

# **HarePoint Analytics**

For SharePoint on premise

# Administrator Guide



HarePoint Analytics for SharePoint SE/2019/2016, product version: 16.16 HarePoint Analytics for SharePoint 2013, product version: 15.21

December 2024

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# **1. Introduction**

HarePoint Analytics for SharePoint is a solution for getting web analytics reports in **SharePoint Subscription Edition (SE), 2019, 2016, and 2013 (all on premise)**. It provides detailed information on usage and performance of SharePoint-based portals and websites. Product reports cover various aspects including users' behavior, usage of content, usage of documents, list items, and search services.

Note: for SharePoint Online (Microsoft 365) we offer a dedicated solution – HarePoint Analytics for SharePoint Online, for more details refer to our web site: https://www.harepoint.com/Products/SharePoint-Online-Analytics/

This manual has been produced by HarePoint and contains the essential information for the successful installation and deployment of HarePoint Analytics to your SharePoint farm.

We kindly ask you to read this manual carefully before starting the installation process. This manual includes important technical information regarding installation, upgrade, migration and configuration of the product. It is intended for SharePoint and SQL Server administrators.

Other documentation for HarePoint Analytics is also available:

- For more information about how to use this product, please refer to HarePoint Analytics User Guide: <a href="https://www.harepoint.com/Products/HarePointAnalyticsForSharePoint/HarePoint\_Analytics\_User\_Guide\_EN.pdf">https://www.harepoint.com/Products/HarePointAnalyticsForSharePoint/HarePoint\_Analytics\_User\_Guide\_EN.pdf</a>
- For more information on product maintenance, fine-tuning, configuration Best Practices, troubleshooting directions and recommendations, please refer to HarePoint Analytics Maintenance Guide:

https://www.harepoint.com/Products/HarePointAnalyticsForSharePoint/HarePointAnalyticsForSha rePoint-MaintenanceGuide.EN.pdf

All the documentation is also included in product distributive package.

# A. Quick Start

This section contains a **step-by-step instruction** on how to install and configure HarePoint Analytics.

**The three minimum required steps** to have HarePoint Analytics installed and collecting data are the following:

- 1. **Read the <u>Preparation for deployment</u> chapter**. It contains important information on recommended hardware configuration and HarePoint Analytics database size estimation.
- 2. Install HarePoint Analytics using the automatic installer <u>Automatic installation and deployment</u> <u>using Setup.exe</u>
- 3. **Create new HarePoint Analytics databases** right from the Product settings <u>Creating and connecting</u> <u>new databases</u>.

After the databases are connected, the data collection will start.

By default, data collection for certain data types is disabled.

In addition, the product collects a wide range of data, which may include information that either you will **never view in the reports**, or that can **distort the reports**.

The steps below describe how to enable data collection for the optional data types, and how to prevent collecting unnecessary data. These steps are optional, but some of them are recommended.

- **Highly recommended: Create data collection filter rules** to prevent collecting an excess amount of unnecessary data, such as hits from search crawler account or technical accounts, as well as any other type of data specific to your environment: <u>Data collection filters</u>.
- Recommended: Change the data retention period, if necessary. The detailed data are stored for 180 days. If you need a different value change this setting right after the installation to be sure the necessary information will not be removed <u>Setting the data retention period</u>.
- **Optional:** If you need to collect **country information**, configure the settings as described here: <u>Setting</u> <u>the Geographical locations database update</u>.
- **Optional:** If you need to collect **information on SharePoint servers' performance**, configure the settings as described here: <u>Data collection on server performance</u>.
- **Optional:** If you need to **track custom events** on a page, implement a JavaScript as described here: <u>Adding tracker for JavaScript events</u>.
- **Optional:** If you need to **review statistical information from the past** (before HarePoint Analytics was installed) you can import data from IIS logs, as described here: <u>Importing data from IIS logs (Optional)</u>

Once HarePoint Analytics configuration is complete, you can grant users the access to reports as necessary, as well as set up other ways to view reports, such as customize the built-in Dashboard, build custom dashboards using HarePoint Analytics web-part, subscribe to receive reports by e-mail, export reports to document library, etc. These steps are **optional**:

- Grant users the access to HarePoint Analytics reports; by default only site collection administrators have access <u>Managing access to the reports</u>.
- Build custom dashboards <u>-Adding and configuring a web-part</u>.
- Customize the built-in Dashboard <u>Customizing the Dashboard</u>.
- Submit a subscription for users that prefer receiving exported reports by e-mail <u>Reports Subscription</u> <u>Management</u>.

# 3. How it works

HarePoint Analytics for SharePoint is deployed to all servers in the SharePoint Farm. This product is a **Farm solution** and it adds several **Timer Jobs** and a **Site Collection Feature** during the deployment. The **Settings page** for HarePoint Analytics is located at **SharePoint Central Administration – Monitoring** section.

# 3.1. Data collection

HarePoint Analytics for SharePoint

HarePoint Analytics for SharePoint collects data using its own **HTTP module**. **HarePoint Analytics Timer Jobs** are used to collect auxiliary data from other sources – see below.

**Note:** HarePoint Analytics is **not** using IIS logs, SharePoint logs, Search Indexing Service, out-of-the-box Web Analytics, it **does not add** javascripts to web pages by default.

The data collection can be enabled or disabled **per site collections**, as required. To start the data collection it is necessary to activate the **site collection feature** named "HarePoint Analytics for SharePoint" for each site collection where the usage data should be collected.



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

Deactivate Active

**Two SQL databases** are used to store the data: the first, **Queue database** temporarily stores the information obtained from the HTTP Module. By default, every 5 minutes the data from the Queue Database are moved by the **Processor of message queue** timer job to the second, **Main Database**. Two separate databases are used to optimize the SQL server load during the data collection and processing.

All **Timer jobs** used by HarePoint Analytics and their settings are described in <u>HarePoint Analytics Timer</u> <u>Jobs</u> area of this document.

HarePoint Analytics uses the following methods and sources for data collection:

- **HttpModule**. An HttpModule is added to the web.config files for all web-applications in the farm.
- **EventReceivers**. Several event processors are added to the site collections where HarePoint Analytics feature is activated.
- **Timer jobs**. Several Timer Jobs are used by HarePoint Analytics to collect and process data.
- Active Directory. The auxiliary data are obtained from AD during the data collection via LDAP protocol.
- SharePoint API. The auxiliary data are collected from SharePoint via the SharePoint Object Model.
- **SQL**. There are some data that are retrieved from SharePoint content databases by querying them directly.

Two following sources of data can be used **optionally**:

• Javascript. It is possible to get reporting on a custom user activity on a web page by implementing a client-side javascript. It can, for example, track how users click buttons on a page, track links that lead to external (non-SharePoint) sources. Refer to <u>Adding tracker for JavaScript events</u> chapter for more details.

• **IIS Logs**. It is possible to import data from IIS logs by using **IIS importer tool** that is shipped with HarePoint Analytics. Typically, this option is used only **once** right after HarePoint Analytics deployment has been completed which enables you to see some information from before the product has been installed. Refer to <u>Importing data from IIS logs (Optional)</u> chapter for more details.

Please refer to <u>HarePoint Analytics Maintenance Guide</u> for a detailed description of data collection mechanism.

#### 3.1.1. Trial period expired

Important note: Data collection stops when a trial period ends. No user activity will be tracked and logged during this time, and that cannot be restored in the future.

In this case, you will see a notification on HarePoint Analytics for SharePoint Settings page:

Licensing HarePoint Analytics for SharePoint This page is designed to manage licenses of HarePoint Analytics for SharePoint Summary of available licenses The trial period has expired. Collection of statistical data is temporarily suspended.

Licensing

#### As well as at the top of each report:



You have two options:

- enter the **perpetual licensing key(s)** you have (refer to Entering the license keys section)
- contact HarePoint Support or Sales to request another trial key to extend the trial period

Make sure you resolve this situation as quickly as possible if you intend to continue using or trialing HarePoint Analytics and don't needs gaps in reports.

#### 3.1.2. Number of users is exceeded

Data collection **does not** stop when the number of SharePoint users exceeds the number of purchased licenses. If this situation occurs, the product notifies you about it by displaying a red warning on **HarePointAnalytics for SharePoint Settings** -> **Licensing** page:

# Settings > Licensing HarePoint Analytics for SharePoint @



#### As well as at the top of each report:



The product works without any technical limitations. All data are collected, processed and displayed normally.

#### How is the number of users calculated?

HarePoint Analytics collects the number of users that have been accessing the site collections (where HarePoint Analytics feature is enabled) **over a period of one month** (for older versions – a period of three months).

It's not looking at total number of users in your Active Directory or SharePoint User Service. It is counting all accounts, not only administrator accounts who have been viewing Analytics reports. By default, this will also include technical accounts (for search crawlers or scripts). Please refer to <u>Data</u> <u>collection filters</u> chapter (as well as <u>HarePoint Analytics Maintenance Guide</u> – Data collection filters) for more details on how to filter out these accounts.

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#### 3.1.3. Personal data that are collected and stored in the product database

#### Active directory data

ObjectGUID

Unique user identifier.

SchemaClassName

Active Directory class name. For a user this attribute is equal to User.

• Sid

User Security Identifier.

ParentObjectVersion

Reference to user's parent Active Directory object – container or organizational unit.

- DistinguishedName String like CN=John Smith,OU=Staff,DC=thecompany,DC=local.
- Name User name. Like John Smith.
- **DisplayName** User name. Equals to Name (There are differences in Active Directory object types).
- CanonicalName
   String like thecompany.local/Staff/ John Smith.
- **CommonName** User name. Equals to Name (There are differences in Active Directory object types).
- **Description** Custom information about a user.
- Company Company name.
- Department
- Department name.
- City City name.
- Country Country name.
- Culture User culture. Two letters like EN or DE.
- Mail User e-mail address.
- PhysicalDeliveryOfficeName

Physical delivery office name.

- SAMAccountName Part of user login name. For example if full login name is THECOMPANY\smith, SAMAccountName equal to smith.
- StateProvince State or province.
- StreetAddress
  - Street address.
- Title Title name.
- UserPrincipalName New form of user login name. Example: <u>smith@thecompany.local</u>.
- WWWHomePage
   User's personal web page URL.

• Groups List of user's security groups.

#### SharePoint data

• Login

Login name. For the Active directory users have form **<DOMAIN>/<user name>**.

- Name User name.
- Email User e-mail.
- Notes Additional custom information.
- **Groups** List of the SharePoint groups users.

**Note:** if the security policy of your company or in your country require, the user information can be stored in a database in an encrypted way. For more details, please refer to <u>Encrypt user's data during the data</u> <u>collection</u> section of this Guide.

### 3.2. Data processing

The product collects data in a real-time mode into the **Queue database**.

Every 5 minutes (default settings) data from this database are processed and moved to **Main database** – these are **raw (unprocessed) data**.

Some **auxiliary data** are collected by separate **Timer Jobs**, which have individual schedule.

Once per day, by default at midnight, **Preliminary Data Preparation Timer Job** is started. It processes all the data collected during a day and prepares data for reports (to speed up the report generation). This process takes some time, depending on how many hits have been generated. That is, the new data appear in the reports on the next day.

The product stores **detailed (daily)** statistics for **180 days** (a default value). Refer to <u>Setting the data</u> <u>retention period</u> section.

Note: The monthly (summary) data in the reports will never be removed.

Data processing is described in details in <u>HarePoint Analytics Maintenance Guide</u>.

#### 3.2.1. List of data that will be removed after 180 days

- Daily data on user's browsers (report: Browsers)
- Daily data on types of a document (report: Documents by type)
- Daily data on popularity of documents (report: Document popularity)
- Daily data on usage of documents (reports: Document usage overview, Document usage)
- Daily data on usage of lists (reports: List items usage overview, List items by users)
- Daily data on operation systems used by visitors (report: Platforms)
- Daily data on the results of search requests (report: Search overview, Users searches)
- Daily data on the dynamics of visits (report: Visits trend, also the data is used in reports Users activity and Visits by department)
- Daily data on the depth of visits (report: Depth of visits)

- Daily data on the length of visits (reports: Length of visits)
- Daily data on the number of used documents by the AD groups (report: Documents by Active Directory groups )
- Daily data on the number of used documents by departments (report: Documents by departments)
- Daily data on the number of used documents by the SharePoint groups (report: Documents by SharePoint groups)
- Daily data on the usage of list items by the AD groups, departments and the SharePoint groups (reports: List items by Active Directory groups, List items by departments, List items by SharePoint groups)
- Daily data on the usage of list items (report: List items usage)
- Daily data on the number of viewed pages (report: Pageviews)
- Daily data on the number of visits (report: Visits)

Beside this, all links to the deleted data are removed as well.

### 3.3. Report generation

Reports can be generated in three ways:

- when a user clicks on the necessary report in the reports Dashboard (from Site Settings Site usage reports or Site Collection usage reports, or from Central Administration Monitoring HarePoint Analytics section Farm reports)
- when a page with HarePoint Analytics web-part is opened by a visitor
- when there is a <u>subscription rule</u> scheduled to send the report automatically by **e-mail** or save to a **document library**.

All the data collected during a day are processed and **prepared to be displayed** in the reports. That is, all necessary data are pre-generated and when the certain report is requested (in either ways mentioned above), HarePoint Analytics simply reads data from the database and displays them in tables and/or in a chart. In other words, nothing is processed on the fly.

When the user clicks "Export to PDF or XLS" the task is performed at the server side; the necessary data are read from the database tables and converted into the proper format.

### 3.4. Subscription to the reports

HarePoint Analytics allows you to **create subscription tasks** (or **rules**) to generate and send specified reports by **e-mail** and/or save them to a **document library**, according to the schedule. SharePoint administrators are also able to **subscribe other users** to receive reports by e-mail. The number of the subscription tasks is not limited.

For more details on how to create a subscription rule, refer to **<u>Reports Subscription Management</u>** chapter of this Guide.

# 4. End User License Agreement (EULA)

This license agreement is concluded between MAPILab Ltd. (hereinafter MAPILab) and you (the collective user, an authorized representative of a commercial or government organization or private person).

Installation and usage of software product HarePoint Analytics for SharePoint (hereinafter the Product) by you, including user programs and report packs, indicates your acceptance of all points of the license agreement set forth below. If you do not agree with the proposed agreement, then you are obligated to refuse installing and using the Product.

#### 1. Terms used in this Agreement

Execution environment — physical or virtual environment in which an operating system runs. <u>SharePoint server</u> – an execution environment where one of the following products is installed: "Office SharePoint Server", "Office SharePoint Server for Search", "Windows SharePoint Services", "Project Server 2007" or "InfoPath Form Services".

<u>SharePoint user</u> – a user authorized in any way on a SharePoint server; including users interacting with a SharePoint server through Microsoft Word, Microsoft Excel or other applications.

<u>Internet site</u> — a website that is controlled by the SharePoint servers under the license from Microsoft or its representatives under the conditions provided by Office SharePoint Server 2007 for Internet sites and/or Office Forms Server for Internet sites.

#### 2. Rights to the Product

2.1 All rights belong to MAPILab and they are protected by the copyright laws of the United Kingdom of Great Britain and Northern Ireland and by international treaties. This product is not sold, this product is licensed.

2.2 This license agreement gives you a nonexclusive right to use the product with the limitations specified in this agreement.

2.3 This license to use the Product may not be resold or transferred to third parties or rented without the written permission of copyright holders.

2.4 The license does not grant the right to modify, decompile, disassemble and clone the Product, except in and within the limits of cases when such actions are expressly authorized by the legislation of the Russian Federation.

2.5 MAPILab reserves all rights that are not clearly indicated in the license.

#### 3. Licensing terms for the Product

3.1 With the exception of special types of licenses, described in paragraphs 4 and 5, the Product is licensed according to the number of users.

3.2 A user license is required for each SharePoint user. One user license can be used on any number of servers in the given organization. The number of user licenses for the Product must not be less than the number of client licenses (CAL) on the SharePoint server; when using the Product on a server with Windows SharePoint Services, the number of user licenses for the Product must not be less than the number of SharePoint users.

#### 4. Product licenses for Internet sites

For Internet sites, the Product is licensed by SharePoint servers, without consideration of the number of users.

#### 5. Trial license and a trial period

5.1 If you install the product without purchasing a license, MAPILab provides you a one-time, 30-day trial license to test the product and all its functions.

5.2 This agreement presupposes that you have used the product and used the test license with the intent to acquire a license for the Product after a successful test. MAPILab may contact you to discuss the progress of the testing of the product and the obtaining of a license.

5.3 After the test license is expired, you must purchase a license for the Product or stop using it and delete all installed copies of the Product.

#### 6. Disclaimer

6.1 MAPILab is not responsible for any loss of profit, or for any other damages arising from the use or misuse of the Product. The Product is used at your own risk.

6.2 MAPILab is not responsible if the Product ceases to function due to changes in your IT-infrastructure.

#### 7. Confidential information

7.1 Any log files of the Product, access credentials, and other information about your infrastructure, which has been given to MAPILab by you, shall be deemed as confidential information.

7.2 If not specifically stated otherwise, MAPILab has the right to send confidential information to its authorized representatives, and to transfer such information outside of your country.

7.3 MAPILab is obligated not to keep your confidential information more than two years and to take all reasonable steps to protect it.

#### 8. Refunds

8.1 For testing the Product, a free test license is granted, according to Paragraph 5. Failure on your side to test the Product before buying it cannot serve as a ground for a refund.

8.2 To obtain a refund it is necessary, but not sufficient in itself, to provide MAPILab, in any convenient manner, with a letter of request outlining the reasons why you want to have funds returned for the Product.

8.3 You are obligated to assist employees of MAPILab in investigating the stated reason(s) for a refund and its (their) resolution in a timely manner, within up to 45 days from the reception of your letter.

#### 9. Technical support and Product updates

9.1 The price of the license for the product includes the cost of technical support and product updates for ONE year from the date of the acquisition of the license. After the expiration of this period, you can continue to use your version of the Product without any limitations, purchase a subscription for technical support and Product upgrades, or purchase a new version of the Product as it becomes available.

9.2 You must have a competent technical staff to deploy and service the product and contact the technical support service.

9.3 All requests for technical support must be made through the <u>online support system</u> on the site of the Product.

Violation of the terms of this License Agreement shall result in the automatic termination of the license for using the Product and could result in administrative and / or criminal prosecution.

# 5. Preparation for deployment

HarePoint Analytics for SharePoint is deployed to all servers in the SharePoint farm.

**Important note:** to install and deploy the program successfully, you must have **farm administrator** permissions in SharePoint and **full administrator permissions** in Windows Server on all servers in your SharePoint farm.

The product can be installed and deployed in two ways:

- <u>Automatically</u> using the Installer (Setup.exe) recommended
- <u>Manually</u> using PowerShell and special Utility (HarePointAnalyticsUtil.exe) included in distributive package

We strongly recommend the automatic installation using Setup.exe because it checks all prerequisites and performs all the required installation steps automatically.

The Installer checks the following:

- SharePoint installation
- permissions to install and deploy SharePoint solutions
- whether the necessary services are started

Installer allows you to:

- install and deploy the solution
- repair the solution (retract the solution and deploy it again)
- remove the solution
- change deployment targets (select site collection where data collection should be activated)

Importantly, it generates **Installation.log** (in the same folder where Setup.exe is launched) which simplifies the troubleshooting if any issues occur during the installation or deployment.

### 5.1. System requirements for HarePoint Analytics for SharePoint

#### HarePoint Analytics for SharePoint SE, 2019

- 1. Microsoft SharePoint Server SE or 2019
- Microsoft SQL Server 2012 Service Pack 4 Native Client or higher (In particular, Microsoft SQL Server 2014 Express Edition can be <u>downloaded for free</u> from Microsoft web-site)
- 3. Microsoft .NET Framework 4.7.2
- 4. Internet Explorer 11.0 or newer (Edge) is recommended to view reports

#### HarePoint Analytics for SharePoint 2016

- 1. Microsoft SharePoint Server 2016
- Microsoft SQL Server 2012 or higher; SQL Server 2012 Express Edition or higher (In particular, Microsoft SQL Server 2014 Express Edition can be <u>downloaded for free</u> from Microsoft web-site)
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- Microsoft .NET Framework 4.5.2 (Microsoft .NET Framework 4.5.2 can be downloaded for free from the <u>Microsoft Download</u> <u>Center</u>)
- 4. Internet Explorer 10.0 or newer is recommended to view reports

#### HarePoint Analytics for SharePoint 2013

- 1. Microsoft SharePoint Server 2013, SharePoint Foundation 2013
- Microsoft SQL Server 2008 or higher; SQL Server 2008 Express Edition or higher (In particular, Microsoft SQL Server 2014 Express Edition can be <u>downloaded for free</u> from Microsoft web-site)
- Microsoft .NET Framework 4.5 (Microsoft .NET Framework 4.5 can be downloaded for free from the <u>Microsoft Download</u> <u>Center</u>)
- 4. Internet Explorer 8.0 or newer is recommended to view reports

# 5.2. Infrastructural recommendations

#### 5.2.1. SQL Server

You can use the **existing SQL server** that hosts SharePoint Content Databases. For simplified SQL server administration in the future, we recommend to create a separate SQL instance for HarePoint Databases (see also <u>How Analytics works – Data collection</u>).

It is better, however, if you can set up a **separate SQL server** specifically for HarePoint Analytics – this usually makes sense if you have over 10,000 users.

**SQL Clusters** are supported; no specific configuration is required in this case.

#### 5.2.2. Hard Drives

It is strongly recommended to have a **separate hard drive** for HarePoint Analytics databases, even in case if you are going to use the existing SQL server. While processing daily data (which is normally started at midnight) HarePoint Analytics runs multiple SQL stored procedures and processes lots of data; keeping HarePoint Analytics databases on the same physical drive with content databases can reduce SharePoint performance during that time.

Note that HarePoint Analytics collects lots of various data from your SharePoint farm and naturally that requires an **appropriate drive space**. Please refer to <u>next paragraph</u> to estimate the database size. A general recommendation is to have **at least 100 Gb** of drive space on a SQL server. Using **RAID** and/or **SSD** technologies is recommended for better performance and reliability.

#### 5.2.3. Virtualized Environments

There are no specific recommendations for virtualized environments.

### 5.3. Estimation of the Database size

The database size and growth rate depends on a number of parameters therefore only rough estimation is possible.

The most essential parameters are:

How many users are accessing SharePoint site collections where HarePoint Analytics is enabled

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- How active are the users (how many hits they generate)
- What is the **data retention period** (detailed data older than 180 days (by default) are removed)

#### Example:

500 users \* 20 clicks per day \* 20 working days per month \* 11 working months = about 2.2 millions of clicks per year.

HarePoint Analytics for SharePoint stores two sets of data: **detailed** (daily) data and **summary** (monthly) data.

For the **detailed** data, database with 2.2 million hits will have the size of about **15 GB**, but if keeping only the **summary** data, it will take only about **40 MB**.

With the default settings, the product stores detailed data for 180 days, older detailed data are deleted. Summary data are never deleted. (More details available in <u>Setting the data retention period</u> chapter).

That is, if the average number of hits per month remains the same over a long time range, the database size will establish at size as of 180 days and then will fluctuate around that value.

#### 5.3.1. Growth rate of the statistics database

Hits count	DB_size	reserved	data	index_size	unused
0.5 million	5.5 GB	2.8 GB	1.0 GB	1.7 GB	14 MB
1.0 million	6.2 GB	3.2 GB	1.1 GB	1.9 GB	17 MB
2.5 million	19.3 GB	10.0 GB	3.4 GB	5.9 GB	25 MB
3.5 million	31.0 GB	16.0 GB	5.5 GB	9.5 GB	26 MB
5.5 million	37.4 GB	19.3 GB	6.6 GB	11.4 GB	28 MB
8.5 million	41.4 GB	21.3 GB	7.3 GB	12.7 GB	30 MB

**Disclaimer:** The indicated values can only serve as a rough estimation.

*Hits count* – number of hits stored in the database

DB\_size – the total database size

The next columns provide more detailed breakdown: **Reserved** – amount of total reserved space for the database **Data** – amount of space used by the data for the database **Index\_Size** – amount of space used by the database indexes **Unused** – amount of unused space in the database

# 6. Installation and deployment

Download the distributive package (a self-extracting EXE file) from <u>HarePoint.com</u> site and unpack it to a temporary folder on one of the Web Front-End servers.

**Important note: The installation is started from one of the Web Front-End servers**! During the deployment, all necessary components will be automatically copied to other servers in SharePoint farm.

# 6.1. Prerequisites

Here is a list of prerequisites to be checked before starting installation and deployment of the product.

Make sure that:

- 1. You have the distributive for latest version of the product check this at <u>HarePoint.com/downloads</u>
- This distributive is for the correct version of SharePoint: SharePoint SE/2019/2016/2013 (note there are three products available on HarePoint.com: HarePoint Analytics for SharePoint 2007, 2010, and SE/2019/2016/2013).
- 3. The SharePoint farm is configured completely (there are no pending administrative jobs).
- 4. The web-sites and SharePoint Central Administration web-site are working properly.
- 5. All files **web.config** are not write-protected.

In case of **automatic installation and deployment** using Installer (Setup.exe) the mentioned above prerequisites will also be checked automatically.

In case of **manual installation and deployment**, in addition to the above prerequisites, check the following:

6. Availability of **PowerShell** console, running as Administrator, with SharePoint PowerShell snap-in added:

Add-PSSnapin Microsoft.Sharepoint.Powershell

- 7. You have **farm administrator** permissions in SharePoint and **full administrator permissions** in Windows Server on **all servers** in your SharePoint farm.
- 8. Make sure that Administration Service is started.
- 9. Make sure that **SharePoint Timer Service** is started.

# 6.2. Distributive package

The product **distributive package** contains the following files and folders:

- Analytics Tools2013 and Analytics Tools folders containing the special utility.
- Install folder
  - **net35** and **net40** folders containing a program library for the installation tool
  - o Resources the folder contains all necessary files to deploy HarePoint Analytics manually
  - Setup.exe.config XML files with the directions for the installation tool.
- **ModernWebPart** folder containing app file to add HarePoint Analytics web-part for Modern Pages; not used for product installation
- Installation.log this file is created when the installation tool is started. It contains installation logs.
- Setup.exe executable file to start the installation tool

HarePoint Analytics for SharePoint can be deployed either in **automatic (recommended)** or in **manual** mode.

## 6.3. Automatic installation and deployment using Setup.exe

The automatic installation and deployment is performed by a special tool (Installer).

Go to one of the Web Front-End servers where you have the distributive package unpacked. Run Setup.exe.

At the first step, the installation tool checks the version of SharePoint installed.

If an incorrect distributive package of the product has been downloaded, the Installer would display an error message.

If the appropriate version is detected, you will see the following window:

HarePoint Analytics for SharePoint	
HarePoint Analytics for SharePoint	
Welcome to the HarePoint Analytics for SharePoint setup wizard.	
<ul> <li>This setup wizard will install and deploy the following solutions to your SharePoint 2016 fam:</li> <li>1. HarePoint Analytics for SharePoint 2016/2019</li> <li>2. Modern Web Part resources for HarePoint Analytics</li> </ul>	
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At the next step, the installation tool checks the prerequisites and the permissions to install and deploy the product. If everything is OK, you will see the following window:

	HarePoint Analytics for SharePoint	
Che	erequisities ecking if HarePoint Analytics for SharePoint can be installed from this chine.	
0	Checking if solutions exist in package. Solutions are detected.	^
	Checking if solution 'HarePoint Analytics for SharePoint 2016/2019' file exists. Solution file C:\Users\AdminSP2016\Desktop\HPA 16.10\Install\Resources\2016\HarePointAnalyticsForSharePoint2016.wsp was found.	
0	Checking if solution 'HarePoint Analytics for SharePoint 2016/2019' is already installed. Solution 'HarePoint Analytics for SharePoint 2016/2019' is installed (version 16.10.0.0).	
<b>°</b>	Checking if solution 'Modem Web Part resources for HarePoint Analytics' file exists. Solution file C:\Users\AdminSP2016\Desktop\HPA 16.10\Install\Resources\2016\HarePointAnalyticsModemWebPart.wsp was found.	≡
	Checking if solution 'Modern Web Part resources for HarePoint Analytics' is already installed. Solution 'Modern Web Part resources for HarePoint Analytics' is installed (version 1.0.3.0).	
	Checking for updates No new version (current version: 16.10.0.0).	~
All cł	necks succeeded. Please click Next to proceed with the installation.	¥
www.ł	harepoint.com	]

If you see a red mark in the list – you should fix the problem before continuing the installation.

At the next step, you should read and accept the License Agreement:

HarePoint Analytics for SharePoint	
End-User License Agreement Please read the following license agreement carefully	
License Agreement is concluded between MAPILab Ltd. (hereinafter Mapilab) and you (the collective user, an authorized representative of a commercial or government organization or private person).         Installation and usage of the software product HarePoint Analytics for SharePoint (hereinafter the Product) by you, including user programs and report packs, indicates your acceptance of all points of the license agreement, set forth below. If you do not agree with the proposed agreement, then you are obligated to refuse installing and using the Product.         I. Terms used in this Agreement         I accept the terms in the License Agreement	
www.harepoint.com	

Only for SharePoint 2013: optionally select to install resources for 2010 UI sites.

If you do not have such sites, leave the second checkbox unchecked:

HarePoint Analytics for SharePoint	
Solutions Select solutions to install	
<ul> <li>HarePoint Analytics for SharePoint 2013 (Required)</li> <li>HarePoint Analytics for SharePoint 2013 Resources for 2010 UI</li> </ul>	
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At the next step, you should select Site Collections where data collection feature need to be activated automatically after the installation is completed (feature can be activated or deactivated at any time later, if necessary).

If you are not sure, start with few site collections:

HarePoint Analytics for SharePoint
Deployment Targets Select deployment targets for 'HarePoint Analytics for SharePoint 2016/2019'.
Select Site Collections to activate features.
Image: All Web Applications         Image: All Web Applications
Web Applications / Site Collections
www.harepoint.com

**Only for SharePoint 2013:** If you have previously selected to install resources for 2010 UI sites, **at the next step** you would also need to select the 2010 UI site collections where data collection feature need to be activated automatically after installation is complete (feature can be activated or deactivated at any time later):

(Note: in the example on the screenshot none of the site collections have 2010 UI sites, so the option is not available in that environment)

HarePoint Analytics for SharePoint		
Deployment Targets Select deployment targets for 'HarePoint Analytics for SharePoint 2013 Resources for 2010 UI'.		
Select Site Collections to activate features. Warning! Select only the site collections where 2010 user interface is used.		
Web Applications / Site Collections		
www.harepoint.com		

When you click "**Next**", the product deployment will be started and you will see the window with the status bar and deployment log:

HarePoint Analytics for SharePoint				
Installation Progress				
Please wait. Press Cancel to stop.				
Waiting for deployment job completion.				
Installation session started at 05.07.2021 21:45:54. Executing of the installation actions started. Start adding solution 'HarePoint Analytics for SharePoint 2016/2019' (HarePointAnalyticsForSharePoint2016.wsp). The 'HarePoint Analytics for SharePoint 2016/2019' solution was successfully added to store. Start deploying solution 'HarePoint Analytics for SharePoint 2016/2019' (HarePointAnalyticsForSharePoint2016.wsp). Finish deploying solution 'HarePoint Analytics for SharePoint 2016/2019' (HarePointAnalyticsForSharePoint2016.wsp). Waiting for deployment job completion (solution HarePoint Analytics for SharePoint 2016/2019' (JarePointAnalyticsForSharePoint2016.wsp).	· ·			
www.harepoint.com	<u>C</u> ancel			

When the deployment is finished, you will see message **Installation completed successfully** below the status bar:

HarePoint Analytics for SharePoint	
Installation Progress Completed	
Installation completed successfully	
Site Collection feature MLStat Site '3335bc04-9a92-41b0-b05e-5fa2c08e149a' activated in http://sp2016-prev. Site Collection feature MLStat Site '3335bc04-9a92-41b0-b05e-5fa2c08e149a' activated in http://sp2016-prev/sites/firstone. Finish activating site collection features. Finish activating features for solution HarePoint Analytics for SharePoint 2016/2019. Start activating features for solution Modem Web Part resources for HarePoint Analytics. Finish activating features for solution Modem Web Part resources for HarePoint Analytics. Start executing command "stsadm.exe -o mlstrestartsptimer" Command executed successfully. Start executing command "stsadm.exe -o mlstcopyappbincontent" Command executed successfully. Executing of the installation actions completed. Installation session completed at 05.07.2021 21:47:38.	
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Click **Next**. The product is now installed and deployed.

HarePoint Analytics	for SharePoint		
Completion			
Work of the installation wizard completed successfully.			
Open product configuration page Press Finish to close this wizard.			
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The Installer by default proposes to **open the product configuration page** (which is located at Central Administration – Monitoring – HarePoint Analytics Settings) in a browser window.

Click **Finish** to exit the installation tool.

**Important note:** the Initial configuration is required to start the data collection, please proceed to <u>Initial</u> <u>Settings</u> section of the Administrator guide.

# 6.4. Manual installation and deployment

#### HarePoint Analytics for SharePoint SE/2019/2016

Please read carefully the **Installation and deployment** area of the **Administrator guide** before the installation.

Go to **one of the Web Front-End servers** where you have the distributive package unpacked. This location is further referred to as *opth\_to\_distributive*.

The distributive contains a folder "<path\_to\_distributive>\Install\Resources\2016" with all the necessary files to deploy the product manually:

HarePointAnalyticsForSharePoint2016.wsp – the solution file that should be added to the repository of solutions in SharePoint.

**HarePointAnalyticsModernWebPart.wsp** – the solution file for HarePoint Analytics web-part for Modern Pages (optional).

