

# WhereScape® RED

## Release Notes

Version 10.4.0.3 | June 2025

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## WhereScape RED 10.4.0.3 Release Update

WhereScape is pleased to announce that WhereScape RED 10.4.0.3 is now available.

This release of RED is compatible with WhereScape 3D 9.0 versions and up.

Note: Before upgrading, review the [Important Messages when Upgrading](#) for more information.

Go to <https://www1.wherescape.com> to see available product versions and release notes for older versions.

Log into the [WhereScape Support Portal](#) to access downloads.

Access the User Guide [here](#).

## New Features and Improvements in RED 10.4.0.3

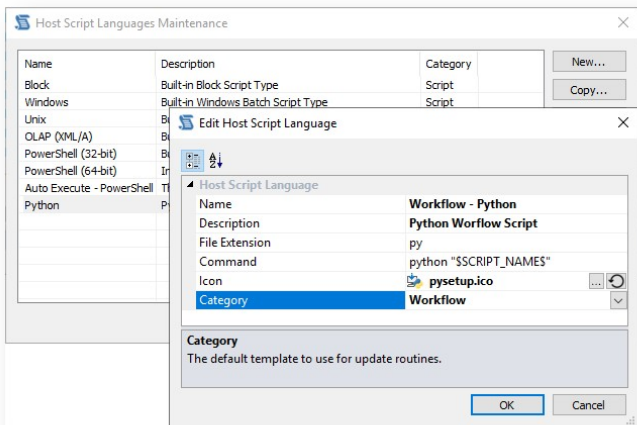
WhereScape presents RED 10.4 a new version of RED. The features implemented in this version are mainly focused on enabling 3rd party integrations with external tools like GIT, but also enhances the UI and enables the ability to add scripted workflows based on the current context in the RED UI.

### Workflow Scripts

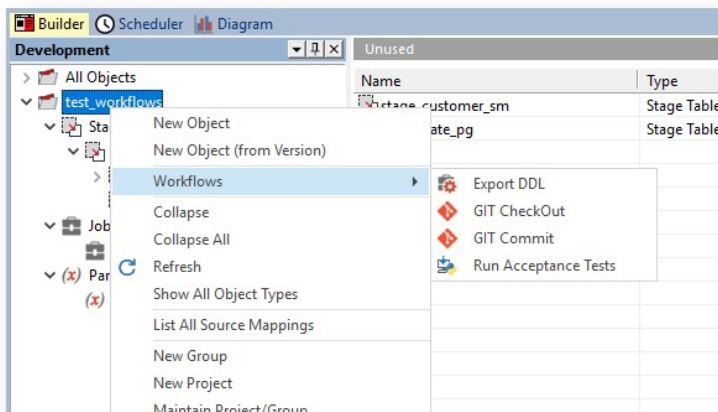
[Workflow scripts](#), when defined, will appear in the context menu throughout the RED UI. When clicking on them in any context menu, the underlying script will be executed and provided with the complete object list contained by the context. This allows for integration scripts to be written that can perform actions on lists of objects, such as: creating deployment applications, checking items in and out of GIT, running external tests on the objects selected, exporting data to catalog tools, backing up scripts to disk and more!

The following changes have been made to support this new feature:

- A new Host Script Language category has been added for Workflow scripts:



