

HarePoint Analytics

For SharePoint

Administrator Guide



HarePoint Analytics for SharePoint SE/2019/2016, product version: 16.12

HarePoint Analytics for SharePoint 2013, product version: 15.17

March 2022

(This Page Intentionally Left Blank)

Table of contents

Table of contents.....	3
1. Introduction	9
A. Quick Start.....	10
3. How it works	11
3.1. Data collection.....	11
3.1.1. Trial period expired.....	12
3.1.2. Number of users is exceeded	12
3.1.3. Personal data that are collected and stored in the product database	14
3.2. Data processing	15
3.2.1. List of data that will be removed after 180 days	15
3.3. Report generation	16
3.4. Subscription to the reports	16
4. End User License Agreement (EULA).....	17
5. Preparation for deployment	19
5.1. System requirements for HarePoint Analytics for SharePoint	19
HarePoint Analytics for SharePoint SE, 2019	19
HarePoint Analytics for SharePoint 2016	19
HarePoint Analytics for SharePoint 2013	20
5.2. Infrastructural recommendations	20
5.2.1. SQL Server	20
5.2.2. Hard Drives	20
5.2.3. Virtualized Environments.....	20
5.3. Estimation of the Database size	20
5.3.1. Growth rate of the statistics database	21
6. Installation and deployment	22
6.1. Prerequisites.....	22
6.2. Distributive package	22
6.3. Automatic installation and deployment using Setup.exe	23
6.4. Manual installation and deployment	31
HarePoint Analytics for SharePoint SE/2019/2016	31

HarePoint Analytics for SharePoint 2013	33
7. Upgrading the product.....	35
7.1. Prerequisites.....	35
7.2. Distributive package	35
7.3. Automatic upgrade using Setup.exe	36
7.4. Manual upgrade	41
HarePoint Analytics for SharePoint SE/2019/2016	41
HarePoint Analytics for SharePoint 2013	42
8. Removing the product.....	45
8.1. Prerequisites.....	45
8.2. Distributive package	45
8.3. Automatic removing using Setup.exe.....	46
8.4. Manual removing	50
HarePoint Analytics for SharePoint SE/2019/2016	50
HarePoint Analytics for SharePoint 2013	52
9. Migration.....	53
9.1. Migration from HarePoint Analytics for SharePoint 2007/2010 to SharePoint SE/2019/2016/2013.....	53
9.2. Migration from one 2013/2016/2019/SE farm to another 2013/2016/2019/SE farm.....	55
9.3. Migration from one site collection to another or restoring a site from backup.....	57
9.4. Migration wizard	58
10. Initial settings	62
10.1. Databases	62
10.1.1. Creating and connecting new databases.....	62
10.1.2. Connecting an existing Main Database.....	64
10.1.3. Connecting an existing Queue Database	68
10.2. Setting the Geographical locations database update	69
10.2.1. Detection the geographical location by IP address	71
10.2.2. Detection the geographical location by the data from User Profile.....	71
10.3. Data collection on server performance.....	72
10.3.1. Granting permission to collect the performance data	73
10.3.2. Enabling timer job for the performance data collection	74

10.4. Starting the data collection	75
10.4.1. Activation of the data collection using a web-interface	75
10.4.2. Activation of the data collection using HarePoint Analytics Utility	77
10.4.3. Activation of the data collection using PowerShell	78
11. License management	79
11.1. Licensing model	79
11.2. Determining the number of required licenses	79
11.3. Entering the license keys	81
11.4. Extending the number of licenses	82
12. Managing access to the reports	84
12.1. Managing users' access permissions	84
12.1.1. Granting users the general permission to access reports	84
12.1.2. Managing users' unique permissions to access reports	85
12.2. Managing global access permissions	88
12.2.1. Removing reports from the list	88
12.2.2. Encryption of the data in reports	89
12.2.3. Encrypt user's data during the data collection	91
13. Reports Subscription Management	93
13.1. Adding a new subscription	94
13.2. Customizing a subscription template	96
14. Viewing reports in Power BI	98
14.1. Preparing Power BI Desktop	98
14.2. Connecting Power BI to HarePoint Analytics	99
14.3. How to use Power BI reports	101
15. Advanced Settings	104
15.1. HarePoint Analytics Timer Jobs	104
15.1.1. Processor of Message Queue (Queue Data Processor)	106
15.1.2. Preliminary Data Preparation (Report Data Preprocessor)	107
15.1.3. Monthly Data Preparation (Preprocessor report data by month)	108
15.1.4. Periodic data collection	110
15.1.5. Data Collection from Active Directory	111
15.1.6. Geographic locations database update	112

15.1.7. System Metrics Collector	112
15.1.8. Statistics Information Cleaner	112
15.1.9. Report exporting by schedule.....	113
15.1.10. Monitoring of the ULS logs.....	114
15.2. Data retention period.....	116
15.2.1. Setting new retention period	117
15.2.2. Checking the current settings for the retention period	118
15.3. Data collection filters.....	118
15.3.1. Filter levels.....	120
15.3.2. Managing rules via the web interface	123
15.3.3. Managing rules via the command line interface	128
15.4. Custom Active Directory, User Profile, and Metadata fields	131
15.4.1. Enabling data collection for custom fields.....	131
15.4.2. Stopping data collection for custom fields	134
15.5. Additional databases for cross-farm reports.....	135
15.5.1. Adding databases for cross-farm reports	135
15.5.2. Removing databases for cross-farm reports	137
15.6. User Profile Fullness report settings	137
15.7. Search reports' settings.....	138
15.7.1. 2013/2016/2019/SE experience site collections	139
15.7.2. 2010 experience site collections.....	139
15.8. Switching to Simple recovery model	139
16.Importing data from IIS logs (optional).....	141
Step 1: Import data using IIS Importer tool.....	141
Step 2: Contact HarePoint to obtain a SQL script for data compiling	143
Step 3: Run the SQL script to compile data	144
17.Adding and configuring a web-part.....	144
17.1. Configuring SharePoint 2016/2019/SE to use Modern Web-Part.....	144
17.2. Adding a web-part	154
17.3. Configuring a web-part (Classic experience)	159
17.3.1. Report settings.....	161
17.3.2. Report results settings	162

17.3.3. Report appearance settings.....	163
17.4. Configuring a Modern web-part.....	167
17.4.1. Main settings	168
17.4.2. Filter settings	170
17.4.3. Table settings.....	171
17.4.4. Chart settings.....	172
17.5. Removing a web-part	173
18. Customizing the Dashboard	173
18.1. Customizing a Dashboard for a site.....	174
18.2. Customizing a Dashboard for a site collection	175
19. Command-line tools overview	177
19.1. List of command-line operations.....	177
19.2. Stsadm operations description.....	178
19.2.1. Operation mlstaddfilter	178
19.2.2. Operation mlstcompleteupgrade	181
19.2.3. Operation mlstcustomreports	181
19.2.4. Operation mlstcopyappbincontent	182
19.2.5. Operation mlstdisplayfilter.....	182
19.2.6. Operation mlstdisplaypolicies.....	184
19.2.7. Operation mlstdisplaydatakeepdays	184
19.2.8. Operation mlstencryptuserinfo	185
19.2.9. Operation mlstexportfilters	185
19.2.10. Operation mlstimportfilters	186
19.2.11. Operation mlstremovefilter	187
19.2.12. Operation mlstresetfilter.....	187
19.2.13. Operation mlstrestartstimer	188
19.2.14. Operation mlstsetpolicy	188
19.2.15. Operation mlstsetdatakeepdays	188
19.2.16. Operation mlstusedefaulttheme.....	189
19.3. HarePointAnalyticsUtil.exe operations description	189
19.3.1. Operation complete-upgrade	189
19.3.2. Operation copy-appbincontent	189
19.3.3. Operation get-policies	189

19.3.4. Operation get-data-keep-days.....	190
19.3.5. Operation encrypt-users.....	191
19.3.6. Operation restart-sptimer	191
19.3.7. Operation set-policy	191
19.3.8. Operation set-data-keep-days.....	191
19.3.9. Operation use-default-theme.....	192
20.Managing global policies.....	192
20.1. Using command line tools to manage policies.....	192
20.2. Using web interface to manage policies.....	197
20.3. Using HarePoint Analytics Utility to view the policies.....	198
21.Maintenance of Main statistics database	199
21.1. Shrinking the transaction log.....	199
22.Adding tracker for JavaScript events.....	202
22.1. Track page events.....	202
22.2. Track events on page load.....	203
23.Contacting HarePoint Support	204

1. Introduction

HarePoint Analytics for SharePoint is a solution for getting web analytics reports in **SharePoint Subscription Edition (SE), 2019, 2016, and 2013 (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** (Office 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**:
https://www.harepoint.com/Products/HarePointAnalyticsForSharePoint/HarePoint_Analytics_User_Guide_EN.pdf
- 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/HarePointAnalyticsForSharePoint-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 [Preparation for deployment](#) chapter.** It contains important information on recommended hardware configuration and HarePoint Analytics database size estimation.
2. **Install HarePoint Analytics** using the automatic installer – [Automatic installation and deployment using Setup.exe](#)
3. **Create new HarePoint Analytics databases** – [Creating and connecting new databases](#).

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: [Data collection filters](#).
- **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 – [Setting the data retention period](#).
- **Optional:** If you need to collect **country information**, configure the settings as described here: [Setting the Geographical locations database update](#).
- **Optional:** If you need to collect **information on SharePoint servers' performance**, configure the settings as described here: [Data collection on server performance](#).
- **Optional:** If you need to **track custom events** on a page, implement a JavaScript as described here: [Adding tracker for JavaScript events](#).
- **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: [Importing data from IIS logs \(Optional\)](#)

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 – [Managing access to the reports](#).
- **Build custom dashboards** – [Adding and configuring a web-part](#).
- **Customize the built-in Dashboard** – [Customizing the Dashboard](#).
- **Submit a subscription** for users that prefer receiving exported reports by e-mail – [Reports Subscription Management](#).

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 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.



HarePoint Analytics for SharePoint

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 [HarePoint Analytics Timer Jobs](#) 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 [Adding tracker for JavaScript events](#) 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 [Importing data from IIS logs \(Optional\)](#) chapter for more details.

Please refer to [HarePoint Analytics Maintenance Guide](#) 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.

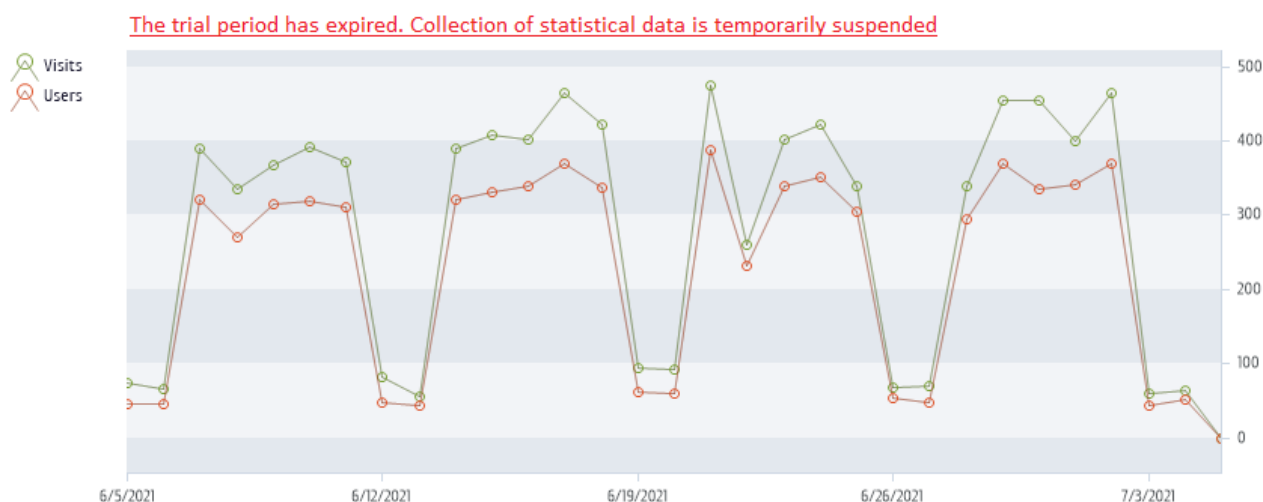
In this case, you will see a notification on **HarePoint Analytics for SharePoint Settings** page:

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 need 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 ⓘ

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 2013

3

7101

[Refresh](#)

Summary of available licenses



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

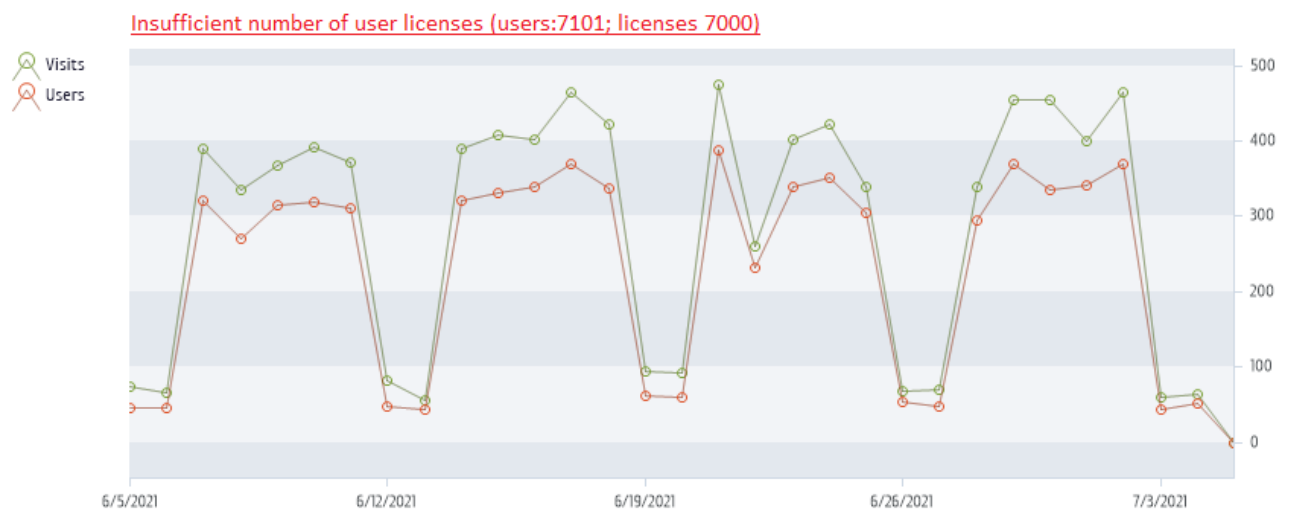
User license:
Summary of available licenses:

7000

Insufficient number of user licenses (users: 7101; licenses: 7000)

- [Refresh](#)
- [Add license keys](#)
- [View / delete license keys](#)
- [Purchase 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 [Data collection filters](#) chapter (as well as [HarePoint Analytics Maintenance Guide – Data collection filters](#)) for more details on how to filter out these accounts.

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: smith@thecompany.local.
- **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 [Encrypt user's data during the data collection](#) 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 [Setting the data retention period](#) section.

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

Data processing is described in details in [HarePoint Analytics Maintenance Guide](#).

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 [subscription rule](#) 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 [Reports Subscription Management](#) 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.

SharePoint server — 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”.

SharePoint user — 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.

Internet site — 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 [online support system](#) 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:

- [Automatically](#) using the Installer (Setup.exe) – recommended
- [Manually](#) 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
2. Microsoft SQL Server 2012 Service Pack 4 Native Client or higher
(In particular, Microsoft SQL Server 2014 Express Edition can be [downloaded for free](#) 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
2. Microsoft SQL Server 2012 or higher; SQL Server 2012 Express Edition or higher
(In particular, Microsoft SQL Server 2014 Express Edition can be [downloaded for free](#) from Microsoft web-site)

3. Microsoft .NET Framework 4.5.2
(Microsoft .NET Framework 4.5.2 can be downloaded for free from the [Microsoft Download Center](#))
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
2. Microsoft SQL Server 2008 or higher; SQL Server 2008 Express Edition or higher
(In particular, Microsoft SQL Server 2014 Express Edition can be [downloaded for free](#) from Microsoft web-site)
3. Microsoft .NET Framework 4.5
(Microsoft .NET Framework 4.5 can be downloaded for free from the [Microsoft Download Center](#))
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 [How Analytics works – Data collection](#)).

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 [next paragraph](#) 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

- **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 [Setting the data retention period](#) 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 [HarePoint.com](https://harepoint.com) 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 [HarePoint.com/downloads](https://harepoint.com/downloads)
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 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
 - **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

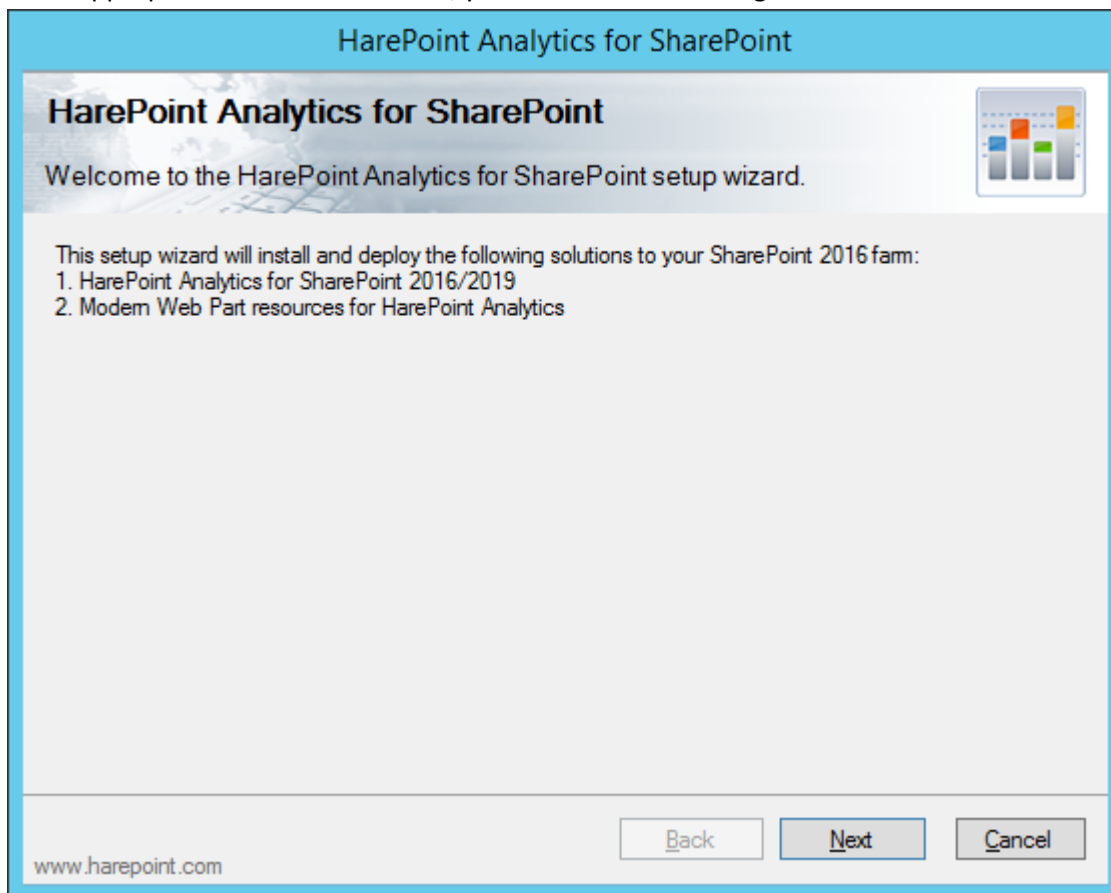
The automatic installation and deployment is performed by a special tool (Installer).

