



SCENARIO ANALYSIS 123

SETUP INSTRUCTIONS

PV 530 SV 100

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OVERVIEW

Scenario Analysis 123 allows users to quickly create and iterate through several what-if scenarios utilizing different driver-based rules in order to efficiently analyze different outcomes. The solution allows for the creation and management of multiple rules and execution of calculation jobs across scenarios. The solution includes built-in reporting capabilities to compare results across scenarios.

Important Usage Considerations

Following are important considerations for the implementation and usage of Scenario Analysis 123:

Access

Scenario Analysis 123 is not intended to be used within Workflows and must only be accessed using the OnePlace dashboard.

Limit usage of Scenario Analysis 123 to the following:

- Experienced OneStream “Power Users”
- Administrator security role
- Security group with a limited number of experienced “Power Users”

Performance Impacts

Scenario Analysis 123 is not intended for full Entity or multi-Entity hierarchy consolidations spanning multiple periods or years for multiple users. Calculation jobs created using Force Consolidate are intended for base level calculations and small consolidation hierarchies.

The single environment shares resources between the two applications. Testing Scenario Analysis 123 in a single environment that includes Development and Production applications will impact both applications. Coordinate an optimal testing window within your organization to prevent negative impact on other reporting processes performed in the Production application.

When copying base data from one scenario to another, it is important to understand how much data is being copied and whether you need to consolidate the whole Entity structure or multiple Entity structures. Multiple large consolidations in the system may impact each other depending on the environment configuration.

Refer to the consolidation schedules of your organization before using Scenario Analysis 123.

SETUP & INSTALLATION

This section contains important details related to the planning, configuring, and installation of your solution. Before you install Scenario Analysis 123, familiarize yourself with these details.

See also: [MarketPlace Solution Modification Considerations](#)

Dependencies

Component	Description
OneStream XF 5.3.0 or later	Minimum OneStream Platform version required to install this version of Scenario Analysis 123.
OneStream App for Windows	Scenario Analysis 123 is optimized for the OneStream App for Windows which has all the functionality as the browser-based version of OneStream XF.

Select the Scenario Analysis 123 Development Location

Before beginning installation, decide whether to build Scenario Analysis 123 directly in the Production OneStream XF application or in a separate Development OneStream XF application. This section provides some key considerations for each option.

Production OneStream XF Application: The primary advantage of building Scenario Analysis 123 in a Production application is that you will not have to migrate the resulting work from a Development application. However, there are intrinsic risks when making design changes to an application that is being used in a Production capacity and this is seldom advised.



Note: It is strongly recommended to implement Scenario Analysis 123 in the Development environment with a fresh copy of the Production application before starting work.

Development OneStream XF Application: As a Best Practice, use the Development OneStream XF application to build Scenario Analysis 123.

Create the OneStream XF Development Application

1. Ensure all the OneStream XF artifacts relating to Scenario Analysis 123 such as **Scenarios** are in the Production application.
2. Copy your Production OneStream XF application to your Development environment and rename it. This Development version will be used for your Scenario Analysis 123 project.

Application Server Settings

You may need to edit the OneStream XF Application Server Configuration so users can create and change data in the additional database tables used by Scenario Analysis 123. If other MarketPlace Solutions (such as Specialty Planning) are already in the application, these adjustments may already exist.

See also: [Solution Database Migration Advice](#)

Configure the OneStream XF Application Server

Be sure that the security group settings include the users who will be working on and setting up Scenario Analysis 123 before proceeding.



Note: Group settings are applicable to all XF MarketPlace solutions; it is important to keep the group names generic.

1. Start the OneStream XF Server Configuration Utility as an Administrator.
2. Select **Open Application Server Configuration File > Database**
3. Edit the following **OneStream Database Server properties**:
 - **Access Group for Ancillary Tables:** Select a group that includes those who will access records.
 - **Can Create Ancillary Tables:** True
 - **Can Edit Ancillary Table Data:** True
 - **Maintenance Group for Ancillary Tables:** Select a group who will edit and maintain tables.
 - **Table Creation Group for Ancillary Tables:** Select a group who can create tables.

OneStream Database Server properties:

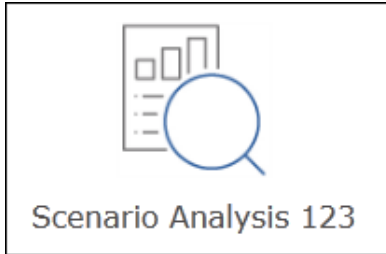
Property	Value
Access Group for Ancillary Tables	DB_ANC_Access_Group
Allow Database Creation via UI	True
Can Create Ancillary Tables	True
Can Edit Ancillary Table Data	True
Database Provider Type	SqlServer
Is External Database	False
Maintenance Group for Ancillary Tables	DB_ANC_Maintenance_Group
Name	OneStream Database Server
Table Creation Group for Ancillary Tables	Everyone
Use File Groups when Creating Databases	True
Use Table Partitioning when Creating Databases	True

Annotations in the screenshot: Blue boxes highlight the values 'DB_ANC_Access_Group', 'DB_ANC_Maintenance_Group', and 'Everyone'. Arrows point from these boxes to 'Read Access' labels, indicating the required permissions for these groups.