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tools
HarePointAnalyticsForSharePoint2016.wsp
HarePointAnalyticsModernWebPart.wsp

#### Open the **PowerShell console** as **Administrator**.

Make sure the SharePoint PowerShell snap-in is added:

#### Add-PSSnapin Microsoft.Sharepoint.Powershell

Run the following commands:

- 2. Install-SPSolution -Identity HarePointAnalyticsForSharePoint2016.wsp -GACDeployment -force to deploy the solution package to the SharePoint farm. The deployment will be started immediately.
- 3. After running **Install-SPSolution** cmdlet, it is necessary to wait until the solution is deployed on all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

#### Get-SPSolution -Identity HarePointAnalyticsForSharePoint2016.wsp

If deployment of this solution is completed, "**True**" will be indicated under the "**Deployed**" section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

Optionally, if you are going to use HarePoint Analytics web-part on Modern Pages, deploy the additional WSP file in a similar way:

- Add-SPSolution -LiteralPath cdistributive>\Install\Resources\2016\
  HarePointAnalyticsModernWebPart.wsp
  to add a solution file to the solution store.
- 5. Install-SPSolution -Identity HarePointAnalyticsModernWebPart.wsp -GACDeployment -force to deploy the solution package to the SharePoint farm. The deployment will be started immediately.
- 6. After running **Install-SPSolution** cmdlet, it is necessary to wait until the solution is deployed on all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

Get-SPSolution -Identity HarePointAnalyticsModernWebPart.wsp

If deployment of this solution is completed, "**True**" will be indicated under the "**Deployed**" section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

Finally, the two administrative commands to complete the deployment: (these commands use the special utility shipped with the product – use the distributive package from version 16.12 or later!)

7. cpath\_to\_distributive>\Analytics Tools\HarePointAnalyticsUtil.exe copy-appbincontent
This will copy the necessary resource files to all servers in the SharePoint farm.
This command is equivalent to running Install-SPApplicationContent on each SharePoint server in a
farm.

8. *<path\_to\_distributive>*\Analytics Tools\HarePointAnalyticsUtil.exe restart-sptimer This command will restart SharePoint Timer Service on **each** server in the farm.

As a result, HarePoint Analytics solution will be deployed to all servers.

**Important note:** You should now proceed with initial configuration – refer to **Initial Settings** area of the **Administrator guide** for more details.

In particular, you need to activate data collection feature on those site collections where statistical data should be collected. **No data will be collected until that is done!** 

#### **HarePoint Analytics for SharePoint 2013**

The process of installing HarePoint Analytics for SharePoint 2013 is identical both for SharePoint Foundation 2013 and SharePoint Server 2013.

Please read carefully the **<u>Preparation for deployment</u>** area of the **Administrator guide** before the installation.

Go to **one of the Web Front-End servers** where you have the distributive package unpacked. This location is further referred to as *opath\_to\_distributive>*.

The distributive contains a folder "<path\_to\_distributive>\Install\Resources\2013" with all the necessary files to deploy the product manually:

#### HarePointAnalyticsForSharePoint2013.wsp and

HarePointAnalyticsForSharePoint2013Resources.wsp – the solution files that should be added to the repository of solutions in SharePoint.

퉬 tools
HarePointAnalyticsForSharePoint2013.wsp
HarePointAnalyticsForSharePoint2013Resources.wsp

#### Open the **PowerShell console** as **Administrator**.

Make sure the SharePoint PowerShell snap-in is added:

#### Add-PSSnapin Microsoft.Sharepoint.Powershell

Run the following commands:

- Add-SPSolution -Literalpath <path\_to\_distributive>\Install\Resources\2013\HarePointAnalyticsForSharePoint2013.wsp to add a solution file to the solution store.
- 2. Install-SPSolution -Identity HarePointAnalyticsForSharePoint2013.wsp -GACDeployment -force to deploy the solution package to the SharePoint farm. The deployment will be started immediately.
- 3. After running **Install-SPSolution** cmdlet, it is necessary to wait until the solution is deployed on all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

#### Get-SPSolution -Identity HarePointAnalyticsForSharePoint2013.wsp

If deployment of this solution is completed, "True" will be indicated under the "Deployed" section.

You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

Now the same for the second WSP package:

- Add-SPSolution -Literalpath cdistributive>\Install\Resources\2013\
  HarePointAnalyticsForSharePoint2013Resources.wsp
  to add a solution file to the solution store.
- Install-SPSolution -Identity HarePointAnalyticsForSharePoint2013Resources.wsp -GACDeployment -force to deploy the solution package to the SharePoint farm. The deployment will be started immediately.
- 6. After running **Install-SPSolution** cmdlet, it is necessary to wait until the solution is deployed on all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

**Get-SPSolution -Identity HarePointAnalyticsForSharePoint2013Resources.wsp** If deployment of this solution is completed, **"True"** will be indicated under the **"Deployed"** section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

Finally, the two administrative commands to complete the deployment: (these commands use the special utility shipped with the product – use the distributive package from version 15.17 or later!)

- <path\_to\_distributive>\Analytics Tools2013\HarePointAnalyticsUtil.exe copy-appbincontent
  This will copy the necessary resource files to all servers in the SharePoint farm.
  This command is equivalent to running Install-SPApplicationContent on each SharePoint server in a
  farm.
- 8. *<path\_to\_distributive>*\Analytics Tools2013\HarePointAnalyticsUtil.exe restart-sptimer This command will restart SharePoint Timer Service on **each** server in the farm.

As a result, HarePoint Analytics solution will be deployed to all servers.

**Important note:** You should now proceed with initial configuration – refer to <u>Initial Settings</u> area of the **Administrator guide** for more details.

In particular, you need to activate data collection feature on those site collections where statistical data should be collected. **No data will be collected until that is done!** 

# 7. Upgrading the product

We are constantly working to improve the product and strongly recommend to use the latest available version of the product.

Download the distributive package (a self-extracting EXE file) from <u>HarePoint.com</u> site and unpack it to a temporary folder on **one of the Web Front-End servers**.

**Important note: The upgrade is started from one of the Web Front-End servers**! During the upgrade, all necessary components will be automatically copied to other servers in SharePoint farm.

# 7.1. Prerequisites

Here is a list of prerequisites to be checked before upgrading the product.

Make sure that:

- 1. You have the distributive for latest version of the product check this at <u>HarePoint.com/downloads</u>
- 2. This distributive is for the correct version of SharePoint: SharePoint SE/2019/2016/2013 (note there are three products available on HarePoint.com: HarePoint Analytics for SharePoint 2007, 2010, and SE/2019/2016/2013).
- 3. The SharePoint farm is configured completely (there are no pending administrative jobs).
- 4. The web-sites and SharePoint Central Administration web-site are working properly.
- 5. All files **web.config** are not write-protected.

In case of **automatic upgrade** using Installer (Setup.exe) the mentioned above prerequisites will also be checked automatically.

In case of **manual upgrade**, in addition to the above prerequisites, check the following:

6. Availability of **PowerShell** console, running as Administrator, with SharePoint PowerShell snap-in added:

Add-PSSnapin Microsoft.Sharepoint.Powershell

- 7. You have **farm administrator** permissions in SharePoint and **full administrator permissions** in Windows Server on **all servers** in your SharePoint farm.
- 8. Make sure that **Administration Service** is started.
- 9. Make sure that **SharePoint Timer Service** is started.

# 7.2. Distributive package

The product **distributive package** contains the following files and folders:

- Analytics Tools2013 and Analytics Tools folders containing the special utility
- Install folder
  - o net35 and net40 folders containing a program library for the installation tool
  - o Resources the folder contains all necessary files to deploy HarePoint Analytics manually
  - $\circ~$  Setup.exe.config XML files with the directions for the installation tool.
- **ModernWebPart** folder containing app file to add HarePoint Analytics web-part for Modern Pages; not used for product upgrade
- Installation.log this file is created when the installation tool is started. It contains installation logs.

• Setup.exe – executable file to start the installation tool

HarePoint Analytics for SharePoint can be updated either in **automatic (recommended)** or in **manual** mode.

### 7.3. Automatic upgrade using Setup.exe

The automatic upgrade of the product is performed by a special tool (Installer).

Go to one of the Web Front-End servers where you have unpacked the distributive package. Run Setup.exe.

At the first step, the installation tool checks the version of SharePoint that is installed.

If an incorrect distributive package of the product has been downloaded, the Installer would display an error message.

If the appropriate version is detected, you will see the following window:

HarePoint Analytics for SharePoint	
HarePoint Analytics for SharePoint	
Welcome to the HarePoint Analytics for SharePoint setup wizard.	
<ul> <li>This setup wizard will install and deploy the following solutions to your SharePoint 2016 farm:</li> <li>1. HarePoint Analytics for SharePoint 2016/2019</li> <li>2. Modern Web Part resources for HarePoint Analytics</li> </ul>	
www.harepoint.com	<u>C</u> ancel
At the next step, the installation tool checks the prerequisites and permissions to upgrade the product. If everything is OK, you will see the following window:

Prerequisities
Checking if HarePoint Analytics for SharePoint can be installed from this machine.
<ul> <li>Checking if solutions exist in package. Solutions are detected.</li> <li>Checking if solution 'HarePoint Analytics for SharePoint 2016/2019' file exists. Solution file C:\Users\AdminSP2016\Desktop\HPA 16.10\Install\Resources\2016\HarePointAnalyticsForSharePoint2016.wsp was found.</li> <li>Checking if solution 'HarePoint Analytics for SharePoint 2016/2019' is already installed. Solution 'HarePoint Analytics for SharePoint 2016/2019' is installed (version 16.10.0.0).</li> <li>Checking if solution 'Modem Web Part resources for HarePoint Analytics' file exists. Solution file C:\Users\AdminSP2016\Desktop\HPA 16.10\Install\Resources\2016\HarePointAnalyticsModemWebPart.wsp was found.</li> <li>Checking if solution 'Modem Web Part resources for HarePoint Analytics' is already installed. Solution 'Modem Web Part resources for HarePoint Analytics' is already installed. Solution 'Modem Web Part resources for HarePoint Analytics' is installed (version 1.0.3.0).</li> <li>Checking for updates No new version (current version: 16.10.0.0).</li> <li>All checks succeeded. Please click Next to proceed with the installation.</li> </ul>
www.harepoint.com

If you see a red mark in the list – you should fix the problem before continuing the upgrade of the product. **At the next step**, select **Upgrade** and click the **Next** button:

HarePoint Analytics for SharePoint
Upgrade Please select the operation you wish to perform
HarePoint Analytics for SharePoint is already installed. What would you like to do?
Upgrade     Upgrade the solutions.
<ul> <li>Remove</li> <li>Retract the solutions and delete them from the SharePoint solution store.</li> <li>Remove Data</li> </ul>
Please click Next to start the selected operation.
www.harepoint.com

When you click **Next**, the product upgrading process will be started and you will see the window with the status bar and logs:

HarePoint Analytics for SharePoint	
Upgrading Progress	:
Please wait. Press Cancel to stop.	j
Creating job for upgrading the solution.	
Executing of the installation actions started. Start deactivating features for solution HarePoint Analytics for SharePoint 2016/2019. Web application 'SharePoint - 80'. Site feature MLStatSite '3335bc04-9a92-41b0-b05e-5fa2c08e149a' deactivated in http://sp2016-prev. Site feature MLStatSite '3335bc04-9a92-41b0-b05e-5fa2c08e149a' deactivated in http://sp2016- prev/sites/firstone. Finish deactivating features for solution HarePoint Analytics for SharePoint 2016/2019. Start deactivating features for solution Modem Web Part resources for HarePoint Analytics. Finish deactivating features for solution Modem Web Part resources for HarePoint Analytics. Start retracting solution 'HarePoint Analytics for SharePoint 2016/2019' (HarePointAnalyticsForSharePoint2016.wsp). Finish retracting solution 'HarePoint Analytics for SharePoint 2016/2019' (HarePointAnalyticsForSharePoint2016.wsp). Waiting for deployment job completion (solution HarePoint Analytics for SharePoint 2016/2019'	
www.harepoint.com	]

When the upgrade is complete, you will see the message **Installation completed successfully** below the status bar:

HarePoint Analytics for SharePoint	
Upgrading Progress	
Completed	
Installation completed successfully Site Collection feature MLStatSite '3335bc04-9a92-41b0-b05e-5fa2c08e149a' activated in http://sp2016-prev. Site Collection feature MLStatSite '3335bc04-9a92-41b0-b05e-5fa2c08e149a' activated in http://sp2016-prev/sites/firstone. Finish activating site collection features. Finish activating features for solution HarePoint Analytics for SharePoint 2016/2019. Stat activating features for solution Modem Web Part resources for HarePoint Analytics. Finish activating features for solution Modem Web Part resources for HarePoint Analytics. Stat executing command "stsadm.exe -o mlstrestartsptimer" Command executed successfully. Stat executing command "stsadm.exe -o mlstcopyappbincontent" Command executed successfully. Executing of the installation actions completed. Installation session completed at 05.07.2021 21:44:15.	
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Click **Next** and **Finish** to close the wizard. The product is now upgraded.

All the settings and configuration normally remain so no additional actions are required. Despite this, it is recommended to make sure everything is in place:

- B. Go to the **SharePoint Central Administration Monitoring** and check the HarePoint Analytics settings:
- Both Message Queue and Main databases are connected
- Your custom **schedule** for the data collection and processing **timer jobs** is correct (if you've changed anything from default schedule)
- Your custom Statistics Filters (if you are using the data collection filters) are in place
- Statistics policies are correct
- License keys are entered (not a Trial or Trial Expired is indicated)

B. Go to **Site Collection Administration** and make sure **HarePoint Analytics for SharePoint** feature is activated on the site collections where you need to collect statistical information.

If you have a large number of site collections, it is convenient to check this using a special **HarePoint Analytics Utility**, please refer to **HarePoint Analytics Maintenance Guide** for more details.

## 7.4. Manual upgrade

#### HarePoint Analytics for SharePoint SE/2019/2016

Please read carefully the <u>Upgrading the product</u> area of the **Administrator guide** before starting the product upgrade.

Go to one of the Web Front-End servers where you have the distributive package unpacked.

This location is further referred to as *<path\_to\_distributive>*.

The distributive contains a folder "<path\_to\_distributive>\Install\Resources\2016" with all the necessary files to upgrade the product manually:

HarePointAnalyticsForSharePoint2016.wsp – the solution file that should be added to the repository of solutions in SharePoint.

HarePointAnalyticsModernWebPart.wsp – the solution file for HarePoint Analytics web-part for Modern Pages (optional).

b tools HarePointAnalyt

] HarePointAnalyticsForSharePoint2016.wsp

] HarePointAnalyticsModernWebPart.wsp

Open the **PowerShell console** as **Administrator**. Make sure the SharePoint PowerShell snap-in is added:

#### Add-PSSnapin Microsoft.Sharepoint.Powershell

Run the following commands:

 Update-SPSolution -Identity HarePointAnalyticsForSharePoint2016.wsp -LiteralPath <path\_to\_distributive>\Install\Resources\2016\HarePointAnalyticsForSharePoint2016.wsp -GACDeployment

to upgrade the solution.

2. After running **Update-SPSolution** cmdlet, it is necessary to wait until the solution is updated on all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

#### Get-SPSolution -Identity HarePointAnalyticsForSharePoint2016.wsp

If deployment of this solution is completed, "**True**" will be indicated under the "**Deployed**" section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

Optionally, if you are using HarePoint Analytics Modern Pages web-part, upgrade the corresponding WSP solution (may not be installed previously):

to upgrade the solution.

4. After running **Update-SPSolution** cmdlet, it is necessary to wait until the solution is updated on all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

#### Get-SPSolution -Identity HarePointAnalyticsModernWebPart.wsp

If deployment of this solution is completed, "**True**" will be indicated under the "**Deployed**" section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

Finally, three administrative commands to complete the update:

(these commands use the special utility shipped with the product – use the distributive package from version 16.12 or later!)

- 5. capath\_to\_distributive>\Analytics Tools\HarePointAnalyticsUtil.exe complete-upgrade
  This command is important to finalize the product update. In particular, it runs the built-in SQL
  scripts to update the database version.
- 6. compatibility comparison of the second seco
- 7. restart-sptimer
  This command will restart SharePoint Timer Service on each server in the farm.

As a result, HarePoint Analytics will be upgraded on all servers in the farm.

All the settings and configuration normally remain so no additional actions are required. Despite this, it is recommended to make sure everything is in place:

A. Go to the SharePoint Central Administration web site and check the HarePoint Analytics settings:

- Both Message Queue and Main databases are connected
- Your custom **schedule** for the data collection and processing **timer jobs** is correct (if you've changed anything from default schedule)
- Your custom Statistics Filters (if you are using the data collection filters) are in place
- Statistics policies are correct
- License keys are entered (not a Trial or Trial Expired is indicated)

B. Go to **Site Collection Administration** and make sure **HarePoint Analytics for SharePoint** feature is activated on the site collections where you need to collect statistical information.

If you have a large number of site collections, it is convenient to check this using a special **HarePoint Analytics Utility**, please refer to <u>HarePoint Analytics Maintenance Guide</u> – HarePoint Analytics Utility for more details.

#### HarePoint Analytics for SharePoint 2013

The process for upgrading HarePoint Analytics for SharePoint 2013 is identical both for SharePoint Foundation 2013 and SharePoint Server 2013.

Please read carefully the <u>Upgrading the product</u> area of the **Administrator guide** before starting the product upgrade.

Go to **one of the Web Front-End servers** where you have the distributive package unpacked. This location is further referred to as *opth\_to\_distributive*.

The distributive contains a folder "<path\_to\_distributive>\Install\Resources\2013" with all the necessary files to upgrade the product manually:

#### HarePointAnalyticsForSharePoint2013.wsp and

HarePointAnalyticsForSharePoint2013Resources.wsp – the solution files that should be added to the repository of solutions in SharePoint.

🍌 tools	
HarePointAnalyticsForSharePoint2013.wsp	
HarePointAnalyticsForSharePoint2013Resources.v	vsp

Open the PowerShell console as Administrator.

Make sure the SharePoint PowerShell snap-in is added:

#### Add-PSSnapin Microsoft.Sharepoint.Powershell

Run the following commands:

1. Update-SPSolution -Identity HarePointAnalyticsForSharePoint2013.wsp -LiteralPath <path\_to\_distributive>\Install\Resources\2013\HarePointAnalyticsForSharePoint2013.wsp -GACDeployment

to upgrade the solution.

 After running Update-SPSolution cmdlet, it is necessary to wait until the solution is updated on all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

#### Get-SPSolution -Identity HarePointAnalyticsForSharePoint2013.wsp

If deployment of this solution is completed, "**True**" will be indicated under the "**Deployed**" section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

Now the same for the second WSP package:

- Update-SPSolution -Identity HarePointAnalyticsForSharePoint2013Resources.wsp -LiteralPath cpath\_to\_distributive>\Install\Resources\2013\
  HarePointAnalyticsForSharePoint2013Resources.wsp -GACDeployment
  to upgrade the solution.
- 4. After running Update-SPSolution cmdlet, it is necessary to wait until the solution is updated on all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

Get-SPSolution -Identity HarePointAnalyticsForSharePoint2013Resources.wsp

If deployment of this solution is completed, "**True**" will be indicated under the "**Deployed**" section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

Finally, three administrative commands to complete the update:

(these commands use the special utility shipped with the product – use the distributive package from version 15.17 or later!)

- 5. cpath\_to\_distributive>\Analytics Tools2013\HarePointAnalyticsUtil.exe complete-upgrade
  This command is important to finalize the product update. In particular, it runs the built-in SQL
  scripts to update the database version.
  - 43 Upgrading the product | HarePoint.Com

- 6. compatibility compatib
- 7. *<path\_to\_distributive>*\Analytics Tools2013\HarePointAnalyticsUtil.exe restart-sptimer This command will restart SharePoint Timer Service on **each** server in the farm.

As a result, HarePoint Analytics will be upgraded on all servers in the farm.

All the settings and configuration normally remain so no additional actions are required. Despite this, it is recommended to make sure everything is in place:

- B. Go to the SharePoint Central Administration web site and check the HarePoint Analytics settings:
- Both Message Queue and Main databases are connected
- Your custom **schedule** for the data collection and processing **timer jobs** is correct (if you've changed anything from default schedule)
- Your custom Statistics Filters (if you are using the data collection filters) are in place
- Statistics policies are correct
- License keys are entered (not a Trial or Trial Expired is indicated)

B. Go to **Site Collection Administration** and make sure **HarePoint Analytics for SharePoint** feature is activated on the site collections where you need to collect statistical information.

If you have a large number of site collections, it is convenient to check this using a special **HarePoint Analytics Utility**, please refer to <u>HarePoint Analytics Maintenance Guide</u> – HarePoint Analytics Utility for more details.

## 8. Removing the product

**Note:** removing the product **will** remove all the settings but **will not** remove data in HarePoint Analytics SQL databases.

In case if you **plan** to install HarePoint Analytics in the future again, you would need to re-attach the existing databases and set up all the settings from scratch (including the license key).

In case if you **do not plan** to use HarePoint Analytics anymore and wish to clean up space, you would need to manually remove the two SQL databases for HarePoint Analytics.

Use the distributive package for currently installed version or download the distributive package (a self-extracting EXE file) from <u>HarePoint.com</u> site and unpack it to a temporary folder on **one of the Web Front-End servers**.

#### Important note: The removal process is started from one of the Web Front-End servers! During

the removal, all necessary components will be automatically removed from other servers in SharePoint farm.

### 8.1. Prerequisites

Here is a list of prerequisites to be checked before removing the product. Make sure that:

- 1. You have the distributive package for the currently installed or later version of the product check this at <a href="https://www.harepoint.com">HarePoint.com</a>
- 2. This distributive is for the correct version of SharePoint: SharePoint SE/2019/2016/2013 (note there are three products available on HarePoint.com: HarePoint Analytics for SharePoint 2007, 2010, and SE/2019/2016/2013).
- 3. The SharePoint farm is configured completely (there are no pending administrative jobs).
- 4. The web-sites and SharePoint Central Administration web-site are working properly.
- 5. All files web.config are not write-protected.

In case of **automatic removing** using Installer (Setup.exe) the mentioned above prerequisites will also be checked automatically.

In case of **manual removing**, in addition to the above prerequisites, check the following:

6. Availability of **PowerShell** console, running as Administrator, with SharePoint PowerShell snap-in added:

#### Add-PSSnapin Microsoft.Sharepoint.Powershell

- 7. You have **farm administrator** permissions in SharePoint and **full administrator permissions** in Windows Server on **all servers** in your SharePoint farm.
- 8. Make sure that Administration Service is started.
- 9. Make sure that **SharePoint Timer Service** is started.

### 8.2. Distributive package

The product **distributive package** contains the following files and folders:

- Analytics Tools2013 and Analytics Tools folders containing the special utility
- Install folder

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Removing the product | HarePoint.Com

- **net35** and **net40** folders containing a program library for the installation tool
- o Resources the folder contains all necessary files to deploy HarePoint Analytics manually
- $\circ~$  Setup.exe.config XML files with the directions for the installation tool.
- **ModernWebPart** folder containing app file to add HarePoint Analytics web-part for Modern Pages; not used for product uninstallation
- Installation.log this file is created when the installation tool is started. It contains installation logs.
- Setup.exe executable file to start the installation tool

HarePoint Analytics for SharePoint can be removed either in **automatic (recommended)** or in **manual** mode.

### 8.3. Automatic removing using Setup.exe

The installation, upgrading and removing the product are performed by a special tool.

Go to one of the Web Front-End servers where you have unpacked the distributive package. Run Setup.exe.

At the first step, the installation tool checks the version of SharePoint that is installed.

If an incorrect distributive package of the product has been downloaded, the Installer would display an error message.

If the appropriate version is detected, you will see the following window:

HarePoint Analytics for SharePoint	
HarePoint Analytics for SharePoint	
Welcome to the HarePoint Analytics for SharePoint setup wizard.	
This setup wizard will install and deploy the following solutions to your SharePoint 2016 farm: 1. HarePoint Analytics for SharePoint 2016/2019 2. Modern Web Part resources for HarePoint Analytics	
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At the next step, the installation tool checks the prerequisites and permissions to remove the product. If everything is OK, you will see the following window:

Pre	requisities	
	cking if HarePoint Analytics for SharePoint can be installed from this hine.	
0	Checking if solutions exist in package. Solutions are detected.	ŀ
0	Checking if solution 'HarePoint Analytics for SharePoint 2016/2019' file exists. Solution file C:\Users\AdminSP2016\Desktop\HPA 16.10\Install\Resources\2016\HarePointAnalyticsForSharePoint2016.wsp was found.	
0	Checking if solution 'HarePoint Analytics for SharePoint 2016/2019' is already installed. Solution 'HarePoint Analytics for SharePoint 2016/2019' is installed (version 16.10.0.0).	
0	Checking if solution 'Modern Web Part resources for HarePoint Analytics' file exists. Solution file C:\Users\AdminSP2016\Desktop\HPA 16.10\Install\Resources\2016\HarePointAnalyticsModernWebPart.wsp was found.	
0	Checking if solution 'Modern Web Part resources for HarePoint Analytics' is already installed. Solution 'Modern Web Part resources for HarePoint Analytics' is installed (version 1.0.3.0).	
Ø	Checking for updates	ļ
	No new version (current version: 16.10.0.0).	L
All ch	ecks succeeded. Please click Next to proceed with the installation.	<u>D1</u>
	Back Next Cancel	_

#### At the next step, select option "Remove" and click the Next button.

("Remove Data" option is non-functional for this product and should be ignored):

HarePoint Analytics for SharePoint	
Upgrade	
Please select the operation you wish to perform	
HarePoint Analytics for SharePoint is already installed. What would you like to do?	
O Upgrade Upgrade the solutions.	
<ul> <li>Remove</li> <li>Retract the solutions and delete them from the SharePoint solution store.</li> <li>Remove Data</li> </ul>	
Please click Next to start the selected operation.	
www.harepoint.com	<u>C</u> ancel

The product removing will start:

HarePoint Analytics for SharePoint
Removing Progress Please wait. Press Cancel to stop.
Waiting for deployment job completion.
Executing of the installation actions started. Start deactivating features for solution HarePoint Analytics for SharePoint 2016/2019. Web application 'SharePoint - 80'. Site feature MLStat Site '3335bc04-9a92-41b0-b05e-5fa2c08e149a' deactivated in http://sp2016-prev. Site feature MLStat Site '3335bc04-9a92-41b0-b05e-5fa2c08e149a' deactivated in http://sp2016- prev/sites/firstone. Finish deactivating features for solution HarePoint Analytics for SharePoint 2016/2019. Start deactivating features for solution Modem Web Part resources for HarePoint Analytics. Finish deactivating features for solution Modem Web Part resources for HarePoint Analytics. Start retracting solution 'HarePoint Analytics for SharePoint 2016/2019' (HarePointAnalyticsForSharePoint2016.wsp). Finish retracting solution 'HarePoint Analytics for SharePoint 2016/2019' (HarePointAnalyticsForSharePoint2016.wsp). Waiting for deployment job completion (solution HarePoint Analytics for SharePoint 2016/2019' Waiting for deployment job completion (solution HarePoint Analytics for SharePoint 2016/2019)
www.harepoint.com

When the product removing process is finished, you will see **Completed** message:

HarePoint Analytics for SharePoint	
Removing Progress	:==:
Completed	
Installation completed successfully	_
Finish retracting solution 'Modem Web Part resources for HarePoint Analytics' (HarePointAnalyticsModemWebPart.wsp). Waiting for deployment job completion (solution Modem Web Part resources for HarePoint Analytics) Deployment job completed (solution Modem Web Part resources for HarePoint Analytics). Last operation result: RetractionSucceeded, details: SP2016-PREV : The solution was successfully retracted, end time: 05.07.2021 21:43:51. Start removing solution 'Modem Web Part resources for HarePoint Analytics' (HarePointAnalyticsModemWebPart.wsp). The 'Modem Web Part resources for HarePoint Analytics' solution was successfully removed from store. Solution 'Modem Web Part resources for HarePoint Analytics' version was unregistered. Start executing command ''Resources\2016\tools\mlstadm.exe -o mlstrestartsptimer'' Command executed successfully. Executing of the installation actions completed. Installation session completed at 05.07.2021 21:44:15.	<     >
www.harepoint.com	<u>+</u>

Click **Next** and **Finish** buttons to exit the installation tool. The solution is now fully retracted and the product is removed from the SharePoint farm.

## 8.4. Manual removing

#### HarePoint Analytics for SharePoint SE/2019/2016

Please read carefully the <u>Removing the product</u> section of the **Administrator guide** before starting the removal of HarePoint Analytics for SharePoint 2016.

Go to **one of the Web Front-End servers** where you have the distributive package unpacked.

This location is further referred to as *<path\_to\_distributive>*. The distributive contains a folder "*<path\_to\_distributive>*\Install\Resources\2016" with all the necessary

files to retract the product manually:

**Tools** – a folder that contains a tool (mlstadm.exe) developed by HarePoint to perform post-uninstallation operations.

HarePointAnalyticsForSharePoint2016.wsp – the main solution file.

**HarePointAnalyticsModernWebPart.wsp** – the solution file for HarePoint Analytics web-part for Modern Pages (optional).

tools
 HarePointAnalyticsForSharePoint2016.wsp
 HarePointAnalyticsModernWebPart.wsp

### Open the **PowerShell console** as **Administrator**.

Make sure the SharePoint PowerShell snap-in is added:

#### Add-PSSnapin Microsoft.Sharepoint.Powershell

To remove the product from the SharePoint farm, run the following commands:

- 1. Uninstall-SPSolution -Identity HarePointAnalyticsForSharePoint2016.wsp -force to retract the solution.
- 2. After running **Uninstall -SPSolution** cmdlet, it is necessary to wait until the solution is retracted from all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

Get-SPSolution -Identity HarePointAnalyticsForSharePoint2016.wsp

If deployment of this solution is completed, "**True**" will be indicated under the "**Deployed**" section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

3. **Remove-SPSolution -Identity HarePointAnalyticsForSharePoint2016.wsp** to remove the solution.

If you were using HarePoint Analytics web-part for Modern Pages, remove the corresponding WSP solution (may not be installed previously):

- 4. Uninstall-SPSolution -Identity HarePointAnalyticsModernWebPart.wsp -force
- 5. After running **Uninstall -SPSolution** cmdlet, it is necessary to wait until the solution is retracted from all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

#### Get-SPSolution -Identity HarePointAnalyticsModernWebPart.wsp

If deployment of this solution is completed, "**True**" will be indicated under the "**Deployed**" section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

6. **Remove-SPSolution -Identity HarePointAnalyticsModernWebPart.wsp** to delete the solution.

Finally, the administrative command to complete the removal:

7. reach\_to\_distributive>\Install\Resources\2016\tools\mlstadm.exe -o mlstrestartsptimer
This command will restart SharePoint Timer Service on each server in the farm.

HarePoint Analytics for SharePoint SE/2019/2016 is now fully retracted and removed from your SharePoint farm.

**Note:** the two SQL databases for HarePoint Analytics are **not removed**. If necessary, remove them manually.

#### HarePoint Analytics for SharePoint 2013

Please read carefully the <u>Removing the solution</u> section of the **Administrator guide** before starting the removal of HarePoint Analytics for SharePoint 2013

The process of removing HarePoint Analytics for SharePoint 2013 is identical both for SharePoint Foundation 2013 and SharePoint Server 2013.

Go to **one of the Web Front-End servers** where you have the distributive package unpacked.

This location is further referred to as <path\_to\_distributive>.

The distributive contains a folder "<path\_to\_distributive>\Install\Resources\2013" with all the necessary files to retract the product manually:

**Tools** – a folder that contains a tool (mlstadm.exe) developed by HarePoint to perform post-uninstallation operations.

HarePointAnalyticsForSharePoint2013.wsp – the main solution file HarePointAnalyticsForSharePoint2013Resources.wsp – the additional solution file.

퉬 tools
HarePointAnalyticsForSharePoint2013.wsp
HarePointAnalyticsForSharePoint2013Resources.wsp

#### Open the **PowerShell console** as **Administrator**.

Make sure the SharePoint PowerShell snap-in is added:

#### Add-PSSnapin Microsoft.Sharepoint.Powershell

To remove the product from the SharePoint farm, run the following commands:

- 1. Uninstall-SPSolution -Identity HarePointAnalyticsForSharePoint2013.wsp -force to retract the solution.
- 2. After running **Uninstall -SPSolution** cmdlet, it is necessary to wait until the solution is retracted from all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

#### Get-SPSolution -Identity HarePointAnalyticsForSharePoint2013.wsp

If deployment of this solution is completed, "**True**" will be indicated under the "**Deployed**" section. You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

3. **Remove-SPSolution -Identity HarePointAnalyticsForSharePoint2013.wsp** to remove the solution.

Now the same for the second WSP package:

- 4. Uninstall-SPSolution Identity HarePointAnalyticsForSharePoint2013Resources.wsp force to retract the solution.
- 5. After running **Uninstall -SPSolution** cmdlet, it is necessary to wait until the solution is retracted from all servers of the SharePoint Farm. To check the current status of the solution, run the following command:

#### Get-SPSolution -Identity HarePointAnalyticsForSharePoint2013Resources.wsp

If deployment of this solution is completed, "True" will be indicated under the "Deployed" section.

You can then continue the installation of HarePoint Analytics, if not – wait for a while and check the status again.

6. **Remove-SPSolution -Identity HarePointAnalyticsForSharePoint2013Resources.wsp** to delete the solution.

Finally, the administrative command to complete the removal:

7. reaction of the service of the service of the server of the serv

HarePoint Analytics for SharePoint 2013 is now fully retracted and removed from your SharePoint farm. **Note:** the two SQL databases for HarePoint Analytics are **not removed**. If necessary, remove them manually.

### 9. Migration

When a site is restored from a backup or is moved to another site collection or farm, the site identifiers are changed. In this case, the web-site will be recognized as a new one and data collection will be started from scratch. You will not see previously collected data for that site in the reports. To avoid this issue, a migration of the statistics data is required as well.

