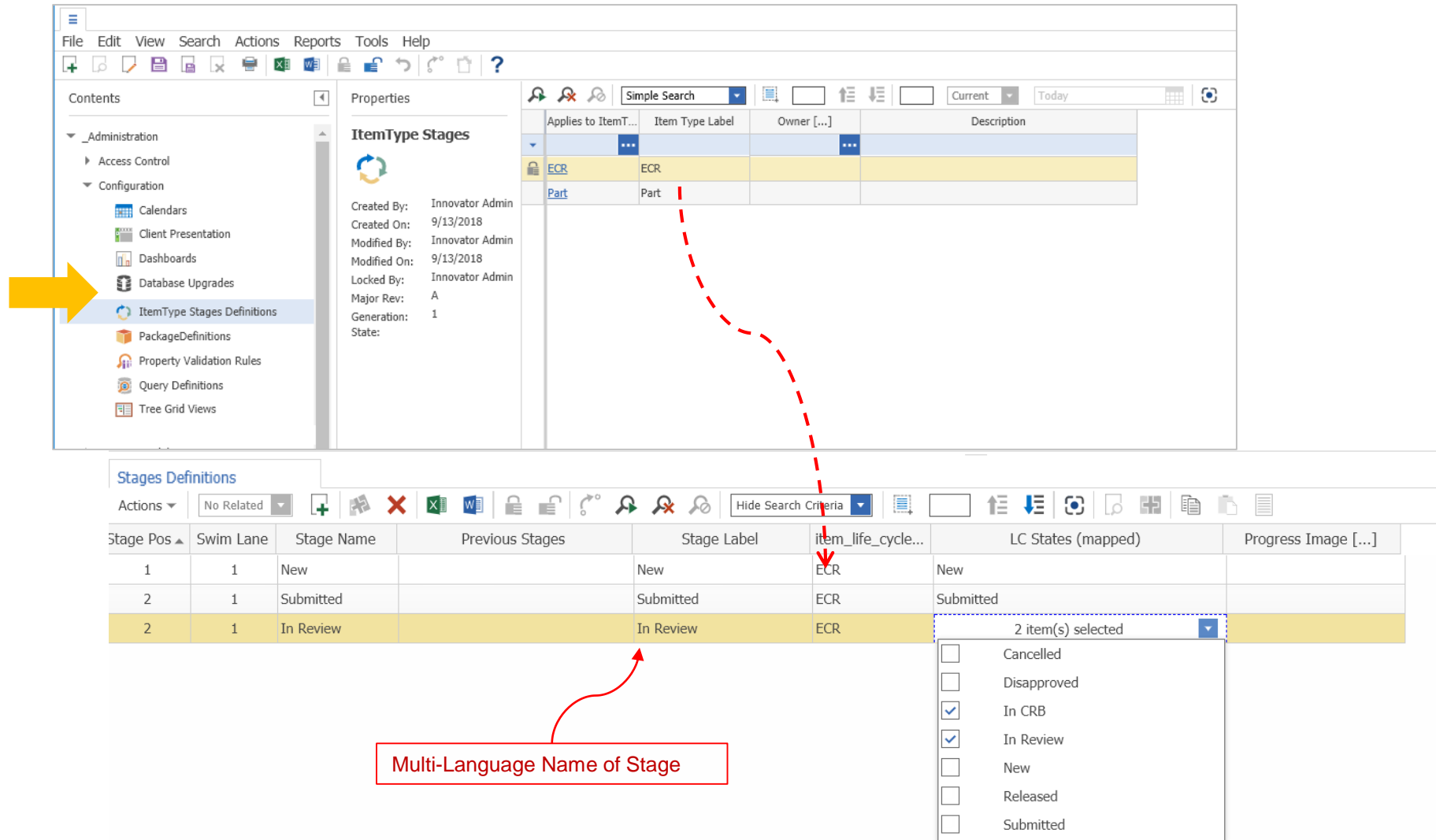
Author: Rolf Laudenbach



Description - Property Advanced Validation

- Purpose:
 - Add configurable rules to check availability or specific expected values of properties of an Item by life cycle state at run time.
- The checks according to rules run while an item is in a defined “stage” or gets promoted to a “stage”.
- This allows to extend the options of checking for “required” data beyond just during the initial “save” action.
- “Stages” are defined as one or more possible “Life Cycle States” of an item.
- A generic “Server Method” ([pav_ItemProperty_advValidations](#)) is provided to read the rules of the ItemType specific configurations and execute the checks and generate an error message listing missing or non-conforming property values.
- This method must be connected to the “[onAfterUpdate](#)” events of ItemTypes to enable its extended property validations.
 - Note: on error of server methods “onAfterXX” a roll-back takes place anyways !!!
- To enable checking during a promotion to one of the defined stages, the same method must also be connected to ItemType server events “[onBeforePromote](#)” and “[onAfterPromote](#)”
 - Note: The OnBeforePromote and OnAfterPromote events can be used to define a standard promote operation for an item regardless of the lifecycle transition selected by the user. Both events are triggered BEFORE the standard lifecycle pre/post events are invoked.
- Also, an “Item Action” ([pav_ItemProperty_advValidations](#)) is provided to execute the validations upon user request to get a report of missing or non-conforming property values.
- Error messages are template based and support multi-language configurations
- Property Validation rules must be set to status “Active” (life cycle) to take effect.

(1) Define Stages for an ItemType



The screenshot displays the Aras Innovator interface for defining stages for an item type. The left sidebar shows the navigation tree with 'ItemType Stages Definitions' highlighted. The main area shows the 'ItemType Stages' properties and a table of item types. The 'Part' item type is selected, and a red dashed arrow points from it to the 'In Review' stage in the 'Stages Definitions' table. A red arrow points from a text box to the 'In Review' stage, and a dropdown menu is open for it.