4. Restart Internet Information Server.

Install Scenario Analysis 123

1. On the OneStream XF MarketPlace Dashboard, click **MarketPlace > Scenario Analysis 123**.

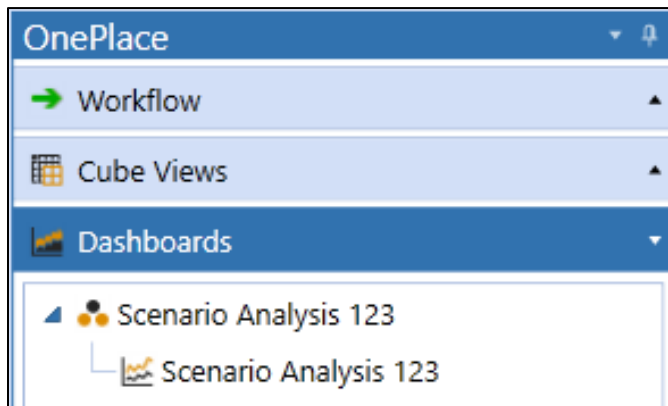


2. On the Scenario Analysis 123 Solution page, select the appropriate OneStream XF platform version from the **Minimum Platform Version** drop-down list.
3. Select the most recent version from the **Solution Version** drop-down list and then click **Download**.
4. Log in to OneStream XF.
5. On the **Application** tab, click **Tools > Load/Extract**.
6. On the **Load** tab, locate the solution package using the **Select File** icons and click **Open**.
7. When the solution's file name appears, click **Load**.
8. Click **Close** to complete the installation.

Set Up Scenario Analysis 123

The first time Scenario Analysis 123 is run, you are guided through the table setup process.

- In OneStream XF, click **OnePlace > Dashboards > Scenario Analysis 123 > Scenario Analysis 123**.



Create Tables

1. Click **Step 1: Create Tables**

This step may be necessary when upgrading even if tables are already present. Scenario Analysis 123 will not drop any tables that already exist but will modify table structures and add any new ones if necessary.



2. When setup is complete, click **Step 2: Launch Solution** to open Scenario Analysis 123.

Package Contents

The Dashboard Maintenance Unit provides the user interface for Scenario Analysis 123 and includes the required Dashboard Groups, Components, Data Adapters, Parameters and files.

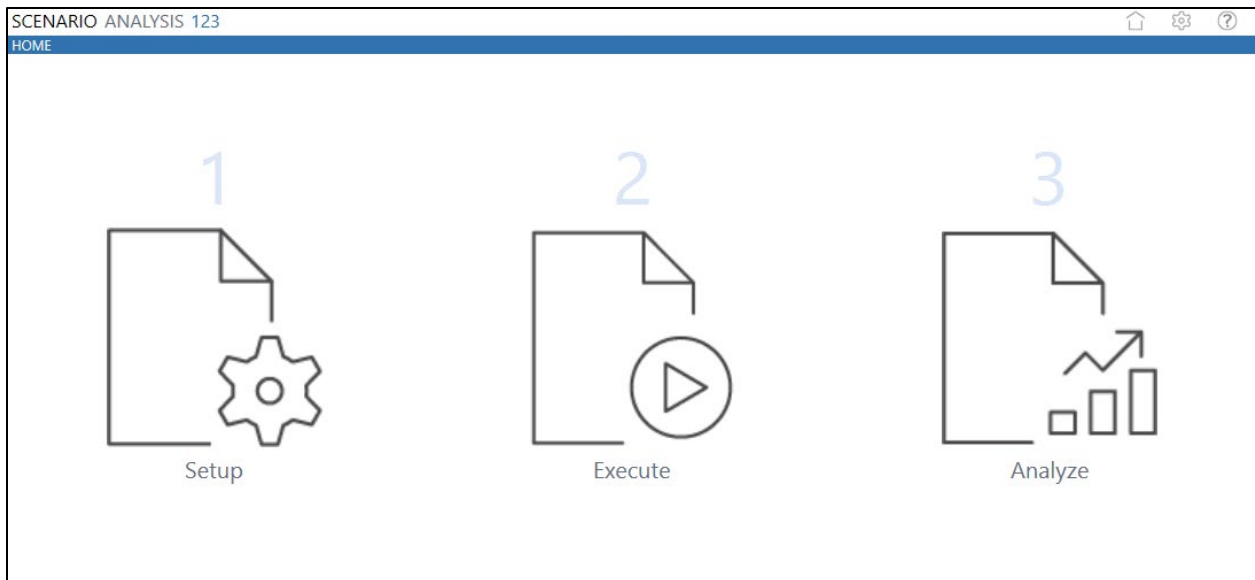
HOME



The **Home** page contains Setup, Execute, and Analyze.

