onestream

System Diagnostics Guide

PV8.5.0 SV102

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Overview

System Diagnostics enables System Administrators to:

- Monitor and diagnose overall environment performance and task health.
- Examine application metrics and application data volumes.

System Diagnostics helps to assure that the OneStream environment and applications are properly sized and efficiently configured.

System Diagnostics provides:

- Detailed application snapshot analysis of key metrics and data volumes.
- Detailed task analysis including task concurrency, statistics, and counts.

> **IMPORTANT:** Access to System Diagnostics is limited to users with the System Administrator security role. This should be strictly enforced because of the accessibility to application information and controls.

Setup and Installation

System Diagnostics now comes preinstalled in your OneStream environment. System Diagnostics can be installed within an existing OneStream application, yet it enables you to analyze performance of all applications in a given environment. See Install System Diagnostics for details.

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

Dependencies

Component	Description
OneStream 8.0.0 or later	Minimum OneStream Platform version required to install this version of System Diagnostics.

Select the System Diagnostics Development Location

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

Production OneStream Application: The primary advantage of building the solution 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 used in a Production capacity and it is not advised.

> **NOTE:** OneStream strongly recommends that you implement the solution in the Development environment with a fresh copy of the Production application before starting work.

Development OneStream Application: As a best practice, use the Development OneStream application to build the solution.

Create the OneStream Development Application

1. Ensure all the OneStream artifacts relating to System Diagnostics such as workflow profiles and entities are in the Production application.
2. Copy your Production application to your Development environment and rename it. Use the development version for your System Diagnostics solution.

Application Server Settings

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

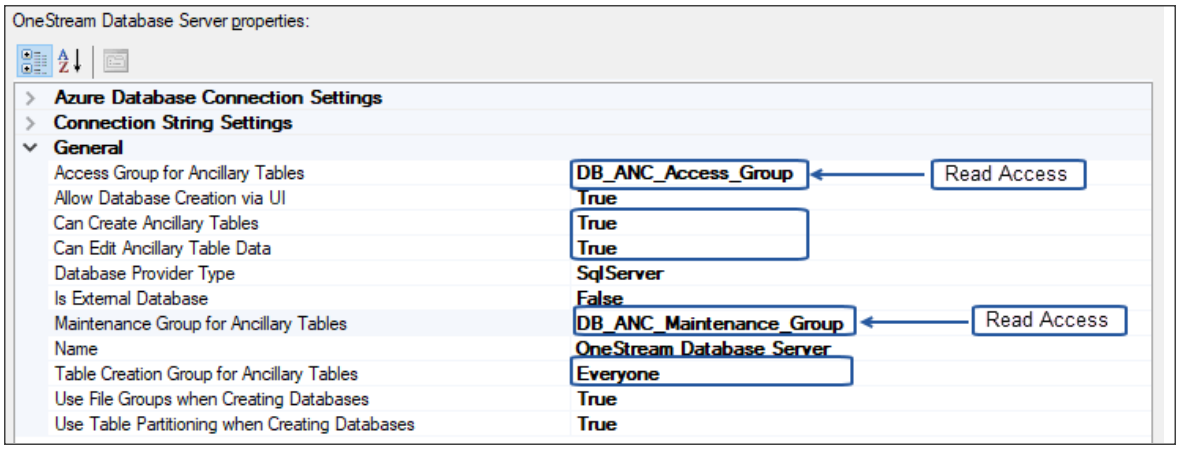
Configure the OneStream Application Server

Be sure that the security group settings include the users who work on and set up the solution before proceeding.

> **NOTE:** Group settings are applicable to all OneStream Solutions; it is important to keep the group names generic.

1. Start the OneStream Server Configuration Utility as an Administrator.
2. Click **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 to edit and maintain tables.

- **Table Creation Group for Ancillary Tables**: Select a group who can create tables.



4. Restart Internet Information Server.

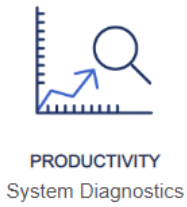
> **NOTE:** The SQL Server account used for the OneStream application must have the View Server State Permission granted for System Diagnostics to access the SQL Server details.

Install System Diagnostics

Check the Release Notes to determine if uninstalling only the user interface or a full uninstall of the solution is necessary and then read that section for instructions. If the Release Notes indicate that an overinstall is allowed, then continue with these instructions.

> **NOTE:** In OneStream platform version 10.0, System Diagnostics comes preinstalled on the platform.

1. Download the System Diagnostics solution from the OneStream Solution Exchange. The package is a zip file named OSD_PV*x.x.x*_SV*zzz*_PackageContents.zip where *x.x.x* and *zzz* represent version numbers for OneStream and the solution. The PV*x.x.x* number (for example, 620) represents the minimum Platform Version (6.2.0) required to implement this solution version.
2. In the OneStream Solution Exchange, go to OneStream Solutions and select the **System Diagnostics** tile.



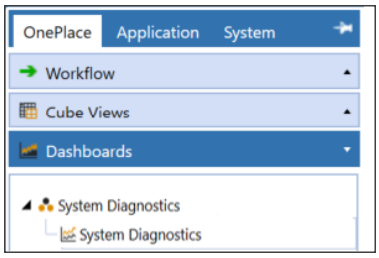
3. On the System Diagnostics Solution page, select the appropriate OneStream platform version from the **Minimum Platform Version** drop-down list.
4. Select the most recent version from the **Solution Version** drop-down list and then click **Download**.
5. Log in to OneStream.

6. On the **Application** tab, click **Tools** > **Load/Extract**.
7. On the **Load** tab, locate the solution package using the **Select File** icons and click **Open**.
8. When the solution's file name appears, click **Load**.
9. Click **Close** to complete the installation.

Set Up System Diagnostics

The first time you run System Diagnostics, you are guided through the table setup process.

In OneStream, click **Community Solution** > **Dashboards** > **System Diagnostics** > **System Diagnostics**.



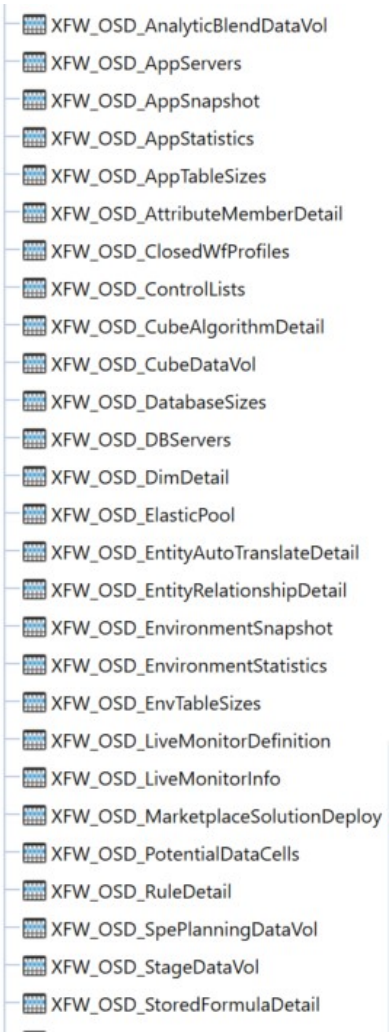
> **IMPORTANT:** AI System Diagnostics automatically installs when downloading System Diagnostics, and is a paid add-on which runs on a 9.0 Minimum OneStream Platform version. Please contact your Account Executive to access the AI Studio.

Create Tables

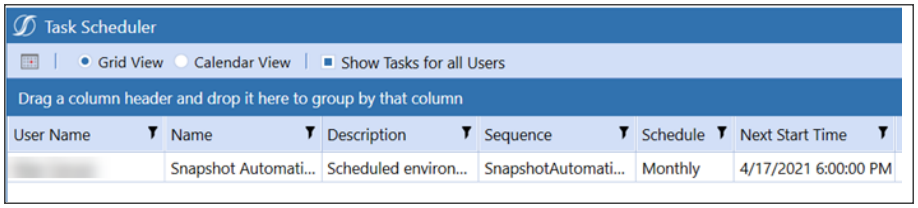
1. Click **Step 1: Setup Tables**.

   This step may be necessary when upgrading even if tables are already present. System Diagnostics does not drop any tables that already exist, but modifies table structures and add any new ones if necessary.

   The following tables are created in the OneStream framework database:



The Snapshot Automation scheduled task is created and can be edited in the Task Scheduler.



> **NOTE:** You should receive the message **Solution Table Created** if this is a new implementation of System Diagnostics. If updating a previous release which includes changes to these tables, the message reads **Solution Tables Upgraded**.

See Also:

- Task Scheduler
- The *Task Scheduler* section in the *Application Tools* chapter of the *Design and Reference Guide*.

2. Click **Step 2: Launch Solution** to open System Diagnostics.

After setting up the solution tables, a task is created in Task Scheduler that takes application snapshots on the third Saturday of each month. You can change the task frequency and timing using the Task Scheduler.

> **NOTE:** The Task Scheduler is currently only available when using the OneStream desktop application.

Package Contents

The Dashboard Maintenance Unit provides the user interface for System Diagnostics and includes the required dashboard groups, components, data adapters, parameters, and files.

Business Rules

The following business rules are included:

OSD_HelperQueries
Dashboard Data Set Business Rule. This rule provides query functions for collecting the activity and environment analysis information using a combination of SQL and programmatic data.

OSD_SolutionHelper
Dashboard Extender Business Rule. This rule provides various functions for the System Diagnostics solution and the Dashboard user interface.

OSD_ParamHelper
Dashboard XFBR String Business Rule. This rule provides conditional parameter processing functions that allow a parameter value to be interpreted and substituted with a different string.

OSD_ApplicationSnapshot
Extensibility Business Rule. This rule facilitates Application and Environment manual and Task Scheduled snapshots.

Data Management

The following Data Management sequences and steps are used with their related Business Rules (as described above). The benefit of running these processes through a Data Management sequence is that they can run in the background while the user continues working.

The Data Management sequences are:

- AppSnapshot_OSD
- MonitorHealthTask_OSD
- ReportPackage_OSD
- SnapAutomation_OSD

The Data Management steps are:

- AppSnapshot_OSD
- CreateReports_OSD
- MonitorHealthTask_OSD

- SnapAutomation_OSD
- TakeAppSnapshot_OSD

These Data Management sequences are used for application and environment snapshots, found in Task Scheduler for the System Diagnostic Automation task:

- SnapAutomation_OSD

Settings

The **Settings** page contains the **Global Options** tab in which key properties that guide administration are set as well as **Uninstall** tab, which provides solution uninstall options.

Global Options

The **Global Options** tab is used during the initial setup and configuration of System Diagnostics.

Number of Licensed Users: This setting is used for the estimation calculations in the Resource Validation Report. It is an estimation of how many users are expected to utilize OneStream. This setting is only visible if the user is on Azure and holds an unlimited number of user licenses.

> **NOTE:** The maximum number of licensed users is 10,000.

User Per CPU Adjustment: This setting allows the ability to manually adjust the derived value of users per CPU. Users per CPU is used in the Environment Statistics calculations.

Security Role: This setting allows you to select a security role. Users within the designated security role will have access to the solution.

Uninstall

The **Uninstall** tab allows administrators to uninstall the System Diagnostics user interface or the entire solution.

> **NOTE:** If performed as part of an upgrade, any modifications made to the standard System Diagnostics objects are removed.

There are two uninstall options:

- **Uninstall UI** removes System Diagnostics, including related dashboards and business rules, but leaves the database and related tables in place. Some Global Options will also be cleared because their values are stored in Parameters under Dashboards.
  Check the *Release Notes* to determine if this step is necessary. For some releases, this step should be performed before accepting a new version of System Diagnostics because some of the dashboards or other objects may have been modified.
    - Choose this option to accept a System Diagnostics update without removing the data tables.
    - The *Release Notes* indicate if an overinstall is supported.
- **Uninstall Full** removes all the related data tables, all data, System Diagnostics dashboards, and related business rules.
    - Choose this option to completely remove System Diagnostics or to perform an upgrade that is so significant in its changes to the data tables that this method is required.

NOTE: The System Diagnostics tables are stored on the Framework database. Removing these tables also removes all related System Diagnostics data for all applications using the same Framework.

System Diagnostics Overview Page

Access the System Diagnostics Overview page by navigating to **Community Solution** > **Dashboards** > **System Diagnostics** > **System Diagnostics**.