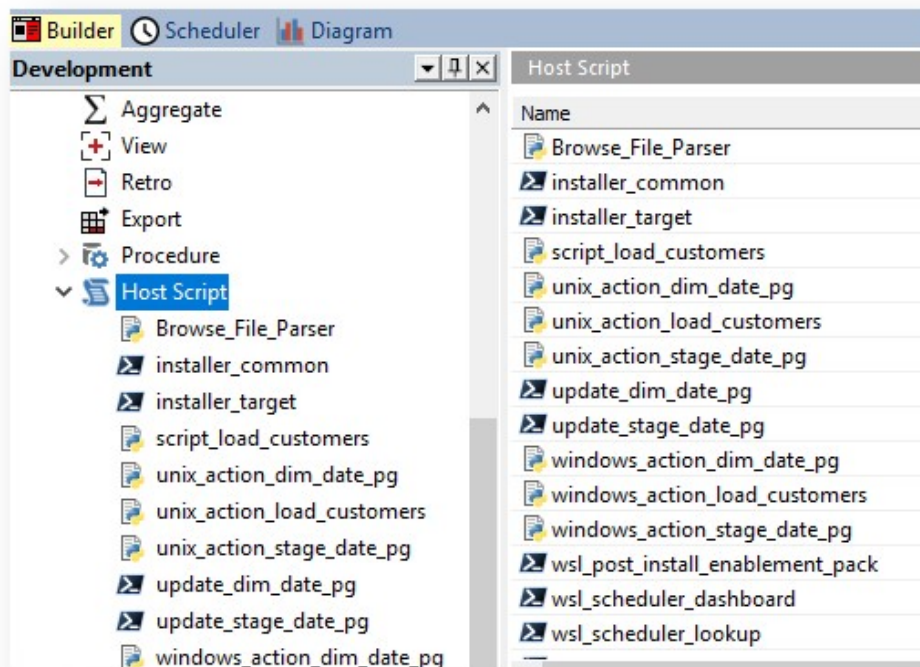
- Host Script Objects assigned to a Workflow script type will appear in most context menus in RED and when selected will execute the script and provide a file containing the objects contained by the context:



In the example results below the Export DDL script contained the example 'Print Context' script from the [Workflow scripts](#) section of the documentation.

Results	
Object	Message
✓ [icon] Export DDL	Printing context
✓ [icon] Export DDL	---- Parsing context file:
✓ [icon] Export DDL	C:\Users\Administrator\AppData\Local\Temp\2\wsla239.objects
✓ [icon] Export DDL	
✓ [icon] Export DDL	---- Context: Project
✓ [icon] Export DDL	---- Project(s):
✓ [icon] Export DDL	test_workflows
✓ [icon] Export DDL	
✓ [icon] Export DDL	Object Name    Object Type
✓ [icon] Export DDL	-----        -----
✓ [icon] Export DDL	stage_customer_sm Stage Table
✓ [icon] Export DDL	stage_date_pg    Stage Table
✓ [icon] Export DDL	
✓ [icon] Export DDL	---- Jobs:
✓ [icon] Export DDL	stage_date
✓ [icon] Export DDL	
✓ [icon] Export DDL	---- Parameters:
✓ [icon] Export DDL	TIMEZONE
✓ [icon] Export DDL	
✓ [icon] Export DDL	

- Host Script Languages can now have specific icons assigned (via Host Script Language maintenance):



## Improvements for 3rd Party Integrations

- [CheckIn/CheckOut](#) feature will now trigger execution of a script, if present, to support GIT integrations. Add script names of wsl\_workflow\_checkin and wsl\_workflow\_checkout to enable this feature.
- Added new endpoints to the RED metadata service, objectsExportByName and jobsExportByName, that export metadata in a GIT friendly format.
- Deployment Application Creation via command line now accepts a specific set of objects to deploy based on the JSON structure that RED Workflow scripts produce.
- RedCli commands on script, procedure and templates now support an 'export-all' option, useful for GIT integrations. Additionally, single export allows specifying a directory for auto creation of the filename and extension for the object.
- Added Scheduler API environment variables to all script executions to support actions like releasing another job via scripts.

## 3D Integration - New Merge Settings for Source Mappings

When deploying Objects with multiple Source Mappings via 3D Export to RED you can now control the merge behavior when updating existing Objects Source Mapping Sets. There is now a new option with three settings when deploying from 3D to RED.

- **Option:** 'Existing Source Mapping Sets will be'
- **Replaced:** [Default] Replaces the entire Source Mapping Set (Source Mappings can be removed in this mode)
- **Merged using Application:** Merges the Sets, resolving conflicts by deploying Source Mappings from this Application - Add and Update.
- **Merged using Repository:** Merges the Sets, resolving conflicts by retaining Source Mappings in the Repository - Add only.

