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MDCMS

Smart Sorting for SQL Entities in RFP

When an SQL entity, such as a view or function, is checked out, MDCMS recursively checks the dependencies in both directions for that entity and automatically sorts it in the RFP so that items that it depends on are compiled first and items that depend on it are compiled after. For a new SQL entity, or for exceptions due to source changes, the developer can continue to override the sort sequence for any given item in the RFP. After upgrading, the cross references would need to be refreshed to bring in the new SQL dependencies.

Object Stamping

The administrator can define, by application, which IBMi object fields, if any, should contain MDCMS information for auditing/reporting purposes. Then, when MDCMS installs an object, some or all of the following information can variably be stored in the service attributes of the object:

- MDCMS Attribute
- Installed RFP
- Original RFP
- Prior RFP
- Application and Level
- Project, Task and Subtask

Timesheet Entry

Hours can now be entered per day and user for Projects, Tasks and Subtasks and the overview can be seen/summarized with various filters. Customizable reports can be defined for automated generation and export.

Temporary Source for Compiles

*TEMP can now be used as the target source library/folder for an application level. When MDCMS is finished with the installation into the level, the source isn't retained externally on the system. However, to allow for rollbacks or promotions to higher levels or other systems, the source is compressed and retained internally within MDCMS.

2 common reasons for doing this:

1. to be able to compile on production systems to avoid level check issues and handle SQL components, but still conform to audit requirements not allowing observable source in production.
2. source is managed entirely in an external source versioning tool such as Git or SVN and is intended to be used on the IBMi only to compile the object before being discarded.

Send Source for Recompiles

If the target system doesn't contain persistent or complete source, the rules for a distribution level can be set to send the source to the target system when the local system performed a recompile. This coincides with the *TEMP usage in section 1.2. Perhaps the local system is the development partition where the source is retained, but the target system is the production partition.

Define Description to apply to Object during Deployment

Any description applied to the object during compile is kept by default. If blank, MDCMS will now automatically apply the description from the object it replaces. This value can be overridden with a different value by editing the Object Request prior to submitting the RFP. This is especially helpful for new objects created from IFS source, but can be used for any system object.

Define Default Member Source Type per MDCMS Attribute

Each MDCMS attribute that has a target source file defined for it can now have a default source type. This value is applied by default when a new member is generated or if MDCMS converts source from Git, SVN or other locations into a member.

Separate Archive Generation count for *DATA and *DTAGRP Attributes

Since the size of data migrations may be very large, the number of archive generations to keep for *DATA and *DTAGRP attributes can be defined per attribute. Any value between 0 and 99 is allowed.

Pre-Submit Validation Exit Point

Command Type V has been added as a new exit point that can be added at the RFP level. The defined command runs interactively when a user selects to submit an RFP. The custom program can perform its own validation routines and then indicate to MDCMS if the RFP can be submitted, or why it can't. The exit point program can also provide warnings but allow the RFP to continue.

Project Types

Projects can now be categorized by type. Additionally, project types provide the following rules for the projects that are assigned to them:

- whether or not Tasks are permitted for the Project
- whether or not Object Requests are required to be assigned to Tasks instead of directly to the Project
- whether or not Object Requests are limited to Assigned Users

Project Costs

The cost per hour can now be defined and then multiplied against hours entered at the subtask, task or project level and summarized for reports. The cost to be used for any situation can be customized and prioritized based on any or all of the following criteria: Project Type, Task Type, Project Phase, or User.

Command Wildcards for all Project and Task Fields

The command wildcards have been expanded to include any Project fields that weren't previously included as well as all Task Fields.

Command Wildcards for Custom Fields

A 6-character Wildcard ID can be defined for any custom field. The wildcard ID is then replaced by the value of the custom field at runtime. In the case of MDMAILF email bodies for custom DDL fields, the selected element code and description are included in the email body.

Specify a Different User for Command Execution

Parameter “Run as User Profile” has been added to command definitions. This allows a different user’s credentials to be used during the execution of a command instead of the user assigned to the job description for the Level.

