

# **HarePoint Analytics**

For SharePoint

# Maintenance Manual



HarePoint Analytics for SharePoint SE/2019/2016 product version: 16.13 HarePoint Analytics for SharePoint 2013 product version: 15.18

November 2022

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# Introduction

HarePoint Analytics for SharePoint is a solution designed for web analytics, document flow audit and retrieving administrative data about the usage of SharePoint-based intranet portals and web-sites.

This guide is intended for solution Administrators. It describes the functioning of the essential components of HarePoint Analytics, contains guidelines how to troubleshoot the Product, describes the Best Practices and provides useful advices regarding the Product configuration.

This guide is based on **SharePoint SE/2019/2016/2013**, but it is applicable for **SharePoint 2010** as well.

# **HarePoint Analytics Utility**

In order to simplify maintenance and troubleshooting of HarePoint Analytics, we have developed a special Utility (HarePointAnalyticsUtil.exe).

<u>88</u>	Harepoint Analytics Help Util							- 0	x					
Gene	eral info Timer jobs Policies and filters ULS log Web.config modifications Missing features and web-parts Data collection feature Installation checker Report Cur								Custom re	eports				
Gen	eral info	mation ab	out the installed version	n of Hareno	oint Analytics		-							
									_					
	Refresh Popular queue hits Active queries to csv Stat database Queue database Encryption													
	Att	ribute						Value						
	Inst	talled vers	ion					15.15.0.0	15.15.0.0					
	Cur	rent times	amp					23/07/2021 10:2	27:44					
	Sta	tistics data	abase server					DEMO2013						
	Jua D-4		mian					4000						
		aua datab						4000 DEMO2013						
	Que	eue datab	ase name					Stat MQ						
	Que	eue datab	ase records count											
	Sta	tistics Hits	table records count					46959	46959					
	Old	est record	in Queue database					N/A	N/A					
	Net	west recor	d in Queue database					N/A						
	Old	est Hits ta	ble record					Id = 751670, Created = 4/18/2021 12:00:39 AM						
	Net	west Hits t	able record					Id = 798628, Created = 7/23/2021 9:59:44 AM						
	Old	est Pagev	iews record					ld = 737698, Created = 3/28/2021 12:59:42 PM						
	Net	west Page	views record					ld = 798463, Created = 7/22/2021 11:00:13 PM						
	Old	est Docur	nent popularity record					Created = 3/28/2021 12:00:00 AM						
	Net	west Docu	iment popularity record					Created = 7/22/2	2021	12:00:00 AM				
	Old	est List ite	ms popularity record					Created = 6/22/2	2017	12:00:00 AM				
	Net	west List it	ems popularity record					Created = 7/22/2	2021	12:00:00 AM				
	Ser	vers coun	t in the farm					1						
	Servers in the farm DEMO2013													
	Lice	ense statu	s					Registered						
	Dis	abled time	r instances					-						

You can find this Utility in the distributive package, in **Analytics Tools** and Analytics **Tools2013** folder, depending on your SharePoint edition:

#### SharePoint SE/2019/2016:

<path\_to\_distributive>\Analytics Tools
(<path\_to\_distributive>\Analytics Tools2016 in older distributives of HarePoint Analytics)

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#### SharePoint 2013:

<path\_to\_distributive>\Analytics Tools2013

This Utility should be launched on any WFE server as Farm Administrator.

Please refer to the <u>HarePoint Analytics Utility</u> chapter for detailed information regarding the Utility.

Throughout this guide, examples will be given of how the Utility can be used to check necessary parameters or perform relevant tasks.

# HarePoint Analytics Administrator Guide

This Maintenance Guide contains many references to **HarePoint Analytics Administrator Guide** that describes all technical aspects of HarePoint Analytics installation and setup in detail.

**The HarePoint Analytics Administrator Guide** is also available in the **Product distributive package** (along with the HarePoint Analytics Maintenance Guide and the HarePoint Analytics User Guide), or it can be downloaded from the HarePoint website:

https://www.harepoint.com/Products/HarePointAnalyticsForSharePoint/HarePoint\_Analytics\_Admin \_\_\_\_\_\_Guide\_EN.pdf

# **Data Collection and Processing**

The key components of HarePoint Analytics architecture are:

- 1. HTTP modules installed on each Web Front-End server. They capture user activity and related parameters.
- 2. Two databases on an SQL server: a temporary Queue database, and the Main database.
- 3. **Timer jobs** that perform the collection of auxiliary data and data processing. The timer jobs execute on Web Front-End servers, however, some of them simply initiate the SQL procedures on the SQL server, which means they do not consume WFE server resources.

## **Data Collection and Processing Diagram**

The logical structure of data collection and processing in HarePoint Analytics can be represented as follows:

(some components are not displayed, see below for more details)



# **Description of the components**

#### **HTTP Module**

This module is added automatically to **each WFE server** during product deployment. Any user activity on SharePoint sites is captured by the HTTP module and delivered to a Queue Database. Owing to this method of data collection, no client-side JavaScripts, out-of-the-box SharePoint Web Analytics, or IIS logs are required to collect data, providing substantial advantages.

However, **special JavaScript** (not displayed on the diagram) **can be used in addition** to this HTTP module to collect data that cannot be collected by the HTTP module for technical reasons, such as activity within custom web-parts, custom actions, and tracking links that lead outside of SharePoint. (Implementation of this JavaScript is fully described in the <u>HarePoint Analytics Administrator Guide</u> - Adding tracker for Java Script events).

It is important to have the HTTP module **installed on each WFE server**, since normally all WFE servers participate in **load balancing**, thus any of the WFE servers may be used to provide content to the end

user. If some WFE servers don't have the HTTP Module installed, this will likely result in some activity not being tracked.

HTTP Module has negligible performance impact on WFE servers. In case the HTTP Module fails for any reason, it will never make the web site inaccessible; error messages will be logged in the SharePoint ULS log, nothing more.

The HTTP module is **not installed** on Application Servers in SharePoint.

The **Data collection filters** (described in detail in the **Data collection filters** chapter) can be set up in HarePoint Analytics to filter out unwanted data at the stage of data collection. Some of these filters are applied by HTTP Module, so that information is not delivered to Queue Database.

#### **SQL Databases**

HarePoint Analytics uses two databases on an SQL server: **Queue Database** and **Main Database**.

## 1. Queue Database

The Queue Database is used to store the information obtained from the HTTP Module temporarily. By default, every 5 minutes data from the Queue Database that satisfy the Data collection filters (described in detail in Data collection filters) are moved to the Main Database by the Processor of message queue timer job.

This database has only one table.

## 2. Main Database

The Main Database is used to store the following data:

- a. Unprocessed (raw) data data transferred from the Queue Database
- b. Auxiliary information information about document libraries and lists, geographical IP addresses database, information about users from AD, and so on.
- c. Processed data for daily reports -data used to build the daily reports
- d. Processed data for monthly reports data used to build the monthly reports

The Main database has many tables that are linked to each other in a complex way.

The data for both daily and monthly reports are stored in this database, which means that **nothing is** processed on the fly as you browse the reports: all necessary information has already been processed in advance. This ensures there is no load on the SQL server and SharePoint servers when viewing reports.

Additionally, because of this approach, HarePoint Analytics is not a real-time reporting tool; like the out-of-the-box analytics tools in SharePoint, the data in the reports are from the previous day.

You can switch between Daily and Monthly reports using the Filter button on the ribbon, when viewing reports:

	_							
More	Filter	Chart Fields	Paging Size	Templates	Templates	Save as	Export to	Export
Ŧ				~	management	t template	Spreadsheet	t PDF
	Filter	Customization	Paging	Re	port template	25		Ex
ſ	Filter							
	Select da	te range to build	a report					
	Build re	port	By date	s			~	
	Specify	time period	By date	es				
	Compar period	re to other time	By more	nths				
	Specify	time period	5/23/20	021	- 6/2	2/2021		
	⊞ Filter	by Active Director	y fields					
	⊞ Filter	by SharePoint gro	ups and users	;				
	🗉 Filter	by report fields						
	Visits						?	
	Unique	visitors					?	
	Returne	ad visitors						

In order to prevent the significant growth in the size of the Main Database as time goes by and HarePoint Analytics stores more and more data, the outdated detailed (daily) data and outdated raw (unprocessed) data are removed from the database automatically by the <u>Statistics Information</u> <u>Cleaner</u> timer job (refer to the <u>Data retention period</u> chapter for more details). The Monthly data are never removed from the database.

#### **Timer jobs**

As can be seen from the <u>Data Collection and Processing Diagram</u>, **the collected data are processed by a succession of timer jobs** in order to have all the reports filled with information. Each timer job has an individual schedule and different execution time, so the proper configuration of timer jobs and their schedules is very important in HarePoint Analytics. In most cases, no data in reports indicates inconsistencies in the execution of the timer jobs.

An especially convenient way to monitor and manage HarePoint Analytics timer jobs is available using the **HarePoint Analytics Utility** - <u>Timer jobs</u> tab:

:5					Hare	epoint Analyti	ics Help Util				- 🗆 X
(	General i Infom	nfo Timerjobs	Policies and filters ner jobs used by H	ULS log Web. arepoint Analytics.	config modification The tab allows you	s Missing feature u to turn on/off the	es and web-parts	Data collection fe of running them, a	ature Installation	checker Report	Custom reports
	force Refr	running the jobs as esh Ena	s well. ble Disa	ble Histo	ny Run n	ow Serve	er Recrea	ate Last lo	gs		
		Job name	Status	Run status	Run server	Start time	Run duration	Enabled	Server	Last run time	Schedule
	•	Report export	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 10:	Minutes
		Data collectio	Online	False		N∖A	N∖A	Enabled	Any	7/22/2021 11:	Daily
		Processor of	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 10:	Minutes
		Periodic data	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 12:	Daily
		Preliminary dat	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 12:	Daily
		System Metric	Online	False		N∖A	N∖A	Disabled	Any	N∖A	Minutes
		Monthly data	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 2:0	Daily
		Statistics infor	Online	False		N∖A	N∖A	Enabled	Any	7/17/2021 4:0	Weekly
		Geographic lo	Online	False		N∖A	N∖A	Disabled	Any	N∖A	Monthly
		Monitoring of t	Online	False		N∖A	N∖A	Disabled	Any	N\A	Daily
'								1			
L											

Normally, HarePoint Analytics timer jobs should be managed from HarePoint Analytics Settings: Central Administration – Monitoring - Settings of HarePoint Analytics for SharePoint.

They can also be managed from SharePoint directly, in **Job Definitions**:

#### **Central Administration – Monitoring – Job Definitions**

**Note:** Timer jobs here are **named differently** (see below for details). Only basic configuration options available.

The current status of timer jobs can be monitored in Check job status: Central Administration – Monitoring – Check job status



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#### 1. Processor of Message Queue

#### In HarePoint Analytics Settings:

Processor of message queue

The processor extracts statistical data from the message queue, collects additional data and saves the obtained result in the database. The processor is launched on schedule, it retrieves all collected data from the queue, expects the appearance of new date during one minute and finishes its operation. Schedule every 5 minutes between 0 and 59 Last run time 7/27/2021 7:15:16 AM

Change schedule

#### In SharePoint Job Definitions (named HarePoint Analytics for SharePoint: Queue Data Processor):

HarePoint Analytics for SharePoint - Data Collecting from Active Directory	
HarePoint Analytics for SharePoint - Geographic positions database update	
HarePoint Analytics for SharePoint - Report exporting by schedule	
HarePoint Analytics for SharePoint - Statistics information cleaner	
HarePoint Analytics for SharePoint - System Metrics Collector	
HarePoint Analytics for SharePoint: Periodic data collection	
HarePoint Analytics for SharePoint: Preprocessor report data by month	
HarePoint Analytics for SharePoint: Queue Data Processor	
HarePoint Analytics for SharePoint: Report Data Preprocessor	
HarePoint Analytics for SharePoint: ULS logs monitoring	

#### Description

This timer job moves the data from the Queue Database to the Main Database (as unprocessed (raw) data tables, in particular to *dbo.Hits*).

This process can be seen in the HarePoint Analytics Utility - General Info tab, as follows:

2	8				Harep	oint Analyt	ics Help Util			_	D X	
Γ	General i	nfo Timerja	bs Policies and filters	ULS log	Web.config modifications	Missing feature	es and web-parts	Data collection feature	Installation checker	Report Cus	tom reports	
	General	information a	bout the installed version	n of Harepo	pint Analytics.							
	Re	fresh	Popular queue hits	Active qu	ueries to csv Stat da	tabase	Queue database	Encryption				
		Attribute					Value					
		Installed ver	sion				15.15.0.0	.0.0				
		Current time	stamp				23/07/2021 10:2	27:44				
		Statistics da	abase server				DEMO2013					
		Statistics da	abase name				mlstdb2					
		Database v	ersion				4068					
		Queue data	base server				DEMO2013					
		Queue data	base name				StatMQ					
	۲.	Queue data	base records count				0					
		Statistics Hit	s table records count				46959					
		Oldest recor	d in Queue database				N/A					
		Newest record in Queue database										
	Oldest Hits table record						ld = 751670, Cre	ated = 4/18/2021 12:00	:39 AM			
	Newest Hits table record						ld = 798628, Cre	ated = 7/23/2021 9:59:4	14 AM			
	Oldest Pageviews record						ld = 737698, Cre	ated = 3/28/2021 12:59	:42 PM			
		Newest Pag	eviews record				ld = 798463, Created = 7/22/2021 11:00:13 PM					
		Oldest Docu	ment popularity record				Created = 3/28/2	2021 12:00:00 AM				

Some **Data collection filters** are applied at this stage, so only the data that **satisfy** the data collection filters are transferred to the main database.

## Data collection filters are managed in HarePoint Analytics Settings: Central Administration – Monitoring – HarePoint Analytics Settings – Statistics filter

Statistics filter

This page is designed for managing the statistics filter



Guidance for using the Data Collection filters are described in Data collection filters section.

## Execution

This timer job actually initiates procedures stored **on the SQL server**, so there is no load to SharePoint servers.

There is an option to change the **timer job association** in HarePoint Analytics Settings and explicitly specify the WFE server where this job should run, however, this doesn't make sense for this timer job. **"Any"** is the recommended setting.

Timer Job Associations

A timer job instance may be associated with a server if you desire, but it is not a requirement. By default, timer job is not associated with a specific server and SharePoint selects the server on which the timer job instance will be executed.

Se	erver	
	Any	~

The SQL server load caused by this job is reasonably low and does not last long.

## **Tracking the Status**

Normally, the Processor of Message Queue job completes quickly (seconds to minutes). You can **track the status** from SharePoint **Check job status** section:



In the top right corner click on **View - All** and select **Job Definition**:



Click on No Selection and choose Change Job Definition:

Jol	b Definition:	No selection 👻		View:	Job Definition 👻
	Chang	e Job Definition	l		
	1963		1		

In the new window, scroll down until you can see HarePoint Analytics jobs, click on **HarePoint Analytics for SharePoint: Queue Data Processor:** 

# Timer Job Status

		Job Definition: H	arePoint /	Analytics for SharePoint: Q	ueue Dat	a Processor 👻	View: Jo	ob Definition 👻
Scheduled								
Job Title	Server	Web Application				Next Start Time		
HarePoint Analytics for SharePoint: Queue Data Processor	LABSP13						7/2	3/2021 1:15 PM
Running								
Job Title	Server	Progress			Status		Started	
HarePoint Analytics for SharePoint: Queue Data Processor	LABSP13	12%			Runnin	9	7/2	23/2021 1:10 PM
History					_			
Job Title	Server	Web Application		Duration (hh:mm:ss)	Status		Complete	d
HarePoint Analytics for SharePoint: Queue Data Processor	LABSP13			0:00:00	Succee	ded	7/2	23/2021 1:05 PM

## **Recommended schedule**

**Every 5-10 minutes.** This is suitable for all cases, whether you have tiny or huge number of hits per minute on the monitored site collections.

**Important note:** this timer job should always be enabled! Disabling it doesn't actually stop data collection by HarePoint Analytics: instead, all collected data will be stacked in Queue Database, and its size can grow significantly!

#### 2. Preliminary Data Preparation

#### In HarePoint Analytics Settings:

#### Preliminary data preparation

In order to speed up the process of building reports, data preparation is performed beforehand, according to a task schedule. During data preparation, outdated data details are deleted.

The process of preparation for report building puts a substantial load on the SQL Server, which may cause a noticeable reduction in the performance of SharePoint. For this reason, it is recommended that the preparation procedure be schedule at a time when the server is least busy. Schedule of launching data processing procedure daily between 00:00:00 and 00:00:00

Date and time of last run of data processing procedure N/A

Change settings

# In SharePoint Jobs definitions (named HarePoint Analytics for SharePoint: Report Data Preprocessor):

HarePoint Analytics for SharePoint - Data Collecting from Active Directory
HarePoint Analytics for SharePoint - Geographic positions database update
HarePoint Analytics for SharePoint - Report exporting by schedule
HarePoint Analytics for SharePoint - Statistics information cleaner
HarePoint Analytics for SharePoint - System Metrics Collector
HarePoint Analytics for SharePoint: Periodic data collection
HarePoint Analytics for SharePoint: Preprocessor report data by month
HarePoint Analytics for SharePoint: Queue Data Processor
HarePoint Analytics for SharePoint: Report Data Preprocessor
HarePoint Analytics for SharePoint: ULS logs monitoring

#### Description

Preliminary Data Preparation is a **key timer job** in HarePoint Analytics that processes the combination of the unprocessed (raw) data and auxiliary data (all within the Main Database) to prepare **all the information for the Daily reports**. If this timer job **fails to complete successfully, or is disabled**, **no new data will appear in the reports**.