ItemType Stages Properties:

- Created By: Innovator Admin
- Created On: 9/13/2018
- Modified By: Innovator Admin
- Modified On: 9/13/2018
- Locked By: Innovator Admin
- Major Rev: A
- Generation: 1
- State:

Item Type Table:

Applies to ItemT...	Item Type Label	Owner [...]	Description
ECR	ECR		
Part	Part		

Stages Definitions Table:

Stage Pos	Swim Lane	Stage Name	Previous Stages	Stage Label	item_life_cycle...	LC States (mapped)	Progress Image [...]
1	1	New		New	ECR	New	
2	1	Submitted		Submitted	ECR	Submitted	
2	1	In Review		In Review	ECR	2 item(s) selected	

Multi-Language Name of Stage

- ☐ Cancelled
- ☐ Disapproved
- ☒ In CRB
- ☒ In Review
- ☐ New
- ☐ Released
- ☐ Submitted

(2) Define Property Validation Rules

ItemStages: ECR

File Edit View Search Actions Reports Tools Help

Contents

- Administration
 - Access Control
 - Configuration
 - Calendars
 - Client Presentation
 - Dashboards
 - Database Upgrades
 - ItemType Stages Definitions
 - PackageDefinitions
 - Property Validation Rules**
 - Query Definitions

Properties

Property Validation Rules

Created By: Innovator Admin
Created On: 9/13/2018
Modified By: Innovator Admin
Modified On: 9/13/2018
Locked By:
Major Rev: A
Generation: 1
State: In Work

Applies to ItemT...	Item Type Label	Status	item_type_stages_id [...]	Description
ECR	ECR	In Work	ItemStages: ECR	
Part	Part	In Work	ItemStages: Part	

Validations: ECR

File Edit Views Search Actions Reports Tools Help

Property Validation Rules

Status: In Work

Owner: Administrators

Description:

Applies to ItemType: ECR

Item Type Label: ECR

Item Type Stages Def: ItemStages: ECR

Custom Validation Method (optional):

Error Message Header
Data Completeness check for '{itemTypeLabel}' '{itemKeyedName}' in status '{itemStateLabel}':

Default Error Message
The value of Property '{propLabel}' is missing or incorrect ! (Value: '{propValue}', expected Values: '{propExpectedValues}')

Success Message
All completeness checks for state '{itemStateLabel}' have passed.