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

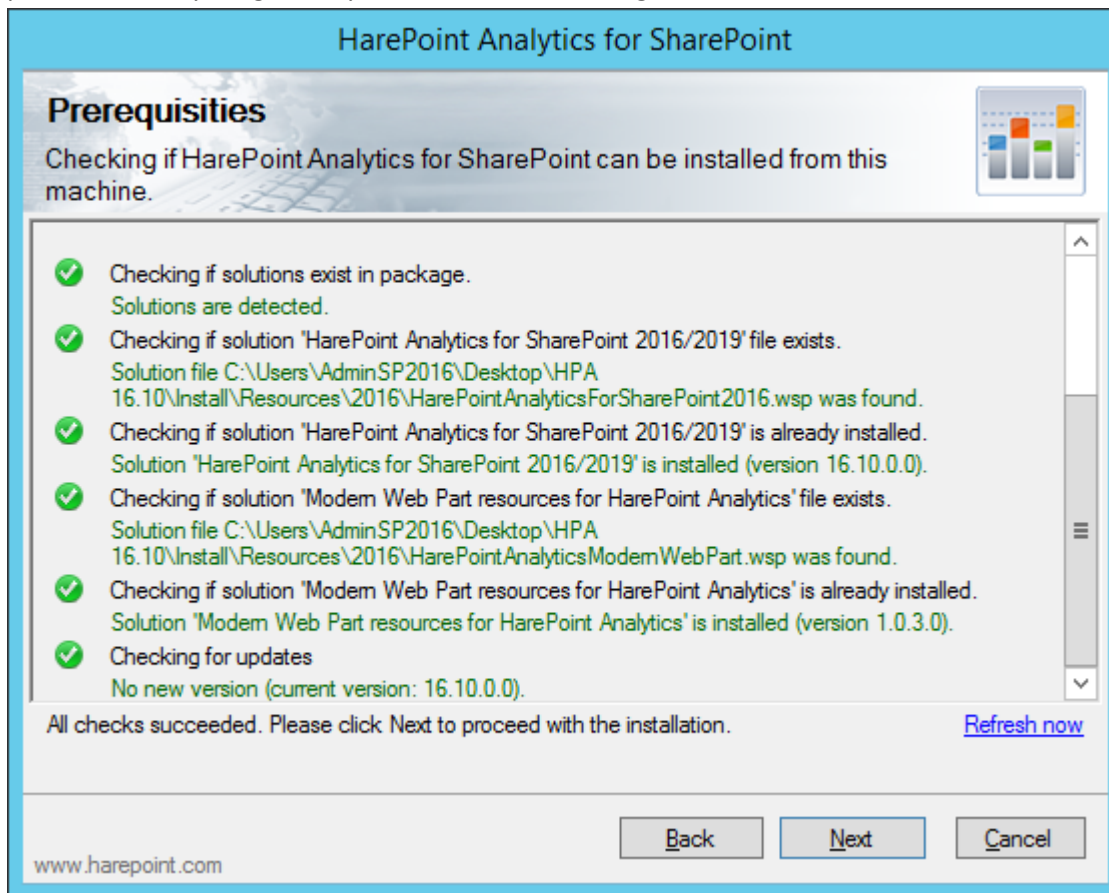
At the first step, the installation tool checks the version of SharePoint installed.

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:



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:



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

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 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.

1. Terms used in this Agreement

Execution environment - physical or virtual environment in which an

^

≡

▼

☒ I accept the terms in the License Agreement

www.harepoint.com

Back

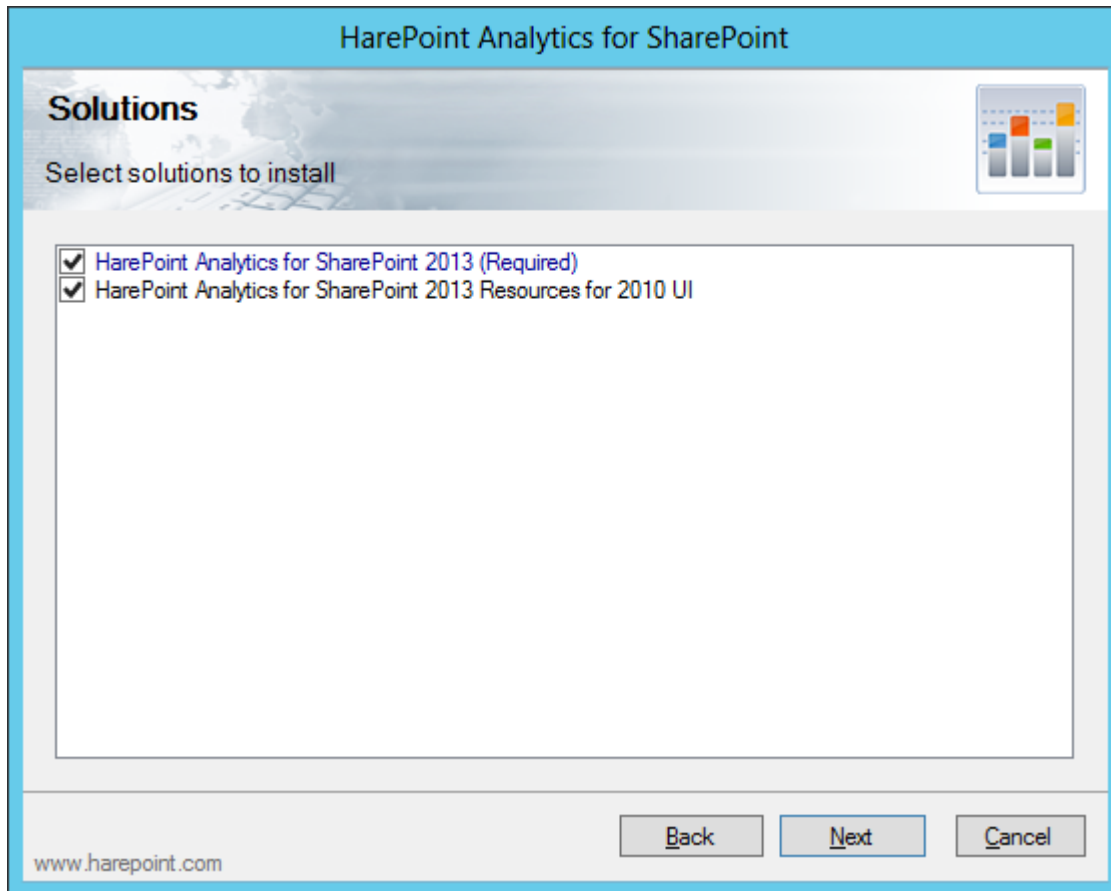
Next

Cancel

25 Installation and deployment | HarePoint.Com

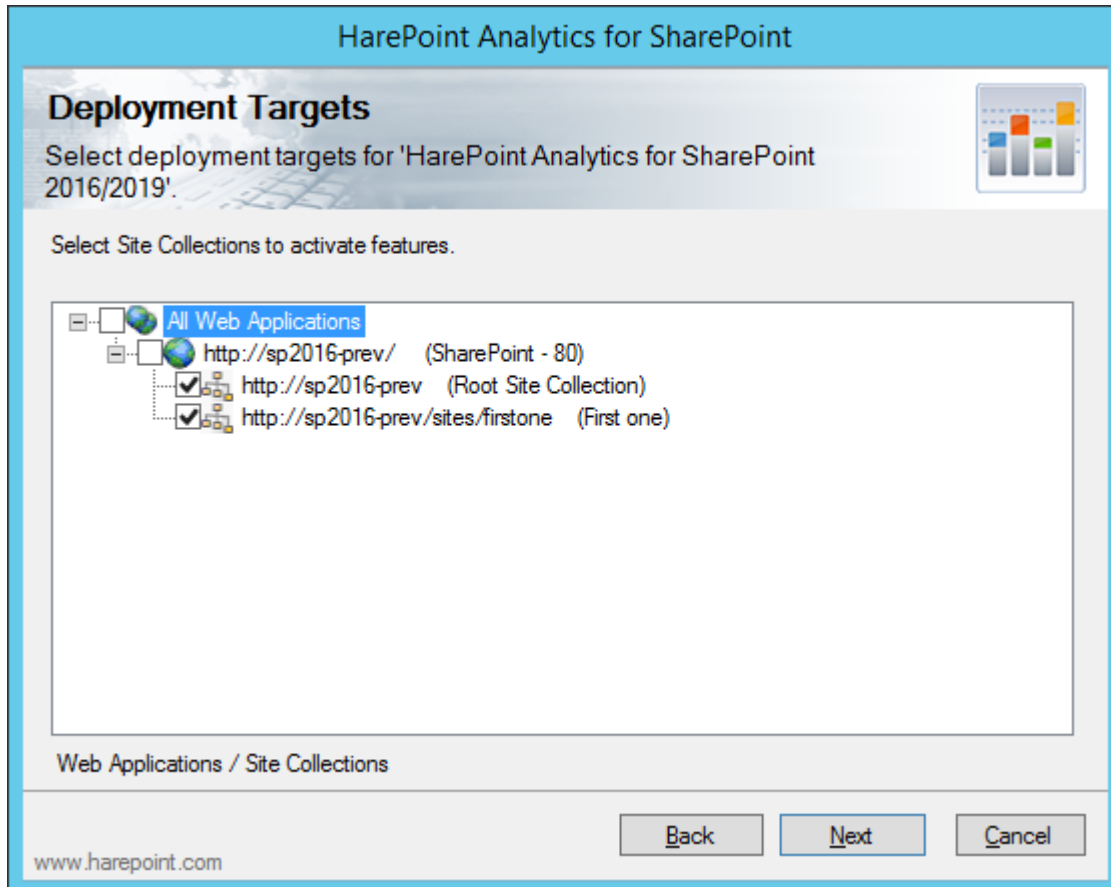
Only for SharePoint 2013: optionally select to install resources for **2010 UI sites**.

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



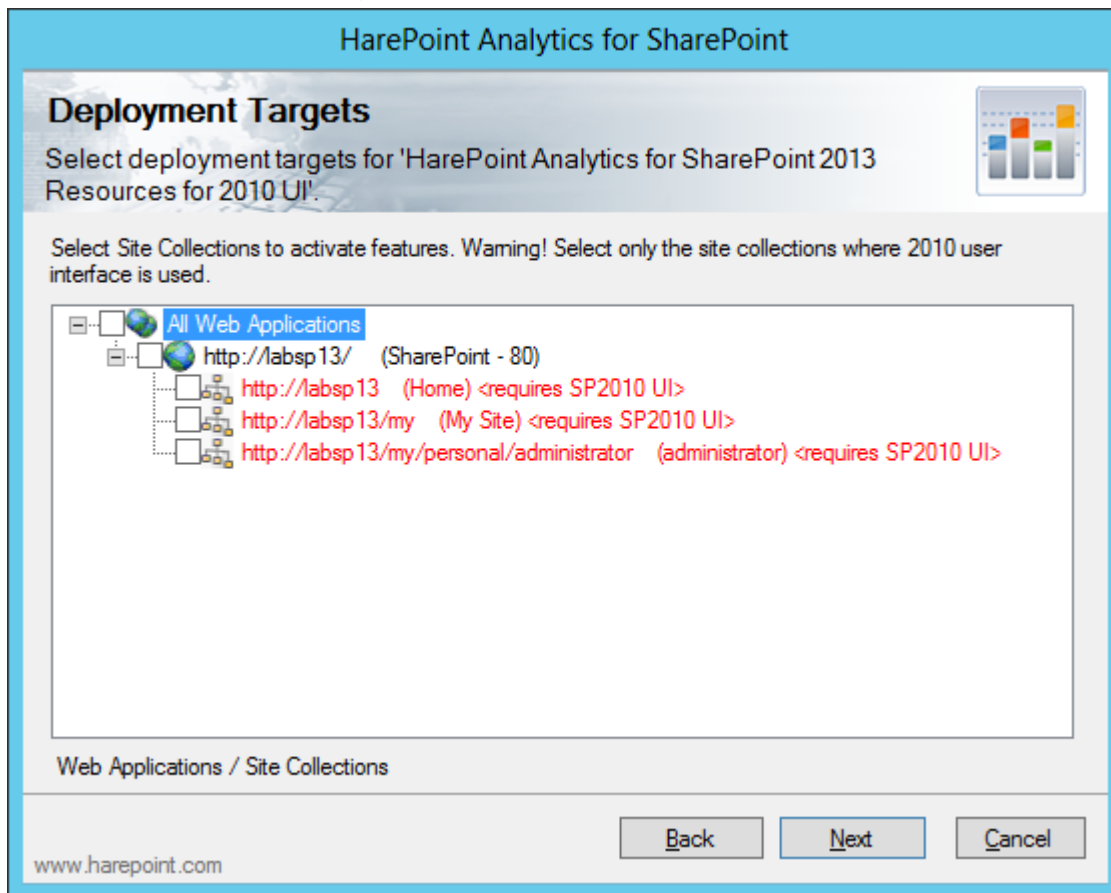
At the next step, you should select Site Collections where data collection feature need to be activated automatically after the installation is completed (feature can be activated or deactivated at any time later, if necessary).

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

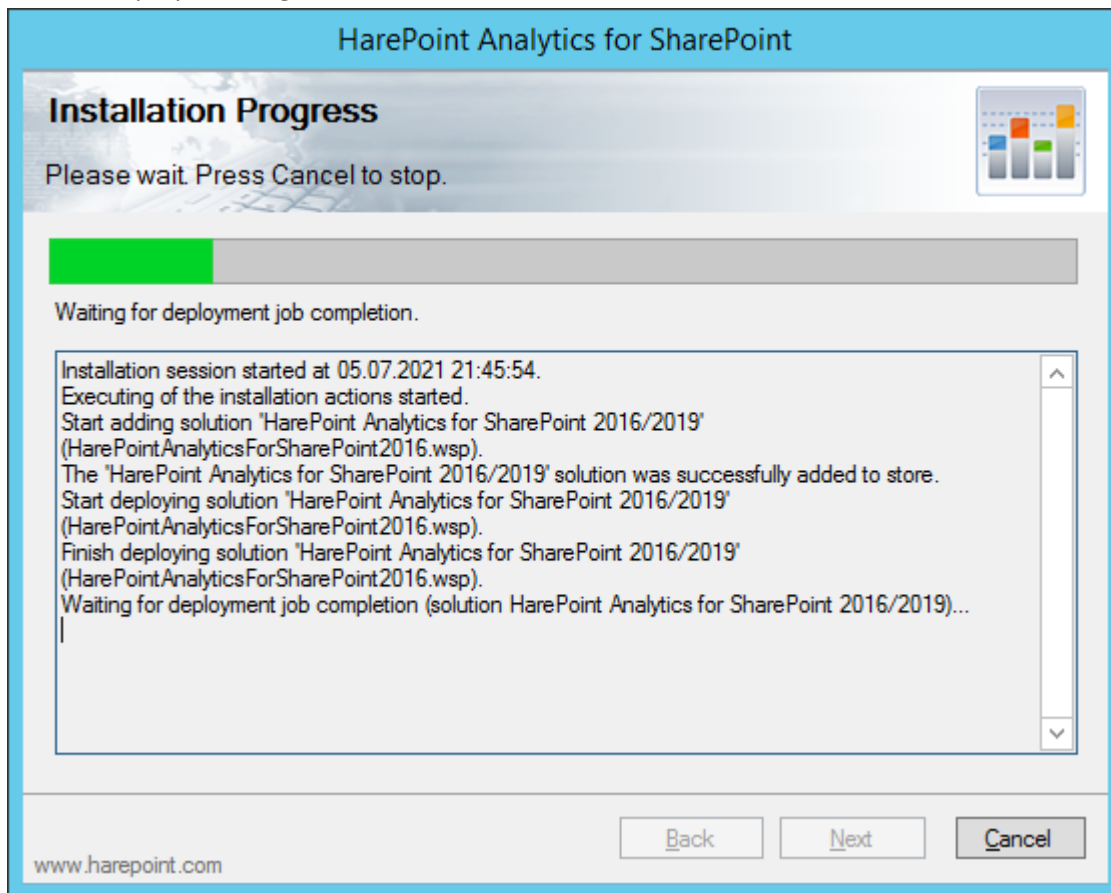


Only for SharePoint 2013: If you have previously selected to install resources for 2010 UI sites, **at the next step** you would also need to select the 2010 UI site collections where data collection feature need to be activated automatically after installation is complete (feature can be activated or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