#### Execution

This timer job actually initiates multiple stored procedures **on the SQL server**, so there is no load to SharePoint servers.

Even though there seems to be the option to change the **timer job association** in HarePoint Analytics Settings and explicitly specify the WFE server where this job should run, this option doesn't make sense for this timer job. "**Any**" is the recommended setting.

limer	Job.	Associ	iations
	~~~	10000	00010

A timer job instance may be associated with a server if you desire, but it is not a requirement. By default, timer job is not associated with a specific server and SharePoint selects the server on which the timer job instance will be executed.

Se	erver	
	Any	$\sim$

Generally speaking, this is **the most resource-heavy timer job** from HarePoint Analytics jobs, in terms of **SQL server load**, since it processes a **huge amount of data**, and passes through **multiple SQL** 

**procedures**, each performing different calculations for different reports. The load and execution duration depend on the **amount of data** to be processed, and on the **performance of the SQL server**:

- refer to the <u>Data collection filters</u> section for more information on how to **optimize data collection**, so you don't waste time and resources processing data that will never be requested in reports.
- Refer to the <u>HarePoint Analytics Administrator Guide</u> for more technical details on the recommended **configuration of the SQL Server**.

Typically, processing thousands of hits can take minutes, and processing millions of hits can take up to several hours.

**Note:** Please keep in mind the facts mentioned above when you intend to run this job manually (**"Run now"** option) in order to force data processing so that data appears in the reports earlier. It is not recommended to perform this action during working hours in a production environment.

# Optimization

Preliminary Data Preparation timer job may pause the **Processor of Message Queue** job in order to optimize SQL server load and to ensure that the SQL procedures of both timer jobs do not interfere with each other.

The later versions of HarePoint Analytics have an additional setting - **Prepare data without disabling** of message queue job:

Prepare data without disabling of message queue job

If this option is enabled then message queue timer job will not be disabled while prelimitary data preparation timer job is run. But in this case current date will not be performed by prelimitary data preparation timer job. Prepare data without disabling of message queue job

When enabled, both timer jobs can work in parallel.

We recommend using this option when from some reason there is a large amount of data has been collected in the **Queue Database**.

#### Disadvantages of enabling this option are:

- Data in reports will be **delayed by 2 days** instead of 1 day in normal mode: these data are stored in the database but not processed for optimization purposes.
- Potentially higher SQL server load since two jobs are running simultaneously.

Be sure to disable this option as soon as backlog data from Message Queue Database have been processed.

# **Tracking the Status**

You can track the status from the SharePoint Check job status section:



In the top right corner, click on View - All and select Job Definition:



Click on No Selection – Change Job Definition:



In the new window, scroll down until you can see HarePoint Analytics jobs, click on HarePoint Analytics for SharePoint: Report Data Preprocessor:

# Timer Job Status

	J	Job Definition: HarePoint Analytics for SharePoint: Report Data Preprocessor -		eprocessor •	View: Job Definition -	
Scheduled						
Job Title	Server	Web Application			Next Start Time	
HarePoint Analytics for SharePoint: Report Data Preprocessor	LABSP13					7/24/2021 12:00 AM
Running						
Job Title	Server	Progress		Status	_	Started
HarePoint Analytics for SharePoint: Report Data Preprocessor	LABSP13	52%		Running		7/23/2021 3:29 PM
History						
Job Title	Server	Web Application	Duration (hh:mm:ss)	Status		Completed
HarePoint Analytics for SharePoint: Report Data Preprocessor	LABSP13		0:02:20	Succeede	ed	7/22/2021 12:00 AM

**Important note:** The progress bar actually displays **only an estimation** of the timer job's progress. It **jumps from one fixed value to another** as the next SQL procedure starts.

If it stays on the same value for quite a long time, that is not necessarily an indication of the slow speed of the overall process. It can go through following stages quickly.

#### **Recommended schedule**

**Once per day during non-working hours.** By default, this job starts around 12am every day. Every time this timer job successfully completes, a new portion of data becomes available in the reports.

#### 3. Monthly Data Preparation

#### In HarePoint Analytics Settings:

 Monthly data preparation
 Schedule of launching data processing procedure by months daily between 02:00:00 and 02:00:00

 In order to speed up the process of building reports by month, data preparation is performed beforehand, according to a task schedule.
 Schedule of launching data processing procedure by months daily between 02:00:00 and 02:00:00

 The process of preparation for report building puts a substantial load on the SQL Server, which may cause a noticeable reduction in the performance of SharePoint. For this reason, it is recommended that the preparation procedure be schedule at a time when the server is least busy.
 Date and time of last run of the data processing procedure by months

 Change settings
 Change settings

In SharePoint Jobs Definitions (named HarePoint Analytics for SharePoint: Preprocessor report data by month):

HarePoint Analytics for SharePoint - Data Collecting from Active Directory
HarePoint Analytics for SharePoint - Geographic positions database update
HarePoint Analytics for SharePoint - Report exporting by schedule
HarePoint Analytics for SharePoint - Statistics information cleaner
HarePoint Analytics for SharePoint - System Metrics Collector
HarePoint Analytics for SharePoint: Periodic data collection
HarePoint Analytics for SharePoint: Preprocessor report data by month
HarePoint Analytics for SharePoint: Queue Data Processor
HarePoint Analytics for SharePoint: Report Data Preprocessor
HarePoint Analytics for SharePoint: ULS logs monitoring

## Description

The Monthly Data Preparation timer job prepares the data for **Monthly reports based on the data from Daily reports**, which in turn are prepared by the <u>Preliminary Data Preparation</u> timer job. If for some reason the daily data for the required date range are not available in the HarePoint Analytics Main Database, the monthly reports will be empty as well.

## Execution

This timer job actually initiates multiple stored procedures **on the SQL server**, so there is no load on SharePoint servers.

There is an option to change the **timer job association** in HarePoint Analytics Settings and explicitly specify the WFE server where this job should run, however, this doesn't make sense for this timer job. "**Any**" is the recommended setting.

#### Timer Job Associations

A timer job instance may be associated with a server if you desire, but it is not a requirement. By default, timer job is not associated with a specific server and SharePoint selects the server on which the timer job instance will be executed.

Se	erver	
	Any	~

The **SQL Server** load and execution duration depend on the amount of data to be processed. Typically, execution can take **from minutes to several hours**.

**Note:** This timer job is scheduled to run every day by default (see below). It, however, actually processes data only on one day in a month. On other days, it just starts and completes immediately. It is designed this way for optimization purposes, since there is no reason to process the same monthly data every day again and again.

**Note:** This timer job consumes resources of the SQL server. Please keep this in mind when you intend to run this job manually (**"Run now"** option) to force data processing (to get the most recent data collected into the reports immediately). It is not recommended to do this during the working hours.

## **Tracking the Status**

You can track the status of the Monthly Data Preparation job from the SharePoint **Check job status** section:



In the top right corner, click on View - All and select Job Definition:



Click on No Selection – Change Job Definition:



In the new window, scroll down until you can see HarePoint Analytics jobs, click on **HarePoint Analytics for SharePoint: Preprocessor report data by month.** 

#### **Recommended schedule**

**Once per day during non-working hours.** By default, this job starts around 2am every day to be sure it will not be running in parallel with the resource intensive Preliminary Data Preparation job which starts at 12am by default. If necessary, you can adjust Monthly Data Preparation job to start at later time, if you notice that Preliminary Data Preparation takes longer than 2 hours to complete.

Every time this timer job successfully completes, a new portion of data becomes available in the reports for **by Month** mode.

#### 4. Periodic Data Collection

#### In HarePoint Analytics Settings:

Periodic data collection

HarePoint Analytics for SharePoint conducts periodic data collection on the state of websites, document libraries and lists of SharePoint. Data collection is performed on those collections of websites, where collection of statistical information by HarePoint Analytics for SharePoint has been activated. The collected data is stored in the database of HarePoint Analytics for SharePoint, and allows tracking of the dynamics of changes in the basic characteristics of SharePoint. Data collection schedule daily between 00:00:00 and 00:00:00 Last run time 7/23/2021 12:00:00 AM

Change schedule

#### In SharePoint Jobs Definitions (named HarePoint Analytics for SharePoint: Periodic data collection):

HarePoint Analytics for SharePoint - Data Collecting from Active Directory
HarePoint Analytics for SharePoint - Geographic positions database update
HarePoint Analytics for SharePoint - Report exporting by schedule
HarePoint Analytics for SharePoint - Statistics information cleaner
HarePoint Analytics for SharePoint - System Metrics Collector
HarePoint Analytics for SharePoint: Periodic data collection
HarePoint Analytics for SharePoint: Preprocessor report data by month
HarePoint Analytics for SharePoint: Queue Data Processor
hareronic Analytics for Shareronic Queue Data Processor
HarePoint Analytics for SharePoint: Report Data Processor
HarePoint Analytics for SharePoint: Report Data Processor HarePoint Analytics for SharePoint: ULS logs monitoring

#### Description

The Periodic Data Collection timer job collects **additional information** from SharePoint, such as the status and parameters of websites, lists, and document libraries. In most cases, it is sufficient to collect this information only once a week.

Note: This job does not collect data about the document usage or webpage clicks.

#### Execution

This timer job retrieves the required information mostly by interacting with the SharePoint Object Model. This process consumes some resources of the **WFE server** that it runs on, but normally this load is reasonably low.

By default, SharePoint automatically selects the WFE server to run this job, but you can **specify the preferred WFE server** explicitly in HarePoint Analytics Settings:

#### Timer Job Associations

A timer job instance may be associated with a server if you desire, but it is not a requirement. By default, timer job is not associated with a specific server and SharePoint selects the server on which the timer job instance will be executed. Server

The SQL server utilization by this timer job is negligibly low.

#### Optimization

In later versions of HarePoint Analytics, there is an optimization option available for Periodic Data Collection timer job.

By default, the timer jobs re-collects its entire dataset every time it runs (**full data collection**). This process is very efficient, so in most cases, it takes reasonable time to complete.

However, on very large farms, with huge document libraries and lists it might be running for too long every time. For optimization purposes, you can enable **incremental data collection**, so that the job collects only the changed data on every run.

This can be done by running the following command from SharePoint Management Shell: (Note: in SharePoint SE **stsadm** is no longer available, so you can use the HarePoint Utility command line **HarePointAnalyticsUtil.exe set-policy**, see <u>Set policies</u> for more details)

#### stsadm -o mlstsetpolicy -incrementalcrawler true

Furthermore, you can increase the number of threads used by this timer jobs (default is 1):

#### stsadm -o mlstsetpolicy -crawlerthreadcount <thread\_count>

For example, setting it to 4-8 threads may further increase the processing speed.

To disable the incremental data collection and revert to original settings, use the following commands:

#### stsadm -o mlstsetpolicy -incrementalcrawler false stsadm -o mlstsetpolicy -crawlerthreadcount 1

To review the current settings, use the following command (for more details on policies in HarePoint Analytics, refer to <u>Administrator Guide</u> – Managing global policies paragraph):

#### stsadm -o mlstdisplaypolicies | find /l `"crawler`"

#### **Tracking the Status**

You can track the status of the Periodic Data Collection job from the SharePoint **Check job status** section:



In the top right corner, click on **View - All** and select **Job Definition**:



Click on No Selection – Change Job Definition:



In the new window, scroll down until you see HarePoint Analytics jobs, click on **HarePoint Analytics** for SharePoint: Periodic data collection.

#### **Recommended Schedule**

Once per day during off-hours.

In cases with a **large number of web-sites** (10000 or more), this job may take quite a long time to complete, so the schedule may be changed to **once per week during off-hours**.

#### 5. Data Collection from Active Directory

#### In HarePoint Analytics Settings:

Data collection from Active Directory

HarePoint Analytics for SharePoint regularly collects data about Active Directory users, groups and key structures. The collected data are directed to the HarePoint Analytics for SharePoint database to be later used for generating several report types, with Active Directory filters enabled. Schedule daily between 23:00:00 and 23:00:00 Last run time 7/22/2021 11:00:00 PM

Change schedule

# In SharePoint Jobs Definitions (named HarePoint Analytics for SharePoint – Data Collecting from Active Directory):

HarePoint Analytics for SharePoint - Data Collecting from Active Directory
HarePoint Analytics for SharePoint - Geographic positions database update
HarePoint Analytics for SharePoint - Report exporting by schedule
HarePoint Analytics for SharePoint - Statistics information cleaner
HarePoint Analytics for SharePoint - System Metrics Collector
HarePoint Analytics for SharePoint: Periodic data collection
HarePoint Analytics for SharePoint: Preprocessor report data by month
HarePoint Analytics for SharePoint: Queue Data Processor
HarePoint Analytics for SharePoint: Report Data Preprocessor
HarePoint Analytics for SharePoint: ULS logs monitoring

#### Description

The Data Collection from Active Directory timer job collects **additional information** about Active Directory users and groups, as well as some other key parameters from AD. In many cases, it is sufficient to collect this information only once a week.

Note: No data about user activity on SharePoint sites is collected by this job.

In HarePoint Analytics Settings, you would need to specify the **account** that should be used to connect to AD, as well as the domain controller's **Fully Qualified Domain Name (FQDN)** to connect to, in case the default settings are not suitable.

#### Execution

The Data Collection from Active Directory timer job interacts with Domain Controllers in order to receive the required information from AD. This job consumes some resources of the **Domain Controllers** and of the **WFE server** that it runs on.

By default, SharePoint automatically selects the WFE server to run this job, but you can **specify the preferred WFE server** explicitly in HarePoint Analytics Settings:

#### Timer Job Associations

A timer job instance may be associated with a server if you desire, but it is not a requirement. By default, timer job is not associated with a specific server and SharePoint selects the server on which the timer job instance will be executed. Server

The SQL server utilization by this timer job is negligibly low.

#### Optimization

If it takes too long for the timer job to complete due to large number of AD groups, and if you are not going to filter your reports by AD groups, then you can optimize the process. Since version 16.13/15.18 of HarePoint Analytics, you can reduce the execution time for this timer job by disabling data collection on AD groups.

This can be done by running the following command from SharePoint Management Shell: (Note: in SharePoint SE **stsadm** is no longer available, so you can use the HarePoint Utility command line **HarePointAnalyticsUtil.exe set-policy**, see <u>Set policies</u> for more details)

#### stsadm -o mlstsetpolicy -collectADGroups false

Note: you won't be able to filter reports by AD groups when this policy is set to false.

In addition, if Content Popularity report is slow due to large number of AD groups, you can use the lightweight version of this report – **Content Popularity (Simple)**. By default, this report is not visible in the list of reports, and needs to be enabled in **Central Administration – Monitoring – HarePoint** 

Analytics settings – Statistics policies (uncheck the checkbox to make the report visible):

# global policies o

Select reports
Overview
□ Visits & Visitors
Site summary
Web-sites without visits
☐ Visits trend
Visits by hours
Length of visits
<ul> <li>Depth of visits</li> </ul>
Visits
Pageviews
Navigation details
Users activity
Visits by SharePoint department
Visits by role
Visits by Active Directory department
Visits by countries
Browsers
Platforms
Mobile Devices
Content & Traffic
Content popularity
Content popularity (simple)

# **Tracking the Status**

You can track the status of the Data Collection from Active Directory job from SharePoint **Check job status** section:



In the top right corner click on View - All and select Job Definition:



Click on No Selection – Change Job Definition:



In the new window, scroll down until you can see HarePoint Analytics jobs, click on **HarePoint Analytics for SharePoint – Data Collecting from Active Directory.** 

## **Recommended Schedule**

#### Once per day during off-hours.

In case you have a **complex domain structure (multiple domains, forests, trusts)**, such that it takes quite a long time for this timer job to complete, the schedule can be changed to **once per week during off-hours**.

#### 6. Geographic locations database update

#### In HarePoint Analytics Settings:

MaxMind® Company offers free version of geographic locations base. This database is supplemented and corrected regularly.	N/A
	Change settings Additional settings

# In SharePoint Job Definitions (named HarePoint Analytics for SharePoint - Geographic positions database update):

HarePoint Analytics for SharePoint - Data Collecting from Active Directory
HarePoint Analytics for SharePoint - Geographic positions database update
HarePoint Analytics for SharePoint - Report exporting by schedule
HarePoint Analytics for SharePoint - Statistics information cleaner
HarePoint Analytics for SharePoint - System Metrics Collector
HarePoint Analytics for SharePoint: Periodic data collection
HarePoint Analytics for SharePoint: Preprocessor report data by month
HarePoint Analytics for SharePoint: Queue Data Processor
HarePoint Analytics for SharePoint: Report Data Preprocessor
HarePoint Analytics for SharePoint: ULS logs monitoring

#### Description

The Geographic locations database update timer job is used to update the database of **geographical locations vs external IP addresses**, as well as some additional related information. This information is used in particular in the **Visits by Country** report. The data are provided by MaxMind<sup>®</sup> on a freeware basis.

**Important note:** It is necessary to have this database downloaded **at least once** in order to have data displayed in the **Visits by Countries** report.

Moreover, this is applicable for both options: when you have Detect location by IP, or Country data is located in the following field in User Profile selected in the Advanced Settings for this timer job:

# HarePoint Analytics for SharePoint (Additional Settings

#### Settings for the collection of geographical data

This area of settings allows you to select method which will be used for the detecting of the geographical location of the visitor. Two method are offered:

location is detected based on IP address of the Visitor:

location is detected based on data received from the User Profile on SharePoint.

Please note, method 2 can be used only on Microsoft SharePoint Server 2010. Microsoft SharePoint Foundation 2010 is not supported, because the User Profile Service Application is absent.

To get more details about configuring of the geographical data collection please look at the Deployment Guide.

Select method how the location will be detected

Detect location by IP

O Country data is located in the following field in User Profile:  $\sim$ 

Id

Please refer to HarePoint Analytics Administrator Guide – Initial Settings - Setting the Geographic locations database update for more details on the settings of this timer job.

#### Execution

This timer job connects to the MaxMind® website to retrieve the updated geographical locations database. This information is stored in one of the auxiliary tables of the HarePoint Analytics Main Database.

By default, SharePoint automatically selects the WFE server to run this job, but you can specify the preferred WFE server explicitly in HarePoint Analytics Settings:

Timer Job Associations

A timer job instance may be associated with a server if you desire, but it is not a requirement. By default, timer job is not associated with a specific server and SharePoint selects the server on which the timer job instance will be executed.

Se	erver	
	Any	Y

In particular, this could be useful if only a specific WFE server has access to the Internet.

#### **Tracking the Status**

Normally, this job takes minutes to complete, mostly depending on your internet connection speed. You can track the status of the Geographic Locations Database Update job from SharePoint Check job status section:



In the top right corner click on View - All and select Job Definition:



Click on No Selection – Change Job Definition:



In the new window, scroll down until you can see HarePoint Analytics jobs, click on HarePoint Analytics for SharePoint - Geographic locations database update.

#### **Recommended Schedule**

**Once per month** or **Disabled**, depending on the location detection mode (see **Advanced Settings** for this job): **Detect location by IP** or **Country data is located in the following field in User Profile** respectively.

**Important note:** For both cases, it is necessary to have this database downloaded **at least once** in order to have data displayed in **Visits by Countries** report.

#### 7. System Metrics Collector

In HarePoint Analytics Settings:

Note: this timer job is not displayed in HarePoint Analytics Settings.

In SharePoint Job Definitions (named HarePoint Analytics for SharePoint – System Metrics Collector):

#### Description

Note: This timer job is not displayed on the Data Collection and Processing Diagram.

The System Metrics Collector timer job is used to collect data on **WFE servers'** performance, such as **CPU Usage, Memory usage, Disk usage, Network usage**, etc. These data are **solely** available in the **Performance** category of reports in **Central Administration**. This fact makes this timer job **optional** – in case you don't need performance reports, you can disable the System Metrics Collector timer job and that will not affect data in any other report.

**Note:** some of the reports display the data in **real-time** (the delay only depends on this timer job's schedule, which is **"every 5 minutes"** by default). This means that data is retrieved by the System Metrics Collector timer job get to the report data tables of the Main HarePoint Analytics Database **directly**, unlike all other data in the reports (which need to pass through a succession of timer jobs and database tables).

#### Execution

This timer job collects the data about the performance from the **Performance Counters** of Windows Server.

**Important note:** In order to be able to retrieve these data, the SharePoint **farm account** needs to be a member of **Performance Monitor Users** group on WFE servers (for more information on how to set up System Metrics data collection properly, please refer to <u>HarePoint Analytics Administrator Guide</u> – Initial Settings - Data collection on server performance).

**Note:** The System Metrics Collector job needs to run on **each WFE server** to have the correct information for the summary load for the **whole SharePoint Farm**.

This timer job consumes the resources of all WFE servers.

### **Tracking the Status**

You can track the status of System Metrics Collector job from SharePoint Check job status section:



In the top right corner click on View - All and select Job Definition:



Click on No Selection – Change Job Definition:

Job Definition:		No selection +		View:	Job Definition +
	Change Job Definition		I		
	1955	C Store Time	1		

In the new window, scroll down until you see HarePoint Analytics jobs, click on HarePoint Analytics for SharePoint - System Metrics Collector.

## **Recommended Schedule**

**Disabled** or **Every 5-10 minutes**, depending if you **don't** or **do** need the performance information in the reports respectively. Setting shorter intervals is not recommended due to increased load on WFE servers; longer intervals may cause some performance anomalies (CPU Usage spikes, etc.) to be unnoticed.

#### 8. Report Exporting by Schedule

In HarePoint Analytics Settings:

Note: this timer job is not displayed in HarePoint Analytics Settings.

In SharePoint Job Definitions (named HarePoint Analytics for SharePoint - Report exporting by schedule):

HarePoint Analytics for SharePoint - Data Collecting from Active Directory
HarePoint Analytics for SharePoint - Geographic positions database update
HarePoint Analytics for SharePoint - Report exporting by schedule
HarePoint Analytics for SharePoint - Statistics information cleaner
HarePoint Analytics for SharePoint - System Metrics Collector
HarePoint Analytics for SharePoint: Periodic data collection
HarePoint Analytics for SharePoint: Preprocessor report data by month
HarePoint Analytics for SharePoint: Queue Data Processor
HarePoint Analytics for SharePoint: Report Data Preprocessor
HarePoint Analytics for SharePoint: ULS logs monitoring

## Description

Note: This timer job is not displayed in the **Data Collection and Processing Diagram** above.

Report exporting by schedule timer job is used to **export the scheduled reports** and send them byemail, or save to selected document library. This is performed for all sites and site collections by a single timer job.

#### Execution

This timer job generates each required report, based on the data from the HarePoint Analytics Main Database, and saves it to an **XLS** or **PDF** file. After that, the file is either sent by e-mail or saved to a document library (it is possible to have both options simultaneously).

This process consumes the resources of the **WFE server** where it runs.

By default, SharePoint automatically selects the WFE server to run this job, but you can **specify the preferred WFE server** explicitly in HarePoint Analytics Settings:

#### Timer Job Associations

A timer job instance may be associated with a server if you desire, but it is not a requirement. By default, timer job is not associated with a specific server and SharePoint selects the server on which the timer job instance will be executed. Server 🗸

**Important Note:** Currently there are **no limitations established** in HarePoint Analytics regarding the **size of reports**, so please consider in advance the **size of the exported report** (number of pages)..



The subscription task to export a report consisting of thousands of pages will put a **substantial load on the WFE server** (where this job is running) for a lengthy period of time: either until the report is finally generated, or until the timer job fails with a timeout.

A running job **can only be stopped** by restarting SharePoint Timer Service, which in most cases is **not acceptable** in a production environment during working hours.

**SQL Server usage** by Report exporting by schedule timer job is low.

#### **Tracking the Status**

You can track the status of Report Exporting by Schedule job from SharePoint **Check job status** section:



In the top right corner click on View - All and select Job Definition:



Click on No Selection – Change Job Definition:

Jo	b Definition:	No selection 👻	I	View:	Job Definition 👻
	Change Job Definition				
		coure nine	1		

In the new window, scroll down until you see HarePoint Analytics jobs, click on HarePoint Analytics for SharePoint - Report exporting by schedule.

#### **Recommended Schedule**

#### Every 10 minutes.

**Note:** This also means that when using the **Send report immediately** schedule option in **New Subscription Rule**, the reports will be sent within 10 minutes, but not actually immediately:

Set scheduler for exporting					
Catally and a back of the fact the second	Schedule:				
Set the export schedule for the report	<ul> <li>Send report immediately</li> </ul>				
	<ul> <li>Send report daily</li> <li>Send report weekly</li> </ul>				
	O Send report monthly				
	Time:				
	1 🗸 Sunday 🗸 12:00 AM 🗸				

In case you are sure the **Send report immediately** option will never be used, you can **change the timer job schedule to Daily**.

# Managing HarePoint Analytics Database size and growth rate

HarePoint Analytics collects a wide range of various information. Obviously, that huge amount of data means a huge database size. This chapter describes the ways to achieve the balance between

HarePoint.Com | Managing HarePoint Analytics Database size and growth rate

the amount of stored detailed historical data available in the reports and optimal database size for better SharePoint and SQL Server performance and maintenance.

# **Shrinking transaction logs**

The size of transaction logs can grow substantially as HarePoint Analytics gathers data over time, especially if the **Full** recovery model is used for the SQL database.

Our **recommendation is to use the Simple** recovery model for both the Queue and Main Databases to reduce the logging level and improve overall SQL server performance:

Open **SQL Management Studio**, locate the HarePoint Analytics **Main Database**, and access its **Properties – Options**:

U	_ 🗆 X				
Select a page	Script 🔻 🚺 Help				
Files	<u>C</u> ollation:	Latin1_General_CI_AS_KS_WS	~		
Change Tracking	Recovery <u>m</u> odel:	Simple	~		
Permissions	Compatibility level:	SQL Server 2012 (110)	× .		
Extended Properties	Containment type:	None	~		
	Other options:				
	<b>2</b> ↓ □				
	Auto Shrink	False	~		
	Auto Update Statistics	True			
	Auto Update Statistics Asyr	nchronously False			
	⊿ Containment	△ Containment			
	Default Fulltext Language L	_CID 1033	=		
	Default Language	English			
	Nested Triggers Enabled	True			
	Transform Noise Words	False			
	Two Digit Year Cutoff	Two Digit Year Cutoff 2049			
Connection					
Server:	Close Cursor on Commit En	abled False			
LABSP13\SHAREPOINT	Default Cursor	GLOBAL			
Connection:	⊿ FILESTREAM				
LABSP13\Administrator	FILESTREAM Directory Na	FILESTREAM Directory Name FILESTREAM Non-Transacted Access Off			
	FILESTREAM Non-Transa				
View connection properties	⊿ Miscellaneous				
	Allow Snapshot Isolation	False			
Progress	ANSINULL Default	False			
Ready	Allow Snapshot Isolation				
		0	K Cancel		

Please refer to the <u>HarePoint Analytics Administrator Guide</u> for more technical information on shrinking transaction logs (Maintenance of Main statistics database chapter).
# **Data collection filters**

By default, HarePoint Analytics collects all the information it can technically capture, on site collections where the HarePoint Analytics feature is activated.

However, there might be some information that either you will **never view in the reports**, or that can **distort the reports** (e.g. the huge number of hits generated by **search crawlers**, scripts running technical accounts, many hits for certain file types like .gif, and so on).

It is **highly recommended to set up data collection filters** to prevent these kinds of information from being captured (and therefore stored in Analytics Database), as this will:

- ensure the data in reports are meaningful and not distorted by multiple hits generated by search crawlers
- reduce the database growth
- reduce the execution time of key timer jobs
- reduce the SQL Server load.

**Important note:** Data collection filters **do not affect the existing data that are stored** in the Main Database. They concern **only newly collected data**.

**Important note:** The information that has been filtered out by data collection filters will be **permanently lost and cannot be restored**! Make sure the data collection filters you apply will not filter out useful information!

#### How to determine the information that should be filtered out

#### 1. Reviewing the reports

You can review the following reports in order to find data that is not worth collecting:

- **Content popularity** to determine **pages** that are accessed very frequently, but which are either technical or are not of any use in reports.
- Document popularity to determine what document (file) types, or entire document libraries displayed in the report which are technical, or for which there is no point in collecting usage data(.gif, .bmp, etc).
- List items popularity to determine frequently accessed list items or whole lists for which reporting is unnecessary.
- Users activity to determine user accounts that are used for technical purposes (such as site and site collection administrators' accounts, special accounts to run scripts, crawlers, and so on). There is generally no need to display such activity in reports. Quite often, Anonymous users need to be filtered out see the highlight below.

# Why do Anonymous users appear in the reports, if anonymous access is not allowed in my SharePoint farm?

Seeing Anonymous as a user in reports even when anonymous access is not allowed is an entirely expected situation with HarePoint Analytics. This is caused by technical nuances of SharePoint's authentication mechanisms:

- There are pages where users authenticate, so they are actually initially accessed by anonymous users.
- This is the way browsers work: some pages/content are first accessed as anonymous, then the browser automatically authenticates and attempts to access the page again.

This is **normal behavior** of SharePoint and HarePoint Analytics, and it does not point to any issues in HarePoint Analytics' or SharePoint's configuration.

The solution in this case is to set up a farm level data collection filter:	
UserAnonymous False	

Create rule for the stati	stics filter					
			* indicates a re	quired field		
Filtration field *	UserAnonimous	✓ 🙆				
Relationship type *	False	✔ 🔞				
Ignore this rule for the events on documents and list items open and edition						
			OK	Cancel		
<b>However</b> , the previous the reports. To hide th <b>Filter</b> button on the rik	sly collected inform em, you can apply boon $\rightarrow$ Username	ation on a display field, typ	Anonymou: filter: e <b>-anonym</b> o	s users will <b>Dus</b>	still be display	ed in
		Filter				

	HelpDesk Users	
Account name		] ?
Jser name	-anonymous X	?
SharePoint Department		

## 2. Using HarePoint Analytics Utility

In the <u>HarePoint Analytics Utility</u>, there is an option to **check the most popular hits** that are getting to a Queue Database. It allows to examine if there are any unnecessary data collected in excess amounts, and which should be filtered out at the stage of data collection.

#### Open HarePoint Analytics Utility – General Info tab. Click the Popular queue hits button:

22				Harepoint Anal	ytics Help Util				- 0	x		
Gen	eral info Time	r jobs   Policies and filters	ULS log Web.confi	g modifications   Missing fea	tures and web-parts D	ata collection feature	Installation checker	Report	Custom re	eports		
Ge	General information about the installed version of Harepoint Analytics.											
	Refresh Popular queue hits Active queries to csv Stat database Queue database Encryption											
	Attribute				Value							
Þ	Installed	version			15.15.0.0							
	Current tir	nestamp			23/07/2021 10:27:4	44						
	Statistics	database server			DEMO2013							
	Statistics	database name			mlstdb2							
	Database	version			4068							
	Queue da	tabase server			DEMO2013							
	Queue da	tabase name			StatMQ							
	Queue da	tabase records count			0							
	Statistics	Hits table records count			46959							
	Oldest red	cord in Queue database			N/A							
	Newest re	ecord in Queue database			N/A							
	Oldest Hit	s table record			Id = 751670, Created = 4/18/2021 12:00:39 AM							
	Newest H	lits table record			ld = 798628, Created = 7/23/2021 9:59:44 AM							
	Oldest Pa	geviews record			ld = 737698, Created = 3/28/2021 12:59:42 PM							
	Newest F	ageviews record			ld = 798463, Created = 7/22/2021 11:00:13 PM							
	Oldest Do	cument popularity record			Created = 3/28/202	21 12:00:00 AM						
	Newest D	ocument popularity record			Created = 7/22/202	21 12:00:00 AM						
	Oldest Lis	t items popularity record			Created = 6/22/201	17 12:00:00 AM						
	Newest L	ist items popularity record			Created = 7/22/202	21 12:00:00 AM						
	Servers of	ount in the fam		1								
	Servers in	the farm			DEMO2013							
	License s	tatus			Registered							
	Disabled	timer instances			-							

Note: It is required to have at least 3,000 hits in the Queue Database.

If you are not getting that number of hits by the time the Queue Database is emptied by the

Processor of the Message Queue timer job (every 5 minutes by default), you can **temporarily disable** this timer job on the **Timer Jobs** tab of the Utility:

2			Har	epoint Ar	alytics Help	p Util			_	□ X	
Genera	al info Timer jobs Policies and filters	JLS log Web.c	config modificatio	ns Missing f	eatures and we	eb-parts Data c	ollection feature	Installat	tion checker Report Cust	om reports	
Info	Information about the timer jobs used by Harepoint Analytics. The tab allows you to turn on/off the jobs, view history of running them, and										
R	efresh Enable Disable	Histor	ry Run i	now	Server	Recreate	Last logs				
	Job name	Status	Run status	Run server	Start time	Run duration	Enabled	Server	Last run time	Schedul	
	Report export scheduler	Online	False		N∖A	N\A	Enabled	Any	7/23/2021 10:20:00 AM	Minutes	
	Data collection from Active Directory	Online	False		N∖A	N∖A	Enabled	Any	7/22/2021 11:00:00 PM	Daily	
►	Processor of message queue	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 10:25:05 AM	Minutes	
	Periodic data collection	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 12:00:00 AM	Daily	
	Preliminary data preparation	Online	False		N∖A	N\A	Enabled	Any	7/23/2021 12:00:00 AM	Daily	
	System Metrics Collector	Online	False		N∖A	N\A	Disabled	Any	N\A	Minutes	
	Monthly data preparation	Online	False		N\A	N\A	Enabled	Any	7/23/2021 2:00:00 AM	Daily	
	Statistics information cleaner	Online	False		N\A	N\A	Enabled	Any	7/17/2021 4:05:22 AM	Weekly	
	Geographic locations database update	Online	False		N\A	N\A	Disabled	Any	NVA	Monthly	
	Monitoring of the SharePoint ULS logs	Online	False		N∖A	N\A	Disabled	Any	NVA	Daily	

Switch back to the **General Info** tab and click **Refresh** from time to time.

Once you get more than 3,000 hits in **Queue database records count**, click **Popular queue hits**, and analyze that information.

2				Harepo	oint Analyt	tics Help Uti	il				_ 🗆 🗙	
Genera	al info Time	r jobs Policies and filters	ULS log Web.config r	nodifications	Missing featur	es and web-part	s Data colle	ction feature	Installation checker	Report	Custom reports	
Gene	General information about the installed version of Harepoint Analytics.											
	Refresh	Popular queue hits	Active queries to csv	Stat data	abase	Queue databa	se	Encryption				
	Attribute					Value						
	Installed	version				15.15.0.0						
	Current ti	mestamp				23/07/2021 11:13:09						
	Statistics	database server				DEMO2013						
	Statistics	database name				mlstdb2						
	Database	e version				4068						
	Queue d	atabase server				DEMO2013						
	Queue d	atabase name	StatMQ									
Þ	Queue d	atabase records count		8								
	Statistics	Hits table records count				47019						
	Oldester	and in Original databases		14 5104700 Counter 4 7/02/2021 11:12:20 AM								

Do not forget to re-enable the Processor of Message Queue timer job when completed:

:	8				Har	epoint An	alytics Help	Util					_	n x
ſ	General	info Timerjobs	Policies and filters U	LS log Web.c	onfig modificatior	ns Missing f	eatures and web	parts Data o	ollection feature	Installat	tion checker	Report	Custor	n reports
	Information about the timer jobs used by Harepoint Analytics. The tab allows you to tum on/off the jobs, view history of running them, and force running the jobs as well													
	Ref	iresh En	able Disable	Histor	y Run r	now	Server	Recreate	Last logs					
		Job name		Status	Run status	Run server	Start time	Run duration	Enabled	Server	Last run time			Schedul
		Report export so	heduler	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 1	1:10:00 A	١M	Minutes
		Data collection f	from Active Directory	Online	False		N\A	N\A	Enabled	Any	7/22/2021 1	1:00:00 F	M	Daily
	►	Processor of me	ssage queue	Online	False		N\A	N∖A	Disabled	Any	7/23/2021 1	1:10:06 /	AM	Minutes