Property Validations

Seque...	Property on Relationship	Property On Tab (label)	Item Type Stages (to validate)	Also check promotion to Stages	Item Property (to valida...	Property Label	Data Type	Pattern	Expected Property Values	De
1		Main Form	Submitted	<input type="checkbox"/>	priority	Priority	List		not null	
2	Optional: RelationshipType holding properties to check	Main Form	Submitted	<input checked="" type="checkbox"/>	source	Source	List		not null	

PROMOTE to "Active"

If not set to "Active", validations will not run !!!

Link to ItemType Stage Definitions

Common Message Templates (Multi-Language)

Err. Message Templates per Property Check. If set, it will override common Message Template

Expected Values to check: Semi-colon separated !!!

Property to do validations for

Enable validations If promoted to this Stage

Newer Layout (same Functionality)

Validations: ECR

File Edit Views Search Actions Reports Tools Help

Property Validation Rules

Status

In Work

Owner

Administrators

Description

Error Message Header

Data Completeness check for '{itemTypeLabel} {{itemKeyedName}}' in status '{itemStateLabel}':

Default Error Message

The value of Property '{propLabel}' is missing or incorrect ! (Value:'{propValue}', expected Values:'{propExpectedValues}')

Success Message

All completeness checks for state '{itemStateLabel}' have passed.

Applies to ItemType

ECR

Item Type Label

ECR

ItemType Classification

Item Type Stages Def

ItemStages: ECR

Custom Validation Method (optional)

You Can Use Message Parameters:

{itemTypeLabel}

{itemKeyedName}

{itemStateLabel}

{propLabel}

{propValue}

{propExpectedValues}

Property Validations

Actions No Related

Seque...	Property on Relationship	Property On Tab (label)	Item Property (to validate...	Property Label	Data Type	Pattern	Item Type Stages (to validate) ▲	Also check promotion to Stages	Expected Property Values	Depends
1		Main Form	priority	Priority	List		Submitted	<input type="checkbox"/>	not null	
2		Main Form	source	Source	List		Submitted	<input checked="" type="checkbox"/>	not null	

(3) Configurations on ItemTypes

ECR

File Edit Views Search Actions Reports Tools Help

ItemType

Name
ECR

Singular Label
ECR

Plural Label
ECRs

Small Icon
Select an image...

Large ICON
Select an image...

History Template
Default

Default Structure View
Tabs On

Versioning
Versionable ☐
Discipline Automatic
Revisions Default

Search
Auto Search ☐ Default Page Size 25
Max Records

Implementation Type
☒ Single Item ☐ Poly Item ☐ Federated Item

☐ Unlock On Logout
☐ Dependent
☐ Is Relationship
☒ Enforce Discovery
☐ Use Src Access
☒ Allow Private Permissions

Secure Social Enabled

Class Structure
Show Parameters Tab
When Populated

Properties RelationshipTypes Views **Server Events** Actions Life Cycles Workflows TOC Access TOC View Client Events xItemTypeAllowedProperty Can Add Permission

Actions Pick Related

Name	Method Type	Ver	execution_allo...	Comments	Event	Sort Order	Event Version
pev_ItemProperty_extValidations	CSharp	3	World	onAfterUpdate. extended ...	onAfterPromote	384	Version 1
pev_ItemProperty_extValidations	CSharp	3	World	onAfterUpdate. extended ...	onAfterUpdate	128	Version 1
pev_ItemProperty_extValidations	CSharp	3	World	onAfterUpdate. extended ...	onBeforePromote	256	Version 1

Properties RelationshipTypes Views Server Events **Actions** Life Cycles Workflows TOC Access TOC View Client Events xItemTypeAllowedProperty Can Add Permissions Reports

Actions Pick Related

Name	Type	Location	Method [...]	Target	Body [...]	Can Execute [...]	Sort Ord...
VC_AddItemsToBookmarks	Item	Client	VC_GetSelectedItems	None		SSVCActionCanE...	128
Change Discussion Definition	Item	Client	VC_ChangeDiscussio...	None		SSVCActionCanE...	256
pev_ItemProperty_extValidations	Item	Client	pev_ItemProperty_e...	None			384

Test it: Create new ECR (promote via InBasket)

ECR-100001

File Edit Views Search Actions Reports Tools Help

ECR

ECR Number: ECR-100001 Title: Test pev Status: New

Administrative Hierarchy Physical Hierarchy Corrective Action Product Improvement

