

MarketPlace Solution Tools Guide

PV720 SV100

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MarketPlace Solution Tools Overview

MarketPlace Solution Tools provides OneStream Administrators a suite of features that can be used across different MarketPlace solutions.

Solution Analysis

The Solution Analysis tool provides diagnostic capabilities in the examination of solutions meeting with coding standards on the MarketPlace as well as in general practice. These results provide direction in prioritizing any discovered issues, including a mechanism for pinpointing the location of those issues. Different output formats provide for dissemination of issues needing investigation, including an overall report for presentation purposes. Each analysis is preserved for audit purposes or solution review.

Solution Copy

The Solution Copy tool provides an efficient way to copy an existing MarketPlace solution enabling multiple solution instances to coexist in a single OneStream Application. This will allow flexibility to support how groupings of users manage these solutions and data that need to be segregated to support different business processes. For example, if a OneStream customer wanted to have two completely unique instances of Account Reconciliations to be independently managed by two separate business units, the Solution Copy tool can assist.

The Solution Copy process will analyze the MarketPlace solution and replace all solution-related artifacts with a number appended to each artifact. This includes any MarketPlace based XML files for Business Rules, Cube Views, Dashboards, Data Management, Data Sources, Form Templates, Metadata, and Transformation Rules.

MarketPlace Solution Tools Setup

Prerequisite: Considerations for Location of Development Work

There are two options when building out your MarketPlace Solution Tools solution:

- 1. Build in Production OneStream application.
- 2. Build in a separate Development OneStream application.

When Building in a Production OneStream Application

An advantage of building your solution in your Production application is that you will not have to migrate the resulting work from a Development application. However, there are intrinsic risks of making design changes to a OneStream application that is being used in a Production capacity.

When Building in a Development OneStream Application

A Development OneStream application is the safest method for building out your solution. Prior to the solution configuration and to ensure the identifiers match within the Development and Production Applications and potentially separate Framework database, the Development Application should be a recent copy of the Production Application. Note that the tables for this solution are added to the Framework database and the Dashboards and related Business Rules are stored in the Application of your choice. Once the Development Application is created, install the solution and begin design.

We recommend following this procedure in the creation of your OneStream Development application:

Copy your Production OneStream application and related Framework database to your Development environment. The tables for this solution are created in the Framework database, so a separate Framework database must be created if it is planned to not do this work in a Production environment. This Development version will be used for your project.

Database Server Connections Settings

Changes need to be made to the OneStream Application Server Configuration for users to create and change data in the additional database tables used by this solution.

To edit these settings:

- 1. Start OneStream Server Configuration Utility as an Administrator.
- 2. Select Open Application Server Configuration File.
- 3. Select Database

NOTE: If other MarketPlace Solutions such as Specialty Planning are already in the application, these settings might already be in place.

If a change is necessary, Internet Information Server must be restarted.

Make the following changes:

- Access Group for Ancillary Tables should be Everyone or a group that includes those
 that will edit records.
- Maintenance Group for Ancillary Tables should include a group who will create the
 tables. This is typically set to Administrators or a group that contains a limited number of
 users.
- Other settings highlighted need to be set to True in order to execute table creation via the MarketPlace Solution Tools Dashboards.



Ensure these user group settings include the people who will be working on and setting up MarketPlace Solution Tools tables.

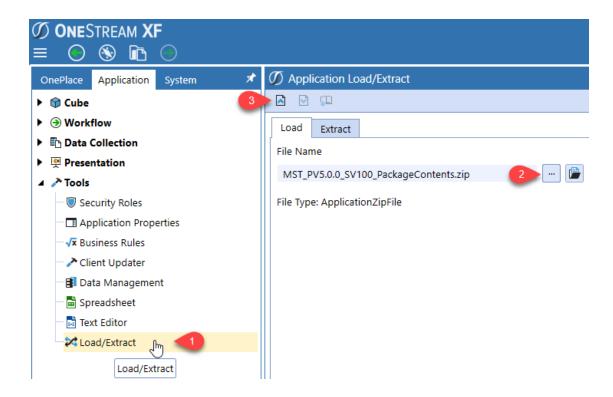
How to Install MarketPlace Solution Tools

First, check the related Release Notes to determine if an Uninstall of the User Interface or a Full Uninstall is necessary and then see that chapter for instructions. If the Release Notes say that an over-install is allowed, then proceed with these instructions from here:

Download the Solution from the MarketPlace. The package is a zip file named MST_PV7.2.0_ SV100_PackageContents.zip. The PV700 number (e.g. 700) represents the minimum Platform Version (for example, 7.2.0) required in order to implement this Solution Version (for example, SV100).