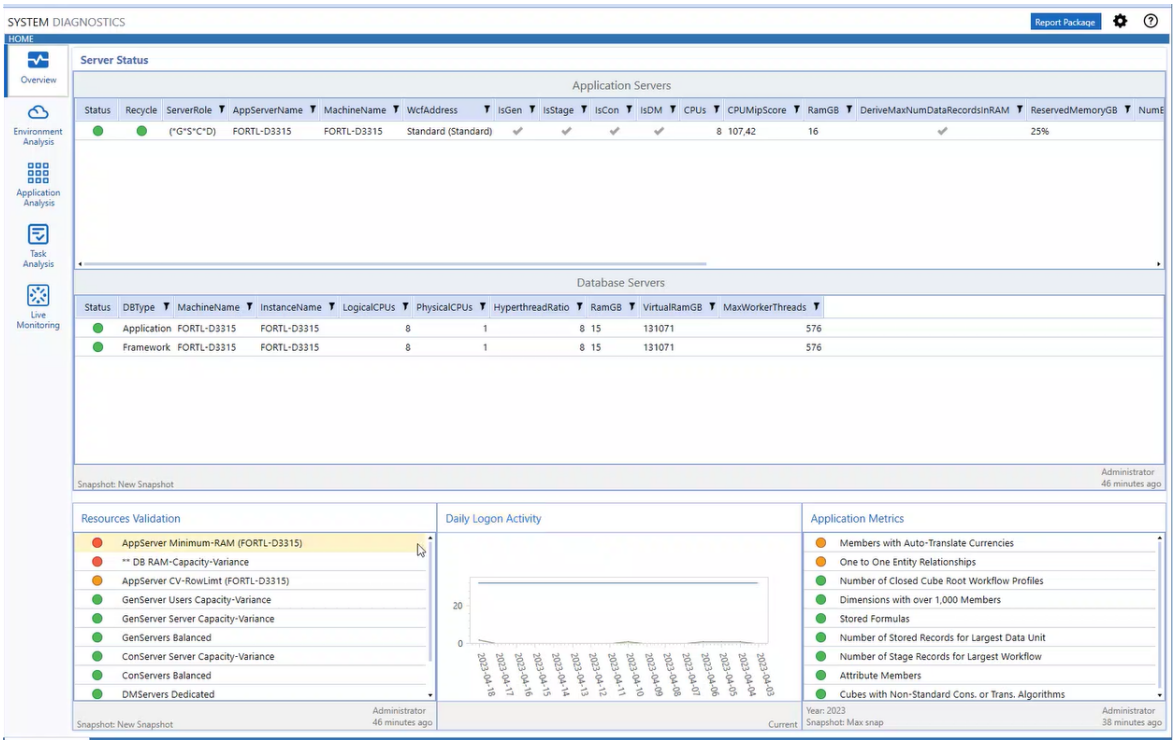
Upon start up, you are directed to the overview page. Use this page to get an overview of your application and environment health. The overview page contains four condensed reports:

- **Database Usage**: The pie chart displays how much storage is available and in use in an environment. Databases are sorted into used, unused, or allocated types.

> **NOTE:** You will receive an error message if database usage data cannot be retrieved.

- **User Licenses**: This shows licensed user data in two tiles, Active Licenses and Total Licenses.
- **Application Metrics**: This displays the most recent changes (business rules, formulas, records, and more) in a snapshot of the current application. You can drill down into each metric for a detailed view of the change.
- Daily logon activity

Click the title of a condensed report to navigate to the appropriate page in System Diagnostics.



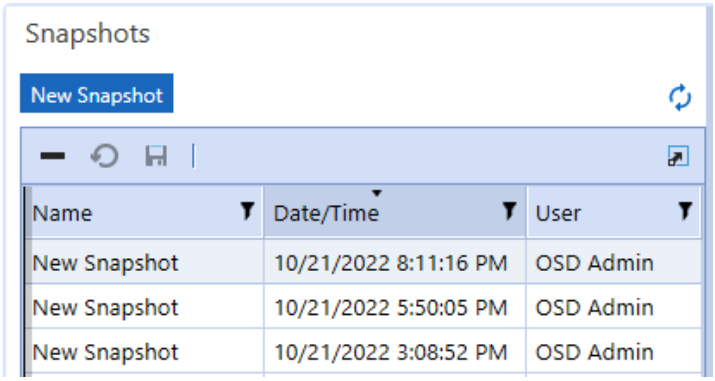
Click the **Overview** tab to return to the home page.

Environment Analysis

Use **Environment Analysis** to create environment snapshots by gathering information maintained by OneStream Environment Monitoring features. The environment snapshots provide details on application and database server status, available resources, and associated reports.

Create an Environment Snapshot

- To create an environment snapshot for a given point in time click **New Snapshot**. The new snapshot displays in a list on the left side of the dashboard panel with any other snapshots that have been created.

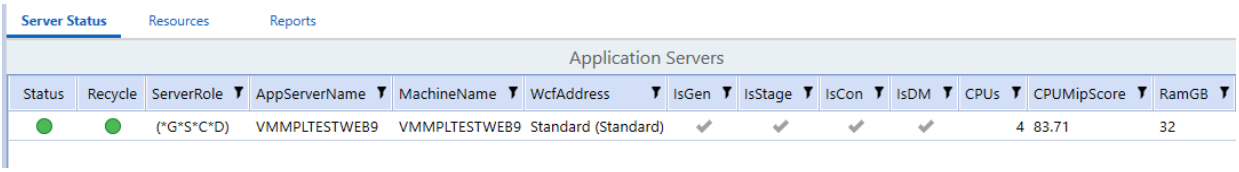


- To change a snapshot name, click the name value and relabel the snapshot. Click the save icon to maintain changes.
- To delete a snapshot, select the snapshot name and then click on the minus icon.

> **NOTE:** You must click the save icon after making any changes, including deleting a snapshot, for your environment to update.

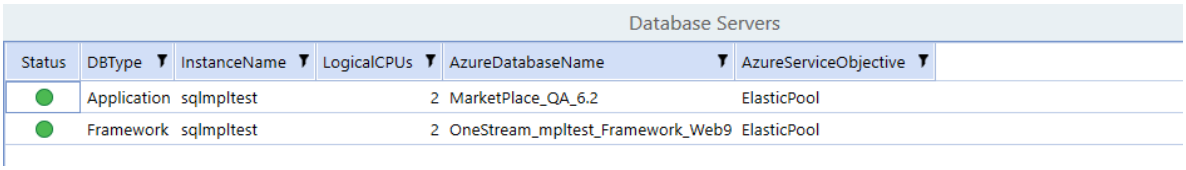
Application Servers

This section shows data specific to the application servers.



Database Servers

This section shows data specific to the database servers.



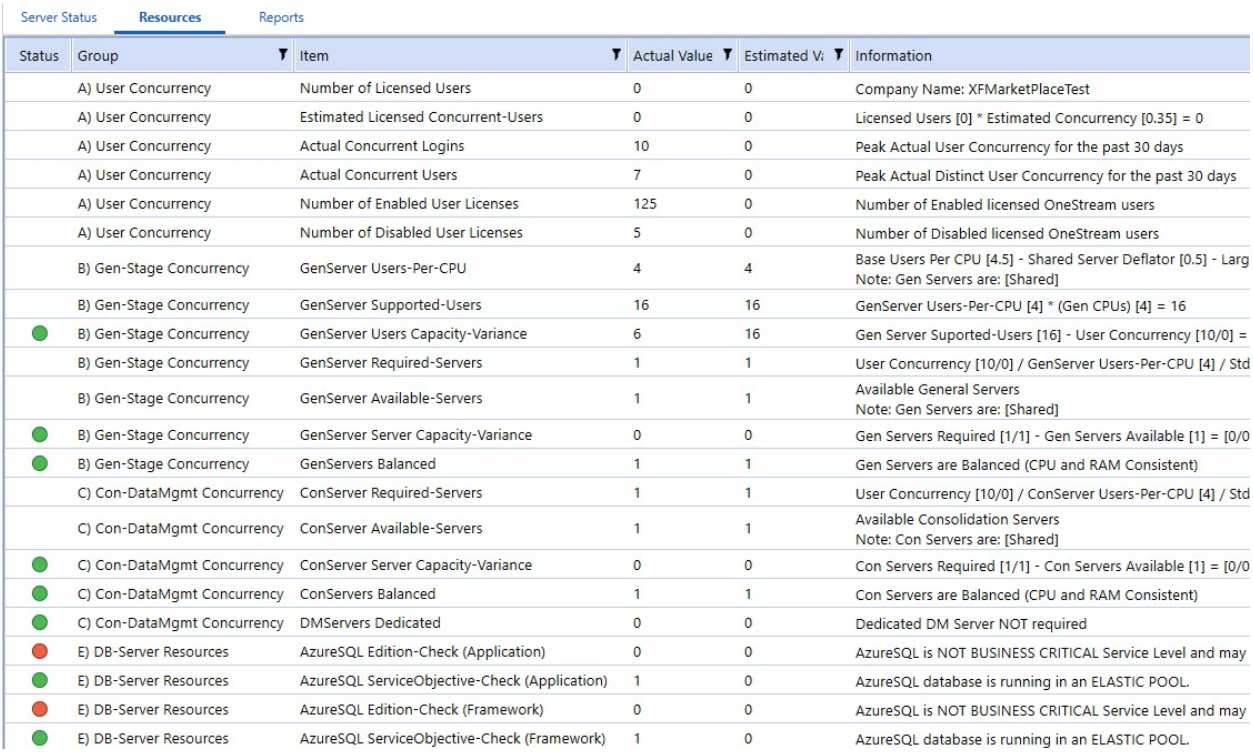
Database Servers

Status	DBType	InstanceName	LogicalCPUs	AzureDatabaseName	AzureServiceObjective
●	Application	sqlmpltest	2	MarketPlace_QA_6.2	ElasticPool
●	Framework	sqlmpltest	2	OneStream_mpltest_Framework_Web9	ElasticPool

Both application and database server reports display in a pivot grid, allowing you to sort and group records using the grid capabilities.

Analyze Environment Snapshot Data

Select an environment snapshot and click **Resources** to view a breakdown of the data collected in the snapshot.



Server Status | **Resources** | Reports

Status	Group	Item	Actual Value	Estimated V:	Information
	A) User Concurrency	Number of Licensed Users	0	0	Company Name: XFMarketPlaceTest
	A) User Concurrency	Estimated Licensed Concurrent-Users	0	0	Licensed Users [0] * Estimated Concurrency [0.35] = 0
	A) User Concurrency	Actual Concurrent Logins	10	0	Peak Actual User Concurrency for the past 30 days
	A) User Concurrency	Actual Concurrent Users	7	0	Peak Actual Distinct User Concurrency for the past 30 days
	A) User Concurrency	Number of Enabled User Licenses	125	0	Number of Enabled licensed OneStream users
	A) User Concurrency	Number of Disabled User Licenses	5	0	Number of Disabled licensed OneStream users
	B) Gen-Stage Concurrency	GenServer Users-Per-CPU	4	4	Base Users Per CPU [4.5] - Shared Server Deflator [0.5] - Larg Note: Gen Servers are: [Shared]
	B) Gen-Stage Concurrency	GenServer Supported-Users	16	16	GenServer Users-Per-CPU [4] * (Gen CPUs) [4] = 16
●	B) Gen-Stage Concurrency	GenServer Users Capacity-Variance	6	16	Gen Server Suported-Users [16] - User Concurrency [10/0] =
	B) Gen-Stage Concurrency	GenServer Required-Servers	1	1	User Concurrency [10/0] / GenServer Users-Per-CPU [4] / Std
	B) Gen-Stage Concurrency	GenServer Available-Servers	1	1	Available General Servers Note: Gen Servers are: [Shared]
●	B) Gen-Stage Concurrency	GenServer Server Capacity-Variance	0	0	Gen Servers Required [1/1] - Gen Servers Available [1] = [0/0
●	B) Gen-Stage Concurrency	GenServers Balanced	1	1	Gen Servers are Balanced (CPU and RAM Consistent)
	C) Con-DataMgmt Concurrency	ConServer Required-Servers	1	1	User Concurrency [10/0] / ConServer Users-Per-CPU [4] / Std
	C) Con-DataMgmt Concurrency	ConServer Available-Servers	1	1	Available Consolidation Servers Note: Con Servers are: [Shared]
●	C) Con-DataMgmt Concurrency	ConServer Server Capacity-Variance	0	0	Con Servers Required [1/1] - Con Servers Available [1] = [0/0
●	C) Con-DataMgmt Concurrency	ConServers Balanced	1	1	Con Servers are Balanced (CPU and RAM Consistent)
●	C) Con-DataMgmt Concurrency	DMServers Dedicated	0	0	Dedicated DM Server NOT required
●	E) DB-Server Resources	AzureSQL Edition-Check (Application)	0	0	AzureSQL is NOT BUSINESS CRITICAL Service Level and may
●	E) DB-Server Resources	AzureSQL ServiceObjective-Check (Application)	1	0	AzureSQL database is running in an ELASTIC POOL.
●	E) DB-Server Resources	AzureSQL Edition-Check (Framework)	0	0	AzureSQL is NOT BUSINESS CRITICAL Service Level and may
●	E) DB-Server Resources	AzureSQL ServiceObjective-Check (Framework)	1	0	AzureSQL database is running in an ELASTIC POOL.

Environment Statistics Groups and Items

Environment statistics are grouped as follows:

- **User Concurrency**: Shows concurrency statistics for user-related data including the number of licensed users, the concurrent logins, and the number of enabled and disabled user licenses.

- **Gen-Stage Concurrency**: Shows concurrency statistics for General-type or Stage-type application servers.
- **Con-DataMgmt Concurrency**: Shows concurrency statistics for Data Management-type or Consolidation-type application servers.
- **DB-Server Resources**: Shows statistics for the database server in a stand-alone database server environment or the AzureSQL Elastic Pool for Azure Cloud environments.

A) User Concurrency

Use items in this group to gain insight into user activity and concurrency throughout your application.

Number of Licensed Users: Total number of licensed users permitted. This value can be changed in System Diagnostics settings.

Estimated Licensed Concurrent-Users: An estimated concurrency value based on the number of licensed users multiplied by the estimated concurrency.

Actual Concurrent Logins: Actual peak user concurrency for the past 30 days.

Actual Concurrent Users: Actual peak distinct user concurrency for the past 30 days.

Number of Enabled User Licenses: Total users that have the **IsEnabled** general setting in the system security settings set to **True**.

Number of Disabled User Licenses: Total users that have the **IsEnabled** general setting in the system security settings set to **False**.

B) Gen-Stage Concurrency

Use items in this group to gain insight into the user load on your general-type application servers.

GenServer Users-Per-CPU: Maximum number of base users per central processing unit (CPU) minus the shared server deflator and large data unit deflator, plus any CPU adjustment per user.

The shared server deflator is used to account for CPU utilization between servers.

GenServer Supported-Users: Number of general-type application server CPUs multiplied by estimated users per CPU.