This Guide describes three common scenarios:

- You upgrade from SharePoint 2007/2010 to SharePoint 2013/2016/2019/SE
- <u>Site collections are migrated from one SharePoint 2013/2016/2019/SE farm to another</u>
- <u>Sites are migrated from one site collection to another within the same farm, or sites are restored</u> <u>from a backup</u>.

# 9.1. Migration from HarePoint Analytics for SharePoint 2007/2010 to SharePoint SE/2019/2016/2013

In this scenario, you are upgrading from SharePoint 2007/2010 to SharePoint SE/2019/2016/2013:

- 2007 -> 2013
- 2007 -> 2016
- 2007 -> 2019
- 2007 -> SE
- 2010 -> 2013
- 2010 -> 2016
- 2010 -> 2019
- 2010 -> SE

HarePoint Analytics need to be transferred to a 2013/2016/2019/SE farm and uninstalled on the older farm.

**Note:** The described approach presumes that by the time of uninstallation there is no important user activity on the older farm that needs to be tracked by HarePoint Analytics.

**Attention!** Uninstall HarePoint Analytics for SharePoint 2007/2010 before migrating the SharePoint content database!

**Important note:** HarePoint Analytics for SharePoint 2007, HarePoint Analytics for SharePoint 2010, HarePoint Analytics for SharePoint 2013, and HarePoint Analytics for SharePoint 2016/2019/SE are four separate products, it is technically not possible to upgrade from one product to another. It is only possible to migrate the collected data.

#### Step 1: Stop the data processing

Go to **SharePoint Central Administration -> Monitoring ->HarePoint Analytics settings**, locate the following timer jobs and disable them:

- Processor of message queue
- Periodic data collection
- Preliminary data preparation
- Monthly data preparation
- Data collection from Active Directory

After that, it is necessary to wait while all these job are finished (if any was running):

Go to **SharePoint Central Administration -> Monitoring -> Timer Job statuses** and make sure that none of the timer jobs whose name start with "**HarePoint Analytics for SharePoint...**" is listed in the "Running" jobs.

If the job is listed there, you need to wait. Do not change the database while any of HarePoint timer jobs processes data.

**Note:** When all running HarePoint Analytics job are completed, the product will continue collecting data into the Queue Database but these data will not be processed and will not be moved to Main Database. These data **will not be migrated** to a new farm.

Therefore, by that time there should be no important user activity on the older farm that needs to be tracked by HarePoint Analytics.

#### Step 2. Uninstall HarePoint Analytics from the older farm

Before starting the migration of your SharePoint content database, you should uninstall HarePoint Analytics.

If it is not done and you migrate the SharePoint Content Database with HarePoint Analytics installed, you will get a lot of errors and warnings in SharePoint ULS logs, since the new SharePoint will try to access the incompatible components from older HarePoint Analytics product. To learn more about removing the product, please refer to **Removing the solution** area of the respective **HarePoint Analytics for SharePoint 2007/2010 Administrator Guide**.

#### Step 3: Upgrade SharePoint 2007/2010 to 2013/2016/2019/SE

Once HarePoint Analytics for SharePoint 2007/2010 is removed, you can migrate the SharePoint content databases.

#### Step 4: Install HarePoint Analytics on SharePoint 2013/2016/2019/SE farm

After SharePoint upgrade is completed, the new 2013/2016/2019/SE farm is configured, all necessary sites and site collections are online and working properly, you can install HarePoint Analytics for SharePoint

2013/2016/2019/SE. To learn more about the product installation please refer to **Installation and deployment** of this **Administrator Guide**.

#### Step 5: Attach HarePoint Analytics database, map site collections

After the installation of HarePoint Analytics for SharePoint 2013/2016/2019/SE, you can connect the same database that has been used by HarePoint Analytics for SharePoint 2010/2007. Note, that should be performed by using a special **Migration Wizard**, because the data collected previously are **referring to old identifiers** of the web-sites and site collections, which have been changed during the migration of the SharePoint content databases. That is, if you simply connect the existing database you will not see old data, but only the new data that have been collected in the new SharePoint 2013/2016/2019/SE. To learn more about how to use the **Migration wizard**, refer to <u>Migration wizard</u> area of this Guide.

#### Step 6: Enable the data processing

Go to **SharePoint Central Administration -> Monitoring ->HarePoint Analytics settings**, locate the following timer jobs and enable them:

- Processor of message queue
- Periodic data collection
- Preliminary data preparation
- Monthly data preparation
- Data collection from Active Directory

# 9.2. Migration from one 2013/2016/2019/SE farm to another 2013/2016/2019/SE farm

In this scenario, you are migrating sites from one SharePoint 2013/2016/2019/SE farm to another SharePoint 2013/2016/2019/SE farm:

- 2013 -> 2013
- 2013 -> 2016
- 2013 -> 2019
- 2016 -> 2016
- 2016 -> 2019
- 2019 -> 2019
- 2019 -> SE
- SE -> SE

HarePoint Analytics needs to be moved to a new farm and uninstalled from the older farm. **Note:** this approach presumes that by the time of uninstallation there is no important user activity on the older farm that needs to be tracked by HarePoint Analytics.

**Attention!** Do not migrate the sites while the data collection is running, otherwise you will lose the data that are collected while you migrate the sites.

#### Step 1: Install HarePoint Analytics on the new farm

To learn more about the product installation, refer to **Installation and deployment** of this Guide.

#### Step 2: Stop the data processing

On the older farm, go to **SharePoint Central Administration -> Monitoring ->HarePoint Analytics settings**, locate the following timer jobs and disable them:

- Processor of message queue
- Periodic data collection
- Preliminary data preparation
- Monthly data preparation
- Data collection from Active Directory

After that, it is necessary to wait while all these job are finished (if any was running):

Go to **SharePoint Central Administration -> Monitoring -> Timer Job statuses** and make sure that none of the timer jobs whose name start with "**HarePoint Analytics for SharePoint...**" is listed in the "Running" jobs.

If the job is listed there, you need to wait. Do not change the database while any job processes data.

**Note:** When all running HarePoint Analytics job are completed, the product will continue collecting data into the Queue Database but these data will not be processed and will not be moved to Main Database. These data **will not be migrated** to a new farm.

Therefore, by that time there should be no important user activity on the older farm that needs to be tracked by HarePoint Analytics.

#### Step 3: Uninstall HarePoint Analytics from the older SharePoint 2013/2016/2019/SE farm

Before starting the migration of your SharePoint content to a new farm, you should uninstall HarePoint Analytics.

To learn more about product uninstallation, refer to <u>Removing the product</u> section of this Guide.

#### Step 4: Migrate sites to a new farm

Migrate the SharePoint content databases from the older 2013/2016/2019/SE farm to a newer SharePoint 2013/2016/2019/SE farm, as necessary.

#### Step 5: Attach HarePoint Analytics database on the new farm, map site collections

Now you can connect the same database that has been used by HarePoint Analytics on the older 2013/2016/2019/SE farm. Note, that should be performed by using a special **Migration Wizard**, because the data collected previously are **referring to old identifiers** of the web-sites and site collections, which have been changed during the migration of the SharePoint content databases. That is, if you simply connect the existing database you will not see old data, but only the new data that have been collected in the new SharePoint 2013/2016/2019/SE farm.

To learn more about how to use the **Migration wizard**, refer to <u>Migration wizard</u> section of this Guide.

#### Step 6: Enable the data processing

Go to **SharePoint Central Administration -> Monitoring ->HarePoint Analytics settings**, locate the following timer jobs and enable them:

- Processor of message queue
- Periodic data collection
- Preliminary data preparation
- Monthly data preparation

#### Data collection from Active Directory

# 9.3. Migration from one site collection to another or restoring a site from backup

**Attention!** Do not restore or migrate the sites when the data collection is running, otherwise you will lose the data which will be collected while you migrate the sites and change the product databases.

#### Step 1: Stop the data processing

Go to **SharePoint Central Administration -> Monitoring ->HarePoint Analytics settings**, locate the following timer jobs and disable them:

- Processor of message queue
- Periodic data collection
- Preliminary data preparation
- Monthly data preparation
- Data collection from Active Directory

After that, it is necessary to wait while all these job are finished (if any was running):

Go to **SharePoint Central Administration -> Monitoring -> Timer Job statuses** and make sure that none of the timer jobs whose name start with "**HarePoint Analytics for SharePoint...**" is listed in the "Running" jobs.

If the job is listed there, you need to wait. Do not change the database while any job processes data.

**Note:** When all running HarePoint Analytics job are completed, the product will continue collecting data into the Queue Database but these data will not be processed and will not be moved to Main Database. These data **will not be migrated/restored**.

#### Step 2: Migrate/restore the sites

Migrate or restore the sites from a backup as necessary.

#### Step 3: Reattach the database, map site collections

Use the option "Connect an existing database" in HarePoint Analytics Settings and reconnect the statistics database. The Migration Wizard will be started. Map site collections as necessary.

To learn more about how to use the Migration wizard, refer to Migration wizard section of this Guide.

#### Step 4: Enable the data processing

Go to **SharePoint Central Administration -> Monitoring ->HarePoint Analytics settings**, locate the following timer jobs and enable them:

- Processor of message queue
- Periodic data collection
- Preliminary data preparation
- Monthly data preparation
- Data collection from Active Directory

### 9.4. Migration wizard

To start the data migration wizard, go to SharePoint Central Administration -> Monitoring -> HarePoint Analytics for SharePoint Settings and click the Connect the existing database link under Database server and name section:

Database server and name This base will be used for storing and gathering statistical information about the usage of SharePoint sites. Database server LABSP13\SharePoint Database name AnalyticsMainDB

Create or change database

Connect the existing database

#### The database connection wizard will be started.

At the first step, you should set the connection to the database server and specify the name of the HarePoint Analytics database:

## Database connection <sup>®</sup>

Database server and name

This database will be used to store and gather the statistical information of SharePoint site usage. Indicate server and existing database names to continue. If Windows-authentification is selected, SharePoint farm administrator's account is used to connect

and access the database. Therefore before connecting the database, make sure SharePoint farm administrator's account has been added as **dbcreator** and **securityadmin** SQL-server.

Database server		
Database name		
Access authentication to databas	se	
Windows-authentication (rec	ommended)	
○ SQL-authentication		
Account		
Password		
		_
	Next	

When you click the **Next**, the wizard first looks through the specified database and detects the site and site collection identifiers, which were previously used, then attempts to find the same site and site collections to **map the identifiers automatically**.

The sites and site collections, to which the wizard was not able to map the IDs automatically, will be displayed in a list, so you can map them manually:

Site collection in the MAPILab Statistics for SharePoint database	SharePoint site collection
http://ms	Site collection is not specified
http://ms/sites/developers	Site collection is not specified
http://ms/sites/nova	Site collection is not specified
http://ms/sites/NovaBackup	Site collection is not specified
http://ms/sites/test	Site collection is not specified
http://ms	Site collection is not specified

To select the site or site collection, which should be assigned to the site or site collection in the list, click the **Site collection is not specified** link and select the **Change site collection** option.

Site collecti	on is not specified	•
Site collect	Change site collection	

When a new site collection is assigned, it will be displayed in the list:

Site collection in the MAPILab Statistics for SharePoint database	SharePoint site collection
http://ms	http://ms/my
http://ms/sites/developers	Site collection is not specified

Note: You can leave **unassigned** the sites and site collections that are not going to be used anymore.

Click the **OK** button when you have finished the mapping and the product will start processing the database. **This process can take several minutes**.

If the database from SharePoint 2007/2010 farm has been attached, the wizard will also change the database structure to comply with the structure of HarePoint Analytics for SharePoint 2013/2016/2019/SE.

While the product is making changes, the following window is displayed:

## Working on it...

\* This shouldn't take long.

Important note: Do not close the browser tab, stop or refresh the page, as this will cancel the database processing and all changes will be rolled back by a SQL server!

**Important note:** If this process takes a long time, the **time-out** error may appear. When that occurs, the **database processing is interrupted and all changes are rolled back by a SQL server**.

To solve the time-out issue, you need to increase the **time-out setting** in Internet Information Services (IIS) for the **SharePoint Central Administration** web-site.

To do this, go to the Internet Information Services Manager and click Advanced Settings:



The connection time-out settings can be adjusted in the Behavior -> Connection limits area of settings:

cation Pool ngs e cal Path cal Path Credentials cal Path Credentials I ad Enabled Automatically	SharePoint Central Administration v4 http::9351: 620209989 SharePoint Central Administration v4 C:\inetpub\wwwroot\wss\VirtualDird Logon ClearText False True
e cal Path cal Path Credentials cal Path Credentials I ad Enabled Automatically	620209989 SharePoint Central Administration v4 C:\inetpub\wwwroot\wss\VirtualDire Logon ClearText False
- cal Path cal Path Credentials cal Path Credentials   ad Enabled Automatically	SharePoint Central Administration v4 C:\inetpub\wwwroot\wss\VirtualDire Logon ClearText False
- cal Path cal Path Credentials cal Path Credentials   ad Enabled Automatically	C:\inetpub\wwwroot\wss\VirtualDire Logon ClearText False
cal Path Credentials cal Path Credentials ad Enabled Automatically	Logon ClearText False
cal Path Credentials ad Enabled Automatically	False
ad Enabled Automatically	False
Automatically	10.50
,	True
	nue
vior	
ed Protocols	http
Request Tracing	
s	
onnection Time-out	: (secol 120
1aximum Bandwidth	(Bytes 4294967295
1aximum Concurrent	t Conn 4294967295
1aximum Url Segmer	nts 32
	onnection Time-out 1aximum Bandwidth 1aximum Concurrent

### **10. Initial settings**

After the product installation and deployment is completed, the product needs to be configured.

This chapter describes the most important settings that needs to be done right after the product is installed and deployed.

## Important note: all the actions in HarePoint Analytics settings need to be performed as farm administrator account!

### 10.1. Databases

#### **10.1.1. Creating and connecting new databases**

Two separate SQL databases are used by the product:

- **Message Queue Database**. This database is used as an intermediate storage of statistical data. Implementing the Queue Database makes data collection significantly less resource intensive both for SQL server and for SharePoint Servers.
- **Main Statistics database**. This database is used to store both unprocessed (raw) data and prepared data for all the reports.

The databases can be created on the **same SQL server and instance** that hosts SharePoint content databases. Note that it is still recommended to create a **separate SQL instance** (for simplified administration in the future) and use a **separate hard drive** to host HarePoint Analytics databases (to improve overall performance).

For large SharePoint environments with number of users more than 10,000 it is recommended to use a separate SQL server or server cluster.

Refer to Infrastructural recommendations section for more information on hardware setup.

Both databases are created and connected automatically **right from HarePoint Analytics settings**, so there is no need to use SQL Management Studio for this.

#### Important note: The following SQL permissions are required to able to create and connect databases:

- SharePoint Timer Service (OWSTIMER.exe) account must be a member of fixed database role "db owner"
- Central Administration **Application pool account** must be a member of fixed database role "db\_owner"
- Farm Administrator account must be granted with roles dbcreator and securityadmin of the SQLserver

To create databases and connect them, go to product settings page in SharePoint Central Administration:

#### SharePoint Central Administration -> Monitoring -> HarePoint Analytics for SharePoint Settings:

## Monitoring

Health Analyzer Review problems and solutions | Review rule definitions

Timer Jobs Review job definitions | Check job status



View administrative reports | Configure diagnostic logging | Configure usage and health data collection | View health reports



HarePoint Analytics for SharePoint HarePoint Analytics for SharePoint settings Farm Reports | Web application filter management | Tasks for exporting reports

#### Main Database

To create a Main Statistics database on the SQL server, click Create or change database in Database server and name section:

Database	server and name
This base v sites,	vill be used for stori
310234	



Specify **UNC path to the SQL server including the instance** (e.g. <u>\\SQLSRV\Instance</u>) or **SQL alias**, and the **name** for the new database (for example, HarePoint\_Analytics\_DB) and select the type of authentication that is used on the SQL server:

Database server and name	Database server	
This data base will be used for storing and gathering statistical information about the usage of SharePoint sites.	Database name	
If it is necessary to connect with a statistical data base created beforehand, just specify it's server and existing data base name. In this case the old base is not modified, but statistical data will be placed exactly in it.	Access authentication to database	
If Windows-authentication is selected for creating a data base and subsequent access to it, an account of Sharepoint farm administrator is used. In this connection, before creating a new data base it is necessary to make sure that the Sharepoint farm administrator account is added as <b>dbcreator</b> and <b>securityadmin</b> of the SQL-server.	Windows-authentication (recommended)     SQL-authentication     Account     Password	
	Create	ancel

Click **Create** button. Creating a database has started. It can take some time. As soon as database is created, it will be connected **automatically**, no additional actions required.

#### **Queue Database**

To create a Message Queue Database, click Create or change queue in Message queue section:

63 Initial settings | HarePoint.Com



SP2016-PREV\SharePoint Database name Analytics\_Queue Create or change queue

Database server

Detach queue database

Specify **UNC path to the SQL server including the instance** (e.g. <u>\\SQLSRV\Instance</u>) or **SQL alias**, and the **name** for the new database (for example, HarePoint\_Queue\_DB) and select the type of authentication that is used on the SQL server:

Database server and name	Database server
This data base will be used for storing and gathering statistical information about the usage of SharePoint sites.	Database name
If it is necessary to connect with a statistical data base created beforehand, just specify it's server and existing data base name. In this case the old base is not modified, but statistical data will be placed exactly in it.	Access authentication to database
If Windows-authentication is selected for creating a data base and subsequent access to it, an account of Sharepoint farm administrator is used. In this connection, before creating a new data base it is necessary to make sure that the Sharepoint farm administrator account is added as <b>dbcreator</b> and <b>securityadmin</b> of the SQL-server.	<ul> <li>Windows-authentication (recommended)</li> <li>SQL-authentication Account</li> </ul>
	Password
	Create Cance

Click **Create** button. Creating a database has started. It can take some time. As soon as database is created, it will be connected **automatically**, no additional actions required.

**Important note:** it is necessary to use two **different** databases for the Main Database and for the Message Queue Database!

#### 10.1.2. Connecting an existing Main Database

If you already have a database that has been used as Main Database for HarePoint Analytics, you can connect this database to the product.

To do this, there are **two options** available, see below.

#### Important note: The following SQL permissions are required to able to connect databases:

- SharePoint Timer Service (OWSTIMER.exe) account must be a member of fixed database role "db\_owner"
- Central Administration **Application pool account** must be a member of fixed database role "db\_owner"
- Farm Administrator account must be granted with roles dbcreator and securityadmin of the SQLserver

#### Option 1: Connecting a database previously used on the same farm

The wizard "Create or change database" (described in a <u>previous section</u>) allows you to create a new blank database as well as connect an existing database.

Create or change database

#### Connect the existing database

In case of connecting an existing database, this wizard does not modify the database, it only re-configures the connection string. Therefore, you can use it only to connect a database that has been used earlier on the given farm.

Option 2 (see below), however, can also be used in this case.

Important Note: Do not use this option in case if you migrate sites, site collections, or upgrade SharePoint from 2007/2010, since there are specific modifications need to be made to the database. This can be done only by using the **Option 2** (see below).

#### Click Create or change database link.

Specify UNC path to the SQL server including the instance (e.g. \\SQLSRV\Instance) or SQL alias, and the name of an existing database, select the type of authentication that is used on the SQL server:

Database server and name	Database server	
This data base will be used for storing and gathering statistical information about the usage of SharePoint sites.	Database name	
If it is necessary to connect with a statistical data base created beforehand, just specify it's server and existing data base name. In this case the old base is not modified, but statistical data will be placed exactly in it.	Access authentication to database	
If Windows-authentication is selected for creating a data base and subsequent access to it, an account of Sharepoint farm administrator is used. In this connection, before creating a new data base it is necessary to make sure that the Sharepoint farm administrator account is added as <b>dbcreator</b> and <b>securityadmin</b> of the SQL-server.	<ul> <li>Windows-authentication (recommended)</li> <li>SQL-authentication Account</li> </ul>	
	Password	
	Create	Cancel

#### **Option 2: Connecting a migrated or previously used database (Recommended)**

In case if you have migrated sites or site collections, upgraded SharePoint from 2007/2010 to 2013/2016/2019/SE, and so on (see Migration chapter for more details), it is necessary to use the "Connect the existing database" wizard, because there are certain modifications that need to be made to a database structure. These changes are made automatically by this wizard.

You can also use this option to connect a database that have been previously used on the same farm, instead of the Option 1.

Create or change database Connect the existing database

To start this wizard to connect an existing statistics database, go to SharePoint Central Administration -> Monitoring -> HarePoint Analytics for SharePoint Settings and click the Connect the existing database link:

Database server and name This base will be used for storing and gathering statistical information about the usage of SharePoint sites.	Database server SP2016-PREV\SharePoint
	Database name Analytics_Main
	Create or change database
	Connect the existing database
	Detach database
Specify <b>UNC path to the SOL server including the instance</b> (e.g. \\SC	DLSRV\Instance) or <b>SOL alias</b> , and

Specify **UNC path to the SQL server including the instance** (e.g. <u>\SQLSRV\Instance</u>) or **SQL alias**, and the **name** of an **existing database**, select the type of authentication that is used on the SQL server:

Database server and name		
This database will be used to store and gather the statistical information of SharePoint site usage. Indicate server and existing database names to continue.	Database server	
If Windows-authentification is selected, SharePoint farm administrator's account is used to connect and access the database. Therefore before connecting the database, make sure SharePoint farm administrator's account has been added as <b>dbcreator</b> and <b>securityadimi</b> SQL-server.	Database name	
	Access authentication to database	
	<ul> <li>Windows-authentication (recommended)</li> </ul>	
	○ SQL-authentication	
	Account	
	Password	
	Next	Cancel

When you click **Next**, the wizard looks through the specified database and determines if there are any **additional changes that need to be made to the database** before the product can start using it:

- If you have migrated sites or site collections, upgraded SharePoint from 2007/2010 to 2013/2016/2019/SE, and so on, the wizard attempts to map site collections automatically – see <u>Migration</u> chapter for further details
- If the database from SharePoint 2007/2010 farm has been attached, the wizard will change the database structure to comply with the structure of HarePoint Analytics for SharePoint 2013/2016/2019/SE
- If the database from SharePoint 2013/2016/2019/SE farm, but older version of HarePoint Analytics has been attached, the wizard will change the database structure to comply with the structure of a newer version of HarePoint Analytics that is installed on a given farm

Applying changes after the database is attached, may takes some time. During that, the following window is displayed:

## Working on it...

\* This shouldn't take long.

Important note: Do not close the browser tab, stop or refresh the page, as this will cancel the running modifications and they will be rolled back!

In case if time-out occurs before the process is completed, all the modifications will be rolled back by a SQL server!

To solve this time-out issue, you need to increase the **time-out setting** in Internet Information Services (IIS) for the **SharePoint Central Administration** web-site.

To do this, go to the Internet Information Services Manager and click Advanced Settings:



The connection time-out settings can be adjusted in the Behavior -> Connection limits area of settings:

67

dings ne isical Path isical Path Credentials isical Path Credentials Logon load Enabled	
ne isical Path isical Path Credentials isical Path Credentials Logon load Enabled	620209989 SharePoint Central Administration v4 C:\inetpub\wwwroot\wss\VirtualDird ClearText
ne isical Path isical Path Credentials isical Path Credentials Logon load Enabled	SharePoint Central Administration v4 C:\inetpub\wwwroot\wss\VirtualDird ClearText
isical Path isical Path Credentials isical Path Credentials Logon load Enabled	C:\inetpub\wwwroot\wss\VirtualDire
sical Path Credentials sical Path Credentials Logon load Enabled	ClearText
sical Path Credentials Logon load Enabled	
load Enabled	
	False
t Automatically	True
navior	
bled Protocols	http
ed Request Tracing	
its	
Connection Time-out (secor	120
Maximum Bandwidth (Bytes	4294967295
Maximum Concurrent Conn	4294967295
Maximum Url Segments	32
	ed Request Tracing its Connection Time-out (secol Maximum Bandwidth (Bytes Maximum Concurrent Conn

#### 10.1.3. Connecting an existing Queue Database

Important note: The following SQL permissions are required to able to connect databases:

- SharePoint Timer Service (OWSTIMER.exe) account must be a member of fixed database role "db\_owner"
- Central Administration **Application pool account** must be a member of fixed database role "db\_owner"
- Farm Administrator account must be granted with roles dbcreator and securityadmin of the SQLserver

Go to **Central Administration – Monitoring – HarePoint Analytics settings**, under **Message queue** section click **Create or change queue**:

queue
essage queue ally decrease

Database server SP2016-PREV\SharePoint Database name Analytics\_Queue



Detach queue database

## Specify **UNC path to the SQL server including the instance** (e.g. <u>\\SQLSRV\Instance</u>) or **SQL alias**, and the **name** for an **existing database** and select the type of authentication that is used on the SQL server:

Database server and name	Database server	
This data base will be used for storing and gathering statistical information about the usage of SharePoint sites.	Database name	
If it is necessary to connect with a statistical data base created beforehand, just specify it's server and existing data base name. In this case the old base is not modified, but statistical data will be placed exactly in it.	Access authentication to database	
If Windows-authentication is selected for creating a data base and subsequent access to it, an account of Sharepoint farm administrator is used. In this connection, before creating a new data base it is necessary to make sure that the Sharepoint farm administrator account is added as <b>dbcreator</b> and <b>securityadmin</b> of the SQL-server.	Windows-authentication (recommended)     SQL-authentication     Account     Password	
	Create	Cancel

Click Create button. Creating a database has started. It can take some time.

## **Important note:** it is necessary to use two **different** databases for the Main Database and for the Message Queue Database!

Since version 16.13/15.18, an automatic check is performed to prevent connecting an existing Queue database as Main database and vice versa.

#### 10.1.4. Detaching databases

Since version 16.13/15.18 of HarePoint Analytics, it is possible to detach SQL databases from the product, if needed for maintenance or migration purposes.

In earlier versions, you need to connect a dummy database first, to release the connection.

#### Go to Central Administration – Monitoring – HarePoint Analytics settings.

To detach the **Main database**, click **Detach database** under **Database server and name** section. To detach the **Queue database**, click **Detach queue database** under **Message queue** section.



## 10.2. Setting the Geographical locations database update

HarePoint Analytics displays the geographical location of visitors in **Visits by countries** and related drilldown reports (available at site and site collection levels).

The geographical location can be detected based on:

- the visitor IP address
- the country data from a specific field from SharePoint User Profile.

**Note:** the settings below are **optional**. In case if you do not need geographical locations information, simply skip this section. This feature is **disabled by default**.

For both methods, a special Geographical locations database needs to be downloaded at least once, but it is recommended to keep it up to date to ensure precise visitors' geographical coordinates determination. <u>MaxMind®</u> company offers a free version of geographic locations database with monthly updates. The special timer job needs to be enabled to download the latest version of the geographic locations database and import data into HarePoint Analytics Main Database.

## Go to Central Administration – Monitoring – HarePoint Analytics settings – Geographic locations database update, click Change settings:

Geographic locations database update Geographic locations database shall be kept actual to ensure precise visitor's geographic coordinates determoination.	Schedule Not used
MaxMind® Company offers free version of geographic locations base. This database is supplemented and corrected regularly.	Last run time N/A
	Change settings
	ACQUIUDINAL SETUND

1. You can assign this timer job to run on a specific Web Front-End server only. It can be useful if only certain WFE server has internet access.

#### In a normal configuration It is recommended to leave the default setting (Any):

Timer Job Associations

5.

6.

7.

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		
	Any	$\sim$

 Check the option Update geographic locations database in the Automatic update area of the settings (this checkbox is equivalent to clicking Enable button at the bottom of the settings): Automatic update

MaxMind   Company offers free version of geographic locations base. This database is supplemented	Update geographic locations database
and corrected regularly.	

3. If MaxMind<sup>®</sup> has changed the **database address template**, you can adjust it in the settings. Normally it should be set to **Use default template**.

New database version address template	
This option allows address template setup. To be changed only if MaxMind	Address template
address template for a new database version.	<ul> <li>Use default address template (recommended)</li> </ul>
	○ Set different address template
	Address:
	load/geoip/database/GeoLiteCity_CSV/GeoLiteCity_%YYYYMMDD%.zip

We would be grateful if you <u>report to HarePoint Technical Support</u> if noticed the database template had been changed.

4. Configure Internet access settings. If your SharePoint farm account has no Internet access, you need to specify another account under the Internet access account.

Internet access account		
You can specify an account that will be used for internet access and new database version downloading.	Account	
	Ouse SharePoint farm account	
	○ Account setup	
	Account	
	Password:	
If proxy server needs to be used to access interne	et, you can specify it in the settings:	
Proxy server setup		
You can setup internet access via proxy server.	Proxy server	
	O not connect by using a proxy server	
	$\bigcirc$ Use the proxy server specified	
	Address:	
	Port:	
Specify the connection time-out, default is 1000s	(= 16 min 40 sec)	
Timeout		
Specify connection timeout (in seconds) for the geolocation database downloading. The default value	Connection time (in seconds):	
is 1000 seconds.	1000	
Set the <b>schedule</b> :		
Recurring Schedule		
Use this section to modify the schedule specifying when the timer job will run. Daily, weekly, and	This timer job is scheduled to run:	
monthly schedules also include a window of execution. The timer service will pick a random time within this interval to begin executing the job on each applicable server. This feature is appropriate for high-load jobs which run on nultiple servers on the farm. Running this type of job on all the servers simultaneously might place an unreasonable load on the farm. To specify an exact starting time, set	<ul> <li>Daily</li> <li>By date: starting every month between</li> </ul>	
	Weekly 12 AM V 45 V on the 3rd V	
the beginning and ending times of the interval to the same value.	Monthly     And no later than     11 PM      00      on the 3rd	
	O By day: starting every month	

**Important note:** We do not recommend updating the geographic locations database more often than once a month.

Click **Enable** to enable this timer job.

Geographic locations database undate

Geographic location database update runs in the context of **OWSTimer.exe**.

To track the current status of this timer job, go to Central Administration – Monitoring – Check Job Status, look for HarePoint Analytics for SharePoint – Geographic positions database update job.

**Note:** In case if your SharePoint farm is isolated and has no internet access, an **offline version of the database** in 7zip-package (72ielded. 18 MB) can be requested from HarePoint – please <u>contact HarePoint</u> <u>technical support</u>.

#### 10.2.1. Detection the geographical location by IP address

**Note:** Detection by IP address will only work for users having **external IP addresses**. This will **not** work for local IP address ranges (10.0.0.0/8, 172.16.0.0/12, 192.168.0.0/16, etc).

To detect visitor's country by IP address, the special **Geographical location database** is used. It is recommended to update Geographic locations database **once per month** to ensure precise location detection.

**Important note:** Make sure the **Geographic locations database update timer job** is enabled and the database has been downloaded **at least once** – refer to <u>previous paragraph</u>.

## Go to Central Administration – Monitoring – HarePoint Analytics settings – Geographic locations database update, click Additional settings

Geographic locations database update	
Geographic locations database shall be kept actual to ensure precise visitor's geographic coordinates	Schedule
determoination.	Not used
MaxMind  Company offers free version of geographic locations base. This database is supplemented and corrected regularly.	Last run time N/A
	Change settings
	Additional settings

#### Make sure the detection method is set to **Detect location by IP**:

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.	Select method how the location will be detected    Detect location by IP  Country data is located in the following field in User
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.	Profile:
To get more details about configuring of the geographical data collection please look at the	

#### 10.2.2. Detection the geographical location by the data from User Profile

**Important note:** This method can be only used on Microsoft SharePoint **Server** 2013/2016/2019/SE. It is not available on Microsoft SharePoint **Foundation** 2013 since this edition does not incorporate SharePoint User Profile.

In case if you have synchronization established between **Active Directory** and SharePoint User Profile, you can use **AD field** to detect geographical locations.
To detect the visitor's country based on a **specific field from SharePoint User Profile**, the special **Geographical location database** is used. For this method, it is sufficient to have Geographic locations database downloaded **at least once and never update it afterwards**.

**Important note:** Make sure the **Geographic locations database update timer job** is enabled and the database has been downloaded **at least once** – refer to <u>previous paragraph</u>.

## Go to Central Administration – Monitoring – HarePoint Analytics settings – Geographic locations database update, click Additional settings

Geographic locations database update	
Geographic locations database shall be kept actual to ensure precise visitor's geographic coordinates	Schedule
determoination.	Not used
MaxMind® Company offers free version of geographic locations base. This database is supplemented	Last run time
and corrected regularly.	N/A
	Change settings
	Additional settings

# Select option "Country data is located in the following field in User Profile" and specify the field that contains the country data:



The selected field should contain the country data in the "**ISO 3166-1 alpha-2**" format (two characters for country codes). To learn more about this format, please follow this link: <u>http://en.wikipedia.org/wiki/ISO 3166-1</u>

#### 10.3. Data collection on server performance

HarePoint Analytics displays data on SharePoint servers' performance in **Performance** section of **Farm reports** (in Central Administration).

S >	Mor	nitoring
Central Administration Application Management		Health Analyzer Review problems and solutions   Review rule definitions
System Settings		Timer Jobs Review job definitions   Check job status
Monitoring Backup and Restore	M	Reporting View administrative reports   Configure diagnostic logging   Configure usage and health data collec
Security Upgrade and Migration		View health reports
General Application Settings		HarePoint Analytics for SharePoint HarePoint Analytics for SharePoint settings   Farm Reports   Web application filter management   Tasks for exporting reports
Performance		
CPU usage		
Memory usage		
Disk usage		
Network usage		
IIS usage		
SQL usage		
CPU by hours		
Memory by hours		
Application pools summary		
Processes summary		

These data are collected by a timer job **HarePoint Analytics for SharePoint – System Metrics Collector**. This timer job is **disabled by default**.

Note: The settings described below are optional. If you do not need reporting on server performance, you can skip this section.

Enabling data collection for server performance is a two-step process:

- 1. grant permission to the SharePoint farm account to collect the performance data
- 2. <u>enable timer job</u> for the performance data collection

These steps are described in details in the next two paragraphs.

