

# DTS xChange Auditing and Monitoring

Last Modified on 30 September 2021

**EOL:** DTSxChange reached its end of life date on October 1, 2021. See the [Solarwinds End of Life Policy](#) for more information.

## About SSIS Logging/Auditing and Monitoring Framework

DTS xChange adds rich auditing features in your converted packages using the custom auditing framework developed by SentryOne. The auditing framework uses all the native SSIS features, and it can track packages in real-time. The auditing framework comes with predefined reports that give you some valuable information.

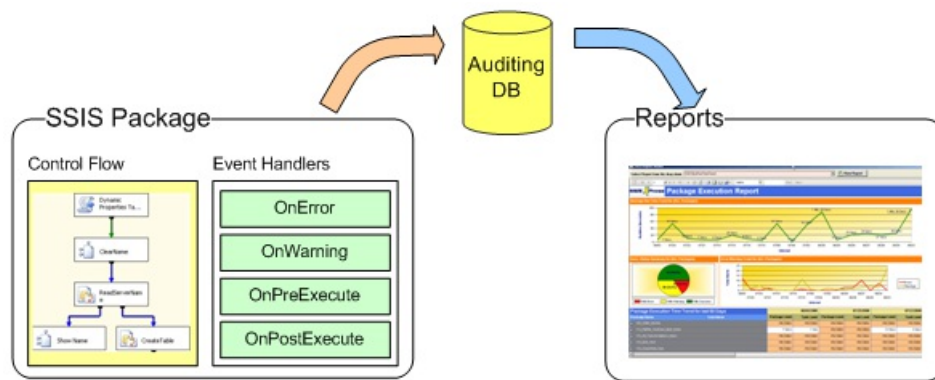
You can audit the following information by using the reports provided with the auditing framework:

**Note:** Use the **Report Viewer** application to view auditing data.

- Audit packages that are currently running, and the tasks that are running inside the packages
- Historical package execution details for a selected date range (Run time, Errors, Warnings etc.)
- Errors and Warnings by Task and Package
- Run time by Task and Package
- Extracted and Loaded Records and their source and target information (Table/View, SQL Query, File Name, Component Name, Data Flow Name, Connection String etc)
- Run time Trends for several days/weeks/years by Package and Task
- Error/Warning/ Trends by Package and Task
- Extract/Load Trends by Package and DataFlow
- Extract/Loads Trend by Data Object (File, Table/View or SQL Query)

**Note:** DTS xChange can only apply the auditing framework during the conversion process. To re-apply the auditing framework to converted SSIS packages, or newly created SSIS packages you have to use BI xPress. BI xPress also comes with few additional features other than the auditing framework (notification framework, package validation, and package deployment etc).

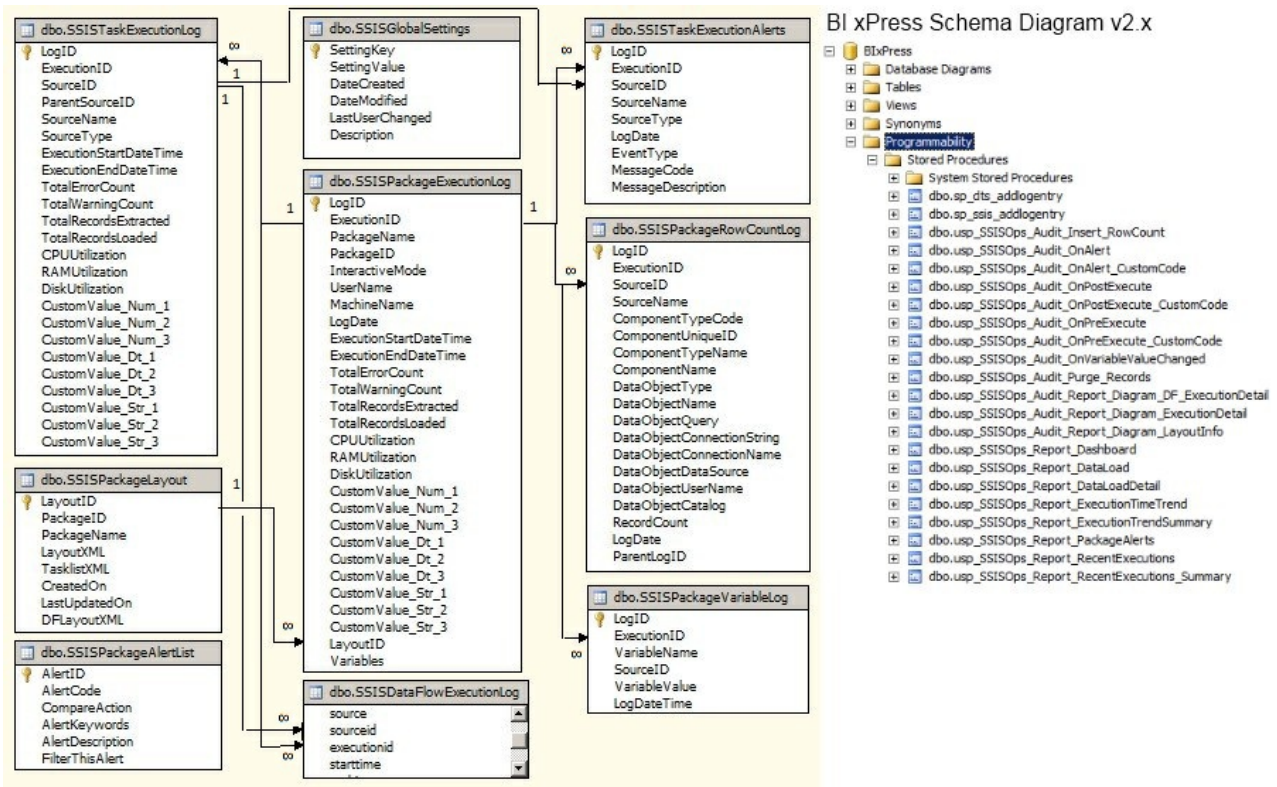
## How does Auditing Framework work?