This feature will be particularly useful to organizations with multiple development teams or projects affecting the same objects in RED, allowing them to deploy only the new Source Mappings that they have added and avoid deploying out-of-date changes to existing Source Mappings.

## Other Improvements and Fixes

In addition to the major improvements above please see the following Detailed Changes section for the full list of customer fixes and improvements in this release.

## Detailed Changes in RED 10.4.0.0

The following changes have been implemented since 10.3.0.0

### Improvements

- RRED-11947 A new script category 'Workflow' has been introduced, these script types will show up in context menus and when executed provide the containing context to the script in a JSON format.
- RED-11951 Host Script Object names can now contain spaces and hyphens, this supports human readable display of Workflow scripts in context menus.
- RED-11950 Host scripts can now have individual icons set per host script type, particularly useful for Workflow scripts. New icons have been added to the installer for working with this feature.

- RED-11957 CheckIn/CheckOut feature will now trigger execution of a script, if present, to support GIT integrations. Add script names of wsl\_workflow\_checkin and wsl\_workflow\_checkout to enable this feature.
- RED-11953 Added new endpoints to the RED metadata service, objectsExportByName and jobsExportByName, that export metadata in a GIT friendly format.
- RED-11959 Deployment Application Creation via command line now accepts a specific set of objects to deploy based on a JSON structure that RED Workflow scripts produce.
- RED-11955 RedCli commands on script, procedure and templates now support an 'export-all' option, useful for GIT integrations. Additionally, single export allows specifying a directory for auto creation of the filename and extension for the object.
- RED-11759 Updated the built in Java JRE version to openjdk 11.0.25
- RED-11556 Added merge mode to application deployment for Source Mappings when deploying from WhereScape 3D.
- RED-11942 Add Scheduler API environment variables to all script executions to support actions like releasing another job via scripts.
- RED-12036 Azkaban to RED metadata resilience feature now logs the failure reason during reconnection scenarios.
- RED-11958 RED UI now accepts the Scheduler Script Output Protocol as well as the traditional script output protocol.
- RED-12063 Updated wsl\_scheduler\_profile\_maintenance to include the special row for the Scheduler API profile record.
- RED-12050 Improved wsl\_scheduler\_publish to work with runtime connections that do not specify a work directory.

## Fixes

- RED-11641 Fixed Azkaban Unsupported Object Type error when scripts have [TABLEOWNER].TABLE\_NAME references to Retro Objects.
- RED-12029 Fixed issue where Windows and Linux loads were going through legacy load methods through the UI.
- RED-12028 Prevent legacy GetKey function popups for dimensional models.
- RED-12054 Teradata TPT Routine Load Table setting now exposed via templates.
- RED-12043 Fixed issue where bulk regenerate load scripts fails for Named Targets when load type is not Script Based Load.
- RED-11932 Fixed Azkaban NullPointerException when running loads from Windows or Linux source connections.
- RED-11974 Fixed issue where interactive processing via scripts could fail with "<work\_dir> contains an incorrect path" in some repositories.
- RED-11887 Fixed issue with remapping Filegroups during application deployment with RedCli
- RED-11994 RedDeploy and RedCli now transfer relationships metadata to RED from 3D exports.
- RED-12004 Table properties Update/Custom Type drop-downs now default to the correct type, script or procedure, based on the assigned default template type.
- RED-11935 Fixed RedSetupWizard Target Connection page auto-scrolling issues.
- RED-12015 Fixed UI issues when converting existing Facts to Partitioned Facts in RED 10.3
- RED-12016 Fixed issue where Optional Create Clause was not persisted for Load table objects.
- RED-12047 Vulnerability fix in Azkaban for CVE-2024-53677
- RED-11928 Improved Scheduler Publish and Lookup Scripts to remove trailing slashes in the configured Azkaban REST API URL which could cause job publishing failures.
- RED-12057 Application Create via context menus and Batch Application Creation now includes the Associated Action Scripts of each object in the application. This avoids accidental decoupling of scripts and objects in the target.

- RED-12070 Fixed a performance issue when running scripts from the RED UI in large repositories.