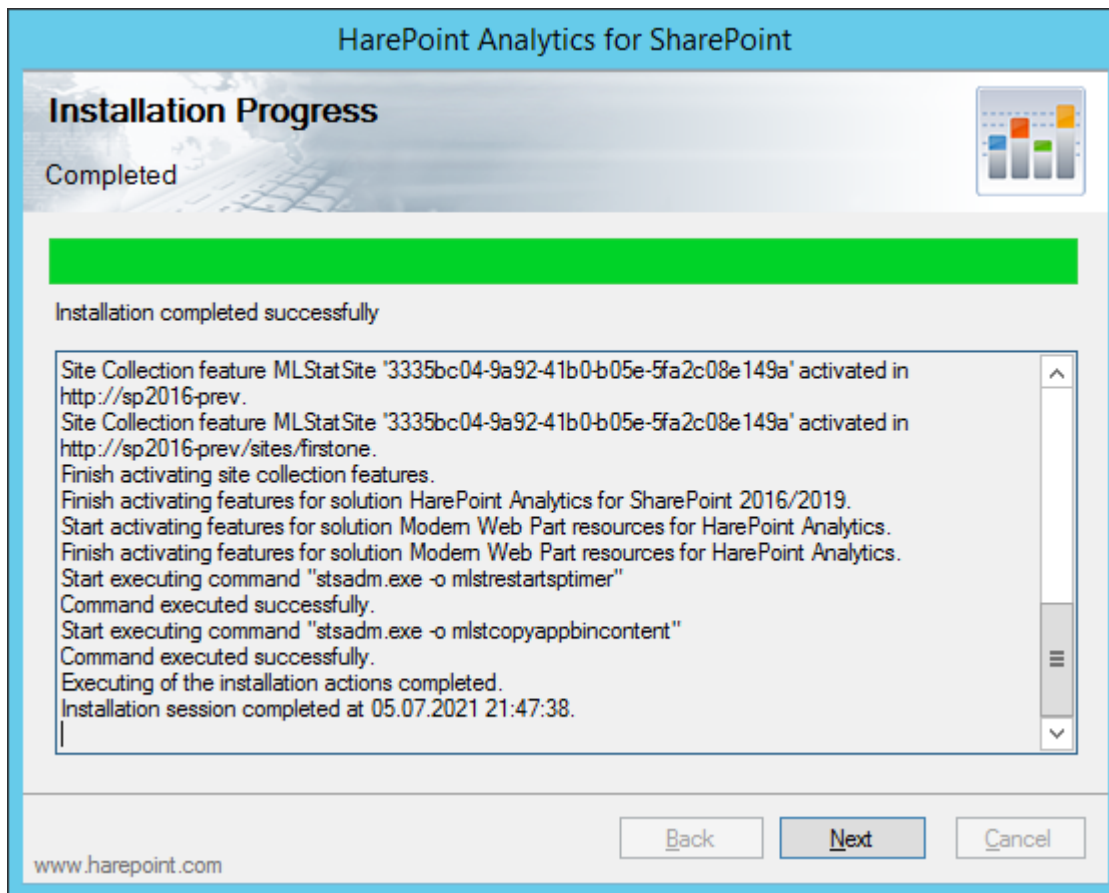
(**Note:** in the example on the screenshot none of the site collections have 2010 UI sites, so the option is not available in that environment)



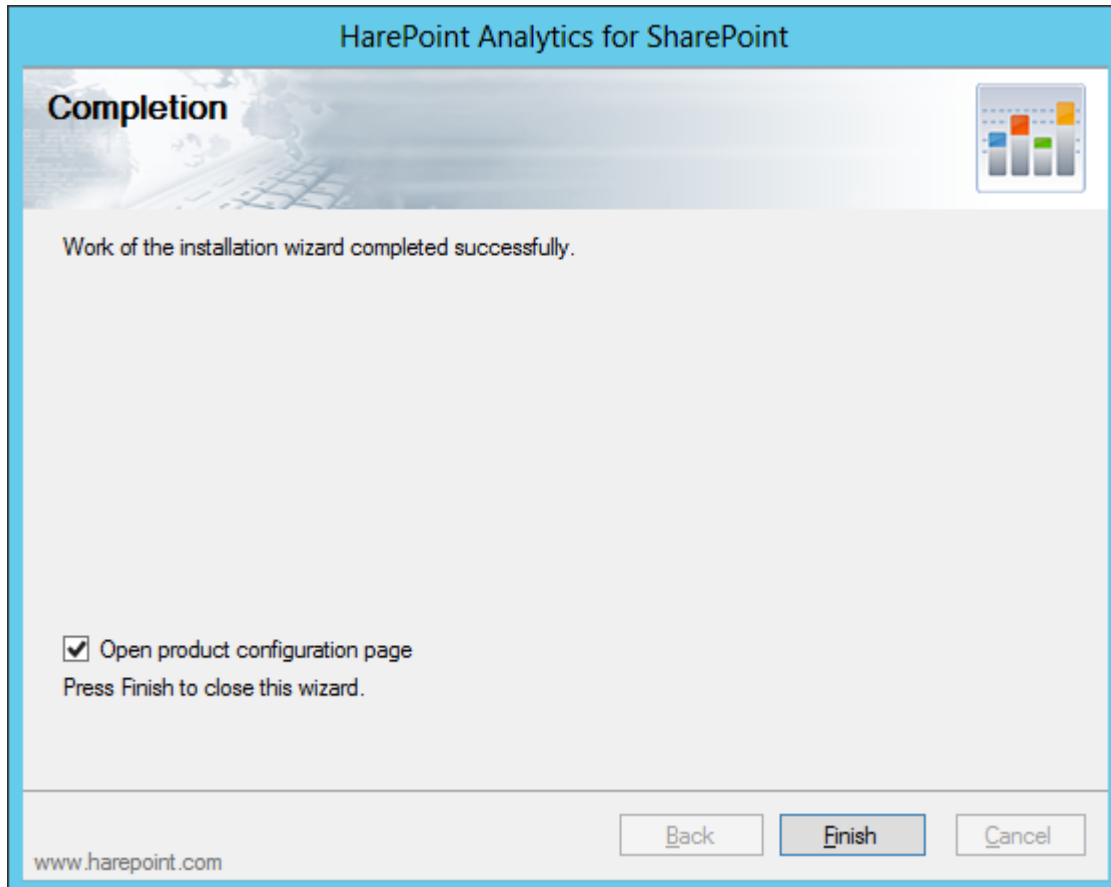
When you click “**Next**”, the product deployment will be started and you will see the window with the status bar and deployment log:



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



Click **Next**. The product is now installed and deployed.



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 [Initial Settings](#) 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.

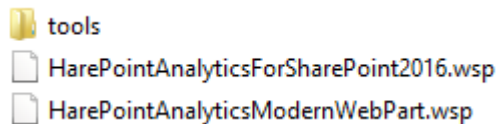
Go to **one of the Web Front-End servers** where you have the distributive package unpacked.

This location is further referred to as **<path_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).



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. **Add-SPSolution -Literalpath <path_to_distributive>\Install\Resources\2016\HarePointAnalyticsForSharePoint2016.wsp**
to add a solution file to the solution store.
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:

4. **Add-SPSolution -LiteralPath <path_to_distributive>\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. **<path_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 [Preparation for deployment](#) area of the **Administrator guide** before the installation.

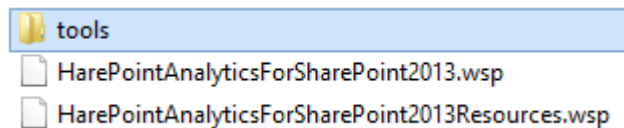
Go to **one of the Web Front-End servers** where you have the distributive package unpacked.

This location is further referred to as **<path_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.



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. **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:

4. **Add-SPSolution -Literalpath <path_to_distributive>\Install\Resources\2013\HarePointAnalyticsForSharePoint2013Resources.wsp**
to add a solution file to the solution store.
5. **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!)

7. **<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 [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!**

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 [HarePoint.com](https://harepoint.com) 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 [HarePoint.com/downloads](https://harepoint.com/downloads)
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
 - **net35** and **net40** – folders containing a program library for the installation tool
 - **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 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

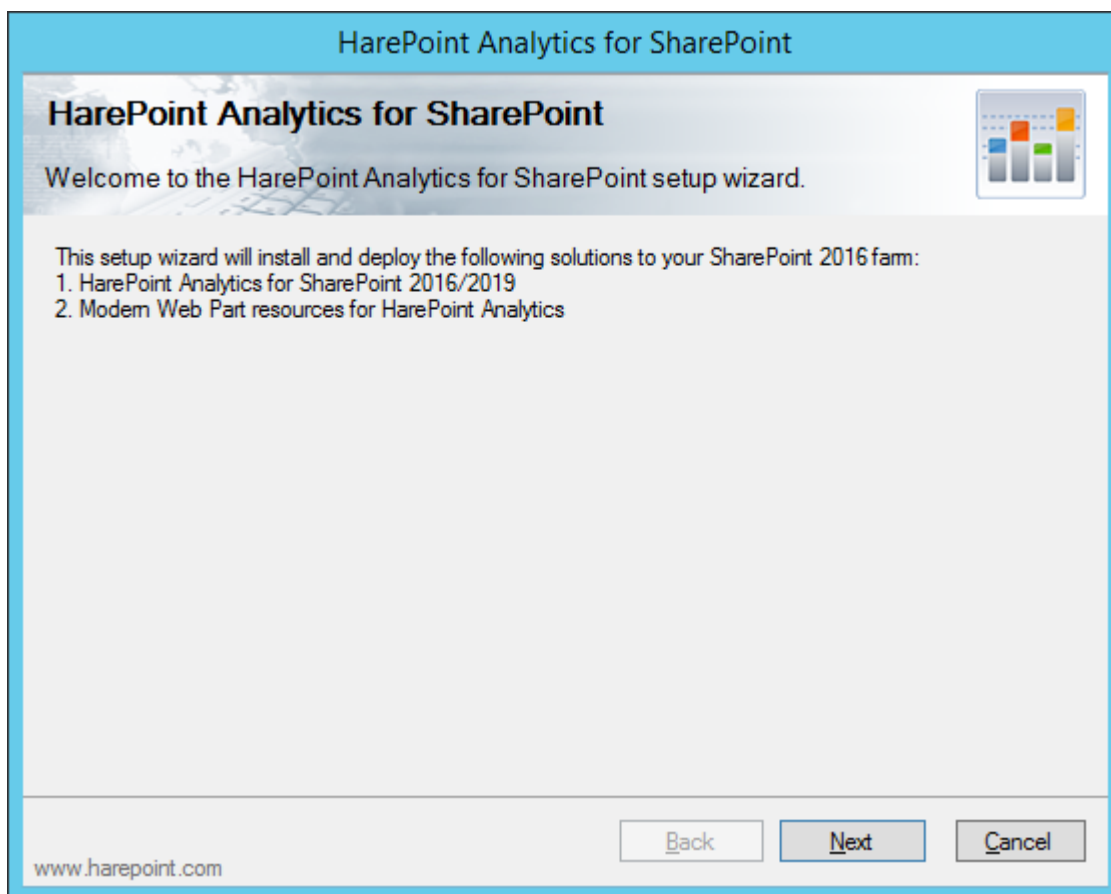
The automatic upgrade of the product is performed by a special tool (Installer).

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

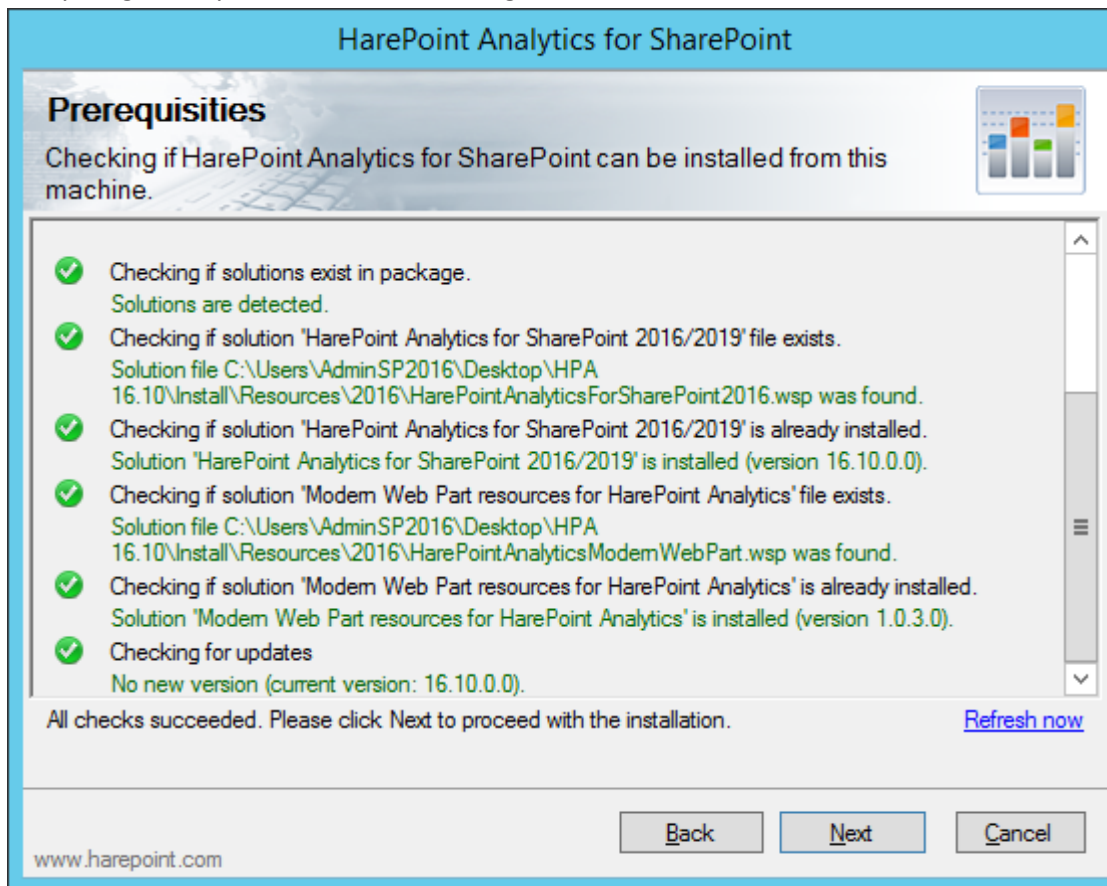
At the first step, the installation tool checks the version of SharePoint that is installed.

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:

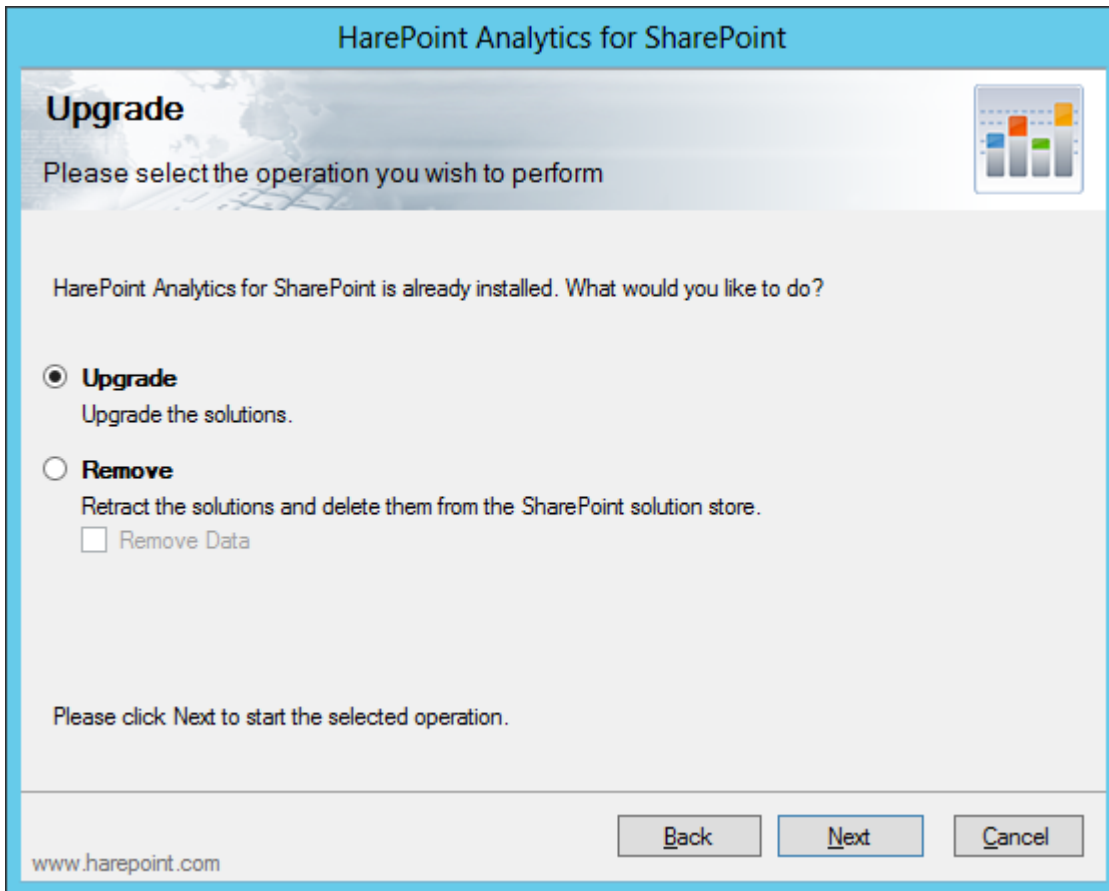


At the next step, the installation tool checks the prerequisites and permissions to upgrade the product. If everything is OK, you will see the following window:



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:



The screenshot shows a dialog box titled "HarePoint Analytics for SharePoint". The main heading is "Upgrade". Below it, the text says "Please select the operation you wish to perform". In the top right corner, there is a small icon of a bar chart with four bars of different heights and colors (blue, orange, green, yellow). The main content area contains the text "HarePoint Analytics for SharePoint is already installed. What would you like to do?". There are two radio button options: "Upgrade" (selected) with the description "Upgrade the solutions.", and "Remove" with the description "Retract the solutions and delete them from the SharePoint solution store." Below the "Remove" option is a checkbox labeled "Remove Data". At the bottom of the main content area, it says "Please click Next to start the selected operation." The bottom of the dialog box has a footer with the URL "www.harepoint.com" on the left and three buttons: "Back", "Next", and "Cancel" on the right.