Scenario Analysis 123 is grouped into three sections:

1. **Setup** establishes the creation and maintenance of scenario Definitions, Rule Sets, and Rules.
2. **Execute** contains execution and management of Calculation Jobs for scenario Definitions.
3. **Analyze** displays charts and pivot grids to view different scenario results.



SETTINGS



The **Settings** page contains the Global Options tab in which key properties that guide Scenario Analysis 123 administration are set as well as Uninstall options.

Global Options

The **Global Options** page should be one of the first pages visited when configuring Scenario Analysis 123.



Note: All Global Options settings are retained during solution upgrades.

SCENARIO ANALYSIS 123	
SETTINGS	
Global Options	
Uninstall	
	Access & Manage Scenario Analysis: Administrators
	Analyze Results Row Limit: 50000

Access and Manage Scenario Analysis Security Role

Scenario Analysis 123 security is governed at the global level. Therefore, it is the assignment of the user group to the Security Role that determines who will be the global Scenario Analysis 123 Administrators.

Assign User Group to Security Role

- Click **Global Options**, select the user group from the drop-down list (the default value is **Administrators**), and click **Save**.

Analyze Results Row Limit

Analyze Results Row Limit sets the maximum number of data rows that can be used to display the charts and pivot grids on the Analyze page. The default value is 50,000 rows which can be raised or lowered to account for server and client hardware-based performance limitations.

Uninstall

Uninstall allows the Scenario Analysis 123 User Interface or the entire solution to be uninstalled. Note that if this is performed as part of an upgrade, any modifications that were performed on standard Scenario Analysis 123 objects will be removed.

There are two Uninstall options:

1. **Uninstall UI** removes Scenario Analysis 123, including related dashboards and business rules but leaves the database and related tables in place. For some releases, this step should be performed before accepting any new version of Scenario Analysis 123 since some of the Dashboards or other objects may have been modified.
 - **Choose this option if** you want to accept a Scenario Analysis 123 update without removing the data tables.
 - The Scenario Analysis 123 Release Notes will indicate if an overinstall is supported.
2. **Uninstall Full** removes all the related data tables, all data, Scenario Analysis 123 Dashboards, and Business Rules.
 - **Choose this option** to completely remove Scenario Analysis 123 or to perform an upgrade that is so significant in its changes to the data tables that this method is required.



WARNING: Uninstall procedures are irreversible.

SETUP



Setup includes the creation and maintenance of Definitions, Rule Sets, and Rules.

Definitions

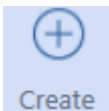
Definitions consist of a Source and Target Scenario for a Cube. Rules Sets and Rules can be created and applied to the Definition's Target Scenario.

- **Name:** Freeform text field to give Definition a short name.
- **Description:** Optional freeform text field containing additional definition information.
- **Target Scenario:** The scenario to which the rules are applied.
- **Source Scenario:** The scenario that will be copied to the Target Scenario.
- **Cube:** The Cube where the Source and Target Scenarios are located.
- **Created By:** The name of the user who created the Definition.
- **Created Date:** The date the Definition was created.



Note: Cube and Source Scenarios are displayed based on the user's security access.

Definitions				
Name	Description	Target Scenario	Source Scenario	Cube
2020 Mar - EMEA Adjustment		2020 Mar EMEA	Plan	Finance
2020 Mar - NA Adjustment		2020 Mar NA	PlanAdj	Finance



Creating a new Definition will create a new Target Scenario by copying all Dimension Library properties and settings, including security settings, from the Source Scenario within the same Cube.

Create a Definition



Tip: Selecting a Scenario Type should be considered and based on business requirements. A new Scenario Type can be used if your requirements do not require all financial model rules to be attached to that Scenario Type.