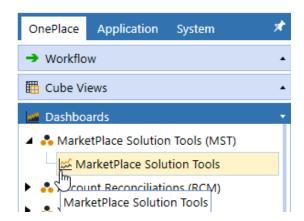
Log into OneStream, navigate to Application Tab > Tools > Load/Extract. Click Select File,

navigate to the zip file, and click Load

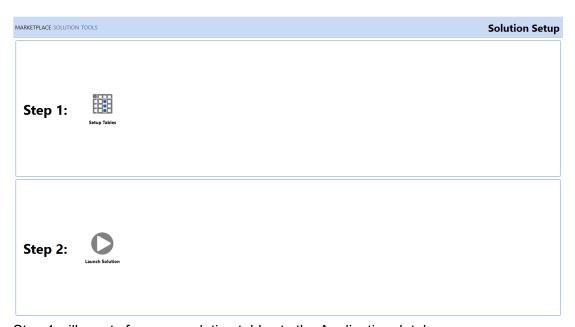


Create MarketPlace Solution Tools Tables

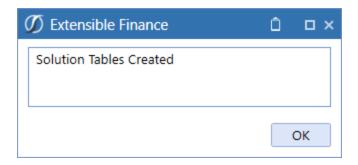
Go to OnePlace > Dashboards and select the MarketPlace Solution Tools Dashboard.



After selecting Marketplace Solutions Tools from the Dashboard, you will be presented with the Solution Setup screen.



Step 1 will create four new solution tables to the Application database.



Once Step 2 is selected and the dashboard launched, this setup screen will no longer appear after selecting Marketplace Solutions Tools.

NOTE: A message that "Solution Tables Created" will confirm completion.

Package Contents

It is not recommended to rename any included Dashboard, Business Rules, etc. unless specified.

Dashboard Maintenance Unit

XFW MarketPlace Solution Tools

This is a Dashboard Maintenance Unit that provides the user interface for the MarketPlace Solution Tools solution. It includes the Dashboard Groups, Components, Data Adapters, Parameters and Files used to build the solution.

Business Rules

MST_HelperQueries: This is a Dashboard Data Set Business Rule. This rule provides a helper query to return the solution instance data set.

MST_SolutionHelper: This is a Dashboard Extender Business Rule that provides various helper functions for the MST solution. These helper functions include management of the solution setup, and configuration settings.

MST_ParamHelper: This is a Conditional Parameter helper function XFBR String Business Rule. This rule is used to provide conditional parameter processing functions that allow a parameter value to be interpreted and substituted with a different string.

MST_SharedHelper: This is a Dashboard Extender Business Rule that contains code common to all Business Rules, such as strings/constants, security functions, or other various helper functions.

Solution Database Tables

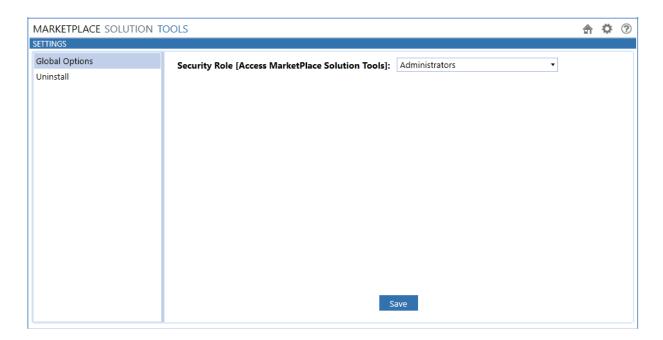
The following solution Database Tables are added to the application database to manage the MarketPlace Solution Tools solution.

- XFW_MST_Analysis
- XFW_MST_AnalysisFindings
- XFW_MST_AnalysisRules
- XFW_MST_ControlLists

MarketPlace Solution Tools Settings



The Settings page contains a page for the Global Options to be applied across this Application.