		Periodic data co	llection	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 1	2:00:00 A	١M	Daily
		Preliminary data	preparation	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 1	2:00:00 A	١M	Daily
		System Metrics	Collector	Online	False		N∖A	N∖A	Disabled	Any	N\A			Minutes
		Monthly data pre	eparation	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 2	:00:00 AI	М	Daily
		Statistics information	ation cleaner	Online	False		N∖A	N∖A	Enabled	Any	7/17/2021 4	:05:22 AI	М	Weekly
		Geographic loca	ations database update	Online	False		N∖A	N∖A	Disabled	Any	N\A			Monthly
		Monitoring of the	e SharePoint ULS logs	Online	False		N∖A	N∖A	Disabled	Any	N\A			Daily

#### How to set up data collection filters

In HarePoint Analytics, it is possible to set up data collection filters at all levels in SharePoint.

**Note:** by default, **all filters are inherited from the level above**. You can **break inheritance** at any level if necessary.

Some Data Collection Filters are applied at the level of the **HTTP Module** (i.e. before they get to the Queue Database), others are applied at the level of the **Processor of Message Queue timer job** (i.e. they get to the Queue Database, but will not be moved to Main Database).

Please refer to the <u>HarePoint Analytics Administrator Guide</u> – Advanced Settings - Data collection filters for more technical information on Data collection filters.

• Global filters at the Farm level: in Central Administration – Monitoring – HarePoint Analytics Settings – Statistics filter:



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Statistics filter

This page is designed for managing the statistics filter

Configure filter

• Web application level: in Central Administration – Monitoring – HarePoint Analytics for SharePoint section - Web application filter management:

# Monitoring



- Site Collection level: Access Site Settings for the required Site Collection HarePoint Analytics for SharePoint section Site collection filter management link:
  - HarePoint Analytics for SharePoint Site usage reports Site collection usage reports Site usage reports permissions Site collection usage reports permissions Site filter management Site collection filter management Tasks for exporting reports
- Site level: Access Site Settings for the required Site HarePoint Analytics for SharePoint section
   Site filter management link:
  - HarePoint Analytics for SharePoint Site usage reports Site collection usage reports Site usage reports permissions Site collection usage reports permissions Site filter management Site collection filter management Tasks for exporting reports
- Document Library or List Level: Access the settings of the required List or Document Library HarePoint Analytics list filter management link:



Generally, the **recommendation** is to add data collection filters at the **farm level** to be sure they affect the whole SharePoint farm, including Site collections that are added in the future. Use data collection filters at other levels for **more specific tasks**, to be sure they do not affect other web applications/site collections/sites/libraries inadvertently.

To add a new filter at the selected level, click New – Add Rule:

New	-	Actions - Settings -
T	Ac Ac	ld rule Id new rule for the statistics filter.
	lm Im	port statistics collection rules port statistics filter rules from an xml file

#### Create rule for the statistics filter

		* indicates a required field
Filtration field *	RequestUrl 🗸 🙆	
Relationship type *	NotEqual 🗸 🎯	
Expression *		
Ignore this rule for the events on documents and list items open and edition		
		OK Cancel

Important Note: Data Collection Filters have **positive (or white-list) logic**; meaning that only data that **comply** with that filter statement will pass to the Main Database. Applying incorrect filters will stop useful information from being recorded! These data will be **permanently lost and cannot be restored!** 

In order to prevent possible data loss, positive relationship types are not available by default. If there is a need to exclude all incoming data except just a specific one, you can enable positive relationship types by setting **hidePositiveFilters** policy to **false** (refer to <u>Administrator Guide</u> -Using stsadm.exe to manage policies).

#### Examples of commonly used filters are:

To exclude certain pages, sites or site collections, document libraries or lists, other links: **RequestURL NotContains <...>** (part of the URL)

To exclude certain file types:

DocumentURL NotContains <...> (file extensions, e.g. ".gif")

Create a separate rule for each file extension, or use **NotMatchRegex** to filter out multiple file extensions:

#### DocumentURL NotMatchRegex ^.+\.((gif)|(png)|(bmp))\$

This rule will filter out .gif, .png and .bmp file extensions.

To exclude Anonymous users:

**UserAnonymous False** 

To exclude certain users (case-sensitive!):

UserName NotEquals <...>

UserLoginName NotEquals <...>

Create a separate rule for each user account.

To stop data collection for this SharePoint level:

DoNotCollect True

Note: Data Collection Filters can also be configured from the **command line** and via HarePoint Analytics **Policies** - Please refer to <u>HarePoint Analytics Administrator Guide</u> – Advanced Settings -Data collection filters.

# **Data retention period**

#### What data are stored in the Main Database and for how long?

- By default, HarePoint Analytics stores the data for **Daily reports** (the most detailed data) for **180** days.
- The data for **Monthly reports** are stored for an **unlimited** period of time, they are never removed from the database.
- In addition, the **Raw** (**unprocessed**) **data** (that are **not used directly** to display the reports) are stored for **90** days by default. The purpose of keeping them is to be able to **rebuild** some of the reports in case if they get corrupted for any reason.

Reducing the data retention period will remove the some data from the Main Database and **reduce** its size. However, often compliance or internal policy requires data to be kept longer. Consideration of the space required should be taken in advance.

#### Important Note: data removed are deleted permanently and cannot be restored!

#### Statistics information cleaner timer job

Clean up of old statistical information is performed by a separate timer job, **Statistics information** cleaner:



The **Statistics information cleaner** can be managed from **SharePoint Job Definitions** (Central Administration – Monitoring – Job Definitions):

HarePoint Analytics for SharePoint - Data Collecting from Active Directory
HarePoint Analytics for SharePoint - Geographic positions database update
HarePoint Analytics for SharePoint - Report exporting by schedule
HarePoint Analytics for SharePoint - Statistics information cleaner
HarePoint Analytics for SharePoint - System Metrics Collector
HarePoint Analytics for SharePoint: Periodic data collection
HarePoint Analytics for SharePoint: Preprocessor report data by month
HarePoint Analytics for SharePoint: Queue Data Processor
HarePoint Analytics for SharePoint: Report Data Preprocessor
HarePoint Analytics for SharePoint: ULS logs monitoring

#### Alternatively, using the HarePoint Analytics Utility:

35			Har	epoint Ar	nalytics Help	p Util			_	□ X		
General	info Timer jobs Policies and filters U	LS log Web.c	onfig modificatio	ns Missing	features and we	b-parts Data c	ollection feature	Installat	tion checker Report Custo	m reports		
Infor	Information about the timer jobs used by Harepoint Analytics. The tab allows you to turn on/off the jobs, view history of running them, and force running the jobs as well											
Ref	iresh Enable Disable	Histor	y Run	now	Server	Recreate	Last logs					
	Job name	Status	Run status	Run server	Start time	Run duration	Enabled	Server	Last run time	Schedul		
	Report export scheduler	Online	False		N\A	N\A	Enabled	Any	7/23/2021 11:10:00 AM	Minutes		
	Data collection from Active Directory	Online	False		N\A	N\A	Enabled	Any	7/22/2021 11:00:00 PM	Daily		
	Processor of message queue	Online	False		N\A	N\A	Enabled	Any	7/23/2021 11:10:06 AM	Minutes		
	Periodic data collection	Online	False		N∖A	N\A	Enabled	Any	7/23/2021 12:00:00 AM	Daily		
	Preliminary data preparation	Online	False		N∖A	N\A	Enabled	Any	7/23/2021 12:00:00 AM	Daily		
	System Metrics Collector	Online	False		N∖A	N\A	Disabled	Any	N∖A	Minutes		
	Monthly data preparation	Online	False		N\A	N\A	Enabled	Anv	7/23/2021 2:00:00 AM	Dailv		
►	Statistics information cleaner	Online	False		N\A	N∖A	Enabled	Any	7/17/2021 4:05:22 AM	Weekly		
	Geographic locations database update	Online	False		N\A	N∖A	Disabled	Any	N\A	Monthly		
	Monitoring of the SharePoint ULS logs	Online	False		NVA	N∖A	Disabled	Any	N∖A	Daily		

Note: This timer job is not available from HarePoint Analytics Settings.

#### Execution

This timer job actually initiates multiple stored procedures on the SQL server, so there is no load on SharePoint servers.

**Note:** Please keep in mind this timer job consumes resources of the SQL server if you intend to run this job manually ("**Run now**" option) in order to force data removal and database cleanup. This is not recommended during the working hours.

#### **Tracking status**

You can **track the Statistics information cleaner job status** in SharePoint Check Job Statuses (Central Administration – Monitoring – Check job status):

In the top right corner click on View - All and select Job Definition:



Click on No Selection – Change Job Definition:



In the new window, scroll down until you see HarePoint Analytics jobs, click on HarePoint Analytics for SharePoint - Statistics information cleaner.

#### **Recommended Schedule**

Once weekly during off-hours.

#### Managing the data retention period

The Data retention period can be changed or checked using the **command-line interface** only. This setting is not available in the GUI.

There are two utilities that provide command-line management for HarePoint Analytics:

• For Analytics version 16.12/15.17 or later, this can be performed by means of the **HarePointAnalyticsUtil.exe** utility, which can be found in Analytics distributive package:

SharePoint SE/2019/2016 (Analytics 16.12 or later):
cpath\_to\_distributive>\Analytics Tools

SharePoint 2013 (Analytics 15.17 or later):
cpath\_to\_distributive>\Analytics Tools2013

▶ For all versions of Analytics, in SharePoint 2019/2016/2013 (except SE) you can use **stsadm.exe** utility, which is usually located at:

# SharePoint 2016/2019

C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\16\BIN

#### SharePoint 2013

C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\15\BIN

(SharePoint SE – note the stsadm utility is not available)

For stsadm commands, we recommend using SharePoint Management Shell.

#### 1. Setting new data retention period

Use the following command to set the new retention period:

# HarePointAnalyticsUtil.exe set-data-keep-days -group <*report group name*> -days <*amount of days*>

or

#### Stsadm -o mlstsetstatdatakeepdays -<report group name> <amount of days>

where

<amount of days> is: set the required amount of days, or set 0 (zero) to disable the data cleanup

#### <report group name> is:

For raw (unprocessed) data (default is 90 days):

- VisitsMain (unprocessed data for visits reports)
- **DocsListsMain** (unprocessed data for document and list)
- SearchMain (unprocessed data for search reports)

For data in daily reports (default is 180 days):

- VisitsReports
- DocsReports
- ListsReports
- SearchesReports
- PerformanceReports (in Central Administration)

#### **Examples**:

HarePointAnalyticsUtil.exe set-data-keep-days -group visitsmain -days 30

or

#### Stsadm -o mlstsetstatdatakeepdays -visitsmain 30

Sets a retention period for unprocessed data for Visits reports to 30 days.

#### HarePointAnalyticsUtil.exe set-data-keep-days -group performancereports -days <u>0</u> or

**Stsadm -o mistsetstatdatakeepdays -<u>performancereports</u> <b>0** Disables the data cleanup for performance reports.

#### 2. Checking the current settings for the data retention

Use the following command to view the current data retention settings:

#### HarePointAnalyticsUtil.exe get-data-keep-days

Displays a data retention period for each report group:



or

#### Stsadm -o mlstdisplaystatdatakeepdays

Displays a data retention period in XML-view, for each report group.



# Troubleshooting

This section describes some typical issues that may occur with HarePoint Analytics. Detailed guidance is provided for each situation.

#### **Contacting HarePoint Support**

If you encounter an issue that is not described here and need assistance, please contact HarePoint Support via <a href="mailto:support@harepoint.com">support@harepoint.com</a>, or create a ticket on <a href="http://harepoint.com/support">http://harepoint.com/support</a>.

- 1. describe the situation
- 2. attach the relevant screenshots
- attach the report generated by HarePoint Analytics Utility <u>Report tab</u> preferably with all options checked, ULS log date range set according to the time frame when the issue took

place or related timer jobs were running.

<b>3</b> 2		Harepoint	Analytics Help Util		_ 🗆 X
ULS lo	g Web.config modifications	Missing features and web-parts	Data collection feature	Installation checker Report C	ustom reports < >
		The tab for generating to	ext report about all the tab	os.	
	Generate				
In V	clude in report: General info				
	Timer jobs				
	Policies and filters				
	Web.config modifications				
	Missing features and web-par	ts			
	Data collection feature				
	ULS log	From: 05.07.2021	20:22 🗐 🔻 T	o: 05.07.2021 21:22	]
	Installation checker				

# Newly installed HarePoint Analytics shows no data

#### Symptoms

If HarePoint Analytics was been installed fresh some time ago, but no data are shown in the reports so far. There is evident user activity on the site collections where **HarePoint Analytics site collection feature** is activated.

#### Explanation

The possible reasons for that are:

- HarePoint Analytics is not a real-time monitoring tool. By default, it takes up to 24 hours until the data become available in reports. This happens because the data need to be preprocessed (prepared) first to ensure the reports are displayed quickly and without delays. This is performed by <u>Preliminary Data Preparation</u> timer job. Every time this timer job completes its cycle, a new portion of data becomes available in the reports.
- 2. Data collection starts as soon as the product is installed. Historical data (before the product installation) cannot be recovered or displayed. There is, however, a standalone tool, HAIISLogImporter.exe (available in distributive package of HarePoint Analytics), that allows you to import older data from IIS logs to HarePoint Analytics. Since IIS logs contain only a small amount of information, only in few reports will be available after this import. Normally this tool should be used only once immediately after product installation (if necessary). Please refer to the HarePoint Analytics Administrator Guide Importing data from IIS logs (optional) for more details on how to work with the HAIISLogImporter.exe tool.
- 3. HarePoint Analytics **timer jobs are not configured properly**, so the timer jobs are not properly interacting with each other.
- 4. The **amount of collected data is very huge** or the **performance of the SQL server** is not sufficient to process the data in a timely fashion.

#### Steps to take

- 1. Open HarePoint Analytics Utility, <u>Timer Jobs</u> tab.
- 2. Click on Processor of Message Queue timer job.

#### Make sure it is **Enabled**.

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	General	inf Timerjobs I olicies and filters U	LS log Web.co	onfig modificatio	ns Missing f	eatures and web	-parts Data co	llection feature	Installa	tion checker Report	Custo	m reports	1
	Infor	nation about the timer jobs used by Harep	oint Analytics. T	he tab allows yo	ou to tum on/o	off the jobs, view	history of runnin	ig them, and					
	Ref	resh Enable Disable	History	y Run i	now	Server	Recreate	Last logs					
		Job name	Status	Run status	Run server	Start time	Run duration	Enabled	Server	Last run time		Schedu	ıl
		Report export scheduler	Online	False		N∖A	N\A	Enabled	Any	7/23/2021 11:10:00	AM	Minutes	;
		Data collection from Active Directory	Online	False		N\A	N\A	Enabled	Anv	7/22/2021 11:00:00	РМ	Daily	
	►	Processor of message queue	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 11:10:06	AM	Minutes	
		Periodic data collection	Online	False		N\A	N\A	Enabled	Any	//23/2021 12:00:00	АМ	Daily	T
		Preliminary data preparation	Online	False		N∖A	N\A	Enabled	Any	7/23/2021 12:00:00	AM	Daily	
		System Metrics Collector	Online	False		N∖A	N∖A	Disabled	Any	N∖A		Minutes	;
		Monthly data preparation	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 2:00:00 A	M	Daily	
		Statistics information cleaner	Online	False		N\A	N∖A	Enabled	Any	7/17/2021 4:05:22 A	M	Weekly	,
		Geographic locations database update	Online	False		N\A	N∖A	Disabled	Any	N∖A		Monthly	,
		Monitoring of the SharePoint ULS logs	Online	False		N∖A	N\A	Disabled	Any	N∖A		Daily	

Check **Schedule** (should be **Minutes**) and **Last run time** (should be not longer than 10 minutes ago, except when Preliminary Data Preparation is running).

Click History button to review the provider runs of this ish

:53	I		Jol	b's history			_ □	x
	Export to csv							
	Job name	Server	Web application	Start 💌	End	Status	Error message	^
Þ	Queue Data Processor	DEMO2013		7/23/2021 11:25	7/23/2021 11:25	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:20	7/23/2021 11:20	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:15	7/23/2021 11:15	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:10	7/23/2021 11:10	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:05	7/23/2021 11:05	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:00	7/23/2021 11:00	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:55	7/23/2021 10:55	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:50	7/23/2021 10:50	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:45	7/23/2021 10:45	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:40	7/23/2021 10:40	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:35	7/23/2021 10:35	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:30	7/23/2021 10:30	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:25	7/23/2021 10:25	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:20	7/23/2021 10:20	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:15	7/23/2021 10:15	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:10	7/23/2021 10:10	Succeeded		~

Click **History** button to review the previous runs of this job.

Make sure it's running every 5-10 minutes (or as set in its schedule), and the **Status** is **Succeeded** for every launch. Normally, it should take **few minutes** every time to complete. Longer times may point either to **poor SQL Server performance** (please refer to <u>HarePoint</u> <u>Analytics Administrator Guide</u> regarding technical requirements for SQL server), or to **huge amount of collected data** (try enabling HarePoint Analytics feature on only a few site collections first; or set up <u>Data collection filters</u> to filter out the excessive and unnecessary data that are tracked).

In case the timer job **fails**, or seems to be **stuck with no progress**, review the **error message** along with **related ULS log messages** (you can use <u>ULS log tab</u> in the Utility, or a third-party ULS log viewer software). If necessary, <u>contact HarePoint Support</u> and provide that information.

#### 3. Click on Preliminary Data Preparation timer job.

#### Make sure it is **Enabled**.

2				Har	epoint An	alytics Help	Util				_	D X
Ge	neral info	Timer jobs   olicies and filters   U	LS log Web.c	onfig modificatio	ns Missing f	eatures and web	-parts Data co	llection feature	Installat	tion checker Report	Custor	m reports
	Information force runni	about the timer jobs used by Harep ng the jobs as well.	oint Analytics. T	he tab allows yo	ou to tum on/o	off the jobs, view	history of runnin	ig them, and				
	Refresh	Enable Disable	Histor	y Run i	now	Server	Recreate	Last logs				
	Job	name	Status	Run status	Run server	Start time	Run duration	Enabled	Server	Last run time		Schedul
	Rep	ort export scheduler	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 11:10:00	AM	Minutes
	Data	a collection from Active Directory	Online	False		N\A	N\A	Enabled	Any	7/22/2021 11:00:00	PM	Daily
	Proc	cessor of message queue	Online	False		N\A	N\A	Enabled	Any	7/23/2021 11:10:06	AM	Minutes
	Perio	odic data collection	Online	False		N\A	N∖A	Enabled	Any	7/23/2021 12:00:00	AM	Daily
	Preli	iminary data preparation	Online	False		N\A	N∖A	Enabled	Any	7/23/2021 12:00:00	AM	Daily
	Syst	em Metrics Collector	Online	False		N\A	N∖A	Disabled	Any	N∖A		Minutes
	Mon	thly data preparation	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 2:00:00 A	M	Daily
	Stat	istics information cleaner	Online	False		N\A	N∖A	Enabled	Any	7/17/2021 4:05:22 A	M	Weekly
	Geo	graphic locations database update	Online	False		N\A	N∖A	Disabled	Any	N\A		Monthly
