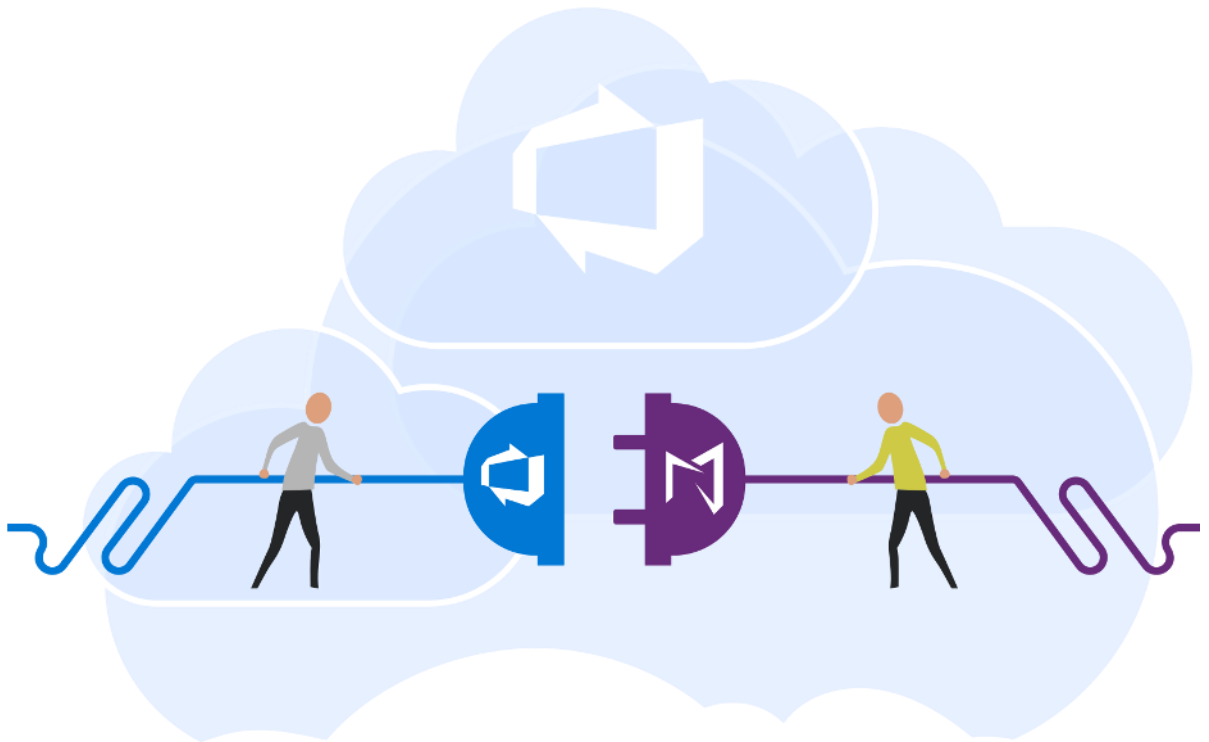# Modern Requirements4DevOps

Modern Requirements4DevOps 2023 Update 1 Release Notes

Modern Requirements
8/30/2023

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1. Introduction

This document contains the notes for the 2023 Update 1 release of Modern Requirements4DevOps (MR4DevOps). It describes the key features and enhancements of each module in the Modern Requirements4DevOps application. This includes Version Package, Copilot4DevOps, Smart Docs, Smart Note, FAQ, Diagram, Mock-up, Use Case, Review Management, Trace Analysis, Baseline, Reporting, Smart Reporting, and Impact Analysis.

2. System requirements

Software Requirements

1. Operating system: Windows 7 or higher, Windows Server 2008 R2 or higher
2. Browser: Microsoft Edge, Google Chrome, Mozilla Firefox47.0.1 or higher and Internet Explorer 10 or higher
3. Screen resolution: 1280x960 or higher
4. IIS 7 or higher
5. Microsoft .NET Framework 4.7.2 or higher
6. ASP.NET 4.5
7. Multilingual support – Language pack for IE & Save as Word

Please note the following:

- Both the 32-bit and 64-bit versions of the operating systems are supported.

- Credentials required for installing Modern Requirements4DevOps should have administrator rights on the computer. In other words, users installing Modern Requirements4DevOps on their machine should use admin credentials (or credentials that include administrator rights) for proper installation.

- For regular team projects, the user of a machine on which Modern Requirements4DevOps is deployed must have administrative rights on TFS Collection (or added in Application Domain in IIS).

Also note that to access GIT-enabled team projects, the logged-in domain user of a machine on which Modern Requirements4DevOps is deployed must have authenticated rights on TFS Collection (or added in the application domain in IIS).

Supported Team Foundation Server

1. Embedded build version
    - *Standard:* TFS 2015 update 2+ and higher
    - *Single Sign-on:* TFS 2017 update 3, 2018 update 1 and higher

Supported Microsoft Word versions for Word Import

1. Microsoft Word 2010 or higher (With the .docx, .dotx, .docm, .dotm file extensions)

Hardware requirements

1. At least 12GB of memory is required - more memory is required if executing TFS work item queries greater than 100,000.
2. Hard drive space of 500 MB.

3. Application setup

Refer to the "Modern Requirements4DevOps Installation Guide.docx" for installing the application.

General

1. Change Request

1. Folder explorer is replaced with browse page for all MR modules

The latest enhancement in our organization's product brings a new and improved browsing experience for all new and existing modules. This enhancement introduces a browse page view that offers a clear separation between the list of files and the selected file view, enhancing usability and functionality.

In the list of file views, users can access update/edit options for files and folders through their respective context menu options. This streamlined approach provides convenient access to specific actions relevant to individual files and folders. Additionally, general create options are conveniently available on the toolbar, allowing users to easily create new files or folders without navigating away from the current view.

To enhance search capabilities, users can perform searches within the list of files, enabling them to quickly locate specific files based on their search criteria. This feature aims to improve productivity and efficiency when dealing with many files.

a. Tool bar arrangement

In the file view, the toolbar options have been re-arranged to provide a more intuitive and user-friendly experience. Some options have been placed in the toolbar context menu to optimize the available space and reduce clutter. This arrangement allows users to access relevant actions effortlessly while focusing on the selected file.

b. Breadcrumb path

Furthermore, a breadcrumb path feature has been introduced for all modules within the MR (Management and Reporting) section. This feature enables users to navigate efficiently between the list of files, folders, and the main browse page view. Users can easily trace their path; either within a specific module or back to the main browse page, where all files are listed in their respective folders.

Overall, these enhancements aim to improve the browsing experience in all modules of our product. By separating the list of files and selected file view, providing convenient access to file and folder options, introducing search functionality, optimizing toolbar options, implementing tab-based navigation, and introducing a breadcrumb path feature, we strive to enhance usability, productivity, and navigation within the product.