The following changes can be made to an SSIS package when you apply the auditing framework:


**Note:** The changes made to your SSIS package are based on the options you select on the auditing screen.


- Add a new connection for the auditing database
- Add a new configuration for the auditing database
  - This step is only performed if you select Add deployment framework
- Create package level Event Handlers to capture OnError, OnWarning, OnPreExecute and OnPostExecute Events
- Add count components inside every dataflow task row after the source adapter and before the target adapter to track the extracted and loaded row count
- Add variables at the package level scope to store the row count for each dataflow
- Add variables in the OnPostExecute event handler scope to store certain information about DataFlow source/target (Query, TableName)





## Available Reports


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 [DTS Conversion](#)

 [Monitor and Manage SSIS](#)

Select **Reports** on the main screen to view reports. The following reports are available:

Report	Description
<b>Execution Control Flow Diagram</b>	A real-time dashboard of running and completed package executions. You can see the progress of the package workflow just like you can see while debugging packages in BIDS. Any package with auditing framework applied with BI xPress v2.2 or greater can be monitored in diagram mode.
<b>SSIS Execution Dashboard</b>	Displays the most common counters in SSIS package executions including: <ul style="list-style-type: none"> <li>• the top 20 slow packages</li> <li>• the top 20 fast packages</li> <li>• minimum used packages</li> <li>• maximum used packages</li> <li>• recent data extracts</li> <li>• recent data loads</li> </ul>
<b>Package Execution Trend</b>	Displays useful information about the package runtime trends, task runtime errors, and task runtime warning trends.

<b>Report/Warnings</b>	<p>Displays a detailed error/warning report that includes package level errors.</p> <p><b>Description</b></p> <p><b>Note:</b> Package level errors are not listed in any other report.</p>
<b>Recent Executions Summary</b>	<p>Displays information about package execution statuses, including:</p> <ul style="list-style-type: none"> <li>• performance detail</li> <li>• variable values</li> <li>• error/warning messages</li> <li>• row count</li> <li>• machine name</li> <li>• username</li> </ul> <p>Use the <b>Recent Executions Detail</b> report to display task level details.</p>
Recent Executions Detail	<p>Displays information about package and task execution statuses including:</p> <ul style="list-style-type: none"> <li>• performance detail</li> <li>• variable values</li> <li>• error/warning messages</li> <li>• row count</li> <li>• machine name</li> <li>• username</li> </ul>
<b>Running Packages</b>	<p>Displays information about currently running packages and tasks including:</p> <ul style="list-style-type: none"> <li>• performance detail</li> <li>• variable values</li> <li>• error/warning messages</li> <li>• row count</li> <li>• machine name</li> <li>• username</li> </ul>
<b>Extract/Load Detail</b>	<p>Displays extraction and loading details about each dataflow in each package execution. The information includes:</p> <ul style="list-style-type: none"> <li>• row count</li> <li>• source/target information</li> <li>• query</li> <li>• file name</li> </ul>
<b>Extract/Load Trend</b>	<p>Displays a graphical view of the extraction and load trends over several years, weeks, months, and days.</p>
<b>Package Performance History Report</b>	<p>Displays a package level performance graph for the specified interval (months, weeks, and days).</p>
<b>Package and Task Performance History Report</b>	<p>Displays package and task level performance graphs for the specified time interval (years, months, weeks, and days).</p>

## Execution ControlFlow Diagram

The Package Execution ControlFlow Diagram is a real-time dashboard of your SSIS package activity. The

following features are available in the Execution ControlFlow Diagram:

- Recent Executions
- Running Packages
- SSIS Execution Dashboard
- Extract/Load Detail

Start monitoring executions in Diagram mode by selecting **Execution ControlFlow Diagram** from the report drop down list, and then select the desired report. You can also select **Start** on the ControlFlow tab to open the **Report Viewer**. Display the package diagram from the following reports:

- Visually monitor SSIS package progress in real-time.
  - You can monitor local or remote packages as long as they have auditing framework applied.
- Completed/running task runtime and package runtime
- Extracted/Loaded row count (applicable to DataFlow)
- Real-time ForEach Loop iteration value
- Real-time DataFlow Progress with Rowcount and Runtime for individual component (See DataFlow tab)
- Real-time variable changes
- User Account under which package was executed
- Machine Name
- Zoom and Scroll diagram
- Real-time errors/warning of selected package execution

## SSIS Execution Dashboard

The screenshot displays the SSIS Execution Dashboard report with the following sections:

- Package execution status for last 3 Day(s)**: A table with columns for Package Name, Start Time, Run Time, Errors, Warnings, and Rows (L). It shows a 'Running' package and a list of 'Completed' packages with their respective error and warning counts.
- Top 20 slowest packages (Last 90 days)**: A table with columns for Package Name and Avg. Run Time, listing packages like RowCount\_Test\_1 and Task\_Dynamic\_Properties\_Simple.
- Top 20 fastest packages (Last 90 days)**: A table with columns for Package Name and Avg. Run Time, listing packages like 110\_access\_to\_sql and 116\_CheckPoint\_Test.
- Top 20 minimum used packages (Last 90 days)**: A table with columns for Package Name, Last Used, and Exec. Count.
- Top 20 maximum used packages (Last 90 days)**: A table with columns for Package Name and Last Used.

The **SSIS Execution Dashboard** displays the following information:

- Running packages (Last number of days/weeks/months)
- Completed packages (Last number days/weeks/months)
- Top 20 slowest packages (Last 90 days)
- Top 20 fastest packages (Last 90 days)
- Top 20 minimum used packages (Last 90 days)
- Top 20 maximum used packages (Last 90 days)
- Data extract summary (Last number days/weeks/months)
- Data load summary (Last number days/weeks/months)

**Note:** You can specify the last number of days/weeks/months by changing the interval parameter.

Report: Execution Dashboard  
Select Report from the drop down: Execution Dashboard

Data object	Extracted Rows	Extract Date
<b>Machine: NPLAPTOP</b>		
112_FF_DEL_WO_HRD.txt	77	10/29 10:28:29 AM

Package Name: 112\_FlatFile\_TestCase\_Best\_Demo  
 Connection String: C:\SSISTesting\OutputData\112\_FF\_DEL\_WO\_HRD.txt  
 Data Flow Name: Load Products From Delimited FlatFile Without Hdr  
 Connection Name: SRC\_FF\_DEL\_WO\_HDR  
 Component Name/Type: Flat File Source (FlatFile)  
 File Path: C:\SSISTesting\OutputData\112\_FF\_DEL\_WO\_HRD.txt

Data object	Extracted Rows	Extract Date
112_FF_FW_WO_HDR.txt	74	10/29 10:28:29 AM
112_FF_DEL_WO_HRD.txt	77	10/29 10:28:29 AM
112_FF_FW_WO_HDR.txt	77	10/29 10:28:28 AM
SELECT [ProductID], [ProductName], [SupplierID] = (case when ([Suppl...	77	10/29 10:28:26 AM

Package Name: 112\_FlatFile\_TestCase\_Best\_Demo  
 Connection String: Data Source=(local),Initial Catalog=Northwind,Provider=SQLOLEDB,Integrated Security=SSPI  
 Data Flow Name: Load Delimited Flat File With Hdr  
 Connection Name: OLEDB\_NORTHWIND\_1  
 Component Name/Type: OLE DB Source (OLEDB)  
 Query: SELECT [ProductID], [ProductName], [SupplierID] = (case when ([SupplierID] % 5 = 0 then NULL else [SupplierID]) end), [CategoryID], [QuantityPerUnit], [UnitPrice] = (case when ([UnitPrice] < 100) then NULL else [UnitPrice]) end), [UnitsInOrder], [ReorderLevel], [Discontinued] FROM [Northwind].[dbo].[Products]

Report: Execution Dashboard  
Select Report from the drop down: Execution Dashboard

Data object	Loaded Rows	Load Date
<b>Machine: NPLAPTOP</b>		
[dbo].[Products_FlatFile_Delimited_HeaderLess]	77	10/29 10:28:29 AM

Package Name: 112\_FlatFile\_TestCase\_Best\_Demo  
 Connection String: Data Source=(local),Initial Catalog=Northwind,Provider=SQLOLEDB,Integrated Security=SSPI  
 Data Flow Name: Load Products From Delimited FlatFile Without Hdr  
 Connection Name: OLEDB\_NORTHWIND\_1  
 Component Name/Type: OLE DB Destination (OLEDB)  
 Table/View Name: [dbo].[Products\_FlatFile\_Delimited\_HeaderLess]