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.

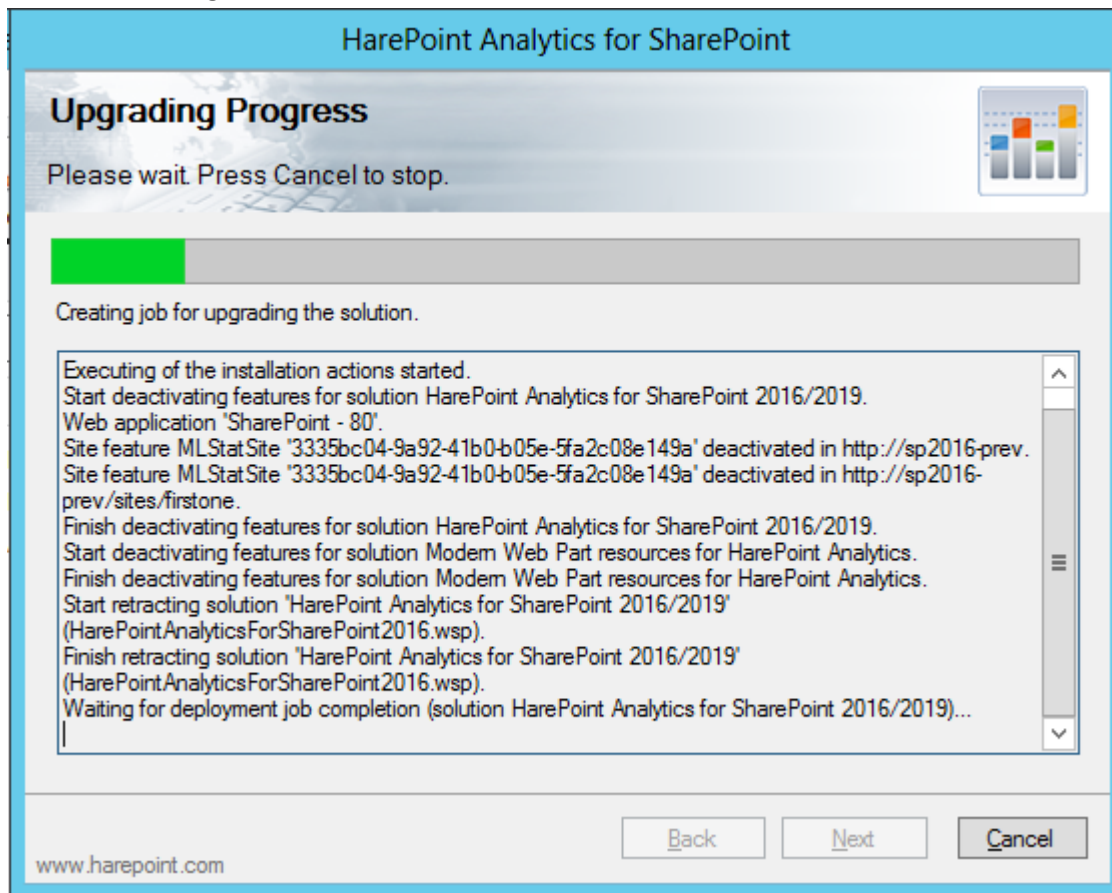
☐ **Remove**
Retract the solutions and delete them from the SharePoint solution store.
☐ Remove Data

Please click Next to start the selected operation.

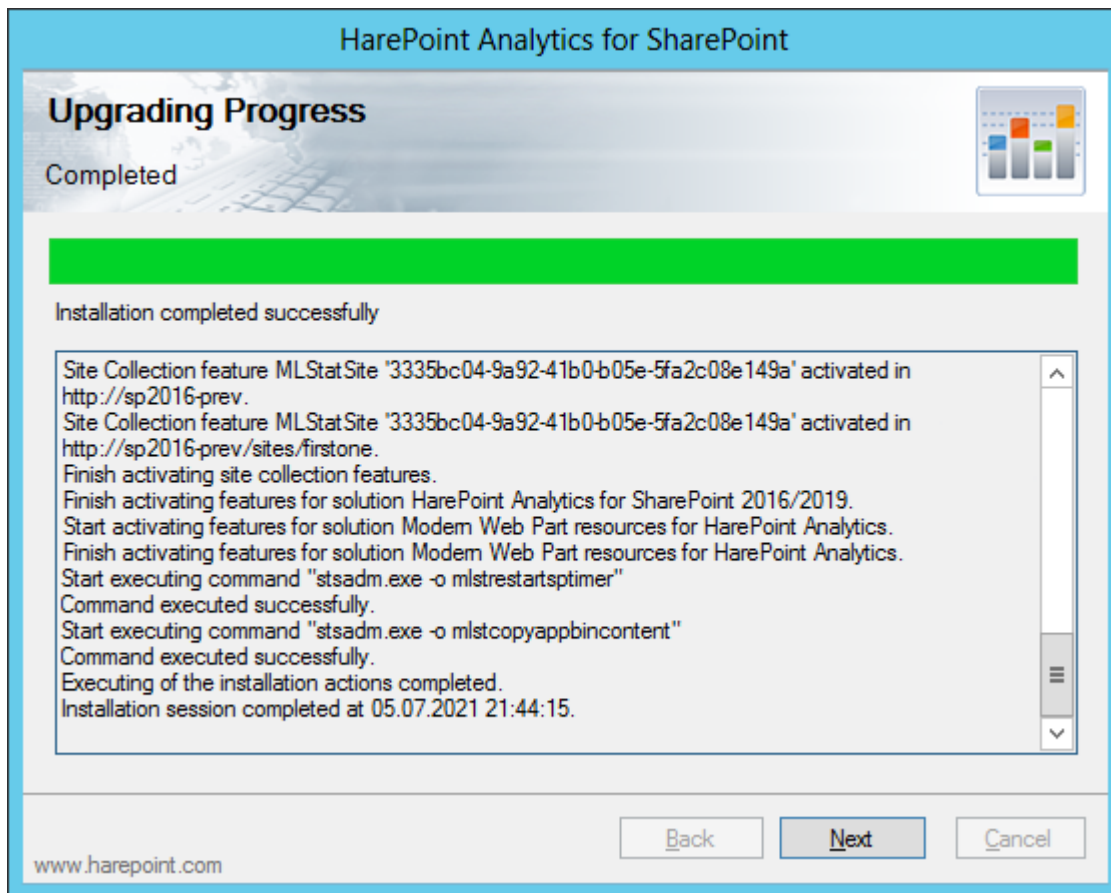
www.harepoint.com

[Back](#) [Next](#) [Cancel](#)

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



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



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 [Upgrading the product](#) area of the **Administrator guide** before starting the product upgrade.

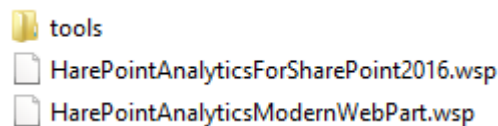
Go to **one of the Web Front-End servers** where you have the distributive package unpacked.

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).



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 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):

3. **Update-SPSolution -Identity HarePointAnalyticsModernWebPart.wsp -LiteralPath <path_to_distributive>\Install\Resources\2016\HarePointAnalyticsModernWebPart.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 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. **<path_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. **<path_to_distributive>\Analytics Tools\HarePointAnalyticsUtil.exe copy-appbincontent**
This command will copy the necessary resource files to all servers in the SharePoint farm. It is equivalent to running **Install-SPApplicationContent** on **each** SharePoint server in a farm.
7. **<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 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 [HarePoint Analytics Maintenance Guide – 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 [Upgrading the product](#) area of the **Administrator guide** before starting the product upgrade.

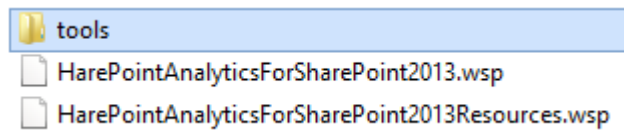
Go to **one of the Web Front-End servers** where you have the distributive package unpacked.

This location is further referred to as **<path_to_distributive>**.

The distributive contains a folder “**<path_to_distributive>\Install\Resources\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.



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.
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 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:

3. **Update-SPSolution -Identity HarePointAnalyticsForSharePoint2013Resources.wsp -LiteralPath <path_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. **<path_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.

6. **<path_to_distributive>\Analytics Tools2013\HarePointAnalyticsUtil.exe copy-appbincontent**
This command will copy the necessary resource files to all servers in the SharePoint farm. It is equivalent to running **Install-SPApplicationContent** on **each** SharePoint server in a farm.
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 [HarePoint Analytics Maintenance Guide – 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 HarePoint.com 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 HarePoint.com
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

- **net35** and **net40** – folders containing a program library for the installation tool
- **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 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

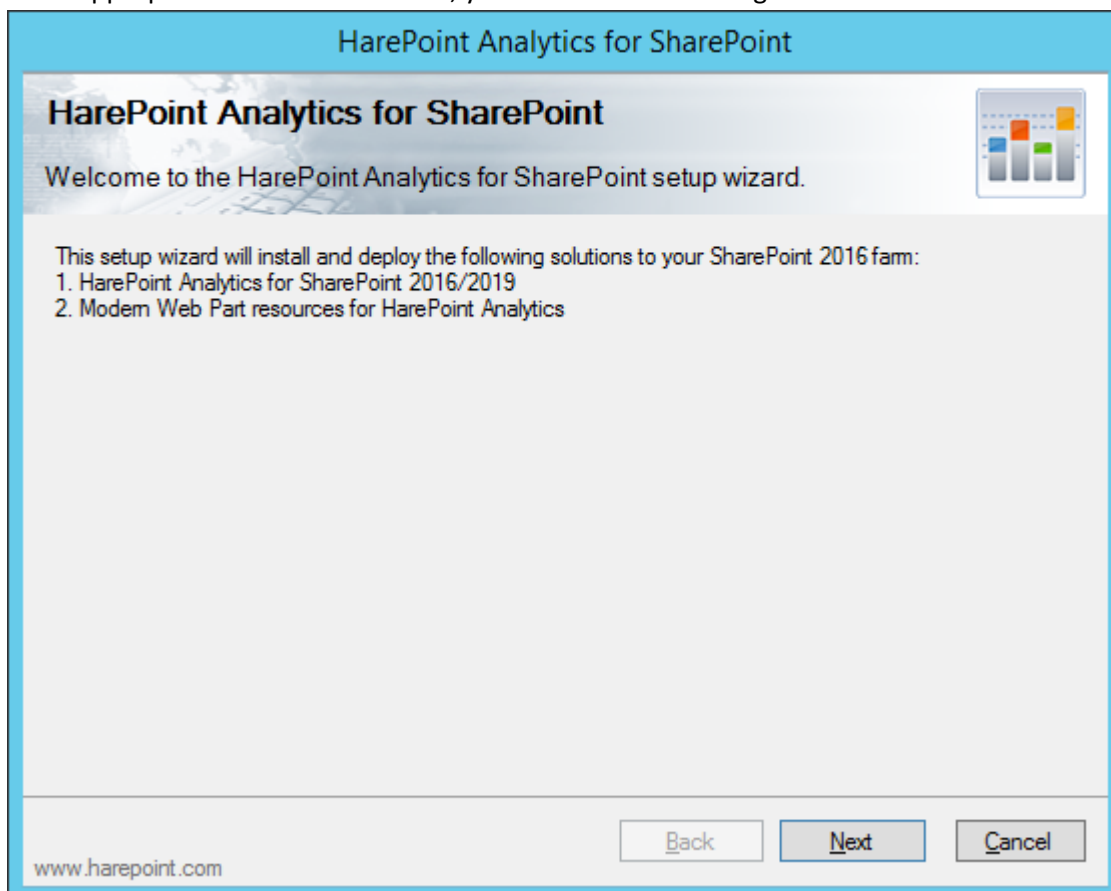
The installation, upgrading and removing the product are performed by a special tool.

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

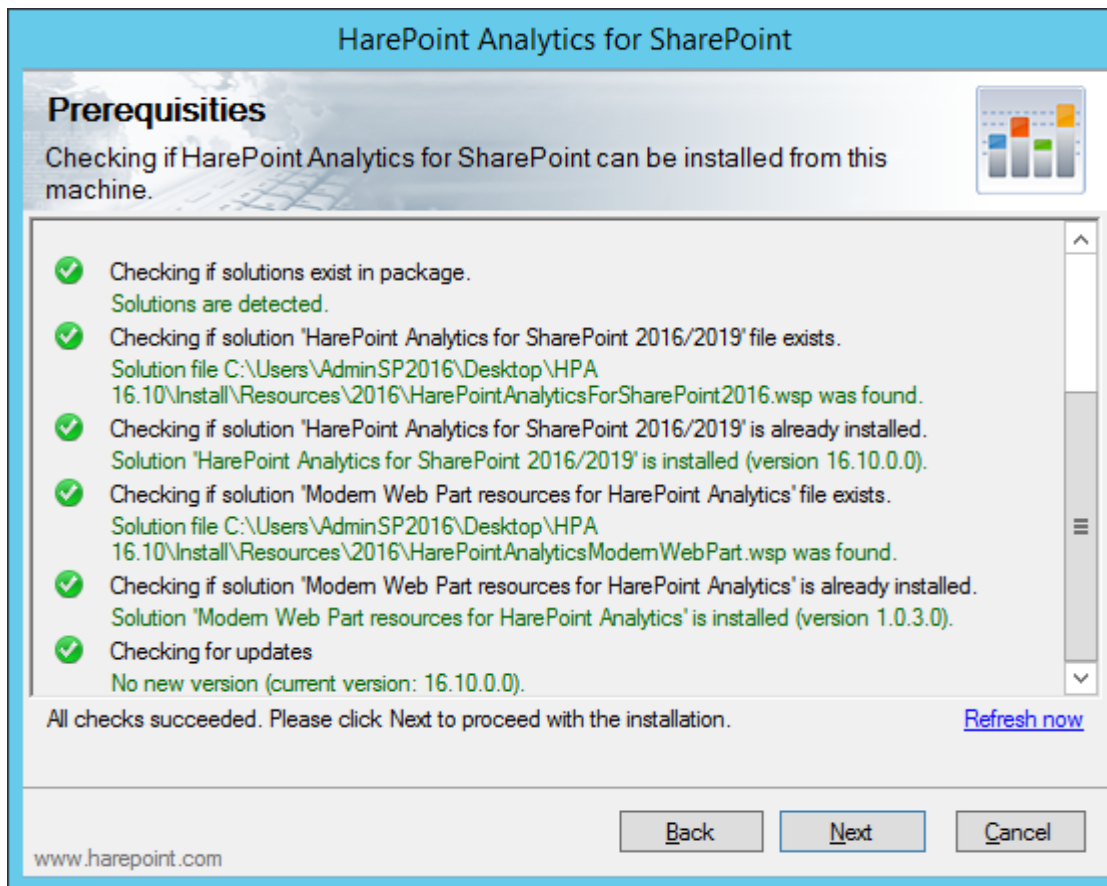
At the first step, the installation tool checks the version of SharePoint that is installed.

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:

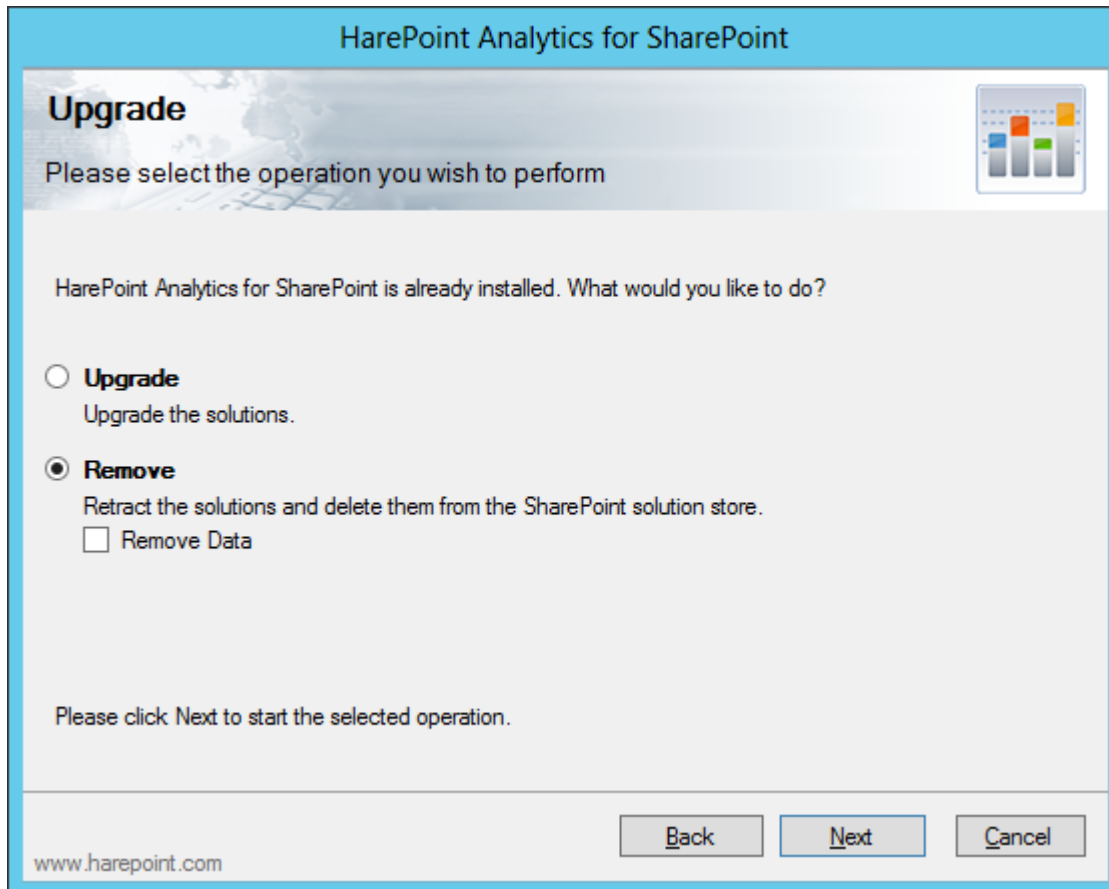


At the next step, the installation tool checks the prerequisites and permissions to remove the product. If everything is OK, you will see the following window:



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):



The screenshot shows a dialog box titled "HarePoint Analytics for SharePoint". The main heading is "Upgrade". Below it, the text says "Please select the operation you wish to perform". A small bar chart icon is in the top right corner. The main content area contains the text "HarePoint Analytics for SharePoint is already installed. What would you like to do?". There are two radio button options: "Upgrade" (with the description "Upgrade the solutions.") and "Remove" (with the description "Retract the solutions and delete them from the SharePoint solution store."). Under the "Remove" option, there is a checkbox labeled "Remove Data". At the bottom, there is a prompt "Please click Next to start the selected operation." and three buttons: "Back", "Next", and "Cancel". The website "www.harepoint.com" is listed in the bottom left corner.