1. On the **Setup** page, click **Create**.
2. In the *Create Definition* dialog **Select:**
 - **Definition Name:** Enter a display name to identify the Definition.
 - **Definition Description:** Enter an optional description for the Definition.
 - **Cube:** Select the Cube where the Source and Target Scenarios are located.
 - **Source Scenario:** Select the Source Scenario that will be copied to the Target Scenario.
 - **Target Scenario Type:** Select the new Target Scenario type (defaults to the same type as the selected Source Scenario).
 - **Target Scenario Name:** Enter the new Target Scenario name where the rules will be applied.
 - **Target Scenario Description:** Enter an optional description for the new Target Scenario.
 - **Copy All Rule Sets and Rules from Source:** Select this checkbox to copy existing Scenario Analysis Definition Rule Sets and Rules if they exist for the source scenario. This will not copy member formulas and business rules.
3. Click **Save**.



Important! The settings of the Source Scenario and Target Scenario must be the same. Examples: Copying from a Source Scenario using Range to a Target Scenario using Yearly or copying Source Scenario to a Target Scenario that uses Extensibility.

Create Definition

Definition Name:
2020 Mar - NA Adjustment

Definition Description:
Adjustment for March, 2020.

Cube:
Finance

Source Scenario:
PlanAdj

Target Scenario Type:
Plan

Target Scenario Name:
2020 Mar NA

Target Scenario Description:
Standard March, 2020

Copy All Rule Sets and Rules from Source:

Create Cancel

Delete a Definition

1. On the **Setup** page, select the Definition.
2. Select **Delete Row(s)**.
3. Click **Save**.



Note: Deleting a definition does **not** delete the Target Scenario created with the definition. If a scenario must be deleted, use the Dimension Library under Application. You must first remove that scenario with a Data Management “Clear Data” job before you can delete a scenario.

Rule Sets

Rule Sets are a collection of **Rules** that can be applied to the Target Scenario definition.

- **Name:** Freeform text field to give Rule Set a short name.
- **Description:** Optional freeform text field containing additional Rule Set information.
- **Process Sequence:** The order in which the Rule Sets are run. Rule Sets are run in ascending order of the process sequence.
- **Active:** Indicates if the Rule Set should be run during Rule processing (on/off toggle).
- **Collapse Data:** Will collapse all data to the Import origin.



Note: **Collapse Data** should be used if the scenario will be used in Cube View forms to allow form adjustment entry into the origins.

Add Rule Set

1. On the **Setup** page, select the Definition.
2. Select **Insert Row** on the Rule Sets table header and then double-click in the following cells to enter information:
 - **Name:** Enter a display name to identify the Rule Set.
 - **Description:** Enter an optional description for the Rule Set.
 - **Process Sequence:** Enter the sequence order for Rule Set processing.
3. Click **Save**.

Copy Rule Set

Copying Rule Set allows for a Rule Set to be copied to the same Definition or different Definition.

1. On the **Setup** page, select the Definition.
2. Select the Rule Set you want to copy.
3. Select **Copy Set**.
4. In the Copy Rule Set dialog box, add the new Rule Set Name, an optional Rule Set Description, and the Target Definition.
5. Click **Copy**.

Delete Rule Set

1. On the **Setup** page, select the Definition and Rule Set.
2. Select **Delete Row(s)**.
3. Click **Save**.

Rules

Rules are a collection of percentage values tied to a specific dimension and a time range for a given Definition Rule Set.

- **Name:** Freeform text field to give Rule a name
- **Description:** Optional freeform text field containing additional Rule information
- **Process Sequence:** The order in which the rules are run. Rules are run in ascending order of the process sequence within each Rule Set.



Note: Consideration is needed for processing sequencing of rules. Rules with broader to more specific Member Filters should be sequenced in ascending order.

- **Active:** Indicates if the Rule should be run during rule processing (on/off toggle)
- **Dimensions (Entity – UD8):** The dimensions available where Member Filters can be applied for the Definition.
- **Origin:** There are three options for origin: Top, BeforeAdj, and Import.



Note: Each dimension field is freeform and allows for Member Filters to be applied to filter the data. Brackets are added to all Member Filters when applied to the formula as a precaution in case a dimension member has a space. Example: [New York]

See *Chapter 7: Cube Member Filters* in the OneStream XF Design and Reference Guide for complete Member Filter details.

- **Periods (P1-P24):** Time periods 1 through 24 where the rule numerical percentage values will be applied.

Add Rule

1. On the **Setup** page, select the Definition and Rule Set.
2. Select **Insert Row** on the Rules table header and then double-click in the following cells to enter information:
 - **Name:** Enter a display name to identify the Rule
 - **Description:** Enter an optional description for the Rule.
 - **Process Sequence:** Enter the sequence order for the rule processing.
 - **Dimensions (Entity – UD8):** Enter the Member Filters for each dimension.
 - **Periods (P1-P24):** Enter the percentage values for each period. Alternatively, the percentage value can be entered in the % Value field for a percentage value to be applied to all periods.
3. Click **Save**.