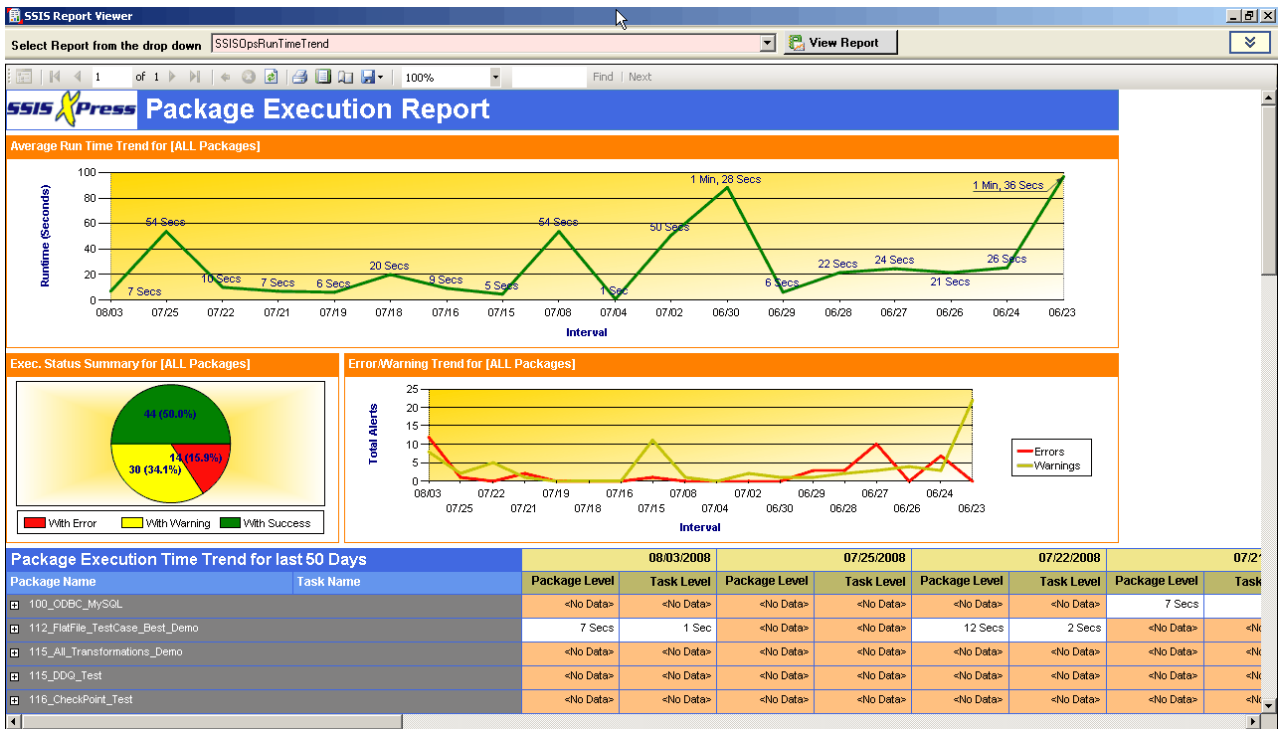
Data object	Loaded Rows	Load Date
[dbo].[Products_FlatFile_FixedWidth_HeaderLess]	74	10/29 10:28:29 AM
[dbo].[Products_FlatFile_Delimited_WithHeader]	77	10/29 10:28:29 AM
[dbo].[Products_FlatFile_FixedWidth_WithHeader]	77	10/29 10:28:28 AM
112_FF_DEL_WO_HRD.txt	77	10/29 10:28:26 AM
112_FF_DEL_WO_HRD.txt	77	10/29 10:28:26 AM

Package Name: 112\_FlatFile\_TestCase\_Best\_Demo  
 Connection String: C:\SSISTesting\OutputData\112\_FF\_DEL\_WO\_HRD.txt  
 Data Flow Name: Load Delimited Flat File Without Hdr  
 Connection Name: FLATFILE\_112\_FF\_DEL\_WO\_HRD\_TXT\_1  
 Component Name/Type: Flat File Destination (FlatFile)  
 File Path: C:\SSISTesting\OutputData\112\_FF\_DEL\_WO\_HRD.txt

Data object	Loaded Rows	Load Date
112_FF_FW_WO_HDR.txt	77	10/29 10:28:25 AM
112_FF_FW_WO_HDR.txt	77	10/29 10:28:24 AM
[dbo].[Products_FlatFile_Delimited_WithHeader]	77	10/28 09:12:42 PM
[dbo].[Products_FlatFile_FixedWidth_HeaderLess]	74	10/28 09:12:41 PM
Initial [Products_FlatFile_Delimited_HeaderLess].	77	10/28 09:12:41 PM

# Reports

## Package Execution Trend Report



The **Package Execution Trend** report displays the following information:

- Package performance trend in graphical and tabular form
- Package and Task Performance break down for the specified number of weeks/days for the selected time frame
- Error/Warning trend analysis graph
- Execution detail in tabular format including the package name, run time, error/warning count, and row count