Security Role [Access MarketPlace Solution Tools]

This tool kit is designed with administrators in mind. The default setting for all solutions is the standard Administrators User Group, but this can be changed. It is important to note that anyone in the Administrators User Group is a OneStream System Administrator and, by default, can perform any of the same duties as any of the individual solution admins. Therefore, OneStream System Administrators will always be able to access and use all solutions within this tool kit.

Uninstall

Allows administrators to uninstall MarketPlace Solution Tools' User Interface or the entire solution. Note that if this is performed as part of an upgrade, any modifications that were performed on the standard MarketPlace Solution Tools objects will be removed.



Uninstall UI -

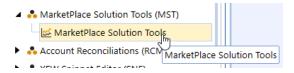
Check the related Release Notes to determine if this step is necessary. For some releases, this step should be performed before accepting any new version of MarketPlace Solution Tools since some of the Dashboards or other objects may have been renamed. This will remove all the related MarketPlace Solution Tools Dashboards. It will leave the data tables intact. If you wish to accept an update to MarketPlace Solution Tools without removing the data tables, this is the option to use. The Release Notes for MarketPlace Solution Tools will indicate if an over-install is supported.



The Uninstall Full button opens a dialog to confirm removal of the MarketPlace Solution Tools solution UI and deletion of all MarketPlace Solution Tools custom tables. Use caution, as this action is not reversible.

Launch Solution

After the initial setup has completed, clicking MarketPlace Solution Tools will launch the Solution Analysis tool.



The default view will be Solution Analysis Page in "Report View". To the far right are two buttons.



The first button is for Solution Analysis the second for Solution Copy. You can proceed directly to Solution Copy if desired.

Using Solution Analysis

There are two steps to the MarketPlace Solution Tools Solution Analysis tool:

IMPORTANT: If the solution contains encrypted Business Rules, providing the encryption passphrase will precede Step 1. If the passphrase does not work for all encrypted Business Rules in the solution, an error in the results section will direct users to the error log in the application.

- 1. Select the MarketPlace solution to be analyzed
- 2. Reviewing the results of the Analysis Report, addressing issues identified



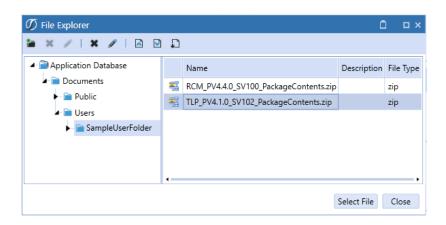
Select/Upload MarketPlace Solution

The first step in the solution analysis process is to select a file to load. Once selected, the file will be scanned to confirm that it meets acceptance criteria.



Click this button to open the OneStream File Explorer window where you can select a

MarketPlace Solution file. Click Upload File to upload a MarketPlace solution to the OneStream File Explorer folder.



When analyzing Solution Copy behavior, if the selected file is not a MarketPlace solution file or is an unsupported file type, no results will be returned. If the selected file is an unsupported MarketPlace solution file, the following error message will be displayed in the Results section.

Results



Copying this Solution is not supported.

The following acceptance criteria must be met for a solution file, such as one downloaded from MarketPlace, to be copied.

- The file is a MarketPlace solution zip file available on OneStream MarketPlace or has similar characteristics. For example, it must contain a Dashboard Maintenance Unit, which must contain at least these four Parameters of the type of Literal:
 - HelpAboutSolutionCode_XXX where XXX is the solution code in the name and in the Default Value.
 - HelpAboutCreateBy_XXX where XXX is the solution code in the name and the name of the company that created this solution is in the Default Value.
 - HelpAboutSolutionTitle_XXX where XXX is the solution code in the name and in the Default Value.
 - HelpAboutSolutionVersion_XXX in the format of PVXXX-SVXXX (for example, PV720-SV100).
- The MarketPlace solution is not on the MarketPlace Unsupported Solutions List.