% Value: Update

The **% Value** field can be used to apply a percentage amount to all periods.

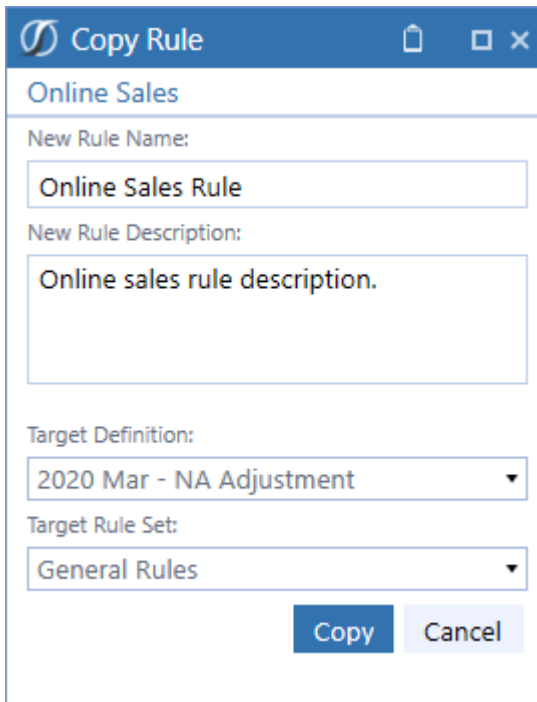


Tip: When creating a new definition, only the settings are copied from the Source Scenario to the Target Scenario. If the data needs to be copied to the Target Scenario, you can accomplish this by applying an *All* or *Root.Base* Member Filter to each dimension in a Rule. Example: A#Root.Base, A#ALL.

Copy Rule

Copying Rules allows for a Rules to be copied to the same Definition Rule Set or different Definition Rule Set.

1. On the **Setup** page, select the Definition and Rule Set.
2. Select the Rule you want to copy.
3. Select **Copy Rule**.
4. In the Copy Rule dialog box, add the new Rule Name, an optional Rule Description, Target Definition and Target Rule Set.
5. Click **Copy**.



The screenshot shows a 'Copy Rule' dialog box. The title bar reads 'Copy Rule' and the subtitle is 'Online Sales'. The dialog contains the following fields and controls:

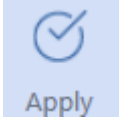
- New Rule Name:** A text input field containing 'Online Sales Rule'.
- New Rule Description:** A text area containing 'Online sales rule description.'
- Target Definition:** A dropdown menu with '2020 Mar - NA Adjustment' selected.
- Target Rule Set:** A dropdown menu with 'General Rules' selected.
- Buttons:** 'Copy' and 'Cancel' buttons at the bottom right.

Delete Rule

1. On the **Setup** page, select the Definition and Rule Set.
2. Select the Rule.
3. Select **Delete Row(s)**.
4. Click **Save**.

Apply Formula to Target Scenario

Once Rule Sets and Rules are created, the underlying Member Filters and percentage values can be applied to the Target Scenario member formula.

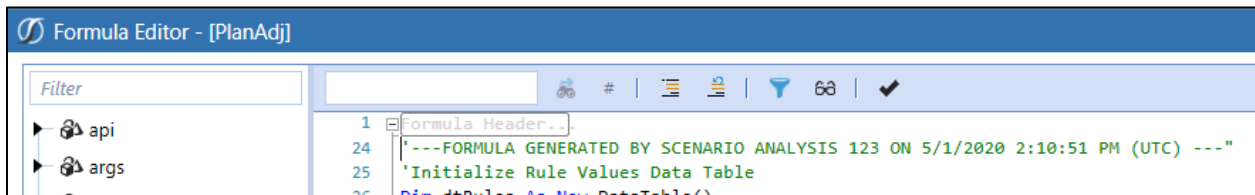
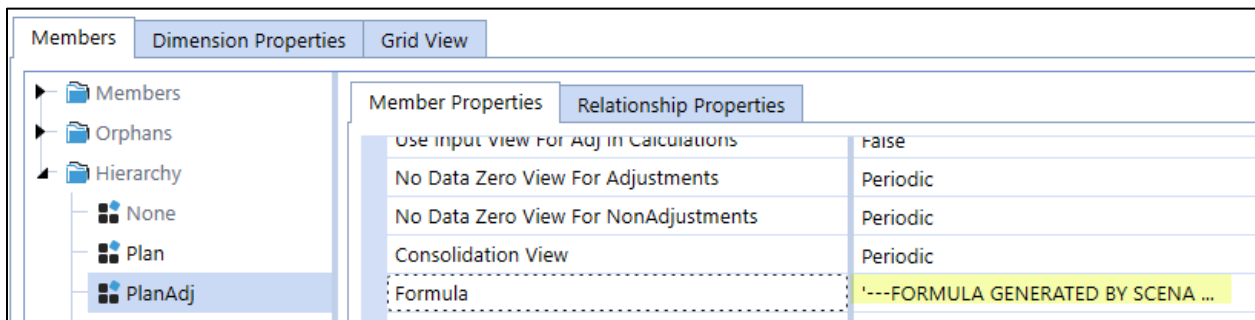


The Apply action adds the Member Filters and percentage values from each Rule to the Target Scenario member formula.