Logging for Object Authority during Installation

The RFP Log has been expanded to track the application of object authorities during the installation process and to trigger a warning condition if authority couldn’t be applied.

MDFTP and MDMAIL Logging moved to Rolling IFS files

Until now, logging of the java services MDFTP and MDMAIL was outputted to a spooled file for the batch job. This made it complicated to find and clean up the logs and system buffering meant that the most recent transactions couldn’t be seen until the job ended. Now, logging goes directly to IFS files, which can be viewed directly from the Services screen, can be set to automatically purge after n days, and the most recent log entries can be seen immediately even while the job is running.

Optionally Set Default Flags for New RFP

The default Delete parameter values for an RFP can now be set using F8 from the RFP detail screen. Any new RFP will use those values rather than the last used values, so that the user can override the values for an RFP without worrying about future RFPs.

View Authorized Users from RFP Manager

When in Submit, Approve or Install mode in the RFP Manager, option U can

be used to see the list of users that are authorized to generally perform the action for the given Application and Level.

Install Date Range Filter in RFP History

The list of RFPs in the RFP History can be filtered to those with a given minimum and/or maximum install date.

Improved Target Attribute Management

The Target Attributes for Distribution Levels can now be managed across many levels at once, filtered by several additional fields, and the option for a specific type of object can be applied across all like attributes for the filtered rows.

Use MDFTP to Distribute Settings and RFPs via FTPS or SFTP

Transfer method MDF added for sending settings and RFPs to SSL FTP or SSH FTP servers on target IBMi partitions.

Distribution Object Override

If certain objects or IFS files, such as configuration files, differ based on the target system, the object that is sent to target system can be configured to be overridden to a different library.

For example, if config.xml is different for each target system, you can use option O=Object Override from Distribution Levels to specify which folder to send from for each system when the file in the default folder for the attribute wouldn't be correct.

Filter Target Locations for RFP Send by any active Status

In the RFP Send screen, the targets can be filtered by special status value *ACT for any active send, which is any location where the installation hasn't occurred yet and the location isn't ignored.

MDUPDSTS Command to automatically update Project/Task Status for RFP

MDUPDSTS is intended to be used as an exit point command for an RFP to update the status for the projects, tasks and/or subtasks attached to the RFP. The status update can be conditional based on what the current status is or isn't.

MDUPDCFLD Command to update Project/Task Custom Fields

MDUPDCFLD is a command that can be used to update the values of custom fields for Projects, Tasks or Subtasks from an automated process.

MDCLEAN Command/Service to Cleanup Temp Libraries/Objects

Until now, the cleanup of no unneeded temporary RFP libraries and data objects occurred once per day during the first RFP of the day. If RFPs aren't submitted very often, or if the first RFP of the day shouldn't be slowed down by this cleanup process, then the command can be scheduled to run whenever desired.

Automatically Refresh X-Analysis Information when RFP is Installed

If instances of the X-Analysis tool from Fresche Legacy are used, they can be linked to MDCMS and updated automatically for objects installed on an RFP.

Project/Task Status Boundaries for RFP Events

An RFP (installation package) event can be blocked for a given level if Projects, Tasks or Subtasks impacted by that RFP Limit are not within the allowed status range.

For example: don't allow the send of an RFP to production until the status for the impacted tasks is at least Testing Complete.

The Boundary settings can be managed in MDCMS, MDOpen or MDWorkflow.

Events that can be controlled by Status Boundaries:

Submit RFP

Approve RFP

Install RFP

Send RFP

Project/Task Status Transition Limits

Limit the list of status codes that a Project, Task or Subtask can currently have when trying to transition to a new status code.

For example: don't allow a task to transition to status Testing Complete unless current status is Ready to Test or Testing in Progress.

Transition settings can be managed in MDCMS, MDOpen or MDWorkflow.

Block Project/Task Status Transition if Required Field values are Missing

If a custom field is marked as required for the current status of a Project, Task or Subtask, and a value hasn't been entered for that field, then MDCMS will block transitioning forward to a new, higher status. Returning to a lower status is allowed.