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.

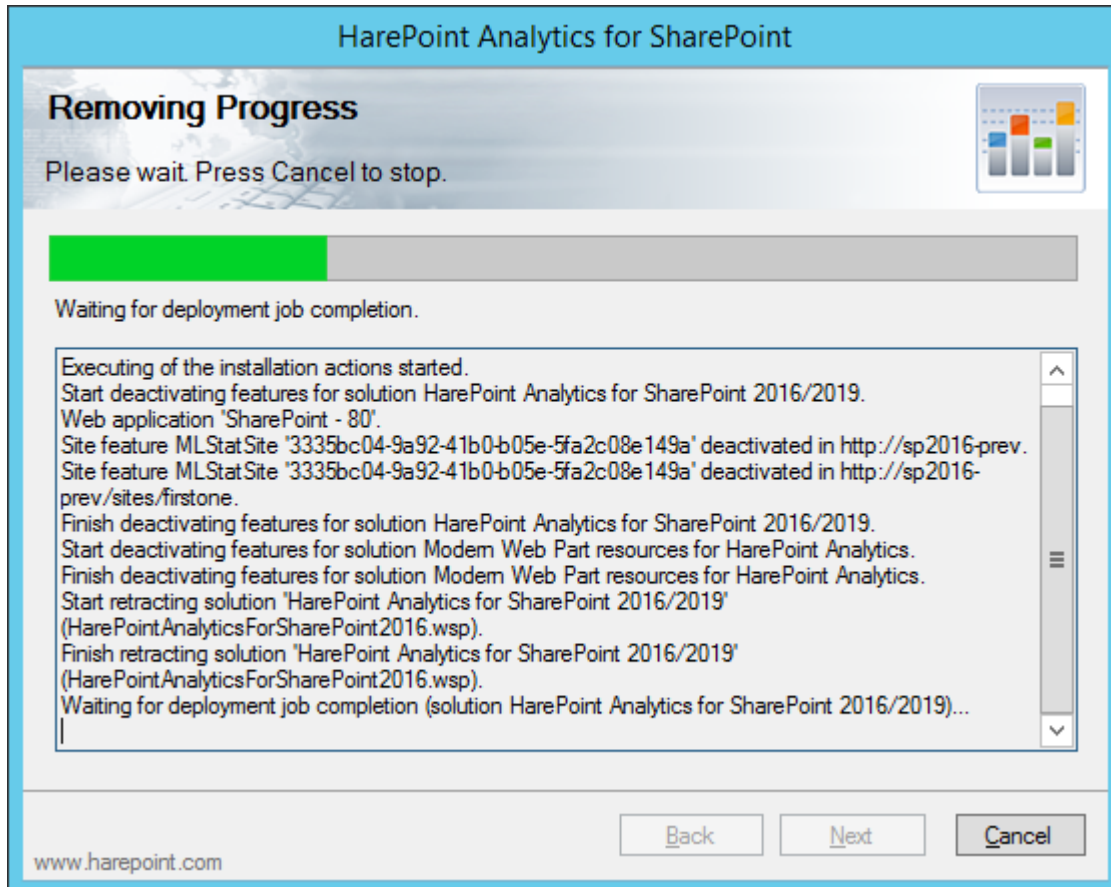
☒ **Remove**
Retract the solutions and delete them from the SharePoint solution store.
☐ Remove Data

Please click Next to start the selected operation.

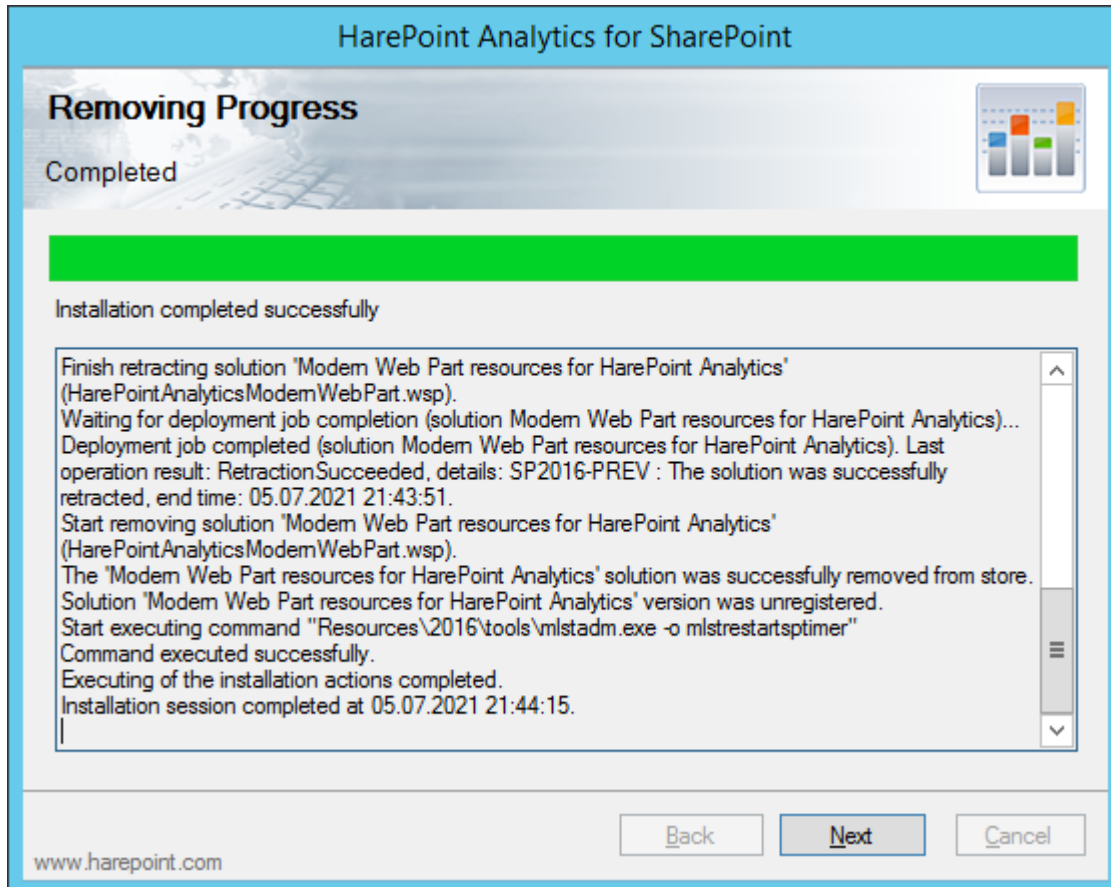
[Back](#) [Next](#) [Cancel](#)

www.harepoint.com

The product removing will start:



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



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 [Removing the product](#) 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.

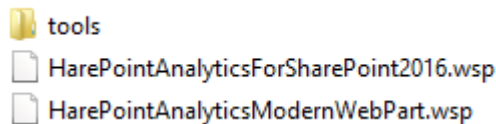
This location is further referred to as **<path_to_distributive>**.

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).



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. **<path_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 [Removing the solution](#) 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.

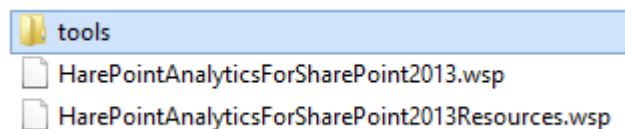
This location is further referred to as **<path_to_distributive>**.

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.



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. **<path_to_distributive>\Install\Resources\2013\tools\mlstadm.exe -o mlstrestartsptimer**
This command will restart SharePoint Timer Service on **each** server in the farm.

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](#)
- [Site collections are migrated from one SharePoint 2013/2016/2019/SE farm to another](#)
- [Sites are migrated from one site collection to another within the same farm, or sites are restored from a backup.](#)

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 [Migration wizard](#) 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 [Removing the product](#) 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 [Migration wizard](#) 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 ⓘ

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-authentication 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 database

☒ Windows-authentication (recommended)

☐ SQL-authentication

Account

Password

Next

Cancel

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 collection 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...

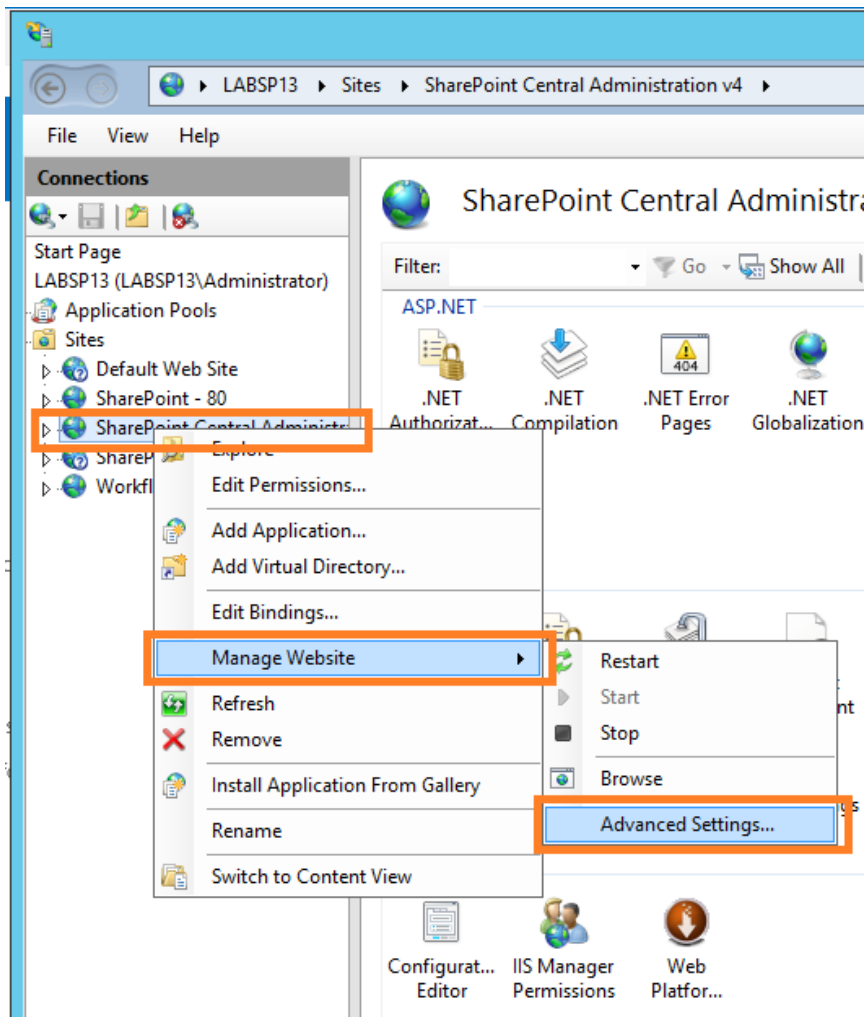
: This shouldn't take long.

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:

Advanced Settings

⌵ (General)

Application Pool

SharePoint Central Administration v4

Bindings

http::9351:

ID

620209989

Name

SharePoint Central Administration v4

Physical Path

C:\inetpub\wwwroot\wss\VirtualDire

Physical Path Credentials

Physical Path Credentials Logon

ClearText

Preload Enabled

False

Start Automatically

True

⌵ Behavior

Enabled Protocols

http

▶ Failed Request Tracing

⌵ Limits

Connection Time-out (seco

120

Maximum Bandwidth (Bytes

4294967295

Maximum Concurrent Conn

4294967295

Maximum Url Segments

32

Connection Time-out (seconds)

[connectionTimeout] Period of time (in seconds) a connection can remain inactive before being disconnected.

OK

Cancel

61

Migration | HarePoint.Com

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 SQL-server

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](#)



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 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 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](#)

Specify **UNC path to the SQL server including the instance** (e.g. [\\SQLSRV\Instance](#)) 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

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

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.

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 **dbcreator** and **securityadmin** of the SQL-server.

Database server

Database name

Access authentication to database

☒ Windows-authentication (recommended)

☐ SQL-authentication

Account

Password

Create

Cancel

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:

Message queue

The message queue is used as an intermediate storage of statistical data. The queue usage allows to essentially decrease the influence of statistics collecting process on the performance of SharePoint sites.

Database server
LABSP13\SharePoint
Database name
AnalyticsQueueDB

Create or change queue

Specify **UNC path to the SQL server including the instance** (e.g. [\\SQLSRV\Instance](#)) 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

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

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.

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 **dbcreator** and **securityadmin** of the SQL-server.

Database server

Database name

Access authentication to database

☒ Windows-authentication (recommended)

☐ SQL-authentication

Account

Password

Create

Cancel

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 SQL-server

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

The wizard "**Create or change database**" (described in a [previous section](#)) 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

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

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.

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 **dbcreator** and **securityadmin** of the SQL-server.

Database server

Database name

Access authentication to database

☒ Windows-authentication (recommended)

☐ SQL-authentication

Account

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

LABSP13\SharePoint

Database name

AnalyticsMainDB

[Create or change database](#)

[Connect the existing database](#)

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

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-authentication 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 database

☒ Windows-authentication (recommended)

☐ 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 [Migration](#) 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...

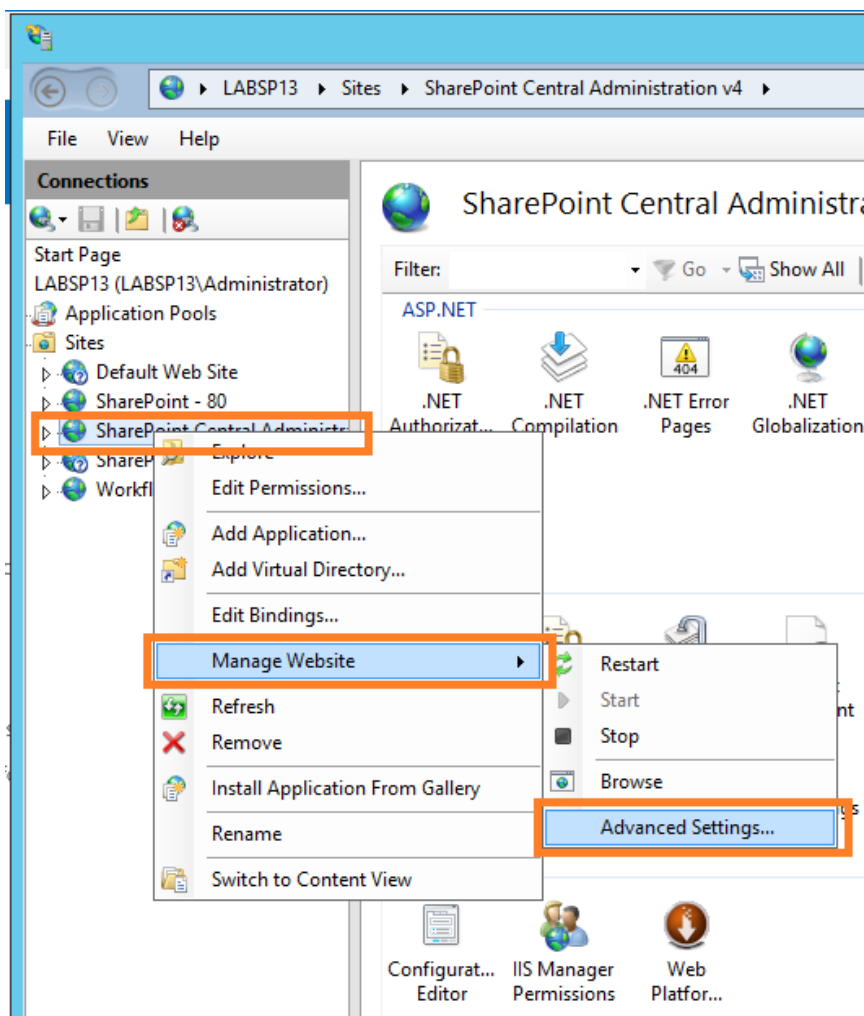
⌚ This shouldn't take long.

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!

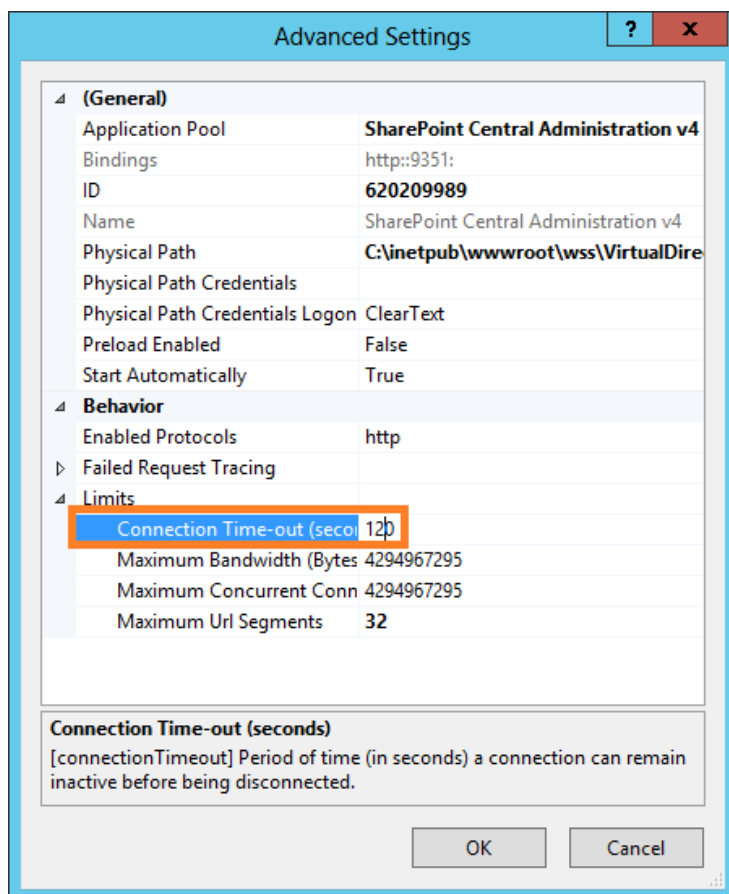
In case if time-out occurs before the process is completed, all the modifications will be rolled back by a SQL server!