GenServer Users Capacity-Variance: General-type application user concurrency minus estimated concurrency.

GenServer Required-Servers: Estimated user concurrency divided by the general-type server users per CPU.

GenServer Available-Servers: Number of available general servers.

GenServer Server Capacity-Variance: General-type application server concurrency minus estimated concurrency.

GenServers Balanced: Indicates whether the CPU and RAM are consistent across general-type application servers.

See also: *System Security Users and Groups* in the *OneStream Design and Reference Guide*.

C) Con-DataMgmt Concurrency

Use items in this group to gain insight into the user load on your data management-type or consolidation-type application servers.

ConServer Required-Servers: Estimated concurrency divided by estimated users per CPU divided by standard application server CPUs, multiplied by General-type application server to Consolidation-type application server ratio.

ConServer Available-Servers: Current consolidation servers being used.

ConServer Capacity-Variance: consolidation servers required minus the available consolidation servers. A value of 0.0 means consolidation servers are available. A value of 1.0 indicates that consolidation servers are required.

ConServers Balanced: Indicates whether the CPU and RAM are consistent across Consolidation-type application servers. A value of 0.0 means the consolidation servers' CPU and RAM are consistent across the application servers. A value of 1.0 indicates CPU and RAM are not consistent.

DMServers Dedicated: Indicates whether a dedicated Data Management-type application server is required.

D) DB-Server Resources

The group reflects the settings for the database server in the AzureSQL Elastic Pool for Azure Cloud environments.

DB-Server Resources

AzureSQL Edition-Check (Application): Indicates whether the Azure SQL application database runs at a business-critical service level. A value of 1 equals yes. A value of zero equals no.

AzureSQL ServiceObjective-Check (Application): Indicates whether the Azure SQL application database runs in an Elastic pool. A value of 1 equals yes. A value of zero equals no.

AzureSQL Edition-Check (Framework): Indicates whether the Azure SQL application framework runs at a business-critical service level. A value of 1 equals yes. A value of zero equals no.

AzureSQL ServiceObjective-Check (Framework): Indicates whether the Azure SQL application framework runs in an Elastic pool. A value of 1 equals yes. A value of zero equals no.

Environment Statistics Status

Status	Description
Informational	Data point used in environment statistics calculations.
Ok	Indicates that the metric does not affect application performance.
Warning	Indicates that the metric may negatively affect application performance.
Critical	Indicates that the metric is negatively affecting application performance.

Environment Analysis Reports

Click **Reports** at the top of the page and select the name of the report you want to run.

Database Sizes: Provides insight into the elastic pool usage for Azure customers. Databases are sorted into used, unused, or allocated types.

> **NOTE:** For Cloud customers, an elastic pie chart is displayed at the beginning of the Database Sizes report.

Memory Manager: Provides the server memory details over the previous 15-day period. Any events over 10 days reflect a critical status.

Resource Validation: Provides a detailed breakdown of the General Stage Concurrency, Consolidated-Data Management Concurrency, and Database Server Resources.

Server Detail: Provides details for the application servers.

Server Startup: Provides the server startup details over the previous 15-day period. Any day with zero start ups reflects a critical status.

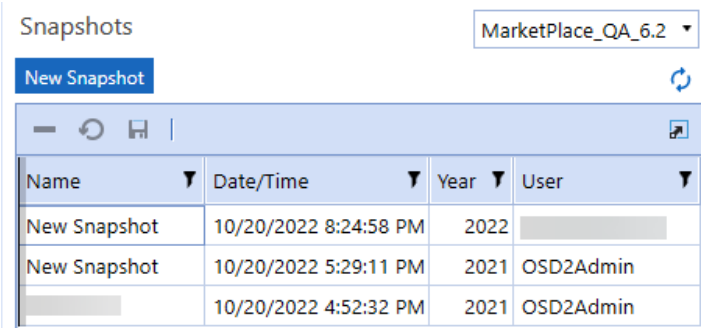
Application Analysis

Application Analysis lets you create application snapshots by gathering information maintained by the selected application and its database tables. The application analysis page displays application metrics, data volume statistics, and reports. It also allows administrators to compare snapshots from across system applications.

Create an Application Snapshot

1. Click **New Snapshot** to populate an application snapshot.
2. A pop-up dialog prompts you to enter the **Data Volume Year** (the year to which the data volume statistics apply), **Data Volume Detail** (the number of top records recorded for the data volume statistics), and **Snapshot Name**. The snapshot name defaults to New Snapshot if you leave this field blank.

The new snapshot displays on the left side of the dashboard panel.



To change the snapshot name, select the **Name**field. To save your changes, click the save icon . To delete a snapshot, select the snapshot name and then click the minus icon and then save.

> **NOTE:** You must save after making any changes, including deleting a snapshot, for your environment to update.

Application Metrics

This section shows the application metrics that are considered key stakeholder drivers for the general performance of an application. You can click on any row in the Application Metrics grid to view additional details of the records in that metric.

Stored Formulas: Applications that have many stored formulas may notice a consolidation performance impact. Green Status: Less than 1000, Orange Status: 1000-2000, Red Status: Higher than 2000.

Dimensions with over 1000 Members: Multiple dimensions greater than 1,000 members can result in a large and sparse data model which can impact consolidation and reporting performance. Green Status: Less than 2, Orange Status: 2-3, Red Status: Higher than 3.

Members with Auto-Translate Currencies: Applications that use the Entity Auto Translate property will have reduced consolidation performance. Green Status: 0, Orange Status: 1-20, Red Status: higher than 20.

Cubes with Non-Standard Consolidation or Translation Algorithms: Applications that use non-standard consolidation or translation algorithm types may have reduced consolidation performance. Green Status: 0, Orange Status higher than 0. No Red status.

Attribute Members: Applications that have greater than 500 attribute members will have a negative impact on consolidation performance. Green Status: 0, Orange Status: 0-500, Red Status: higher than 500.

Number of Stored Records for Largest Data Unit: Data Units larger than 500,000 records may cause consolidation and reporting performance degradation. Green Status: less than 1,000,000. Orange Status: 1,000,000-2,000,000. Red Status: Higher than 2,000,000.

Number of Stage Records for Largest Workflow: Workflows with more than 1,000,000 finance load result records may result in reduced stage performance. Green Status: 1,000,000. Orange Status: 1,000,000-1,500,000. Red Status: higher than 1,500,000.

One to One Entity Relationships: Entity hierarchies with numerous one to one parent child relationships can result in poor consolidation performance. Green Status: 0, Orange Status: 1-5, Red Status: higher than 5.

Number of Closed Cube Root Workflow Profiles: Closed workflow profiles may cause reporting and navigation performance degradation. Green Status: 0, Red Status: greater than or equal to 1.

Number of Active Finance Rules and Member Formulas Using BRApis: Finance Rules and Member Formulas that use BRApi functions can result in a degradation of consolidation performance becaisethese functions need to open a database connection. Consider using API function equivalents whenever possible. Green Status: 0, Orange Status: 1-10, Red Status: Higher than 10.

Number of Active Finance Rules and Member Formulas without Consolidation Conditions: Finance Rules and Member Formulas without consolidation if conditions can result in a degradation of consolidation performance because the rule may needlessly run at multiple levels of the consolidation dimension. Green Status: 0, Orange Status: 1-10, Red Status: Higher than 10.

Number of Active Finance Rules and Member Formulas without Entity Conditions: Finance Rules and Member Formulas without entity if conditions can result in a degradation of consolidation performance because the rule may needlessly run for both base and parent entities. Green Status: 0, Orange Status: 1-10, Red Status: Higher than 10.

Number of Active Finance Rules and Member Formulas Using Error Logging: Finance Rules and Member Formulas that have active error logging still commented in can result in a degradation of consolidation performance because these rules write to the error log during a consolidation. Green Status: 0, Red Status: Higher than 0.

Number of Active Finance Rules and Member Formulas that Execute Api.Data.Calculate within a For Each Loop: Finance Rules and Member Formulas that execute an Api.Data.Calculate within a For Each Loop can result in a degradation of consolidation performance due to the inefficiencies of looping through a list of the opening of a data unit potentially many times in memory.

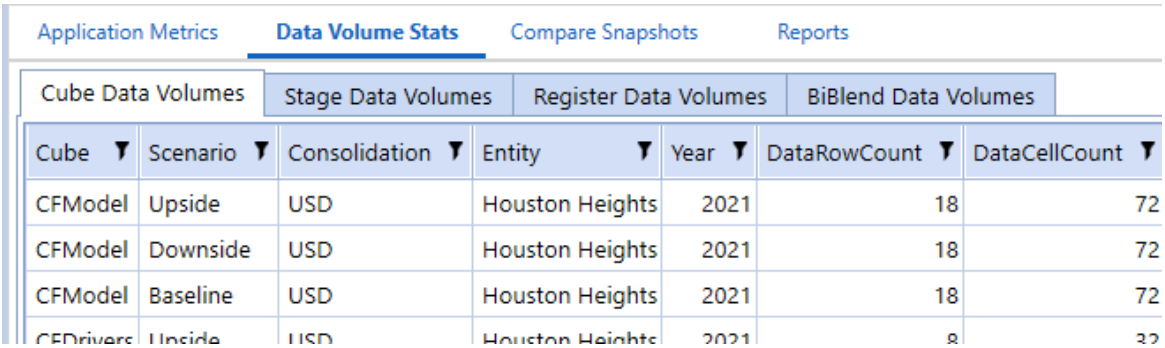
Potential Number of Stored Data Cells for Largest Data Unit: Represents the maximum number of data cells for this data model.

Application Metrics Status

Status	Description
Ok 🟢	Indicates that the metric does not affect application performance.
Warning 🟠	Indicates that the metric may negatively affect application performance.
Critical 🔴	Indicates that the metric is negatively affecting application performance.

Data Volume Statistics

This section reflects on the data volume detail of the application based on the year selected for the snapshot.



Cube	Scenario	Consolidation	Entity	Year	DataRowCount	DataCellCount
CFModel	Upside	USD	Houston Heights	2021	18	72
CFModel	Downside	USD	Houston Heights	2021	18	72
CFModel	Baseline	USD	Houston Heights	2021	18	72
CFDrivers	Upside	USD	Houston Heights	2021	8	32

Cube Data Volumes: Reports on the cube, scenario, entity, and year combinations with the most data volume rows in the *DataRecord* database tables.

Stage Data Volumes: Reports on the workflows with the most data rows in the *stagetofinanceloadresult* database table.

Register Data Volumes: Reports on workflows with the most records that are found in the installed Register Plan database tables.

BiBlend Data Volumes: Reports on BiBlend data volumes in the *StageBIBlendInformation* database table.

Application Analysis Reports

Application Analysis reports are based on the selected snapshot time period.

Database Table Sizes: Summarizes application table sizes by row count, used space, unused space, and allocated space.

Long Running Formulas: Reports on any long-running formulas logged in the error log during the previous 30 days from when the selected snapshot was taken.

OneStream Solution Deployment: Reports on all the deployed OneStream Solutions in the current application when the selected snapshot was taken.

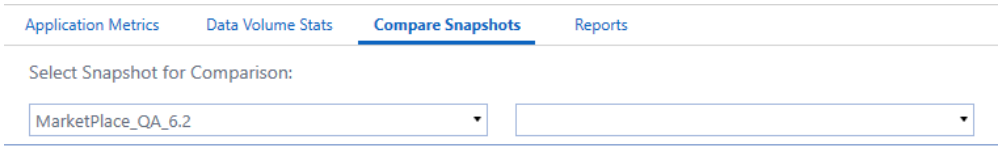
Snapshot Summary: Summarizes all the snapshot data found in the application metrics and data volume statistics tabs into one PDF report.

Compare Application Snapshots

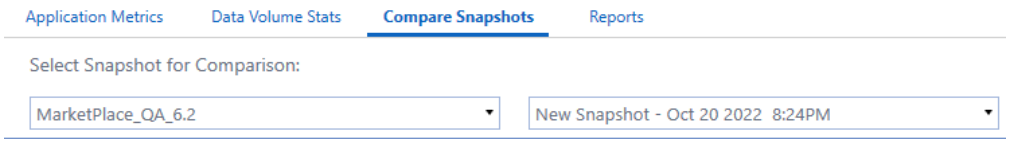
Click **Compare Snapshots** to compare any two application snapshot metrics. You can compare snapshots in the same application or different applications.

1. Select a snapshot from the table on the left to be the original snapshot.

2. Select the application you would like to choose your comparison snapshot from the snapshots list grid on the left.



3. Select the snapshot you would like to compare to the original.



Auto-created Task in Task Scheduler

When the solution's tables are first set up, a task called **System Diagnostics Snapshot Automation** is created in Task Scheduler. Task Scheduler is only viewable on OneStream Desktop. This task runs monthly on the third Saturday of the month at 11:30 PM UTC. The task takes an environment snapshot and also takes an application snapshot for the application where System Diagnostics was deployed.

If other applications in the same environment already have a System Diagnostics solution installed, a new System Diagnostics install in another application results in the task being scheduled to run 30 minutes before the existing System Diagnostics tasks in the environment to ensure environment resources are not exhausted by having several application snapshots run at the same time.

See also: Create Tables

Modify the Task

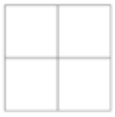
Administrators can modify the Snapshot Automation OSD task to change the frequency or scheduled time of the automated snapshot:

1. Navigate to the **Task Scheduler** page in OneStream (**Application** > **Tools** > **Task Scheduler**).
2. Select the task called **Snapshot Automation OSD** and click **Edit**.
3. Click the **Schedule** tab and change the frequency and scheduled time. See the *Task Scheduler* section in the *Design and Reference Guide* for more information on using the **Schedule** tab.