2. Compare pop-up is replaced with Smart View

The 'Compare' popup is now renamed "Smart View". The user interface and functionality are enhanced for a better experience. All ADO visible tabs and fields will now be shown on Smart View as read-only. Smart View provides a more engaging and efficient experience for all users.

1.   Key Features

a. **New user interface**

The user interface of the Smart View is now enhanced and similar to the standard ADO editor. All the visible tabs and fields of the work item are shown in read-only mode.

b. **Comparison between two revisions of a work item**

Users can compare different revisions of the work item within the smart view. Users are not allowed to make comparisons on the same revision of the work item. Fields and link types mentioned in the admin panel will be highlighted yellow in the comparison mode.

c. **Comparison between two variants work items**

Users can compare different variants of the work item within the smart view. User will be able to compare variants of work item with their respective revisions. Fields and link types mentioned in the admin panel will be highlighted yellow in the comparison mode.

d. **Create variant work item**

A tab is introduced as 'variant' in smart view from where user can create variants of work item. The same work item type is allowed in creating variant. Users can either create a new work item or link to any existing work item as a variant.

2. **Bug fixes**

1. Fixed an issue where bulleted and numbered lists were not visible with description text on the compare popup, which is now updated as Smart View where it shows all ADO-visible fields and their HTML properties.
2. Fixed an issue where added links were not showing as changed when the baseline was created from copy, which is now updated as Smart View where all links are shown with respect to their revision.
3. Fixed an issue where links were not showing from the compare tab in the compare popup, which is now updated as Smart View where all link changes are visible on the links tab.
4. Fixed an issue where it was showing strike through for added links on the compare popup, which is now updated as Smart View where all link changes are shown efficiently.
5. Fixed an issue where the Steps/expected Result of the test case step started with special characters not showing on the compare pop up, which is now updated as Smart View where all step cases with special characters are showing.

3. **Separation of simulation and use case modules**

The separation of "Simulation" and "Use Case" modules is a design approach that involves dividing a module into distinct sections. By separating these two modules, the design aims to enhance modularity, maintainability, and scalability while maintaining the current functionality and data of files.

2. Tool Enhancements

1. **MR Test Case API - Support of 'Requirement Category' work item type in Smart Report and Trace Analysis**

   Users can now generate data for all the requirement category type work items such as Product backlog, User Story, Requirement, or any custom requirement type work item associated with the test suite using Test reporting option in trace analysis and Smart Report (Test Hub, Queries tab, and Smart Docs). A virtual work item with the name "Requirement Category" is shown in trace analysis and smart report when a test report is generated for a requirement-based test suite.

Copilot4DevOps

A new feature Copilot4Devops is introduced in MR modules "Version Package", "Smart Docs" and "FAQ (the details for this are defined in the respective module section)". This feature will help the users to navigate through and streamline the requirements process by providing various functions to analyze and manipulate work item data.

Copilot4DevOps aims to simplify the requirements process by analyzing, paraphrasing, eliciting, translating, summarizing, converting to use case/user story/Gherkin, and elaborating on work item data. These generated results can contribute to a smoother and more efficient requirements management process within the organization.

The Copilot4DevOps feature can be accessed from the respective modules ("Version Package" & "Smart Docs") tool bar and work item context menu as well. It can also be accessed from "Queries", "Backlog" tabs and "Work item context menu". The functions included in Copilot4Devops are as below:

1. **Analysis:** Copilot4DevOps can analyze the input work item data and extract valuable insights. This analysis can help in gaining a better understanding of the requirements or data and identifying potential areas for improvement.

   Through this function in Copilot4DevOps, users can select the desired work item HTML field(s) along with title from the "Analyze" dropdown and perform analysis on it based on parameters like: "Clear", "Concise", "Complete" etc. The system will also rate the requirement or work item data based on the above parameters. The results will be generated on selecting the "Generate" option in tabular form altogether for all selected work item field(s) against each parameter. Users can opt to "Copy" the generated data in HTML format to place elsewhere as well. There is an option of customizing the default prompt as well to fetch any other desired results for the respective function through "Custom Prompt" provided under generate dropdown.

2. **Translate:** This feature enables Copilot4DevOps to translate the input work item data from one language to another. It can be beneficial when working with globally distributed teams or when dealing with requirements or data in different languages.

   Through this function in Copilot4DevOps, users can select the desired work item HTML field(s) along with title from "Select" dropdown to have the data translated by selecting the desired language from "Translate to" dropdown. The data is displayed in two panels for this function as below:

   a. Left Panel: The selected work item field(s) original data is displayed in this panel under field wise heading respectively.
   b. Right Panel: On clicking "Generate", the translated data is displayed in this panel under each selected work item field(s) according to the selected language.

   The user can opt to "Copy" the generated data in HTML format to place elsewhere as well. There is a "Replace" option as well for this function on which users can replace the generated translated data in the work item ADO editor under respective field(s). There is an option of customizing the default prompt as well to fetch any other desired results for the respective function through "Custom Prompt" provided under 'Generate' dropdown.

3. **Elicit:** Copilot4DevOps can prompt or elicit new data (work item title and fields data) related to the input work item data and then can be used to create and publish as new work items. It aims to gather a comprehensive understanding of the requirements.

   Through this function in Copilot4DevOps, users can select the desired HTML work item field(s) along with title from the "Given Input" dropdown for input context based on which the data will be generated. Users can also select to publish work item(s) by selecting work item type from "Create" dropdown. and can also choose data fields of the work item being published for the output through the "Output field" dropdown. There is a "No of. records" dropdown from which users can choose the view for the number of results to be displayed.

   The data is displayed in two panels:
   a. Left Panel: On clicking "Generate", for the selected work item type, the title is fetched in the left panel and on selecting each title the user will be able to see respective info in right panel; while on checking through check-box, the user can select to publish them as work item(s) in ADO project/team and if allowed (according to template configuration) then on "Version Package" and "Smart Docs" grids as well.
   b. Right Panel: For each title in left panel, the respective work item field data for "Output field" selection is generated in right panel under respective field wise headings.

   There is a "Create linked work item" button for this function through which user can choose to publish the selected work item(s) by also selecting "link type" from the additional pop-up that opens on invoking this create linked work item option.

4. **Summarize:** Copilot4DevOps can generate summaries of the input work item data, condensing the information into a shorter and more concise format. This can assist in quickly grasping the key points and essential aspects of the requirements.

   Through this function in Copilot4DevOps, user can select the desired work item HTML field(s) along with title from "Summary parameters" dropdown to have the data summarized. The data is displayed in two panels for this function as below:

   a. Left Panel: The selected work item field(s) original data is displayed in this panel under field wise heading respectively.
   b. Right Panel: On clicking "Generate", the summary is generated and displayed in this panel.