#### 10.3.1. Granting permission to collect the performance data

To allow the collection of the server performance data, it is necessary to grant **SharePoint farm account** and **SharePoint Timer Service account** a permission as follows:

1. Open the **Computer Management** on **each server** (including SQL servers) where you want to allow the farm performance data collection.

- 2. Under System Tools select Local Users and Groups and click on Groups
- 3. Add SharePoint farm account and SharePoint Timer Service account both to Performance Monitor Users and Performance Log Users groups:

<b>£</b>		Computer Management
<u>File</u> <u>Action</u> <u>View</u> <u>H</u> elp	?	
<ul> <li>Computer Management (Local</li> <li>System Tools</li> <li>Task Scheduler</li> <li>Event Viewer</li> <li>Shared Folders</li> <li>Shared Folders</li> <li>Local Users and Groups</li> <li>Local Users</li> <li>Groups</li> <li>No Performance</li> <li>Device Manager</li> <li>Storage</li> <li>Windows Server Backup</li> <li>Disk Management</li> <li>Evences and Applications</li> </ul>	Access Control Assistance Operators     Administrators     Backup Operators     Certificate Service DCOM Access     Cryptographic Operators     Distributed COM Users     Event Log Readers     Guests     Hyper-V Administrators     IN UKERC	Description ^ Members of this group can remotely query authorization attributes and permissions Administrators have complete and unrestricted access to the computer/domain Backup Operators can override security restrictions for the sole purpose of backing u Members of this group are allowed to connect to Certification Authorities in the ent Members are authorized to perform cryptographic operations. Members are allowed to launch, activate and use Distributed COM objects on this m Members of this group can read event logs from local machine Guests have the same access as members of the Users group by default, except for tl Members of this group have complete and unrestricted access to all features of Hyp Built-in group used by Internet Information Services. Members of this group can have some administrative privileges to manage configur Members of this group may schedule logging of performance counters, enable trace Members of this group can access performance counter data locally and remotely
	Four Oscis     Print Operators     RDS Endpoint Servers     RDS Management Servers     RDS Remote Access Servers     Remote Desktop Users     Remote Management Users     Replicator	Members can administer domain printers Servers in this group run virtual machines and host sessions where users RemoteApp Servers in this group can perform routine administrative actions on servers running I Servers in this group enable users of RemoteApp programs and personal virtual desk Members in this group are granted the right to logon remotely Members of this group can access WMI resources over management protocols (such Supports file replication in a domain

4. Restart SharePoint Timer Service on each server.

You can do this either manually in **Services.msc** snap-in on each server, or using a single command to restart it on all servers:

- Open the distributive package for HarePoint Analytics
- Navigate to: \Install\Resources\2016\tools\
   (for SharePoint SE/2019/2016)
   or
   \Install\Resources\2013\tools\
   (for SharePoint 2013)
- Open command line (cmd.exe) and run the following command:
- mlstadm.exe -o mlstrestartsptimer

Important note: The service Remote Registry needs to be running on each server.

#### **10.3.2.** Enabling timer job for the performance data collection

To activate the data collection on the servers' performance do the following:

- 1. Go to Central Administration Monitoring Review job definitions.
- Locate a timer job named "HarePoint Analytics for SharePoint System Metrics Collector" in the list of timer jobs:



3. Go to the timer job settings and **enable** this timer job. The recommended schedule is **every 5-10 minutes** (default is 5 minutes).

#### **10.4.** Starting the data collection

HarePoint Analytics for SharePoint is a **farm solution** and is **deployed globally**. Despite this, it is possible to define for which site collections the statistical data should be collected.

If the product is installed in **automatic** mode (using Setup.exe), the data collection is started automatically for the site collections selected in the Install Wizard.

In case of manual installation, you should start data collection manually right after creation of databases.

Data collection can be started in either of the following ways:

- using a web-interface
- <u>using HarePoint Analytics Utility</u>
- <u>using PowerShell</u>

#### 10.4.1. Activation of the data collection using a web-interface

To start data collection for the given site collection:

- C. Log in as **Site Collection administrator**. (Note that Farm Administrator account **may not have** Site Collection Administration permissions).
- D. Go to the **root site** of the site collection where you need to enable data collection.
- E. Go to Site settings:



F. Go to the **Site collection features** page:

Site Actions Manage site features Save site as template Enable search configuration export Reset to site definition Delete this site

Site Collection Administration Recycle bin Search Result Sources Search Result Types Search Query Rules Search Schema Search Schema Search Settings Search Configuration Import Search Configuration Export Site collection features Site hierarchy Site collection audit settings

Audit log reports Portal site connection Content Type Policy Templates

G. Locate a feature named HarePoint Analytics for SharePoint and activate it:

HarePoint Analytics for SharePoint This feature allows to collect and analyze statistical information about usage of site collection	Deactivate	Active
This reactive allows to collect and analyze statistical mornation about usage of site collection		_
HarePoint Analytics for SharePoint for 2010 UI		
This feature allows to collect and analyze statistical information about usage of site collection	Activate	

**Only SharePoint 2013:** If this site collection uses **2010 User Interface Experience** (2010 UI), enable the corresponding feature:

Initial settings | HarePoint.Com

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HarePoint Analytics for SharePoint This feature allows to collect and analyze statistical information about usage of site collection	Deactivate	Active
HarePoint Analytics for SharePoint for 2010 UI This feature allows to collect and analyze statistical information about usage of site collection	Activate	

#### Note: only one of these features should be activated!

H. Repeat these steps for other **Site collections** where the product should collect data and display them in reports.

To **stop data collection** and turn off HarePoint Analytics for SharePoint on this site collection it is necessary to deactivate this feature.

The previously collected data will not be removed upon feature deactivation.

#### 10.4.2. Activation of the data collection using HarePoint Analytics Utility

A special Utility is shipped with HarePoint Analytics that is designed to simplify product maintenance and troubleshooting. It can be found in distributive package in **Analytics Tools** (for SharePoint SE/2019/2016) or **Analytics Tools2013** folder (for SharePoint 2013):



Run HarePointAnalyticsUtil.exe on any of your Web Front-End Servers.

Go to Data collection feature tab.

Harepoint Analytics Help Util	_ □	x
ULS log Web.config modifications Missing features and web-parts Data collection feature Installation checker Report C	Lustom 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:		
Site collections: Http://sp2016-prev/sites.firstone http://sp2016-prev:5555		

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** button to rescan and display the actual information.

**Select** the checkboxes of the site collections where you need to **enable** the data collection; **unselect** the checkboxes of the site collections where you need to **disable** the data collection. Click **Enable data collection for selected site collections** button.

For more information regarding the Utility, please refer to HarePoint Analytics Maintenance Guide.

#### 10.4.3. Activation of the data collection using PowerShell

To activate / deactivate the statistics collection feature from PowerShell, use the following commands:

#### Enable-SPFeature -Identity MLStatSite -url <site collection URL>

#### Disable-SPFeature -Identity MLStatSite -url <site collection URL>

Put the full URL of the site collection instead of **<site collection URL>** parameter (e.g. <u>http://sp2019/sites/news/</u>).

#### **11. License management**

Registration of HarePoint Analytics for SharePoint is performed by acquiring the necessary number of licenses (in the form of license keys) and entering them to the license management page of the product.

If you are using HarePoint Analytics on **several farms**, the license keys should be entered on each farm. In particular, if you have non-production environments, you can request license keys for them free of charge from HarePoint Sales (sales@harepoint.com) or <u>Technical Support</u> department.

To open the license management page:

- 1. Use the farm administrator account to open the SharePoint Central Administration web site.
- 2. Go to Monitoring HarePoint Analytics for SharePoint Settings
- 3. Scroll to the bottom to see link to a Licensing page:

Licensing HarePoint Analytics for SharePoint This page is designed to manage licenses of HarePoint Analytics for SharePoint



#### **11.1.** Licensing model

HarePoint Analytics for SharePoint is licensed by purchasing the required number of user licenses.

**SharePoint user** – a user that has been accessing site collections where HarePoint Analytics is enabled. This includes users interacting with SharePoint server through Microsoft Word, Microsoft Excel or other applications.

The number of user licenses for HarePoint Analytics for SharePoint must be equal to the number of users having access to the SharePoint server(s).

#### **11.2.** Determining the number of required licenses

HarePoint Analytics for SharePoint calculates **unique visitors who have visited the SharePoint sites for the last three months**.

To find out the number of licenses to be purchased, calculate the number of users having access to SharePoint farm, where HarePoint Analytics for SharePoint is installed.

If you know that not all users in your organization actually access SharePoint, but you don't know the exact number, you can get the estimation from HarePoint Analytics while the product is running in a Trial Mode in Production environment. To do this, go to **Central Administration** – **HarePoint Analytics for SharePoint Settings** – **Licensing** to open the **License Management** page. You will find all the necessary data there:

#### **Objects for licensing**

Use the links to receive more data

 SharePoint license type:
 S

 Number of servers with Microsoft SharePoint Foundation Web Application:
 4

 Number of users in the statistics database:
 5

SharePoint Server 2016 4 5670

Refresh

#### Summary of available licenses

Refresh

Add license keys

, and the second se

To manage licenses, use the links in the bottom of list

Purchase HarePoint Analytics for SharePoint

Trial license (expired): User license: Summary of available licenses:

View / delete license keys

1 7000 The product is registered

**Note:** this page **does not** show the total number of users allowed to access SharePoint, but the **actual number of users** who have visited SharePoint since the data collection has been started and whose data are stored in the Product database.

If the product is not installed in Production environment, therefore you cannot determine the exact number of required licenses, you can purchase an approximate number of licenses, register the product and start using it. If necessary, additional licenses can be purchased later at any moment. If the number of users exceeds the number of purchased licenses, you will get a **red notification message** at the top of each report:



Despite this, the data collection **will not be stopped**. The product will continue working without any technical limitations.

If the server can be accessed by **anonymous users from the Internet**, you would need a **special license**. This type of license may also be advantageous in case of a very large number of SharePoint users. Please consult HarePoint Sales Department at <u>sales@harepoint.com</u>.

#### **11.3.** Entering the license keys

When the product is installed and deployed for the first time, the **built-in Trial key** is used allowing you to test the product for **30 days**. The trial is **fully featured**.

Be sure to enter permanent keys before the trial period expires.

There is no need to redeploy or reconfigure the Product after it is registered.

**Important note:** After the trial has **expired**, the data collection will be **stopped**. Make sure you enter permanent keys before the trial key has expired. <u>Contact HarePoint Support</u> if you experience any difficulties.

#### How to enter license keys

- 1. Make sure you are logged in as farm administrator
- 2. Go to Central Administration Monitoring HarePoint Analytics Settings
- 3. Scroll to the bottom and click Licensing

Licensing HarePoint Analytics for SharePoint This page is designed to manage licenses of HarePoint Analytics for SharePoint

Summary of available licenses The product is registered

Licensing

There are two areas:

- **Objects for licensing**. It shows you details on the number of Web Front-End servers and the number of unique users who have accessed this SharePoint farm since HarePoint Analytics has been deployed and data collection has been activated.

- **Summary of available licenses**. It shows you details on the entered license keys and allows you to manage the license keys:

#### **Objects for licensing**

Use the links to receive more data

SharePoint license type: Number of servers with Microsoft SharePoint Foundation Web Application: Number of users in the statistics database: SharePoint Server 2016 4 5670

Refresh

#### Summary of available licenses

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To manage licenses, use the links in the bottom of list

Trial license (expired):	1
User license:	7000
Summary of available licenses:	The product is registered

Refresh

- Add license keys
- View / delete license keys
- Purchase HarePoint Analytics for SharePoint
- 4. To add the license keys (either trial or permanent keys) click Add license keys.

Please be attentive when entering the key. We recommend to **copy-and-paste** it via the clipboard to avoid mistyping or any other mistakes.

**Note:** The license keys from HarePoint Analytics for SharePoint 2007 or 2010 **will not** be accepted by HarePoint Analytics for SharePoint 2013/2016/2019/SE.

If you have been using HarePoint Analytics on older versions of SharePoint and plan to upgrade or move to SharePoint 2013/2016/2019/SE and keep using HarePoint Analytics there, you would need to migrate your license keys – please refer to <u>Editions migration</u> page. Migration also involves certain technical procedures – refer to <u>Migration from HarePoint Analytics for SharePoint</u> 2007/2010 to SharePoint 2013/2016/2019/SE.

#### **11.4.** Extending the number of licenses

If you notice the number of SharePoint users is growing, it is possible that you can face with the situation when the **number of users exceeds the number of purchased licenses**. If that happens, the following red notification will displayed at the top of each report:



Despite this, the product remains fully functional, without any technical limitations.

In this case, you might need to purchase additional licenses – please contact **HarePoint Sales department** at <u>sales@harepoint.com</u> for more information.

The minimum additional license pack is "50-users license".

After purchasing additional licenses, you will get one or several registration keys that need to be added to the list of registration keys as described in <u>Entering the license key</u> section of this **Administrator Guide**.

#### 12. Managing access to the reports

HarePoint Analytics allows managing users' permissions to access the reports very flexibly **per each site** collection or web-site.

Three access configurations are available (per site collection):

- A default one: only site collection administrators can access HarePoint Analytics reports
- It is possible to grant certain users a permission to access all HarePoint Analytics reports
- It is possible to grant certain users a permission to access only certain HarePoint Analytics reports

**Note:** Some reports can be hidden **globally** for all users (including administrators) by HarePoint Analytics policy – refer to <u>Removing reports from the list</u>.

#### 12.1. Managing users' access permissions

In order to be able to access HarePoint Analytics reports, users need to have **View Web Analytics Data** permission. For further details, proceed to <u>Granting users the general permission to access reports</u>.

Site collection administrators can also set **unique permissions** to allow specified users to access only certain reports for a site collection or a web-site. For further details, proceed to <u>Managing users' unique</u> <u>permissions to access reports</u>.

#### 12.1.1. Granting users the general permission to access reports

Site collection administrators can grant users the **general permission** to access the reports. This would allow users viewing and exporting **all** the reports, creating subscriptions, creating templates, and so on.

It is also possible to set **unique permissions** for users or user groups – please refer to <u>next paragraph</u>.

You can create a new **Permission level**, or edit the appropriate existing one to enable **View Web Analytics Data** permission.

**Note:** Each site collection has its own set of permission levels. Therefore, this permission level needs to be created on each site collection, where required.

#### **Creating a new Permission Level**

1. Go to Site Settings - Site Collection Administration on the root site of the site collection

2. Point to Site Actions – Site Settings, then click on Site Permissions under User and Permissions

J. CIICK L		111133101			ne noboli.		
BROWSE	PERN	IISSIONS					
Grant Permissions			s Permissions	Check Permissions	Permission Levels Site Collection Admini	istrators	
Gran	t	N	/lodify	Check	Manage		
Арр	Adminis lication agemen			<ul><li>Name</li><li>Delega</li></ul>	ted Administrators		
Syste	em Setti	nas		Farm A	dministrators		
Mon	itoring up and	-			13\administrator		
A Click o	n the	Add a P	Permission	slevel			

#### 3 Click the **Permission Levels** button on the ribbon.

#### . Click on the Add a Permissions Level

bA 🖃	d a Permission Level	X Delete Selected Permission Lev	vels
	Permission Level		Description
	Full Control		Has full control. Can view add un

- 5. Type a name for a new permission level (for example "View HarePoint Analytics reports")
- 6. Check View Web Analytics Data in the Site Permissions area
- 7. Make sure that View Pages and Open are checked as well
- 8. Click Create button

The new **Permission Level** is now created.

After that, go to Site actions – Site Settings – People and Groups, access a group of users who should be able to view HarePoint Analytics reports and check the newly created Permission Level there.

#### 12.1.2. Managing users' unique permissions to access reports

HarePoint Analytics allows site collection administrators to manage the unique access permissions for users having a general access permission, so they will be able to access only certain reports on a given site collection or a web-site. It is also possible to encrypt certain data types (e.g. IP address, user names, and so on), so they will not be disclosed to certain users.

Important note: it is necessary to grant users View Web Analytics Data permission first, as described in the previous section.

Note: Certain reports and/or data types can be hidden globally for all users (including administrators) by a HarePoint Analytics policy - refer to Managing global access permissions.

Follow these steps to set the unique access permissions for users for certain site or site collection:

1. Login as site collection administrator (note that farm administrator may not have site collection administrator permissions) to the site collection where you would like to assign the unique access permissions

 Go to Site Actions – Site Settings and click Site usage reports permissions or Site collection usage reports permissions under HarePoint Analytics for SharePoint – depending on the scope to apply the unique permissions:

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

3. To be able to set the unique permissions to access reports, it is necessary to **Stop Inheriting Permissions**. To do this, click the button on the ribbon:



Now you can set unique permissions.
 Select the user group and click Edit User Permissions button on the ribbon:

BROWSE	EDIT				
Inherit Permissions	Grant Permissions		Remove User Permissions		
Inheritance	Grant	Mo			
Home			Na:	me	
Docume	nts		🖌 Но	me Owners	
Subsites					

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5. Uncheck the reports and data types to make them unavailable for this User group:

Edit Permissions		×
Users or Groups The permissions of these users or groups will be modified.	Users: Home Owners	^
Select Reports Choose the reports to grant permissions for the selected users and groups.	Select reports          Overview         Overview         Overview	
	<ul> <li>✓ Site summary</li> <li>✓ Web-sites without visits</li> <li>✓ Visits trend</li> </ul>	
	<ul> <li>✓ Visits by hours</li> <li>✓ Length of visits</li> <li>✓ Depth of visits</li> </ul>	
	<ul> <li>✓ Visits</li> <li>✓ Pageviews</li> <li>✓ Navigation details</li> </ul>	
	✓ Users activity ✓ Visits by Active Directory department ✓ Visits by role	
	<ul> <li>✓ Visits by SharePoint department</li> <li>✓ Visits by countries</li> <li>✓ Browsers</li> </ul>	
	☑ Browsers ☑ Platforms ☑ Mobile Devices	
	Content & Traffic	

Note: By default, all reports are checked and thus available.

Unchecked **reports** will no longer be accessible for the given user. Unchecked **data types** will be displayed as encrypted values in the reports for the given user:

		View report
[Hidden: D38B870C]	3	26
[Hidden: E6EC01B4]	21	21
[Hidden: 7079C72C]	631	631
User name	Visits ↓	Pageviews
Users activity		

It is possible to **cancel the unique permissions** by **re-enabling the permission inheritance**. Click the button on the ribbon:



#### 12.2. Managing global access permissions

#### 12.2.1. Removing reports from the list

- - - -

HarePoint Analytics incorporates a **policy** to remove (hide) certain reports from a list for **all users**, including administrators.

(To read more about policies in HarePoint Analytics, proceed to Managing global policies chapter).

**Note:** It is possible to manage this on "per-user and per-site collection" basis – refer to <u>Managing users'</u> <u>unique permissions to access reports</u>.

**Note:** This policy only removes a report from a list of reports. It **does not** stop data collection and/or processing for the given report.

# Go to SharePoint Central Administration – Monitoring – HarePoint Analytics for SharePoint Settings and click Configure Policies.

To **remove** a report from a list of reports in the left pane, **check** this report in the settings:

Select Reports	
Choose the reports to reject permissions for all users and groups.	Select reports
	Overview
	Visits & Visitors
	Site summary
	Web-sites without visits
	Visits trend
	Visits by hours
	Length of visits
	Depth of visits
	Visits
	Pageviews
	Navigation details
	☑ Users activity
	Usits by Active Directory department
	Visits by role
	Wisite by ShareDoint donartmont

**Important note: By default, all checkboxes are unchecked, thus all reports are displayed!** (Except "Content popularity (simple)" report).

After clicking the **OK** button, the selected reports will no longer be displayed in the left pane. Example for "User activity" report:



The same result can be achieved from the command line:

#### HarePointAnalyticsUtil.exe set-policy -name disablereport -value <report name>

#### where :

<u>HarePointAnalyticsUtil.exe</u> is a special Utility that is shipped with HarePoint Analytics. It can be found in distributive package in **Analytics Tools** folder (for SharePoint SE/2019/2016) or **Analytics Tools2013** folder (for SharePoint 2013)

<report name> is the identifier of the report. You can obtain it from the full report URL.

#### **Examples**

for "Visits by countries" report, the URL looks as follows: <u>http://<servername>/\_layouts/MAPILab/Statistics/Report.aspx?ReportId=VisitsByLocation&Scope=Site</u>

We can see the report name in this case is **VisitsByLocation**.

That is, to remove this report from the list, execute the following command:

HarePointAnalyticsUtil.exe set-policy -name disablereport -value VisitsByLocation

To bring the report back to the list, execute the following command:

#### HarePointAnalyticsUtil.exe set-policy -name enablereport -value VisitsByLocation

For more details on changing policies from command line, refer to this chapter.

#### 12.2.2. Encryption of the data in reports

HarePoint Analytics incorporates the **policy** to prevent specific data types' disclosure for **all users** (including administrators) by encrypting these data in the reports.

(To read more about policies in HarePoint Analytics, proceed to Managing global policies chapter).

**Note:** It is possible to manage this on "per-user and per- site collection" basis – refer to <u>Managing users'</u> <u>unique permissions to access reports</u>.

Go to SharePoint Central Administration – Monitoring – HarePoint Analytics for SharePoint Settings and click Configure Policies, scroll down to Select data types section.

To prevent specific data types' disclosure, check them in the settings:

# Select Data Types Select Data Types Select Data Types User Name UP Address Active Directory Department Active Directory Group Department SharePoint Group Role Url Document Library Document Library Document Library Location

#### Important note: By default, all checkboxes are unchecked, thus all data types are displayed!

If the policy to encrypt User Name is enabled, the "User Activity" report (for example) will look as follows:

Users activity		
User name	Visits ↓	Pageviews
[Hidden: 7079C72C]	631	631
[Hidden: E6EC01B4]	21	21
[Hidden: D38B870C]	3	26

View report

#### HarePoint Analytics allows encrypting the following data types:

- User Name
- IP address
- Active Directory Department
- Active Directory Group
- Department
- SharePoint Group
- Role
- URL
- Document Library
- Document Library Location
- Document
- Document Location
- List
- List Location
- List Item
- List Item Location
- Workflow Info

**Note:** this policy only affects **displaying the data** and **does not encrypt data in the database**. That is, the policy is **reversible** and disabling it restores the normal data display in reports. If you should store only encrypted data in a database, refer to **encryptuserinfo** policy, <u>see next paragraph</u>.

#### 12.2.3. Encrypt user's data during the data collection

The legislation in some countries does not allow storing the user personal data. HarePoint Analytics allows you to **encrypt user personal data right at the stage of data collection**. That is, the database will contain **only encrypted data. This encryption is not reversible**, so it is not possible to restore the users' personal data.

#### Encryption for main fields with personal data

To turn on this feature, use the following command:

#### HarePointAnalyticsUtil.exe set-policy -name encryptuserinfo -value true

where:

<u>HarePointAnalyticsUtil.exe</u> is a special Utility that is shipped with HarePoint Analytics. It can be found in distributive package in **Analytics Tools** folder (for SharePoint SE/2019/2016) or **Analytics Tools2013** folder (for SharePoint 2013).

Alternatively, you can use the following command from SharePoint Management Shell (except SharePoint SE):

#### stsadm -o mlstsetpolicy -encryptuserinfo true

When this policy is enabled, the "User Activity" report (for example) will look as follows:

Users activity

User name	Visits ↓	Pageviews
[Hidden: 7079C72C]	631	631
[Hidden: E6EC01B4]	21	21
[Hidden: D38B870C]	3	26
		View report

**Important note:** the newly collected data will be encrypted and **cannot be restored** to unencrypted even if this policy is disabled. The data that have been collected while the policy was enabled, will be always be displayed as encrypted.

#### Encryption for additional fields with personal data

In order to encrypt **additional fields**, such as AD Department name, SP Department name, links to user profiles (that may contain part of actual user names), you can enable the following policy:

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#### HarePointAnalyticsUtil.exe set-policy -name encryptadditionaluserinfo -value true

Alternatively, you can use the following command from SharePoint Management Shell (except SharePoint SE):

#### stsadm -o mlstsetpolicy - encryptadditionaluserinfo true

#### Encrypting previously collected personal data

In addition to enabling these policies, it might be reasonable to run the following command:

#### HarePointAnalyticsUtil.exe encrypt-users

Alternatively, the command from SharePoint Management Shell (except SharePoint SE):

#### stsadm -o mlstencryptuserinfo

This command will encrypt the **previously collected** personal data, so you can be sure that **all** personal information in the database is encrypted.

**Note:** this command is **not reversible either**, and previously collected personal data **cannot be restored** back to original, once this command has been executed. Running this operation on a large database can take some time.

#### 13. Reports Subscription Management

In HarePoint Analytics, users can **subscribe** to reports to receive them **by e-mail** and/or have the report saved to a **document library**, by a schedule.

This is an alternative way of getting statistical reports from HarePoint Analytics (all possible ways are mentioned in <u>Report generation</u> paragraph).

You can access the Subscription Management page in several ways:

 from Site Settings – HarePoint Analytics section – Tasks for exporting reports to subscribe to site or site collection reports:

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

 from Central Administration – Monitoring – HarePoint Analytics section – Tasks for exporting reports, to subscribe to farm reports:

## Monitoring





Timer Jobs Review job definitions | Check job status

Reporting View administrative reports | Configure diagnostic logging | Configure usage and health data collection | View health reports



HarePoint Analytics for SharePoint settings | Earn Reports | Web application filter management Tasks for exporting reports

 when viewing a report – by clicking Subscription to the reports – Subscription Management on the ribbon (for all scopes):



This will bring you to a corresponding subscription management page:

BRO	WSE E	DIT			
Create a rule	rule	Copy rule	Remove selected rules		
	Mi	anageme	int		
Hor	ne			There are no items to show in this view.	
Doc	uments				
Sub	sites				
I	Knowled	geBase			
I	HelpDesl	k			
I	Project1				

#### **13.1.** Adding a new subscription

Follow these steps to create a new task:

1. Click the **Create a rule** button on the ribbon. The new subscription rule window will appear:

Add new subscription rule	e for export	×
Select the scope Select the scope for the exported report	Scope: Site collection	^
Select the report Select the report to be exported	Report: Site summary	
Select the action Select the action that should be done after export of the report	Action: Send the report by email	~
Select recipients You can enter user names, group names, or e-mail addresses. Separate them with semicolons.	Users/Groups:	
Set scheduler for exporting Set the export schedule for the report	Schedule: Send report immediately Send report daily Send report weekly Send report monthly Time: Sunday 12:00 AM	
Specify the format Specify the format of the exported report	Format:	~

- 2. select the **scope** (not available for farm reports):
  - a. Site collection
  - b. This site only
  - c. This site and subsites
- 3. Choose the **report** that should be sent
- 4. Select the **delivery method**:
  - a. Send by e-mail
  - b. Save to a document library
  - c. Send by e-mail and save to a document library
- 5. Specify e-mail recipients and/or target document library
- 6. Set the schedule

**Note:** the option **Send report immediately** means the report will be sent within 10 minutes. For more details, refer to <u>Report exporting by schedule</u> timer job section.

- 7. Select the file format (Microsoft Excel file or PDF)
- 8. Specify the **file name format**. Three **macros** can be used: **#***REPORT\_NAME***#** report title, **#***WEB\_NAME***#** - site title, **#***TIMESTAMP***#** - current timestamp

#### 9. Define the **template** that this report should be based on:

Rule creation options	Option:			
Select the current template or use custom settings	Current template			
	Default	~		
	O Custom settings			
or set all the parameters <b>manu</b>	ially:			
Rule creation options	Option:			
Select the current template or use custom settings	O Current template			
	Default	$\sim$		
	<ul> <li>Custom settings</li> </ul>			
Configure filters				
Define view for the report				

10. Click **OK** button to save the task.

#### You can create an **unlimited number of subscription tasks**.

Make sure the exported report will have a **reasonable size** (up to hundred pages), since the conversion uses resources of the SharePoint server. Because of this, when you subscribe for a first time, a warning message will be displayed:

	Message from webpage	x
Â	Please note, the export of huge amount of data to PDF and creation of PDF with hundreds of pages can take a time, it may cause the unstable behavior of Sharepoint.	
	OK	

However, technically there are no limitations to the size of the exported report.

#### **13.2.** Customizing a subscription template

The e-mail templates that are used to send out HarePoint Analytics reports, are **customizable**. It is possible to use your **company logo** in reports exported to **PDF**.

To make customization possible, the product adds a feature called **HarePoint Analytics for SharePoint: Templates**. The feature is available at **site collection** level:

HarePoint Analytics for SharePoint: Templates

This feature allows you to customize mail message templates (message text) and design templates of the reports exported into PDF (adding company logo to the report). The detailed information about this feature is available in the product Administrator Guide.





Note: In order to use templates globally, activate HarePoint Analytics for SharePoint: Templates feature in site collection features at the Central Administration.

When activating this feature, a hidden document library named **MLStatTemplates** is added to the root site of the site collection.

You can modify the files in this library using Microsoft SharePoint Designer 2013.

The default templates are added to **Default** folder of this library:

- ExportToPdfHeaderLogo.gif a logo in the header of report exported to PDF file. By default, a logo of HarePoint company is used (80x80 pixel picture). You can replace this picture with your own logo in GIF format, but the file name should always be ExportToPdfHeaderLogo.gif.
   Important note: files in other formats and other names will not be accepted.
- ReportSubscriptionEmailTemplate.htm a template that is used for sending a report by e-mail. This template is an HTML document that can be modified as necessary. The information between <title></title> tags will be used as message subject. The file content itself will be used as the message body. You may also use the following macros:
  - #Web\_Title# -- website name
  - #Web\_Url# -- website address, <u>http://<siteurl>/</u>
  - #Report\_Title# -- report name
  - #Report\_Url# -- report URL address. This macro will be replaced with a string that looks similar to this one: <u>http://<siteurl>/ layouts/MAPILab/Statistics/Report.aspx?ReportId=ReportId&Scope=S</u> <u>ite</u>
  - #ManageReportSubscriptions\_Url# -- URL address of the corresponding Subscription Management page.

It is also possible to create templates in **other languages**. For that purpose, create a folder with the twoletter country code (according to **ISO 3166-1**) within the document library **MLStatTemplates** and put there **ExportToPdfHeaderLogo.gif** and **ReportSubscriptionEmailTemplate.htm** files modified accordingly to that language.

#### Examples:

For German language

- MLStatTemplates/**DE**/ReportSubscriptionEmailTemplate.htm
- MLStatTemplates/DE/ExportToPdfHeaderLogo.gif

or

For French language

- MLStatTemplates/FR/ReportSubscriptionEmailTemplate.htm
- MLStatTemplates/FR/ExportToPdfHeaderLogo.gif

#### 14. Viewing reports in Power BI

**Microsoft Power BI** is a product suite allowing users to collect, analyze, visualize, and share analytical data easily and efficiently. This ensures excellent flexibility in working with reports, with a minimal learning curve thanks to the clean and intuitive Power BI interface.

Power BI can be used as an alternative way to view reports from HarePoint Analytics.



**Note:** If you plan to move to SharePoint Online and use <u>HarePoint Analytics for SharePoint Online</u>, which is tightly working together with Power BI, then using Power BI with HarePoint Analytics on premise can facilitate the smooth transition of user experience to the Online platform.

#### 14.1. Preparing Power BI Desktop

To view HarePoint Analytics reports in Power BI, you would need to have **Power Bi Desktop** installed on your computer.



If you don't have it installed yet, you can download it from Microsoft site (free of charge): <a href="https://powerbi.microsoft.com/en-us/downloads/">https://powerbi.microsoft.com/en-us/downloads/</a>

While loading data, Power BI template will run multiple database queries. With the default security settings an approval dialog will be displayed for every single query.
To prevent this, change the security settings as follows:
Run Power BI Desktop, and go to File – Options and Settings – Options.



# Under Security section, uncheck the Require user approval for new native database queries checkbox: Options



#### 14.2. Connecting Power BI to HarePoint Analytics

The Power BI template file for HarePoint Analytics can be found in distributive package for HarePoint Analytics (versions 16.11/15.16 and above):



Click this file and it will open in Power BI Desktop application.

At first step, it will prompt for SQL database connection. Specify the SQL server name (including SQL instance if needed), and the name of HarePoint Analytics <u>main database</u>:

PowerBiHarepointAnalyticsTemp	olate		
Harepoint Analytics For Sharepoint			
SQL Server Instance			
SP2016-PREV\SHAREPOINT			
Database Name			
Analytics_Main			
		Load 🔹	Cancel

**Note:** These can be taken directly from HarePoint Analytics settings (**Central Administration – Monitoring – HarePoint Analytics settings**):

## Settings of HarePoint Analytics for SharePoint (Vers

Database server and name		
This base will be used for storing and gathering statistical information about the usage of SharePoint sites.	Database server SP2016-PREV\SharePo	
	Database name Analytics_Main	
Click Load button.		

At next step, Power BI will begin to refresh its dataset based on data from HarePoint Analytics main database. This process can take several minutes.