Re-create the Task (After Deleting)

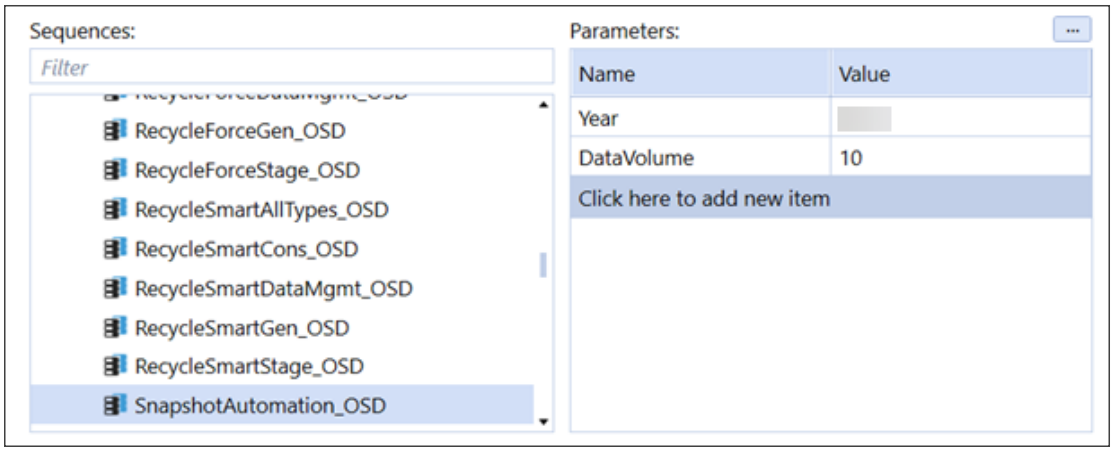
If the task gets deleted for any reason, and the administrator wants to re-create the task, there are two options.

- Find the dashboard **0_Frame_OSDS** under the dashboard group **Solution Setup (OSDS)** and run it. Then click **Setup Tables**to create the task.



Setup Tables

- Manually create a task with the frequency needed and select the **SnapshotAutomation_OSD** sequence. Then set the Data Volume parameter to 10, as shown below:



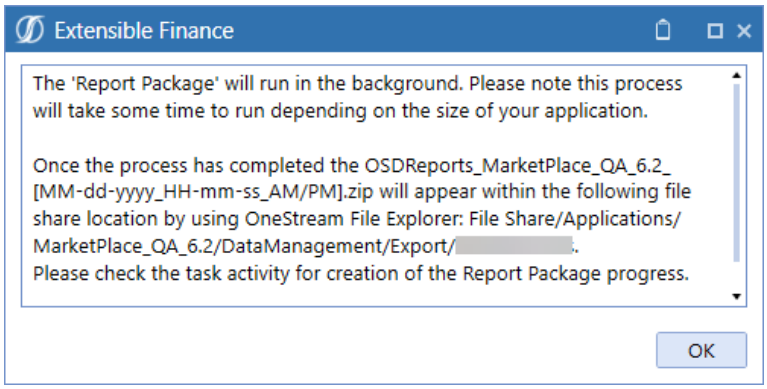
Report Package

The report package function allows you to generate environment and application snapshots in the background of the application. These snapshots are created and stored in a .zip file that can be emailed to OneStream Software Support for further assistance resolving any system issues.

To create a report package:

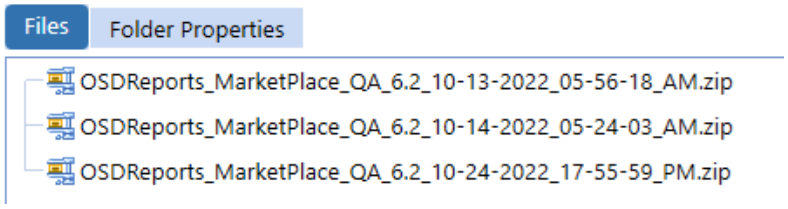
1. Click the **Report Package** button in the upper right corner of the System Diagnostics page.

2. A pop-up message is displayed on the screen to verify that report package will run in the background of the application. Click **OK** and the report will begin to run.



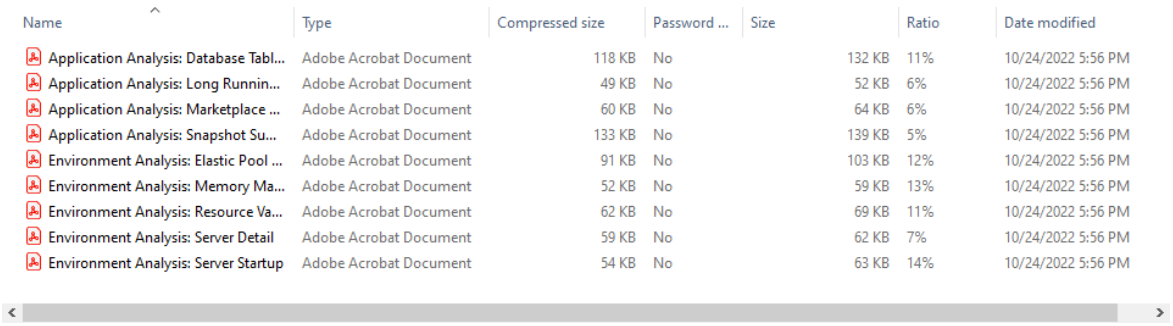
> **NOTE:** If report package is already running and you attempt to click the report package button again, a pop-up message is displayed stating that there is already a report being generated.

3. After completion, the reports are available in the OneStream File Share. The .zip file can be located by going to **System** > **File Explorer** > **File Share** > **Applications** > **ApplicationName** > **DataManagement** > **Export** > **UserName Folder**.



4. Click on the appropriate .zip file and download the file content using the file download button .

5. The .zip file can then be attached to an email and sent to OneStream Software Support.



Name	Type	Compressed size	Password ...	Size	Ratio	Date modified
Application Analysis: Database Tabl...	Adobe Acrobat Document	118 KB	No	132 KB	11%	10/24/2022 5:56 PM
Application Analysis: Long Runnin...	Adobe Acrobat Document	49 KB	No	52 KB	6%	10/24/2022 5:56 PM
Application Analysis: Marketplace ...	Adobe Acrobat Document	60 KB	No	64 KB	6%	10/24/2022 5:56 PM
Application Analysis: Snapshot Su...	Adobe Acrobat Document	133 KB	No	139 KB	5%	10/24/2022 5:56 PM
Environment Analysis: Elastic Pool ...	Adobe Acrobat Document	91 KB	No	103 KB	12%	10/24/2022 5:56 PM
Environment Analysis: Memory Ma...	Adobe Acrobat Document	52 KB	No	59 KB	13%	10/24/2022 5:56 PM
Environment Analysis: Resource Va...	Adobe Acrobat Document	62 KB	No	69 KB	11%	10/24/2022 5:56 PM
Environment Analysis: Server Detail	Adobe Acrobat Document	59 KB	No	62 KB	7%	10/24/2022 5:56 PM
Environment Analysis: Server Startup	Adobe Acrobat Document	54 KB	No	63 KB	14%	10/24/2022 5:56 PM

> **NOTE:** Any errors incurred during the report package creation are listed in a .txt file which is available with the snapshot PDFs.

Task Analysis

The **Task Analysis** page lets you query the number of tasks running in parallel over a given time frame by application, application server, task type, and environment snapshot. Use the Task Analysis page to run a daily log-on chart compared to environment resources.

The data is represented as a line chart in the Task Analysis page, with each line representing a daily logon type. Check boxes at the top of the chart let you exclude log-on types.

You can also hover over data points of the lines in the chart to see a count of daily log-ons for the highlighted log-on type in a pop-up. Data points occur on each date on the chart as defined by the evaluation criteria.

This page also provides access to the **Task Concurrency**, **Task Statistics**, and **Task Counts** pages. You can also print these charts by clicking on the printer icon in the top right corner of the task analysis page.

Upon clicking the Task Analysis tab, you will see the Daily Logon displayed in a line chart.

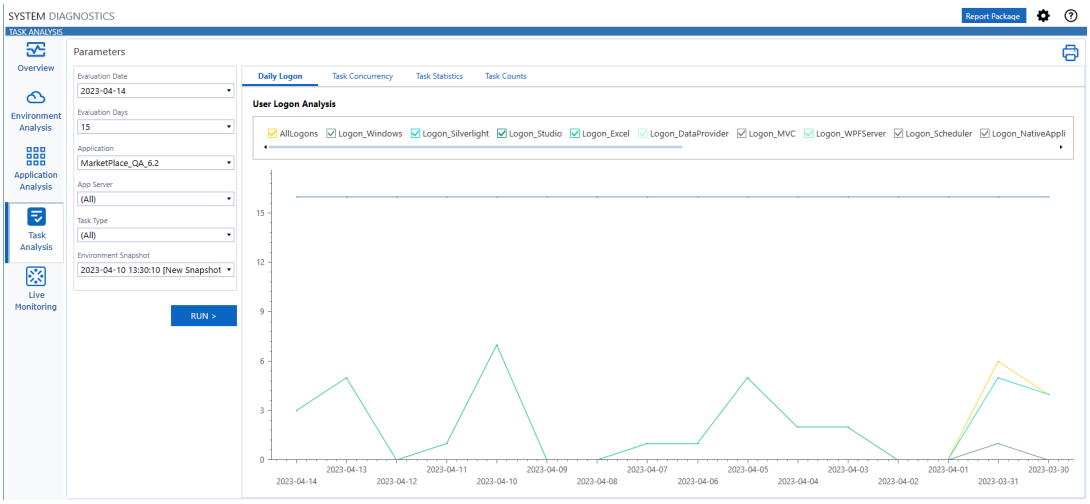


Chart Parameters

All pages available in Task Analysis work the same way. Select criteria in the parameters box to the left of the page to determine the data that displays on the chart. Criteria includes:

Evaluation Date: Date for which you want evaluation data to start.

Evaluation Days: Number of days before the Evaluation Date to evaluate and include on the chart. For example, if you select 2021-07-22 as the Evaluation Date and 15 for the number of evaluation days, the chart reflects data from 2021-07-22 to 2021-07-07.

Application: Select the name of the application you want to analyze data from the list. Applications in the list are based on your security role.

Task Type: Select a specific task type to evaluate or select the default (All) to include all task types.

Environment Snapshot (Daily Logon and Task Concurrency only): Select the snapshot that contains the data you want to use as the source for daily activity charting.

To create a new chart:

1. Use the fields located in the parameters box to update your chart.
2. Click **RUN >** to create the chart based on the defined criteria.

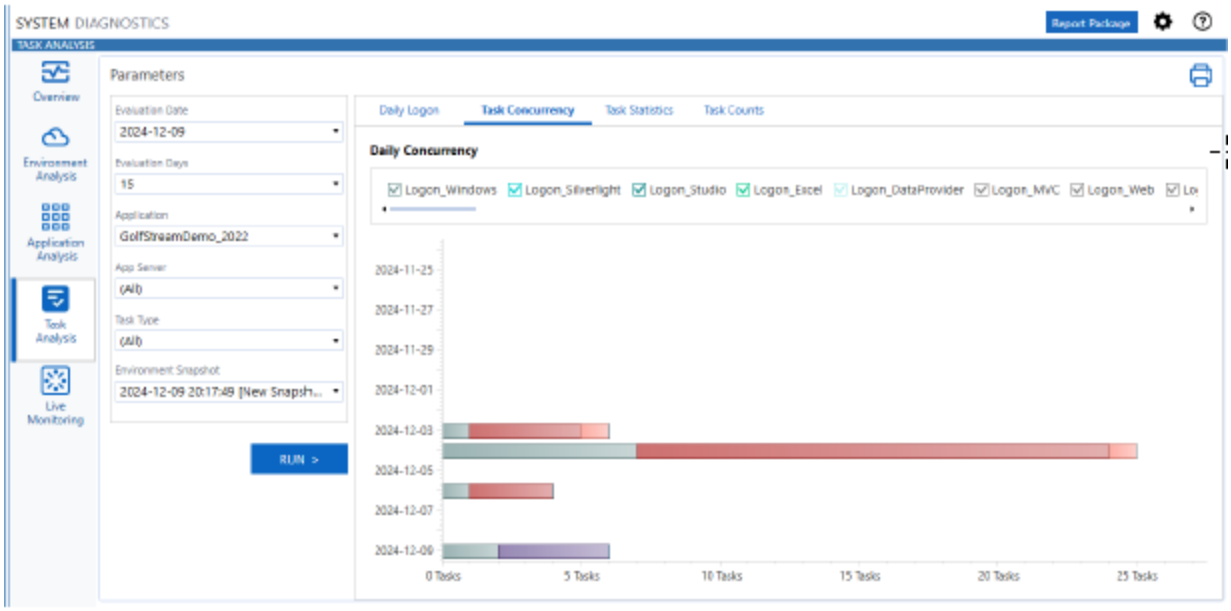
> **NOTE:** After changing parameters, a message is displayed on the screen reminding you to click **RUN >** to refresh the chart.

Task Concurrency

This page lets you query the number of tasks running in parallel over a given time frame by application, application server, task type, and environment snapshot.