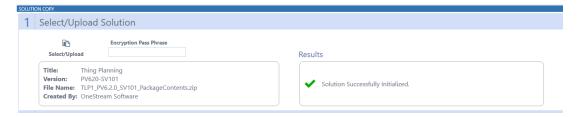
MarketPlace Unsupported Solutions List

Solution Name	Solution Code
Actor Workspace	AWS
App Template - Fiscal Year End	ATFYE

Solution Name	Solution Code
Budget Forms	BFRM
Budget Manager	BMR
Cloud Administrator Tools	CAT
Default Map Templates	DMT
Dim Template - Simple Currency Flow	DTSCF
Dim Template - Simple Single Currency Flow	DTSSCF
Dim Template - US States	DTUSS
Dimension Comparison Utility	DCU
End User Training-Cube Views	EUTCV
End User Training-Excel Analysis	EUTEA
End User Training-Extensible Docs	EUTXFD
End User Training-Report Books	EUTRB
End User Training-Workflow	EUTW
Excel Metadata Builder	MDB
File Explorer Manager	FEM
Forecast Forms	FFRM
Forecast Manager	FMR

Solution Name	Solution Code
Guided Reporting	GRT
Load Test Suite	LTS
MarketPlace Solution Tools	MST
Metadata Builder	MDB
PowerShell Scripting	POW
Provision Request Manager	PRM
Sample Import Templates	IMT
Snippet Editor	SNE
Standard Application Reports	RPTA
Standard Cube View Styles	RPTC
Standard System Reports	RPTS
Table Data Manager	TDM
Tax Provision Starter Kit	TXP
XML Security Remover	XSR

If the solution scan was successful and the solution files met the acceptance criteria, Solution Successfully Initialized will be displayed in the Results section and you can proceed.



Title: The title of the MarketPlace solution.

Version: The MarketPlace solution platform version (PV) and solution version (SV) numbers.

File Name: The MarketPlace solution package contents file name.

Created By: The MarketPlace solution creator company name.

Supported MarketPlace Solution Files with Nonstandard Items

There are some supported MarketPlace solution files that contain non-standard items. For example, improperly named components, DB table names, indexes and constraints that do not contain the solution code. If the MarketPlace solution file contains non-standard items, the following message will be displayed in the Results section and the details of the non-standard items will be written to a OneStream Analysis Report text file specific to the solution file selected. If the solution was created by OneStream, you can proceed to Step 2. Non-standard items for solutions not created by OneStream need to be corrected before proceeding to Step 2.

Results



Click to open the Package Contents Analysis Report text file.

NOTE: The time is written in Coordinated Universal Time (UTC).

OneStream Analysis Report

Date (UTC): 2019-09-09 02:27:48 PM File: ABC_PV5.0.0_SV100_Package.zip

Title: ABC Solution Name Version: PV500-SV100 Created By: ABC Company

Description: ABC

***** Non-Standard Item Analysis *****

The following 4 Non-Standard Items were detected.

File: ApplicationDashboards.xml contained 4 Non-Standard Items.

'HelpFile.pdf'

'DF_XFW_ABV_Fields_Choice'

'ParamFail_AB'
'btn Fail AB'

Report Generated by MarketPlace Solution Tools (MST) Version PV500-SV100 RC16

Analysis Levels

The analyze process reviews the whole solution, looking for individual issues to be assigned into one of three Levels; Critical, Warning or Success. For a detailed breakdown of each rule and their level, please see the attached Appendix.

Critical level issues are of a type that should be addressed in keeping with standard coding practices for solutions. The following issues are considered a Critical Level:

Level	Rule	Description	Examples
Critical	Require Using on	Proper reference will release system resources after use.	Dim dbConnAppA As DBConnInfo
	DataBase Connection		= BRApi.Database.CreateApplicationDbConnInfo(si)
Critical	Unsafe SQL Query	Method query should be used in place of straight SQL query.	FROM [dbo].[XFW_ABC_Fields]
		Command type = Method, Method Type=Business Rule;	WHERE [State] XFBR(ABC_ParamHelper, GetItemsByState,
		Parameters should be resolved within Business Rule.	State=[!ParamitemState_ABC!], Compare=Equal)
Critical	Item requires solution	Component contains improperly formatted solution code suffix	NonStandard1_HMM does not contain '_HOM'
	code in name	within the file name.	
Critical	Solution Initialization Failure	Cannot performed Solution Analysis on encrypted Business Rules.	Encrypted Business Rules are not supported
Critical	Unsupported Solution File Type	Only XML file type are valid files.	Invalid XML file
Critical	Security Violation	Roles, Groups and Users are not supported in Security import file.	Users are not supported in Security import file.