Important! When changing Rule Sets or Rules, you must click **Apply** in order to apply the changes to the Target Scenario member formula.

When the formula is applied the message, *Formula Generated by Scenario Analysis 123* is added to the Formula text along with the data and time stamp of update to the Target Scenario member formula under Member Properties.



EXECUTE



Execute includes the management and execution of Calculation Jobs for scenarios.

Calculation Jobs

Allows the ability to execute either a Force Consolidate or Force Calculate data management job for a defined set of data for a given Definition scenario.

Definitions						Calculation Jobs - 2020 NA Sales Forecast v1						
Name	Description	Target Scenario	Source Scenario	Cube	Created	Entity	Cons	Calculation Type	Start Period	Periods	Created By	Created Date
2020 NA Sales Forecast v1		2020 NA Sales Forecast v1	Actual	Houston	Admin	TotGroup.Base	Local	Force Consolidate	2019M1	1	Admin	5/4/2020 4:19:40 PM
2020 South Region Sales Forecast v1		2020 South Region Sales Forecast v1	Plan	Houston	Admin							

- **Entity:** Where a Member Filter can be applied to execute the calculation job for a specific entity.
- **Cons:** Where a Member Filter can be applied to execute the calculation job by a specific consolidation type.
- **Calculation Type:** The type of calculation, Force Consolidate or Force Calculate.

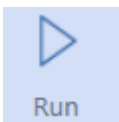
Important! Consideration is needed for the level of Entity hierarchy. Each calculation job should only Force Consolidate or Force Calculate for the relevant data set required.

- Example: Force Calculate should be used when there are no parent members, all base, or just one base entity.

- **Start Period:** The starting period for the calculation job.
- **Periods:** The number of periods the calculation job should be executed.

Create a Calculation Job

1. On the **Execute** page, select the Definition.
2. Select **Insert Row** on the Calculation Jobs table header and then double-click in the following cells to enter information:
 - **Entity:** Enter the Member Filters for the Entity dimension.
 - **Cons:** Enter the consolidation type
 - **Calculation Type:** Select the calculation type of Force Consolidate or Force Calculate.
 - **Start Period:** Enter the starting period for the calculation job.
 - **Periods:** Select the number of periods the calculation job should be executed.
3. Click **Save**.

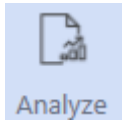


Runs the selected calculation data management job.



Important! Make performance considerations before executing calculation data management jobs against large metadata hierarchies.

ANALYZE



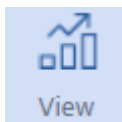
Contains charts and pivot grids to view and analyze different scenarios.

Filters

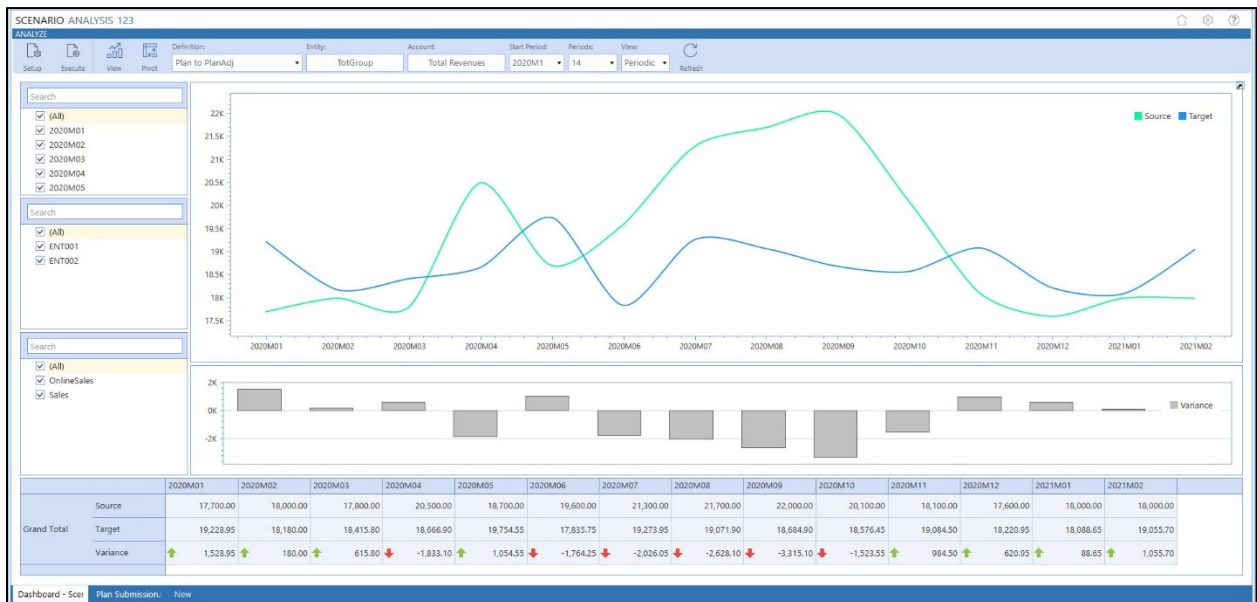
The View and Pivot results are returned when the header filters are fully specified.