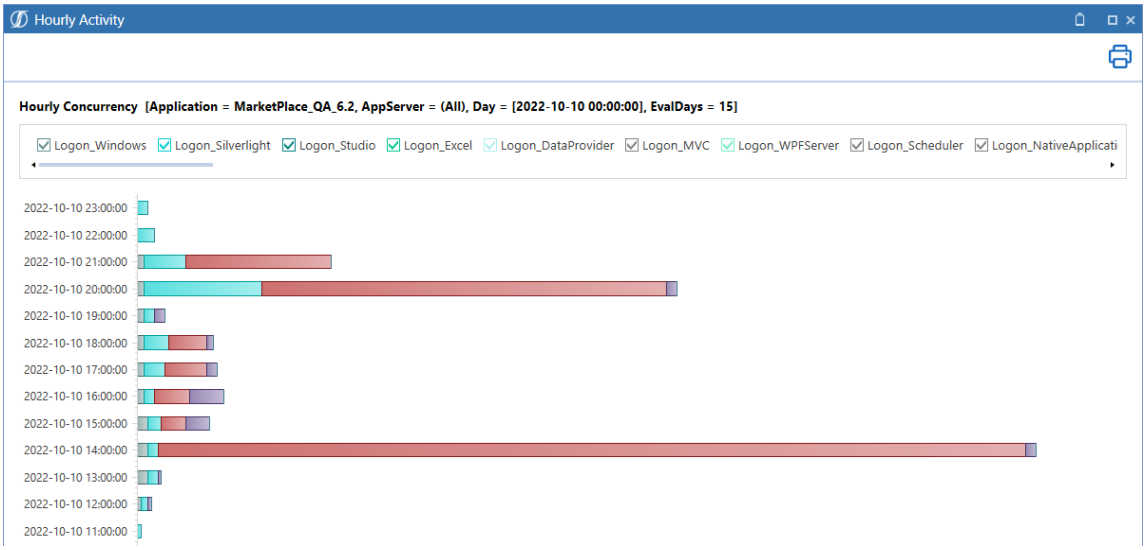
Task Concurrency bar chart data is based on the currently selected criteria. Each bar represents a day during the evaluation period. Each color in a bar represents either a task type defined using the evaluation criteria or a selected log-on type.

Like Daily Logon charting, checkboxes at the top of the chart represent the different daily concurrencies being tracked based on the evaluation criteria. Select or clear checkboxes to show or hide log-on types in each bar on the chart.

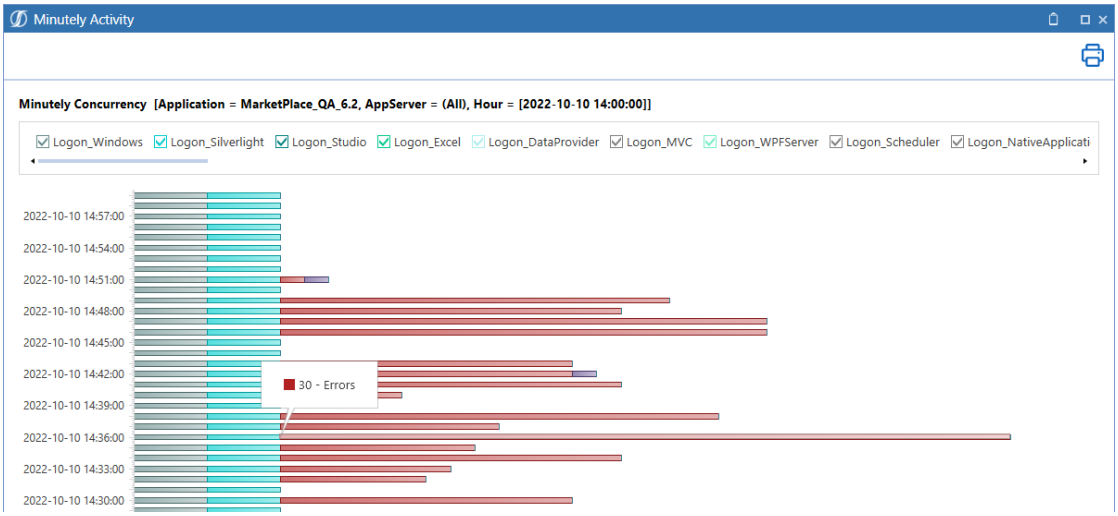


View Daily Concurrency Details

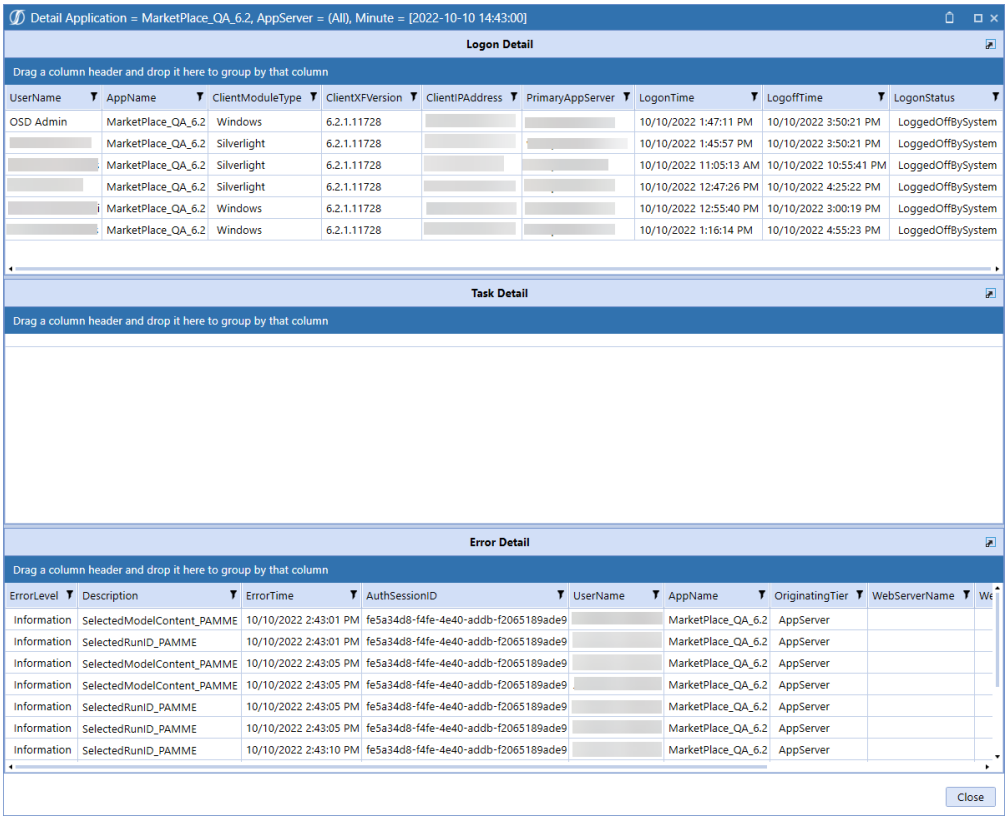
Click on any bar in the Daily Concurrency chart to view the detail for that day in a separate bar chart. The Hourly Activity chart uses a bar to represent each hour increment of the day selected in the Daily Concurrency chart. The left axis labels of the chart are for each two-hour increment in the day.



Click on any bar on the Hourly Concurrency chart to view the detail for that hour in a separate bar chart. The Minutely Activity chart uses a bar to represent each minute increment of the hour selected in the Hourly Concurrency chart. The left axis labels of the chart are for each four-minute increment in the hour.



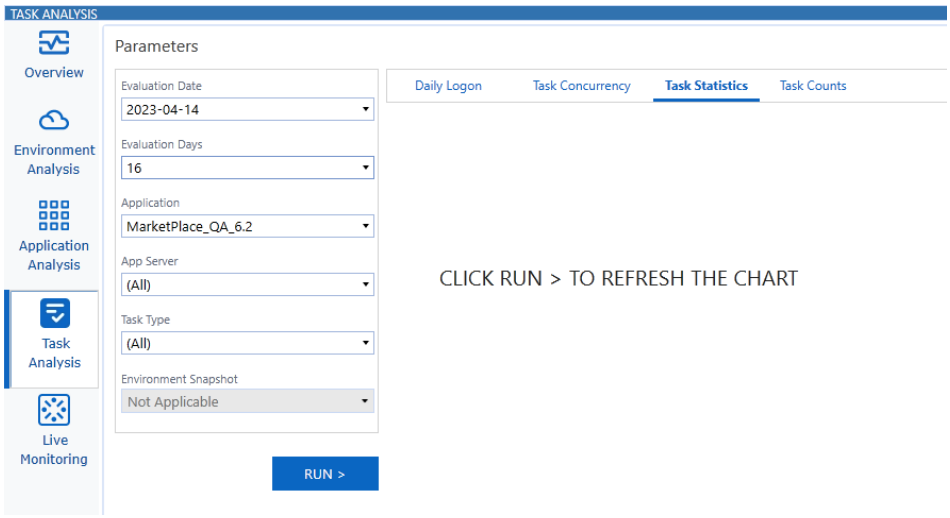
Click on any bar on the Minutely Concurrency chart to view specific log-on detail along with any task or error detail for that minute in a separate detail application window.



Task Statistics

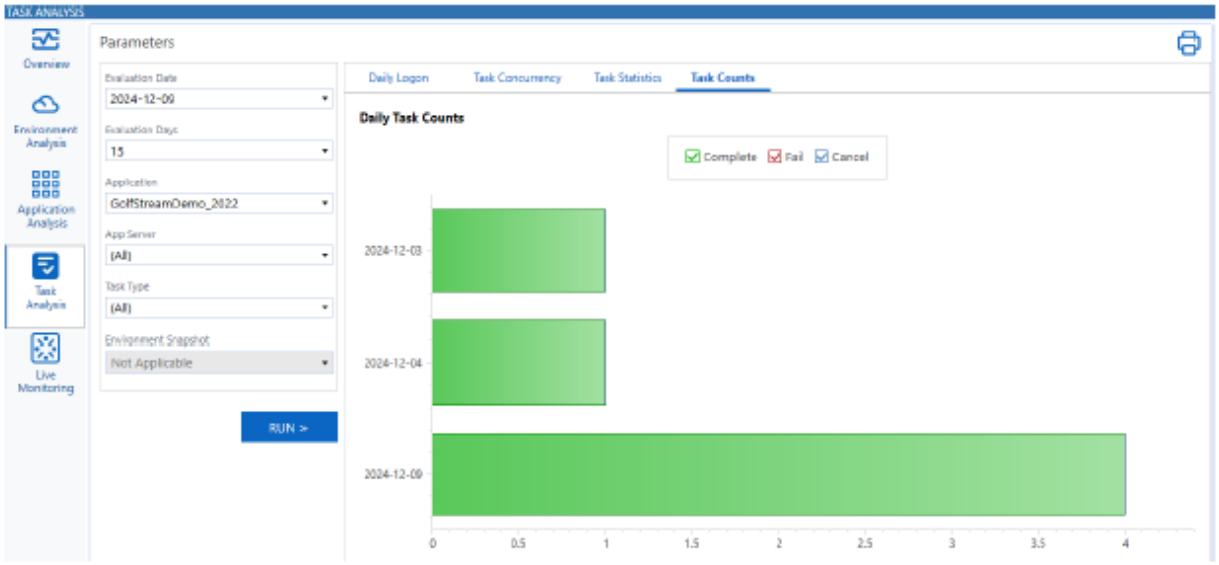
This page provides the ability to query the minimum, maximum, and average durations in seconds by date, application, application server, and task type.

Selecting or clearing Min, Avg, or Max in the statistic key updates the daily task statistics chart. Any changes to chart variables or parameters will prompt you to click **RUN >** to refresh the chart.



Task Counts

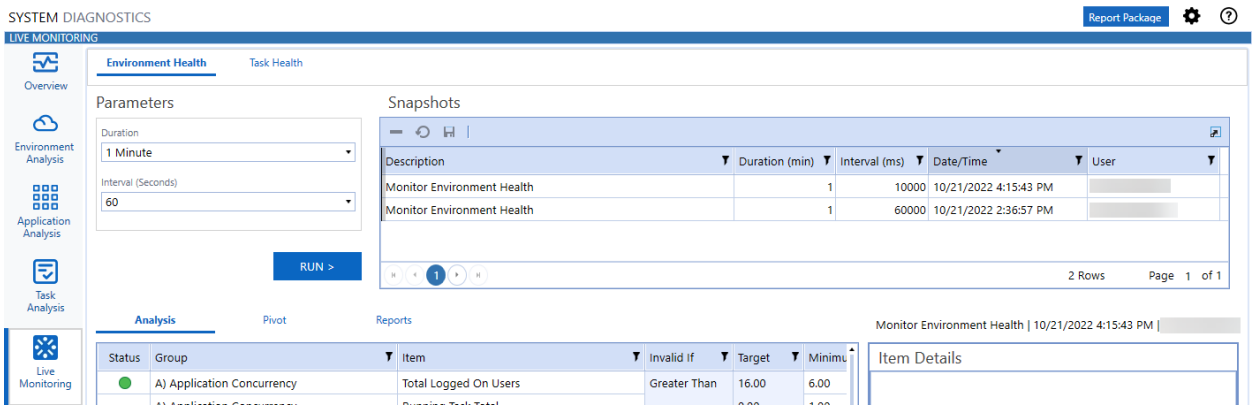
This page provides the ability to query the number of tasks completed over a given time frame by application, application server, and task type.



Selecting or clearing **Complete**, **Fail**, or **Cancel** in the task key will prompt you to click **RUN >** to refresh the chart. Additionally, any changes made to chart parameters will prompt you to refresh the chart.

Environment Health

This section provides a way to check the application environment health by different time frame durations and intervals.



To help differentiate between environment health live monitoring sessions, the description value can be changed by selecting the description field, changing the description, and clicking **Save**.

Sessions can also be deleted by selecting them from the list and clicking **Delete Row** .

Duration: Set the duration to monitor from a range of 1 minute to 12 hours.

Interval (Seconds): Set the interval to monitor from a range of 10 to 600 seconds. The first monitoring point will be at the interval time selected with additional point being recorded at each interval.