	Mon	itoring of the SharePoint ULS logs	Online	False		N∖A	N\A	Disabled	Any	N∖A		Daily

Check **Schedule** (should be **Daily**) and **Last run time.** Basically, the latest available data in the reports are shown as of this **Last run time**, so if you still have **N\A** there – no data will be displayed in the reports.

By default, this job will start **around 12AM**. You can use the button "**Run now**" to force the execution of this timer job to see the data earlier, but take into account it can put a **substantial load on the SQL server**, so it's **not recommended** to do so during working hours on a production environment.

This timer job may take from minutes up to several hours to complete. Longer times may point either to **poor SQL Server performance** (please refer to <u>HarePoint Analytics</u>

<u>Administrator Guide</u> regarding technical requirements for SQL server), or to huge amount of collected data (try enabling the HarePoint Analytics feature only on a few site collections first; or set up <u>Data collection filters</u> to filter out the excessive unnecessary data that are tracked).

In case the timer job **fails**, or seems to be **stuck with no progress**, review the **error message** along with **related ULS log messages** (you can use the <u>ULS log tab</u> in Utility, or a third-party ULS log viewer software). If necessary, <u>contact HarePoint Support</u> and provide that information.

## No data in reports for some site collection(s)

#### Symptoms

Reports for one or more site collection are completely empty. At the same time, reports in Central Administration – Farm reports are displayed properly.

#### Explanation

Typically, this situation occurs when a site collection has been **backed up and restored**. After this, a **new ID** is assigned to the restored site collection, so it no longer coincides with the older ID that is stored in Main Database for all the reports for that site collection. At the same time, the information for this site collection based on the new ID has only just started being collected, and will be available on the next day only.

#### Steps to take

- 1. Check whether the site collection that is missing data has been backed up and restored (especially if other administrators in your Company create backups).
- If it indeed has been backed up and restored not later than yesterday, simply wait until the next day the <u>Preliminary Data Preparation</u> timer job needs to complete its cycle. After that, the new data based on the new ID will be available in the reports.
   Note: the old data will still remain inaccessible.
- If the new data are now displayed, but you wish the old data to be displayed as well, please <u>contact HarePoint Support</u>. We will retrieve the old and the new IDs and provide a SQL script that will correctly substitute all instances of the old ID in the HarePoint Analytics Main Database to a new ID.
- 4. In case no data appeared on the next day/after Preliminary Data Preparation job completed successfully, please <u>contact HarePoint Support</u> for further investigation.

# Data in all the reports (including the farm level reports) are no longer displayed

#### Symptoms

Absolutely all reports (including Farm reports in Central Administration) contain no data, even if a large date range is selected. These data have been available earlier.

#### Explanation

This situation occurs when there are issues with access to the SQL server, or with the SQL server itself. HarePoint Analytics is unable to retrieve data, which results in all reports empty.

#### Steps to take

1. Open HarePoint Analytics Settings to check whether the databases are attached:

# Settings of HarePoint Analytics for SharePoint

#### Database server and name

This base will be used for storing and gathering statistical information about the usage of SharePoint sites.



#### Create or change database

Connect the existing database



Re-attach the Main Database if it is not configured.

**Note:** Queue Database can only be created from scratch, you cannot re-attach an existing Queue Database.

If the database settings look correct (no red warning messages stating *the database or SQL* server instance not found), open SQL Management Studio and check whether you can connect to the indicated server instance/databases, as well as view the content of the tables (simply by running a SELECT TOP 1000 ROWS command from the context menu of the database table).



Inspect the SQL server logs for more details if you notice any signs of database corruption.

# No data in reports for past few days (backlog data)

#### Symptoms

The data for past few days are missing in the reports, while older data are displayed properly.

#### Explanation

The data for the missing days have been collected, but have not been processed yet. In other words, you have a **backlog of data**. The **reasons** for that can be:

- 1. HarePoint Analytics **timer jobs are not configured optimally**, so the proper timer jobs interaction is affected.
- 2. Either the **amount of collected data is huge**, or the **performance of the SQL server is not sufficient** to process the collected data in a timely way.

#### Steps to take

1. Open HarePoint Analytics Utility, <u>General Info</u> tab.

On the screenshot you can see how data processing is reflected in HarePoint Analytics Utility (also refer to <u>Data Collection and Processing Diagram</u>):

<b>51</b>	Harepoint Analytics	s Help Util 📃 🗖 🗙						
Gene	neral info Timer jobs Policies and filters ULS log Web.config modifications Missing features a	and web-parts Data collection feature Installation checker Report Custom reports						
Gen	eneral information about the installed version of Harepoint Analytics.							
	Refresh Popular queue hits Active queries to csv Stat database Q	lueue database Encryption						
	Attribute	/alue						
	Installed version 11	5.15.0.0						
	Current timestamp 23	3/07/2021 10:27:44						
	Statistics database server D	DEMO2013						
	Statistics database name m	ılstdb2						
	Database version 4	068						
	Queue database server D	DEMO2013						
	Queue database name St	StatMQ						
Þ	Queue database records count 0							
	Statistics Hits table records count 4	6959						
	Oldest record in Queue database N	I/A						
	Newest record in Queue database N	I/A						
	Oldest Hits table record Id	d = 751670, Created = 4/18/2021 12:00:39 AM						
	Newest Hits table record Id	d = 798628, Created = 7/23/2021 9:59:44 AM						
	Oldest Pageviews record Id	d = 737698, Created = 3/28/2021 12:59:42 PM						
	Newest Pageviews record Id	d = 798463, Created = 7/22/2021 11:00:13 PM						
	Oldest Document popularity record	Created = 3/28/2021 12:00:00 AM						

- a) Oldest record in Queue database, Newest record in Queue database and Newest Hits table record all should be of the current day.
  - If the data for the current day are in the **Hits table** they will appear in reports after the **Preliminary Data Preparation** job completes its next cycle. See below for more details regarding this timer job.
  - If the data for the current day are **only in the Queue Database** (but not in the Hits table) the Processor of Message Queue timer job needs to run first to move them to Main Database Hits table, then the Preliminary **Data Preparation** job needs to complete its cycle. Only after that will the data for the current day appear in the reports. See below for more details regarding these timer jobs.

Note: If only one day in the reports is missing, check the settings of the Preliminary Data Preparation job - Prepare data without disabling of message queue job checkbox. When it

is **checked**, the data for the last day **will not be processed** (see <u>Preliminary Data</u> <u>Preparation, Optimization</u> for more details).

- b) Queue database records count shows the amount of collected hits since the last time that the Processor of Message Queue timer job ran (seen on the Timer jobs tab of the Utility). This should have a reasonable value, around Estimated Amount of Hits per Day/288 (for a default 5-minute schedule of Processor of Message Queue timer job). If the value is too high, check if the Processor of Message Queue timer job is running periodically (see below for more details). If it is, you may need to consider setting up Data collection filters to filter out the excessive and unnecessary data that are currently tracked.
- c) License status should be **Registered** or **Trial**. If it indicates **Trial Expired**, all the collected data will remain in Queue Database, despite all timer jobs executing normally. No new data will appear in the reports.

However, the **data collection is not yet interrupted**, and data will not be lost: after you provide a license key (in Central Administration – Monitoring – HarePoint Analytics Settings – Licensing) the data processing will be restored and the data will appear in the reports on the next day.

**Note:** If HarePoint Analytics has detected **more users than allowed** according to the license key(s) entered, **data processing will continue to work normally**, without any limitations, and HarePoint Analytics will still report for **all users**. Only a warning message in reports is displayed.

- 2. In the Utility, switch to <u>Timer Jobs</u> tab.
- a) Click on <u>Processor of Message Queue</u> timer job. Make sure it is **Enabled**.

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[	General i	nf Timerjobs <mark>I</mark> olicies and filters U	LS log Web.co	onfig modificatio	ns Missing	features and wel	o-parts Data d	ollection feature	Installa	tion checker   Report   C	ustom reports
	Inform	nation about the timer jobs used by Harep	oint Analytics. T	he tab allows yo	ou to tum on/	off the jobs, viev	history of runn	ing them, and			
	loice	forming the jobs as well.				_					
	Refr	esh Enable Disable	History	y Run	now	Server	Recreate	Last logs			
		Job name	Status	Run status	Run server	Start time	Run duration	Enabled	Server	Last run time	Schedul
		Report export scheduler	Online	False		N∖A	N\A	Enabled	Any	7/23/2021 11:10:00 AM	Minutes
		Data collection from Active Directory	Online	False		N\A	N\A	Enabled	Anv	7/22/2021 11:00:00 PM	Daily
	► I	Processor of message queue	Online	False		N∖A	N\A	Enabled	Any	7/23/2021 11:10:06 AM	Minutes
		Periodic data collection	Online	False		N∖A	N∖A	Enabled	Any	//23/2021 12:00:00 AM	Daily
		Preliminary data preparation	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 12:00:00 AM	Daily
		System Metrics Collector	Online	False		N∖A	N\A	Disabled	Any	N\A	Minutes
		Monthly data preparation	Online	False		N∖A	N\A	Enabled	Any	7/23/2021 2:00:00 AM	Daily
		Statistics information cleaner	Online	False		N∖A	N\A	Enabled	Any	7/17/2021 4:05:22 AM	Weekly
		Geographic locations database update	Online	False		N∖A	N\A	Disabled	Any	N∖A	Monthly
		Monitoring of the SharePoint ULS logs	Online	False		N∖A	N∖A	Disabled	Any	N∖A	Daily

Check **Schedule** (should be **Minutes**) and **Last run time** (should be not longer than 10 minutes ago from now, except when Preliminary Data Preparation is running). Click **History** to review the previous runs of this job:

<b>3</b> 2			Jol	o's history				x
Ехфо	ort to csv							
	Job name	Server	Web application	Start 💌	End	Status	Error message	^
•	Queue Data Processor	DEMO2013		7/23/2021 11:25	7/23/2021 11:25	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:20	7/23/2021 11:20	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:15	7/23/2021 11:15	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:10	7/23/2021 11:10	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:05	7/23/2021 11:05	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 11:00	7/23/2021 11:00	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:55	7/23/2021 10:55	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:50	7/23/2021 10:50	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:45	7/23/2021 10:45	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:40	7/23/2021 10:40	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:35	7/23/2021 10:35	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:30	7/23/2021 10:30	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:25	7/23/2021 10:25	Succeeded		$\neg$
	Queue Data Processor	DEMO2013		7/23/2021 10:20	7/23/2021 10:20	Succeeded		
	Queue Data Processor	DEMO2013		7/23/2021 10:15	7/23/2021 10:15	Succeeded		$\neg$
	Queue Data Processor	DEMO2013		7/23/2021 10:10	7/23/2021 10:10	Succeeded		

Make sure it's running every 5-10 minutes (or as set in its schedule), and the **Status** is **Succeeded** for every launch.

Normally, it should take few minutes every time to complete.

Longer times may point either to **poor SQL Server performance** (please refer to the <u>HarePoint Analytics Administrator Guide</u> regarding technical requirements for SQL server), or to a **huge amount of collected data** (check if you can deactivate the HarePoint Analytics feature on some site collections to reduce the amount of data being collected; or set up <u>Data collection filters</u> to filter out the excessive and unnecessary data that are collected). In case if the timer job **fails** or seems to be **stuck with no progress**, review the **error message** along with the **related ULS log messages** (you can use the <u>ULS log tab</u> in the Utility, or a third-party ULS log viewer software). If necessary, <u>contact HarePoint Support</u> and provide that information.

 b) Click on <u>Preliminary Data Preparation</u> timer job. Make sure it is **Enabled**.

													_
1				Har	epoint An	alytics Help	Util				_	D X	
Γ	General ir	Timer jobs I olicies and filters U	LS log Web.co	onfig modificatio	ns Missing f	eatures and web	-parts Data co	llection feature	Installa	tion checker Repo	ort Custo	m reports	
ſ	Inform	ation about the timer jobs used by Harep	oint Analytics. T	he tab allows yo	ou to turn on/o	off the jobs, view	history of runnin	ig them, and					
	force	running the jobs as well.		_									
	Refre	esh Enable Disable	History	y Run i	now	Server	Recreate	Last logs					
		leb estre	Chatura	Run	Run	Charl time	Run	Eashlad	Conver	Last aux time		Cabadul	
		Job hame	Status	status	server	Start time	duration	chabled	Server	Last furt time		Scriedui	
		Report export scheduler	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 11:10:0	MA 0	Minutes	
		Data collection from Active Directory	Online	False		N\A	N\A	Enabled	Any	7/22/2021 11:00:0	0 PM	Daily	
		Processor of message queue	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 11:10:0	6 AM	Minutes	
		Periodic data collection	Online	False		N∖A	N∖A	Enabled	Any	7/23/2021 12:00:0	MA 0	Daily	
		Preliminary data preparation	Online	False		N\A	N∖A	Enabled	Any	7/23/2021 12:00:0	MA 0	Daily	
		System Metrics Collector	Online	False		N∖A	N∖A	Disabled	Any	N\A		Minutes	Г
		Monthly data preparation	Online	False		N\A	N∖A	Enabled	Any	7/23/2021 2:00:00	AM (	Daily	
		Statistics information cleaner	Online	False		N\A	N∖A	Enabled	Any	7/17/2021 4:05:22	AM	Weekly	
		Geographic locations database update	Online	False		N\A	N∖A	Disabled	Any	N\A		Monthly	
		Monitoring of the SharePoint ULS logs	Online	False		N\A	N\A	Disabled	Any	N∖A		Daily	

Check Schedule (should be Daily) and Last run time.

By default, this job will start **around 12AM**. You can use the button "**Run now**" (or the same in HarePoint Analytics Settings, or SharePoint Timer job definitions) to force the execution of this timer job to see the data earlier, but take into account that it can put **substantial load on the SQL server**, so it is **not recommended** during working hours in a production environment.

Click History button to review the previous runs of this job.

Make sure it is running every day, and that the **Status** is **Succeeded** for every launch. It can take **several hours** for this timer job to complete.

Longer times may point either to poor SQL Server performance (please refer to the <u>HarePoint Analytics Administrator Guide</u> regarding technical requirements for the SQL server), or to huge amount of collected data (check if you can deactivate the HarePoint Analytics feature on some site collections to reduce the amount of data being collected or set up <u>Data collection filters</u> to filter out the excessive unnecessary data that are tracked).

If the **Run Status** in the Utility indicates **True**, it means this timer job is **running at the moment** (click **Refresh** button to see actual information). You can review its actual progress in SharePoint **Check job status** page – refer to <u>Preliminary Data Preparation, Tracking the</u> <u>Status</u>.

If the timer job **fails** or seems to be **stuck with no progress**, review the **error message** along with **related ULS log messages** (you can use the <u>ULS log tab</u> in the Utility, or a third-party ULS log viewer software). If necessary, <u>contact HarePoint Support</u> and provide that information.

## Certain activity/documents/list items are not tracked

#### Symptoms

There is some user activity that you know for sure took place, but you can't find it in HarePoint Analytics reports. The **site collection** in question has the HarePoint Analytics **feature** enabled.

#### Explanation

The possible reasons are:

- There are data collection filters that prevent these events from being collected. This can happen inadvertently when you create a filter for something, but it is not narrow enough and filters out needed data as well. The data collection filters can be quite complex, some inheriting from top level, some being assigned explicitly for the given SharePoint level (web application, site collection, site, document library/list). The best practice is to check the actual data collection filters settings for the given level of SharePoint, especially if they include the use of regular expressions.
- 2. HarePoint Analytics is **not a real-time monitoring tool**, and data in reports appear only on the **next day**.
- 3. Note that some of the events technically cannot be tracked by the HarePoint Analytics data collection mechanism that is based on an <u>HTTP module</u>. Examples include custom web parts, links or documents located outside of SharePoint. In some cases, events (e.g. play/pause clicks on a video player) can be tracked by using a special JavaScript (please refer to <u>HarePoint</u> <u>Analytics Administrator Guide</u> Adding tracker for Java Script events for more details on setting up JavaScript). All the data collected by JavaScript will appear in Events and Events Popularity reports only.

#### Steps to take

1. Make sure that **HarePoint Analytics feature is enabled** on that site collection. You can do it either from SharePoint, or from the HarePoint Analytics Utility:

In SharePoint go to Site Settings – Site Collection Administration –Site Collection features – HarePoint Analytics for SharePoint:

HarePoint Analytics for SharePoint
This feature allows to collect and analyze statistical information about usage of site collection

Deactivate Active

Or, in the HarePoint Analytics **Utility** go to the <u>Data collection feature</u> tab and check whether it is enabled for the required site collection:

<b>M</b>	Harepoint Analytics Help Util		_ <b>_</b> ×
General info   Timer jobs   Policies   ULS log   Web.config n	nodifications   Missing features and web-parts	Data collection feature	nstallation checker Report
The tab for er	nabling data collecting for the selected site-col	lections.	-
Refresh Select all Unselect all	Enable data collection for selected site collect	tions	
Site collections: http://labsp13 http://labsp13/my http://labsp13/my/personal/administrator http://labsp13:9351 http://labsp13:9351/sites/Help			

Normally, new data appear in reports on the next day. Make sure the events you are missing took place earlier than the latest processed data available in the reports.
 The easiest way to is to check the Visit Trends report to find out the date of the latest data available in the reports. Make sure your events took place earlier than that date.

Check the data collection filters for the required SharePoint level. E.g. if you are interested in hits – check the data collection filter rules for that site. If you're interested in tracking document usage – check the data collection filter rules for that document library, and so on.
 Please refer to the How to set up data collection filters paragraph for more information.

**Note:** If you decide to test data collection filters by temporarily disabling them, do this **with caution**, especially if these filters were set up by another administrator, as this may result in a huge portion of data being collected that can cause HarePoint Analytics timer jobs to work for a long time, and also fill the reports with unwanted data.

4. You can **query the HarePoint Analytics SQL Databases** to determine if the events are tracked or not:

#### How to use Queue Database queries:

- a. generate the same event again
- b. you will have less than 5 minutes to run the query, as by default the Queue Database is cleaned up every 5 minutes by the <u>Processor of Message Queue</u> job.
- c. if the event is not tracked it's being filtered out by data collection filters.

#### Queue Database query to detect if **link is tracked**:

```
select * from MLSTQueue where CAST(body as nvarchar(max)) like
'%url="<full url path>"%'
```

#### Queue Database query to detect if Search request is tracked:

```
select * from MLSTQueue where CAST(body as nvarchar(max)) like
'%<searchEvent>%'
```

#### How to use Main Database queries:

- a. generate the same event again
- b. wait until the Processor of message queue job completes its next cycle
- c. now you can run the queries
- d. if the event is not tracked it's being filtered out by data collection filters.
- e. if the event is tracked it should appear in reports after the <u>Preliminary Data</u> <u>Preparation</u> job completes its next cycle.

#### Main Database query to detect if link is tracked:

```
select * from Hits h
left join Urls u on h.Url = u.Id
where u.Url like '%<part of full url>%'
```

#### Main Database query to detect if **list item/document** is tracked:

```
select * from Audit a
left join SPListItemsVersions spliv on a.Id = spliv.Id
where spliv.Name like '%<list item name>%'
```

# No data in "Visits by Countries" report

#### Symptoms

The site or site collection report Visits by Countries displays no data.

#### Explanation

This report has **two modes** to detect countries:

- Based on **IP addresses** of the users (default)
- Based on a **specific field from User Profile Service** that contains country information.

**Note:** If you have **Active Directory – User Profile Service synchronization** established, you can use the respective AD fields for that purpose as well.

#### Steps to take

Run the <u>Geographic locations database update</u> timer job. It will load the necessary country information from a third-party provider.
 Note: Both detection modes require that the database be downloaded at least once!
 Note: If your WFE servers don't have access to the Internet to download the database (e.g.

**Note:** If your WFE servers **don't have access to the Internet** to download the database (e.g. due to security concerns), please <u>contact HarePoint Support</u> to obtain the **offline copy** of the database with the **instructions** how to apply it.

- If you are using detection by User Profile field, make sure it contains the country data in the <u>"ISO 3166-1 alpha-2" format</u> (two characters for country codes), and not just the full country names or other unneeded data.
- 3. Please check the following tables in the **Main Analytics** database to confirm that they contain data:
  - SPUsersProfileVersions (only if you are using detection by User Profile field)
  - LocationsInfo (contains downloaded country codes)

If they do, then check the other tables:

- ReportGeolocationSite
- ReportGeolocationWeb

The data in the latter two tables are added by the <u>Preliminary Data Preparation</u> job and these data are directly used to build **Visits by Countries** reports. Therefore, if you have discovered any issues and made necessary changes, be sure to **wait until the next cycle of the Preliminary Data Preparation job completes** to see the updates in **Visits by Countries**.

# **HarePoint Analytics Utility**

## Introduction

In order to simplify maintenance and troubleshooting of HarePoint Analytics, we have developed a special Utility (HarePointAnalyticsUtil.exe). This Utility collects various information from SharePoint and from HarePoint Analytics and represents it in a convenient user interface so it is possible to review and compare key parameters side-by-side. Another advantage is that the Utility allows management of some of the important settings and features of HarePoint Analytics without the need to explore the SharePoint interface extensively. Finally, the Utility can verify the key components in SharePoint and in HarePoint Analytics installation, and fix the issues if any, when possible.

## How to start the Utility

You can find this Utility in the distributive package, in **Analytics Tools** and Analytics **Tools2013** folder, depending on your SharePoint edition:

#### SharePoint SE/2019/2016:

<path\_to\_distributive>\Analytics Tools
(or <path\_to\_distributive>\Analytics Tools2016 in older distributives of HarePoint Analytics)

#### SharePoint 2013:

<path\_to\_distributive>\Analytics Tools2013

Name	Date modified	Туре	Size
HAIISLogImporter.exe	11/14/2022 3:19 PM	Application	52 KB
🔡 HarePointAnalyticsUtil.exe	11/14/2022 3:19 PM	Application	446 KB
MAPILab.SharePoint.CleanMissingDepen	11/14/2022 3:19 PM	Application extens	23 KB

This Utility should be launched on any of WFE servers as Farm Administrator.

The Utility is portable and no installation required.

For more details on **command-line interface** (CLI) of the Utility, please refer to <u>Command line</u> <u>interface</u> paragraph.

#### **Precaution**

Some of the management capabilities available in the Utility, if improperly used, can affect or even disrupt the operation of HarePoint Analytics or SharePoint. Perform these actions only if you have a complete understanding of what the action will do.

Consult <u>HarePoint Support</u> in case if you have any questions.

# **Utility description**

#### **General Info tab**

General Info tab shows a short but essential summary of the installed HarePoint Analytics:

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<b>31</b>				Harepoint A	nalytics Help Util			_ 🗆 X			
Gene	eral info Time	r jobs   Policies and filters	ULS log Web.config modific	ations Missing	features and web-parts	Data collection feature	Installation checker Re	port Custom reports			
Ger	eral informatio	about the installed version	of Harepoint Analytics								
	Refresh	Popular queue hits	Active queries to csv	Databases	Encryption	Activate timer instanc	es				
	Attribute				Value			]			
•	Installed	version			16.13.0.0						
	Current ti	nestamp			24/11/2022 05	:56:05					
	Statistics	database server			SP2016-PREV						
	Statistics	database name			Analytics_Main						
	Database	version			4073						
	Queue d	atabase server			SP2016-PREV						
	Queue d	atabase name			Analytics_Queu	Analytics_Queue					
	Queue d	atabase records count			0						
	Statistics	Hits table records count			1541						
	Oldest re	cord in Queue database			N/A						
	Newest r	ecord in Queue database			N/A	N/A					
	Oldest H	s table record			ld = 12099, Crea	Id = 12099, Created = 4/4/2022 11:47:52 PM					
	Newest I	lits table record			ld = 13639, Crea	ated = 11/24/2022 4:54	:09 PM				
	Oldest Pa	geviews record			ld = 11581, Crei	ated = 10/19/2021 5:05	:10 PM				
	Newest F	ageviews record			ld = 13626, Crei	ated = 10/27/2022 11:5	0:24 PM				
	Oldest D	ocument popularity record			Created = 10/19	9/2021 12:00:00 AM					
	Newest [	ocument popularity record			Created = 10/2	5/2022 12:00:00 AM					
	Oldest Li	t items popularity record			Created = 5/20/	/2019 12:00:00 AM					
	Newest I	ist items popularity record			Created = 10/2	7/2022 12:00:00 AM					
	Servers count in the farm										
	Servers in the farm					P2016-PREV					
	License s	tatus			Registered						
	Disabled	timer instances			•						

#### Buttons:

**Refresh** button – used to retrieve and display the actual data on this tab.

**Popular queue hits** button – used to determine the most frequent user activity received by HarePoint Analytics. This is especially useful to determine what <u>data collection filters</u> should be used to filter out the unwanted and unnecessary data. This option requires **at least 3,000 records** in the Queue Database to ensure statistically correct data are displayed for the most popular hits. Output can be exported to CSV.

Active queries to CSV button – creates a CSV file containing all active SQL transactions details from the SQL instance used by HarePoint Analytics.

**Databases** button – using this button you can manage the databases for HarePoint Analytics: **create** new databases, **change** databases, and **detach** databases:

	Da	tabases		_ 🗆 X
Statistics DB		O Queue DB		
Server:	SP2016-PREV	Server:	SP2016-PREV	
Database:	Analytics_Main	Database:	Analytics_Queue	
Create	Windows authe     SQL authentica     Login     Password     Connect     Detach	entication etion		Cancel .::

**Encryption** button – using this button you can encrypt the **existing** data in statistical database, either for a specific user, or for all users.

**Important note:** this operation is **not reversible**, so it is **not possible to restore** the users' personal data once this operation has been performed!

Technically, it is an equivalent to command **stsadm** -**o mlstencryptuserinfo** (see <u>Administrator Guide</u> for more details). Running this operation on a large database can take some time – consider running this operation during the non-working hours. Make sure Preliminary Data Preparation timer job is not running at that time.

Typically, this operation is performed after enabling the **encryptuserinfo** policy that enables encryption for the **newly collected** data (see <u>Administrator Guide</u> for more details).

Activate timer instances – used to activate SharePoint Timer Service instances, if disabled instances were detected on some servers – please refer to **Disabled timer instances** table value description for more details.

#### Table values:

**Installed version** – The currently installed version (based on HarePoint Analytics assembly version on this specific server). The latest version can be found at <u>https://www.harepoint.com/Downloads</u>

**Current timestamp** – the current date and time, as of which the data are displayed. Click **Refresh** button to re-read data.

**Statistics Database server** – the name of SQL server that hosts <u>Main Database</u> of HarePoint Analytics.

**Statistics database name** – the name of the <u>Main Database</u> of HarePoint Analytics.

**Database version** – the internal parameter of HarePoint Analytics, defining the version of the main database. Can also be seen in SQL Management Studio in advanced properties of the database.

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**Queue database server** – the name of SQL server that hosts the <u>Queue Database</u> of HarePoint Analytics.

Queue database name – the name of the Queue Database of HarePoint Analytics.

**Queue database records count** – the number of records currently stored in the Queue Database. By default, the records from Queue Database are moved to the Main Database every 5 minutes. Click **Refresh** to see the actual value.

**Statistics Hits table records count** – the number of records currently stored in the **dbo.Hits** table of the **Main Database**. In this table, the **unprocessed (raw) data** are stored; they are not used directly to build reports. By default, the <u>data older than 90 days are removed</u> from this table. Click **Refresh** to see the actual value.

**Oldest record in Queue Database** – indicates the ID and timestamp of the oldest record in Queue Database at the current time. Click **Refresh** to see the latest values. With the default settings, the latest value should be no more than 5 minutes earlier than the current time.

**Newest record in Queue Database** – indicates the ID and timestamp of the newest record in Queue Database. Click **Refresh** to see the most recent values. The data are delivered to the Queue Database on the fly from the <u>HTTP module</u> that tracks user activity.

**Oldest Hits table record** – indicates the ID and timestamp of the oldest record in **dbo.Hits** table of the Main Database. Click **Refresh** to see the most recent values. By default, <u>data older than 90 days</u> <u>are removed</u> from this table.

**Newest Hits table record** – indicates the ID and timestamp of the newest record in **dbo.Hits** table of the Main Database. Click **Refresh** to see the latest values. The records in this table are delivered from the Queue Database every 5 minutes (by default). In this table, the **unprocessed (raw) data** are stored; they are not used directly to build reports.

**Oldest Pageviews record** – indicates the ID and timestamp of the oldest record in Pageviews table of the Main database. Click **Refresh** to see the most recent values.

**Newest Pageviews record** – indicates the ID and timestamp of the newest record in Pageviews table of the Main database. Click **Refresh** to see the most recent values. These data are used in **Content and Traffic** category of reports.

**Oldest Document popularity record** – indicates the ID and timestamp of the oldest record in Documents table of the Main database. Click **Refresh** to see the most recent values.

**Newest Document popularity record** – indicates the ID and timestamp of the newest record in Documents table of the Main database. Click **Refresh** to see the most recent values. These data are used in **Documents** category of reports.

**Oldest List items popularity record** – indicates the ID and timestamp of the oldest record in List items table of the Main database. Click **Refresh** to see the most recent values.

**Newest List items popularity record** – indicates the ID and timestamp of the newest record in List items table of the Main database. Click **Refresh** to see the most recent values. These data are used in **List items** category of reports.

**Servers count in the farm** – shows how many servers are in the farm have been detected. See the next parameter (**Servers in the farm**) for more details.

**Servers in the farm** – enumerates the servers in this farm. This includes (but is not limited to) Web Front-End servers, Application Servers, SQL Servers. **Missing Web Front-End servers** will likely cause some user activity not being tracked! More detailed information regarding the servers in the farm can be obtained from **Central Administration – System Settings – Manage Servers in the Farm** 

License status – shows the license status of HarePoint Analytics. The Product is fully functional if Registered or Trial is indicated. If Trial Expired is indicated, data collection continues (Queue Database grows), but data processing is suspended. It is not recommended to remain in this state for a long time. The license keys are managed in HarePoint Analytics Settings: Central Administration – Monitoring – HarePoint Analytics Settings – Licensing.

**Disabled timer instances** – checks if all Timer Service **instances** are online. While the SharePoint Timer Service (owstimer.exe) itself can be running in Services.msc, its internal instances may be offline causing all timer jobs on SharePoint fail to run, including HarePoint Analytics jobs and administrative jobs (which in particular deploy and retract solution components). For more details, refer to this article: <u>https://support.microsoft.com/en-us/help/2616609/administrative-</u> timer-jobs-not-running-after-upgrade

If disabled timer instances were detected, you can try activating them using **Activate timer instances** button.

#### Timer jobs tab

On this tab, information about the timer jobs used by HarePoint Analytics is displayed. It is also possible to manage timer jobs from here: enable or disable jobs, force immediate running, and perform a few other tasks.

22								Har	epoint An	alytics Help	o Util			-	D X
G	eneral ir	nfo Tim	ner jobs	Policies	and filters U	ILS log	Web.confi	ig modificatio	ns Missing f	eatures and wel	b-parts Data co	llection feature	Installat	tion checker   Report   Custo	m reports
	Inform force r	ation ab running t	out the t he jobs	timer jobs ( as well.	used by Harep	point Ana	alytics. The	tab allows yo	ou to tum on/o	off the jobs, viev	v history of runnin	ng them, and			
	Refre	efresh Enable Disable				History		Run now		Server Recreate					
ľ							R	un	Run		Run	5	0	1.1.1	<b>C L L</b>
		Job nar	ne			Status	st	atus	server	Start time	duration	Enabled	Server	Last run time	Schedul
		Report (	export s	cheduler	_	Online	Fa	lse		NVA	N\A	Enabled	Any	7/23/2021 11:10:00 AM	Minutes
		Data co	llection	from Activ	e Directory	Online	Fa	ilse		NVA NVA	N\A	Enabled	Any	7/22/2021 11:00:00 PM	Daily
		Process	or of me	essage que	eue	Online	Fa	ilse		NVA NVA	N\A	Enabled	Any	7/23/2021 11:10:06 AM	Minutes
		Periodic	: data co	ollection		Online	Fa	lse		NVA NVA	N VA	Enabled	Any	7/23/2021 12:00:00 AM	Daily
	•	Prelimin	ary data	preparatio	on	Online	Fa	lise		NVA NVA	IN VA	Enabled	Any	772372021 12:00:00 AM	Daily
		Monthly	internet	Collector		Online		las		NVA NVA		Enabled	Any	7/22/2021 2:00:00 AM	Daily
		Ctatiatia	data pr	eparation		Online		las		NVA NVA		Enabled	Any	7/23/2021 2:00:00 AM	Weekh
		Gaage	s mom	ations data		Online		las		NVA NVA		Disphled	Arry	1/1//2021 4.03.22 AM	Meethly
		Monitori	ing of th	e SharePr	abase upuale	Online	Fa	lea		N\A	N\A	Disabled	Any		Daily
		Moniton	ng or un	e ondrer e	Jine OES logs	OTIMIC	10	130			14.04	Disabica	7419		Daily
Н															
ľ															

The timer job information is displayed in a table. The columns are:

**Job name** – the name of the timer job. **Note:** timer jobs may have different names in Central Administration – Monitoring – Job definitions. See the <u>Timer jobs</u> chapter for more details.

Run status – indicates whether the timer job is currently running (True) or not (False). Click Refresh to see the actual status. The current progress of timer jobs can be monitored in Central Administration – Monitoring – Check job status. See the <u>Timer jobs</u> chapter for more details.

**Run server** – if the timer job is **running at the moment**, the server name where this job is running will be displayed here. **Note:** Some of the timer jobs actually initiate procedures on the SQL server, so the processing is performed on a SQL server in this case. See <u>Timer jobs</u> chapter for more details.

**Enabled** – shows the current status of the timer job: **Enabled** or **Disabled**. **Note: Processor of Message Queue** job can be disabled automatically if **Preliminary Data Preparation** job is running. See <u>Timer Jobs - Preliminary Data Preparation</u> for more details.

Server – shows whether the timer job can run on **any** Web Front-End server, as determined by SharePoint (default), or if it is explicitly assigned to **a specific server** in HarePoint Analytics Settings. **Note:** for some timer jobs, it does not make any difference on what WFE server they are running, since these jobs simply initiate SQL procedures. See <u>Timer jobs</u> chapter for more details.