## Errors/Warnings Report

Package Name	Start Time	Run Time	Errors	Warnings
<b>Completed</b>				
112_FlatFile_TestCase_Best_Demo	10/29 10:28:22 AM	6.8 Sec		2
Load Products From Delimited FlatFile With Hdr				
-2145348953	10:28:27 AM		Truncation may occur due to inserting data from data flow column "QuantityPerUnit" with a length of 255 to database column "QuantityPerUnit" with a length of 20.	
Load Products From Delimited FlatFile Without Hdr				
-2145348953	10:28:28 AM		Truncation may occur due to inserting data from data flow column "Col005" with a length of 255 to database column "QuantityPerUnit" with a length of 20.	
116_CheckPoint_Test	10/28 09:12:52 PM	1.5 Sec	2	
Step-3				
0	09:12:52 PM		Violation of PRIMARY KEY constraint 'PK__MyTable__5B651AB3'. Cannot insert duplicate key in object 'dbo.MyTable'.	
-1073548784	09:12:53 PM		Executing the query "insert into MyTable(KeyCol) Values(1)" failed with the following error: "The statement has been terminated.". Possible failure reasons: Problems with the query, "ResultSet" property not set correctly, parameters not set correctly, or connection not established correctly.	
112_FlatFile_TestCase_Best_Demo	10/28 09:12:37 PM	4.5 Sec		2
Load Products From Delimited FlatFile Without Hdr				
-2145348953	09:12:40 PM		Truncation may occur due to inserting data from data flow column "Col005" with a length of 255 to database column "QuantityPerUnit" with a length of 20.	
Load Products From Delimited FlatFile With Hdr				
-2145348953	09:12:41 PM		Truncation may occur due to inserting data from data flow column "QuantityPerUnit" with a length of 255 to database column "QuantityPerUnit" with a length of 20.	
116_CheckPoint_Test	10/28 09:03:32 PM	0.6 Sec	2	
Step-3				
0	09:03:32 PM		Violation of PRIMARY KEY constraint 'PK__MyTable__5B651AB3'. Cannot insert duplicate key in object 'dbo.MyTable'.	
-1073548784	09:03:33 PM		Executing the query "insert into MyTable(KeyCol) Values(1)" failed with the following error: "The statement has been terminated.". Possible failure reasons: Problems with the query, "ResultSet" property not set correctly, parameters not set correctly, or connection not established correctly.	
112_FlatFile_TestCase_Best_Demo	10/28 09:01:48 PM	2.3 Sec		2
Load Products From Delimited FlatFile With Hdr				
-2145348953	09:01:50 PM		Truncation may occur due to inserting data from data flow column "Col005" with a length of 255 to database column "QuantityPerUnit" with a length of 20.	

The Error/Warning report displays the following information:

- All Packages and Tasks with an error or warning
- Package and Task start and end times
- Errors/warning details for package execution between a selected time frame