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:

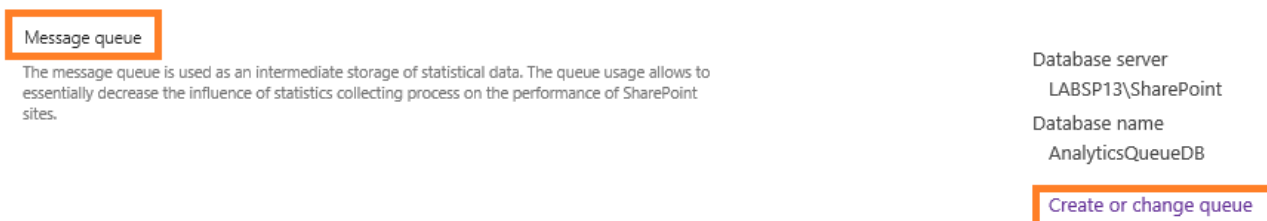


10.1.3. Connecting an existing Queue Database

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 SQL-server

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



Specify **UNC path to the SQL server including the instance** (e.g. [\\SQLSRV\Instance](#)) 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

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

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.

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 **dbcreator** and **securityadmin** of the SQL-server.

Database server

Database name

Access authentication to database

☒ 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!

10.2. Setting the Geographical locations database update

HarePoint Analytics displays the geographical location of visitors in **Visits by countries** and related drill-down 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. [MaxMind®](#) 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 determination.

[MaxMind®](#) Company offers free version of geographic locations base. This database is supplemented and corrected regularly.

Schedule

Not used

Last run time

N/A

[Change settings](#)

[Additional settings](#)

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

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 ▼

2. 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 and corrected regularly.

☐ Update geographic locations database

3. If MaxMind® 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® changes standard address template for a new database version.

Address template

☒ Use default address template (recommended)

☐ Set different address template

Address:

load/geoip/database/GeoLiteCity_CSV/GeoLiteCity_%YYYYMMDD%.zip

We would be grateful if you [report to HarePoint Technical Support](#) 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

☒ Use SharePoint farm account

☐ Account setup

Account

Password:

5. If **proxy server** needs to be used to access internet, you can specify it in the settings:

Proxy server setup

You can setup internet access via proxy server.

Proxy server

☒ Do not connect by using a proxy server

☐ Use the proxy server specified

Address:

Port:

6. 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 is 1000 seconds.

Connection time (in seconds):

1000

7. Set the **schedule**:

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 scheduled to run:

☐ Daily

☐ Weekly

☒ Monthly

☒ By date: starting every month between

12 AM ▼ 45 ▼ on the 3rd ▼

and no later than

11 PM ▼ 00 ▼ on the 3rd ▼

☐ By day: starting every month

12 AM ▼ 00 ▼ on the first ▼ Sunday ▼

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 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 (71iielded. 18 MB) can be requested from HarePoint – please [contact HarePoint technical support](#).

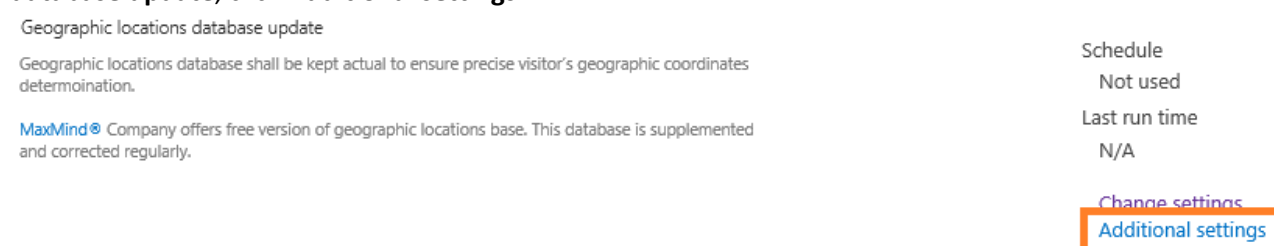
10.2.1. Detection the geographical location by IP address

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 [previous paragraph](#).

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 determination.

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

Schedule

Not used

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.

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

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

Select method how the location will be detected

☒ Detect location by IP

☐ Country data is located in the following field in User Profile:

Id

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 [previous paragraph](#).

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 determination.

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

Schedule

Not used

Last run time

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:

Settings for the collection of geographical data

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

location is detected based on IP address of the Visitor;
location is detected based on data received from the User Profile on SharePoint.

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

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

Select method how the location will be detected

☐ Detect location by IP

☒ Country data is located in the following field in User Profile:

Profile:

Manager

Name

Work phone

Work email

Web site

Office

Title

Department

Active Directory Id

About me

Cancel

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:

http://en.wikipedia.org/wiki/ISO_3166-1

10.3. Data collection on server performance

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



Monitoring

Central Administration

Application Management

System Settings

Monitoring

Backup and Restore

Security

Upgrade and Migration

General Application Settings



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](#) | [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. [enable timer job](#) for the performance data collection

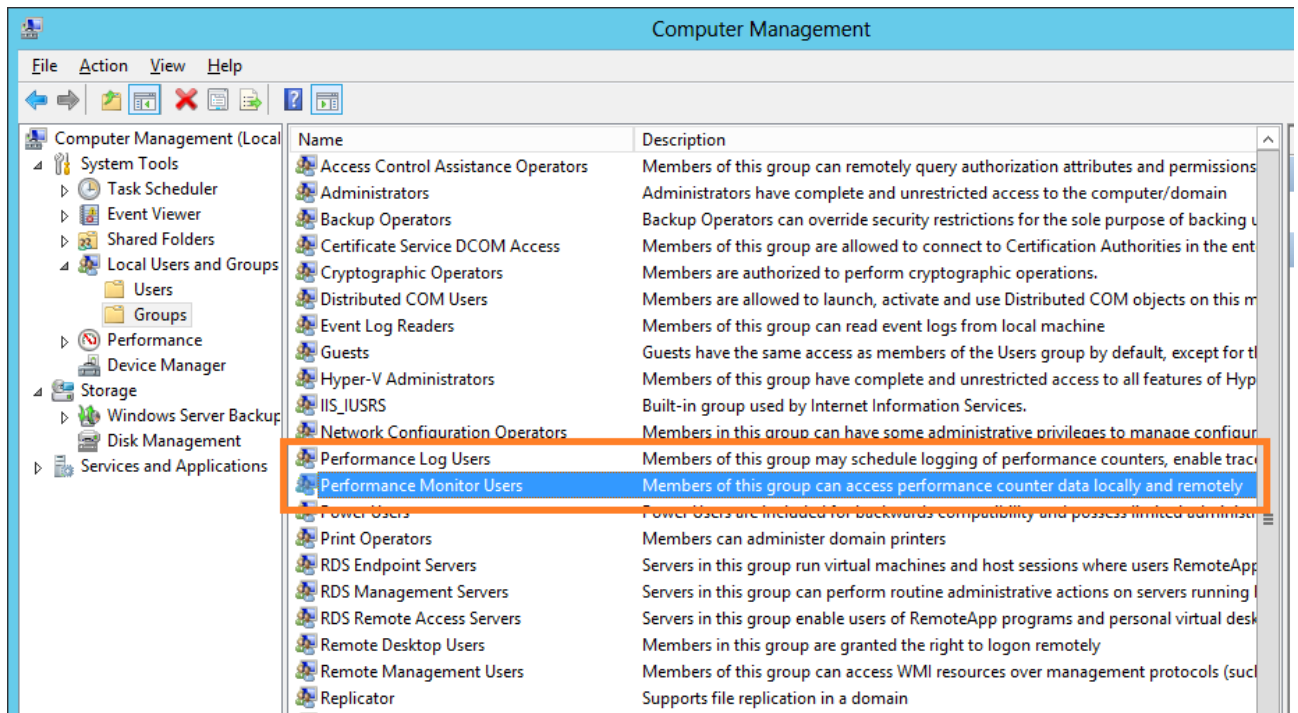
These steps are described in details in the next two paragraphs.

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:



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 mlstrestartstimer

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**.
2. Locate a timer job named "**HarePoint Analytics for SharePoint – System Metrics Collector**" in the list of timer jobs:

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

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](#).

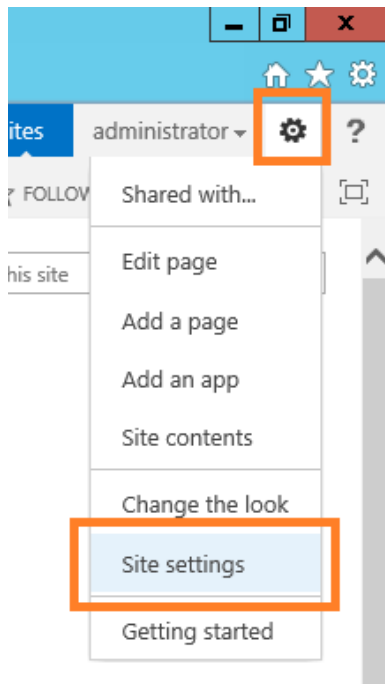
Data collection can be started in either of the following ways:

- [using a web-interface](#)
- [using HarePoint Analytics Utility](#)
- [using PowerShell](#)

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**:



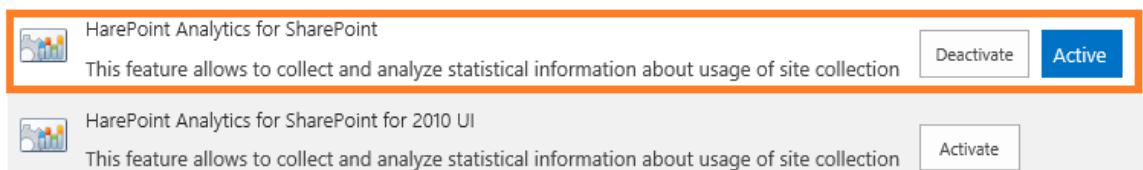
F. Go to the **Site collection features** page:

Site Actions
[Manage site features](#)
[Save site as template](#)
[Enable search configuration export](#)
[Reset to site definition](#)
[Delete this site](#)

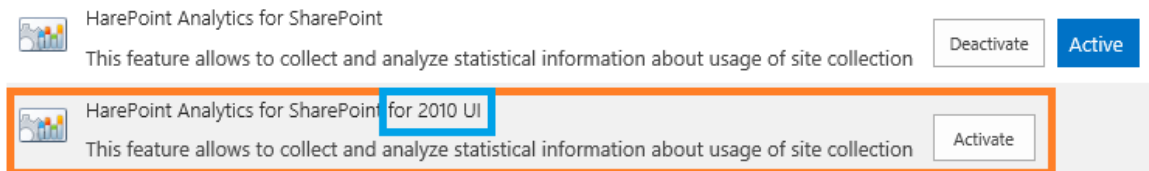
Site Collection Administration

[Recycle bin](#)
[Search Result Sources](#)
[Search Result Types](#)
[Search Query Rules](#)
[Search Schema](#)
[Search 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:



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



Note: only one of these features should be activated!

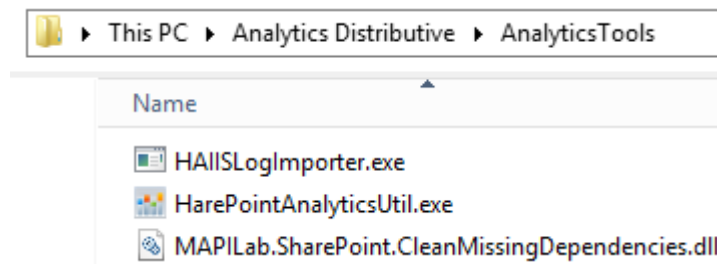
- H. Repeat these steps for other **Site collections** where the product should collect data and display them in reports.

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.

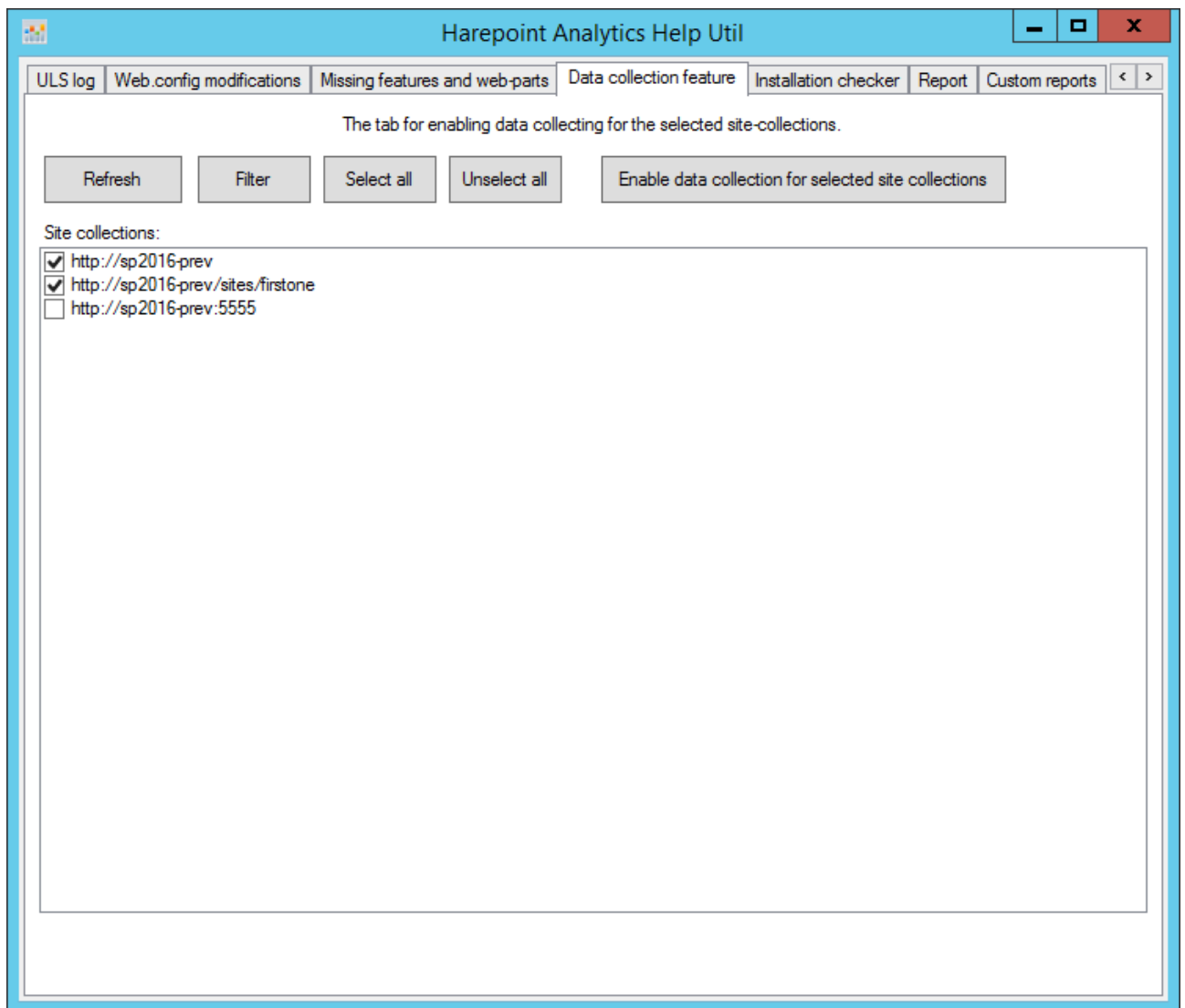
10.4.2. Activation of the data collection using HarePoint Analytics Utility

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.



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. <http://sp2019/sites/news/>).

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 [Technical Support](#) 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

Summary of available licenses

The product is registered

[Licensing](#)

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:

SharePoint Server 2016

Number of servers with Microsoft SharePoint Foundation Web Application:

4

Number of users in the statistics database:

5670

☐ [Refresh](#)

Summary of available licenses



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](#)

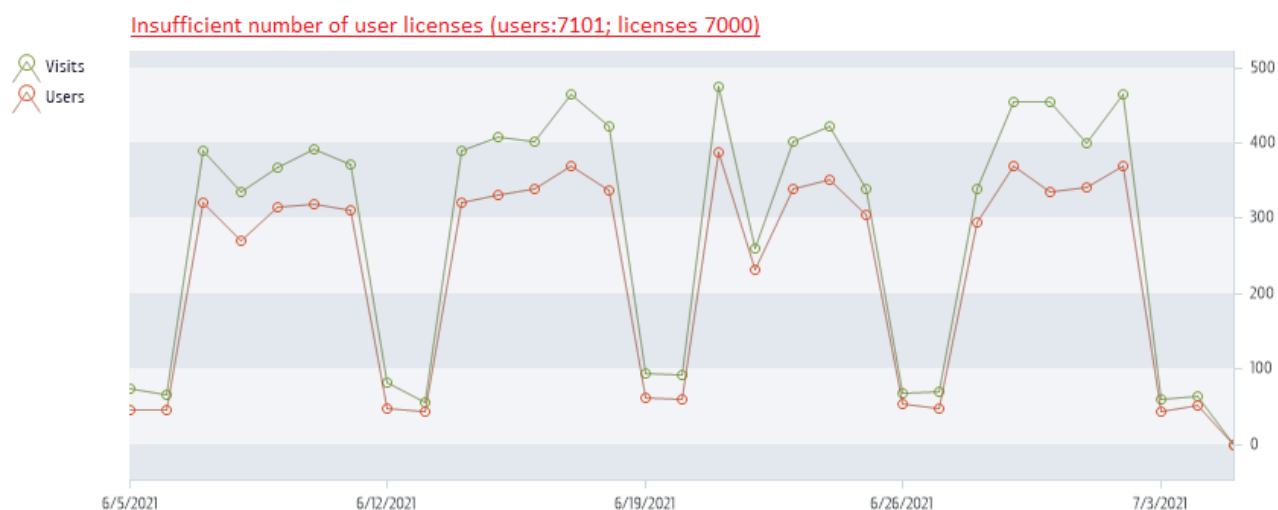
☐ [Add license keys](#)

☐ [View / delete license keys](#)

☐ [Purchase HarePoint Analytics for SharePoint](#)

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 sales@harepoint.com.