Required custom fields are marked in a red font in MDOpen and MDWorkflow.

This replaces the requirement to immediately enter values for all required fields when a value in MDOpen or MDWorkflow should be saved, allowing the values to be entered over time during the same workflow step.

JIRA Interface

The interface between MDCMS and JIRA is now complete and has the following capabilities:

- Simple-to-use authorization Workflow for connecting MDCMS to JIRA on a server or in the cloud
- Select applicable JIRA Project Categories and map to MDCMS Project Types
- Select applicable JIRA Issue Types and map to Task Types
- Select applicable JIRA Issue Status Codes and map to Task Status Codes
- Specify which JIRA Issue Status Codes trigger the creation of a task in MDCMS and which are for update only, allowing ability to wait for a task to be created in MDCMS until it's ready for development.
- Map JIRA Users to MDSEC users
- Manually import/refresh all applicable projects, tasks and subtasks from JIRA
- Automatically check for new/changed issues every n seconds with highly optimized MDJIRA background service for minimal bandwidth and performance impacts.
- Select and map MDCMS status codes that trigger an automatic status transition in JIRA

- Block updates to specific status codes for JIRA Projects within MDCMS that require the updates to occur within JIRA
- MDJIRACMT API to easily post a comment in JIRA for an issue from an RFP exit point or from your internal business processes.
- Direct URL navigation from MDOpen or MDWorkflow Project/Task/Subtask to JIRA Project or Issue with a single left-click on the URL icon.

Quickly Change Project/Task Status directly from List Views

Option 8=Chg Status added to the Project, Task and Subtask listings. When entered, a dialog shows the list of any status codes that are currently possible to transition to for a much quicker manual update. This replaces the options Cancel, Close and Reopen.

Specify Different User as Project/Task Requester

When adding or copying a Project, Task or Subtask, the Requester field is now editable in case the requester is different than the user signed on.

Automatic Purging of User Generated Reports

Reports that are generated by users remain in the F11 screen until either option 4 is used to individually delete a report, or, now, when MDCMS automatically purges the information once the report reaches a certain age.

SQL Procedure Management for Modified Programs

If a program is modified, MDCMS checks if any SQL procedures invoke the program and takes care that the procedures remain intact after the new version of the program is installed.

MDOpen

MDXREF IFS Listing

The list of all IFS folders and files can be viewed and searched far faster than within RSE.

The recursive sum of the count and size of all files in a folder is displayed for each folder. The folders and files can be requested for checkout directly from this view.

MDXREF Functions

The following MDXREF functions have been added to MDOpen:

- Objects using File
- Files used by Object
- Up 1 Level in Call Stack
- Down 1 Level in Call Stack
- Fields in File
- Keys in File
- Join Fields in File
- CPYF/OVRDBF Information
- Object Basic and Service Information
- Copybooks used
- Modules used
- Programs using Copybook
- Programs binding Module
- Process Flow Reporting
- Relational Dependencies Reporting
- Procedures Imported/Exported
- Service Programs/Modules Exporting Procedures
- Modules Importing Procedures
- Search for Fields
- Source containing Field

From any of these views, the objects can be multi-selected for checkout.

Import Files from Anywhere as Source for System Objects

When files are selected to import from Git, SVN, the workspace, the local file system, a remote file system, or IFS, they can be requested as objects to deploy to IFS or a remote system, or they can be requested as source for system/SQL objects residing on the IBMi.

If the selected attribute for a request requires a source member, the file is automatically converted to a member for the compile.

Enhanced RFP Rollback

When selecting to Rollback an RFP in MDOpen, the list of objects in the original RFP are listed and can be individually selected for rollback.

Receive RFPs

The receipt of pending RFPs can now be performed directly within MDOpen and Receive History can be viewed.

Manage Spooled Files and MD Reports

Spooled files and MD Reports can now be viewed, managed and exported from within MDOpen. The functions to do so are located in the Session section.

Link to URLs directly from Projects and Tasks


If a custom URL field, or MDWorkflow usage, is defined for a project, task or subtask, the link can be clicked on directly from the list or detail views.