Definition:	Entity:	Account:	Start Period:	Periods:	View:	Refresh
2020 NA Sales Forecast v1	TotGroup	TotalRevenues	2019M1	12	Periodic	

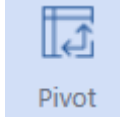
View



Provides a chart and grid for Source versus Target Scenario comparison with variance. Additional Time, Entity, and Account filters are provided.



Pivot



Provides a pivot grid where scenario data can be filtered and analyzed in greater detail.

ANALYZE													
Setup		Execute		View		Pivot		Refresh					
Definitions		Entity:		Account:		Start Period:		Periods:		View:			
Plan to PlanAdj		TotGroup		Total Revenues		2020M1		12		Periodic			
Hidden Fields													
Cons													
Cube													
Flow													
IC													
Origin													
Parent													
Filter Area													
Column Area													
Time													
Row Area													
Entity													
Account													
Source													
Target													
Variance													
Defer Layout Update													
Update													
		2020M01			2020M02			2020M03			2020M04		
		Source	Target	Variance	Source	Target	Variance	Source	Target	Variance	Source	Target	
ENT001	OnlineSales	1,500.00	1,600.95	-100.95	1,500.00	1,560.00	-60.00	1,500.00	1,613.40	-113.40	1,500.00		
	Sales	4,500.00	4,808.70	-308.70	4,500.00	4,576.50	-76.50	4,500.00	4,525.20	-25.20	4,500.00		
ENT001 Total		6,000.00	6,409.65	-409.65	6,000.00	6,136.50	-136.50	6,000.00	6,138.60	-138.60	6,000.00		
ENT002	OnlineSales	3,000.00	3,201.90	-201.90	3,000.00	3,120.00	-120.00	3,000.00	3,226.80	-226.80	3,000.00		
	Sales	9,000.00	9,617.40	-617.40	9,000.00	9,153.00	-153.00	9,000.00	9,050.40	-50.40	9,000.00		
ENT002 Total		12,000.00	12,819.30	-819.30	12,000.00	12,273.00	-273.00	12,000.00	12,277.20	-277.20	12,000.00		
Grand Total		18,000.00	19,228.95	-1,228.95	18,000.00	18,409.50	-409.50	18,000.00	18,415.80	-415.80	18,000.00		

HELP & MISCELLANEOUS INFORMATION



This page contains solution documentation.

Display Settings

OneStream XF and XF 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.

Package Contents & Naming Conventions

The package file name contains multiple identifiers that correspond with the Platform. Renaming any of the elements contained in a Package is discouraged in order to preserve the integrity of the naming conventions.

Example Package Name: SAM_PV5.3.0_SV100_PackageContents.zip

Identifier	Description
SAM	Solution ID
PV5.3.0	Minimum XF Platform version required to run solution
SV100	Solution version
PackageContents	File name

Solution Database Migration Advice

A Development OneStream XF Application is the safest method for building out a solution with custom tables such as this one. The relationship between OneStream objects such as Workflow Profiles and custom solution tables is that they point to the underlying identifier numbers and not the object names as seen in the user interface. 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 following process below will help migrate the solution tables properly.

See also: *Managing a OneStream Environment* in the OneStream XF Design and Reference Guide

1. In the Production OneStream XF application, install the solution and create the data tables. See [Configure the OneStream XF Application Server](#) for Database Server Connection settings and installation details.
2. Data tables were created in the OneStream XF 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.

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



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

MarketPlace Solution Modification Considerations

A few cautions and considerations regarding modification of MarketPlace Solutions:

- 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.