### Refresh

• DimDate 148 rows loaded.	-
• DimDatePeriods 748 rows loaded.	
• DimServers Creating connection in model	
• DimDatabases Creating connection in model	
• DimWebApplications Creating connection in model	•

1 Infrastructure Data collected: 2021-06-16 Period Departments (1) Web applications (1) Web application Url Site collections Sites Size (Mb) Files Last 30 days SharePoint - 80 ଚ 2 h Date Range 2 8 14,39 13 110 26.05.2021 25.06.2021 N/A  $\bigcirc$ -0 1 3 2 # of Users Databases Farm Popularity 6 Site Collections 2 Sites 8 июн 12 июн 13 Space used (Gb) Number of Files Databases space Used (MB) 0,01 140 Number of files 120 110 100 760 80 июн 13 май 30 май 30 июн 06 июн 13 июн 20 июн 06 июн 20

#### When dataset refreshing is complete, the reports will become available:

#### 14.3. How to use Power BI reports

Infrastucture Site collections Sites Visits Users Documents List items Search Performance Social +

Reports are arranged as set of **dashboards**:

Infrastucture	Site collections	Sites	Visits	Users	Documents	List items	Search	Performance	Social	+
---------------	------------------	-------	--------	-------	-----------	------------	--------	-------------	--------	---

- Infrastructure farm-wide statistics
- Site collections all site collections and their sites
- Sites all sites and their pages
- Visits visits statistics

- Users Users activity details
- Documents all document libraries and documents in them
- List Items all lists and their list items
- Search search usage details
- **Performance** farm servers performance reports
- Social statistics for using social features

Reports have **filters** available at the left side:

Period	
Last 30 days 🗸 🗸	
Date Range	
26.05.2021 25.06.2021	
00	
Site collection	
(Blank)	
http://sp2016-prev http://sp2016-prev/sites	
Site	
(Blank)	
helpdesk	
hhdd	
N/A Test	

<b>∀</b> Filters	6	>
✓ Search		
Filters on this visual		
Added is (All)		
BaseType is DocumentLibrary		
Deleted is (All)		
Downloaded is (All)		
Edited is (All)		
Files is (All)		
Last activity is (All)		
<b>Login</b> is not blank		
Name is (All)		
Url is (All)		
Viewed		

It is also possible to use the native Power BI filters at the right pane.

You can click on any item in a report, so that all other reports on the same dashboard will be filtered by the selected item (filter propagation feature):

#### Without filter propagation:

Visits	١	/isitors	Pageviews				Landing pages				
							Page		Url	Entrances	
13 Site N/A helpdesk	13 0 Url 90 90	12 Last activity 16.06.2021 12:51:16 08.06.2021 12:51:16	17 Bounce rate 100% 50% 92%	Pageviews	92%	100% 2 E2 ···· 11 6 17	http://sp2016-prev-ajexel.clopp.net/SitePages/Support.aspx http://13.74.199.76/favicon.ico http://sp2016-prev-ajexel.clolpDesk/Settings/Settings.aspx http://sp2016-prev-ajexel.clolpDesk/_layouts/15/start.aspx		\$ \$		2 1 1
Page		– Page popu		Pageviews			Exit pages Page http://sp2016-prev-ajexel.clolpDesk/Settings/Settings.aspx http://sp2016-prev-ajexel.clopp.net/SitePages/Support.aspx	PIU PIU	Exits	2	
-				- generation		9	http://13.74.199.76/favicon.ico	0		1	
http://13.74.199.76/fav		k/Settings/Settings.aspx				2	(http://fon-infositio/http://tencomico				
		t/SitePages/Support.asp				2					
		k/_layouts/15/start.aspx	©			1					
		.net/helpdesk/default.as	px ©			1					
http://sp2016-prev-aje						1					
	xel.clolpDes	k/StartPage.aspx?lsDlg=	1 🕲								

#### With filter propagation (specific site has been selected):



For more information on using Power BI, please refer to Power BI site.

#### **15. Advanced Settings**

#### 15.1. HarePoint Analytics Timer Jobs

HarePoint Analytics for SharePoint creates several **Timer Jobs** during the solution deployment. The **Timer Jobs** are started by a schedule.

Timer job settings can be reviewed and configured in several ways:

 in the product settings: Central Administration – Monitoring – HarePoint Analytics settings (some timer jobs are not displayed here; possible to configure all specific timer job settings, run jobs manually)

Monitoring

Health Analyzer Review problems and solutions   Review rule definitions
Timer Jobs Review job definitions   Check job status

Reporting View administrative reports | Configure diagnostic logging |

HarePoint Analytics for SharePoint HarePoint Analytics for SharePoint settings Web application inter management Tasks for exporting reports

Configure usage and health data collection | View health reports

 in centralized SharePoint timer jobs management sections: Central Administration – Monitoring – Review job definitions and Check job status sections (all HarePoint Analytics timer jobs displayed, possible to find out the current status and progress, run jobs manually)

Monitoring



• using HarePoint Analytics Utility, Timer Jobs tab (all HarePoint Analytics timer jobs displayed, possible to view status, enable/disable, and run jobs manually) – refer to <u>HarePoint Analytics</u>

#### Maintenance Guide for more details

3			Hare	point Ar	alytics Hel	p Util				- 🗆 x
General	info Timer jobs Policies and filters UL	Slog Web.c	config modification	ons Missir	ng features and	web-parts	Data collection fe	ature	Installation checker Rep	oort Custo <
force	mation about the timer jobs used by Hareport e running the jobs as well. fresh Enable Disable	oint Analytics.		ou to tum o	on/off the jobs, Server	view history Recrea				
	Job name	Status	Run status	Run server	Start time	Run duration	Enabled	Server	Last run time	Schedule
►	Report export scheduler	Online	False		N∖A	N∖A	Enabled	Any	7/5/2021 3:30:00 PM	Minutes
	Data collection from Active Directory	Online	False		N∖A	N\A	Enabled	Any	7/4/2021 11:00:00 PM	Daily
	Processor of message queue	Online	False		N\A	N\A	Enabled	Any	7/5/2021 3:30:42 PM	Minutes
	Periodic data collection	Online	False		N\A	N\A	Enabled	Any	7/5/2021 12:00:00 AM	Daily
	Preliminary data preparation	Online	False		N\A	N∖A	Enabled	Any	7/5/2021 12:00:01 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	7/5/2021 2:00:01 AM	Daily
	Statistics information cleaner	Online	False		N\A	N\A	Enabled	Any	7/3/2021 5:24:30 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

#### Schedule

The **default schedule for the timer jobs is optimal**, and only in specific cases (large farm, non-standard working hours, etc) some adjustments might be required. Please refer to <u>HarePoint Analytics Maintenance</u> <u>Guide</u> for a detailed description of each timer job and recommendations on adjusting the schedule.

Important note: we strongly recommend getting started with the default schedule for all timer jobs.

#### Server association

If there are several Web Front-End servers in the farm, SharePoint will load balance timer jobs by running them of different servers. In the product settings it is possible to assign a timer job to a certain server, so that it will always be executed on this server.

Timer Job Associations

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

For some timer jobs, however, this setting does not make sense – please refer to <u>HarePoint Analytics</u> <u>Maintenance Guide</u> before making any changes.

Note: It is recommended to get started with Any setting for all timer jobs.

#### List of timer jobs

HarePoint Analytics adds the following Timer Jobs:

- 1. HarePoint Analytics for SharePoint: Queue Data Processor
- 2. HarePoint Analytics for SharePoint: Report Data Preprocessor
- 3. <u>HarePoint Analytics for SharePoint: Preprocessor report data by month</u>
- 4. HarePoint Analytics for SharePoint: Periodic data collection
- 5. <u>HarePoint Analytics for SharePoint: Data Collecting from Active Directory</u>
- 6. <u>HarePoint Analytics for SharePoint: Geographic positions database update</u>

- 7. HarePoint Analytics for SharePoint: System Metrics Collector\*
- 8. <u>HarePoint Analytics for SharePoint: Statistics Information Cleaner\*</u>
- 9. <u>HarePoint Analytics for SharePoint: Report exporting by schedule\*</u>
- 10. HarePoint Analytics for SharePoint: ULS logs monitoring

\*these timer jobs are not visible in the product settings.

#### 15.1.1. Processor of Message Queue (Queue Data Processor)

**Processor of Message Queue** (in timer job definitions called **Queue Data Processor**) timer job moves the data from the **Queue Database** to the **Main Database**. These are raw (unprocessed) data, and they are not yet used to display data in the reports.

Please refer to <u>HarePoint Analytics Maintenance Guide</u> for a detailed description of data collection mechanism.

Default schedule is every 5 minutes. Recommended is every 5-10 minutes.

**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!

**However:** depending on the configuration, this timer job can be disabled automatically when a <u>Preliminary</u> <u>Data Preparation</u> timer job is running to optimize the SQL server load.

To change the schedule of **Processor of Message Queue**, go to **Central Administration – Monitoring –** HarePoint Analytics settings:

## Monitoring



Reporting View administrative reports | Configure diagnostic logging | Configure usage and health data collection | View health reports



HarePoint Analytics for SharePoint HarePoint Analytics for SharePoint settings Farm Reports | web application intermanagement Frasks for exporting reports

#### Click on Change Schedule in Processor of Message Queue section:

#### 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 7/5/2021 3:35:42 PM Change schedule

Change the schedule in **Recurring Schedule** section:

107 Advanced Settings | HarePoint.Com

This timer job is scheduled to run:

Minutes	Every	5	minute(s)
⊖ Hourly			
○ Daily			
○ Weekly			
○ Monthly			

Press the **OK** button to save changes.

#### 15.1.2. Preliminary Data Preparation (Report Data Preprocessor)

Preliminary Data Preparation (in timer job definitions called Report Data Preprocessor) is a key timer job in HarePoint Analytics. This timer job processes the data collected during the day (from various sources) and prepares all the information for the daily reports. This approach ensures the data are not processed on the fly when you browse reports, which would cause high SQL server load and high response times. Instead of this, when you access the report, the pre-processed data are extracted from a SQL table. That is, all reports load very quickly and SQL server load at that time is negligible.

Preliminary Data Preparation is the most resource intensive timer job in HarePoint Analytics, so by default it is scheduled to start daily at 12am. You can adjust the starting time so that this timer job runs at the time when you have the lowest SQL server usage. It is recommended to keep the daily schedule.

To change the settings of Report Data Preprocessor, go to Central Administration – Monitoring – HarePoint Analytics settings:

## Monitoring



#### Click on Change settings in Preliminary Data Preparation section:

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 7/5/2021 12:00:01 AM

Change settings

**Execution timeout** is **600 minutes** by default. If it takes longer than that value, the timer job execution will be forcibly interrupted. In this case, the data will not be lost, but will be re-calculated upon next timer job launch.
Execution Timeout Specify the duration (in minutes) after which the procedure should timeout.

Timeout

The option **Prepare data without disabling of message queue job** should normally be **unchecked**:

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

600 minutes

In this case, when Preliminary Data Preparation job starts, it temporarily disables Processor of message queue job in order to optimize SQL server load.

With this option checked, the SQL server load will **increase**, and the data in reports will be **delayed by 2 days** instead of 1 day in normal mode. This option is only used to catch up the backlog data – please refer to <u>HarePoint Analytics Maintenance Guide – Data collection and Processing – Timer Jobs – Preliminary</u> <u>Data Preparation</u> for the detailed information on all optimization options available for this timer job.

Change the schedule in Recurring Schedule section:

This timer job is scheduled to run:

Daily	Starting every day between		
O Weekly	12 AM 💙 00 💙		
○ Monthly	and no later than		
Owonany	12 AM 💙 00 🗸		

Press the **OK** button to save the settings.

**Important note:** It is **not recommended** to click **Run now** button during the working hours, as this timer job puts a substantial load on the SQL server and can take up to several hours to complete.

## **15.1.3.** Monthly Data Preparation (Preprocessor report data by month)

The **Monthly Data Preparation (**in timer job definitions called **Preprocessor report data by month)** timer job prepares the data for Monthly reports based on the data from Daily reports, which in turn are prepared by the **Preliminary Data Preparation** 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.

**Default schedule** is **once per day during off-hours**. Originally, it is set to start at **2am** 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.

To change the settings of the **Monthly Data Preparation** job, go to **Central Administration – Monitoring –** HarePoint Analytics settings:

# Monitoring

**F**F

Health Analyzer Review problems and solutions | Review rule definitions Timer Jobs Review job definitions | Check job status Reporting View administrative reports | Configure diagnostic logging | Configure usage and health data collection | View health reports HarePoint Analytics for SharePoint

HarePoint Analytics for SharePoint settings Farm Reports |

#### Click on Change settings in Monthly Data Preparation section:

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

 Date and time of last run of the data processing procedure by months is recommended that the preparation procedure be schedule at a time when the server is least busy.
 The settings

#### The time frame of data preparation is set to 30 days by default and should not be changed:

The time frame of data preparation Please configure the time frame to prepare your data for the reports by months

Pr	epare every		
		30	days

**Execution timeout** is **600 minutes** by default. If it takes longer than that value, the timer job execution will be forcibly interrupted. In this case, the data will not be lost, but will be re-calculated upon next timer job launch.

Execution Timeout

Specify the duration (in minutes) after which the procedure should timeout.

Timeout		
	600	minutes

#### Change the schedule in Recurring Schedule section:

This timer job is scheduled to run:



Click **OK** to save the configuration.

## 15.1.4. Periodic data collection

The **Periodic Data Collection** timer job collects **additional information** from SharePoint, such as the status and parameters of websites, lists, and document libraries, values for the selected SharePoint User Profile fields.

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

## Default schedule is daily, during the 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**. This will not cause any delays in reporting.

Later versions of HarePoint Analytics introduce the improved **incremental data collection** mechanism for this timer job, but it is not enabled by default. If the jobs takes too long to run, consult <u>HarePoint Support</u> if you should enable this mechanism on your farm. You can also find more details on this option in <u>HarePoint</u> <u>Analytics Maintenance Guide – Data collection and Processing – Timer Jobs – Periodic Data Collection</u>

To change the schedule of **Periodic data collection** job, go to **Central Administration – Monitoring – HarePoint Analytics settings**:

# Monitoring



Health Analyzer Review problems and solutions | Review rule definitions



Timer Jobs Review job definitions | Check job status

#### Reporting

View administrative reports | Configure diagnostic logging | Configure usage and health data collection | View health reports



HarePoint Analytics for SharePoint HarePoint Analytics for SharePoint settings web application inter management ( rasks for exporting reports

#### Click on Change schedule in Periodic data collection section:

#### 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.

#### Change the schedule in Recurring Schedule section:

This timer job is scheduled to run:

Daily	Starting every day between		
○ Weekly	12 AM 🗸 00 🗸		
O Monthly	and no later than		
	12 AM 💙 00 💙		

#### Press the **OK** button to save the configuration.



Advanced Settings | HarePoint.Com

Data collection schedule daily between 00:00:00 and 00:00:00 Last run time 7/5/2021 12:00:00 AM Change schedule

#### **15.1.5. Data Collection from Active Directory**

This timer job collects **additional information** about Active Directory users and groups, as well as some other key parameters from AD.

To change the schedule or settings of Data Collecting from Active Directory timer job, go to Central Administration – Monitoring – HarePoint Analytics settings:

# Monitoring



Click on **Change Schedule** link for this timer job:

#### 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.



**Note:** In HarePoint Analytics Settings, you might 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.

Active Directory access account	
The farm account can by default have no rights to read data from the Active Directory	Account
global catalogue. You can specify another account.	Our StarePoint farm account
	○ Account setup
	Account
	Password:
Domain controller	
Data collection from Active Directory is by default performed automatically. If you	Domain controller
specify a domain controller to be used for data collection, you can distribute the	Our of the specified Domain Controller by default
workload.	○ Select domain controller
	Fully-qualified server name:

#### Adjust the schedule if necessary:

# **Note: Default schedule is once per day**, however in many cases, it is sufficient to collect this information only once a week.

#### Recurring Schedule

Use this section to modify the schedule specifying when the timer job will run. Daily, weekly, and monthly schedules also include a window of execution. The timer service will pick a random time within this interval to begin executing the job on each applicable server. This feature is appropriate for high-load jobs which run on multiple servers on the farm. Running this type of job on all the servers simultaneously might place an unreasonable load on the farm. To specify an exact starting time, set the beginning and ending times of the interval to the same value.

This timer job is sch	reduled to run:
Daily	Starting every day between
<ul> <li>Weekly</li> <li>Monthly</li> </ul>	11 PM 💙 00 🗸
	and no later than
	11 PM 💙 00 💙

Press the **OK** button to save the settings.

### 15.1.6. Geographic locations database update

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

This timer job **is optional and disabled by default**. You can enable it only if you need information in **Visit By Countries** report.

Please refer to <u>Setting the Geographical locations database update</u> section for a complete description of settings and schedule.

### 15.1.7. System Metrics Collector

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 **farm reports** in **Central Administration**.

#### This timer job is optional and disabled by default.

**Important note:** If you need to turn on data collection on WFE servers' performance, please **proceed to** <u>Data collection on server performance</u> paragraph, since there are **other steps required** besides enabling the timer job.

## **15.1.8. Statistics Information Cleaner**

The **Statistics Information Cleaner** timer job performs clean up of old statistical information. Please refer to <u>Setting the data retention period</u> section in this Guide and **Data retention period** section in <u>HarePoint Analytics Maintenance Guide</u> for detailed information.

**Note:** this timer job is not visible in HarePoint Analytics settings.

To change the schedule of this timer job, go to **Central Administration – Monitoring – Review Job definition**:

# Monitoring

Timer Jobs

Health Analyzer Review problems and solutions | Review rule definitions



Reporting View administrative reports | Configure diagnostic logging | Configure usage and health data collection | View health reports

Review job definitions Check job status

HarePoint Analytics for SharePoint HarePoint Analytics for SharePoint settings | Farm Reports | Web application filter management | Tasks for exporting reports

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

## Default and recommended schedule is once weekly during off-hours.

This timer job is scheduled to run:



## 15.1.9. Report exporting by schedule

**Report exporting by schedule** timer job is used to export the scheduled reports and send them by-email, or save to selected document library. This is performed for all sites and site collections by a single timer job. Refer to <u>Reports Subscription Management</u> for more information.

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

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

Note: this timer job is not visible in HarePoint Analytics settings.

To change the schedule of this timer job, go to **Central Administration – Monitoring – Review Job definition**:

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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

#### Change the schedule in Recurring Schedule section and click OK:

This timer job is scheduled to run:

Minutes	Every	10	minute(s)
⊖ Hourly			
○ Daily			
○ Weekly			
○ Monthly			

#### 15.1.10. Monitoring of the ULS logs

**Monitoring of the ULS logs** (in timer job definitions called **ULS logs monitoring**) is used to monitor SharePoint ULS logs and send notifications by e-mail or submit events to Event Log when certain events have been logged.

This timer job is optional and disabled by default.

To change the settings of this timer job, go to **Central Administration – Monitoring – HarePoint Analytics settings**:

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HarePoint Analytics for SharePoint HarePoint Analytics for SharePoint settings Farm Reports

#### Click on Change Settings in Monitoring of the SharePoint ULS logs section:

#### Monitoring of the SharePoint ULS logs This page allows you to configure SharePoint Timer Job which monitors SharePoint ULS logs and sends the notifications by e-mail or stores it in Event Logs.

Schedule daily between 00:00:00 and 00:00:00 Last run time N/A

Change settings

### Select the **delivery method**: send to Event logs or send by e-mail:

Action

The found logs can be either stored in event logs or sent to specified e-mail address.

Store logs in Event logs

O E-mail the logs to specified address Recipient's e-mail

## Select the monitoring level for the messages to be notified about:

The found logs can be either stored in event logs or sent to specified e-mail address.



#### Monitoring level

You can set the level of diagnostic logging starting from which the logs will be sent. This will limit the types and amount of information that will be written to event logs or sent be email.

#### Set the schedule, as necessary:

This timer job is scheduled to run:

O Minutes Starting every day between

12 AM 🗸 00 🗸

Hourly
 12 AM 
 00 
 and no later than

0 Duny

- Weekly
- O Monthly

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Click **OK** to save the settings.

## **15.2.** Data retention period

## **Description of data retention**

HarePoint Analytics stores the following sets of data:

- the data for **Daily** reports (the most detailed data) for **180 days** by default
- 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

You can **increase the retention period** for the detailed data as necessary, however this will result in an **increased database size** – make sure you have sufficient storage resources before setting a longer retention period.

On the other hand, if in your case it is enough to keep the detailed data only for 3 months (for example), it is recommended to reduce the retention period accordingly. This will help keeping the database size smaller.

If your storage resources are limited, you can also reduce the retention period for raw data to 60 or even 30 days. This will not affect data in reports at all.

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

The data removal, according to the retention period settings, is performed by <u>Statistic Information Cleaner</u> timer job, which runs once per week by default.

## Checking or changing the data retention

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 <u>distributive package</u>:

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

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## 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.

#### 15.2.1. Setting new 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 0

or

#### Stsadm -o mlstsetstatdatakeepdays -performancereports 0

Disables the data cleanup for performance reports.

## 15.2.2. Checking the current settings for the retention period

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:

```
Admini

PS D:\Analytics Distributive\AnalyticsTools> ./HarePointAnalyticsUtil.exe get-data-keep-days

HarePoint Analytic's data keep days:

visitsMainDays - 90

docsListsMainDays - 90

searchesMainDays - 90

visitstReportsDays - 180

docsReportsDays - 180

listsReportsDays - 180

performanceReportsDays - 180

Done.
```

or

#### Stsadm -o mlstdisplaystatdatakeepdays

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



## **15.3.** Data collection filters

By default, HarePoint Analytics collects all the information it can 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, hits by technical accounts, hits for certain file types like .gif, and so on).

HarePoint Analytics includes powerful and easy-to-use mechanism to filter out certain types of information at the data collection stage.

Statistics filter rules can be set at all levels (scopes) in SharePoint:

- farm level
- web application level
- site collection level

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- site level
- list or document library level

Refer to Filter levels section for more details.

## By default, the data collection filters **are inherited from the parent level**. The farm level and all descendant levels (where inheritance is established) **by default contain three filter rules**:

Filtration field	Relationship type	Expression
RequestUrl	NotEndsWith	.js
RequestUrl	NotEndsWith	.CSS
UserName	NotEqual	System Account

It is **highly recommended to set up additional data collection filter rules** to prevent unnecessary 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

Refer to <u>HarePoint Analytics Maintenance Guide</u> for more information on how to determine the information that needs to be filtered out in your case, as well as the examples of commonly used filters.

**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!

From technical point of view, some of data collection filters are applied at HTTP module level, before the collected data are recorded to a Queue Database, others are applied when data from Queue Database are transferred to Main Database (also refer to <u>How it works – Data collection</u>):

• The following fields are filtered at HTTP Module level:

RequestUrl, RequestUrlReferrer, RequestUserAgent, RequestHostAddress, RequestHostName, RequestAuthType, RequestIsAuthenticated, RequestAuthenticationName, UserAnonimous, DoNotCollect

• Filtering for the other fields is performed while data are being transferred to the Main Database.

**Exceptionally for troubleshooting purposes**, it is possible to disable either or both of these two filtering stages, by using **useDataCollectionFiltersOnHTTP** and **useDataCollectionFiltersOnQueueProcessing** policies respectively – refer to <u>Using command line tools to manage policies</u>. Normally both policies need to be set to **True**.

Data collection filter rules can be created and managed via the <u>web interface</u> or a <u>command line interface</u>.

## 15.3.1. Filter levels

### Farm level filter

This is a top-most level, which is parent for all other levels. It allows managing the collection of statistical data across the entire SharePoint farm.

Generally, it is recommended is to add data collection filters at the farm level to be sure they will 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 access the farm level filter rules settings, go to **Central Administration – Monitoring – HarePoint Analytics Settings – Statistics filter**:



#### Statistics filter

This page is designed for managing the statistics filter

Configure filter

#### Web application level filter

By default, web application level inherits the filter rules from a farm level. The inheritance can be broken and a unique set of data collection rules can be created for each web application.

Go to **Central Administration – Monitoring –** HarePoint Analytics for SharePoint section **– Web application filter management**:

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#### Select the required application:

## Collection of statistics filter rules for a web application o

Tasks for exporting reports

Actions - Settings -		Web App	lication: http://labsp13:9351/ -
Filtration field	Relationship type	Expression	Change Web Application
RequestUrl	NotEndsWith	.js	
RequestUrl	NotEndsWith	.CSS	
UserName	NotEqual	System Account	

## Site collection level filter

By default, site collection level inherits the filter rules from a web application level. The inheritance can be broken and a unique set of data collection rules can be created for each site collection.

Access **Site Settings** for the required site collection, go to 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 litter management
Site collection filter management

## Site level filter

By default, site level inherits the filter rules from a site collection level. The inheritance can be broken and a unique set of data collection rules can be created for each site.

Access **Site Settings** for the required site, go to 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

### List level filter

By default, list or document library level inherits the filter rules from a site level. The inheritance can be broken and a unique set of data collection rules can be created for each list or document library.

Access the **settings** of the required **List** or **Document Library**, click on **HarePoint Analytics list filter management** link under **General Settings**:



At this level, an option is available to **exclude** this list or document library **from data collection**: Collection of statistics filter rules for a list Documents

Actions 🗸	Settings 🗸		
Filtration fie RequestUr	Man	de list from statistics collection age collection of statistics of the given list	Expression .js
RequestUr	Expo	rt rules	.CSS
UserName		atistics filter rules of the current item will be exported Il format	System Account

After selecting this option, no filter rule will be added to the list of filter rules, but the option will be changed to **Include list in statistics collection** – this is how you can check if the given library or list is excluded from data collection.

### 15.3.2. Managing rules via the web interface

Data collection filter rules are managed in the same way at various levels.

The data collection filter management page contains:

- A. the Actions and Settings menu
- B. the list of rules

Actions - Settings - A		
Filtration field	Relationship type	Expression
RequestUrl	NotEndsWith	.js
RequestUrl B	NotEndsWith	.CSS
UserName	NotEqual	System Account

On this page, you can create, edit, delete, export and import data collection filter rules, break or reestablish the inheritance from the parent level.

### Adding a rule

- 1. Go to the data collection filter management page of the respective level.
- By default, the data collection filter rules at all levels except the farm level are inherited from the parent level. In this case, it is not possible to add a rule for this level.
   In order to be able to create a unique rule for this level, the rule inheritance need to be broken. To do this, select Break rule inheritance from the Actions menu. The inheritance will be broken and the parent level rules will be copied to the current level.



3. Select Add rule from the New menu



4. Select the required **Filtration field** from a drop-down (see below), the **Relationship type** and the **Expression**:

### Create rule for the statistics filter

			* indicates a r	required field
Filtration field *	RequestUrl	~ 0		
Relationship type *	NotEqual	~ Ø		
Expression *				
				.::
Ignore this rule for the events on documents and list items open and edition				
			ОК	Cancel

Click 🞯 icon for more details and examples.

**Important Note:** data collection filters have **positive 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 the 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>Using command line tools to</u> <u>manage policies</u>).

Note: NotEqual (and Equal) relationship types are case-sensitive.

**Ignore this rule for the events on documents and list items** checkbox is optional. Some filters rules may cause the document and list item events to be filtered out as a side-effect. When checked, this filter rule will not be applied for document and list item events. Click **(20)** icon for detailed explanation and examples.

5. Click **OK** to save the filter rule.

Filtration fields can be divided into several categories:

- a) http requests
  - RequestUrl http/https address of the request
  - RequestUrlReferrer URL of the page the user came from
  - RequestUserAgent UserAgent request line
  - RequestHostAddress IP address
  - **RequestHostName** Host address
  - RequestAuthType Authentication type
  - RequestIsAuthenticated Authenticated request

- **RequestAuthenticationName** Authentication name
- StatusCode HTTP status code, returned for the given HTTP request
- b) List items
  - ItemEvent List item event
  - ItemDisplayName Displayed list item name
  - ItemName List item name
  - ItemTitle List item title
  - ItemCreated List item creation time
- c) Lists
  - ListTitle List title
  - ListDescription List description
  - ListDefaultViewUrl List URL
  - ListBaseTemplate List base template
  - ListBaseType List base type
- d) Documents
  - DocumentName Document Name
  - DocumentCreated Document creation time
  - **DocumentTitle** Document title
  - DocumentUrl Document URL
  - **DocumentLength** Document size in bytes
  - DocumentFolderName Document folder
  - **DocumentExtension** the file extension of a document
- e) Users
  - UserAnonimous Anonymous user
  - UserLoginName User login name
  - UserEmail User email box
  - UserName User name
  - UserNotes User notes
  - UserIsSiteAdmin User site collection administrator
  - UserIsSiteAuditor Site collection auditor

#### Editing a rule

- 1. Go to the data collection filter management page of the respective level.
- By default, the data collection filter rules at all levels except the farm level are inherited from the parent level. In this case, it is not possible to edit rules for this level.
   In order to be able to edit rules for this level, the rule inheritance need to be broken. To do this, select Break rule inheritance from the Actions menu. The parent level rules will be copied to the current level and will become available for editing.



Click on the required rule in the list.

3. The window with the current rule settings will pop up:

Create rule for the statis	tics filter	×
	* indicates a required field	
Filtration field *	UserName	
Relationship type *	NotEqual	
Expression *	John Smith	
Ignore this rule for the events on documents and list items open and edition		
	OK Cancel	

Edit the filter rule as necessary.

Click 🞯 icon for more details and examples.

4. Click **OK** to save the changes.

#### Deleting a rule

- 1. Go to the data collection filter management page of the respective level.
- By default, the data collection filter rules at all levels except the farm level are inherited from the parent level. In this case, it is not possible to delete rules for this level.
   In order to be able to delete rules for this level, the rule inheritance need to be broken. To do this, select Break rule inheritance from the Actions menu. The parent level rules will be copied to the current level and will become available for editing and deleting.

Actions 🗸	Settings 🗸
Rul	ak rule inheritance es of the statistics filter are copied from the parent de, after which inheritance is broken.
	nage parent item rules to parent item statistics filter rules management page

Tick the rules to be deleted:

Nev	v • Actions • Settings •		
	Filtration field	Relationship type	Expression
	RequestUrl	NotEndsWith	.js
	RequestUrl	NotEndsWith	.CSS
	UserName	NotEqual	System Account
	UserName	NotEqual	John Smith

3. In the Actions menu select Remove selected rules:

New 🝷	Actions -	Settings 🗸
E Filtra		ove selected rules cted rules will be removed from the collection
Regi	J	ace rates the sectored norm the concetion

4. Confirm the rule deletion in the pop up dialog window:

Message from webpage	x
Remove selected rules?	
OK Cancel	

## **Exporting rules**

- 1. Go to the data collection filter management page of the respective level.
- 2. In the **Settings** menu select **Export rules**.

New   Actions	Settings 👻	
Filtration field	Export rules All statistics filter rules of the current item will be exported	
RequestUrl	in xml format	1

Specify the file name and click Save.
 All data collection rules for this specific level will be saved to an XML file.

## Importing rules

- 1. Go to the data collection filter management page of the respective level.
- By default, the data collection filter rules at all levels except the farm level are inherited from the parent level. In this case, it is not possible to import rules for this level.
   In order to be able to import rules for this level, the rule inheritance need to be broken. To do this, select Break rule inheritance from the Actions menu. The parent level rules will be copied to the current level.



In the New menu select Import statistics collection rules:

New	•	Actions - Settings -
		dd rule dd new rule for the statistics filter.
		nport statistics collection rules nport statistics filter rules from an xml file
	Hee	ch lansa

3. In the popup window click **Browse...**, select an appropriate XML file with data collection filter rules and click **OK**:

\* indicates a required field
File name \*
Browse...
OK Cancel

## Create rule for the statistics filter

## Inheriting rules from parent level

1. Go to the data collection filter management page of the respective level.

#### 2. Under Actions menu click Inherit rules:



Note: all unique rules for this level (if any) will be permanently removed!

#### 15.3.3. Managing rules via the command line interface

**Note:** this feature is not available for SharePoint Subscription Edition (SE). You can still manage the rules via the web interface. It is possible to manage the data collection filters from the command line using the extension commands for stsadm utility: mlstdisplayfilter, mlstaddfilter, mlstremovefilter, mlstresetfilter, mlstexportfilters, mlstimportfilters.

Stsadm utility is normally 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.

You can quickly get help for syntax of these commands as follows: stsadm -help <command name>

### Viewing the rules

To display filter rules for a certain scope, use the following command:

### stsadm -o mlstdisplayfilter

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

[-effective]

For a detailed description, refer to Operation mlstdisplayfilter.

## Adding a rule

To create a new filtering rule for a certain scope, use the following command:

#### stsadm -o mlstaddfilter

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

[-fieldid <RequestUrl | RequestUrlReferrer | RequestUserAgent |

RequestHostAddress | RequestHostName | RequestAuthType |

RequestIsAuthenticated | RequestAuthenticationName |

ItemEvent | ItemDisplayName | ItemName | ItemTitle |

ItemCreated | ListTitle | ListDescription | ListDefaultViewUrl |

ListBaseTemplate | ListBaseType | DocumentName |

DocumentCreated | DocumentTitle | DocumentUrl | DocumentLenght |

HarePoint.Com | Advanced Settings

DocumentFolderName | UserAnonimous | UserLoginName | UserEmail |

UserName | UserNotes | UserIsSiteAdmin | UserIsSiteAuditor |

DoNotCollect>]

[-relop <Greather | GreatherOrEqual | Less | LessOrEqual | Equal |

NotEqual | True | False | StartsWith | NotStartsWith | EndsWith |

NotEndsWith | Contains | NotContains | Empty | NotEmpty |

MatchRegex | NotMatchRegex>]

[-expression <filter expression>]

[-fromscratch]

[-ignoreforevents <true | false>]

For a detailed description, refer to Operation mlstaddfilter.

**Note:** if the target scope **inherits** the filter rules, the inheritance will be **automatically broken**. All parent level filter rules will be copied to the given level.

## Deleting a rule

To delete a certain rule or all rules for a specific scope, use the following command:

## stsadm -o mlstremovefilter

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

{-ruleid <filter rule identifier> | -all}

For a detailed description, refer to Operation mlstremovefilter.

**Note:** if the given scope inherits filter rules, the rules will not be deleted.

## **Exporting rules**

To export all filter rules for a specific scope to an XML file, use the following command:

## stsadm -o mlstexportfilters

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

-filename

For a detailed description, refer to **Operation mlstexportfilters**.

### **Importing rules**

To import the filter rules for a specific scope, use the following command:

#### stsadm -o mlstimportfilters

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

-filename

For a detailed description, refer to Operation mlstimportfilters.

**Note:** if the target scope **inherits** the filter rules, the inheritance will be **automatically broken**. All parent level filter rules will be copied to the given level.