   The user can opt to "Copy" the generated data in HTML format to place elsewhere as well. There is also an "Add to field" option for this function on which users can select a work item HTML field to add the generated summary by selecting one of the desired options like "Add to top" which will add the summary at the top of existing data (if there is any), "Add to bottom" which will add the summary at the bottom of existing data (if there is any), and "Replace" which will replace the existing data with the generated summary. There is an option of customizing the default prompt as well to fetch any other desired results for the respective function through "Custom Prompt" provided under 'Generate' dropdown.

5. **Convert to use case:** This function allows Copilot4DevOps to convert the input work item data into a use case format. By structuring the requirements as specific use cases, it facilitates the communication and implementation of the desired functionality.

Through this function in Copilot4DevOps, users can select the desired work item HTML field(s) along with title from "Input parameters" dropdown to have the data be converted to a use case. The data is displayed in two panels for this function as below:

a. Left Panel: The selected work item field(s) original data is displayed in this panel under field wise heading respectively.
b. Right Panel: On clicking "Generate", the use case is generated and displayed in this panel.

The user can opt to "Copy" the generated data in HTML format to place elsewhere as well. There is also an "Add to field" option for this function on which users can select a work item HTML field to add the generated use case by selecting one of the desired options like "Add to bottom" which will add the generated use case at the bottom of existing data (if there is any), and "Replace" which will replace the existing data with the generated use case and "Create work item" which will create a new work item and add the generated use case to the selected field of the work item. Users can then publish this work item to be added to ADO project/team and if allowed (according to template configuration) then will also be added to "Version Package" and "Smart Docs" grids. There is an option of customizing the default prompt as well to fetch any other desired results for the respective function through "Custom Prompt" provided under 'Generate' dropdown.

6. **Convert to Gherkin:** Gherkin is a language used for writing executable specifications in behavior-driven development (BDD). Copilot4DevOps can convert the input work item data into Gherkin syntax, enabling the creation of automated tests and fostering collaboration between business and development teams.

Through this function in Copilot4DevOps, user can select the desired work item HTML field(s) along with title from "Input parameters" dropdown to have the data be converted to Gherkin. The data is displayed in two panels for this function as below:

a. Left Panel: The selected work item field(s) original data is displayed in this panel under field wise heading respectively.
b. Right Panel: On clicking "Generate", the Gherkin is generated and displayed in this panel.

The user can opt to "Copy" the generated data in HTML format to place elsewhere as well. There is also an "Add to field" option for this function on which users can select a work item HTML field to add the generated Gherkin by selecting one of the desired options like "Add to bottom" which will add the generated Gherkin at the bottom of existing data (if there is any), and "Replace" which will replace the existing data with the generated Gherkin and "Create work item" which will create a new work item and add the generated Gherkin to the selected field of the work item. Users can then publish this work item to be added to ADO project/team and if allowed (according to template configuration) then will also be added to "Version Package" and "Smart Docs" grids. There is an option of customizing the default prompt as well to fetch any other desired results for the respective function through "Custom Prompt" provided under 'Generate' dropdown.

7. **Convert to user story:** Copilot4DevOps can transform the input work item data into user stories, which are short, concise descriptions of desired system behavior from a user's perspective. This conversion helps in adopting an Agile development approach and enhances collaboration between stakeholders and development teams.

Through this function in Copilot4DevOps, users can select the desired work item HTML field(s) along with title from "Input parameters" dropdown to have the data be converted to a user story. The data is displayed in two panels for this function as below:

a. Left Panel: The selected work item field(s) original data is displayed in this panel under field wise heading respectively.
b. Right Panel: On clicking "Generate", the user story is generated and displayed in this panel.

The user can opt to "Copy" the generated data in HTML format to place elsewhere as well. There is also an "Add to field" option for this function on which users can select a work item HTML field to add the generated use case by selecting one of the desired options like "Add to bottom" which will add the generated user story at the bottom of existing data (if there is any), and "Replace" which will replace the existing data with the generated user story and "Create work item" which will create a new work item and add the generated user story to the selected field of the work item. Users can then publish this work item to be added to ADO project/team and if allowed (according to template configuration) then will also be added to "Version Package" and "Smart Docs" grids. There is an option of customizing the default prompt as well to fetch any other desired results for the respective function through "Custom Prompt" provided under 'Generate' dropdown.

8. **Paraphrase:** This function allows Copilot4DevOps to rephrase or reword the input work item data, providing alternative expressions while preserving the original meaning. It can be helpful in generating clearer and more concise requirements.

Through this function in Copilot4DevOps, users can select the desired work item HTML field(s) along with title from "Select" dropdown to have the data paraphrased by selecting the desired format like "Paragraph" or "Bullets" from "Paraphrase As" dropdown. The data is displayed in two panels for this function as below:

a. Left Panel: The selected work item field(s) original data is displayed in this panel under field wise heading respectively.
b. Right Panel: On clicking "Generate", the paraphrased data is displayed in this panel under each selected work item field(s) according to the selected format (paragraph/bullets).
c.

The user can opt to "Copy" the generated data in HTML format to place elsewhere as well. There is also a "Replace" option for this function on which users can replace the generated paraphrased data in the work item ADO editor under respective field(s). There is an option of customizing the default prompt as well to fetch any other desired results for the respective function through "Custom Prompt" provided under 'Generate' dropdown.

9. **Elaborate work item:** This function allows Copilot4DevOps to expand on the input work item data, providing additional details and context. It helps in clarifying the requirements and ensuring a comprehensive understanding among all stakeholders.
Through this function in Copilot4DevOps, users can select the desired work item HTML field(s) along with title from "work item field" dropdown to have the data be elaborated. The data is displayed for the selected work item fields.

The user can opt to "Copy" the generated data in HTML format to place elsewhere as well. There is also an "Add" option for this function on which users can select work item HTML field(s) to add the generated data by selecting one of the desired options like "Add to top" which will add the generated data at the top of existing data (if there is any) and "Add to

bottom" which will add the generated data at the bottom of existing data (if there is any), and additional button of "Replace" which will replace the existing data with the generated data. There is an option of customizing the default prompt as well to fetch any other desired results for the respective function through "Custom Prompt" provided under 'Generate' dropdown.

When "Copilot4DevOps" is accessed in "Version Package" module, for locked work item(s) users will only be able to generate results, copy, and use 'create work item' option. The rest of the update/edit options are shown as disabled.

For respective functions in which work items are created/updated, a tag and comment is also added for the respective work item(s) in ADO to identify that it has been created/updated through the Copilot4Devops feature.

A breadcrumb feature is also introduced for Copilot4DevOps through which users can navigate back and forth from the main pop-up to the desired function.