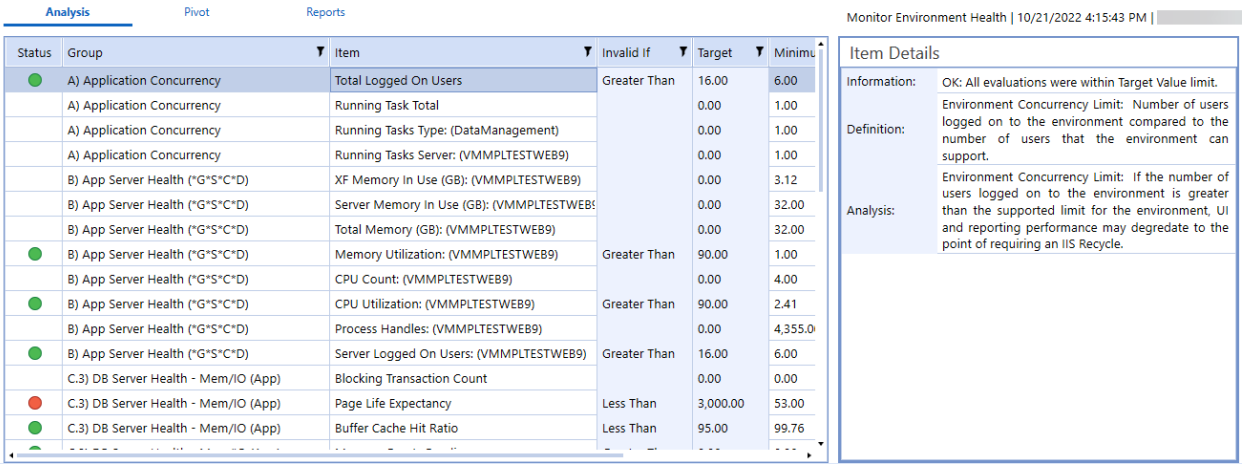
> **NOTE:** Running short intervals over long durations may impact system performance. An interval of 60 seconds or greater should be used for longer duration monitoring.

Click **RUN>** to run the environment health monitoring job.

Select the job by highlighting a row and select from one of the three output methods: **Analysis**, **Pivot**, or **Report**.

Analysis

Select **Analysis** to view the environment health monitoring data in a table with target, minimum, average, and maximum indicators. Selecting a metric will display item details to the right of the analysis table.



Environment Health Monitoring Status

Status	Description
Informational	Data point that is used in environment health monitoring calculations.
Ok	Indicates that the metric does not affect application performance.
Warning	Indicates that the metric may negatively affect application performance.

Status	Description
Critical 🔴	Indicates that the metric is negatively affecting application performance.

Environment and Task Health Monitoring Status

Status	Description
Informational	Data point that is used in environment health monitoring calculations.

Environment and Task Health Monitoring Groups / Items

A) Application Concurrency

Total Logged on Users: Number of users logged on to the environment compared to the number of users that the environment can support.

If the number of users logged on to the environment is greater than the supported limit for the environment, UI and reporting performance may degrade to the point of requiring an IIS Recycle.

Running Task Total: Total concurrent tasks in progress at the time of the monitoring.

Running Tasks Type: Total tasks in progress by the type at the time of the monitoring. **Running**

Tasks Server: Total tasks in progress per server at the time of the monitoring.

B) App Server Health Items

Memory in Use: Total memory being used by OneStream processing.

Server Memory in Use: Total memory being used by the application server.

Total Memory: Total memory available on the application server.

Memory Utilization: Amount of memory used for the analytic cache and all other caches.

The reserve memory must be large enough to hold all non-analytic cached items, such as metadata, workflow, stage processing. If this value is consistently high and gets above 90%, reserve memory should be increased because non-analytic memory consumption is larger than the reserve and virtual memory pressure grow.

CPU Count: Number of CPUs on the application server.

CPU Utilization: CPU activity for the specified application server as a percentage of 100.

High CPU usage is common for Consolidation, Data Management and Stage servers. However, CPU utilization should fluctuate for General Servers (Consistent high CPU utilization on General-type application servers indicates that more General server CPUs are required).

Server Logged on Users: Number of users logged onto the application server.

If the number of users logged onto the environment is greater than the supported limit for the environment, UI and reporting performance may degrade to the point of requiring an IIS Recycle.

C) DB Health Items

The following items display for Application and Framework Databases.

Blocking Transaction Count: Number of transactions that are delayed or stopped from processing in the database.

Page Life Expectancy: Average expectancy for how long each data page is staying in a buffer cache before being removed to make room for other pages.

A value below 3000 indicates memory pressure (Below 1000 represents extreme memory pressure).

> **Example:** A server with 230 GB RAM allocated to the SQL Server buffer pool and a Page Life Expectancy of 300 would equate roughly to 785MB/sec of I/O activity to maintain the page churn inside of the buffer pool. While it might be possible for the I/O subsystem to keep up with this demand, this represents a significant number of page churn in the buffer pool.

Buffer Cache Hit Ratio: Indicates the percentage of pages that were found in the buffer pool without having to incur a read from the disk.

The recommended value should be between 95 and 100. A lesser value indicates memory pressure.

Memory Grants Pending: Indicates the number of processes waiting on a workspace memory grant.

A higher value indicates the server needs more memory.

Total Server Memory (GB): Amount of memory that a server has committed using the memory manager.

Target Server Memory (GB): Amount of memory that a server is willing to allocate to the buffer pool under its current load. The Target Server Memory value shows how much memory the SQL Server needs for the best performance.

Total-Target Memory Ratio: Total Server Memory / Target Server Memory

When the Total Server Memory and Target Server Memory values are close, there's no memory pressure on the server. The recommended ratio value should be 1.

Total Connection Count: The number of client connections accessing the database.

A high connection count near the target means that the MaxPoolSize of the SQL Connection should be increased or connection time-outs may occur.

Total Select Count: Number of select statements executed during the monitor period.

Total Insert Count: Number of insert statements executed during the monitor period.

Total Update Count: Number of update statements executed during the monitor period.

Total Delete Count: Number of delete statements executed during the monitor period.

Lazy writes/sec: Indicates the number of times per second the server relocates dirty pages from buffer pool to disk.

The recommended value for Lazy Writes/Sec is below 20. Higher paging and disk I/O activity indicate insufficient memory. Check Page Life Expectancy and if its value is low (below 1000 seconds), then this is a clear indication of memory pressure.

Page reads/sec: Indicates the number of physical database page reads that are issued per second. This statistic displays the total number of physical page reads across all databases.

The recommended Page Reads/Sec value should be under 90. Higher values indicate insufficient memory and indexing issues.

Page writes/sec: Indicates the number of physical database page writes that are issued per second.

The recommended value for Page Writes/Sec is below 90. Higher paging and disk I/O activity indicate insufficient memory.

Pivot

Select **Pivot** to view the environment health monitoring data in a table by the number of interval evaluations that were selected.

Analysis | **Pivot** | Reports

Group	Item	Eval1	Eval2	Eval3	Eval4	Eval5	Eval6
A) Application Concurrency	Total Logged On Users	6	6	6	6	6	6
A) Application Concurrency	Running Task Total	1	1	1	1	1	1
A) Application Concurrency	Running Tasks Type: (DataManagement)	1	1	1	1	1	1
A) Application Concurrency	Running Tasks Server: (VMMPLTESTWEB9)	1	1	1	1	1	1
B) App Server Health (*G*S*C*D)	XF Memory In Use (GB): (VMMPLTESTWEB9)	3.12	3.12	3.12	3.12	3.12	3.12
B) App Server Health (*G*S*C*D)	Server Memory In Use (GB): (VMMPLTESTWEB9)	32	32	32	32	32	32
B) App Server Health (*G*S*C*D)	Total Memory (GB): (VMMPLTESTWEB9)	32	32	32	32	32	32
B) App Server Health (*G*S*C*D)	Memory Utilization: (VMMPLTESTWEB9)	1	1	1	1	1	1
B) App Server Health (*G*S*C*D)	CPU Count: (VMMPLTESTWEB9)	4	4	4	4	4	4
B) App Server Health (*G*S*C*D)	CPU Utilization: (VMMPLTESTWEB9)	4.67	3.02	3.02	3.02	2.41	2.41
B) App Server Health (*G*S*C*D)	Process Handles: (VMMPLTESTWEB9)	4366	4355	4358	4360	4360	4355
B) App Server Health (*G*S*C*D)	Server Logged On Users: (VMMPLTESTWEB9)	6	6	6	6	6	6
C.3) DB Server Health - Mem/IO (App)	Blocking Transaction Count	0	0	0	0	0	0
C.3) DB Server Health - Mem/IO (App)	Page Life Expectancy	53	63	73	82	92	101
C.3) DB Server Health - Mem/IO (App)	Buffer Cache Hit Ratio	99.76	99.87	99.87	99.89	100	99.93
C.3) DB Server Health - Mem/IO (App)	Memory Grants Pending	0	0	0	0	0	0

Reports

Select **Reports** to view the environment health monitoring analysis and detail.

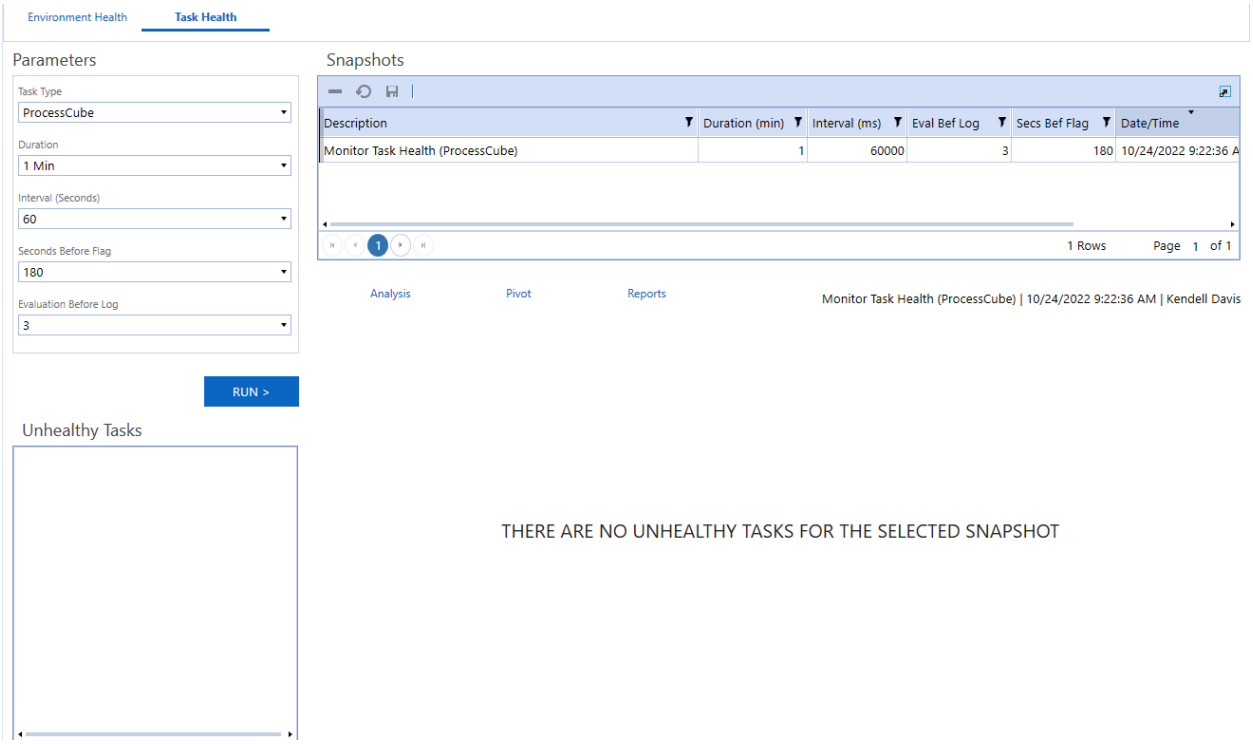
Environment Health Analysis: Provides the Environment Analysis for the application and database servers.

Environment Health Analysis (With Explanations): Provides the Environment Analysis for the application and database servers with explanations.

Environment Health Detail: Provides the Environment Detail for the application and database servers.

Task Health

This section provides a way to check the task health by different task types, durations, intervals, and evaluations. If there are no unhealthy tasks for a selected snapshot, no data will populate on the Analysis, Pivot, and Reports tabs.



Task Type: Set the type of task to monitor.

Duration: Set the duration to monitor tasks from a range of 1 minute to 12 hours.

Interval (Seconds): Set the interval to monitor tasks from a range of 10 to 600 seconds.

Seconds Before Flag: Set the Seconds Before Flag to capture tasks that have been processing for more than a 10 to 6000 second runtime.

Evaluation Before Log: Set from a range of 1 to 10 to determine the number of times to skip logging the task if the task has exceeded the seconds before flag.

Click **RUN >** to begin the task health monitoring job.

Select the job by highlighting a row and select from one of the three output methods: **Analysis**, **Pivot**, or **Report**.

Reports

Select **Reports** to view the task health monitoring analysis and detail.

Task Health Analysis: Provides the Environment Analysis for the application and database servers.

Task Health Analysis (With Explanations): Provides the Environment Detail for the application and database servers.

Task Health Detail: Provides the Environment Detail for the application and database servers.

Unhealthy Tasks

This section will reflect any tasks that are not processing successfully for a given monitoring time frame.

AI System Diagnostics

AI System Diagnostics builds on the capabilities of System Diagnostics by introducing the ability to scan custom code within the application for inefficiencies and poor coding practices that may negatively impact the environment's performance. By finding and eliminating these inefficiencies within the existing code, AI System Diagnostics helps ensure an environment's performance is optimized.