## Extract/Load Detail Report



SSIS Report Viewer

Select Report from the drop down: SSIS0psExtractLoadDetail

View Report

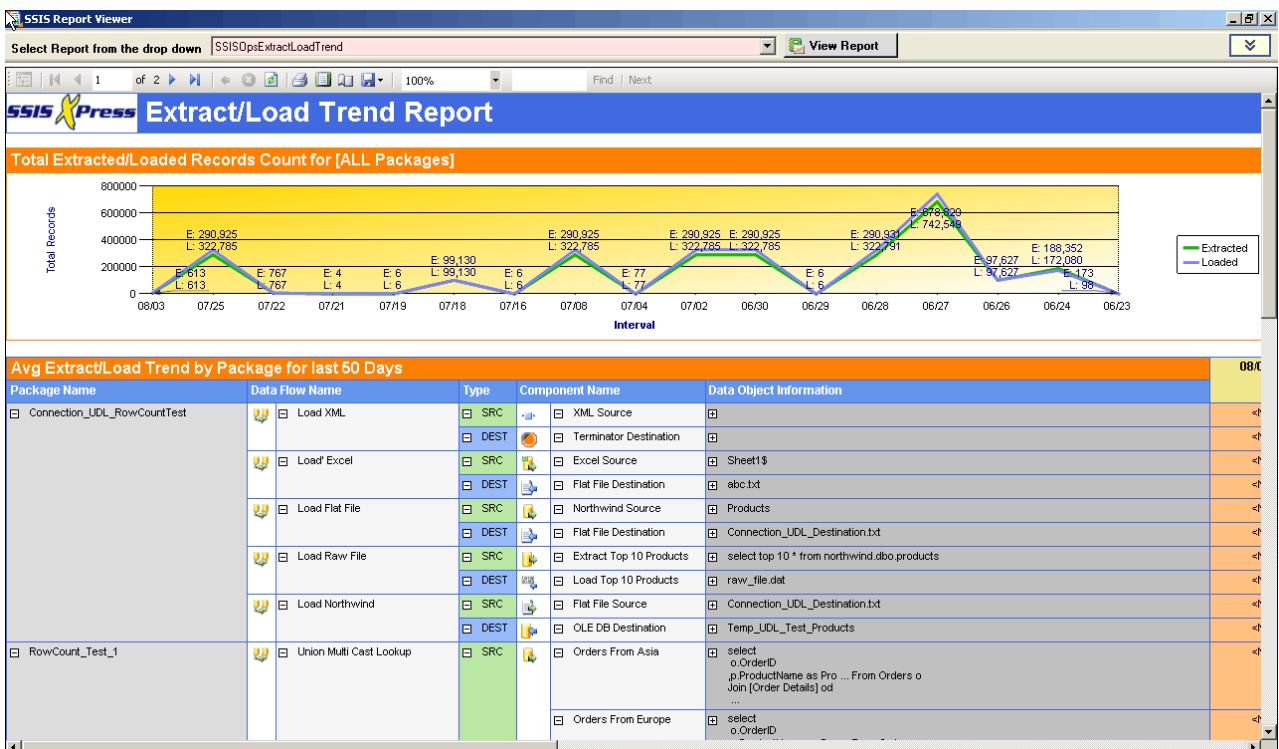
SSIS Press Extract/Load Detail Report

Source Name	Start Time	End Time	Run Time	Record Count	Data Object	Errors	Warnings	Conn. Data Source
<b>Task_Dynamic_Properties</b>	6/29/2008 5:59:28 PM	6/29/2008 5:59:29 PM	9 Secs	Extracted: 6 Loaded: 6		0	0	
SQL to SQL	6/29/2008 5:59:25 PM	6/29/2008 5:59:26 PM	1 Sec			0	0	
SRC - OLE DB Source				5				
DEST - OLE DB Destination				5				
QLDS to SQL	6/29/2008 5:59:28 PM	6/29/2008 5:59:29 PM	1 Sec			0	0	
<b>Task_Dynamic_Properties</b>	6/28/2008 8:08:26 PM	6/28/2008 8:08:28 PM	6 Secs	Extracted: 6 Loaded: 6		0	0	
QLDS to SQL	6/28/2008 8:08:26 PM	6/28/2008 8:08:28 PM	1 Sec			0	0	
SQL to SQL	6/28/2008 8:08:30 PM	6/28/2008 8:08:30 PM	0 Sec			0	0	
<b>RowCount_Test_1</b>	6/28/2008 1:02:10 PM	6/28/2008 1:03:11 PM	1 Min, 28 Secs	Extracted: 290925 Loaded: 322785		0	1	
SQL Load Test	6/28/2008 1:01:44 PM	6/28/2008 1:02:09 PM	24 Secs			0	0	
Union Multi Cast Lookup	6/28/2008 1:02:10 PM	6/28/2008 1:03:11 PM	1 Min, 0 Sec			0	1	
SRC - Orders From Asia				96,975	select o.OrderID p.ProductName as Pro ... From Orders o Join [Order Details] od ...			(local)
SRC - Orders From Europe				96,975	select o.OrderID p.ProductName as Pro ... From Orders o Join [Order Details] od ...			(local)
DEST - Convoesion Error Destination				178,020	[dbo].[Error_Order_Export]			(local)
DEST - Lookup Error Dest				0				
DEST - OLEDB Destination				15,930	[dbo].[Order_Export]			(local)
DEST - Recordset Destination				15,930	User::varRecordset			
DEST - SQL Server Destination				15,930	[dbo].[Order_Export_SqlDest]			(local)

The **Extract/Load Detail** report displays the following information:

- All Dataflow summaries for packages executed between a selected time frame
- Package and Data Flow Tasks Start and End times
- Data Flow Source and Target details including: SQL Query, Server or File Name, Database Name and User Name

## Extract/Load Trend Report



The **Extract/Load Trend** report displays the following information:

- The Extracted and Loaded record count trend for a selected time frame
- Multiple levels of row count trends at the Package, DataFlow and source/target levels
- Dataflow related information including: Component Type, Data Object Name, Package Name and others

## Running Packages Report

**Report - Running Packages**

Select Report from the drop down: Running Packages

View Report | Purge History

Start Date: 9/13/2008 | End Date: 10/30/2008 | Execution Status: ALL | Trend Interval: Day | Trend for how many days: 3 | Package Name Filter: % | Machine Name: %

Data Source Filter (i.e. Server/File Name): % | Database Name Filter: % | Data Object Filter (i.e. Query/Table): % | Show Sql Statement: No | Show Connection String: No | Package Execution Account Name: % | Package Execution Mode: ALL

Audit DB Connection Information: Server: (local) | Use Windows Authentication:  | User ID: | Password: | Database: SSISDps

Reset Parameters: Auto Refresh Report Every: 10 Seconds | Auto Hide Parameters Panel:

Note: Please specify parameters and press "Enter" key or click on "View Report" button to view the selected report

Package/Task Name	Start Time	End Time	Errors	Warnings	Run Time	Extracted Rows	Loaded Rows	Machine	User Name
112_FlatFile_TestCase_Best_Demo	10/29/2008 2:24:09 PM				3.7 Sec	0	0	NPLAPTOP	NPLAPTOP\Administrator
Load Delimited Flat File With Hdr	10/29/2008 2:24:09 PM	10/29/2008 2:24:11 PM			1.5 Sec	0	0		
Load Delimited Flat File Without Hdr	10/29/2008 2:24:10 PM	10/29/2008 2:24:11 PM			0.8 Sec	0	0		
Load Fixed/Width Flat File Without Hdr	10/29/2008 2:24:10 PM	10/29/2008 2:24:11 PM			1.2 Sec	0	0		
Load Fixed/Width Flat File With Hdr	10/29/2008 2:24:10 PM	10/29/2008 2:24:12 PM			1.1 Sec	0	0		
CREATE TABLES	10/29/2008 2:24:12 PM	10/29/2008 2:24:12 PM			0.1 Sec	0	0		
Load Products From Fixed/Width FlatFile Without Hdr	10/29/2008 2:24:12 PM				0.7 Sec	0	0		

The **Running Packages Detail** report displays the following information:

- Package and Task Runtimes
- Errors/Warnings for related tasks
- Extracted/Loaded rows (applicable to DataFlow)
- User Account for the executed package
- Machine Name
- Interactive or Non-Interactive mode

## Recent Executions Report

Report - Recent Executions

Select Report from the drop down Recent Executions View Report Purge History

SSIS Press Execution History

Note: If some error(s)/warning(s) not listed here then check Error/Warning Report. Package level alerts not included in this report