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. [Contact HarePoint Support](#) 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:

SharePoint Server 2016

Number of servers with Microsoft SharePoint Foundation Web Application:

4

Number of users in the statistics database:

5670

Refresh

Summary of available licenses



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**.

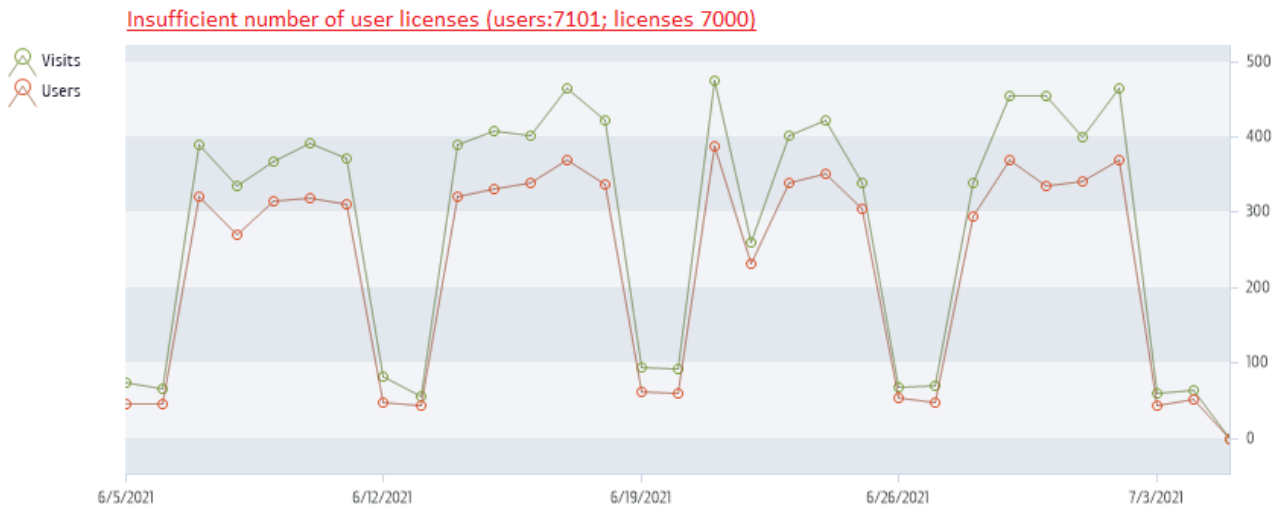
Please be attentive when entering the key. We recommend to **copy-and-paste** it via the clipboard to avoid mistyping or any other mistakes.

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 [Editions migration](#) page. Migration also involves certain technical procedures – refer to [Migration from HarePoint Analytics for SharePoint 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 sales@harepoint.com 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 [Entering the license key](#) 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 [Removing reports from the list](#).

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 [Granting users the general permission to access reports](#).

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 [Managing users' unique permissions to access reports](#).

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 [next paragraph](#).

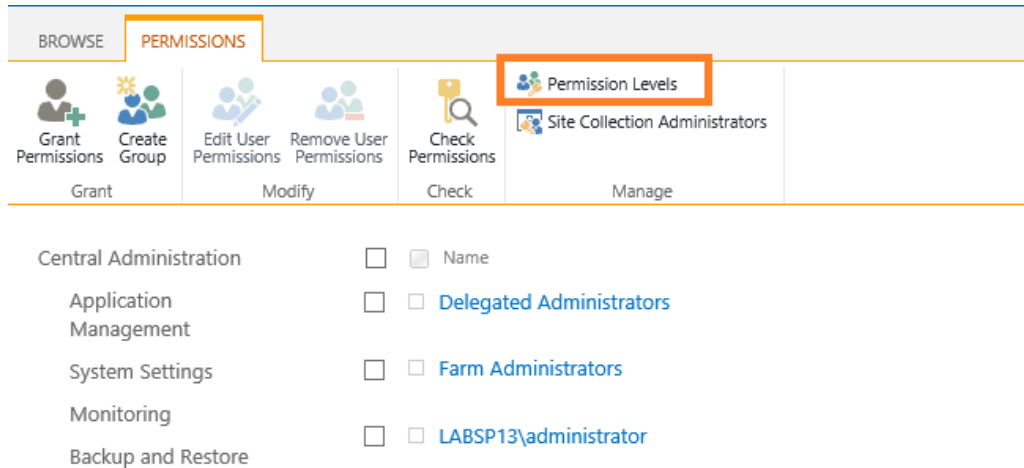
You can create a new **Permission level**, or edit the appropriate existing one to enable **View Web Analytics Data** permission.

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.

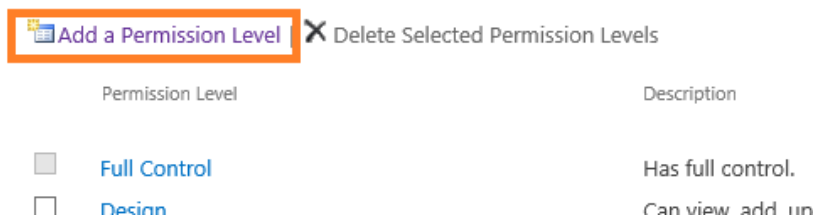
Creating a new Permission Level

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**

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



4. Click on the **Add a Permissions Level**



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

2. 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](#)

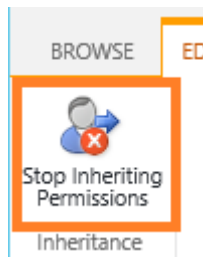
[Site collection usage reports permissions](#)

[Site filter management](#)

[Site collection filter management](#)

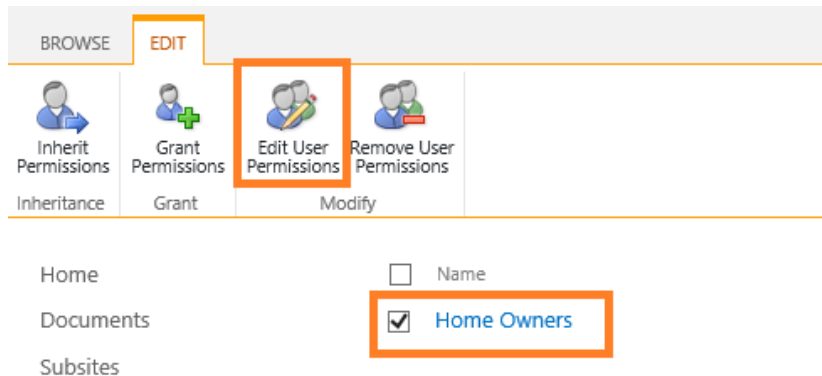
[Tasks for exporting reports](#)

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:

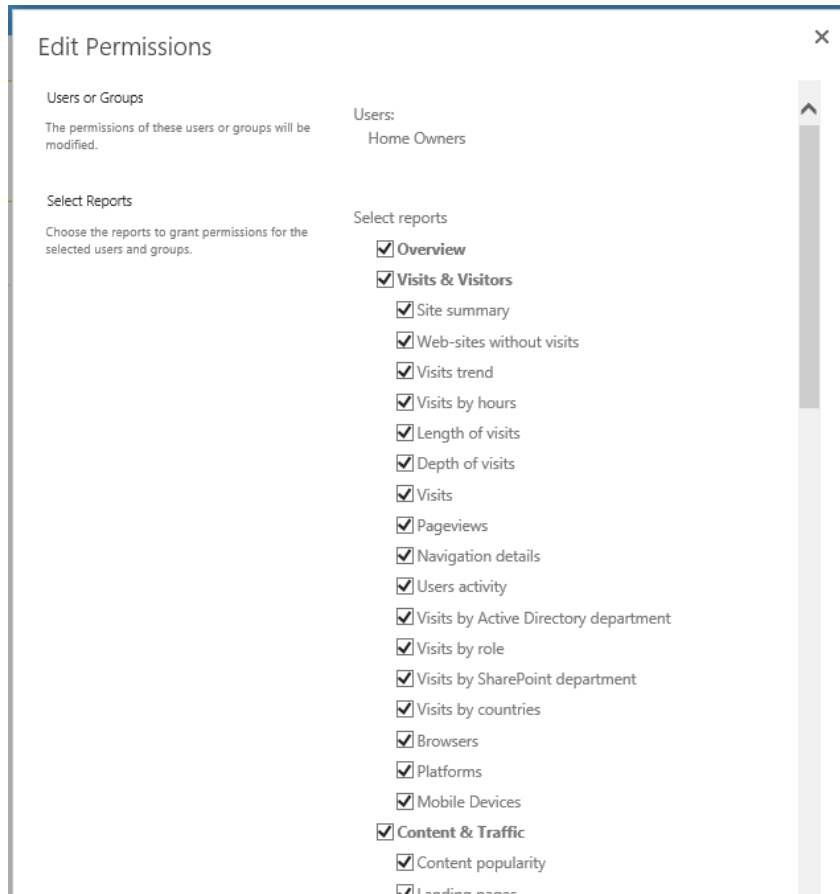


4. Now you can set unique permissions.

Select the user group and click **Edit User Permissions** button on the ribbon:



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
- ☒ 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
 - ☒ Visits by Active Directory department
 - ☒ Visits by role
 - ☒ Visits by SharePoint department
 - ☒ Visits by countries
 - ☒ Browsers
 - ☒ Platforms
 - ☒ Mobile Devices
- ☒ Content & Traffic
 - ☒ Content popularity
 - ☒ Landing pages

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:

Users activity

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

[View report](#)

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 [Managing users’ unique permissions to access reports](#).

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
- ☐ Visits by Active Directory department
- ☐ Visits by role
- ☐ Visits by SharePoint department

Important note: By default, all checkboxes are unchecked, thus all reports are displayed!

After clicking the **OK** button, the selected reports will no longer be displayed in the left pane.

Example for “User activity” report:

Left pane (before):

- Visits
- Pageviews
- Navigation details
- Users activity**
- Visits by Active Directory department
- Visits by role
- Visits by SharePoint department

Right pane (after):

- Visits
- Pageviews
- Navigation details
- Visits by Active Directory department
- Visits by role
- Visits by SharePoint department
- Visits by country

The same result can be achieved from the command line:

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

where :

HarePointAnalyticsUtil.exe 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:

<http://<servername>/layouts/MAPILab/Statistics/Report.aspx?ReportId=VisitsByLocation&Scope=Site>

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 [Managing users’ unique permissions to access reports](#).

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 to reject permissions for all users and groups.

Select Data Types

- ☒ User Name
- ☐ IP Address
- ☐ Active Directory Department
- ☐ Active Directory Group
- ☐ Department
- ☐ SharePoint Group
- ☐ Role
- ☐ Url
- ☐ 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, [see next paragraph](#).

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:

HarePointAnalyticsUtil.exe 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:

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 [Report generation](#) 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

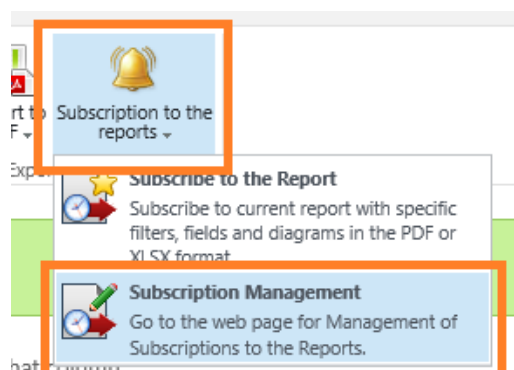
 **Health Analyzer**
[Review problems and solutions](#) | [Review rule definitions](#)

 **Timer Jobs**
[Review job definitions](#) | [Check job status](#)

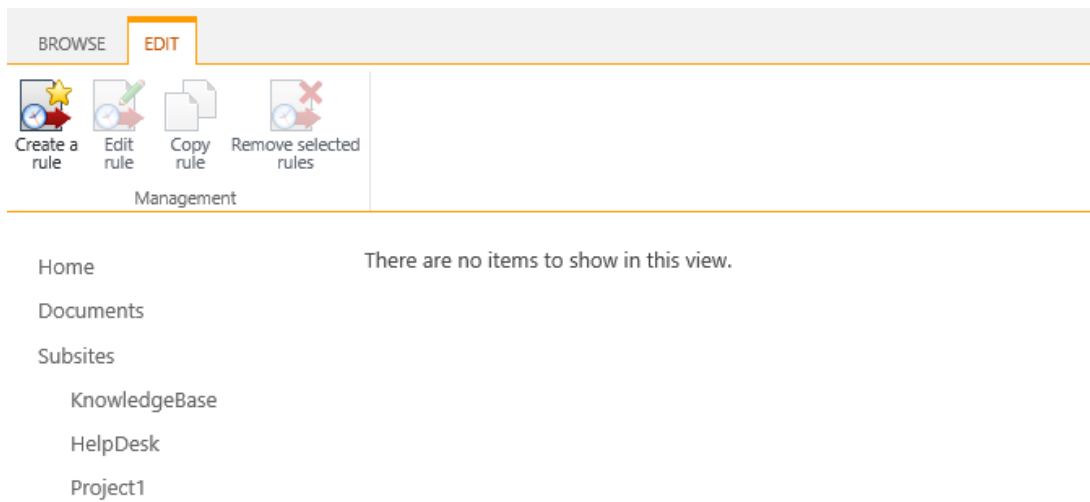
 **Reporting**
[View administrative reports](#) | [Configure diagnostic logging](#) |
[Configure usage and health data collection](#) | [View health reports](#)

 **HarePoint Analytics for SharePoint**
[HarePoint Analytics for SharePoint settings](#) | [Farm Reports](#) |
[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:



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 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:
1 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 [Report exporting by schedule](#) 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

Select the current template or use custom settings

Option:

☒ Current template

Default ▼

☐ Custom settings

or set all the parameters **manually**:

Rule creation options

Select the current template or use custom settings

Option:

☐ Current template

Default ▼

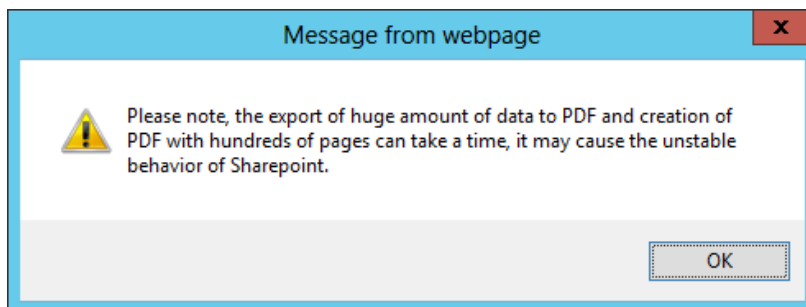
☒ Custom settings

- [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:



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.

Activate

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:

1. **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.
2. **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, <http://<siteurl>/>
 - #Report_Title# -- report name
 - #Report_Url# -- report URL address. This macro will be replaced with a string that looks similar to this one:
[http://<siteurl>/ layouts/MAPILab/Statistics/Report.aspx?ReportId=ReportId&Scope=Site](http://<siteurl>/layouts/MAPILab/Statistics/Report.aspx?ReportId=ReportId&Scope=Site)
 - #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 two-letter 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 [HarePoint Analytics for SharePoint Online](#), 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.



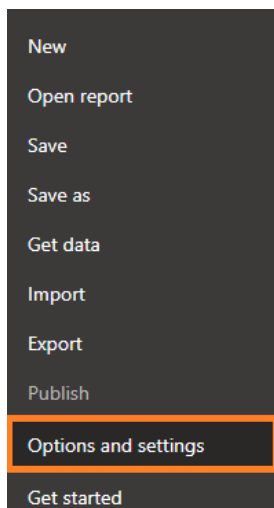
If you don't have it installed yet, you can download it from Microsoft site (free of charge):

<https://powerbi.microsoft.com/en-us/downloads/>

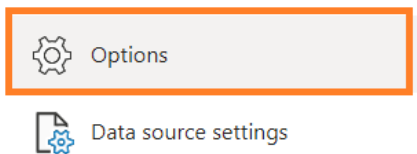
While loading data, Power BI template will run multiple database queries. With the default security settings an approval dialog will be displayed for every single query.

To prevent this, change the security settings as follows:

Run Power BI Desktop, and go to **File – Options and Settings – Options**.