AI System Diagnostics includes a set of Predefined Conditions that identify common poor coding practices, complete with descriptions and examples, as well as a compiled list of OneStream-specific issues that can be found in custom code. To run a scan, users select the conditions they wish to evaluate, along with the option to specify which components to scan: Business Rules (here includes workspace assemblies and member formulas), Data Adapters, or both.

Once a scan is complete, a detailed report is generated containing the following:

- **Condition Name**: The name of the condition identified by the scan.
- **Scan Item Type**: The type of item containing the condition, either Business Rule or Data Adapter.
- **Scan Item**: The name of the file or item containing code that the scan detected with the condition.
- **Line Number Start**: Displays the first line number of the region of code where the scan has found its criteria.
- **Line Number End**: Displays the final line number of the region of code where the scan has found its criteria.

- **Severity Level**: Displays how detrimental this condition is to the performance of the system (Low, Medium, High). Some conditions are minor inconveniences to the system, while others play a vital role in the overall health of the environment. Any marked as High should be analyzed closely.
- **Explanation**: A Large Language Model (LLM)-generated explanation for why this region of code met the specified condition and why it is causing an inefficiency in their environment.
- **Suggested Fix**: An LLM-generated suggested fix for the region of code determined to meet the condition.

With AI System Diagnostics you can:

- Apply Predefined Conditions.
- Create and edit Custom Conditions.
- Run scans on the Home page.
- Run jobs asynchronously.
- Use multi-select tagging to filter and find relevant conditions easily.
- Download the report generated from a scan.

> **IMPORTANT:** AI System Diagnostics is a paid solution and runs on Platform 9.0. To access the SensibleAI Studio and verify your Platform version, contact your Account Executive.

Setup and Installation

AI System Diagnostics now comes preinstalled alongside System Diagnostics in your OneStream environment. To use AI capabilities, the appropriate AI package must be enabled, containing Xperiflow and AI Plugin - OneStream System Diagnostics. Please contact your OneStream Account Executive for further instructions.

AI System Diagnostics can be installed within an existing OneStream application, yet it enables you to analyze the performance of all applications in a given environment. See Install System Diagnostics for details.

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

Dependencies

Component	Description
OneStream 9.0.0 or later	Minimum OneStream Platform version required to access this version of AI System Diagnostics.
Xperiflow 4.0.0 or later	Minimum Xperiflow Engine version required to access this version of AI System Diagnostics.

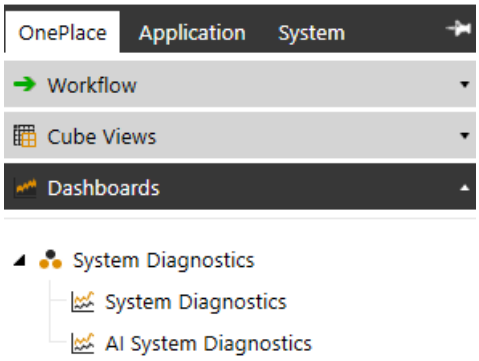
Component	Description
PSD Xperiflow 4.0.0 or later	Minimum Xperiflow Engine version required to install AI Plugin - OneStream System Diagnostics (PSD) which is needed for AI System Diagnostics.

Set Up AI System Diagnostics

> **IMPORTANT:** AI System Diagnostics is an independent dashboard within System Diagnostics and will install alongside System Diagnostics. See *Set Up System Diagnostics* in the *System Diagnostics Guide*.

The first time you run AI System Diagnostics, you are guided through the table setup process.

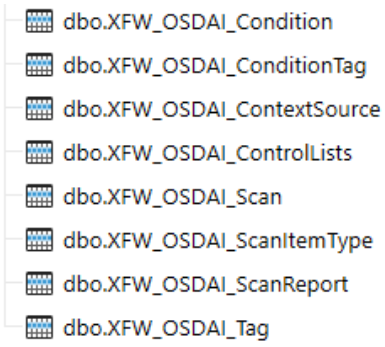
In OneStream, click **Community Solution** > **Dashboards** > **System Diagnostics** > **AI System Diagnostics**.



Create Tables

1. Click **Step 1: Setup Tables**.

   The following tables are created in the OneStream framework database:

2. Click **Step 2: Launch Solution** to open AI System Diagnostics.

Global Settings

The **Global Settings** page contains key properties that guide administration are set in the **Security Settings** tab, as well as the **Uninstall** tab, which provides solution uninstall options.

Security Settings

Administrators can use the Security Management settings to determine which groups can manage different parts of the AI System Diagnostics solution.

1. Select from the **Security Role** drop-down menu and choose a security group.
2. Click the **Save** button.

Uninstall

Use the Uninstall feature to uninstall the AI System Diagnostics interface or the entire solution. If done as part of an upgrade, any modifications performed on standard AI System Diagnostics objects are removed.

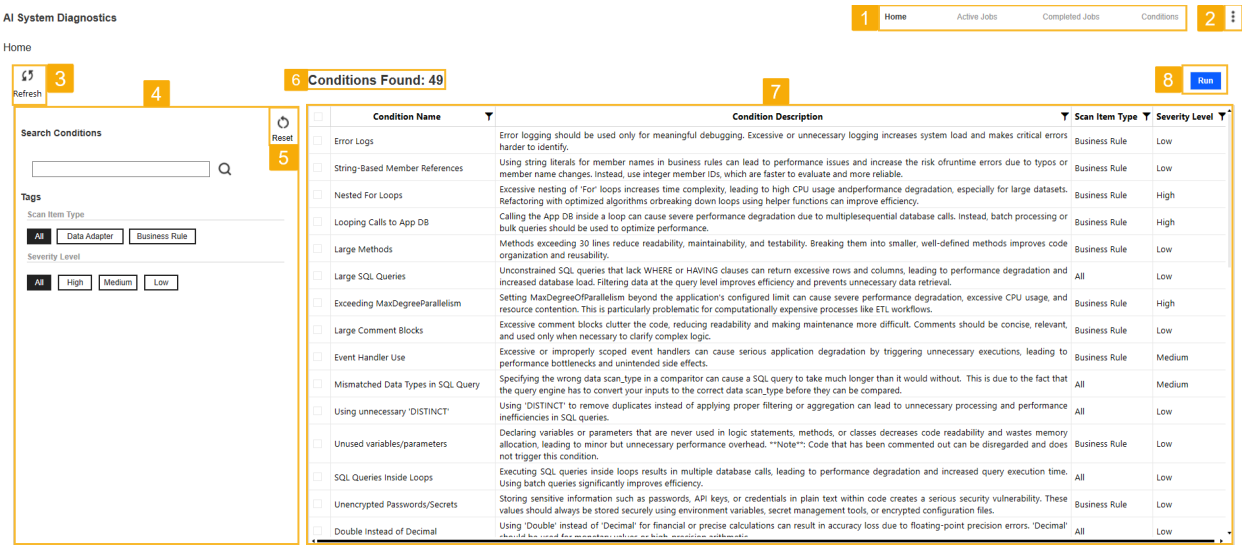
1. On the **Global Options** page, click the **Uninstall** tile.
2. On the **Uninstall** page, select **Uninstall UI** or **Uninstall Full**.
    - Use the **Uninstall UI** button to remove AI System Diagnostics, including related dashboards and business rules, but retain the database and related tables.
    - Use the **Uninstall Full** button to remove all related data tables, data, and AI System Diagnostics dashboards and business rules. Choose this option to completely uninstall AI System Diagnostics or to perform an upgrade that is so significant in its changes to the data tables that this method is required.

        > **CAUTION:** Uninstall procedures are irreversible.

3. On the **Confirm** dialog box, click the **Uninstall** button to proceed.

Home

Use the Home page to view both Predefined and Custom Conditions.



1. **Navigational tabs**:
    - **Home**: View, search, and filter conditions; run scans
    - **Active Jobs**: View all active jobs
    - **Completed Jobs**: Download reports from completed jobs
    - **Conditions**: Create and edit Custom Conditions

    > **NOTE:** The Conditions tab can only be viewed by admins.

2. **Global Options**:

- **GlobalSettings**: Contains Security Settings and Uninstall
- **Help**: Contains documentation for AI System Diagnostics

3. **Refresh**: Use to clear cache. Refreshes the conditions found, the conditions table, and will clear the search and tags.
4. **Filter**:
    - **Search Condition**: Use the text box to search for conditions by name
    - **Tags**: Set filters to search for selected conditions. The Conditions Table will refresh to show search results. Multiple tags can be selected from each category.
        a. **Scan Item Type**: All, Data Adapter, Business Rule
        b. **Severity Level**: All, High, Medium, Low

    > **NOTE:** Clicking **Search** with nothing in the text field will reset the search filter, but selected tags remain.

5. **Reset**: Clears the filters and search box. The Conditions Table will show all conditions.
6. **Conditions Found**: Displays the number of conditions
7. **Conditions Table**:
    - **Name**: The condition name. This is set for Custom Conditions only on the Condition page, or are predefined by OneStream.
    - **Description**: Displays the description of the condition. This is set for Custom Conditions only on the Conditions page, or are predefined by OneStream.
    - **Scan Item Type**: Displays the Predefined or Custom Condition type. This is set for Custom Conditions only on the Conditions page, or are predefined by OneStream.

- **Severity Level**: Displays the priority that the condition should be addressed. This is set for Custom Conditions only on the Conditions page, or are predefined by OneStream

> **NOTE:** All fields can be filtered.

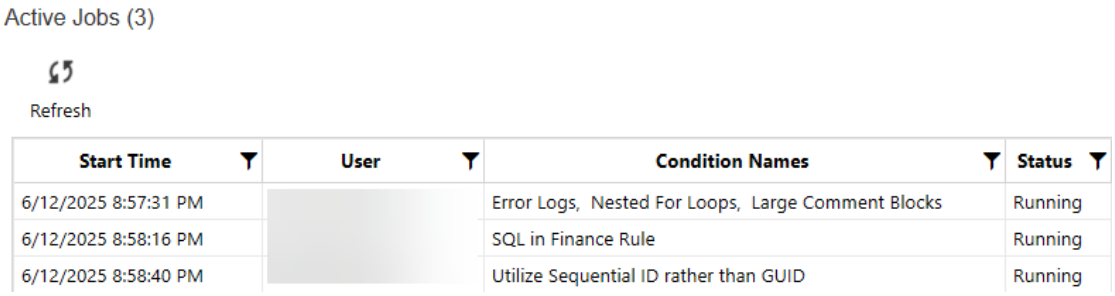
8. **Run**: Runs a report of specified conditions.
    a. Clicking **Run** after you have selected one or more condition will prompt a dialog box asking if you wish to proceed. Click **Confirm**.
    b. Clicking **Run** without selecting conditions will populate a dialog box prompting you to select the conditions you wish to run.

Active Jobs

The Active Jobs page shows all active jobs with a status of Queued or Running. The number of Active Jobs will appear at the top of the page.

- **Start Time**: Displays the local time setting when the job begins
- **User**: Displays the name of the user that initiates the run
- **Condition Name**: Displays the uniquely assigned name of the conditions that are run in the given job
- **Status**: Displays the Job Status from the AI Engine

Click the **Refresh** button to refresh the page and display active jobs.



> **IMPORTANT:** Run times may be impacted by varying factors, such as how many jobs are run at one time or the size of the packages. Additionally, while a job is running, you cannot create or edit Custom Conditions on the Conditions page.

Completed Jobs

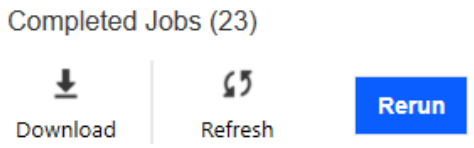
Use the Completed Jobs page to download reports of completed scans. Only jobs with the status of Completed or Failed display in the Conditions Table. The number of Completed Jobs is shown at the top of the page.

On this page you can:

- Download a job by selecting it and clicking **Download**.

  > **NOTE:** If you select a failed condition and click Download, you are prompted to view the Error Log because there is no job report to download.

- Update the Completed Jobs table by clicking **Refresh**.
- Repeat a job by selecting it and clicking **Rerun**.



Completed Jobs Table

The table displays the following:

- **Start Time**: The local time when the job begins.
- **End Time**: The local time when the job ends.
- **User**: The name of the user that executed the run.
- **Condition Name**: The unique name of the conditions that the job ran.
- **Status**: The Job Status from the SensibleAI Studio.

Start Time	End Time	User	Condition Names	Status
6/6/2025 12:59:36 PM	6/6/2025 1:06:15 PM	OSDAI_edAdmin	Error Logs	Completed
6/6/2025 12:34:51 PM	6/6/2025 12:59:10 PM	OSDAI_edAdmin	Error Logs, String-Based Membe	Completed
6/6/2025 12:33:00 PM	6/6/2025 12:41:21 PM	OSDAI_edAdmin	Error Logs	Completed

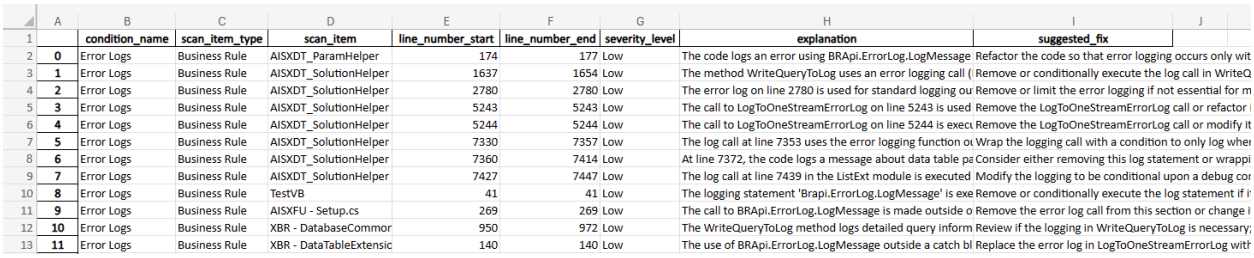
Scan Report

From the Completed Jobs page, your downloaded report is saved in File Explorer. When selecting and downloading a report, it opens as an Excel File (.xslx file). A **Scan Report** contains the following information:

- **Condition Name**: The unique name of the condition.
- **Scan Item Type**: The name of the type of scan the condition has run.
- **Scan Item**: The type of scan the condition has run.
- **Line Number Start**: The line of code where the scan detected the condition it was searching for.
- **Line Number End**: The final line of code where the scan detected the condition it was searching for.
- **Severity Level**: The severity of the condition.