## Detailed Changes in RED 10.4.0.1

The following changes have been implemented since 10.4.0.0

### Fixes and Improvements

- RED-12061 Fixed Azkaban error 'java.lang.Exception: Unsupported Object Type: 12' when processing scripts with references to Dim View objects.
- RED-12088 Fixed performance issue on startup and display of object trees in RED introduced by RED 10.4.0.0 Host Script Icons feature.
- RED-11917 Fixed an issue when deploying User Defined Views from 3D to RED.
- RED-12056 Fixed issue with Revert to Version functionality of Load table objects.
- RED-11542 Improved RedCli Connection List-All command to include Database Type
- RED-12082 RedCli object export-ddl and export-all-ddl now honor the --force arg to allow overwriting existing files.
- RED-12084 Teradata TPT Routine Load Table setting now exposed via templates for all load types that use it.
- RED-12081 RedCli script|procedure|template export - no longer requires the output file name when the new 'directory' arg is present as the output file names are auto-generated in this case.
- RED-12077 Target settings 'Procedure Drop SQL' now works in Named Targets SQL, Teradata and Oracle
- RED-12087 For Teradata Targets - TPT Load has been merged to the TPT Script Load type as in RED 10 every load is script based.
- RED-11931 Fixed an issue preventing the running of standalone Batch and Unix scripts via the Azkaban Scheduler. Note: PowerShell and Python scripts were not affected.
- RED-11846 When dropping objects in RED, the Nested Object Tree View now correctly removes the object from the tree.
- RED-12098 Fixed error when updating object subtypes via the Maintain Object Types screens which could occur for upgraded repositories.

## Detailed Changes in RED 10.4.0.2

The following changes have been implemented since 10.4.0.1

### Fixes and Improvements

- RED-12099 Improved the performance of RedCli operations that use the template engine in Batch mode such as generate-routine and export-ddl. Improved the performance of regenerating Action Scripts in bulk via the RED UI.
- RED-12091 RED Scheduler-util.jar has a new method that allows running RED script objects standalone, for example: running a RED script for success and failure actions in jobs.
- RED-11765 Improved the target mapping page in RedDeploy.exe so that matching targets are auto-mapped.
- RED-11683 RED now allows nesting jobs as tasks of other jobs.
- RED-12093 Improved performance of Linux script execution from the RED UI for large repositories.
- RED-12268 Fixed an issue when generating Action Scripts of objects which had multi-byte characters in the description.
- RED-12275 Fixed an issue with 3D Deployment to RED where procedures on Oracle and Teradata were not assigned the target storage of their associated table object.
- RED-12265 Resolved an issue with adding previously deprecated object types via the Object Maintenance wizard.
- RED-12119 RedSetupWizard.exe now allows creating targets with '#' character for Oracle and Custom targets.



- RED-12094 Improved the performance of displaying object tree views in RED on large repositories with many Groups and Projects.
- RED-12076 Existing objects Table Properties Update/Custom Type drop-downs now default to the correct type, script or procedure, based on the assigned default template type.
- RED-12072 Fixed display issues with the nested object tree when renaming, duplicating, or deleting objects.

## Detailed Changes in RED 10.4.0.3

The following changes have been implemented since 10.4.0.2

### Fixes and Improvements

- RED-12090 Implemented connection resilience for Application Deployment, added two new RedCli deployment args to control this new feature. New deployment args: 'connection-timeout' (time in seconds to wait for a connection, default=60) and 'max-retry-count' (max times to attempt reconnection during the deployment before failing, default 10)
- RED-12266 Fixed an issue affecting target Procedure based routine generation when metadata is on PostgreSQL 17 during 3D deployment to RED.
- RED-12069 Fixed an issue with 3D deployments to RED where the deployment would fail if there were no Load objects included in the deployment XML.
- RED-12269 Fixed RedDeploy issue with target mapping page for 3D created SQL Server target locations.
- RED-12191 Improved template engine performance in the following areas: Code generation from the RED UI, Application Deployment, RedCli Export All DDL command.
- RED-12184 Azkaban now updates the job stats for error warning and info counts, which allows the RED Scheduler tab to correctly signal job warnings.
- RED-11982 Improved RedCli error reporting when there are compilation errors for Procedure objects, these will now show as Target errors in the RedDeploy UI
- RED-11409 RED's plugin for Azkaban now creates unique file names within tasks to support generic Action Processing Scripts being run in parallel.