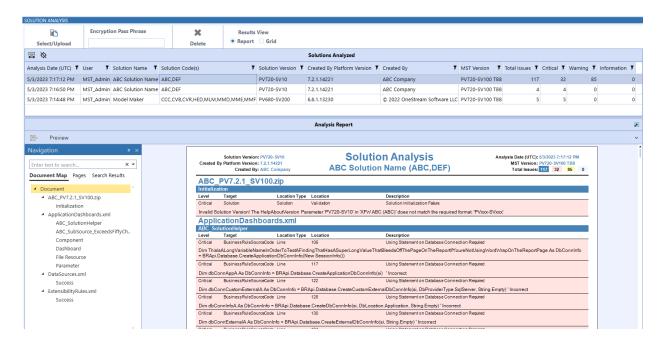
Warning level issues are of a type which should be reviewed for good coding practices but may be acceptable under the particular requirements for that solution. These issues are considered best practice, but their existence may be justified.

The following issues are considered a Warning Level:

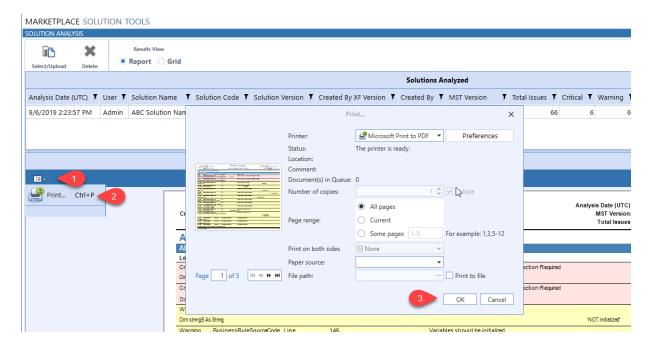
Level	Rule	Description	Examples
Warning	Referanced Assemblies	Unexpected extrenal reference assembly found.	C:\Windows\Microsoft.NET\Framework64\
			v4.0.30319\System.Data.OracleClient.dll
Warning	Development Review	Direct connection to database establlished rather than using Connection Manager.	BRApi.Database.GetDatabaseServerConnection
Warning	External Connection	External connection establihsed.	Dim connectionWebClient As New System.Net.WebClient()
Warning	External Process	External process established, possible performance or security implication.	Dim aProcess As New Process()
Warning	External Reference	Unexpected extrenal reference found.	Dim test As New System.IO.FileStream
			("c:\temp\test.fil", FileMode.Create)
Warning	Function with no Return Type	Return type should be defined for efficiency.	Public Function TestFunctionNoReturnType()
Warning	Variables should be initialized	Variable should be initialzied for efficiency.	Dim stringB As String
Warning	Variable Types should be declared	Variable types should be declared for efficiency.	Dim thing1 = "test1"
Warning	Unused SQL Query	Remove unused SQL Query from parameter.	Non SQL Parameter Command Type that has a
			previous SQL statement.
Warning	Unsupported File Type	Solution Analysis can only be performed on well formed XML files.	Unsupported File Type Detected such as a PDF
			or Zip in the solution package
Warning	Security Warning	Modification to security detected	BRApi.Security.Admin.DeleteUser(si, "UserName")

Analyze Presentation

Once the analysis has completed, the results will be initially presented in a Report format. The report format provides a convenient summary of the results in the top, right-hand corner with color coding indicating severity; Red for Critical and Yellow for Warning. These colors correspond to the Levels in the report. The Navigation pane to the left of the report provides quick filtering upon of specific results.



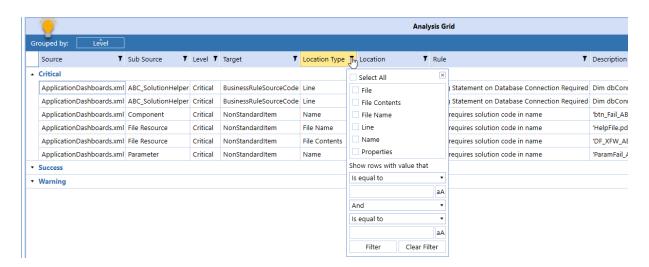
This report format can be printed (PDF, hard copy, etc.) for supporting documentation needs.