There is a "Copilot4DevOps Organization Settings" section in admin panel under "General Tab" through which users can check/un-check the check box to show/hide the respective feature in the modules where its supported and also form queries and backlog tabs. (For further details please refer to admin panel section)

Version Package Management

Version Package Management is a new module in Modern Requirements4DevOps that allows users to create version packages containing different work items according to the package template configuration. Users can create variants of the work item, set the mode of the work item as LIVE or LOCKED, and can replace the work item with any of its variants. Users can also add version packages as sub packages or linked packages.

1. Key Features

1. Version package creation

Users can create a version package from the browse page of the Version Package module. Users can create a blank version package with no existing work items or can add work items with the saved flat queries option or with the 'Enter ID' option, adding single or multiple work items with commas separated. Users can choose the folder location and package template at the time of version package creation.

2. Add New/Existing Work items in the Version package

Users can add work items to the Version package via the '+ Add' option on the toolbar. Users can add new or existing work items according to the package template. Users can also add work items with the help of the + sign on the work item grid.

3. Link to an existing work item

Users can add existing work items to the version package by selecting the '🔗 Link to an existing work item' option from the work item context menu. Users can add the existing work item to any previous revision or as 'LIVE' which will be synced with ADO.

4. Create work item variant and replace

Users can replace any selected work item with its variant by selecting the '🔄 Create Variant & replace' option from the work item context menu. Using this option, a variant will be created and replaced with the selected work item in the package.

5. Switching work item variant

Users can switch a work item with any one of its variants using the '🔄 Switch variant' option from the work item context menu. The work item will be removed from the package along with its hierarchy, and the selected variant will be added to the package along with its hierarchy.

6. Set Version

Users can set a work item mode; either LIVE or LOCKED by selecting the '✏ Set Version' option from the work item context menu. Users can set the version of the work item by selecting any previous revision of the selected work item from the 'Set version' pop-up. Users can select the 'Live' option, and with that, the work item will always be synced with ADO or any previous revision, which will be LOCKED at the selected revision. Users can use lock hierarchy option to lock work item hierarchy on their latest revisions. If work item(s) are locked on any previous revision, then it locks those work items on that particular revision shown in the revision column of the Version package grid.

7. Lock package

Users can lock any package with the help of the 'Lock Package' option. Users will not be able to make any kind of changes to the work item in the version package until it is unlocked again.

8. Linked package

Users can add a linked package to a version package from the right panel by selecting the '🖽 Associated package' option or from the work item context menu by selecting the 'Add New linked package' option. Users can add a new version package or add any existing version package as a linked package.

9. Sub package

Users can add a sub package to a version package from the right panel by selecting the '🖽 Associated Package' option or from the work item context menu by selecting the 'Add New sub package' option. Users add a new version package or can add any existing version package as a sub package.

10. Create Variant Package

Users can create a "New Variant Package" from an existing "Version Package" in which the work items are added as it is, with the same revision whereas a new variant of root work item is created. Furthermore, users can configure "Propagation Rules" as well to keep both the packages in sync and any change made in either of the package will be propagated in the other package.
Users can access the context menu options of "Edit Comment" to update the existing comment added against a variant package and can also use "Remove link" option to break the link between the source and target packages.

11.Smart Report

Users can generate a Smart Report for the version package. Users can also generate Smart Reports from the version opened in version management.

12. Versioning of the Version package

Users can create, view, and delete any version of the Version package. The work items will be locked on their as-of-state, and any work item that is locked will remain locked on their version. Users can generate the Smart Report for the respective version, save it in Word or PDF format, and roll back to that version as well.

13. Save as Word/PDF

Users can save the version package in Word or PDF format. This option appears on the 'Results' tab and the 'Compare' tab.

14. Review request from the Version package

Users can create a Review request from the Version package. All work items present in the version package will be added to the Review. A version will also be created and will be shown in 'Version Management'.

15. Searching in Version Package

Searching can now be done in a Version package through the option provided in the right panel. Users can now search for numeric, alphabetic, etc. text in every column in the grid. Each searched result will be highlighted in the grid and the user can navigate to each of them through the panel on the right. Searching is supported in both the 'Results' tab and 'Compare' tab.

16. Edit work items

Users can edit the field value of a Work Item through the "Edit Work Items" option on the Work Item context menu. Once the "Edit Work Items" option is invoked from the Work Item context menu, there are only Field(s) and Value(s) dropdown options that the user can use accordingly to edit the Work Item fields. On closing the "Edit Work Items" pop-up, the respective Work Item field(s) are updated with the defined changes.

17. Copy URL

Users can copy the URL of the selected Version package from the toolbar options by using the "Copy URL" option.

18. Smart Editor

This feature provides advanced editing options for all rich text fields of the selected work items.

19. Link work items

Users can view, add and delete work item links from the 'Add links' option in the right panel.

20. Create 'Package Templates' for Version Package

A tab named "Package Template" is now provided on the main browse page of version package module which can be used to create new meta templates to for creating a version package or one can choose to edit the default system templates and perform "Save As" to use them.

a. Package Template Tab:

The following options are given on the "Package Template" browse page:

1. **New Template:** By using this option, users can create new meta templates.
2. **New Folder:** By using this option, users can create new folders under "Meta Templates" node.

3. **Delete:** By using this option, users can delete an existing template/folder. This option is given in the context menu of both meta templates and folders.
4. **Rename:** By using this option, users can update the name of an existing meta template or folder. This option is given in the context menu of both meta templates and folders.
5. **Refresh:** Users can refresh to get the latest templates or updated templates from the server.
6. **Edit:** Through this option, the selected template will be opened in "Template Designer" view and user can update or view the template settings.

b. **Template Designer:**

The following options are given on the "Template Designer" tool bar:

1. **Save:** By using this option, users can save the changes into the template.
2. **Save as:** By using this option, users can reuse the existing templates. It will create a copy of the original template.
3. **Add sibling work item:** Users can add a work item as a sibling of the selected work item node.
4. **Add child work item:** Users can add a work item as a child of the selected work item node.
5. **Up:** By using this option, users can move a work item node to up in the hierarchy.
6. **Down:** By using this option, users can move a work item node to down in the hierarchy
7. **Delete:** By using this option, users can delete a work item node from the hierarchy
8. **Copy:** By using this option, users can copy an existing work item or work item hierarchy.
9. **Paste:** By using this option, users can paste the copied work items in the hierarchy.

For every selected work item node in the left panel, users can configure multiple settings from right panel like Work item type, recursive, default and show properties etc.
(Note: It is mandatory to add at least one work item under the "General Settings" node and define "Alternate link type" under "General Settings" node.)