- **Explanation**: Shows a detailed explanation of what the scan has picked up from searching the code it was applied to.
- **Suggested Fix**: Contains a detailed plan that you can perform to eliminate the errors in the code that the scan detected in the application where the condition was applied. Follow the steps outlined by the suggested fix to promote efficiency in the environment.

Scan Report Example



	condition_name	scan_item_type	scan_item	line_number_start	line_number_end	severity_level	explanation	suggested_fix
0	Error Logs	Business Rule	AISXDT_ParamHelper	174	177	Low	The code logs an error using BRApi.ErrorLog.LogMessage	Refactor the code so that error logging occurs only wit
1	Error Logs	Business Rule	AISXDT_SolutionHelper	1637	1654	Low	The method WriteQueryToLog uses an error logging call (	Remove or conditionally execute the log call in WriteQ
2	Error Logs	Business Rule	AISXDT_SolutionHelper	2780	2780	Low	The error log on line 2780 is used for standard logging ou	Remove or limit the error logging if not essential for m
3	Error Logs	Business Rule	AISXDT_SolutionHelper	5243	5243	Low	The call to LogToOneStreamErrorLog on line 5243 is used	Remove the LogToOneStreamErrorLog call or refactor
4	Error Logs	Business Rule	AISXDT_SolutionHelper	5244	5244	Low	The call to LogToOneStreamErrorLog on line 5244 is exec	Remove the LogToOneStreamErrorLog call or modify it
5	Error Logs	Business Rule	AISXDT_SolutionHelper	7330	7357	Low	The log call at line 7353 uses the error logging function o	Wrap the logging call with a condition to only log whe
6	Error Logs	Business Rule	AISXDT_SolutionHelper	7360	7414	Low	At line 7372, the code logs a message about data table pa	Consider either removing this log statement or wrappi
7	Error Logs	Business Rule	AISXDT_SolutionHelper	7427	7447	Low	The log call at line 7439 in the ListExt module is executed	Modify the logging to be conditional upon a debug cor
8	Error Logs	Business Rule	TestVB	41	41	Low	The logging statement 'Brapi.ErrorLog.LogMessage' is exe	Remove or conditionally execute the log statement if i
9	Error Logs	Business Rule	AISXFU - Setup.cs	269	269	Low	The call to BRApi.ErrorLog.LogMessage is made outside o	Remove the error log call from this section or change i
10	Error Logs	Business Rule	XBR - DatabaseCommor	950	972	Low	The WriteQueryToLog method logs detailed query inform	Review if the logging in WriteQueryToLog is necessary;
11	Error Logs	Business Rule	XBR - DataTableExtensic	140	140	Low	The use of BRApi.ErrorLog.LogMessage outside a catch bl	Replace the error log in LogToOneStreamErrorLog with

- **Condition Name**: Error Log
- **Scan Item Type**: Business Rule
- **Scan Item**: AISXDT_ParamHelper
- **Line Number Start**: 174
- **Line Number End**: 177
- **Severity Level**: Low
- **Explanation**: The code logs an error using BRApi.ErrorLog.LogMessage outside of a catch block, which may lead to excessive and unnecessary logging. This can increase system load and make it harder to identify truly.
- **Suggested Fix**: Refactor the code so that error logging occurs only within catch blocks or remove the logging call if it's not providing meaningful debugging information. Alternatively, use conditional logging to ensure that only significant errors are recorded.

Conditions

On the Conditions Page you can view Predefined Conditions, or create and edit Custom Conditions. All conditions can be viewed from the Conditions Table. There are a total of 38 Predefined Conditions, and the total number of conditions, including Custom can also be found here.

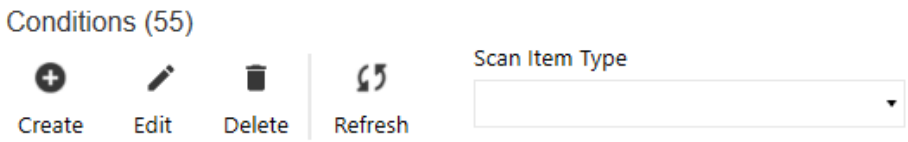
Conditions, either Predefined or Custom, will not scan OneStream Solutions and Partner Solutions. These are whitelisted.

On this page you can:

- **Create** a Custom conditions.
- **Edit** a Custom condition.
- **Delete** a Custom condition. This action cannot be undone.

  > **NOTE:** Predefined conditions cannot be deleted.

- Clear cache by selecting **Refresh**. The Conditions Table and the number of conditions refreshes.
- Filter conditions with the **Scan Item Type** drop-down menu.



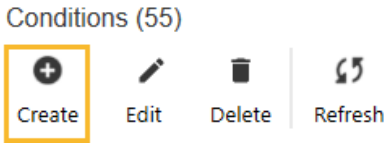
Conditions Table

- **Condition Name**: The uniquely assigned name of the condition
- **Condition Description**: A user-legible definition of the condition. This will appear on the Home page for users to select for future scans.
- **Natural Language Definition**: The prompt informs the Large Language Model on how the condition acts once created, and how it scans code. This additional context will help aide the LLM in determining what to look for. It is best to be as specific as possible with the NLD, describing why the coding practice that the condition will look for should be avoided.
- **Condition Type**: Defines whether a condition is either Custom or Predefined
- **Scan Item Type**: Displays the type of scan the condition will run, Business Rule, Data Adapter, or All
- **Severity Level**: Shows the severity of a condition, either High, Medium or Low
- **Refresh**: Use to clear cache. The Conditions Table and the number of conditions refreshes.

Condition Name	Condition Description	Natural Language Definition	Condition Type	Scan Item Type	Context Source	Severity Level
Error Logs	Error logging should be used only for meaningful debugging. Excessive or unnecessary logging increases system load and makes critical errors harder to identify.	Unnecessary error logging increases system load and makes debugging harder by adding too much noise to logs, which can hide important errors. Instead, logs should be used only for meaningful debugging and be removed when no longer needed. **Note**: An error log inside of a "Catch", such as "throw ErrorHandler.LogWrite(si, new XFException(si, ex))", is safe. Do not flag this.	Predefined	Business Rule	Business Rule API Documentation	Low
String-Based Member Re	Using string literals for member names in business rules can lead to performance issues and increase the risk ofruntime errors due to typos or member name changes. Instead, use integer member IDs, which are faster to evaluate and more reliable.	String literals representing member names in business rules should be avoided. Using strings can be error-prone and less efficient, especially when member names change or contain typos. Instead, reference members by their integer member IDs, which are more performant and reduce risk in production environments.	Predefined	Business Rule	Business Rule API Documentation	Low
Nested For Loops	Excessive nesting of 'For' loops increases time complexity, leading to high CPU usage andperformance degradation, especially for large datasets. Refactoring with optimized algorithms orbreaking down loops using helper functions can improve efficiency.	Nested For loops significantly slow down execution by increasing time complexity, often leading to exponential performance issues. This can cause unnecessary CPU usage, especially when handling large datasets. Instead, consider alternative approaches such as using caching, recursion, LINQ, or precomputing reusable values to improve efficiency.	Predefined	Business Rule	Business Rule API Documentation	High

> **IMPORTANT:** You cannot create or edit Custom Conditions while a scan is running. This will avoid a concurrency error.

Create a New Condition



1. To add a new condition, click the **Create** button to be guided through the AI Component Workflow.
2. In the **Condition Name** text box, enter a unique name for your new condition.

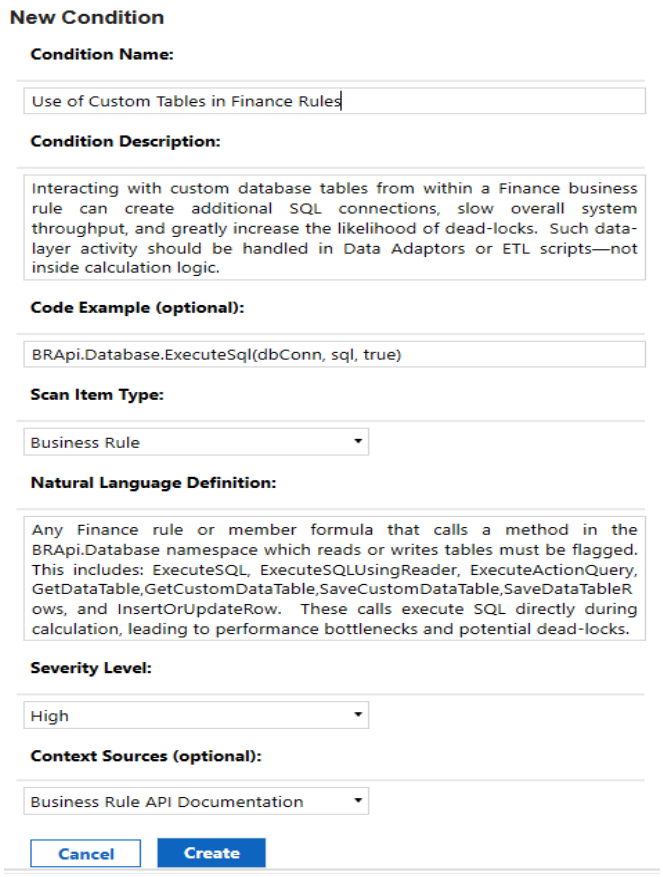
   > **NOTE:** Names of conditions are unable to be edited later.

3. Enter a description in the **Condition Description** text box of what the bad practice in the code is that the scan trying to catch.
4. In the **Code Example** text box, enter a short code snippet of the bad practice described in the Condition Description. This field is optional, but will highly aid in accuracy of code scan results if used.
5. The **Scan Item Type** will determine what types of OneStream artifacts will be scanned for this condition. Use the drop-down menu to choose one of the following scan item types:
   - All
   - Business Rule
   - Data Adapter
6. In the **Natural Language Definition** text box, enter a prompt to inform the model of the condition requirements. The more detailed and specific a prompt is will result in a narrow and efficient scope when the condition scans the code.

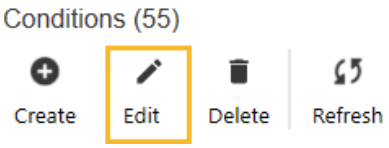
> **Example:** NLD prompt for an Error Log condition: Unnecessary logging with Brapi.ErrorLog.LogMessage increases system load and makes debugging harder by adding too much noise to logs, which can hide important errors. Instead, logs should be used only for meaningful debugging and be removed when no longer needed.

7. From the **Severity Level** drop-down menu, select the severity of your condition:
    - Low
    - Medium
    - High
8. Some conditions need additional context apart from face-value code to determine if it meets the criteria for being a bad practice. Context should be used only when necessary to increase accuracy in scans. If you specify unnecessary context to be included, it can lead to confusion and inconsistent results in the model. Use the **Context Sources (optional)** drop-down to select the parameter that the condition will be applied to:
    - Business Rule API Documentation
    - Database Table Schema
    - Application Metadata
9. Click **Create** and your saved condition will appear in the Conditions Table.

> **NOTE:** If you click **Cancel**, the AI Component Workflow field closes without saving any changes.



Edit a Custom Condition



To edit a Custom Condition, select the condition and click the **Edit** button and the AI Component Workflow will open.

You can make changes to the following:

- **Condition Description**: Edit the description describing the bad practice that informs how the condition will act
- **Code Example (optional)**: Input a different example of code that the scan will look for
- **Scan Item Type**: Change the condition type
- **Natural Language Definition**: Change the prompt that sets the model requirements and informs how the condition will act and scan code
- **Severity Level**: Select the severity level of your condition
- **Context Sources (optional)**: From the drop-down menu, can change the parameter that the condition will be applied to

Click the **Update** button and the Conditions Table will refresh with your saved changes. Clicking **Cancel** will cause the AI Component Workflow to close without saving any changes.

> **NOTE:** You are unable to edit Predefined Conditions.

Help and Miscellaneous Information

This page contains solution documentation.

Display Settings

OneStream Platform and 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.

Additionally, OneStream recommends that you adjust the Windows System Display text setting to 100% and do not apply any custom scaling options.

Package Contents and 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: OSD_PV8.5.0_SV102_PackageContents.zip

For System Diagnostics

Identifier	Description
OSD	Solution ID
PV8.5.0	Minimum Platform version required to run solution
SV102	Solution version
PackageContents	File name

For AI System Diagnostics

Identifier	Description
OSD	Solution ID
PV9.0.0	Minimum Platform version required to run solution
SV102	Solution version
PackageContents	File name

Solution Database Migration Advice

A development OneStream 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 *Design and Reference Guide*.

OneStream Solution Modification Considerations

A few cautions and considerations regarding the modification of OneStream Solutions:

- Major changes to business rules or custom tables within a OneStream 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 OneStream 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 OneStream 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.