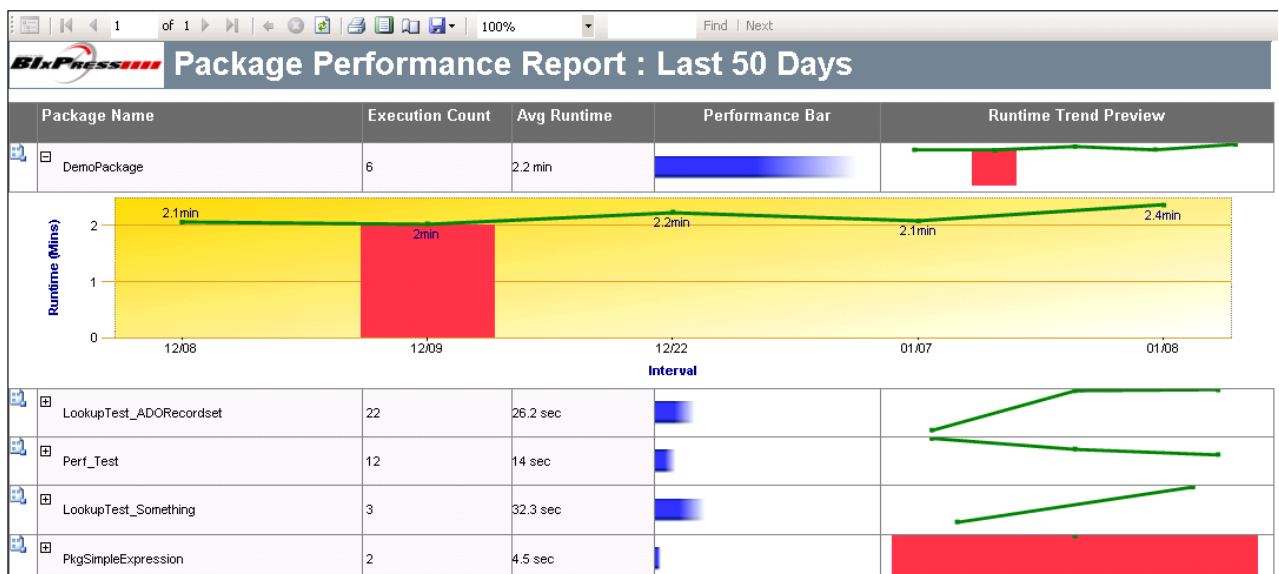
Recent Executions (Most recent first)

Package/Task Name	Start Time	End Time	Errors	Warnings	Run Time	Extracted Rows	Loaded Rows	Machine	User Name
112_FlatFile_TestCase_Best_Demo	10/29/2008 1:28:38 PM				4.2 Sec	0	0	NPLAPTOP	NPLAPTOP\Administrator
Load Delimited Flat File Without Hdr	10/29/2008 1:28:38 PM	10/29/2008 1:28:39 PM			0.7 Sec	0	0		
Load Fixed/Width Flat File With Hdr	10/29/2008 1:28:38 PM	10/29/2008 1:28:39 PM			1.05 Sec	0	0		
Load Fixed/Width Flat File Without Hdr	10/29/2008 1:28:39 PM	10/29/2008 1:28:40 PM			1.04 Sec	0	0		
Load Delimited Flat File With Hdr	10/29/2008 1:28:39 PM	10/29/2008 1:28:40 PM			1 Sec	0	0		
CREATE TABLES	10/29/2008 1:28:41 PM	10/29/2008 1:28:41 PM			0.1 Sec	0	0		
Load Products From Delimited FlatFile With Hdr	10/29/2008 1:28:41 PM				0.9 Sec	0	0		
112_FlatFile_TestCase_Best_Demo	10/29/2008 10:28:22 AM	10/29/2008 10:28:29 AM		2	6.8 Sec	613	613	NPLAPTOP	NPLAPTOP\Administrator
Truncation may occur due to inserting data from data flow column "QuantityPerUnit" with a length of 255 to database column "QuantityPerUnit" with a length of 20.									
Truncation may occur due to inserting data from data flow column "Col005" with a length of 255 to database column "QuantityPerUnit" with a length of 20.									
116_CheckPoint_Test	10/28/2008 9:12:52 PM	10/28/2008 9:12:53 PM	2		1.5 Sec	0	0	NPLAPTOP	NPLAPTOP\Administrator
Step-1	10/28/2008 9:12:52 PM	10/28/2008 9:12:52 PM			0.09 Sec	0	0		
Step-2	10/28/2008 9:12:52 PM	10/28/2008 9:12:52 PM			0.05 Sec	0	0		
Step-3 (2 times)	10/28/2008 9:12:52 PM	10/28/2008 9:12:53 PM	2		0.2 Sec	0	0		
Executing the query "insert into MyTable(KeyCol) Values(1)" failed with the following error: "The statement has been terminated.". Possible failure reasons: Problems with the query, "ResultSet" property not set correctly, parameters not set or connection not established correctly.									
Violation of PRIMARY KEY constraint 'PK__MyTable__5B651AB3'. Cannot insert duplicate key in object 'dbo.MyTable'.									
Step-4	10/28/2008 9:12:53 PM	10/28/2008 9:12:53 PM			0.06 Sec	0	0		
Step-5	10/28/2008 9:12:53 PM	10/28/2008 9:12:53 PM			0.06 Sec	0	0		
112_FlatFile_TestCase_Best_Demo	10/28/2008 9:12:37 PM	10/28/2008 9:12:42 PM		2	4.5 Sec	613	613	NPLAPTOP	NPLAPTOP\Administrator