Smart Docs

1. Change Request

1. Meta template designer window is replaced with browse p...

For meta template designer, we have recently introduced an enha...
more user-friendly and organized browsing experience. This enhancement introduces a
'browse page view' that separates the list of templates into two distinct sections: "Smart
Docs templates" and "Template Designer."

Under the "Smart Docs templates" tab, users can find a comprehensive list of templates.
This separation allows for better categorization and organization of templates. Users can
now access, update, and edit options for templates and folders through their respective
context menu options. Additionally, general 'create' options are conveniently available on
the toolbar, providing quick access for users to create new templates and folders which
users can now create without navigating away from the current view.

To enhance search capabilities, users can perform searches within the list of templates. This
feature enables users to easily locate specific templates based on their search criteria,
improving efficiency and productivity when dealing with many templates.

a. Tool bar arrangement

When a template is selected, the view switches to the "Template Designer" section. In this
view, the toolbar options have been re-arranged and consolidated into a single toolbar,
optimizing the available space, and improving the user experience. With a streamlined
toolbar, users can easily access the necessary options and functionalities while working with
the selected template.

The template view now consists of only two panels, providing a clean and focused interface
for designing and modifying templates. This layout aims to enhance usability and reduce
distractions, allowing users to concentrate on creating or editing their templates efficiently.

b. Breadcrumb path

A breadcrumb path feature has also been introduced to facilitate navigation within the meta
template designer. Users can navigate between the list of templates, folders, or directly
return to the Smart Docs templates 'browse page' view, where all templates are listed
within their respective folders. This feature enables users to maintain a clear understanding
of their current location within the template hierarchy and easily move between different
views as needed.

2. New Features

1. To add a cross-reference for work item(s) in their HTML fields within the Smart Document

Users can now add a cross-reference for work item(s) in their HTML fields within the Smart
Document only on the Document tab by placing the cursor where the user wants to insert a
reference after selecting the reference type from the cross-reference tab. On the cross-
reference tab, there are two other tabs (i) Insert (ii) All References

Insert:
On an "Insert" tab, the user can choose the type of reference from the dropdown as "Numbered item", "Table", and "Image". Users can hyperlink their references to navigate to the targeted point by checking the "Insert as hyperlink" checkbox and users can differentiate between the same referred items under two different work items by checking the "Append parent numbering" checkbox. On selecting this checkbox, the numbering of a parent will be appended before the reference point ("0" will be appended for the root work item).

All References:
All the references of the selected work item are listed in this tab in tabular form and the user can delete the reference from this tab as well from the grid by deleting a reference with the "X" icon, shown on hovering over the reference point.
The table has 2 columns "Reference" and "Reference to".

Reference: <The number of the referred item e.g. [1], [2],[a],[[1]] etc., and for the image and table case Table/Image captions are shown>

Reference to: <The targeted reference with the appended parent numbering and for the image and table case, hard coded text <Table>/<Image> is shown respectively>

2. To open a "Smart View" pop-up from the context menu

Users can now invoke the "Smart View" pop-up from the context menu of the Smart Docs work item. The pop-up always appears/comes up with the current version of the work item. This is only invoked from the "Document tab".
From Smart view, users can perform comparisons for different work item field(s) data on different revisions of work item.

3. Support to add "Approval Signature" details in Smart Report

Users are now able to add approval signature details in the Smart Report generated from Smart Docs version using "Generate Report including Signature" option on "Generate Report" button. Note, this new option will be available only for those Smart Docs version(s) which were created automatically by the system when review was initiated from here. Further details are added under the Smart Report section below.

3. Tool Enhancements

1. **Document properties - Map 'Document' work item type fields to the exported document (Microsoft Word or PDF)**

   Users can now directly map the field(s) of a Smart Docs file/root work item into the exported document (Microsoft Word/PDF). The type of a Smart Docs file/root work item must be 'Document' in the Azure Process Template. Also, the fields which need to be mapped must be defined in the Microsoft Word template that is being used to export data into the document. Kindly note here, the field must be added into the MS Word template keeping the same field name as similar as defined in the ADO process template.

   By having this support, users don't need to add field(s)/document properties in the 'Document Properties' window (option available on a toolbar) again & again for each Smart Docs file. The MR system will automatically pick data from the 'Document' work item fields and export to the document.

   Additionally, one system-defined field is added in the MR admin panel under 'Document Define Properties" section named as 'Approver Details'. This is a collection type field and will be shown in form of a table consisting of two columns 'Approver', and 'Role'. Note, if this is defined in the MS Word template with the same name as added in the MR admin panel then this field data will only be populated into the document if exported from the Review module or Smart Docs – Review version.

2. **Default project area path in meta/document templates**

   When a meta/document template is used across projects then for area/iteration path fields, the system will now be performing an implicit best-fit approach where the respective project names will be used as the first node of area/iteration paths and matching will be performed onwards between source and target projects area/iteration paths, until wherever the nodes match it will be picked and set as default area/iteration path under "Default properties" section for respective target meta/document templates. If none of the value matches, then the project name will be set. However, users can configure to set any other area/iteration paths as well as per their requirement.

3. **To eliminate redundant message prompts or red highlight for the same work item when changing other work item(s) type**

   Whenever users change the type of work item(s) and the message displays on Smart Docs grid or highlights the work item, the message and highlights will now be shown only one time and will not be shown every time the same Smart Docs file is opened, refreshed, or any other work item type is changed.

4. **Froala Version Integration**

   Users can now have a better experience with functionality with Froala's latest version integration in Smart Docs with some bug fixes.

5. To open and update the associated template of Smart Docs file

Users can now view and update the associated template of Smart Doc file from the toolbar options "Open Template" and "Update Template" respectively. On clicking the open template option, the meta template designer (opened template view) browse page will open on the respective selected opened Smart Docs file in new tab of same browser, and on clicking the update template option, the existing update template window will open with same functionality as it is currently, but only the associated template of the respective opened Smart Docs file will be shown.

Word Import

1. Change Request

1. Word Import - Import Microsoft Word Paragraph as work item type

Users can now import the paragraph(s) as individual work item into the Smart Docs. In the middle panel of Ruleset Designer tab, a new option 'Paragraph' is added along with 'Headings' option.
Using this option, a user can provide the mapping details in the right panel for paragraph mapping such as Work item type, link type etc.

Note: You'll see a check box "Import Paragraph as" (under 'Additional Options' section) is checked by default and a value" Divide into sub-paragraphs" is set in it. This is provided since in Azure DevOps, a work item title characters limit is set to 255 and a paragraph length could exceed from it therefore, in this section, a 'Title' field is configured by default with up to the '255' characters and additionally, a user can configure any other HTML field in order to map the remaining content of a paragraph into this field if exceeds from 255 characters limit.