MDWorkflow Functions Managed from MDOpen

The following Project/Task/MDWorkflow functions can now be managed directly in MDOpen:

- Project Types
- Task Types
- User Group Types
- User Groups
- Acceptance Group Types per Level
- Project/Task Status Codes
- Custom Fields
- Timesheet Entry/Overview
- Perform Workflow Test Acceptance/Rejection for RFPs

Define Column order for Primary List views

The  icon has been added to the top of most of the primary list views. When clicked, the user can define the order of the columns in the list by dragging and dropping the column names. MDOpen then persistently remembers the order for that user.

Re-Commit Changes in Git or SVN

If further changes are made to a file in Git or SVN after that file had already been requested in MDOpen, the commit option can be used from within the Git or SVN perspective, or directly on the object request, to update the committed version to match the version in Git or SVN.

Invoke X-Analysis Views from MDOpen

If the X-Analysis tool from Fresche Legacy is also plugged into RDi, X-Analysis graphical cross-referencing dialogs can be opened directly from MDXREF views in MDOpen.

Full Call Stack Up or Down from the MDXREF Object Views

For any object that can call other objects, the full call stack can be recursively displayed.
For any object that can be called by other objects, the full call stack above the called object can be displayed.

Full Files Used or Objects Using File from the MDXREF Object Views

For any object that can use a file, the Full Files Used option can be selected to see all files used by that object and recursively any files used by those files.
For any file, the Full Objects using File option can be selected to see all objects directly using the file plus all objects using files over that file.

Automatic URL from MDOpen Task to JIRA Issue

If a Project, Task or Subtask was imported from JIRA, the user will be brought directly to the corresponding web page in JIRA if they click on the URL icon for a row in MDOpen.

Favorite Options for a List View Row

For each of the major MDCMS and MDXREF list views in MDOpen, the list of favorite options can be defined. Each favorite is then displayed as an icon on each row where that option is currently enabled based on the state of the row. Then, the user can left-click the icon to immediately execute that option for the row.

View Active and Installed Objects simultaneously for Projects and Tasks

Within the Project, Task and Subtask views, checkbox Installed Objects has been added. When true, any active object requests for the project or task will be followed by any requests that have already been installed in order to see all activity from a single view.

Omit Recompile and Update Requests for Projects and Tasks

When working through changes on behalf of a Project, Task or Subtask, it can be helpful to filter out all requests for recompile or update since they don't require any effort by the developer. To enable this, uncheck the box Recompiles in the filter header for the Project, Task or Subtask view.

Left-Click Project/Task Status to Quickly Change It

The Status of a Project, Task or Subtask in the list view can be left-clicked to modify it. When performed, a dialog pops up that displays only the status codes that are currently eligible to transition to.

New Options to List all Projects or Tasks for an RFP

Options Projects and Tasks have been added to the RFP Listing, RFP Send Listing and RFP Installation History. When selected, all projects or tasks impacted by the RFP are listed.

Optimized Dynamic Column Widths for all List Views

The columns of every list view are now dynamically adjusted to provide the

maximum amount of information based on the values in each column to reduce the amount of scrolling necessary as well as to eliminate the need to manually increase the width of a column.

Generate Report of RFP Deployment Log

If the deployment log for an RFP should be exported, the Print or Print including Job Log button can be pressed. The report is then available in the Report Output view for easy conversion to excel and mailing to recipients.


Multi-Select Report and Spooled Output for Deletion

Some or all rows in the Report Output and Spooled Output views can be selected at the same time for deletion to expedite cleanup of reports and spooled files.

Custom Label for Internal Reference Code

The label for the Task Internal Reference Code Field can now be customized in the System i Settings within MDOpen. This label will then display for all task and subtask views instead of Internal Reference Code.

Reset Column Ordering for List Views

When using the  icon to adjust the order of columns in a list view, the Reset button can be used to return the order to the default for the list view.

MDXREF

Field Level Cross Referencing

When viewing the list of fields or keys in a file, or viewing the result list from the field search, a new option is available to list all source containing the field. When this option is taken, MDXREF collects the source for all objects either directly using the file or a logical over the file, along with all copybooks used by dependent programs. It then inspects the code for any non-commented lines containing the field and then presents the results.