**Last run time** – shows when this timer job **started** the last time. Click the **History** button to get detailed information on previous runs (Start and End times).

**Schedule** – shows what scheduling is used for this job. An incorrect schedule can seriously affect the operation of HarePoint Analytics. See the <u>Timer jobs</u> chapter for more details on the **recommended schedule** for each timer job.

The **buttons** on this tab are:

**Refresh** – used to retrieve and display the actual data on this tab.

**Enable** – enables the selected timer job. **Note:** the job will not run immediately, but according to its schedule.

Disable – disables the selected timer job.

**History** – shows detailed information on completed instances of running the selected timer job. This information can be **exported to CSV**.

**Useful Hint:** you can **select multiple timer jobs** by holding down the **Shift** or **Ctrl** button. In this case, it will show you the **joint history** for these jobs in one list.

Exp	Export to csv										
	Job name	Server	Web application	Start 👻	End	Status	Error message				
•	Queue Data Pro	LABSP13		5/26/2015 1:55	5/26/2015 1:55	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:50	5/26/2015 1:50	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:45	5/26/2015 1:45	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:40	5/26/2015 1:40	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:35	5/26/2015 1:35	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:30	5/26/2015 1:30	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:25	5/26/2015 1:25	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:20	5/26/2015 1:20	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:15	5/26/2015 1:15	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:10	5/26/2015 1:10	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:05	5/26/2015 1:05	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 1:00	5/26/2015 1:00	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 12:5	5/26/2015 12:5	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 12:5	5/26/2015 12:5	Succeeded					
	Queue Data Pro	LABSP13		5/26/2015 12:4	5/26/2015 12:4	Succeeded					
	Queue Data Pro	LABSP13		5/25/2015 9:00	5/25/2015 9:00	Succeeded		-			

Run now - forces the selected timer job to run immediately.

**Important note**: some timer jobs are resource consuming, so use this option with **caution** on a production environment! Please refer to the <u>Timer jobs</u> chapter for more details on the consumption of the WFE and SQL server resources by each job.

**Recreate** – recreates the selected timer job in SharePoint. Should be used **only when there are issues** with the timer job definition, such as:

- settings for this job in SharePoint Job definitions are not accessible (blank or error out)
- it's not possible to enable or disable the job (errors out and the current status remains)

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- SQL databases connection settings have been changed, but the timer job still attempts to use the old connection settings
- timer job wasn't properly created on some of WFE severs

We recommend that you <u>consult with HarePoint Support</u> if you have any concerns regarding the recreating timer jobs.

**Last logs** – Utility will pull the ULS log data that correspond to the latest timer job run and zip them, so that you can submit this zip file to HarePoint Support for analysis.

#### Policies tab

On this tab, information on Policies in HarePoint Analytics are displayed, such as Hidden Data Types, disabled reports, and global policies.

Harepoint						it Analytics Help Util						<b>– –</b> X
Ge	neral info	Timer jobs Policies and filters	ULS log	Web.config modifications	Missi	ng features	and web	-parts Da	ata collection feature	Installation cheo	ker Report	Custom reports
Information about security policies of Harepoint Analytics.												
	Hidden data types: User Name IP Active Directory Department Active Directory Group Department SharePoint Group Role Uti Document Library Document Library Location Document Location List List Location						Disable	d reports:				
G	Global policies:		~		Global fi	iters:						
	Na	ime	Value		^			Field	Туре	Expression	CreatedBy	IsDeleted
	Sho	ow analyze tab	True		_		•	Request	Jrl NotEndsWith	.js	Feature rec	False
	Tim	ne expiration	720		=			Request	Jrl NotEndsWith	.CSS	Feature rec	False
	Ca	che limit	1000000					UserNam	e NotEqual	System Acc	Feature rec	False
	Sec	curity cache expiration	60									
	End	crypt user info	False									
	Col	lect access denied	True									
	Allo	w modify report templates	True									
	Use	e data collection filters on HTTP	True									
	Use	e data collection filters on queue	True									
	Alle	w for puthorizod	Ealao		$\sim$							

#### Hidden data types

The checked data types will be replaced with **[hidden:<UniqueID>]** in the reports. In particular, this is frequently used to hide actual user names or IP addresses in the reports to comply with Company privacy requirements.

Example: Hidden usernames, User activity report:



This setting cannot be changed from here, only from **Central Administration – Monitoring –** HarePoint Analytics Settings – Statistics Policies – Select Data Types.

Please refer to the <u>HarePoint Analytics Administrator Guide</u> – Managing access to the reports – Managing global access permissions – Encryption of the data in reports for more information on this policy.

#### **Disabled reports**

The links for the indicated reports will **not** be displayed in the left pane for **all** users. (Not accessible by the direct link as well).

This setting cannot be changed from here, only from **Central Administration – Monitoring – HarePoint Analytics Settings – Statistics Policies – Select Reports**. Note that normally **all reports** should be **unchecked** there.

Please refer to <u>HarePoint Analytics Administrator Guide</u> – Managing access to the reports – Managing global access permissions – Removing reports from the list for more information on this policy.

#### **Global Policies**

Indicates the current settings for the global policies of HarePoint Analytics. The policies cannot be changed from here; they can **only be changed from a command line**, as described in <u>HarePoint Analytics Administrator Guide</u> – Managing Global Policies.

#### **ULS log tab**

On this tab, you can review the ULS log messages from the selected date/time range that are **related to HarePoint Analytics.** It will aggregate messages **from all SharePoint servers** in the case of a multiserver farm.

Harepoint Analytics Help Util										
General info Timer jobs Policies and filters ULS log Web.config modifications Missing features and web-parts Data collection feature Installation checker Report Custom reports										
	Sharepoint loss filtered for Harepoint Analytics									
From:	7/18/2021 9:27 AN	✓ To: 7/23/2021 1	1:52 AN ♀ All		~	Get log				
	Timestamp	Process	Area	EventId	Level	Message				
►	7/19/2021 12:00:01 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	sv16	Monitorable	Daily report processor: Stored procedure 'proc_UpdateSubWebs' has fin				
	7/19/2021 12:00:02 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: Site-collections checking is started				
	7/19/2021 12:00:02 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: Site-collections checking is ended. Execution time 0.2149832 se				
	7/19/2021 12:00:02 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: Infrastructure collecting is started				
	7/19/2021 12:00:08 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: Infrastructure collecting is ended. Execution time 6.6320912 sec				
	7/19/2021 12:00:08 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: Workflow info collecting is started				
	7/19/2021 12:00:08 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	sv1p	Monitorable	Workflow data crawling: The MLST Database synchronization completed.				
	7/19/2021 12:00:08 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: Workflow info collecting is ended. Execution time 0.0139994 sec				
	7/19/2021 12:00:08 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: Orphaned docs collecting is started				
	7/19/2021 12:00:10 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	sv16	Monitorable	Daily report processor: Stored procedure 'prepare_PageviewsAndTopCo				
	7/19/2021 12:00:10 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	sv16	Monitorable	Daily report processor: Stored procedure 'prepare_VisitorsHistory' has fini				
	7/19/2021 12:00:25 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	sv16	Monitorable	Daily data collection: Stored procedure 'prepare_ReportOrhanedDocum				
	7/19/2021 12:00:25 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: Orphaned docs collecting is ended. Execution time 16.382001 s				
	7/19/2021 12:00:25 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: User profile collecting is started				
	7/19/2021 12:00:25 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1o	Medium	MLST: There is an error while collecting UserProfile info. System.NullRef				
	7/19/2021 12:00:25 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1k	Monitorable	MLST: User profile collecting is ended. Execution time 0.0059988 secon				
	7/19/2021 12:00:50 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	sv16	Monitorable	Daily report processor: Stored procedure 'prepare_Visits' has finished. Ex				
	7/19/2021 12:00:51 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	sv16	Monitorable	Daily report processor: Stored procedure 'prepare_VisitorTrends' has fini				
	7/19/2021 12:00:54 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	sv16	Monitorable	Daily report processor: Stored procedure 'prepare_VisitsDepth' has finish				
	7/19/2021 12:00:55 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	sv16	Monitorable	Daily report processor: Stored procedure 'prepare_VisitsLength' has finis				
	7/19/2021 12:00:55 AM	OWSTIMER.EXE (0x0768)	HarePoint Analytics	ip1ŀ	Monitorable	MLST: Queue job. Preliminary data processor job is running. Closing que 🗸				
				-						

Select From and To dates and times, as well as the logging level. Click Get log button.

**Note: Do not select too large a period**, as this may take an extremely long time to extract the information, especially on a multi-server farm. Start with a short date period to see how long it takes to merge data and display the list.

Hover the mouse pointer over the Message to see the complete text.



You can highlight several lines and then copy and paste them to another place.

See also: <u>Timer jobs</u> tab – Last logs button.
## Web.config modifications tab

On this tab, you can manage the **web.config file** modifications. There are **two modes** available:

- Global web.config modifications makes all necessary changes to SharePoint, so SharePoint • automatically updates web.config files.
- Manual web.config modifications in this mode, all changes are made directly to web.config • files.

Use radio buttons to switch between these modes.

Important note: Improper use of the functionality available on this tab can make HarePoint Analytics inaccessible and non-functional. Be sure to consult HarePoint Support in case if you have any doubts.

#### Global web.config modifications mode:

8	Harepoint Analytics Help Util						
General i	nfo Timerjobs	Policies and filters ULS log Web.config modificatio	Missing features and web-parts Data collection feature Installation checker Report Custom reports				
		Modifications of web.config for Harepoint An	alvtics. The tab allows you to remove modifications, and also to apply them.				
	Manual web.config modifications						
	Retract all w	eb.config modifications De	eploy all web.config modifications Retract selected web.config modifications				
Mapila	Web service	Path	Name				
►	Content	configuration/system.webServer/modules	add[@name="MAPILabStatisticCollector"]				
	Content	configuration/system.webServer/modules	add[@name="ASPxHttpHandlerModuleAnalytics2010"][@type="DevExpress.Web.ASPxClasses.ASP				
	Content	/configuration/system.web/compilation/assemblies	add[@assembly="MAPILab.SharePoint.Statistics.Reports, Version=15.0.0.0, Culture=neutral, PublicKe				
	Content	configuration/system.webServer/modules	add[@name="Session"]				
	Content	configuration/SharePoint/SafeControls	SafeControl[@Assembly="MAPILab.SharePoint.Statistics.Reports, Version=15.0.0.0, Culture=neutral,				
	Content	configuration/SharePoint/SafeControls	SafeControl[@Assembly="MAPILab.SharePoint.Statistics.Reports, Version=15.0.0.0, Culture=neutral,				
	Content	configuration/SharePoint/SafeControls	SafeControl[@Assembly="MAPILab.SharePoint.Statistics.Reports, Version=15.0.0.0, Culture=neutral,				
	Content	configuration/SharePoint/SafeControls	SafeControl[@Assembly="MAPILab.SharePoint.Statistics.Reports, Version=15.0.0.0, Culture=neutral,				
	Content	configuration/SharePoint/SafeControls	SafeControl[@Assembly="MAPILab.SharePoint.Statistics.Reports, Version=15.0.0.0, Culture=neutral,				
	Content	configuration/SharePoint/SafeControls	SafeControl[@Assembly="MAPILab.SharePoint.Statistics.Reports, Version=15.0.0.0, Culture=neutral,				
	Content	configuration/system.webServer	staticContent				
	Content	configuration/system.webServer/staticContent	/staticContent[0=0]/remove[@fileExtension=".woff"]				
	Content	configuration/system.webServer/staticContent	/staticContent[1=1]/mimeMap[@fileExtension=".woff"][@mimeType="application/xfont-woff"]				
	Content	configuration/system.webServer/staticContent	/staticContent[2=2]/remove[@fileExtension=".woff2"]				
	Content	configuration/system.webServer/staticContent	/staticContent[3=3]/mimeMap[@fileExtension=".woff2"][@mimeType="application/font-woff2"]				
	Administration	configuration/system.webServer/modules	add[@name="MAPILabStatisticCollector"]				
	Administration	configuration/system.webServer/modules	add[@name="ASPxHttpHandlerModuleAnalytics2010"][@type="DevExpress.Web.ASPxClasses.ASP				
	Administration	/andia	add(Gerrendels, "MADII at Chem Dated Clettering Decents, Version, 15,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0				

In this mode, all changes are made via SharePoint, so it is the technically correct method to do these changes. Web.config files are not touched directly.

You will see a list of web.config modifications, added by HarePoint Analytics.

Some third party Products can interfere with HarePoint Analytics if they add web.config modifications that conflict with those from HarePoint Analytics. In this case, you can select the conflicting web.config modifications from HarePoint Analytics and retract them using the Retract selected web.config modifications button.

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You can also **Retract all web.config modifications** and **Deploy all web.config modifications** for troubleshooting purposes.

22				Harep	point Analytic	cs Help Util					_ 🗆 X
General	info Timerjobs	Policies and filters	ULS log	Web.config modifications	Missing features	s and web-parts	Data colle	ection feature	Installation checker	Report	Custom reports
	Modifications of web.config for Harepoint Analytics. The tab allows you to remove modifications, and also to apply them.										
	O Global web.config modifications       Manual web.config modifications										
Refre	esh	Арр	ly web.cor	fig modifications				Remove web.	config modifications		
Web.o	config list:										
	WebApp			Zone		Path			Status		
►	SharePoint - 8	0	[	Default		C:\inetpub\www	root\wss\\	/irtualDirectori	True		
	SharePoint - 8	3	[	Default		C:\inetpub\www	root\wss\\	/irtualDirectori	True		
	SharePoint Ce	ntral Administration v4	4 (	Default	1	C:\inetpub\www	root\wss\\	/irtualDirectori	True		

### Manual web.config modifications mode:

In this mode, all changes are made **directly to web.config files**. There are disadvantages to this method from a technical point of view (since normally the web.config file is regenerated by SharePoint upon certain conditions, so the changes made in this mode can be lost), but it is still useful for troubleshooting purposes.

The Utility displays a **list of web applications**. Click **Refresh** if necessary.

Select the required web application.

You can **Remove web.config modifications**, and **Apply web.config modifications** using the respective buttons.

# Missing features and web-parts tab

On this tab, you can scan your SharePoint if there are any **missing features** or **missing web-parts**. These are the features or web-parts that are referenced in the SharePoint Content Database, but for which there are no DLLs, or vice versa. The missing features or missing web-parts can cause some issues in SharePoint, and in HarePoint Analytics in particular.

🔐 Ha	repoint Analytics Help Util						
General info Timer jobs Policies and filters ULS log Web.config modificati	ons Missing features and web-parts Data collection feature Installation checker Report Custom reports						
Missing web-parts and features of Sharepoint. The tab allows you to remove the information about missing web-parts and features from the databases.							
Database: All	Analyze						
Remove selected missing features	Remove selected missing web-parts						
Missing features:	Missing web-parts:						
	Select all						
	Linselect all						

Select the Content Database from the drop-down list, or select All. Click Analyze.

When the analysis is complete, the missing features will be displayed in the left-hand box, missing web-parts will be displayed in the right-hand box.

Normally, no missing features or web-parts should be detected.

If there are any, we recommend determining what products the missing features and web-parts are related to, and **consult with their vendors** if they have any specific recommendations on how to fix this for their products.

Using the Utility, you can select some or all missing features and/or web-parts and remove them.

Important note: Removal of a missing feature or a web-part cannot be undone!

### Data collection feature tab

In HarePoint Analytics, **data collection is site collection scoped**. With HarePoint Analytics installed, each site collection has the **HarePoint Analytics for SharePoint** feature available: (Site settings – Site Collection Administration – Manage site collection features)



HarePoint Analytics for SharePoint

This feature allows to collect and analyze statistical information about usage of site collection

Originally, **during the HarePoint Analytics installation process**, the administrator decides for which site collections the data collection for HarePoint Analytics should be enabled. This can be changed later:

This can be changed later.

- From Site Collection Administration site collection feature
- From the Installer "Change" option
- From the Utility. This is the most convenient way.

General info       Timer jobs       Policies and filters       ULS log       Web config modifications       Missing features and web-parts       Data collection feature       Installation checker       Report       Custom reports         The tab for enabling data collecting for the selected site collections.         Refresh       Filter       Select all       Unselect all       Enable data collection for selected site collections         Site collections:         Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits         Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits         Site collections:       Image: select all bits         Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits       Image: select all bits
The tab for enabling data collecting for the selected site-collections.         Refresh       Filter       Select all       Unselect all       Enable data collection for selected site collections         Ste collections:
Refresh     Filter     Select all     Unselect all     Enable data collection for selected site collections       Site collections: <ul> <li>             http://demo2013         </li> <li>             http://demo2013/sites/Office_Viewing_Service_Cache         </li> <li>             http://demo2013/sites/second         </li> <li>             http://demo2013.83         </li> </ul>
Site collections:   thtp://demo2013  http://demo2013/sites/Office_Viewing_Service_Cache  http://demo2013/sites/second  http://demo2013.83
Http://demo2013     http://demo2013/sites/Office_Viewing_Service_Cache     http://demo2013/sites/second     http://demo2013.83
http://demo2013:22602/stes/Help

The Utility displays **list of all site collections** in this SharePoint farm. Those site collections where the data collection feature is already **enabled** have the checkboxes **selected**.

Use **Refresh** to rescan and display the actual information.

**Select** the checkboxes of the site collections where you need to **enable** data collection; **unselect** the checkboxes of the site collections where you need to **disable** data collection. You can also use **Select all** and **Unselect all** buttons.

Click Enable data collection for selected site collections button.

# Installation checker tab

On this tab, you can verify whether all components of HarePoint Analytics are installed properly.

Click **Check** to start checking.

22	Harepoint Analytics Help Util							
Ger	eneral info Timer jobs Policies and filters ULS log Web.config modifications Missing features and web-parts Data collection feature Installation checker Report Custom reports							
	Check Harepoint Analytics installation							
	Check							
	Main	Sub	Server	Web application	Status	Message	^	
►	Mapilab's assemblies	-	-	-	PASS	-		
	Mapilab's assemblies	MAPILab.SharePoint.Stati	DEMO2013	-	PASS	-		
	Mapilab's assemblies	MAPILab.SharePoint.Stati	DEMO2013	-	PASS	-	≡	
	Devexpress assemblies	-	-	-	PASS	-		
	Devexpress assemblies	DevExpress.Charts.v12.2	DEMO2013	-	PASS			
	Devexpress assemblies	DevExpress.Data.v12.2\1	DEMO2013	-	PASS	-		
	Devexpress assemblies	DevExpress.Printing.v12	DEMO2013	-	PASS	-		
	Devexpress assemblies	DevExpress.Utils.v12.2\1	DEMO2013	-	PASS	-		
	Devexpress assemblies	DevExpress.Web.v12.2\1	DEMO2013	-	PASS	-		
	Devexpress assemblies	DevExpress.Xpo.v12.2\1	DEMO2013	-	PASS	-		
	Devexpress assemblies	DevExpress.Xpo.v12.2.W	DEMO2013	-	PASS	-		
	Devexpress assemblies	DevExpress.XtraCharts.v1	DEMO2013	-	PASS			
	Devexpress assemblies	DevExpress.XtraCharts.v1	DEMO2013	-	PASS			
	Devexpress assemblies	DevExpress.XtraEditors.v	DEMO2013	-	PASS	-		
	Devexpress assemblies	DevExpress.XtraPrinting.v	DEMO2013	-	PASS			
	Devexpress assemblies	DevExpress.XtraReports	DEMO2013	-	PASS			
-	MLConfig	-	-	-	PASS	-		
-	Solution	-	-	-	PASS	-		
	Database version	-	-	-	PASS	-		
	Web configs	-	-	-	PASS	-		
	Web configs	/configuration/SharePoint	DEMO2013	SharePoint - 80	PASS	-		
		_					\*	

The following components are checked:

- Mapilab assemblies
- DevExpress assemblies
- Mapilab configuration
- Solution
- HarePoint Analytics Database version
- Web.config modifications
- Resource files
- Feature definitions
- Web service features
- Site features
- Timer jobs

The components that are OK will have **PASS** status.

The missing or improperly installed components will have FAIL status.

Normally, the installation issues can be fixed by running the installer in **Repair** mode, or upgrading to a newer version (**Upgrade** option in the installer).

If Repair or Upgrade does not fix the issue, and you are still missing some HarePoint Analytics functionality, or if the **Installation checker tab** points to multiple failures, contact <u>HarePoint Support</u>.

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#### **Report tab**

On this tab, you can generate a summary report based on all or selected tabs of the Utility.

If you plan to <u>contact HarePoint Support</u>, please generate a report with **all options selected** and the ULS log date range set to the period of time during which you have been experiencing issues. This report gives a complete set of technical details regarding HarePoint Analytics and allows HarePoint Support specialists to identify the reason of the issue and suggest steps to resolve it reasonably quickly.

Harepoint Analytics Help Util	
General info Timer jobs Policies and filters ULS log Web.config modifications Missing features and web-parts Data collection feature Installation checker Report Cu	stom reports
The tab for generating text report about all the tabs.	
Generate	
Include in report:	
✓ General info	
✓ Timer jobs	
Policies and filters	
Web.config modifications	
✓ Missing features and web-parts	
✓ Data collection feature	
✓ ULS log From: 7/23/2021 9:27 Alv ∨ To: 7/23/2021 12:01 Plv ∨	
✓ Installation checker	

Select the checkboxes as required.

Set the date range in **ULS log** to the period of time when you've been experiencing issues. Avoid setting large date ranges, especially in a multi-server environment, as such reports can take an extremely long time to build.

Click Generate when ready. Specify the location for the report.

Report is saved as a **text file** with .txt extension. It can be opened using any text editor, and is human-readable.

**Note:** the report can also be generated using the **command-line interface** – for more details refer to <u>Command line interface</u> section.

## **Custom reports tab**

Later versions of HarePoint Analytics provide the capability of adding custom reports. Usually, these are very specific reports requested by a HarePoint client, constructed on an individual basis, and provided by HarePoint developers as XML files that can be imported using the Utility.

2	Harepoint Analyt	tics Help Util	_ <b>D</b> X
General info Timer jobs Policies and filters	ULS log Web.config modifications Missing feature	res and web-parts   Data collection feature	Installation checker Report Custom reports
Refresh New	Edt Adv. edit Delete	Export Import	1
Index	Code	Title	Category
▶ <u>1</u>	Content Type Report 1	Content types documents count	ContentTypes
2	Content Type Summary Report	Content types summary	ContentTypes

**Note:** Currently, it is not implied that custom reports can be created by clients themselves; for this reason some of the controls on this page are only designed to be used by HarePoint technical specialists.

### **Buttons:**

**Refresh** - retrieve and display the actual data on this tab.

**New...** - opens the editor to construct a new report. Only for HarePoint technical specialists.

**Edit...** - opens the editor to modify the configuration of an existing report. Only for HarePoint technical specialists.

**Adv. Edit...** - opens the advanced editor to modify the configuration of an existing report. Only for HarePoint technical specialists.

**Delete** – delete the selected report. **Note:** It is recommended to export the report for backup before deleting.

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Export – export the selected report to an XML file on a local drive.
All currenty added custom reports can also be exported using the command-line interface from
SharePoint Management Shell:
stsadm -o mlstcustomreports -export "path\_to\_xml\_file"

**Import** – import the report from an XML file (provided by HarePoint Technical Support or exported previously).

A custom report can also be imported using the command-line interface from SharePoint Management Shell:

stsadm -o mlstcustomreports -add "path\_to\_xml\_file"

# **Command line interface**

Beside the graphical user interface, Utility also provides a set of command line options. To use them, open Command Prompt or SharePoint Management Shell and navigate to the folder where Utility is <u>located</u>.

# 1. Generate a report

Using the **-report** operation, you can generate a summary report, same as on <u>Report</u> tab.

**Syntax** 

HarePointAnalyticsUtil.exe

-report <report list>

-date

{fromto <fromdate> <todate> |

tonow <units> <diffvalue>}

-path <url or path>

### Parameters

Parameter	Value	Mandatory?	Description
report	One or several values (space bar separated): • general	Yes	The parameter specifies the types of reports to be included (corresponding to tabs in the Utility):
	<ul> <li>jobs</li> <li>logs</li> <li>features</li> <li>policies</li> <li>missings</li> <li>installation</li> <li>webconfmods</li> </ul>		<ul> <li>general <u>General tab</u> information</li> <li>jobs <u>Timer jobs tab</u> information</li> <li>logs <u>ULS logs tab</u> information. Note: Requires -date parameter (see below).</li> </ul>

			-
			<ul> <li>features         <ul> <li>Data collection feature tab information</li> <li>policies</li> <li>Policies tab information</li> <li>missings</li> <li>Missing features and web-parts tab information</li> <li>installation</li> <li>Installation checker tab information</li> <li>webconfmods</li> <li>Web.config modifications tab information</li> </ul> </li> </ul>
date	• From date	logs report	report; two formats available:
	<ul> <li>To date</li> </ul>	included	
			<b>fromto</b> – in this case, first parameter is
			"from date", second parameter is "to
	OR		date" (in system format)
			Example July 1 <sup>st</sup> to July 31 <sup>st</sup> :
	tonow		fromto 7/1/2021 7/31/2021
	• units (d, h, m)		to non- in this case. first some star is a
	difference		tonow – In this case, first parameter is a
	value		minutes) second parameter is a
			difference value in specified units
			Example last 7 days:
			tonow d 7
path	Local path or library	Yes	The local path or document library URL to
	URL		save the report.
			You may <b>include the file name</b> , or it will
			be autogenerated.
			You may provide <b>only the file name</b> – the
			folder where Utility is leasted
			The simplest is to use "" or " $\lambda$ " – the
			report will be saved to Utility folder with
			autogenerated name.

# Examples:

HarePointAnalyticsUtil.exe -report general jobs -path "C:\log\utility.log" Will generate general and timer jobs reports and save it to C:\log\utility.log file

# HarePointAnalyticsUtil.exe -report general jobs policies -path .\

Will generate general, jobs, and policies report, and save it to the folder where Utility is located, with autogenerated name.

## HarePointAnalyticsUtil.exe -report general jobs logs -date tonow h 12 -path "C:\log\"

Will generate general, jobs, and logs reports for last 12 hours and save it to C:\log\ folder with the autogenerated name

# HarePointAnalyticsUtil.exe -report general jobs logs -date tonow h 12 -path http://www.harepoint.com/Docs/AllPages.aspx

Will generate general, jobs, and logs reports for last 12 hours and save it to a document library with the provided by URL and the autogenerated name

HarePointAnalyticsUtil.exe -report logs -date fromto 1/1/2021 1/12/2021 -path "C:\log\uls.log" Will generate ULS logs report covering date range from 1/1/2021 to 1/12/2021 and save it to C:\log\uls.log file

# 2. Save/Load HarePoint Analytics configuration

Using the -**config** operation, you can save or load HarePoint Analytics configuration. This refers to parameters seen in **Central Administration – Monitoring – HarePoint Analytics settings**:

- Databases connection strings
- Data collection filters configuration
- Policies
- Licensing information

### **Syntax**

### HarepointAnalyticsUtil.exe -config

{save <path\_to\_xml> |

load <path\_to\_xml>}

### **Parameters**

Parameter	Value	Mandatory?	Description
save	Path to the XML file. <b>Note:</b> enclose the file path in "double	Yes	Save HarePoint Analytics configuration to the specified XML file

	quotes" to ensure proper processing of special symbols.		
load	Path to the XML file. <b>Note:</b> enclose the file path in "double quotes" to ensure proper processing of special symbols.	Yes	Load HarePoint Analytics configuration from the specified XML file

# 3. Complete the manual update process

Using the **complete-upgrade** operation, you can initiate the set of actions needed to complete the manual update of HarePoint Analytics.

For more details, refer to <u>Administrator Guide</u> – Upgrading the product – Manual upgrade section.

Note: only since versions 16.12/15.17 of HarePoint Analytics

**Syntax** 

HarePointAnalyticsUtil.exe complete-upgrade

**Parameters** 

(none)

# 4. Copy the application resources on all servers

Using the **copy-appbincontent** operation, you can force SharePoint to distribute the resource files to corresponding folders of the web application.

This command is equivalent to running **stsadm -o copyappbincontent** on **each** server of the SharePoint farm.

Typically used after deployment or upgrade.

Note: only since versions 16.12/15.17 of HarePoint Analytics

### **Syntax**

# HarePointAnalyticsUtil.exe copy-appbincontent

#### **Parameters**

(none)

# 5. Display current status of policies

Using the **get-policies** operation, you can view the current status of policies (global settings) in HarePoint Analytics.

For more information on policies, refer to <u>Administrator Guide</u> – Managing global policies.

Note: only since versions 16.12/15.17 of HarePoint Analytics

#### **Syntax**

## HarePointAnalyticsUtil.exe get-policies

**Parameters** 

(none)

## 6. Set policies

Using the set-policy operation, you can change the policies (global settings) in HarePoint Analytics.

Note: only since versions 16.12/15.17 of HarePoint Analytics

#### **Syntax**

## HarePointAnalyticsUtil.exe set-policy

- -name <policy name>
- -value <parameter value>

#### **Parameters**

Parameter	Value	Mandatory?	Description
name	(see Admin Guide)*	Yes	The name of the policy
value	(see Admin Guide)*	Yes	Policy value

\*For detailed information on policies names and values, refer to <u>Administrator Guide</u> – Managing global policies.

# 7. Display current data retention period

Using the **get-data-keep-days** operation, you can view the current data retention settings. For more information, refer to <u>Checking the current settings for the data retention</u> paragraph.

Note: only since versions 16.12/15.17 of HarePoint Analytics

### **Syntax**

### HarePointAnalyticsUtil.exe get-data-keep-days

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#### **Parameters**

(none)

## 8. Set data retention period

Using the **set-data-keep-days** operation, you can set new data retention period.

Note: only since versions 16.12/15.17 of HarePoint Analytics

## Syntax

# HarePointAnalyticsUtil.exe set-data-keep-days

#### -group <report group name>

### -days <amount of days>

#### **Parameters**

Parameter	Value	Mandatory?	Description
group	One of the values: VisitsMain DocsListsMain SearchMain VisitsReports DocsReports ListsReports SearchesReports PerformanceReports	Yes	<ul> <li>The name of report group:</li> <li>For raw (unprocessed) data (default is 90 days): <ul> <li>VisitsMain (unprocessed data for visits reports)</li> <li>DocsListsMain (unprocessed data for document and list)</li> <li>SearchMain (unprocessed data for search reports)</li> </ul> </li> <li>For data in daily reports (default is 180 days): <ul> <li>VisitsReports</li> <li>DocsReports</li> <li>ListsReports</li> <li>SearchesReports</li> <li>PerformanceReports</li> </ul> </li> </ul>
days	<amount days="" of=""> OR 0 to disable cleanup</amount>	Yes	Specify amount of days to keep data, or specify 0 to disable data cleanup

For more information, refer to <u>Setting new data retention period</u> paragraph.

# 9. Encrypt previously collected personal data

Using the **encrypt-users** operation, you can encrypt the previously collected users' personal data. Typically, this operation is performed after enabling the **encryptuserinfo** policy that enables encryption for the newly collected data.

Warning: The action of this command is **not reversible**! Read carefully the <u>Administrator Guide</u> – Managing Global access permissions chapter for detailed explanation and use case scenarios before running this command!

Note: only since versions 16.12/15.17 of HarePoint Analytics

**Syntax** 

HarePointAnalyticsUtil.exe encrypt-users

**Parameters** 

(none)

### 10. Restart SharePoint Timer service on all servers

Using the **restart-sptimer** operation, you can restart SharePoint Timer Service on all servers in the farm.

Typically used after deployment, update, or retraction.

Note: only since versions 16.12/15.17 of HarePoint Analytics

**Syntax** 

HarePointAnalyticsUtil.exe restart-sptimer

### **Parameters**

(none)

# 11. Apply default site theme

Using the **use-default-theme** operation, you can apply the default site theme to report pages. This can be used for troubleshooting purposes, if the custom theme causes report pages to be displayed improperly (incorrect formatting, hard to read, some areas are not visible, etc).

Note: only since versions 16.12/15.17 of HarePoint Analytics

#### **Syntax**

# HarePointAnalyticsUtil.exe use-default-theme

```
-default { true | false }
```

#### **Parameters**

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Parameter	Value	Mandatory?	Description
default	One of the values: • true • false	Yes	<ul> <li>Set to true to use the default site theme</li> <li>Set to false to use the current site theme</li> </ul>