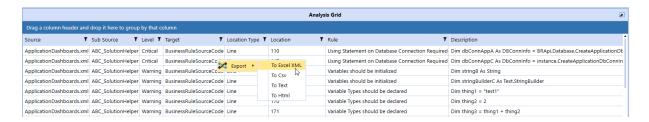
Switching from the default report format into the Grid view is accomplished by choosing the radio button at the top left.



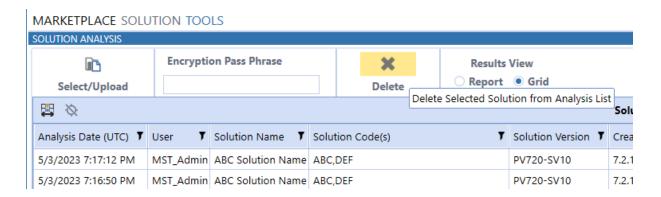
The grid view allows for dynamic grouping, sorting and filtering.



This format allows for Exporting into a desired format for external review.



Results for each analyzed file will be retained until it's decided the results are no longer needed. To remove any results, select the row in the Solutions Analyzed grid and click the Delete button at the top left.



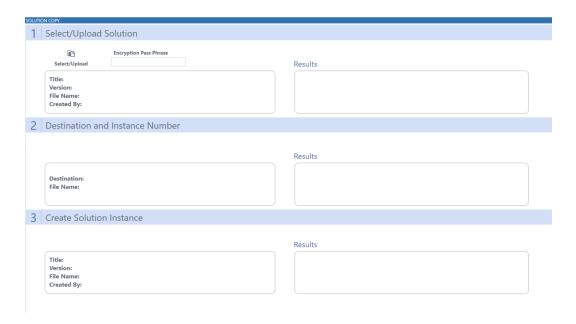
NOTE: The results presented during Solution Analysis will not preclude someone from performing a Solution Copy.

Using Solution Copy

There are three steps to the MarketPlace Solution Tools Solution Copy tool:

IMPORTANT: If the solution contains encrypted Business Rules, providing the encryption passphrase will precede Step 1. If the passphrase does not work for all encrypted Business Rules in the solution, an error in the results section will direct users to the error log in the application for more information. For help with the passphrase, please contact @OneStream Software Support.

- 1. Select the MarketPlace solution to be copied
- 2. Selecting the destination and instance number of the copied solution
- 3. Executing the copy of the solution



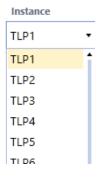
Destination and Instance Number

Step 2 of Solution Copy enables you to select the OneStream File Explorer destination folder that the selected solution will be copied to as well as define the instance number.

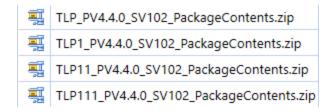


Destination Select Destination to change which folder the selected solution will be copied to in OneStream File Explorer. The destination folder will default to the location of the selected file in Step 1.

Instance:Instance is a selection of available solution file acronyms (1–99) that are used to replace the copied solution file name, including the solution artifacts.



NOTE: You can make copies of solution copies. When you select a copied file, select a different instance number series to be appended to the file name and solution artifacts.



If you select an instance number and a solution file already exists in the destination folder, the file will not be copied, and the following error message will be displayed in the Results section.

Results



File name: The name of the solution file with the instance number appended.

Case Sensitive Solution Code Updates: When **Yes** is selected, Solution Code Instances will only be replaced if the casing matches the Help About Solution Code parameter.

Create MarketPlace Solution Instance

Step 3 is where the copy function is executed and if successful allows the copied solution file to be downloaded.



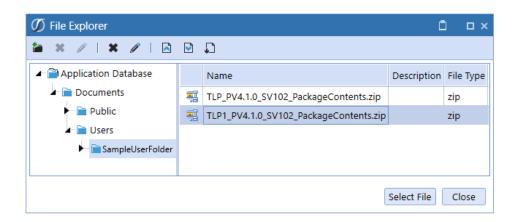
Copy 🛅

The Copy button appears when Steps 1 and 2 have been completed without any errors. Selecting Copy will execute the solution copying process.

Select/Download

If the solution file was successfully copied the Download button will appear. Selecting the Download button will open the destination folder in the OneStream File Explorer. The Download

File Dutton can be selected to download the copied MarketPlace solution.