### Inheriting rules from parent level

To delete all unique rules for the given scope and restore the inheritance from the parent level, use the following command:

#### stsadm -o mlstresetfilter

### -scope <farm | webapp | site | web | list>

### [-url <url of web application, site collection, site or list>]

For a detailed description, refer to Operation mlstresetfilter.

Note: all unique rules for this scope (if any) will be permanently removed!

## 15.4. Custom Active Directory, User Profile, and Metadata fields

By default, HarePoint Analytics is only collecting data for some basic AD and User Profile fields (such as Department, City, Title, E-Mail, etc) and not collecting data for any other fields. Data from metadata fields are not collected either.

In later versions of HarePoint Analytics, it is possible to include any **AD** and **User Profile** fields, as well as **metadata** fields from lists or document libraries in data collection, and therefore include these fields in reports, as well as filter or group data in reports by those fields.

You can add as many fields as necessary, but be aware that **excessive number of fields may increase data processing time and database growth**.

## **15.4.1. Enabling data collection for custom fields**

Go to HarePoint Analytics settings:

Central Administration – Monitoring – HarePoint Analytics settings – Data collection from additional fields:



# List of additional data sources o

New 

Actions

There are no items to show in this view.

<u>Important note</u>: data collection for a custom field starts only after the field is selected, and stops when this field is removed from the settings!

To add a new field, click New – Add new data source:



A form will open, where you can select any field from **Active Directory**, **SharePoint User Profile**, **Document metadata** or **List Item metadata** fields:

Create custom data field for reports

		* indicates a required field
Data source *	Active directory User profile	
Fields list *	Document metadata List item metadata	
Name *		
Display name *		
Data type *	String 🗸	
		OK Cancel

You can add as many fields as necessary, but be aware that **excessive number of fields may increase data processing time and database growth**.

The newly added fields will become available in reports immediately:

• Click **Fields** button on a ribbon when viewing a report and you will see the new fields at the bottom of the list:

	Country		
	Active Directory	Email	
	Active Directory	Title	
	Home page		
	SharePoint Depa	artment	t
	🗌 Email		
	Title		
	🗌 Manager		
	Office		
Use default settings	Apply		Cancel

Select the corresponding checkboxes to have those fields displayed in a report.

• Click Filter button on a ribbon when viewing a report; the new fields are available under corresponding sections Filter by Active Directory fields and Filter by SharePoint groups and users:

### Filter

Select date	range	to	build	а	report
-------------	-------	----	-------	---	--------

Build report	By dates		~
Specify time period	6/6/2021	- 7/6/2021	
Compare to other time period			
Specify time period	5/6/2021	- 6/5/2021	
B Filter by Active Directory field	ds		
	nd users		
Filter by report fields			
Visits			?

Metadata fields are also available below in the main list.

#### Note: The data in these fields, however, will not appear immediately.

The data from custom fields first need to be collected and this is performed by timer jobs, as follows:

- Data from User Profile and metadata are collected by Periodic Data Collection timer job
- Data from Active Directory are collected by Data Collection from Active Directory timer job

By default, these timer jobs are configured to run once daily.

The data in corresponding fields in reports will become available after these timer jobs complete successfully.

#### 15.4.2. Stopping data collection for custom fields

If previously added custom fields (as well as the data these fields contain) are no longer needed in reports, you can remove these fields from the product settings to stop data collection for them.

Go to Central Administration – Monitoring – HarePoint Analytics settings – Data collection from additional fields:



## Select the fields that need to be removed, click Actions button – Delete selected data sources:



**Note:** all the data for the given field will be immediately removed from the database when this field is removed from the settings! If for some reason, the data need to be restored, simply re-add the field and the data will be obtained by a corresponding timer job – see <u>previous</u> section.

## 15.5. Additional databases for cross-farm reports

Originally, since HarePoint Analytics is a farm-level solution, the farm scope was the top-most level of reporting. However, when there are several SharePoint farms with HarePoint Analytics installed, it may be useful to view cross-farm reports in order to get visual comparison of key statistical parameters between the farms.

Later versions of HarePoint Analytics introduce a new feature of building **cross-farm reports** (in **Central Administration – Monitoring – Farm reports**). This is achieved by attaching additional HarePoint Analytics databases from other farms, which data should be displayed along with the data from the current farm.

## 15.5.1. Adding databases for cross-farm reports

To add databases for cross-farm reports, go to **Central Administration – Monitoring – HarePoint Analytics** settings - Additional HarePoint Analytics Databases for cross-farm reports:



By default, there are no databases from other farms added.

To add a new database for cross-farm report, click **New – Add database**: **Note: additional databases are used in Read-only mode, and will not be modified upon adding them to the product settings.** 



Specify the connection properties of the additional database – that should be the **main database** of HarePoint Analytics installed on a remote farm.

Databases from HarePoint Analytics for SharePoint SE, 2019, 2016, and 2013 are supported.

#### Additional database properties

	* indicates a re	equired field
Display name *		
Server name *		
Database name *		
Use windows autentication *		
Login *		
Password *		
	OK	Cancel

**Note:** It is possible to add multiple additional databases in the product settings, and then flexibly choose only the necessary databases right in the report.

Once the additional database is added, you can go to farm reports (in Central Administration - Monitoring). Reports that support displaying cross-farm data, have **Databases** button available on the ribbon:



Click **Databases** button and choose the additional database from another farm, which data need to be displayed in the cross-farm report.

### 15.5.2. Removing databases for cross-farm reports

To remove an additional database from list of databases for cross-farm reports, go to **Central** Administration – Monitoring – HarePoint Analytics settings - Additional HarePoint Analytics Databases for cross-farm reports:



#### Select the additional database to remove and click Actions – Remove additional databases:

# Additional HarePoint Analytics Databases



The selected database will be detached from this SharePoint farm and removed from the list of additional databases for cross-farm reports; it will no longer be available in farm reports under **Databases** button.

Note: additional databases are used in Read-only mode, and will not be deleted or modified upon removing it from the product settings.

## **15.6.** User Profile Fullness report settings

**HarePoint Analytics** collects information on how full is SharePoint User Profile for each user and displays it in **Farm reports – User Profile Fullness**.

## To define which User Profile fields should be monitored, go to **Central Administration – Monitoring –** HarePoint Analytics settings – User Profile – Change settings.

User profile

These settings allows you selection of the data fields from the Sharepoint User Profile which will be checked by the product during data collection.

Change settings

#### Check the fields to be monitored, as necessary:

Select the data fields which will be monitored by the product Fullness information about selected fields from Sharepoint User profile will be collected by the product. Also this fields will be available in the corresponding report.



## 15.7. Search reports' settings

HarePoint Analytics collects search statistics in SharePoint and displays it in **Search** category of reports, available only at **site collection level** of reports.

HarePoint Analytics for SharePoint

Site usage reports Site collection usage reports

Site collection usage reports permissions Site filter management Site collection filter management Tasks for exporting reports

Search

Search overview

Search keywords

Users searches

Search destinations

Different configuration is required for 2013/2016/2019/SE and 2010 experience site collections, see below.

## 15.7.1. 2013/2016/2019/SE experience site collections

Important note: If you are using Enterprise Search Center in SharePoint, the HarePoint Analytics site collection feature needs to be activated on Search Center site collection! All the search statistics will be displayed only in Search Center cite collection usage reports.

If you are **not** using Enterprise Search Center, search statistics will also be collected and displayed on **corresponding site collection usage reports**.

**Note:** The **Custom search results pages** setting is **not applicable** for 2013/2016/2019/SE experience site collections:

Custom search results pages This option allows you to configure Harepoint Analytics to handle custom search results pages. Enter the name of each page on a new line.



## 15.7.2. 2010 experience site collections

If you have **SharePoint 2013** with **2010 UI site collections**, HarePoint Analytics by default will use the **standard search results pages (searchresults.aspx** and **peoplesearchresults.aspx**) to retrieve search usage statistics.

In case if you are using **custom search result pages**, you would need to specify the **corresponding page layouts** in HarePoint Analytics Settings.

In particular, if you are using Search Center, go to <search\_center\_url>/Pages/Forms/AllItems.aspx. In the page layout column, you can see the names of the page layouts that should be specified in Analytics settings – Custom search results pages:

Custom search results pages This option allows you to configure Harepoint Analytics to handle custom search results pages. Enter the name of each page on a new line.	Search results pages

You only need to put a **file name** (e.g. Customresultspage.aspx), and not the full URL. Do not put **searchresults.aspx** and **peoplesearchresults.aspx** there, as these pages are taken into account by default.

## **15.8.** Switching to Simple recovery model

For most scenarios, it is recommended to set the recovery model for both HarePoint Analytics databases to **Simple**. This will reduce the logging level of SQL transactions, optimize hard drive operations and reduce the total database size.

**Note:** In the **Simple** mode, the unsuccessful transactions cannot be rolled back by a SQL server. However, if this situation occurs, it would be possible to rebuild the missing data in reports (if any) since HarePoint Analytics also stores the raw (unprocessed) data for last 90 days by default.

If due to company policies, the **Full** recovery mode is required, it is recommended to shrink transaction log on a regular basis. Please refer to <u>Maintenance of Main statistics database</u> for further details.

Follow these steps to switch HarePoint Analytics databases to **Simple** Recovery mode:

- 1. Open SQL Management Studio
- 2. Right click on HarePoint Analytics Database, go to **Properties Options**.
- 3. In Recovery model select Simple.

0	Database Properties	AnalyticsMainDB		_ <b>D</b> X
Select a page	🔄 Script 🔻 📑 Help			
Files	<u>C</u> ollation:	Latin1_General_Cl_/	AS_KS_WS	~
Pemissions Extended Properties	Recovery <u>m</u> odel: Compatibility level:	Simple	10)	<u> </u>
	Containment type:	None		¥

4. Click **OK**.

Be sure to perform these steps for both Queue and Main database.

## 16. Importing data from IIS logs (optional)

HarePoint Analytics uses its own data collection engine, which is based on HTTP modules that are installed on each Web Front-End server. That is, HarePoint Analytics is **not** getting data from other sources, in particular from IIS logs. (Refer to <u>How it works</u> for more details).

The data collection starts as soon as the installation is completed, so it is not possible to view data from the past.

It is however possible to **import some older data into HarePoint Analytics from IIS logs** using a standalone tool that is shipped with HarePoint Analytics; it is called **IIS Log Importer**.

Since IIS logs contain **only basic information**, they will provide data only for **few reports**, such as **Pageviews** and **Visits Trend**.

A typical scenario is to import data from IIS logs **only once**, right after the installation of HarePoint Analytics.

**Important note:** In order to import data from IIS logs and have them displayed in reports, **three steps are required:** 

- 1. Import data using IIS Importer tool
- 2. Contact HarePoint Support to get a special SQL script that will compile data for the given date range
- 3. Run the SQL script to compile the imported data and see them in reports

These three steps are described below in details.

## Step 1: Import data using IIS Importer tool

Define the date range for data that you are going to import.

IIS Log Importer tool can be found in a **distributive package** in **Analytics Tools2016** or **Analytics Tools2013** folder (select folder according to the SharePoint version; for SharePoint SE and 2019 use AnalyticTools2016 folder):



Start this tool on any Web Front-End Server using Farm Administrator account:

	Harepoint IIS log importer	<b>- - X</b>
Logs folder:	File	Folder
Enable loggin	g Import	Cancel

Open IIS Manager, go to Sites. In the list of sites, identify the web application that you are going to import data for, and note the corresponding **ID**:

Sites			
Filter:	• 🐺 <u>G</u> o -	😓 Show <u>A</u> ll   Group by: No Grouping 🔹	
Name 📩	ID	Status	Binding
💮 Default Web Site	1	Stopped (http), Unknown (net.tcp), Unknown (net.pipe)	*:80 (http),808:* (net.tcp),* (net.pi
😌 SharePoint - 80	2039416568	Started (http)	:80 (http)
😌 SharePoint - 83	1770389811	Started (http)	:83 (http)
😌 SharePoint Central	1407539624	Started (http)	:22602 (http)
🏀 SharePoint Web S	2	Started (http), Unknown (net.tcp), Unknown (net.pipe)	*:32843 (http),*:32844 (https),3284

Click on this site in the left pane. Click on **Logging** under the **IIS** section:



Identify the directory where the IIS logs are saved:



## Logging

Use this feature to configure how IIS logs requests on the Web server.

One log file per:	
Site 🗸	
CLog File	
Format:	
W3C    Select Fields	
Directory:	
%SystemDrive%\inetpub\logs\LogFiles	Browse
Encoding:	
UTF-8 V	

Open that directory. Identify the subfolder by the IIS Site ID (where the IIS logs for the required web application are stored):

This PC → Local Disk (C:) → inetpub → logs → LogFi	JFiles	i.
----------------------------------------------------	--------	----

Name	Date modified	Туре	Size
W3SVC568646675	6/27/2015 9:12 AM	File folder	
퉬 W3SVC770538824	6/26/2015 5:10 PM	File folder	
W3SVC1407539624	6/29/2021 6:58 AM	File folder	
W3SVC1663518826	6/27/2015 9:24 AM	File folder	
W3SVC1770389811	12/29/2017 3:33 AM	File folder	
W3SVC2039416568	7/5/2021 1:34 PM	File folder	

۲

Open the corresponding subfolder. It is recommended to **copy** one or several files that you are going to import to a **newly created folder**.

**Important note:** By default, HarePoint Analytics keeps the detailed data in reports for 180 days, and the unprocessed data for 90 days. Make sure you are not going to import data older than 3 months; otherwise, they can be removed when Statistics Information Cleaner timer job starts.

If you need to import data older than 3 months, be sure to **change the data retention settings** accordingly – for further details refer to <u>Setting the data retention period</u> paragraph.

In IIS Log Importer tool, click **File** button and point to a single IIS log file, or click **Folder** button and point to a folder with several IIS log files to import all of them.

**Note:** If you are going to import several files, it is recommended to save them to a folder and use **Folder** button in the tool. Importing files one by one is less efficient.

Harepoint IIS log impo	orter 🗕	D X
Logs folder: C:\Users\Administrator\TempFolder\u_ex130408.	File	Folder
✓ Enable logging	Import	Cancel
Done!		.::

You can optionally **enable logging** (recommended), so that a tool will create a log file (in the same folder where the tool resides) for importing process, making possible to verify if the data have been imported as expected.

Click Import button when ready.

Importing data takes some time, depending on the amount of data to be imported. When importing is finished, "**Done!**" is displayed next to the progress bar. You can close the tool.

Step 2: Contact HarePoint to obtain a SQL script for data compiling

The imported data **need to be pre-processed** before they will be displayed in reports. Note that a regular pre-processing that is performed by <u>Preliminary Data Preparation timer job</u> will not compile the data imported from IIS logs since they are older than the latest available data in reports.

To compile the imported data, you need to run a **special SQL script** that can be obtained from **HarePoint Support**.
Contact HarePoint Support via <u>support@harepoint.com</u>, or create a ticket on <u>http://harepoint.com/Support/</u>.

Briefly describe the situation (why do you need to import older data), and **provide the date range** (important). HarePoint Support representative will shortly provide you a corresponding SQL script that will compile the imported data.

#### Step 3: Run the SQL script to compile data

To compile the imported data, **run the SQL script obtained from HarePoint Support**. Normally, when the script is successfully completed, the data will appear in corresponding reports. If necessary, contact HarePoint Support for further instructions.

## 17. Adding and configuring a web-part

HarePoint Analytics web-part can be used to display any report from site or site collection level of reports.

This is an alternative way of getting statistical reports from HarePoint Analytics (all possible ways are mentioned in <u>Report generation</u> paragraph).

Using this web-part, you can:

- Display a report for any site or site collection on any SharePoint page across the whole farm
- Create custom dashboards easily and flexibly by placing several web-parts on a new blank page

Note: Farm reports cannot be displayed by a web-part.

**Note:** the web-part requires the same **permissions** as reports – refer to <u>Managing access to the reports</u>. In particular, if you place a web-part to the page, the web-part will anonymize data (display them as *Hidden: <unique ID>*) for those users who do not have the corresponding permissions in HarePoint Analytics.

Since SharePoint 2016, the new user interface has been introduced, known as **Modern Experience**, whereas older interface is referred to as **Classic Experience**.

(Classic experience is still fully available; you can switch to it in Site Settings if needed).

HarePoint Analytics web-part for the **Classic Experience** is automatically added to the gallery of web-parts during the product deployment, so you can proceed with adding the web-part to the page - <u>Adding a web-part</u>.

**Note:** HarePoint Analytics web-part for the **Modern Experience** is not available by default, and requires additional configuration to be made in SharePoint, see next chapter.

## 17.1. Configuring SharePoint 2016/2019/SE to use Modern Web-Part

**Note:** the web-part for **Classic experience** mode is available by default and does not require any additional configuration, so you can skip to <u>Adding a web-part</u> section.

This section describes the steps needed to make a web-part for **Modern experience** available.

1. If you are using SharePoint 2016, make sure the **Feature Pack 2** update is installed (version 16.0.4744.1000 - KB4092459 or newer).

SharePoint 2019/SE already has the necessary components available.

- Make sure that solution HarePointAnalyticsModernWebPart.wsp is deployed on this farm (in Central Administration Manage farm solutions). In case if it's not deployed, you can deploy it using the installer (by selecting this solution to be deployed), or manually (see paragraph <u>Manual installation HarePoint Analytics for SharePoint 2019/2016</u>).
- 3. Create and configure Subscription Settings Service:

(for more details refer to <u>https://docs.microsoft.com/en-us/sharepoint/administration/configure-an-environment-for-apps-for-sharepoint</u>)

- a) Go to Central administration -> System settings -> Manage services in this farm
- b) On that page, click to Enable Auto Provision for Microsoft SharePoint Foundation Subscription Settings Service:

SharePoint	Sites		¢?	System Account
				🖓 SHARE
System Settings	App Management Service	Yes	Manage Service Application	Yes
Monitoring	Business Data Connectivity Service	Yes	Manage Service Application	Yes
Backup and Restore	Claims to Windows Token Service	Yes	Disable Auto Provision	Yes
Security	Distributed Cache	Yes	Disable Auto Provision	✓ Yes
Upgrade and Migration	Document Conversions Launcher Service	No	Enable Auto Provision	✓ Yes
General Application Settings	Document Conversions Load Balancer Service	No	Enable Auto Provision	✓ Yes
Apps	Machine Translation Service	Yes	Manage Service Application	Yes
Office 365	Managed Metadata Web Service	Yes	Manage Service Application	Yes
Configuration Wizards	Microsoft SharePoint Foundation Incoming E-Mail	Yes	Disable Auto Provision	Yes
HarePoint HelpDesk for	Microsoft SharePoint Foundation Sandboxed Code Service	No	Enable Auto Provision	✓ Yes
SharePoint	Microsoft SharePoint Foundation Subscription Settings Service	No	Enable Auto Provision	Yes
	Microsoft SharePoint Foundation Workflow Timer Service	Yes	Disable Auto Provision	Yes
	PowerPoint Conversion Service	Yes	Manage Service Application	✓ Yes
	Project Server Application Service	Yes	Manage Service Application	✓ Yes
	Poquot Management	No	Epoble Auto Drovision	@ v

c) Create service application and its proxy for Subscription Settings Service.To do that, open Sharepoint Management Shell and run the following commands:

\$sa = New-SPSubscriptionSettingsServiceApplication -ApplicationPool 'SharePoint Web Services Default' -Name 'Subscriptions Settings Service Application' -DatabaseName 'Subscription'

New-SPSubscriptionSettingsServiceApplicationProxy -ServiceApplication \$sa

(for more details refer to <u>https://docs.microsoft.com/en-us/powershell/module/sharepoint-server/New-SPSubscriptionSettingsServiceApplication?view=sharepoint-ps</u>)

<b>R</b> .	Administrator: SharePoi	nt 2016 Management Shell	_ □	x
icationPool 'Share ice Application' -J	Point Web Services Def DatabaseName 'Subscrip	criptionSettingsServiceApplica ault' -Name 'Subscriptions Set ation' .onSettingsServiceApplicationPr	ttings S	erv =
DisplayName	TypeName	Id		
Microsoft SharePo.	Microsoft SharePo	e0ee3342-c5f6-4d30-a3cf-d3ef	fcb6e8f	3
PS C:\Users\perezh	ogin> _			~

- 4. Create App Management service application
  - a) Go to Central administration -> Application Management -> Manage service applications
  - b) On that page, click New -> App Management Service:

<b>Ⅲ</b> S		Sha	arePoint					
BI	ROWSE	SEF	RVICE APPLICATIONS					
_	New Conn		Delete Manage Adm					
2	Арр Ма	nagem	nent Service at					
	Business	a Data	Connectivity Service					
2	Machine	e Trans	lation Service					
2	Manage	d Met	adata Service					
2	Project S	Server	Service Application					
2	Search S	Service	Application					
2	Secure S	Secure Store Service						
2	User Pro	ofile Se	ervice Application					
2	Word A	utoma	tion Services					

c) Provide the Service Application Name.

Choose the option **Use existing application pool** and then in the drop-down choose the application pool created earlier, at Step **2 c)** of this guide:

#### Name

Enter the name of the app management service application. The name entered here will be used in the list of Service Applications displayed in the Manage Service Applications page.

# Service Application Name App Management Service

#### Database

Use of the default database server and database name is recommended for most cases. Refer to the administrator's guide for advanced scenarios where specifying database information is required.

Use of Windows authentication is strongly recommended. To use SQL authentication, specify the credentials which will be used to connect to the database.

#### Failover Server

You can choose to associate a database with a specific failover server that is used in conjuction with SQL Server database mirroring.

-				
Δn	nlı	cat	non	Pool
	2.	Cur		1001

Choose the Application Pool to use for this Service Application. This defines the account and credentials that will be used by this web service.

You can choose an existing application pool or create a new one.

	2016Sql
Da	atabase Name
	App_Management_ad1a278c-7d36-428e-
Da	atabase authentication
(	Windows authentication (recommended)
$\langle$	) SQL authentication
	Account
	Password
Fa	ilover Database Server
Fa	ilover Database Server
	Use existing application pool
	Use existing application pool SharePoint Web Services Default
	Use existing application pool SharePoint Web Services Default
	Use existing application pool SharePoint Web Services Default
	Use existing application pool SharePoint Web Services Default Create new application pool Application pool name
	Use existing application pool SharePoint Web Services Default

- 5. Make sure the newly created services and service applications are running:
  - a) Go to Central Administration -> System settings -> Services on Server.
     Check if the services App Management Service and Microsoft SharePoint Foundation
     Subscription Settings Service both have Started status:

×

2

? System Account

Ċ,

🔿 SHARE

## Services on Server 🛛

Application Management	Server: 2016SHAREPC	NNT →   Role: C	Custom   View	: Configurable
System Settings	Service	Status	Compliant	Action
Monitoring	App Management Service	Started		Stop
2	Business Data Connectivity Service	Started		Stop
Backup and Restore	Central Administration	Started		Stop
Security	Claims to Windows Token Service	Started		Stop
Upgrade and Migration	Distributed Cache	Started		Stop
General Application	Document Conversions Launcher Service	Stopped		Start
Settings	Document Conversions Load Balancer Service	Stopped		Start
Apps	Lotus Notes Connector	Stopped		Start
Office 365	Machine Translation Service	Started		Stop
Configuration Wizards	Managed Metadata Web Service	Started		Stop
HarePoint HelpDesk for	Microsoft SharePoint Foundation Incoming E-Mail	Started		Stop
SharePoint	Microsoft SharePoint Foundation Sandboxed Code Service	Stopped		Start
	Microsoft SharePoint Foundation Subscription Settings Service	Started		Stop
	Microsoft SharePoint Foundation Workflow Timer Service	Started		Stop
	PowerPoint Conversion Service	Started		Stop
	Project Server Application Service	Started		Stop
	Request Management	Stopped		Start
	Secure Store Service	Started		Stop
	User Profile Service	Started		Stop
	Word Automation Services	Started		Stop

 b) Go to Central Administration -> Application Management -> Manage service applications. Check if service applications App Management Service and Subscriptions Settings Service Application both have started status (as well as their proxies):

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	Sh	arePc	oint	Sites	5				ø	?	System Account
BRO	WSE SE	RVICE APP	LICATION	S							🜍 SHARE [
		X	0 0			<b>B</b>					
New	Connect			Administrator	s Properties	Publish	Permissions	s			

Sharing

Central Administration	Name	Туре	Status
	App Management Service	App Management Service Application	Started
Application Management	App Management Service	App Management Service Application Proxy	Started
System Settings	Application Discovery and Load Balancer Service Application	Application Discovery and Load Balancer Service Application	Started
Monitoring Backup and Restore	Application Discovery and Load Balancer Service Application Proxy_4a0ca3f8-2fdf-451d-841c-906f38b485d9	Application Discovery and Load Balancer Service Application Proxy	Started
Security	Business Data Connectivity Service	Business Data Connectivity Service Application	Started
Upgrade and Migration General Application	Business Data Connectivity Service	Business Data Connectivity Service Application Proxy	Started
Settings	Machine Translation Service	Machine Translation Service	Started
Apps	Machine Translation Service	Machine Translation Service Proxy	Started
Office 365	Managed Metadata Service	Managed Metadata Service	Started
Configuration Wizards	Managed Metadata Service	Managed Metadata Service Connection	Started
HarePoint HelpDesk for	PowerPoint Conversion Service Application	PowerPoint Conversion Service Application	Started
SharePoint	PowerPoint Conversion Service Application	PowerPoint Conversion Service Application Proxy	Started
	Project Server Service Application	Project Application Services	Started
	Project Server Service Application	Project Services Application Proxy	Started
	Search Administration Web Service for Search Service Application	Search Administration Web Service Application	Started
	Search Service Application	Search Service Application	Started
	Search Service Application	Search Service Application Proxy	Started
	Secure Store Service	Secure Store Service Application	Started
	Secure Store Service	Secure Store Service Application Proxy	Started
	Security Token Service Application	Security Token Service Application	Started
	SharePoint Server ASP.NET Session State Service	SharePoint Server ASP.NET Session State Service	Started
	State Service	State Service	Started
	State Service	State Service Proxy	Started
	Subscriptions Settings Service Application	Microsoft SharePoint Foundation Subscription Settings Service Application	Started
	Microsoft SharePoint Foundation Subscription Settings Service Application Proxy	Microsoft SharePoint Foundation Subscription Settings Service Application Proxy	Started

6. Configure App catalog:

Create

Operations

a) Go to Central Administration -> Apps -> Manage App Catalog. Choose Create a new app catalog site and click OK:

SharePoint	Sites	🔅 ? System Account 🔻
		🗘 SHARE [🗆]
s	Manage App Cata	alog o
Central Administration		Web Application: http://2016sharepoint/ -
Application Management System Settings Monitoring Backup and Restore Security	App Catalog Site The app catalog site contains catalogs for apps for SharePoint and Office. Use this site to make apps available to end users. Learn about the app catalog site.	The selected web application does not have an app catalog site associated to it.  Create a new app catalog site  C Enter a URL for an existing app catalog site
Upgrade and Migration		
General Application Settings		ОК
Apps		
Office 365		
Configuration Wizards		
HarePoint HelpDesk for SharePoint		

b) Fill in Title, URL, Site collection administrator fields:

	SharePoint	Sites		ø	?	Syste	m Accoun	t
							🗘 SHARE	[_
S	>	Create App Cat	alog					
	al Administration					ОК	Cancel	
Sy	anagement stem Settings onitoring	Web Application Select a web application.	Web Application: http://2016sharepoint/ +					
Ba	ckup and Restore	To create a new web application go to New Web Application page.						
Up	ograde and Migration	Title and Description						
	eneral Application ttings	Type a title and description for your new site. The title will be displayed on each page in the site.	Title: App catalog	$\boldsymbol{\mathcal{S}}$				
Ap	ops	page in the site.	Description.					
Of	fice 365							
Co	onfiguration Wizards			11				
	arePoint HelpDesk for JarePoint	Web Site Address Specify the URL name and URL path to create a new site, or choose to create a	URL: http://2016sharepoint /sites/	o_catalog		>		
		site at a specific path. To add a new URL Path go to the D <mark>efine</mark> Managed Paths page.						
		Select a language:	English ¥					
		Primary Site Collection Administrator						
		Specify the administrator for this site collection. Only one user login can be provided; security groups are not supported.	User come: Ivan Perezhogin;		•			
	Click OK.							

c) Go to Central Administration -> Apps -> Configure App URLs.
 Specify App domain and App prefix – these parameters are not critical, so you can put any domain name and prefix you want.
 Click OK.

	SharePoint	Sites		ø	?	System Account
						😲 SHARE 🖂
Central Administration Application Management		Configure App URLs App URLs will be based on the following pattern: <app prefix=""> - <app id="">,<app domain<br="">App domain The app domain is the parent domain under which all apps will be hosted. You must already own this domain and have it configured in</app></app></app>				
M	ystem Settings Ionitoring ackup and Restore	own this domain and have it configured in your DNS servers. It is recommended to use a unique domain for apps.				
	ecurity	App prefix				
	pgrade and Migration	The app prefix will be prepended to the	App prefix:			
	eneral Application ettings	subdomain of the app URLs. Only letters and digits, no-hyphens or periods allowed.	app			
A	pps					
0	ffice 365					OK Cancel
C	onfiguration Wizards					
	arePoint HelpDesk for harePoint					

- 7. Upload the HarePoint Modern Web Parts app to App Catalog:
  - a) Go to **Central Administration -> Apps -> Manage App Catalog**. Click the URL of the **App Catalog Site**:

	SharePoint	Sites		Ö	?	System Account
						🗘 SHARE
	>	Manage App Cata	alog a			
Centr	al Administration		W	eb Applica	ation: h	nttp://2016sharepoint/ +
	pplication lanagement	App Catalog Site				
S	ystem Settings	The app catalog site contains catalogs for apps	Site URL.			
Μ	lonitoring	for SharePoint and Office. Use this site to make	http://2016sharepoint/sites/app_catal Primary administration	59		
B	ackup and Restore	apps available to end users. Learn about the app catalog site.	Ivan Perezhogin			
Se	ecurity	Learn about the app catalog site.	View site settings			
U	pgrade and Migration					
	eneral Application ettings					
A	pps					
0	ffice 365					
C	onfiguration Wizards					
	arePoint HelpDesk for harePoint					
	b) Now you	are in App Catalog - Apps for	SharePoint.			

Click **Upload** and point to **ha-modern-wp.sppkg** file from HarePoint Analytics distributive package.

In the new window, click **Deploy**:



The configuration part is complete.

Now you can make HarePoint Analytics Modern Web Part available on your sites.

- 8. Add HarePoint Analytics Modern Web Parts app to the site:
  - a) Navigate to the web site where you are going to add HarePoint Analytics Modern Web part. Go to **Site Contents**:



#### b) Click Add an app.

In the list of available apps, choose HarePoint Analytics Modern Web Parts:



You can now add HarePoint Analytics web part to any page of this site, see next chapter.

## 17.2. Adding a web-part

Access the page where you need to add a web-part. Enter the **Edit page** mode.

Put the cursor to a place on the page where you would like to add the web-part.

If you are in **Modern Pages** interface, **HarePoint Analytics Report** web part is available in the list of web parts:

Site s	ummary repor	Search		1	∠ Vsubsite for date
period fro	om 05/29/2020	All A to Z			•
		—	G	Ē	
1. subSite		Divider	Document library	Events	
		666			
_		HarePoint Analytics R	Hero	Image gallery	_
			8	~	
2. FirstSite		News	People	Quick chart	-
	period fro	-	Site summary repor period from 05/29/2020 All A to Z Divider 1. subSite HarePoint Analytics R News	Site summary repor period from 05/29/2020 All A to Z Divider Document library HarePoint Analytics R News People	Site summary repor period from 05/29/2020 All A to Z Divider Document Events Divider Document Events HarePoint Hero Image gallery News People Quick chart

For **Classic Mode**, the new HarePoint Analytics web part is available under **Insert** ribbon tab, **Web part** button:



Go to **HarePoint** web-part category, and then select **HarePoint Analytics for SharePoint** web-part. **Note:** The web-part for Modern experience mode is also available in the list as **HarePoint Analytics Report** web-part. You can use either of these web-parts in Classic experience mode.

Click Add button:

BROWSE PAGE FORMAT TEXT INSE	RT WEB PART	♀ · · · · · · · · · · · · · · · · · · ·
Tables Media	App Part Web Parts Embed	
Categories Parts		About the part
🖿 Blog	Point Active Directory S.,. ePoint Analytics for Shar Point HelpDesk Web Part	HarePoint Analytics for SharePoint Web Part Use to display HarePoint Analytics for SharePoint reports of your choice Add part to: Rich Content 🗹 Add Cancel

The web-part will be added to the place where the cursor was located:

SharePoint	Newsfeed SkyDrive Sites administr	rator 👻 🔅
BROWSE PAGE FORMAT TEXT	INSERT 🗘 SHARE 🟠 FOLLOW 🗔 SYN	C 😭 SAVE
Save Check Out	Body          • 13px •          B       I       I       Image: Apple above	to XHTML
Edit Clipboard HelpDesk	Font Paragraph Styles Layout Markup	
Project1		
Recent		
Tasks Converted Documents	Working on a         Add lists, libraries, and           Share your site.         deadline?         other apps.         What's your style?         Your site. Your brand	
My Form Library		
Site Contents		
EDIT LINKS	Site Feed	Documer
	Newsfeed	new doc
	Start a conversation	or drag files
		🗸 🗋 Nam
		There are no documents view.
	HarePoint Analytics for SharePoint Web Part	
	Please open the tool pane and configure the Web Part settings.	

After the web-part is added to the page, it needs to be configured.