Requested By: Source:

Created By: Innovator Admin Created On: 5/9/2019 Modified By: Innovator Admin Modified On: 5/9/2019 Locked By: Innovator Admin

Proposed Solution

Fast Track Priority For Tech Review Assigned Creator

Tech Review & Recommendation

Problem Status Solution

Nonrecurring Cost Estimate Less Than \$200

Key Implementation Timing Factors

Affected Items PRs Files

Actions Create Related

Type Action Old M [...] Old Revisi... Interchangea... New Number [...] New Revisi... In Build In Service

Workflow Activity Completion

Workflow: ECR-100001 Activity: Submit ECR

Tasks

Error

Data Completeness check for 'ECR (ECR-100001)' in status 'Submitted':

[Main Form] : The value of Property 'Source' is missing or incorrect ! (Value:"", expected Values:'not null')

Vote

Comments:

Authentication

Password: E-Signature:

Complete Save Changes Cancel

Properties

InBasket

Created By: Innovator Admin Created On: 5/9/2019 Modified By: Innovator Admin Modified On: 5/9/2019

Type	Source Item	Activity	Start Date [...]	Due Date [...]	Status	Assigned To [...]	Instructions	Work Item	My Assignment
Workflow Task	ECO-00001001	Submit ECO	5/9/2019	5/9/2019	Active	Innovator Admin	Please fill out and submit the ECO	ECO-00001001	<input checked="" type="checkbox"/>
Workflow Task	ECR-100001	Submit ECR	5/9/2019	5/9/2019	Active	Innovator Admin	Submit the ECR for review	ECR-100001	<input checked="" type="checkbox"/>

Preview: Properties

Edit ECR and set missing Property value

ECR-100001

File Edit Views Search Actions Reports Tools Help

ECR

Created By: Innovator Admin
Created On: 5/9/2019
Modified By: Innovator Admin
Modified On: 5/9/2019
Locked By:

ECR Number
ECR-100001

Title
Test pev

Status
New

Administrative Hierarchy

Corrective Action

Physical Hierarchy

Product Improvement

Requested By

Source
Internal

Proposed Solution

Fast Track

Priority For Tech Review

Assigned Creator

No validation errors now.

Workflow Activity Completion

Workflow: ECR-100001
Activity: Submit ECR

Tasks

Sequence	Required	Description	Complete
1	<input type="checkbox"/>	Attach known Affected Items	<input type="checkbox"/>
2	<input type="checkbox"/>	Ensure the ECR is ready for initial review	<input type="checkbox"/>

Vote

Vote: Delegate to:

Comments:

Delegate:

Authentication

Password: E-Signature:

Complete

Save Changes

Cancel

Try promote via InBasket again



Properties

InBasket

Created By: Innovator Admin
Created On: 5/9/2019
Modified By: Innovator Admin
Modified On: 5/9/2019

Type	Source Item	Activity	Start Date [...]	Due Date [...]	Status	Assigned To [...]	Instructions	Work Item	My Assignment
Workflow Task	ECO-00001001	Submit ECO	5/9/2019	5/9/2019	Active	Innovator Admin	Please fill out and submit the ECO	ECO-00001001	<input checked="" type="checkbox"/>
Workflow Task	ECR-100001	Submit ECR	5/9/2019	5/9/2019	Active	Innovator Admin	Submit the ECR for review	ECR-100001	<input checked="" type="checkbox"/>

Preview: Properties

Open ECR (in status “Submitted”)

Start Validation/Completeness Check via Action

ECR-100001

File Edit Views Search Actions Reports Tools Help

ECR

Created By: Innovator Admin
Created On: 5/9/2019
Modified By: Innovator Admin
Modified On: 5/9/2019
Locked By:

Change Discussion Definition

Status: Submitted

Source: Internal

Administrative Hierarchy
Physical Hierarchy

Corrective Action
Product Improvement

Requested By

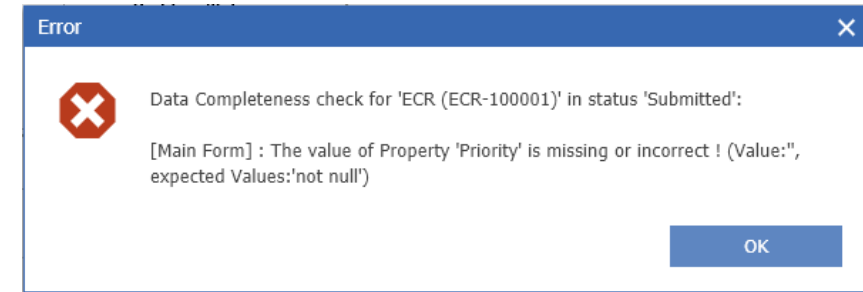
Proposed Solution

Fast Track
Priority For Tech Review: 1 2 3 4
Assigned Creator

Tech Review & Recommendation

Problem Status
Solution

Key Implementation Timing Factors



Still a property value is missing !!

ECR-100001

File Edit Views Search Actions Reports Tools Help

ECR

Created By: Innovator Admin
Created On: 5/9/2019
Modified By: Innovator Admin
Modified On: 5/9/2019
Locked By:

ECR Number: ECR-100001
Title: Test pev
Status: Submitted

Administrative Hierarchy
Physical Hierarchy

Corrective Action
Product Improvement

Requested By

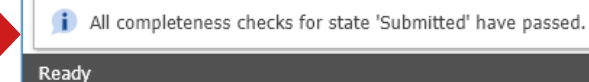
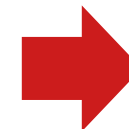
Proposed Solution

Fast Track
Priority For Tech Review: 1 2 3 4
Assigned Creator

Tech Review & Recommendation

Problem Status
Solution

Edit ECR and set „Priority“. Then run Action again



Item Validations In Action

Check via Action (or when saving an update)

File Edit View Search **Actions** Reports Tools Help

Hide Configurable InBasket

Enterprise Search: Reindex All

Choose CM Options

Reset preferences

Update timezones data

Visual Collaboration Notifications

Add Item(s) To Bookmarks...

Change Discussion Definition

Status Completeness Check

Innovator Admin 9/13/2018

Innovator Admin 9/13/2018

Modified On: 9/13/2018

ECR Number	Title	Status	Fast Track	Priority
ECR-100001	Test111	Submitted	<input type="checkbox"/>	
ECR-100002	TEST 2	New	<input type="checkbox"/>	

Error messages shown in a popup window

Error

Data Completeness check for 'ECR (ECR-100001)' in status 'Submitted' has failed:

[Main] : The value of Property 'Priority' is missing or incorrect ! (Value --> "", expected Values: 'not null')

[Main] : The value of Property 'Source' is missing or incorrect ! (Value --> "", expected Values: 'not null')

OK

File Edit View Search **Actions** Reports Tools Help

Hide Configurable InBasket

Enterprise Search: Reindex All

Choose CM Options

Reset preferences

Update timezones data

Visual Collaboration Notifications

Add Item(s) To Bookmarks...

Change Discussion Definition

Status Completeness Check

Innovator Admin 9/13/2018

Innovator Admin 9/13/2018

Modified On: 9/13/2018

ECR Number	Title	Status	Fast Track
ECR-100001	Test111	Submitted	<input type="checkbox"/>
ECR-100002	TEST 2	New	<input type="checkbox"/>

All completeness checks for state 'New' have passed.

Ready arastraining

Success message at bottom of Main Page

Check when promoting

Created By: Innovator Admin

Created On: 9/13/2018

Modified By: Innovator Admin

Modified On: 9/13/2018

Locked By: A

Major Rev: 1

Generation: New

State: New

Current Today

Fast Track Priority Change Type Requested By [...] Source Release Dat

ECR-100001 Test111 Submitted ☐

ECR-100002 TEST 2 New ☐

Promote ECR-100002

To State

Submitted

Ready

Error messages shown in a popup window

Error

Data Completeness check for 'ECR (ECR-100002)' in status 'Submitted' has failed:

[Main] : The value of Property 'Source' is missing or incorrect ! (Value --> "", expected Values: 'not null')

Show Details OK

Our configuration has only one validation active for promoting the item