2. New Features

1. Ruleset Designer – Middle Panel: Additional features
    i. **Drag & Drop**
    ii. **Move**
    iii. **Copy/Paste**

Users can now drag and drop any node (Heading/Paragraph/List/Table) or move (indent/outdent) without breaking any rule or condition. Drag and drop and move functionality will only work on those nodes where the rules are satisfying the condition or hierarchy.
The paste button is now only enabled on those nodes where the rules are satisfying the condition or hierarchy and shows disabled on those nodes where the rules are not satisfying the condition or hierarchy. Now users can paste any node more than once where the rules are satisfied.

3. Tool Enhancement

1. To map the "Ends with" condition at the heading level from the specify additional condition dropdown in Ruleset Designer tab

Previously, only one condition 'Starts with' was provided at heading level. Now, more conditions are provided such as "Ends with", and "For all."
The "Starts with" text box is replaced with the dropdown box, and under the dropdown, three fields are shown ("Starts with", "Ends with", and "For all"). Users can now set the "Ends with" condition on any heading level, since it works the same as the "Starts with" functionality. "For all" is replaced with the (*) condition and when "For all" is selected from the dropdown the text box in front of the dropdown is shown disabled (this condition will only be fulfilled from the UI level, from the backend (rule file) the * is defined).

4. Bug fixes

1. Fixed an issue in word import where incorrect mapping was shown when configuring an additional list "starts at" and "ends at" property.
2. Fixed an issue in word import where the work item was being mapped even when the condition defined in use content is incorrect.
3. Fixed an issue in word import where wrong message was showing for same name ruleset files.
4. Fixed an issue in word import where inconsistency was showing on the button "positions", "size", and "spacing" in "Delete", "New", "Save As", and "Rename" popups in the Designer tab.
5. Fixed an issue in word import where "Ignore this row" button was showing disabled if it has a column.
6. Fixed an issue in word import where the description was deselected from content map to property on changing work item type in "heading/list" but if a work item is selected in which that field does not exist, then it was displaying as blank.
7. Fixed an issue in word import where the tooltips (the respective option name) were showing on hovering the mouse over the toolbar options in the Designer.
8. Fixed an issue in word import where switching to ruleset designer, the first ruleset file was showing selected.
9. Fixed an issue in word import where the field dropdown was not updated, and no field is shown selected when the work item type is changed at table level.
10. Fixed an issue in word import where the heading hierarchy as sibling was not supported in backward direction.
11. Fixed an issue in word import where the work item html fields were not showing in additional list options on changing the work item type the second time.
12. Fixed an issue in word import where the heading was being added as a child of the list.
13. Fixed an issue in word import where on deleting the selected "usecontent", the work item type and "usecontent" dropdown is stuck.
14. Fixed an issue in word import where the button size was inconsistent with the delete dialogue box on "usecontent" level.
15. Fixed an issue in word import where the rules panel configuration was retained even after deleting the nodes.

16. Fixed an issue where the "ID", "Type" fields along with toggle buttons and "Title and Description" field were not showing on the right panel under "Column options" tab, and when tried to add fields, the field dropdown was showing empty.
17. Fixed an issue where the Description was not showing on the grid when any parameter in it is deleted from configure parameter pop-up window and on performing comparison between different versions of smart docs, the unchanged text was showing strikethrough on compare tab.
18. Fixed an issue where the Table & Cell style dropdown was not retaining the dropdown menu when we use a dropdown scroll through a mouse click.
19. Fixed an issue where the broken image was showing in the Smart Editor on copying the images with copy image option.
20. Fixed an issue where the user is unable to update the work item title in smart docs grid when the work item title field is defined in Chinese within the process template.
21. Fixed an issue where the Smart Report was displaying the value of the parameter for the current version, instead of showing the parameter value of the selected version.
22. Fixed an issue where work items are not being added and an error message is prompted in smart docs file created using a meta template when user renames the project, the file was created in.
23. Fixed an issue where incorrect value of "Assigned To" field was showing on smart docs grid instead of the value set in meta template from template designer.
24. Fixed an issue where an error message was prompting on generating "Smart Report" or "Save as Word" from the tool bar if "Created By" field was configured from "Document Define Properties" section in admin panel.
25. Fixed an issue where line break in a test case step was not visible in the steps table on smart docs grid.
26. Fixed an issue where "Save as word" from tool bar and smart report was not generating when any added field was deleted in "Document Properties" pop-up from the tool bar.
27. Fixed an issue where on compare tab, the text is showing in red color on comparing two versions (old and current) without having any changes in the work item description between the two versions.

Review Management

1. Change Request

1. Merged 'List View' and 'Smart Docs View' tabs into a single tab 'View' tab To open a review created from different module under single tab as "View tab"

Previously, there were two different tabs (List View & Smart Docs View) in Review module for showing review data created either from Review/Baseline/Queries tab or from Smart Docs module along with the details tab.
Now, List View and Smart Docs View tabs are merged into a single tab named as View tab.
Now, onwards only two tabs will be available as mentioned below.

a. View tab

Since there are different areas other than 'Review' module from where a review can be initiated such as ADO Queries tab, Smart Docs, Baseline, and Version Package. Now, the review work items will be shown only under a 'View' tab irrespective of from where this was initiated however, the layout view will remain intact as similar as in the source.
For example, if review is initiated from Review/Baseline, or Queries tab then work items will be shown as flat list whereas, if a review is initiated from Smart Docs, or Version Package then work item hierarchy will be shown along with the configured fields data in Smart Docs/Version Package.

Additionally, a new field 'Created from' is added under 'Details' tab so that user can get details of from where the review got initiated.

b. Details tab

Secondly, in the Details tab, additional information regarding "Created from" is also shown so that users know from where the review was created.

2. New Feature

1. Support to add "Approval Signature" details in Smart Report

Users are now able to add approval signature details in the Smart Report generated from the Review module using the "Generate Report including Signature" option on "Generate Report" button. The signature approval details are only shown in the case of an approver in the review. Further details are added under the Smart Report section below.

3. Tool Enhancements

1. MR Credentials for Approver

When performing approval on work items for a review, users will be allowed to use only MR Credentials instead of a Personal access token (PAT). This option is provided in the Admin Panel under the Review tab, as mentioned in the Admin Panel section defined above.

2. Allow to perform "Submit Review" only once when the review is marked as complete

After submitting a review remark, previously users were not able to submit further remarks, but currently multiple remarks can be submitted, so once a user marks a review as complete, the "Submit Review" option is disabled, and no further submit review can be done.

3. "Submit Comment" option

Users can now see the Submit Comment option provided on the response tab in the right panel depending upon the configuration set in "Submit Comment" section added in the admin panel under the Review tab, as mentioned in the Admin Panel section defined above.