For modern web-part, click **Edit web part** icon:



For the classic web-part, expand the web-part menu, select **Edit Web Part**, or click the link **open the tool pane**:

HarePoint Analytics for SharePoint Web Part	
	Minimize
Please open the tool pane and configure the Web Part settings.	🗙 Delete
	🗊 Edit Web Part
	Connections
	Export
	Export report

Web-parts for Classic Experience and Modern experience have identical settings, as indicated below. In the web-part settings, **adjust the URL, if necessary** – by default, the URL of the current site is used to display reports from the current site, but it can be the URL of any other site on this SharePoint farm:

		HarePoint Analytics Report $\qquad$ X
<ul> <li>HarePoint Analytics for SharePoint Web Part</li> </ul>	×	
Report settings	\$	Main settings
Insert url of the site		Web url
http://labsp13		http://labsp16
Select scope	ļ	Report scope
This Site only		Site collection $\checkmark$
Select report		Reports
Site summary	$\checkmark$	Site summary $\checkmark$

Select the **scope**, **note** that some reports are only available for Site Collection scope:

HarePoint Analytics for SharePoint Web Part	×	Main settings
Report settings	\$	
Insert url of the site http://labsp13		Web url http://labsp16
Site collection This Site only This Site and Subsites		Report scope Site collection
Select report		Reports
Site summary	$\checkmark$	Site summary

Select the report from the dropdown list:

Select scope	
This Site only	
Length of visits Depth of visits Visits Pageviews Navigation details Users activity Visits by Active Directory department Visits by Active Directory department Visits by SharePoint department Visits by SharePoint department Visits by countries Browsers Platforms Mobile Devices	Main settings Web url http://labsp16 Report scope
Content popularity	Site collection ~
Unused pages     Exit pages     Traffic sources     Events     Events     Events     Decumante	Reports Content popularity ~

Click **OK** at the bottom of web-part settings panel. The web-part now displays a selected report:



Modern pages:

#### Classic view:

Get started with your site REMOVE THIS



#### Newsfeed

Start a conversation

It's pretty quiet here. Invite more people to the site, or start a conversation.

#### Content popularity

Web Part shows data for the period from 1/1/2021 to 12/31/2021 for site collection http://demo2013



#### Described are the **minimum steps** to set up the web-part.

The detailed configuration of the **classic web-part** is described in the next paragraph <u>Configuring a web-part (Classic experience)</u>.

The detailed configuration of the **modern web-part** is described in <u>Configuring a Modern web-part</u> paragraph.

## 17.3. Configuring a web-part (Classic experience)

Configuring **HarePoint Analytics for SharePoint** web-part is identical to configuring any other web-part that is available in SharePoint.

To access the web-part settings, go to **Edit page** mode:



#### Click Edit Web Part in the web-part menu:



HarePoint Analytics web-part settings contains **special sections**, in addition to the standard sections **Appearance**, **Layout** and **Advanced**.

These sections are only displayed after you select a report in Select report drop-down list:

✓ Visits trend	×
Report settings	\$
Insert url of the site	
http://labsp13	
Select scope	
This Site only	
Select report	
Visits trend	$\checkmark$
✓ Show description	
Description	
Web Part shows data for the period from	
#DATE_START# to #DATE_END# #SITE_WEB# #URL#	
☑ Allow report export	
Report results settings	
Report appearance	
Appearance	
Layout	
Advanced	_
OK Cancel Apply	

Note: Be sure to click OK button to save the web-part settings.

#### **17.3.1. Report settings**

The **Report Settings** tool panel contains the web-part settings that need to be configured at least:

• Insert url of the site

The URL address of a source web site, for which the report should be displayed. By default, this is the URL of the current site. You can display reports for any other sites in this SharePoint farm, so you can put the URL address of the respective site. This approach is especially useful if you need to compare the statistical data for different web sites on a single page.

• Select scope

This parameter determines the scope that is used for building the report: **Site collection**, **This Site only**, **This Site and Subsites**.

**Note:** some reports are only available for Site Collection scope. This is in particular, Sites Summary report

• Select report

The dropdown list contains a list of reports that can be displayed by a web-part. This includes all reports available for site and site collection scopes.

Note: farm level reports cannot be displayed by a web-part.

• Show description

Check to show description in the report header.

• Description

The template for the description in the report header.



The description template may include the following macros:

- #DATE\_START# The starting date of the reporting date range
- #DATE\_END#
   The ending date of the reporting date range
   #UPL#
- #URL#
   URL of the source site for which the report is displayed (equal to Insert url setting)

#### **17.3.2. Report results settings**

**Report results settings** tool panel contains the **filter settings** for the report. The contents of this tool panel depends on which report is selected in **Select report** field, and is completely identical to Filter settings for the given report (**Filter** button on the ribbon):

Report results settings
Select date range to display data
Last month
Filter by Active Directory fields
Include logons
All logons
Active Directory Department
Active Directory Group
Active Directory Group
Active Directory Description
Filter by SharePoint groups and users
SharePoint Group
Home Owners
Home Members
Excel Services Viewers
HelpDesk Users

### **17.3.3. Report appearance settings**

**Report appearance** tool panel allows you to configure how a report is displayed by a web-part.

The settings on this panel are divided into two sections:

- **chart** settings (not available for reports that do not contain charts)
- table settings

Report appearance
✓ Show chart Width: 700 px. Height: 300 px.
Legend position TopRight Show argument labels Select series to show on the chart Pageviews Visits Unique visitors Returned visitors Users Pages per visit
Avg. length of visit (seconds)
Show table Table width <b>Table settings</b>
✓ Show grid pager ✓ Show summary bellow table
Rows on page in a table
Select columns to show in table

#### Chart settings

The chart settings section contains the following parameters:

- Show chart Select to show or hide a chart
- Width, Height Specify the chart size in pixels
- Legend position

Specify the position of the report legend. It is also possible to hide the legend. Here are several examples of legend positions:



#### • Show argument labels

Select to show or hide the labels near the horizontal axis.



- Select chart type (where applicable) Select the chart type. Two types are available: Bar chart or Pie chart.
- Select series to show on the chart (where applicable) Select the series to be displayed on the chart.
- Sort by the series (where applicable) Choose the series to sort by.

#### Table settings

The table settings section contains the following parameters:

☑ Show table
Table width
100 Percentage
☑ Show grid pager
✓ Show summary bellow table
Rows on page in a table
25 🗸
Select columns to show in table
✓ Date
✓ Visits
✓ Unique visitors
Returned visitors
Users
✓ Pageviews ✓ Pages per visit
Avg. length of visit
Sort by column
Date 💙 Descending 🗸
Group by column
~
The number of characters to be displayed in data fields (0 – use default settings)
0
Show link to the report
Keep filter settings for the link

• Show table

Select to show or hide a table in the report.

• Table width

Adjust the table width, if necessary. The required width can be set either in **percentage** or in **pixels**.

• Show grid pager

Select to show or hide the grid pager under the table:

	6/12/2021	83
	6/11/2021	371
r		Total: 8678
	Page 1 of 2 (31 items) ◀ [1] 2 ▶	

#### • Show summary below table

Select to show or hide the summary line under the table.

Page 1 of 2 (31 items) 4 [1] 2 🕨			
	Total: 8678	Total: 7286	Total: 8436
6/11/2021	371	315	365
6/12/2021	83	69	61
6/13/2021	55	45	53
	•		

#### • Rows on page on a table

Specify how many rows should be displayed per page in the report. The fixed values **10**, **25**, **50**, **100**, **500** are available.

• Select columns to show in table

Select the columns to be displayed in the report. The set of available columns depends on the selected report.

- Sort by column Select the column to sort by, as well as the sorting order (ascending, descending).
- Group by column

Select the column to group by. This is optional.

The number of characters to be displayed in data fields

Specify the maximum length for text lines in the table. Longer text lines will be shortened by skipping a part of the text in the middle and replacing it with ellipsis (...):

http://labsp13/\_layouts/15/metadata/json/1

http://labsp13/robots.txt

http://labsp13/\_layouts/15/MAPILab/Statistics/Report.aspx?Scope=Site

http://labsp13/\_layouts/15/MAPI\_.a...E itExportRule.aspx?Scope=&lsDlg=1

http://labsp13/\_layouts/15/MAPI\_a...ti tics/Exporting/ExportRules.aspx

http://labsp13/SitePages/Home.aspx

#### • Show link to the report

Select to show or hide a link to the corresponding report page.

		I	View report
Octobe	ar 2021	Decen	nber 2021
tember 2021	Novem	ber 2021	
-0(	<b>)</b>	θ	<b>←</b> 0
			2000

#### • Keep filter settings for the link

When this setting is checked, the link will contain the web-part filter settings, so when clicking the link, the corresponding report page will open and display the report in an **exact same way** as a web-part.

If this setting is not checked, clicking the link will open the corresponding report, but with the **default** filter settings.

## 17.4. Configuring a Modern web-part

Configuring **HarePoint Analytics for SharePoint** Modern web-part is identical to configuring any other modern web-part that is available in SharePoint.

To access the web-part settings, go to Edit page mode and open the Web Part settings:



HarePoint Analytics Modern web-part settings are represented on four pages:

- 1. Main settings
- 2. Filter settings
- 3. <u>Table settings</u>
- 4. Chart settings (not available for reports that do not contain charts)

17.4.1.	Main setting	S
HarePoint	Analytics Rep	ort X
Main settings		
Web url		
http://labsp1	16	
Report scope		
Site collectio	n	~
Reports		
Site summary	y	$\sim$
	tion port for #URL# for START# to #DATE_E	
✓ Show link t	to the report	/
< Back	1 of 4	Next >

Page 1: Main settings contains the web-part settings that need to be configured at least:

• Web url

The URL address of a source web site, for which the report should be displayed. By default, this is the URL of the current site. You can display reports for any other sites in this SharePoint farm, so

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you can put the URL address of the respective site. This approach is especially useful if you need to compare the statistical data for different web sites on a single page.

• Report scope

This parameter determines the scope that is used for building the report: **Site collection, This Site only, This Site and Subsites**.

**Note:** some reports are only available for Site Collection scope. This is in particular, Sites Summary report

• Reports

The dropdown list contains a list of reports that can be displayed by a web-part. This includes all reports available for site and site collection scopes.

**Note:** farm level reports cannot be displayed by a web-part.

#### • Report description

The template for the description in the report header.

The description template may include the following macros:

#DATE\_START#

The starting date of the reporting date range

#DATE\_END#
 The ending date of the reporting

The ending date of the reporting date range

- #URL#
  - URL of the source site for which the report is displayed (equal to Insert url setting)

#### • Show link to the report

Show or hide the link to the report in the web-part. By clicking this link user will be redirected to the same report in the console of HarePoint Analytics reports.

17.4.2. Filte	r settings	
HarePoint Analy	tics Report	×
Filter settings		
Report period		
LastMonth		$\sim$
Compare to other	time period	
Compared time period	offset	
1	Monthes	~
Web-site url		
Visits		
Users		
Pageviews		
< Back 2	of 4	Next >

**Page 2: Filter settings.** The contents of this page depends on which report is selected in **Reports** field, and is completely identical to Filter settings for the given report (**Filter** button on the ribbon).

17.4.3. Table settings
HarePoint Analytics Report $\qquad$ X
Table settings
Show table
✓ Show table pager
Rows in the table
10 ~
Visible columns
✓ Site
✓ Web-site url
✓ Visits
✓ Users
✓ Pageviews
✓ Pages per visit
✓ Avg. length of visit
Sorting column
Visits $\checkmark$ Desc $\checkmark$
Back 3 of 4 Next

**Page 3: Table settings** allows you to configure how a report table is displayed by a web-part. The contents of this page depends on which report is selected in **Reports** field, and is completely identical to table settings for the given report (**Fields** button on the ribbon).

• Show table

Select to show or hide a table in the report.

• Show table pager

Select to show or hide the table pager under the table:

	6/12/2021	83
	6/11/2021	371
1	Page 1 of 2 (31 items) 🔹 [1] 2 🕨	Total: 8678

#### • Rows in the table

Specify how many rows should be displayed per page in the report. The fixed values **10**, **25**, **50**, **100**, **500** are available.

• Visible columns

Select the columns to be displayed in the report. The set of available columns depends on the selected report.

• Sorting column

Select the column to sort by, as well as the sorting order (ascending, descending).

• **Grouping column** (where applicable) Select the column to group by.

#### 17.4.4. Chart settings

(not available for reports that do not contain charts)

HarePoint Analytics Repor	t X				
Chart settings					
✓ Show chart					
✓ Show legend					
Chart type					
Bar	~				
Chart series					
Visits					
✓ Users					
Pageviews					
Pages per visit					
Avg. length of visit (seconds)					
Sort series by					
Visits $\checkmark$	Desc $ \smallsetminus $				

**Page 4: Chart settings** page allows you to configure how a chart in a report is displayed by a web-part. The contents of this page depends on which report is selected in **Reports** field, and is completely identical to chart settings for the given report (**Charts** button on the ribbon).

• Show chart Select to show or hide a chart

4 of 4

< Back

- Show legend Select to show or hide legend for a chart
- Chart type (where applicable) Select the chart type. Two types are available: Bar or Pie.

Next >

- **Chart series** (where applicable) Select the series to be displayed on the chart.
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• Sort series by (where applicable) Choose the series to sort by.

## 17.5. Removing a web-part

To remove a classic web-part, or a modern web-part, go to **Edit page** mode:



Open the web-part menu and click Delete:



#### Confirm the web-part deletion:

Message from webpage	
	Delete Confirmation ×
You are about to permanently delete this Web Part. Are you sure you want to do this?	Are you sure you want to delete this web part?
OK Cancel	Yes No

Save changes on this page.

## 18. Customizing the Dashboard

By default, the HarePoint Analytics **Dashboard** (or **Overview** page) cannot be modified. It is a hard-coded page displaying the summary statistical data of a site or a site collection.

## HarePoint Analytics - Overview



It is however possible to replace the hard-coded Dashboard with a page containing the HarePoint Analytics web-parts displaying the same data. After this, necessary adjustments can be made to the web-parts on this page, or the entire page can be rearranged completely.

In order to be able to customize the Dashboard, activate the **site level** feature **HarePoint Analytics for SharePoint: Dashboard** on the corresponding sites.

Important note: It is not possible to customize a Dashboard for the Farm scope.

#### 18.1. Customizing a Dashboard for a site

To replace the predefined HarePoint Analytics Dashboard with a web-part page for a site scope reports, follow these steps:

- 1. Login as Site Owner and access the site for which the Dashboard should be customized
- 2. Go to Site Settings Manage site features

Site Actions Manage site features Save site as template Enable search configuration export Reset to site definition Delete this site

#### 3. Scroll to HarePoint Analytics for SharePoint: Dashboard feature and activate it:

HarePoint Analytics for SharePoint: Dashboard Allows to customize HarePoint Analytics for SharePoint Dashboard.

Activate



4. Get back to Site Settings and click Site usage report under HarePoint Analytics section:

HarePoint Analytics for SharePoint Site usage reports Site collection usage reports Site collection usage reports permissions Site collection usage reports permissions Site filter management Site collection filter management Tasks for exporting reports

5. Expand the **Page** tab on the ribbon and click **Edit Page** button:

Share	ePoint									
BROW	SE PAGE									
Edit Page	Edit	<ul> <li>Versions</li> <li>Permissions</li> <li>Delete Page</li> <li>Page</li> </ul>	E-mail a Alert Link Alert Share & Track	Approve Appro	Reject	ی Workflows Workflow	-	Make Homepage		Tags & Notes Tags and Notes
	iew & Visitors e summary		Visit	s trend						
Vis	eb-sites without sits trend sits by hours	visits	عر	0-9_	No	م ا	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Å g	9	- 500
De	ngth of visits epth of visits sits				0					- 300 - 200 - 100
Na	geviews avigation details ers activity	;	6/1/20	Ŭ	6/8/2021	6.	/15/2021	6/22/2021		6/29/2021 View report

Each section on the Dashboard is now represented as a web-part, so you can **change** settings of existing web-parts, **add** new web-parts, or **remove** web-parts as necessary.

For further details regarding web-parts configuration, refer to Adding and configuring a web-part.

#### **18.2.** Customizing a Dashboard for a site collection

To replace the predefined HarePoint Analytics Dashboard with a web-part page for a site collection scope reports, follow these steps:

- 1. Login as Site Collection Administrator and access the **root site** of a site collection for which the Dashboard should be customized
- 2. Go to Site Settings Manage site features



3. Scroll down to HarePoint Analytics for SharePoint: Dashboard feature and activate it:



HarePoint Analytics for SharePoint: Dashboard Allows to customize HarePoint Analytics for SharePoint Dashboard.

Activate

4. Go back to the **root site of the site collection** and click **Site collection usage reports** under **HarePoint Analytics** section:

HarePoint Analytics for SharePoint Site usage reports Site collection usage reports Site collection usage reports permissions Site collection usage reports permissions Site filter management Site collection filter management Tasks for exporting reports

5. Expand the Page tab on the ribbon and click Edit Page button:



Each section on the Dashboard is now represented as a web-part, so you can **change** settings of existing web-parts, **add** new web-parts, or **remove** web-parts as necessary.

For further details regarding web-parts configuration, refer to Adding and configuring a web-part.

## 19. Command-line tools overview

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

Stsadm.exe utility (not available on SharePoint SE)

During the deployment of the HarePoint Analytics solution, the administrative utility **stsadm.exe** is extended by a special set of operations. Some of these operations are used for deploying or upgrading the solution, while others offer the possibility of customizing and configuring the product from the command line.

**stsadm.exe** is normally 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.

#### HarePointAnalyticsUtil.exe utility

For Analytics version 16.12/15.17 or later, for command-line management, you can also use the **HarePointAnalyticsUtil.exe** utility, which can be found in Analytics <u>distributive package</u>:

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

## 19.1. List of command-line operations

The names of all operations from the extended **stsadm** set begin with **mlst-** prefix. The table with a brief description of the extended set of operations is presented below. You can quickly get help for syntax of these commands using **-help** option: **stsadm -help** <*command name*>

The equivalent management commands from **HarePointAnalyticsUtil.exe** utility are also presented in the table below.

(For full list of commands for this utility, please refer to HarePoint Analytics Maintenance Guide).

Stsadm commands	HarePointAnalyticsUtil.exe commands	Description
<u>mlstaddfilter</u>	_	Adds a rule for the data collection filter
mistcompleteupgrade	complete-upgrade	Used for completing the manual solution upgrade of HarePoint Analytics
mistcustomreports	-	Management for custom reports (that are provided upon individual inquiry)
mlstcopyappbincontent	copy-appbincontent	Performs the operation <b>stsadm-o</b> <b>copyappbincontent</b> on <b>all</b> servers of the current SharePoint farm
mlstdisplayfilter	-	Displays the current rules of the data collection filter
mlstdisplaypolicies	get-policies	Displays the current state of HarePoint Analytics global policies
mlstdisplaydatakeepdays	get-data-keep-days	Displays the current data retention periods for various data sets
mlstencryptuserinfo	encrypt-users	Encrypts the previously collected users' personal data
mlstexportfilters	-	Exports the data collection filter settings to a file on a disk
mlstimportfilters	-	Imports the data collection filter settings from a file on a disk
mlstremovefilter	-	Deletes a specific or all data collection filter rules
<u>mlstresetfilter</u>	-	Restores the data collection filter rules inheritance from the parent level
mlstrestartsptimer	restart-sptimer	Restarts the <b>SharePoint Timer Service</b> on <b>all</b> servers in the current SharePoint farm
mlstsetpolicy	set-policy	Sets the value of the global HarePoint Analytics policy
mlstsetdatakeepdays	<u>set-data-keep-days</u>	Sets the data retention period
mlstusedefaulttheme	use-default-theme	Forces using the default theme on report pages

## 19.2. Stsadm operations description

#### **19.2.1. Operation mlstaddfilter**

The operation adds a filter rule for data collection. To learn more about filtering data at the stage of data collection, refer to <u>Data collection filters</u> paragraph.

Note: if the target scope inherits the filter rules, the inheritance will be automatically broken.

Syntax

```
stsadm -o mlstaddfilter
```

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

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- [-fieldid <RequestUrl | RequestUrlReferrer | RequestUserAgent | RequestHostAddress | RequestHostName | RequestAuthType | RequestIsAuthenticated | RequestAuthenticationName | ItemEvent | ItemDisplayName | ItemName | ItemTitle | ItemCreated | ListTitle | ListDescription | ListDefaultViewUrl | ListBaseTemplate | ListBaseType | DocumentName | DocumentCreated | DocumentTitle | DocumentUrl | DocumentLenght | DocumentFolderName | UserAnonimous | UserLoginName | UserEmail | UserName | UserNotes | UserIsSiteAdmin | UserIsSiteAuditor | DoNotCollect>]
- [-relop <Greather | GreatherOrEqual | Less | LessOrEqual | Equal | NotEqual | True | False | StartsWith | NotStartsWith | EndsWith | NotEndsWith | Contains | NotContains | Empty | NotEmpty | MatchRegex | NotMatchRegex>]

[-expression <filter expression>]

[-fromscratch]

[-ignoreforevents <true | false>]

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	This parameter specifies the scope of the filter to be created: • farm The farm level • webapp The web-application level • site The site collection level • web The site level • list The list level
url	Valid URL-address, for example, <u>http://server_name</u>	Yes	Depending on the value of parameter <b>scope</b> , <b>url</b> parameter should point to a web-application, site collection, web site or a list. In case of creating a filter at the farm level, this parameter may be

#### Parameters
			omitted
fieldid	A string identifier of the data field. See above, in the block of syntax description. A relation operator. See above, in the block of syntax description.	Yes	<ul> <li>The identifier indicates the field of the collected data, that is used in the filtering rule. The fields of the collected data are described in paragraph Managing data collection rules via the web interface</li> <li>The relation between the field value with identifier fieldid and the value of parameter expression.</li> <li>Greater Greater than expression.</li> <li>Greater OrEqual Greater or equal to expression.</li> <li>Less Less than expression.</li> <li>Less or equal to expression.</li> <li>Equal Equal to expression.</li> <li>Equal Not equal to expression. Case sensitive!</li> <li>Not Equal to expression. Case sensitive!</li> </ul>
			<ul> <li>For the Boolean data types. True.</li> <li>False <ul> <li>For the Boolean data types. False.</li> </ul> </li> <li>StartsWith <ul> <li>The string starts with expression.</li> </ul> </li> <li>NotStartsWith <ul> <li>The string doesn't start with expression.</li> </ul> </li> <li>EndsWith <ul> <li>The string ends with expression.</li> </ul> </li> <li>NotEndsWith <ul> <li>The string doesn't end with expression.</li> </ul> </li> <li>Contains <ul> <li>The string contains expression.</li> </ul> </li> <li>NotContains <ul> <li>The string doesn't contain expression.</li> </ul> </li> <li>Empty <ul> <li>An empty string.</li> </ul> </li> <li>NotEmpty <ul> <li>A nonempty string.</li> </ul> </li> </ul>
			<ul> <li>MatchRegex         The string matches regular expression         expression.         </li> <li>NotMatchRegex         The string doesn't match regular         expression expression.     </li> </ul>
Expression	Number, string, regular expression.	Yes	An expression for filtration.
Fromscratch	(None)	No	If target scope inherits the rules, the inheritance will be automatically broken. This parameter prevents copying the parent level

			rules to the target level. That is, the newly added rule will become the only one rule for this level.
Ignoreforevents	Boolean	No	Ignore this filter rule for document and list item events. More details: Adding a data collection rule
			Adding a data conection rule

**Example:** Add a data collection filter that excludes all requests from the local network (at the stage of data collection):

stsadm -o mlstaddfilter -scope farm -fieldid RequestHostAddress -relop NotMatchRegex -expression "192\.168\.\d+\.\d+"

#### 19.2.2. Operation mlstcompleteupgrade

Used for completing the manual solution upgrade of HarePoint Analytics Refer to <u>Manual upgrade</u> section.

#### **Syntax**

#### stsadm -o mlstcompleteupgrade

[-restartsptimer]

[-copyappbincontent]

#### Parameters

Parameter	Value	Mandatory?	Description
restartsptimer	<none></none>	No	Restart the <b>SharePoint Timer Service</b> on <b>all</b> servers in the current SharePoint farm after the upgrade is completed
copyappbincontent	<none></none>	No	Perform operation <b>stsadm -o</b> <b>copyappbincontent</b> on <b>all</b> servers in the current SharePoint farm after the upgrade is completed

#### **19.2.3. Operation mlstcustomreports**

Adds custom reports to the current HarePoint Analytics farm.

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 – these can be imported using the **mistcustomreports** operation or HarePoint Analytics Utility (refer to <u>HarePoint Analytics Maintenance Guide</u> for more details on using the Utility).

#### **Syntax**

```
stsadm -o mlstcustomreports
```

```
{-add <path_to_xml_file> |
```

```
-import <path_to_xml_file> |
```

```
-export <path_to_xml_file> |
```

-clear}

#### Parameters

Parameter	Value	Mandatory?	Description
add	Path to the XML file. <b>Note:</b> enclose the file path in "double quotes" to ensure proper processing of special symbols.	Yes	Adds the <b>single</b> custom report to HarePoint Analytics.
import	Path to the XML file	Yes	Imports one or multiple custom reports from XML file.
export	Path to the XML file	Yes	Exports all existing current reports to an XML file.
clear	(none)		Removes all custom reports. It is recommended to export existing custom reports to XML for backup, prior running the <b>clear</b> operation.

#### 19.2.4. Operation mlstcopyappbincontent

Performs operation stsadm -o copyappbincontent on all servers of the current SharePoint farm.

**Syntax** 

#### stsadm -o mlstcopyappbincontent

#### Parameters

(none)

## 19.2.5. Operation mlstdisplayfilter

Displays the data collection filter rules for the given scope in XML view.

To learn more about filtering data at the stage of data collection, refer to <u>Data collection filters</u> paragraph. **Note:** inherited rules are not displayed by default. To have them displayed, use **–effective** parameter, see below.

📾 Administrator: Command Prompt 📃 🗌 🗙
C:\Windows\system32>stsadm —o mlstdisplayfilter —scope site —url http://harepoin t:4545
<rules></rules>
<rule></rule>
< <u>I</u> d> <u>a3238416-a880-42d2-92a0-3045b4939c19</u>
<fieldid>RequestUrl</fieldid>
<pre><relop>NotContains</relop></pre>
<expression>ViewTicketThread.aspx</expression> 
<rule></rule>
<id>ed0515ef-d3d0-4def-8d7b-67fd3c3c5e59</id>
<fieldid>ReguestUserAgent</fieldid>
<relop>NotContains</relop>
<pre><expression>Googlebot</expression></pre>
<id>013d1dc8-57c9-4c5f-a9e3-7a3ac71c6936</id> <fieldid>RequestUserAgent</fieldid>
<pre><rul></rul></pre> <pre></pre>
<pre>(Actop/Notcontainst/ Actop/ (Expression)AnzwersCraw1/</pre>
<rule></rule>
<id>5c685000-8dfc-46bf-bc7a-9c2cd5b08c48</id>

#### Syntax

```
stsadm -o mlstdisplayfilter
```

```
-scope <farm | webapp | site | web | list>
[-url <url of web application, site collection, site or list>]
[-effective]
```

#### **Parameters**

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	The parameter specifies the scope of the filter to be displayed. • farm The farm level • webapp The web-application level • site The site collection level • web The site level • list The list level
url	Valid URL-address, for example, <u>http://server_name</u>	Yes	Depending on the value of parameter <b>scope</b> , <b>url</b> parameter should point to a web-application, site collection, web site or a list. In case of displaying a farm level filter, this parameter may be omitted
effective	<none></none>	No	Use this parameter to display the <b>inherited</b> rules. If the target level has unique filter rules, this parameter will make no difference to the output

## **19.2.6. Operation mlstdisplaypolicies**

Displays the status of the HarePoint Analytics policies in XML view.

**Policies** in HarePoint Analytics are the global settings of the product that are applied to the entire SharePoint farm.

The complete list of policies is available in paragraph Using command line to manage policies paragraph.

The output of the operation is as follows:

stsadm -o mlstdisplaypolicies	
<policies></policies>	
<maskusername>false</maskusername>	
<maskip>false</maskip>	
<maskaddepartment>false</maskaddepartment>	
<maskadgroup>false</maskadgroup>	
<maskspdepartment>false</maskspdepartment>	
<maskspgroup>false</maskspgroup>	
<maskiisrole>false</maskiisrole> <maskurl>false</maskurl>	
<maskdrif disc="" maskdoclibname=""></maskdrif>	
<maskdocliblocation>false</maskdocliblocation>	
<maskdocname>false</maskdocname>	
<maskdoclocation>false</maskdoclocation>	
<masklistname>false</masklistname>	
<masklistlocation>false</masklistlocation>	
<masklistitemname>false</masklistitemname> <masklistitemlocation>false</masklistitemlocation>	
<maskworkflowinfo>false</maskworkflowinfo>	
<pre>skaddsfields&gt;false</pre>	
<maskupdsfields>false</maskupdsfields>	
<maskdocdsfields>false</maskdocdsfields>	
<masklistitemdsfields>false</masklistitemdsfields>	
<disabledreports>TopContentLite</disabledreports>	
<showanalyzetab>true</showanalyzetab>	
<timeexpiration>720</timeexpiration> <cachelimit>1000000</cachelimit>	
<securitycacheexpiration>60</securitycacheexpiration>	
<encryptuserinfo>false</encryptuserinfo>	
<collectaccessdenied>true</collectaccessdenied>	
<allowmodifyreporttemplates>true</allowmodifyreporttemplates>	
<usedatacollectionfiltersonhttp>true</usedatacollectionfiltersonhttp>	
<pre><usedatacollectionfiltersonqueueprocessing>true</usedatacollectionfiltersonqueueprocessing></pre>	
<allowforauthorized>false</allowforauthorized> <allowforanonymous>false</allowforanonymous>	
<pre><disabledsitecollections>null</disabledsitecollections></pre>	
<pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre></pre>	
<userprofileproperties>UserProfile_GUID AccountName FirstName LastName WorkPhone WorkEmail Depart</userprofileproperties>	tment PictureURL
<collectcontentdbsforsites>false</collectcontentdbsforsites>	
<exportlinkastext>true</exportlinkastext>	
<pre><enablesocialreport>true</enablesocialreport> </pre>	
<collectwebsizesql>true</collectwebsizesql> <collectwebsize>true</collectwebsize>	
<exportusewebappasroot>true</exportusewebappasroot>	
<exportpdfdateformat>default</exportpdfdateformat>	
<usesecuredexporttree>false</usesecuredexporttree>	
<usewebpartstandartpermission>false</usewebpartstandartpermission>	
<collectnotfoundhits>true</collectnotfoundhits>	
<collectcontenttypes>false</collectcontenttypes>	
<collectfileauthorfromlistitem>false</collectfileauthorfromlistitem> <sitefeatureonlyforfarmadmin>false</sitefeatureonlyforfarmadmin>	
<pre><embedfontsinpdf>true</embedfontsinpdf></pre>	
<useoldstylepdf>false</useoldstylepdf>	
<pre><usesubscriptionforexporttree>false</usesubscriptionforexporttree></pre>	
<hidepositivefilters>true</hidepositivefilters>	
<pre><incrementalcrawler>false</incrementalcrawler></pre>	
<crawlerthreadcount>1</crawlerthreadcount>	
<mailpriority>high</mailpriority> <restcachelimit>5</restcachelimit>	
<collectreportservicehits>false</collectreportservicehits>	
<skipadditionalfieldsformultifarm>true</skipadditionalfieldsformultifarm>	
<encryptadditionaluserinfo>false</encryptadditionaluserinfo>	
<sessionduration>20</sessionduration>	
<pre><alternativecolorsforreports>false</alternativecolorsforreports></pre>	
<collectadgroups>true</collectadgroups> <fillareacharts>true</fillareacharts>	

The displayed data contain a list of all policy names and their current values.

#### **Syntax**

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#### stsadm -o mlstdisplaypolicies

#### **Parameters**

(none)

19.2.7. Operation mlstdisplaydatakeepdaysDisplays the current data retention period settings.Refer to <u>Checking the current settings for the retention period</u> for more details.

**Syntax** 

Stsadm -o mlstdisplaystatdatakeepdays

**Parameters** 

(none)

#### 19.2.8. Operation mlstencryptuserinfo

Encrypts the previously collected users' personal data. Typically, this operation is performed after enabling the **encryptuserinfo** policy that enables encryption for the newly collected data – refer to <u>Encrypt user data</u> <u>during the data collection</u> section.

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

**Note:** Running this operation on a large database can take some time – consider running this operation during the non-working hours. Make sure <u>Preliminary Data Preparation</u> timer job is not running at that time.

**Syntax** 

stsadm -o mlstencryptuserinfo

Parameters

(none)

#### **19.2.9. Operation mlstexportfilters**

Exports all data collection filter rules to a file on a disk. The data are exported in XML format. To learn more about filtering data at the stage of data collection, refer to <u>Data collection filters</u> paragraph.

#### Syntax

```
stsadm -o mlstexportfilters
```

-scope <farm | webapp | site | web | list>

## [-url <url of web application, site collection, site or list>]

#### -filename

#### **Parameters**

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	The parameter specifies the scope of the filter to be exported. • farm The farm level • webapp The web-application level • site The site collection level • web The web-site level • list The list level
url	Valid URL-address, for example, <u>http://server_name</u>	Yes	Depending on the value of parameter <b>scope</b> , <b>url</b> parameter should point to a web-application, site collection, web site or a list. In case of exporting the farm level filter, this parameter may be omitted
filename	File name	Yes	The name for the output XML file

## **19.2.10.** Operation mlstimportfilters

Imports the data collection filter rules from a file on a disk. To import rules, use the file obtained after exporting filter rules by performing <u>Operation mlstexportfilters</u> operation.

To learn more about filtering data at the stage of data collection, refer to <u>Data collection filters</u> paragraph.

**Note:** if the target scope **inherits** the filter rules, the inheritance will be **automatically broken**. All parent level filter rules will be copied to the given level.