## Important Messages When Upgrading

When Upgrading from previous versions of RED, the RED metadata, Azkaban metadata or both may need upgrading. For RED the requirement to upgrade is enforced at login when there is an application version mismatch, but it is best practice to validate and upgrade the metadata after every RED application upgrade. Refer to the [Upgrading WhereScape RED](#) section of the RED User Guide for more details.

If there are important updates to the Azkaban metadata these will be indicated in the important upgrade messages that follow. Refer to the [Upgrading Azkaban](#) section of the RED User Guide for more details.

### Important Messages when upgrading to 10.4.0.3

Upgrades are cumulative, therefore you should read all upgrade messages for each version between your current RED version and this version of RED.

## Upgrading RED

### RED 10.4.0.0

- There are no important messages for upgrading RED to this release, but please consider the cumulative upgrade messages below when upgrading.

### RED 10.3.0.0

- There are no important messages for upgrading RED to this release, but please consider the cumulative upgrade messages below when upgrading.

### RED 10.2.0.0

10.2 has potentially breaking changes for upgraded repositories; therefore, upgrades should be tested thoroughly before upgrading production environments:

- All ODBC, Database, Extensible Source Connection and Scheduler Configuration credentials have moved to the RED Profile, therefore each user of RED should generate their own local profile file (see the [user guide](#) for details) to continue using RED.
- For new installs, from RED 10.2+, you will find the wsl\_scheduler\_profile\_maintenance host script under your Host Script's in your RED metadata repository (see the [user guide](#) for details). For upgraded repositories you will need to load this script into RED manually from  
<RED\_Installation\_Directory>\Administrator\Scripts\wsl\_scheduler\_profile\_maintenance.ps1
- All Azkaban components require upgrading and the encrypted Scheduler profile records added to redadmin.ws\_scheduler\_profile (see the [user guide](#) for details) in order for jobs to run.
- Post upgrade it is encouraged to remove all credentials from the metadata since these should now reside in the in-memory session level credentials only. Run the following update on the metadata to achieve this:

#### **Remove credentials after upgrade**

-- Remove credentials from Database, ODBC and Extensible Source connections

```
UPDATE red.ws_dbc_connect
```

```
SET dc_extract_userid="", dc_extract_pwd="", dc_admin_userid="", dc_admin_pwd=""
```

```
WHERE dc_type IN ('D','O','Z');
```

-- Remove credentials from Scheduler Configuration

```
UPDATE red.ws_wrk_external_scheduler
```

```
SET wes_dashboard_userid="", wes_dashboard_pwd="", wes_restapi_userid="", wes_restapi_pwd=";
```

### RED 10.1.0.0

10.1 has potentially breaking changes for upgraded repositories; therefore, upgrades should be tested thoroughly before upgrading production environments. The potential issues after the upgrade are the following:

- Default Routine Template settings might be lost. For object types other than Load and Export these settings have been moved from target connections to the Object Subtypes. During the metadata upgrade process, the first target-enabled connection found is used to populate the new settings under Object Subtypes. If you have multiple target-enabled connections in your repository, the optimal connection may not be used for the settings transfer. Ensure to check the Object Subtypes maintenance wizard after an upgrade to this version and set any

missing/incorrect default routine templates as required. Note: this configuration can be exported from test to production once resolved in test.

- [TABLEOWNER] an \$OBJECT\$ token expansion no longer expands empty schemas to an additional '.' in table names. This means from this release onwards you must specify the actual schema name in target location settings when schema is required on your platform. Ensure to check your target location settings for target connections before upgrading and populate the schema field, if required.

## Upgrading Azkaban

Upgrading Azkaban is currently a manual process, please refer to the RED User guide for detailed [upgrade instructions](#).