4. Bug fixes

1. Fixed an issue where Reviewed/Approved flags were not showing on the Smart View pop up under the "Revision" column.
2. Fixed an issue where inconsistent link was showing with "Start your review session" hyperlink button.
3. Fixed an issue where Response panel button was showing disabled for the initiator on create review when initiator is also added as reviewer.
4. Fixed an issue where Clear Due Date Reminder email was not received.
5. Fixed an issue where duplicate review actions were showing in the review action drop-down and admin panel.

Smart Report

1. New Features

2. Support to add "Approval Signature" details in Smart Report

Users are now able to add approval signature details in the Smart Report generated from either Smart Docs version or Review module using "Generate Report including Signature" option in Smart Report using 'Generate Report' button. The signature approval details are only shown in the case of an approver in the review.

The approval signature details include three different sections such as follow:
i. Document approval
ii. Summary of individual Approvers along with their Signature details
iii. Details of individual Work Item Signature

These sections include the information such as Verdict (Approved, Rejected, Pending), approver username, email id, role (specified in a review), and date of the latest of the approved/rejected approvals or review closed date.

2. Tool Enhancements

1. Support "Attachment" field of work item in the Smart Report

Users shall be able to see the "Attachment" field for all the work items in the Smart Report. Under this field, any attachment, such as an image, document, or any other file, shall be shown. Images present in the attachment shall be visible if the user clicks on the preview attachment checkbox while creating the smart part. By clicking the attachment file, it will get downloaded.

2. Support for viewing data in specified order as defined in the Smart Part

Users can view data in the specified format in which the section or sub-sections have been defined in the Smart Part, irrespective of the input order that has been provided by the users. This functionality is implemented in all the modules, including the extension points.

3. Aspose Version Integration

Users can now have a better experience with functionality with Aspose's latest version integration in Smart Report with some bug fixes.

3. Bugs fixes

1. Fixed an issue where template formatting such as header/footer and title page formatting was disturbed on 'Save as Word.'
2. Fixed an issue where template indentation for text and tables was disturbed on save as word.

3. Fixed an issue where report was generating in html when same name template was reuploaded.
4. Fixed an issue where extra line breaks were added on Save as Word if data was entered via ADO.
5. Fixed an issue where extra line breaks were added in multi-level list data on Save as Word.
6. Fixed an issue where extra line breaks were added in the text on Smart Report and Save as Word.
7. Fixed an issue where the width of an image was set as small in description field of a work item, but it was displaying as full-size image on Save as Word/ PDF.
8. Fixed an issue where on downloading test step run attachment thumbnail image, original size image was not showing.
9. Fixed an issue where the designer window was getting stuck on saving any file when opening the filter popup after using the make table option.
10. Fixed an issue where the save button was enabled on just clicking the filter option.

Trace Analysis

1. Change Request

1. **A new option 'Test Reporting' is provided to create a Test Case API based Horizontal Matrix – Removed Test Case API virtual work item types from 'Work item type' and 'Query' options of Horizontal Matrix**

   Previously, the Test API was supported from **Work item type** and **Query** type options available under the Horizontal matrix. All the work items including virtual work items were shown in the drop down.

   Now, a new option, " Test Reporting," is introduced to create a test report from the trace analysis module under the horizontal matrix type. Users can create test case reports by using this separate option available only for test reporting. Users can generate reports on the selected test plan and its associated one or more test suites from the available options.
   Users can simply include or exclude work items to be shown in the report from the already provided work items in the editor tab by checking or unchecking the checkbox against each work item.

   Secondly, in the column option, only selected work item fields are shown now instead of all the fields associated with all the work items in a project.

   a. **Backward compatibility support for previously created Test API files**

      Users can still access the existing files which were created previously using test case API from Work item type/Query options provided under Horizontal Matrix. The files can be opened in the Editor but in read-only format so that changes cannot be made in the respective file.

2. New Feature

1. **Support to generate horizontal matrix on "Version Package" files**

   Users can now generate a traceability matrix by using version package file under the horizontal matrix→Query type. Version package file is shown under the "Select Query" drop down like the Queries options. Users can select any package file under any folder and generate the matrix accordingly to the work item configuration. Similarly, users can generate Smart report on the generated trace data.

3. Tool Enhancements.

1. **Performance optimization for Test Case API**

   Users can now experience much better performance when generating test report using Test Case API.

4. Bug fixes

1. Fixed an issue where extra rows were appearing at Horizontal Matrix grid if the link type is selected as child against feature work item.
2. Fixed an issue where all link types were showing in the drop down instead of "Any" if all links were selected.
3. Fixed an issue where sorting was not applied to the numeric type fields in the horizontal matrix.
4. Fixed an issue where horizontal scroll bar was getting truncate/disappeared in the horizontal matrix on large data.
5. Fixed an issue where 'Unable to export file' message was appearing on doing export to excel on large data.

FAQ

1. New Features

1. ### Copilot4Devops for FAQ

   "Copilot4DevOps" feature can be accessed in FAQ module as well as it is provided on the tool bar. This feature is helpful in generating questionnaires for a given topic from scratch or for an existing FAQ file, additional questions/answers can also be generated and added then and there.

   Through this feature, users can add a "Topic" to elicit, which in turn will display data in the following two panels respectively:

   1. Left Panel: In the left panel, all the questions for the entered topic are generated and displayed and users can select any question to view its respective detail in right panel. Users can also check to publish the answer to selected question as a work item in ADO project/team and in FAQ module as well.
   2. Right panel: In the right panel for every question, "Question", "Question Explanation", "Answer" and "Summary of answer" is generated and displayed.

   Users can choose to select question and insert in FAQ file through the "Insert question" option and can also choose to insert and publish answer through "Insert question & answer" option, upon which users can select "Work item type" to publish the answer to ADO project and select "Work item field" to add summary of answer in. Tag(s) can also be added for the work item being created and published. It is up to the user to add question and its explanation in the work item through the check box setting.

Baseline

1. Tool Enhancements

1. Support to Rollback work item(s) and Merge baseline on Read-only fields

Users can now perform rollback work items and merge baselines on read-only fields defined in the process template. Read-only field can be defined in the admin panel as mentioned in the Admin panel section above. Fields defined in the respective section will not be considered while performing Rollback or Merge baseline, and the operation will be completed successfully without any halt.

2. Bug fixes

1. Fixed an issue where invalid text was showing with the Project URL in the difference report.
2. Fixed an issue where Work items ID, type, title, rev-ID, comp-rev ID was showing null when applying sorting/filtering or scrolling down on bulk work items.
3. Fixed an issue where Merge successfully message was showing even though the updates do not happen to the work item(s) in the target project.
4. Fixed an issue where work items from the previously deleted baseline were showing on the compare tab when creating a baseline with the same name as the deleted one.
5. Fixed an issue where bulleted list and numbered list was not visible with the description text on the Smart View mode pop up.
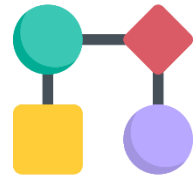
Reporting

1. Tool Enhancements

1. **Support to apply clear formatting and add line spacing through editor toolbar**

   Users can now clear all the formatting applied to the text entered in the editor using the "Clear formatting" option available on the toolbar, while they can also apply line spacing to add space between lines and paragraphs as per their needs.