Sorting of Libraries for an Application Level

The libraries to be cross-referenced for a level can now be sorted to reflect the order of the library list at run-time. When F8 is pressed to retrieve the libraries from the job description for the level, the sort sequence is applied automatically.

MDXREF then uses the sorting to list the libraries for a given object by library sequence, if MDXREF is filtered to a specific application and level. For MDXREF screens such as Files Used by Object, or Objects Called, the *LIBL value is replaced by the name of the first library in the list containing the object.

1. Limit Source and Object Search Results to 1st Library in Library List

Filter Field 1st in Libl Only has been added to the Search screen to limit the results for a specific object or source member to the first library in the list where that object or member is found.

V- View Service Information

New option V has been added to view the service information for an Object. The initial screen displays the information formatted based on MDCMS-specific object stamping. F9 can be pressed from the initial screen to show the information in the IBM *SERVICE format.

IFS Cross-Referencing

Special value *IFS can be added as a library to XREF for an application level. When built, MDXREF gathers information about every folder and file in the IFS. This information can then be easily searched and viewed from MDOpen.

SQL Cross-Referencing Enhancements

The MDXREF cross reference was enhanced to contain the references of SQL object types *SQLFUN, *SQLMQT, *SQLPRC and *SQLVW where they reference one another. This reference information is used in the SQL smart sorting besides.

Table Definitions with added Flexibility

The Table Definition configuration for Table Objects, Descriptions and References now allow any SQL syntax to generate the column naming.

MDWorkflow

Project Types

Projects can now be categorized by type. Additionally, project types provide the following rules for the projects that are assigned to them:

- whether or not Tasks are permitted for the Project
- whether or not Object Requests are required to be assigned to Tasks instead of directly to the Project
- whether or not Object Requests are limited to Assigned Users
- which custom fields are permitted for the project type

Project/Task Status Enhancements

For each status, the following rules can be set:

- whether or not allowed to be used in projects
- whether or not allowed to be used in tasks/subtasks
- whether or not status can be set automatically
- whether or not status can be set manually, and if so, then by which Group Type

Custom Field Enhancements

2 new field types added – DropDownList and URL.

For DropDownList fields, the elements can be defined as well as specifying for each element the status range for when it is allowed to be selected.

For URL fields, when a value is entered, it can be clicked on from the list or detail views to open the link in a separate browser window.

Additionally, for each custom field, the following rules can be set:

- from which status, the field is visible
- from which status, the field is required
- from which status, the field is editable

- until which status, the field is editable
- whether or not the field value can be set automatically
- whether or not the field value can be set manually, and if so, then by which Group Type
- Wildcard ID

Timesheet Entry

Hours can now be entered per day and user for Projects, Tasks and Subtasks and the overview can be seen/summarized with various filters. Reports can be generated and exported.

Project Costs

The cost per hour can now be defined and then multiplied against hours entered at the subtask, task or project level and summarized for reports. The cost to be used for any situation can be customized and prioritized based on any or all of the following criteria: Project Type, Task Type, Project Phase, or User.

Send Customizable Project/Task Email to Anyone

Button "Send Email" has been added to the Project and Task detail screens. When clicked, any group and/or user can be selected to receive the email, the subject can be edited, additional text can be added to the email beyond the standard project/task information, and the choice to include existing comments can be made.

Set Viewable Information for Common Fields

For the following fields, the user views can be set to code, value or both:

- Application
- Level
- Location
- Project/Task Status
- Project/Task Type

Check MDSEC Authority for Level for Specific Location

Prior to 8.0.1, MDSEC authority was only checked on the location that MDWorkflow is connected to. Now, authority information is synced from all locations to the MDWorkflow location so that each level can have its own authority configuration.

Mark Labels of Required Custom Fields in Red

If a custom field requires a value, its label will be red.

Description Search within Title, Description and Comments

The filter for Project or Task Description will now return a result if found in the title, expanded description or within the comments.