### Azkaban 10.4.0.0

- RED 10.4.0.0 improves logging from metadata connection resilience so that the actual reason given by the driver is logged when reconnecting. Additionally, improvements have been made to the RED Job Plugin. The Azkaban Web Server and each Azkaban Executor will need to be upgraded to take advantage of these features.
- RED 10.4.0.1 Minor improvements have been made to the RED Job Plugin. Each Azkaban Executor will need to be upgraded to take advantage of these optional fixes.
- RED 10.4.0.2 Minor improvements have been made to the RED Job Plugin. Each Azkaban Executor will need to be upgraded to take advantage of these optional fixes.
- RED 10.4.0.3 Minor improvements have been made to the RED Job Plugin. Each Azkaban Executor will need to be upgraded to take advantage of these optional fixes.

### Azkaban 10.3.0.0

- RED 10.3 improves the metadata connection resilience in both the Azkaban Web Server component and RED Job Plugin. Each of the Azkaban metadata, Azkaban Web Server and Azkaban Executors will need to be upgraded to take advantage of these features.

### Azkaban 10.2.0.0

- In RED 10.2 Advanced Connect is always enabled and therefore there are new azkaban.local.properties fields (and response.xml tags) required that support this feature. Any automated installation scripts will need to take into account these new fields. Each of the Azkaban metadata, Azkaban Web Server and Azkaban Executors will need to be upgraded to work with this release.

## Azkaban Change history

Change history for Azkaban components requiring upgrades (changes are cumulative):

- 10.4.0.3: Scheduler-util.jar is now thread safe when using generic action processing scripts. Job and task log stats are now updated to RED so that warnings are correctly signalled in the UI.
- 10.4.0.2: Scheduler-util.jar has a new method that allows running RED script objects standalone.
- 10.4.0.1: Standalone Batch\Unix\Linux script support. Fixes for resolving references to Dim View objects.
- 10.4.0.0: Connection resilience logging improvements. Bug fixes for RED Job Plugin. Component upgrades.
- 10.3.0.0: Azkaban/RED metadata connection resilience improvements. Component upgrades.
- 10.2.0.0: New required fields for azkaban.local.properties and installer response.xml for Advanced Connect. Standalone script execution enhancements.
- 10.1.0.1: Log4j components upgraded to log4j2 to resolve logging issues.

- 10.1.0.0: Improvements when canceling running jobs. Component upgrades.
- 10.0.1.0: Added procedure support and long host names fix.
- 10.0.0.0: First release.

### Upgrading Scheduler Integration Scripts

The default scheduler integration scripts are often improved, occasionally these improvements are required to work with a new release. Please refer to the change history below and refer to the RED user guide for detailed [upgrade instructions](#).

### Integration Scripts Change History

Change history for integration scripts requiring manual upgrade (changes are cumulative), upgrades are optional unless marked as required:

- 10.4.0.0:
  - wsl\_scheduler\_publish - Fallback to script run directory when WSL\_WORKDIR is not set. Cleanse API URL by removing trailing '/' before using it.
  - wsl\_scheduler\_lookup - Cleanse API URL by removing trailing '/' before using it.
  - wsl\_scheduler\_profile\_maintenance - Added special row for WSL\_SCHEDULER\_API entry, improved connection ordering in UI.
- 10.3.0.0: No changes
- 10.2.0.0:
  - wsl\_scheduler\_publish - Required upgrade - Advanced Connect feature added.
  - wsl\_scheduler\_lookup - Added version header and removed unused parameters.
  - wsl\_scheduler\_dashboard - Added version header and removed unused parameters.
  - wsl\_scheduler\_profile\_maintenance - New script for maintaining the scheduler profile.
- 10.0.0.3: wsl\_scheduler\_publish - Support for republishing when existing job not found. Improved logging.
- 10.0.0.2: wsl\_scheduler\_publish - Added support for disabled tasks.
- 10.0.0.0: First release.

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### **WhereScape, Inc.**

10801 N Mopac Expressway  
Building 1, Suite 100  
Austin, Texas 78759

[www.wherescape.com](http://www.wherescape.com)