The **Recent Execution Detail** report displays the following information:

- Package and Task Runtimes
- Errors/Warnings for related tasks
- Extracted/Loaded rows (applicable to DataFlow)
- User Account for the executed package
- Machine Name
- Interactive or Non-Interactive mode

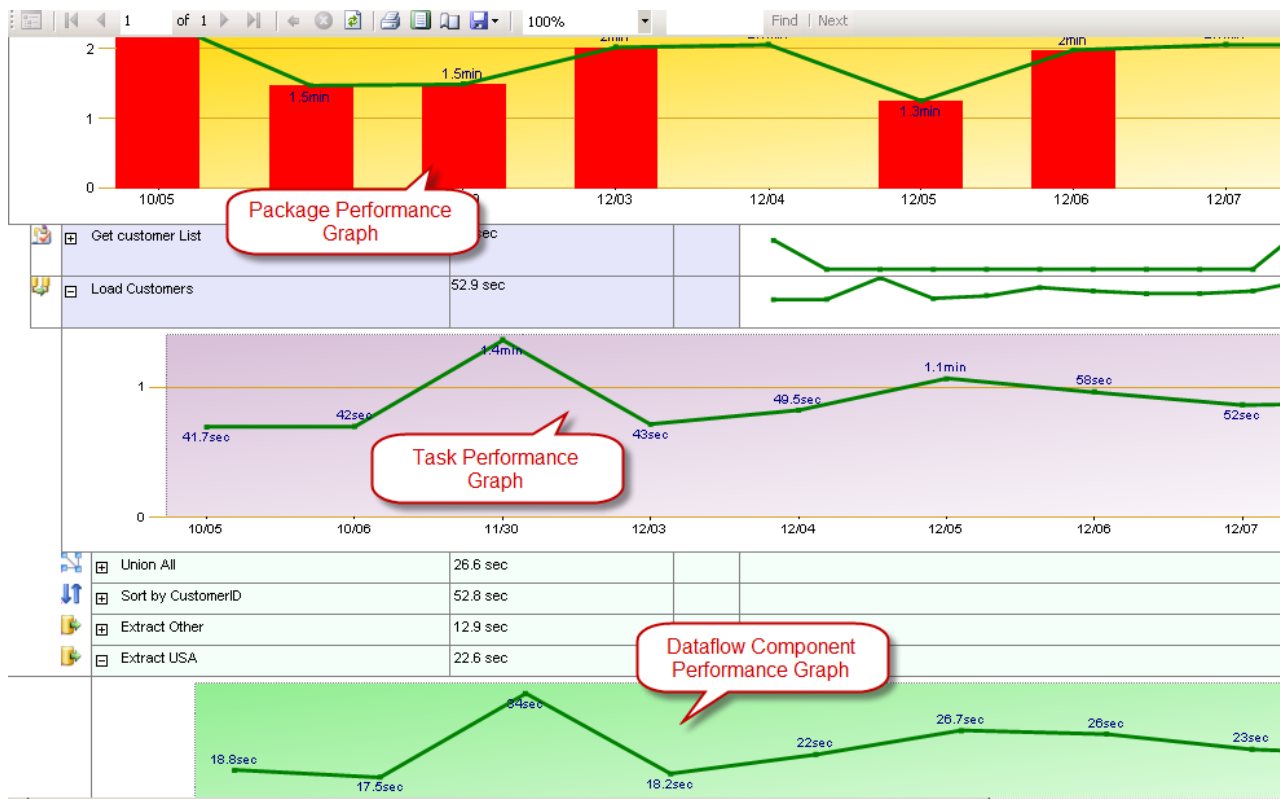
## Package Performance History Report



The **Package Performance History** report displays the following information:


- Performance history graph for packages that executed during a selected time frame
- Error indicator bars for the period when the execution failed
- Total package executions for a specified time frame
- Preview performance trend graph
- Average package runtime for a selected time frame

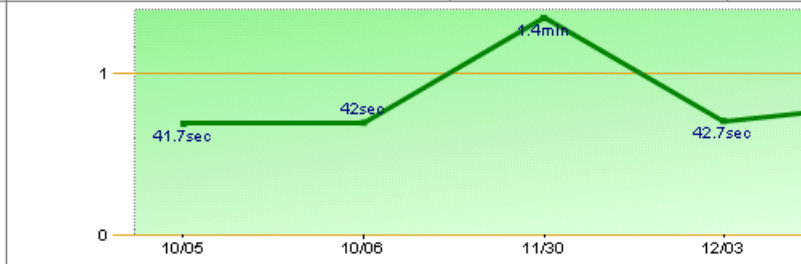
## Package and Task Performance History Report








The **Package and Task Performance History** report displays the following information:

- Performance history graph for packages and tasks that executed during a selected time frame
- Performance history graph for dataflow components
- Error indicator bars for the period when the execution failed
- Total package executions for a specified time frame
- Preview performance trend graph
- Average package runtime for a selected time frame

	Union All	26.6 sec	
	Sort by CustomerID	52.8 sec	



	Extract Other	12.9 sec	
	Extract USA	22.6 sec	
	SRC Extract USA	24.6 sec	
	SRC Extract Other	17.2 sec	
	Upper Case FirstName	24.8 sec	
	Lookup	24.8 sec	