Use Case

1. Tool Enhancements

1. **The root work item of a file having 'read-only' description field will be non-editable**

    If the description field is read-only of a root work item of an associated use case file, then users will not be able to edit the file from MR application and will be prompted with a notification message accordingly.

2. Bug fixes

1. Fixed an issue where the hyperlink was not working or opening in new tab when inserted in any cell on details tab or in any steps.
2. Fixed an issue where the main success scenario heading was getting deleted on pressing delete twice and then back space on a step.
3. Fixed an issue where on pressing back space at the end of the space, the cursor was going back to the start of first step.
4. Fixed an issue where when the user merges two different branches it was merging to the wrong step.
5. Fixed an issue where text was not wrapping properly within the shape when branch is applied on a step.
6. Fixed an issue where an existing use case step was disappearing when we copy and paste a use case step.
7. Fixed an issue where the user is unable to rename the branch name, when adding space character between the name.
8. Fixed an issue where the user is unable to insert a step when step contains a reused usecase.
9. Fixed an issue where the content of the file being created for the first time is shown in another file when press CTRL+Z in the second file.
10. Fixed an issue where the Insert hyperlink window isn't closing when added the information and press Enter from keyboard.

Diagram

1. Bug fixes

1. Fixed an issue where the shape was not appearing on the canvas when clicking on the shapes after search in right panel.
2. Fixed an issue where the connector was not moving with the shape which was within a swimlane after check-in and then edit.
3. Fixed an issue where the path was not detected when connectors directions are changed through property pop-up.
4. Fixed an issue where the link overlay feature was not working properly when applying drill down to shapes.
5. Fixed an issue where the business object shape with applied drill down did not change its color to green on applying link overlay on it.
6. Fixed an issue where the incorrect shape (UML Activity) names were showing on property pop up after applying drill down.
7. Fixed an issue where the title text was being cut off when "Save As Image" is performed and "Smart Report" is generated with swimlane shape.
8. Fixed an issue where "Function" label of swimlane was showing outside of the shape when dragging it from right panel to the canvas.
9. Fixed an issue where links of objects were not showing in right panel in read-only mode when any object (with a link) is selected on the canvas.
10. Fixed an issue where "Save" dropdown was not working for the diagram file and showing continuous loading when drill down is applied, removed or switching to another file.
11. Fixed an issue where shape color was not returning to its initial state when breaking a drill down link.
12. Fixed an issue where additional space was showing with business object shape when the additionally added attribute is deleted from the business object shape.

Simulation

1. Bug fixes

1. Fixed an issue where the common properties changes (like increase/decrease in text size, width, and height etc.) were not being applied on the shape or text in the shape.
2. Fixed an issue where extra white space was showing around the mockup image when inserted as a work item in Smart Docs and on ADO Editor as well.

Admin Panel

1. New Features

1. Configure to show/hide Copilot4DevOps feature in MR

There is a "Copilot4DevOps Organization Settings" section in admin panel under "General Tab" through which users can check/un-check the check box to show/hide the respective feature in "Version Package", "Smart Docs" and "FAQ" modules and in "Queries/Backlog" tabs under work item context menu.

If the check box is un-checked then in case of queries/backlog tabs, the Copilot4DevOps window will open but user will be prompted with a proper message and this feature will not be accessible from there as well.

2. Management of MR approval accounts in Review module

Users are now able to view a list of all accounts that are registered in Review module for the work items approval using "MR Credentials" option. All the registered account(s) will be listed under the section named as "MR Credentials – Registered Account(s) for approval" in Review tab of MR admin panel. Using this section, an admin will be able to remove any registered account from a given list, if needed.

3. Configure settings to store work item data for Version Package module

A new tab has been added in admin panel as "Version Package" for the new version package module. Under this tab a section named "Version Package Metadata" has been added from where users can configure to store work item data as either only "work item ID" or "Meta template configured work item fields" for the respective version package(s).

2. Tool Enhancements

1. MR Credentials for Approver in Review module

In the Admin panel, "Providing approval using MR Credentials" section is now renamed to "Approval Authentication". By selecting the checkbox, users can use both MR Credentials and Personal Access Token (PAT) and on unchecking the box, users can only use MR Credentials for Approval in a Review.

2. Configure to show/Hide "Submit Comment" option in Review module

A section named as "Submit Comment" is added in the admin panel under the "Review" tab through which users can check/un-check the check box to show/hide the submit comment option on the response tab in the right panel.

3. **Support to apply Fix Table Content in Smart Report**

Users can now apply "Fix Table Content" from the admin panel. This will change the table width according to its content irrespective of its width set in Smart Editor/Smart Report. It shall be applicable on the generated Tables, while exporting the document from toolbar (document, compare tab & opened version) in Smart Doc & from Smart Report in all modules.

4. **Support to apply Fit to Window in Smart Report**

Users can now apply "Fit to Window" option from the admin panel. This will change the table width according to the width of the window, irrespective of the width set in the Smart Editor or Smart Report. It shall be applicable to generated tables while exporting the document from the toolbar (document, compare tab, and opened version) in Smart Doc and from Smart Report in all modules.

5. **Support to Rollback work item(s) and Merge baseline on Read-only fields**

Users can now perform rollback work items and merge baselines on read-only fields defined in the process template. Any read-only field can be defined in the admin panel under the section "Disregard Read-only fields for multiple features" that will not be considered when performing Rollback from Baseline, Smart Docs, Smart View, and Merge baseline, and the operation will be completed successfully without any halt.

Document Management

1. Introduction:

Introducing the new Document Management module by Modern Requirements4DevOps (MR4DO). This advanced module brings a comprehensive document management feature designed to cater to the needs of our customers in the DevOps environment.

Empowering users with seamless document and folder upload and organization capabilities, the Document Management module streamlines workflows within ADO and MR4DO. Collaborative work becomes effortless with the check-out and check-in functionality, ensuring smooth version control. The intuitive user interface enables easy viewing, renaming, and removal of documents and folders, providing a streamlined and efficient document management experience for all DevOps users.

Appendix A: Hardware Requirements for Redis

According to Modern Requirements4DevOps, approximate memory usage per user is 477.8495 KB (0.4666 MB). Maximum hard drive space required is 1.5 * (memory size). For instance, in case of an 8 GB RAM, the maximum hard drive space occupied by Redis would be 12 GB.