Help Page

This page contains instructions documentation of the solution.

Solution Database Migration Advice

Solutions copied with MarketPlace Solution Tools can have databases where this migration advice would apply.

A Development OneStream Application is the safest method for building out a solution with custom tables such as this one. Prior to the solution configuration and to ensure the identifiers match within the Development and Production Applications, the Development Application should be a recent copy of the Production Application. Once the Development Application is created, install the solution and begin design.

The process below will help migrate the solution tables properly:

- 1. In the Production OneStream application, install the solution and create the data tables. See the chapter on Setup for Database Server Connection settings and installation details.
- Data tables were created in the OneStream Development Application during the solution installation. Copy the data from the tables to the Production Microsoft SQL Server Database using the Microsoft SQL Migration Utility. This utility should only be run by the Microsoft SQL Administrator.

NOTE: This process has the potential to overwrite existing table data in the Production Application database if data already exists.

The Microsoft SQL Migration Utility and instructions on its use can be downloaded online from: https://sqlazuremw.codeplex.com

Note: This process has the potential to overwrite existing table data in the Production Application database if data already exists.

Optimal Display Settings

OneStream and MarketPlace solutions frequently require the display of multiple data elements for proper data entry and analysis. Therefore, the recommended screen resolution is a minimum of 1920 x 1080 for optimal rendering of forms and reports.

Modifying MarketPlace Solutions

A few cautions and disclaimers when modifying a MarketPlace Solution:

- Major changes to Business Rules or custom tables within a MarketPlace Solution will not be supported through normal channels as the resulting solution is significantly different from the core solution.
- If changes are made to any Dashboard object or Business Rule, consider renaming it or
 copying it to a new object first. This is important because if there is an upgrade to the
 MarketPlace Solution in the future and the customer applies the upgrade, this will overlay
 and wipe out the changes. This also applies when updating any of the standard reports and
 Dashboards.
- If modifications are made to a MarketPlace Solution, upgrading to later versions will be
 more complex depending on the degree of customization. Simple changes such as
 changing a logo or colors on a Dashboard do not impact upgrades significantly. Making
 changes to the custom database tables and Business Rules, which should be avoided, will
 make an upgrade even more complicated.

Appendix: Scanned Rules

The following list is a breakdown of the Scanned Rules and their meanings:

Warning Target Rules

BRDevelopmentReview: Identifies anything calling the BRAPi.Databse.GetDatabaseServerConnection.

BRExternalConnection: Identifies connections to external data providers supported by Microsoft.

BRExternalProcess: Identifies instantiation of an external process.

BRExternalReferece: Identifies external DLL references.

BRRuleFunctionNoReturnType: Applies only to VB.net code. This rule verifies a specific function type for return functions.

BRReferencedAssemblies: Identifies referenced assemblies on BRs that are DLLs.

RuleBRSecurity: Validates BRAPI.Security.Admin, looking for calls such as renaming or deleting of users, groups, or roles.

BRUninitializedVariables: Variables should be initialized. This rule validates initialization when declaring a variable.

BRUnTypedVariables: Variable Types should be declared. This rule indicates that variables should be explicitly typed.

BRUtilizeBRAPi: Functionality exists in the BRAPi and should be used to ensure compatibility. This rule determines if there is a BRAPi that can be used for added security, instead of the API being used.

RuleDPUnusedSQL: Unused SQL query. This rule identifies a parameter that has a SQL query not being used but still in XML.

UnsupportedFileType: Identifies if the .zip file has anything other than an XML file included.

Critical Target Rules

BRStructureType: Use class instead of struct to prevent memory issues. This rule validates that no structs are used to prevent performance issues.

BRUsings: Using statement on Database Connection required. This rule validates the use of statements on database connections.

RuleDPUnsafeSQLQuery: Indicates that a SQL query contains parameters that may be unresolved.

NonStandardItem: Item requires solution code in name. This rule identifies any items within a maintenance unite that does not have the solution code in their name.

RuleSecurityRoot: Security Violation. This identifies OS violations to an import file that has been uploaded.

SolutionInit: Solution Initialization Failure. A failure such as version formatting or incorrect maintenance units has been identified.

UnsupportedSolutionFileType: Identifies an unsupported XML.