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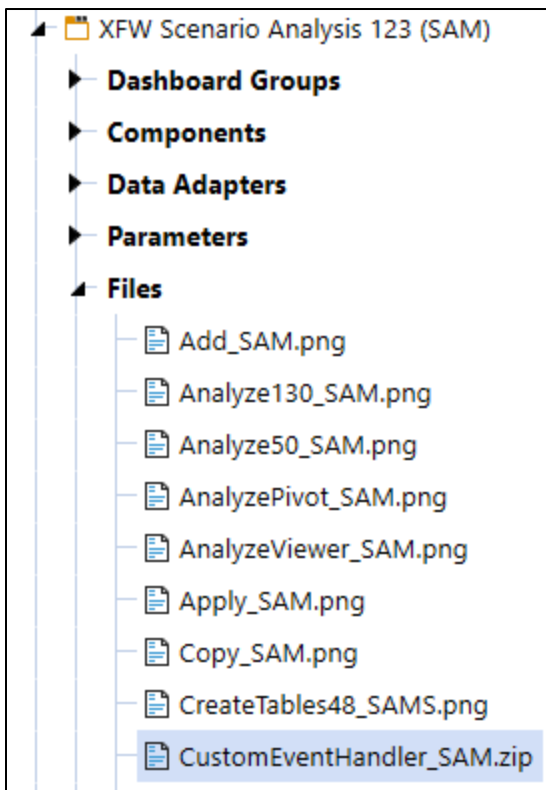
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APPENDIX A: CUSTOM EVENT MODEL

The purpose of the Custom Event Model is to provide a method in which users can add customizations to Scenario Analysis 123 that remain in place and are bypassed during a solution upgrade. Scenario Analysis 123 supports these models via Business Rules.

Set Up the Custom Event Model

1. On the Application tab click **Dashboards > Dashboard Maintenance Units > XFW Scenario Analysis 123 (SAM) > Files**
2. In the **Files** folder, click **CustomEventHandler_SAM.zip**.



3. In the **General (File)** pane, click **Download File** and save the file to an appropriate location.
4. On the **Application** tab, click **Tools > Load/Extract**.
5. On the **Load** tab, locate CustomEventHandler_SAM.zip using the **Select File** icons and click **Open**.
6. When the file name appears, click **Load** to import the business rule.

Integrate Business Rules

After importing the business rule, update the *SAM_EventHandler* business rule to integrate with the *CustomEvents* business rule.

1. In the **General** section of the *SAM_SolutionHelper* script Properties tab, add `BR\CustomEvents_ScenarioAnalysis123` to **Referenced Assemblies**.

Properties		Formula								
<div style="border: 1px solid black; padding: 2px;"> <div style="background-color: #e6f2ff; padding: 2px;"> [-] General </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Name</td> <td>SAM_SolutionHelper</td> </tr> <tr> <td>Type</td> <td>Dashboard Extender</td> </tr> <tr> <td>Referenced Assemblies</td> <td>BR\SAM_EventHandler; BR\CustomEvents_ScenarioAnalysis123</td> </tr> <tr> <td>Is Encrypted</td> <td>True</td> </tr> </table> </div>			Name	SAM_SolutionHelper	Type	Dashboard Extender	Referenced Assemblies	BR\SAM_EventHandler; BR\CustomEvents_ScenarioAnalysis123	Is Encrypted	True
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Access Group	Everyone									
Maintenance Group	Everyone									

2. In the **General** section of the *SAM_EventHandler* script Properties tab, add `BR\CustomEvents_ScenarioAnalysis123` to **Referenced Assemblies**.

Properties		Formula								
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Access Group	Everyone									
Maintenance Group	Everyone									

3. Comment out line 42 of the *SAM_EventHelper* business rule.
4. Uncomment line 43 of the *SAM_EventHelper* business rule.

```

41     'Custom Event Handler Declaration
42     Public Property m_CustomEvents As Object = Nothing
43     'Public Property m_CustomEvents As New DashboardExtender.CustomEvents_ScenarioAnalysis.MainClass

```

Once the custom event integration is complete, event actions can be defined in the *CustomEvents_ScenarioAnalysis123* script.



Important! These events will not be deleted or overridden when upgrading to new versions of Scenario Analysis 123. However, it is important to reapply these setup steps every time a new version is installed.

Available Custom Events

Before/After Selection Changed Events

These events run before/after a custom control is clicked.

- SaveSettings
- CreateSolutionTables
- ValidateSetupStepsExecuted
- Uninstall
- OnTableEditorOrGridSelection
- OnComboBoxSelection
- OnButtonClick
- OnShowContentPage

Before/After Save Data Events

These events run before/after the save event for a table editor. For example, this can be used to test grid data prior to saving and potentially not allowing the data to be saved if a check fails.

- OnSaveOrUpdateTableEditor