#### **Syntax**

#### stsadm -o mlstimportfilters

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

-filename

#### Parameters

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	<ul> <li>The parameter specifies the scope of the filter to be imported.</li> <li>farm The farm level</li> <li>webapp The web-application level</li> </ul>

url	Valid URL-address,	Yes	<ul> <li>site         <ul> <li>The site collection level</li> <li>web             <ul></ul></li></ul></li></ul>
	for example, http://server_name		parameter should point to a web-application, a site collection, web site or a list. In case of importing the farm level filter, this parameter may be omitted
filename	File name	Yes	XML file name with the filter rules to be imported

## **19.2.11.** Operation mlstremovefilter

Deletes either a specific or all data collection filter rules for the given scope. To learn more about filtering data at the stage of data collection, refer to <u>Data collection filters</u> paragraph. **Note:** if the given scope inherits filter rules, the rules will not be deleted.

#### Syntax

```
stsadm -o mlstremovefilter
```

-scope <farm | webapp | site | web | list>
[-url <url of web application, site collection, site or list>]
{-ruleid <filter rule identifier> |

```
-all}
```

#### Parameters

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	The parameter specifies the scope of the filter to be removed.
url	Valid URL-address, for example, <u>http://server_name</u>	Yes	Depending on the value of parameter <b>scope</b> , <b>url</b> parameter should point to a web-application, site collection, web site or a list. In case of importing the farm level, this parameter may be omitted
ruleid	The string, similar to a3238416-a880- 42d2-92ae-	No	The identifier of the rule that should be deleted. The list of rule identifiers can be obtained with the help of <u>Operation mlstdisplayfilter</u> operation

	304Sb4939cl9		
all	<none></none>	No	Delete all filter rules for the given scope

#### 19.2.12. Operation mlstresetfilter

This operation removes all data collection filter rules for the given scope and **restores the inheritance** from the parent SharePoint scope.

To learn more about filtering data at the stage of data collection, refer to <u>Data collection filters</u> paragraph.

#### **Syntax**

```
stsadm -o mlstresetfilter
```

```
-scope <farm | webapp | site | web | list>
```

```
[-url <url of web application, site collection, site or list>]
```

#### Parameters

Parameter	Value	Mandatory?	Description		
scope	One of the values: • farm • webapp • site • web • list	Yes	The parameter specifies the scope of the filter to be reset.		
url	Valid URL-address, for example, <u>http://server_name</u>	Yes	Depending on the value of parameter <b>scope</b> , <b>url</b> parameter should point to a web-application, site collection, web site or a list. In case of resetting the farm level filter, this parameter may be omitted.		

#### 19.2.13. Operation mlstrestartsptimer

Restarts SharePoint Timer Service on all servers in the SharePoint farm.

**Syntax** 

stsadm -o mlstrestartsptimer

#### Parameters

(none)

## 19.2.14. Operation mlstsetpolicy

HarePoint Analytics has a set of global parameters called "Policies". Using the policies, you can encrypt personal data when displayed in the reports, hide certain reports for all users, adjust some of HarePoint Analytics settings, etc.

#### **Syntax and Parameters**

Please refer to <u>Using command line to manage policies</u> section for a complete description of the available policies.

#### 19.2.15. Operation mlstsetdatakeepdays

Sets the data retention period for various data sets.

#### **Syntax and Parameters**

Please refer to <u>Setting new retention period</u> paragraph for a complete description.

#### 19.2.16. Operation mlstusedefaulttheme

Forces to use a **Default Theme** on 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).

**Syntax** 

#### stsadm -o mlstusedefaulttheme { -true | -false }

Parameters

Parameter	Value	Mandatory?	Description					
	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>					

## 19.3. HarePointAnalyticsUtil.exe operations description

#### 19.3.1. Operation complete-upgrade

Used for completing the manual solution upgrade of HarePoint Analytics Refer to <u>Manual upgrade</u> section.

#### Syntax

## HarePointAnalyticsUtil.exe complete-upgrade

#### Parameters

(none)

#### **19.3.2.** Operation copy-appbincontent

Performs operation stsadm -o copyappbincontent on all servers of the current SharePoint farm.

#### **Syntax**

#### HarePointAnalyticsUtil.exe copy-appbincontent

#### **Parameters**

(none)

#### **19.3.3. Operation get-policies**

Displays the status of the HarePoint Analytics policies.

**Policies** in HarePoint Analytics are the global settings of the product that are applied to the entire SharePoint farm.

The complete list of policies is available in paragraph Using command line to manage policies paragraph.

The output of the operation is as follows:

.\HarepointAnalyticsUtil.exe get-policies HarePoint Analytic's policies:
reportSecurityDataTypeCollection - maskusername = false; maskip = false; maskaddepartment = false; maskadgroup = false; maskspdepart
clibname = false; maskdocliblocation = false; maskdocname = false; maskdoclocation = false; masklistname = false; masklistlocation =
o = false; maskaddsfields = false; maskupdsfields = false; maskdocdsfields = false; masklistitemdsfields = false
disabledReports - TopContentLite
reportWithStatusCollection - MAPILab.SharePoint.Statistics.Administration.Policy.MLReportWithStatusCollection
showAnalyzeTab - True
timeExpiration - 720
cacheLimit - 1000000
securityCacheExpiration - 60
encryptuserinfo - False
collectAccessDenied - True
allowModifyReportTemplates - True
useDataCollectionFiltersOnHTTP - True
useDataCollectionFiltersOnQueueProcessing - True
allowForAuthorized - False
allowForAnonymous - False
disabledSiteCollections - null
prepareDataByDay - False
userProfileProperties - UserProfile_GUID; AccountName; FirstName; LastName; WorkPhone; WorkEmail; Department; PictureURL
collectContentDbsForSites - False
exportLinkAsText - True
enableSocialReport - True
collectWebSizeSql - True
collectWebSize - True
exportUseWebAppAsRoot - True
exportPdfDateFormat - default
useSecuredExportTree - False
useWebpartStandartPermission - False
collectNotFoundHits - True
collectContentTypes - False
collectFileAuthorFromListItem - False
siteFeatureOnlyForFarmAdmin - False
embedFontsInPdf - True
useOldStylePdf - False
useSubscriptionForExportTree - False
hidePositiveFilters - True
incrementalCrawler - False
crawlerThreadCount - 1
mailPriority - high
restCacheLimit - 5
collectReportServiceHits - False
skipAdditionalFieldsForMultifarm - True
encryptAdditionalUserInfo - False
sessionDuration - 20
alternativeColorsForReports - False
collectADGroups - True
fillAreaCharts - True
Done.

The displayed data contain a list of all policy names and their current values.

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#### **Syntax**

## HarePointAnalyticsUtil.exe get-policies

#### **Parameters**

(none)

19.3.4. Operation get-data-keep-daysDisplays the current data retention period settings.Refer to <u>Checking the current settings for the retention period</u> for more details.

#### **Syntax**

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

Parameters

(none)

## **19.3.5. Operation encrypt-users**

Encrypts the previously collected users' personal data. Typically, this operation is performed after enabling the **encryptuserinfo** policy that enables encryption for the newly collected data – refer to <u>Encrypt user data</u> <u>during the data collection</u> section.

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

**Note:** Running this operation on a large database can take some time – consider running this operation during the non-working hours. Make sure <u>Preliminary Data Preparation</u> timer job is not running at that time.

#### **Syntax**

#### HarePointAnalyticsUtil.exe encrypt-users

#### **Parameters**

(none)

#### 19.3.6. Operation restart-sptimer

Restarts SharePoint Timer Service on all servers in the SharePoint farm.

#### **Syntax**

#### HarePointAnalyticsUtil.exe restart-sptimer

#### **Parameters**

(none)

#### **19.3.7. Operation set-policy**

HarePoint Analytics has a set of global parameters called "Policies". Using the policies, you can encrypt personal data when displayed in the reports, hide certain reports for all users, adjust some of HarePoint Analytics settings, etc.

#### **Syntax and Parameters**

Please refer to <u>Using command line to manage policies</u> section for a complete description of the available policies.

#### 19.3.8. Operation set-data-keep-days

Sets the data retention period for various data sets.

#### **Syntax and Parameters**

Please refer to <u>Setting new retention period</u> paragraph for a complete description.

#### **19.3.9. Operation use-default-theme**

Forces to use a **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).

#### Syntax

#### HarePointAnalyticsUtil.exe use-default-theme

-default { true | false }

#### Parameters

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>

# 20. Managing global policies

HarePoint Analytics has a set of global parameters called "Policies". Using the policies, you can encrypt personal data so they are not disclosed in reports, hide certain reports, encrypt personal data during the data collection, etc. **This will take effect for all users and administrators**.

There are three ways to manage policies:

- using the command line tools (all policies are supported)
- via the web interface in the product settings (some policies are not supported)

<u>using HarePoint Analytics Utility</u> – Policies tab (all policies, read only)

## 20.1. Using command line tools to manage policies

There are two utilities that provide equivalent 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 <u>distributive package</u>:

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.

#### Viewing current policy settings

To **view** current values for all properties, execute the following command:

#### stsadm -o mlstdisplaypolicies

It will output data in XML format:

#### stsadm -o mlstdisplaypolicies

<Policies> <maskusername>false</maskusername> <maskip>false</maskip> <maskaddepartment>false</maskaddepartment> <maskadgroup>false</maskadgroup> <maskspdepartment>false</maskspdepartment> <maskspgroup>false</maskspgroup> <maskiisrole>false</maskiisrole> <maskurl>false</maskurl> <maskdoclibname>false</maskdoclibname> <maskdocliblocation>false</maskdocliblocation> <maskdocname>false</maskdocname> <maskdoclocation>false</maskdoclocation> <masklistname>false</masklistname <masklistlocation>false</masklistlocation> <masklistitemname>false</masklistitemname> <masklistitemlocation>false</masklistitemlocation> <maskworkflowinfo>false</maskworkflowinfo> <maskaddsfields>false</maskaddsfields> <maskupdsfields>false</maskupdsfields> <maskdocdsfields>false</maskdocdsfields> <masklistitemdsfields>false</masklistitemdsfields> <disabledReports>TopContentLite</disabledReports> <showAnalyzeTab>true</showAnalyzeTab> <timeExpiration>720</timeExpiration> <cacheLimit>1000000</cacheLimit> <securityCacheExpiration>60</securityCacheExpiration> <encryptuserinfo>false</encryptuserinfo>
<collectAccessDenied>true</collectAccessDenied> <allowModifyReportTemplates>true</allowModifyReportTemplates> <useDataCollectionFiltersOnHTTP>true</useDataCollectionFiltersOnHTTP> <useDataCollectionFiltersOnQueueProcessing>true</useDataCollectionFiltersOnQueueProcessing> <allowForAuthorized>false</allowForAuthorized> <allowForAnonymous>false</allowForAnonymous> <disabledSiteCollections>null</disabledSiteCollections> <prepareDataByDay>false</prepareDataByDay> <userProfileProperties>UserProfile\_GUID AccountName FirstName LastName WorkPhone WorkEmail Department PictureURL</userProfileProperties> <collectContentDbsForSites>false</collectContentDbsForSites> <exportLinkAsText>true</exportLinkAsText> <enableSocialReport>true</enableSocialReport> <collectWebSizeSql>true</collectWebSizeSql> <collectWebSize>true</collectWebSize> <exportUseWebAppAsRoot>true</exportUseWebAppAsRoot> <exportPdfDateFormat>default</exportPdfDateFormat> <useSecuredExportTree>false</useSecuredExportTree> <useWebpartStandartPermission>false</useWebpartStandartPermission> <collectNotFoundHits>true</collectNotFoundHits> <collectContentTypes>false</collectContentTypes> <collectFileAuthorFromListItem>false</collectFileAuthorFromListItem> <siteFeatureOnlyForFarmAdmin>false</siteFeatureOnlyForFarmAdmin> <embedFontsInPdf>true</embedFontsInPdf> <useOldStylePdf>false</useOldStylePdf> <useSubscriptionForExportTree>false</useSubscriptionForExportTree> <hidePositiveFilters>true</hidePositiveFilters> <incrementalCrawler>false</incrementalCrawler> <crawlerThreadCount>1</crawlerThreadCount> <mailPriority>high</mailPriority> <restCacheLimit>5</restCacheLimit> <collectReportServiceHits>false</collectReportServiceHits> <skipAdditionalFieldsForMultifarm>true</skipAdditionalFieldsForMultifarm> <encryptAdditionalUserInfo>false</encryptAdditionalUserInfo> <sessionDuration>20</sessionDuration> <alternativeColorsForReports>false</alternativeColorsForReports>
<collectADGroups>true</collectADGroups>
<fillAreaCharts>true</fillAreaCharts> Policies>

#### or

#### HarePointAnalyticsUtil.exe get-policies

It will output data in plain text format:

#### .\HarepointAnalyticsUtil.exe get-policies

HarePoint Analytic's policies reportSecurityDataTypeCollection - maskusername = false; maskip = false; maskaddepartment = false; maskadgroup = false; maskspdepar clibname = false; maskdocliblocation = false; maskdocname = false; maskdoclocation = false; masklistname = false; masklistlocation o = false; maskaddsfields = false; maskupdsfields = false; maskdocdsfields = false; masklistitemdsfields = false disabledReports - TopContentLite reportWithStatusCollection - MAPILab.SharePoint.Statistics.Administration.Policy.MLReportWithStatusCollection showAnalyzeTab - True timeExpiration - 720 cacheLimit - 1000000 securityCacheExpiration - 60 encryptuserinfo - False collectAccessDenied - True allowModifyReportTemplates - True useDataCollectionFiltersOnHTTP - True useDataCollectionFiltersOnQueueProcessing - True allowForAuthorized - False allowForAnonymous - False disabledSiteCollections null prepareDataByDay - False
userProfileProperties - UserProfile\_GUID; AccountName; FirstName; LastName; WorkPhone; WorkEmail; Department; PictureURL collectContentDbsForSites - False exportLinkAsText - True enableSocialReport - True collectWebSizeSql - True collectWebSize - True exportUseWebAppAsRoot - True exportPdfDateFormat - default useSecuredExportTree - False useWebpartStandartPermission - False collectNotFoundHits - True
collectContentTypes - False collectFileAuthorFromListItem - False siteFeatureOnlyForFarmAdmin - False embedFontsInPdf - True useOldStylePdf - False useSubscriptionForExportTree - False hidePositiveFilters - True incrementalCrawler - False crawlerThreadCount mailPriority - high restCacheLimit collectReportServiceHits - False skipAdditionalFieldsForMultifarm True encryptAdditionalUserInfo - False sessionDuration - 20 alternativeColorsForReports - False collectADGroups - True fillAreaCharts - True Done

#### Changing policy settings

To set policies from the command line, execute the following command:

#### stsadm -o mlstsetpolicy -<policy name> <parameter value>

or

HarePointAnalyticsUtil.exe set-policy -name <policy name> -value <parameter value>

## Table of available policies

The policies **highlighted in green** are also available <u>from web interface</u>.

Some of the policies have values indicated as (recommended), please do not change them.

The policies marked as **read only** cannot be changed from command line. To change them, there are either corresponding **set only** policies available (in the same section), or they can be changed from <u>web interface</u>.

	Parameter	
Policy Name	default	Description
	value	Display words name in the anomyted form
maskusername (read only)	false	Display user's name in the encrypted form.
Maskip (read only)	false	Display user's IP address in the encrypted form
maskaddepartment (read only)	false	Display department name imported from the Active Directory in the encrypted form.
Maskadgroup (read only)	false	Display group name imported from Active
Waskaugioup (read only)	Taise	Directory in the encrypted form.
Maskspdepartment (read only)	false	Display department name obtained through the
		object model of SharePoint in the encrypted
		form.
Maskspgroup (read only)	false	Display group name obtained through the
		SharePoint object model in the encrypted form.
Maskiisrole (read only)	false	Display IIS role name in the encrypted form.
Maskurl (read only)	false	Display web site addresses in the encrypted
		name.
maskdoclibname (read only)	false	Display names of the SharePoint libraries in the
		encrypted form.
Maskdocliblocation (read only)	false	Display location of libraries in the encrypted
		form.
Maskdocname (read only)	false	Display document names in the encrypted
Mackdoolocation (read only)	false	form. Display location of documents in the encrypted
Maskdoclocation (read only)	Taise	form.
Masklistname (read only)	false	Display names of the SharePoint lists in the
	Taise	encrypted form.
Masklistlocation (read only)	false	Display location of the SharePoint lists in the
х <i>н</i>		encrypted form.
Masklistitemname (read only)	false	Display names of the list items in the encrypted
		form.
Masklistitemlocation (read only)	false	Display location of the list items in the
		encrypted form.
Maskworkflowinfo (read only)	false	Display information in Workflows section in the
		encrypted form.
disabledReports (read only)	-	The list of the hidden reports identifiers. Refer
		to <u>Removing reports from the list</u> for more information.
disableReport <report name=""> (set only)</report>		Hide the report from the reports list.
enableReport <report name=""> (set only) enableReport <report name=""> (set only)</report></report>		Show the report in the reports list.
showAnalyzeTab	false	Show "Analyze" tab on the ribbon expanded by
		default (if <b>false</b> , "Browse" tab is expanded).)
securitycacheexpiration	60	The time (in minutes), for how long the user
· ·	(recommended)	permissions are cached.
timeExpiration	720	The storage time (in minutes) of the data in the
	(recommended)	cache that is used during the queue database
		processing.
cacheLimit	1000000	The size of the cache that is used during the
	(recommended)	queue database processing.
encryptuserinfo	false	Encrypt users' personal data at the stage of

		collection. Not reversible!
		See also: encryptadditionaluserinfo policy
collectAccessDenied	true	Collect the statistics on visiting the "Access
concerneessbernea	liuc	Denied" page by users.
allowModifyReportTemplates	true	Allow users to create and modify their own
·····		report templates.
useDataCollectionFiltersOnHTTP	True	Enable data collection filter rules that work at
	(recommended)	HTTP Module level.
		<b>Note:</b> this applies only to the following fields:
		RequestUrl, RequestUrlReferrer,
		RequestUserAgent, RequestHostAddress,
		RequestHostName, RequestAuthType,
		RequestIsAuthenticated,
		RequestAuthenticationName, UserAnonimous,
		DoNotCollect.
useDataCollectionFiltersOnQueueProc	True (recommended)	Enable data collection filter rules that work at
essing	(recommended)	Queue Database processing level.
		Note: this applies to the fields that are not mentioned above
allowForAuthorized	false	
anowrorAuthorized	laise	Allows all authorized users to access all reports by default
allowForAnonymous	false	Allows all anonymous users to access all reports
anowioranonymous	10130	by default
disabledSiteCollections (read only)		Shows a list of disabled web applications and
		site collections (where HarePoint Analytics site
		collection feature activation is prohibited)
disablewebapp <url> (set only)</url>		Add this web applications to list of disabled
		web applications and site collections
enablewebapp <url> (set only)</url>		Remove this web application from list of
		disabled web applications and site collections
disablesitecollection <url> (set only)</url>		Add this site collection to list of disabled web
		applications and site collections
enablesitecollection <url> (set only)</url>		Remove this web application from list of
		disabled web applications and site collections
prepareDataByDay	false	(not in use in later versions)
collectContentDbsForSites	false	Collect information about site collections
	(recommended)	content databases
exportLinksAsText	true	Should the links in exported reports contain
		links as text ( <b>true</b> ), or as links to reports ( <b>false</b> )
enableSocialReport	true	Enables or disables data collection for <b>Social</b>
colloctWohSizoSal	truo	category of reports
collectWebSizeSql	true (recommended)	If set to <b>true</b> , calculate the size of web-sites by querying the content database; otherwise this
	(	information will be requested from SharePoint
		Object Model.
collectWebSize	true	Calculate the size of web-sites (if <b>false</b> , this
	(recommended)	calculation is disabled entirely)
exportUseWebAppAsRoot	true	Display all site collections in the current web
· · · · · · · · · · · · · · · · · · ·		application when creating a subscription to a
		report (if <b>false</b> , only current site collection is
		available)

exportPdfDateFormat	default	The date format that is used in exported
		reports. Use either default value, or any other
		format – please refer to this link for more
		information <u>https://learn.microsoft.com/en-</u>
		us/dotnet/standard/base-types/custom-date-
		and-time-format-strings
useSecuredExportTree	false	When set to <b>true</b> , the tree view of document
		libraries (when subscribing to a report) will only
		display document libraries that current user has
		access to.
useWebpartStandartPermission	false	When set to false, only users having Manage
		Permissions permission are able to edit the
		web part.
collectNotFoundHits	true	When set to <b>false</b> , HarePoint Analytics will skip
	(recommended)	processing pages with 404 HTTP code.
collectContentTypes	true	When set to <b>false</b> , HarePoint Analytics will not
	(recommended)	collect data on content types
collectFileAuthorFromListItem	false	Used only for specific farm configuration when
	(recommended)	file properties and list item properties differ
site Feature Only For Farm Admin	false	When set to <b>true</b> , the site collection level
		feature of HarePoint Analytics will only be
		visible to farm administrators
embedFontsInPdf	true	PDF report generation tweak
useOldStylePdf	(recommended) false	PDF report generation tweak. When set to <b>true</b> ,
useolustylerui	Taise	uses the PDF converter from older versions of
		HarePoint Analytics
useSubscriptionForExportTree	false	For multi-tenant environments only. When set
	(recommended)	to <b>true</b> , limits the export targets tree view to
		current tenant.
hidePositiveFilters	true	Hide positive relationship types ( <i>Contains,</i>
	(recommended)	Equals, MatchRegex, etc) for data collection
		filters. Prevents from creating filters that can
		effectively stop the data collection.
incrementalCrawler	false	Defines if Periodic Data Collection timer job
	Talbe	uses incremental data collection mechanism
crawlerThreadCount	1	Defines number of processing threads used by
	-	Periodic Data Collection timer job
mailPriority	high	Defines the priority of emails for exported
		reports. Available values: <i>high, low, normal</i>
restCacheLimit	5	Defines cache size for the modern webpart
	(recommended)	reporting service. Values less than 50 specify
		percentage of total memory available on the
		server (default is 5%); values more than 50
		specify the exact cache size in megabytes.
collectReportServiceHits	false	(not in use; added for future releases)
skipAdditionalFieldsForMultifarm	false	When set to <b>true</b> , disables displaying data in
	Tulse .	custom fields. Useful when viewing cross-farm
		reports, since not all farms may have same set
		of custom fields added.
encryptAdditionalUserInfo	false	Extends the <b>encryptuserinfo</b> policy by
	10150	additionally encrypting the AD and SP
		auditionally end young the AD and SP

		Department names, links to user profiles See also: encryptuserinfo policy
sessionDuration	20 (recommended)	Defines the user session duration (in minutes). Used for Visits data calculation.
alternativeColorsForReports	false	Switches charts to alternative color scheme, optimized for colorblind people.
collectADGroups	true (recommended)	Disables data collection about AD groups. This can speed up data processing for "Data Collection from AD" timer job, however corresponding filters by AD groups will not be available in reports
fillAreaCharts	false	When set to <b>true</b> , areas under the chart lines will be filled.

Note: some policies are only available in later versions of HarePoint Analytics.

## 20.2. Using web interface to manage policies

To manage the policies using a web interface go to SharePoint Central Administration - Monitoring - HarePoint Analytics for SharePoint Settings:

# Monitoring

Health Analyzer Review problems and solutions | Review rule definitions

Timer Jobs Review job definitions | Check job status



-

Reporting View administrative reports | Configure diagnostic logging | Configure usage and health data collection | View health reports



HarePoint Analytics for SharePoint HarePoint Analytics for SharePoint settings Web application inter management Tasks for exporting reports

Scroll the page down to Statistic policies and click Configure policies:

Statistics policies This page is designed for managing the statistics global policies.

Configure policies

Policies are divided into two sections:

- Select reports that should be hidden from reports list in the left pane for all users and administrators see <u>Removing reports from the list</u> paragraph
- Select data types that should not be disclosed (those will be indicated in an encrypted form instead) for all users and administrators see Encryption of the data in reports paragraph

## 20.3. Using HarePoint Analytics Utility to view the policies

A special Utility is shipped with HarePoint Analytics that is designed to simplify product maintenance and troubleshooting. It can be found in distributive package:

#### for SharePoint SE/2019/2016

<path\_to\_distributive>\Analytics Tools

## for SharePoint 2013

<path\_to\_distributive>\Analytics Tools2013



HAIISLogImporter.exe

🚮 HarePointAnalyticsUtil.exe

MAPILab.SharePoint.CleanMissingDependencies.dll

Run HarePointAnalyticsUtil.exe on any of your Web Front-End Servers.

Go to **Policies** tab. Policies can only be viewed from the Utility.

Harepoint Analytics Help Util						-		x				
General info	Timer jobs	Policies	ULS log	Web.config modifica	ations	Missing fe	atures and web-parts	Data collection feature	Installation che	ecker	Repo	rt
				Information a	bout se	curity poli	cies of Harepoint Analy	tics.				
Active I Departn ShareP Role Uri Documn Documn List List Loc List lten	ame Directory Depa Directory Group ent pint Group ent Library ent Library Loc ent ent Location ation	)					Disabled reports:					
Global polic	ies:											
	ame						Value					^
All	ow modify repo	ort templat	es				True					
Us	e data collecti	on filters o	n HTTP				True					
Us	e data collection	on filters o	n queue p	rocessing			True					
All	ow for authoriz	ed					False					
All	ow for anonym	ous					False					
► dis	abledSiteColle	ctions										
pre	epareDataByDa	ау					False					≡
US	erProfileProper	ties					System.String[]					
co	llectContentDb	sForSites					False					
ex	portLinkAsText	t					True					
	llect SocialInfo						False					$\sim$

For more information regarding the Utility, please refer to HarePoint Analytics Maintenance Guide.

# 21. Maintenance of Main statistics database

The Main Database of HarePoint Analytics consists of large number of tables. There are several timer jobs performing complex operations with the data in the database. Based on this, it is quite expected that transaction log file (\*.ldf) can grow substantially.

It is recommended to set the database recovery model to **Simple**. In Simple model, the unsuccessful transactions cannot be rolled back by a SQL server. However, if this situation occurs it would be possible to rebuild the missing data in reports since HarePoint Analytics also stores the raw (unprocessed) data for last 90 days by default. Please refer to <u>Switching to Simple recovery model</u> for detailed description on how to switch databases to Simple recovery mode.

If for some reason it is not possible and **Full** is the required setting, it is recommended to perform shrinking transaction log file on a regular basis.

## 21.1. Shrinking the transaction log

If due to company policies the SQL databases can only be set to **Full** recovery model, it is recommended to shrink transaction logs from time to time to reclaim the excess space by reducing the size of the transaction log. This is performed by temporarily switching to Simple model, running a Shrink task and then switching back to Full model.

Follow the steps below:

- 1. Open SQL Management Studio
- 2. Right click on HarePoint Analytics Main Database, go to Properties Options.
- 3. In Recovery model select Simple.

Ū	Database Properties	AnalyticsMainDB
Select a page	🖾 Script 🔻 🚺 Help	
Coptions Permissions	<u>C</u> ollation:	Latin1_General_CI_AS_KS_WS
	Recovery <u>m</u> odel: Compatibility <u>level</u> :	Simple  V SQL Server 2012 (110)  V
Extended Properties	Containment type:	None

4. Click **OK**.

5. Right click on HarePoint Analytics Main Database, then Tasks – Shrink – Files:

Object Explor	rer			<b>▼</b> ₽ ×	
Connect •	22 💱 = 🍸 🛃	<u>s</u>			
🖃 🐻 LABS	P13\SHAREPOINT (S	QL Server 11.0.3000 - LABS	P13\/	Administrator)	
🖃 🧰 D	atabases				
÷,	System Databases				
E 🚺	AnalyticsMai	New Database	1		
± U	AnalyticsQue				
E 📃	AppMng_Ser	New Query		c3414fe	
•	Bdc_Service_	Script Database as 🔹 🕨	34b0	8bc7	
E .	HelpDesk_A	Tasks 🕨		Detach	
± [	Managed Ma				
•	Performance	Policies •		Take Offline	
± .	SbGatewayDa	Facets		Bring Online	
	SbManagem SBMessageCo	Start PowerShell		0	
±   ∓	Search_Servic	Start Powersnell		Shrink 🕨	Database
± •	Search_Servic	Reports •		Back Up	Files
Ŧ	Search_Servic	Rename		Restore •	
	Search Servic	Delete			
	Secure_Store	Delete	-	Generate Scripts	
	SharePoint_A	Refresh		Extract Data-tier Application	
E (	SharePoint_C	Properties		Deploy Database to SQL Azure	
. E 🚺	StateService_b225	/b2a83tb4ccb9ea384480c84	P	Export Data-tier Application	
. E 🚺	TranslationService	_a69ec2e402144f1ca3c3285			
_ 4	en ere :			Register as Data-tier Application	

6. In the new window, in the File type field select Log.Make sure Shrink action is set to Release unused space:

Ũ	Shrink File	- AnalyticsMainDB_I	og	_ 🗆 X			
Select a page	Script V Lep The size of the database is reduced by shrinking individual files to release unallocated space. To						
	shrink all database files, use Shrink Database. Database:						
	Database files and filegr	oups					
	File type:	Log		~			
	Filegroup:	<not applicable=""></not>		×			
	File name:	AnalyticsMainDB_log		V			
	Location:		SQL Server\MSSQL11.SHAREP				
	Currently allocated sp		39.00 MB				
	Available free space	:	31.63 MB (81%)				
Connection	Shrink action	_					
Server:	Release unused s	space					
LABSP13\SHAREPOINT		s perore releasing unused sp					
Connection: LABSP13\Administrator	Shrink file to:		39 🔆 MB (Minimum	is 0 MB)			
View connection properties	<ul> <li>Empty file by migr</li> </ul>	ating the data to other files ir	the same filegroup				
Progress							
C Ready							
			ОК	Cancel			

- 7. Click **OK**.
- 8. Right click on HarePoint Analytics Main Database, go to Properties Options.
- 9. In Recovery model select **Full**.
- 10. Click **OK**.

If you have SQL Server Agent installed on your SQL server, you can schedule shrinking the transaction log.

# 22. Adding tracker for JavaScript events

By default, HarePoint Analytics is **not adding** JavaScripts to web pages to track user activity; instead of this, an **HTTP module** is used, which is a server-side component (refer to <u>How it works</u> for more information).

However, it is possible to implement a JavaScript to track any custom activity on the page. Few examples are:

- Tracking links that lead to external (non-SharePoint) locations
- Analysing which controls (buttons, menu items, dropdowns, etc) users are using the most
- Tracking how users view videos using the standard HTML5 player (hit Play, Stop, Pause buttons; video viewing duration, etc)

The information collected by an additional JavaScript will be displayed in **Events** and **Events Popularity** reports (**Content & Traffic** category).

## 22.1. Track page events

To track JavaScript events on a page, you need to include the **haloader.js** script. To do this, add the following code to the end of the **<head>** section of the page:

```
<script type="text/javascript"
src="<webUrl>_layouts/15/MAPILab/Statistics/haloader.js" ></script>
```

Where,

<webUrl> is a server relative URL of the current site/subsite. It will be equal to "/" for the root site of a site
collection.

Next, insert the following code to the method that is called when an event to be registered occurs:

```
_haq.push(['trackEvent', '<eventType>', '<eventName>', '<eventDescription>
', '<eventValue>']);
```

Where,

<eventType> is an event type (maximum length: 100 symbols) (required),

<eventName> is an event name (maximum length: 100 symbols) (optional),

<eventDescription> is additional information of the event (maximum length: 200 symbols) (optional),

<eventValue> is a numerical value of the event (optional).

You can define which data you need to be displayed in HarePoint Analytics Event report, and transfer the corresponding values to this method. This could be fixed values, or values from variables on the page.

Example:

```
<ahref="#" onclick="_haq.push(['trackEvent', 'Purchase', 'MyProduct', 'PurchasePage', 0.99]);">Buy (0.99$)</a>
```

## 22.2. Track events on page load

To track JavaScript events on page load, add the following code to the end of the **<head>** section of your page:

```
<script type="text/javascript">
var _haq = _haq || [];
_haq.push(['trackEvent', '<eventType>', '<eventName>', '<eventDescription>
', '<eventValue>']);
</script>
<script type="text/javascript"
src="<webUrl>_layouts/15/MAPILab/Statistics/haloader.js"></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script>
```

Where,

<eventType> is an event type (required) (maximum length: 100 symbols),

<eventName> is an event name (optional) (maximum length: 100 symbols),

<eventDescription> is an additional information of the event (optional) (maximum length: 200 symbols),

<eventValue> is a numerical value of the event (optional),

<webUrl> is a server relative URL of the current site/subsite. For the root site of a site collection it will be equal to "/".

#### Example:

```
<scripttype="text/javascript">
var _haq = _haq || [];
_haq.push(['trackEvent', 'Page view', 'Main page']);
</script>
<script
type="text/javascript"src="/_layouts/15/MAPILab/Statistics/haloader.js">
</script>
```

## 23. Contacting HarePoint Support

If you have questions or need assistance, please contact HarePoint Support via <u>support@harepoint.com</u>, or create a ticket at <u>http://harepoint.com/Support/</u>:

- 1. describe the situation
- 2. attach relevant screenshots
- 3. attach the report generated by HarePoint Analytics Utility Report tab:

The HarePoint Analytics Utility can be found in distributive package:

for SharePoint SE/2019/2016
<path\_to\_distributive>\Analytics Tools

#### for SharePoint 2013

<path\_to\_distributive>\Analytics Tools2013



Run HarePointAnalyticsUtil.exe on any of the Web Front-End Servers.

Navigate to **Report** tab and select all options. For the **ULS log option**, set the **date range** according to the period when the issue took place or related timer jobs were running.

<b>3</b>		Harepoint /	Analytics Help Util	L	_ 🗆 X
ULS log	Web.config modifications	Missing features and web-parts	Data collection feature	Installation check or Report C	Istom reports < >
The tab for generating text report about all the tabs.					
G	enerate				
Include in report:					
√ (	General info				
ים	limer jobs				
E F	Policies and filters				
<u>ا</u> ا	Veb.config modifications				
Missing features and web-parts					
	Data collection feature				
	JLS log	From: 05.07.2021	20:22 🗐 🔻 T	o: 05.07.2021 21:22	
	nstallation checker				