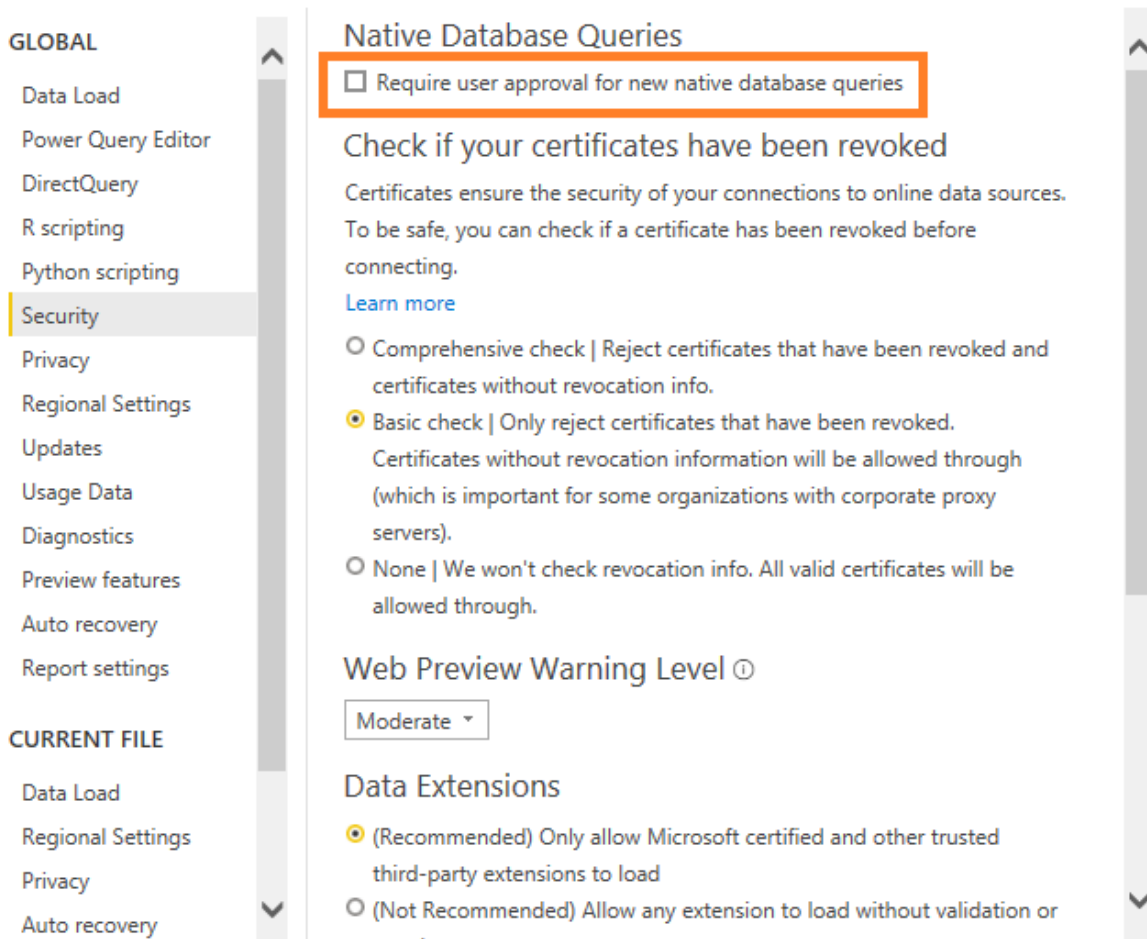


Options and settings



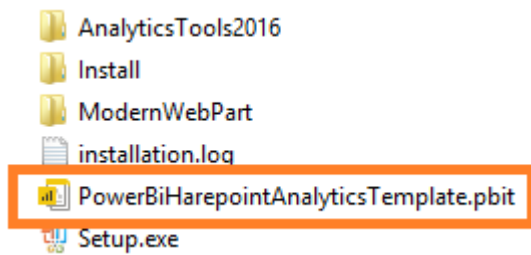
Under **Security** section, uncheck the **Require user approval for new native database queries** checkbox:

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 [main database](#):

PowerBiHarepointAnalyticsTemplate

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\SharePoint

Database name

Analytics_Main

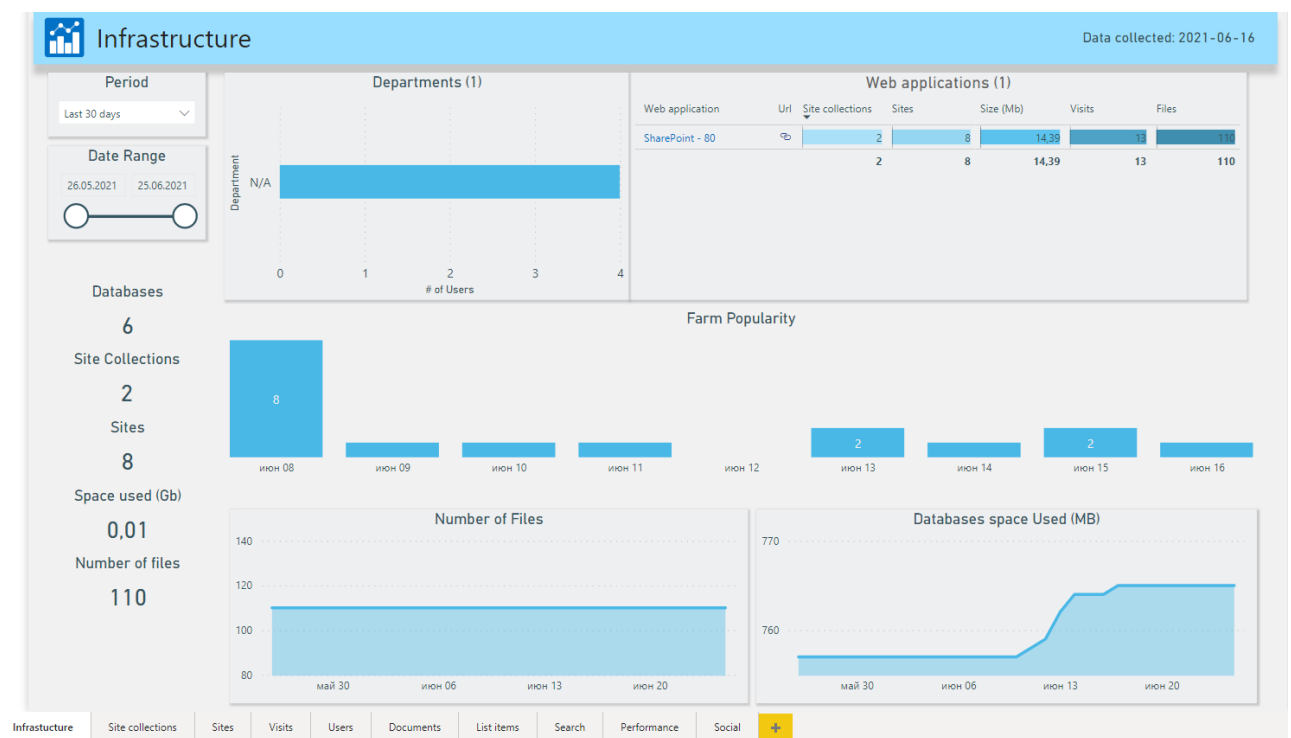
Click **Load** button.

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

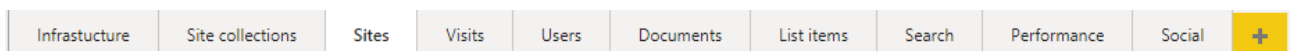
- DimDate
148 rows loaded.
- DimDatePeriods
748 rows loaded.
- DimServers
Creating connection in model...
- DimDatabases
Creating connection in model...
- DimWebApplications
Creating connection in model...

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



14.3. How to use Power BI reports

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



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

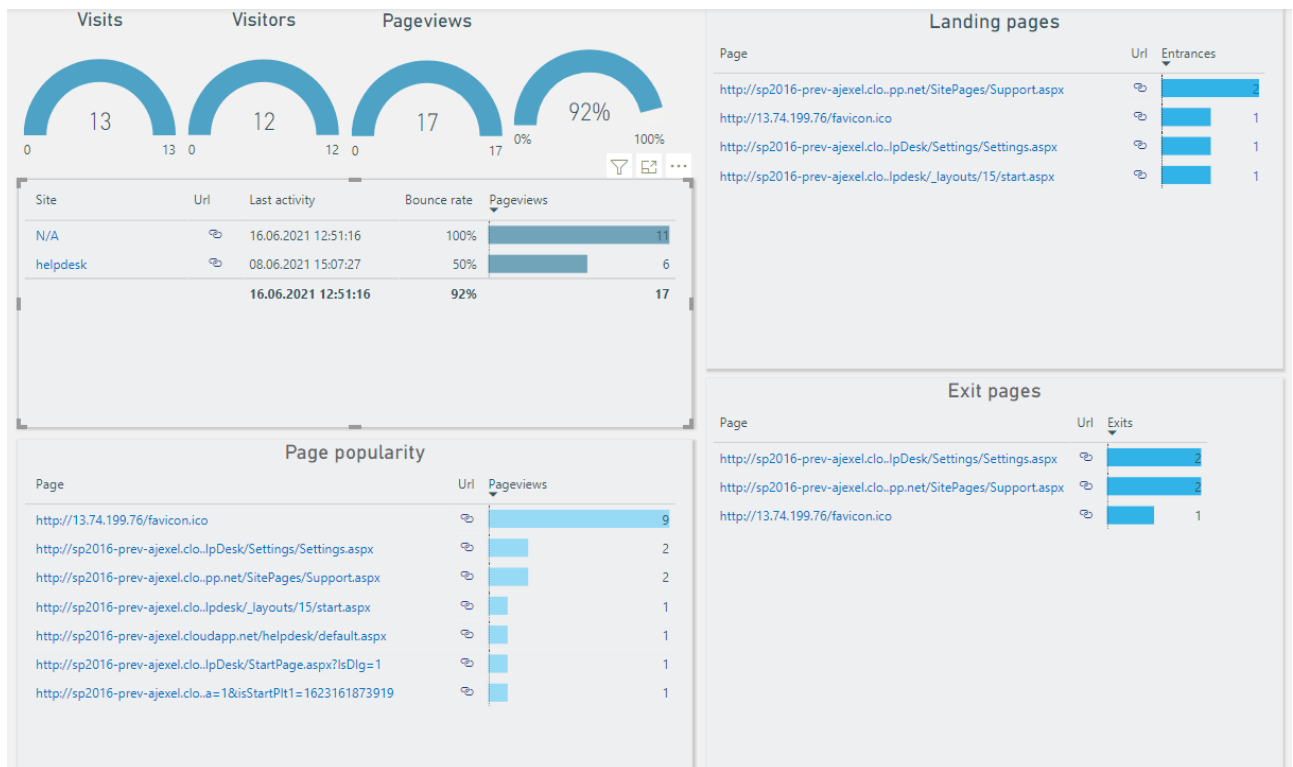
- **Users** – Users activity details
- **Documents** – all document libraries and documents in them
- **List Items** – all lists and their list items
- **Search** – search usage details
- **Performance** – farm servers performance reports
- **Social** – statistics for using social features

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

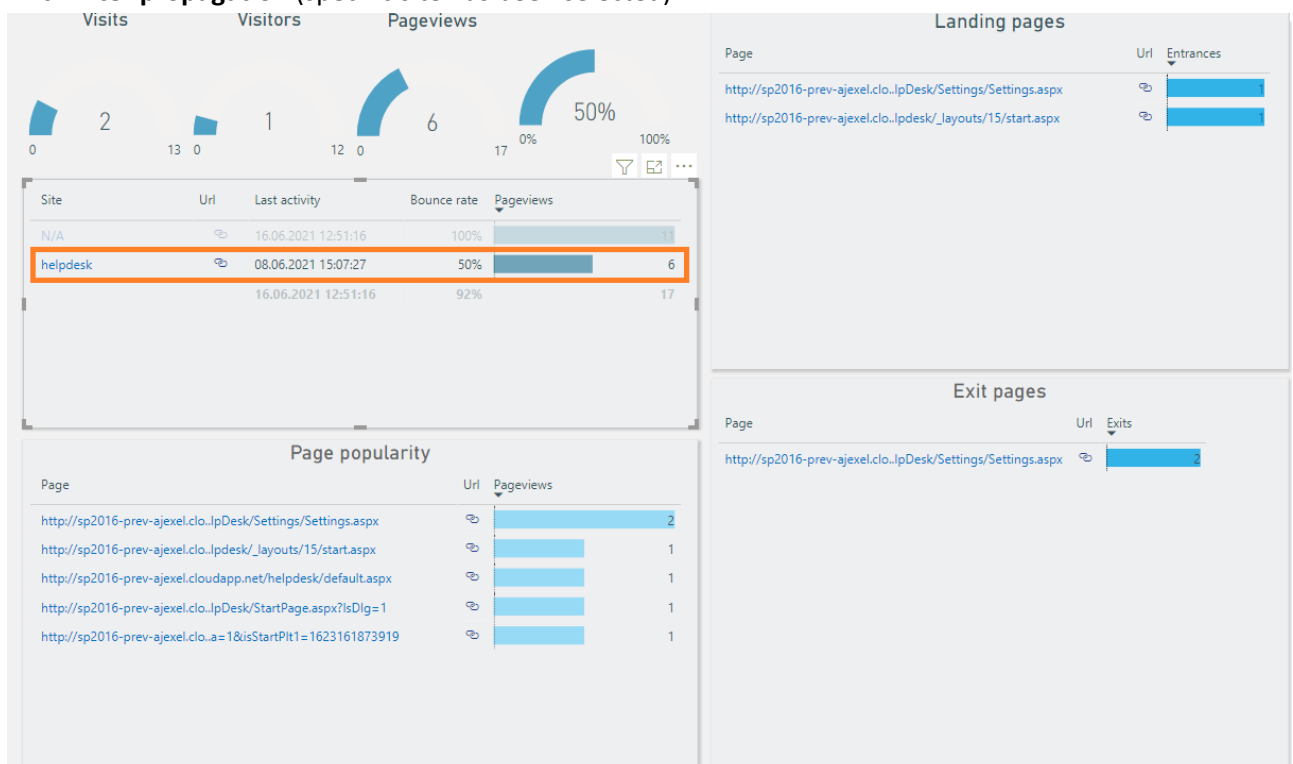
It is also possible to use the native Power BI filters at the right pane.

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:



With filter propagation (specific site has been selected):



For more information on using Power BI, please refer to [Power BI site](#).

15. Advanced Settings

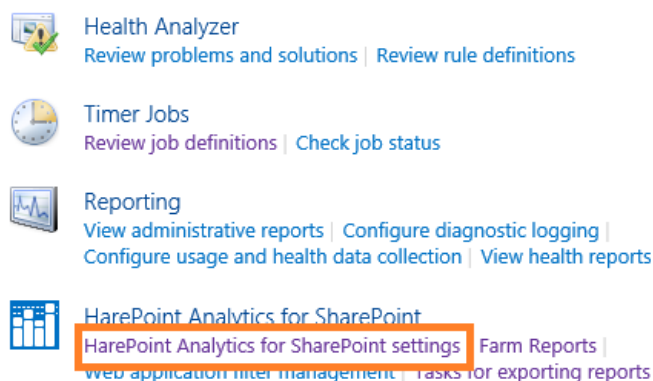
15.1. HarePoint Analytics Timer Jobs

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:

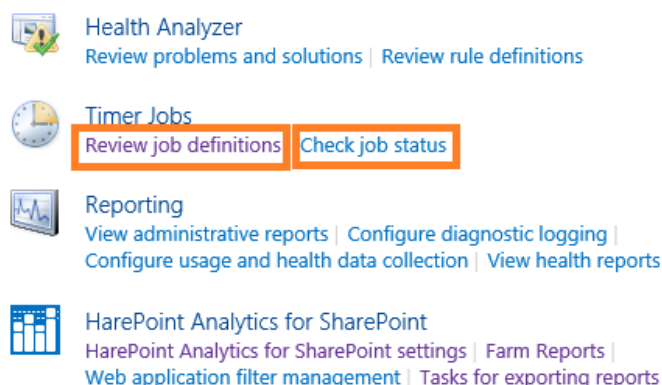
- in the product settings: **Central Administration – Monitoring – HarePoint Analytics settings** (some timer jobs are not displayed here; possible to configure all specific timer job settings, run jobs manually)

Monitoring



- 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 [HarePoint Analytics](#)

[Maintenance Guide](#) for more details

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 [HarePoint Analytics Maintenance Guide](#) 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 on 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 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

For some timer jobs, however, this setting does not make sense – please refer to [HarePoint Analytics Maintenance Guide](#) 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. [HarePoint Analytics for SharePoint: Preprocessor report data by month](#)
4. [HarePoint Analytics for SharePoint: Periodic data collection](#)
5. [HarePoint Analytics for SharePoint: Data Collecting from Active Directory](#)
6. [HarePoint Analytics for SharePoint: Geographic positions database update](#)

7. [HarePoint Analytics for SharePoint: System Metrics Collector*](#)
8. [HarePoint Analytics for SharePoint: Statistics Information Cleaner*](#)
9. [HarePoint Analytics for SharePoint: Report exporting by schedule*](#)
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 [HarePoint Analytics Maintenance Guide](#) for a detailed description of data collection mechanism.

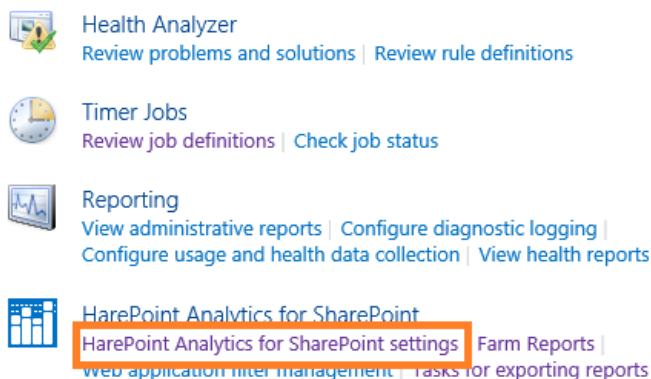
Default schedule is every **5 minutes**. Recommended is every 5-10 minutes.

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 [Preliminary Data Preparation](#) 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



Click on **Change Schedule** in **Processor of Message Queue** section:

<p>Processor of message queue</p> <p>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 data during one minute and finishes its operation.</p>	<p>Schedule</p> <p>every 5 minutes between 0 and 59</p> <p>Last run time</p> <p>7/5/2021 3:35:42 PM</p> <p>Change schedule</p>
--	--

Change the schedule in **Recurring Schedule** section:

This timer job is scheduled to run:

- ☒ Minutes Every 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

**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](#) |
[web application timer management](#) | [tasks for exporting reports](#)

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

minutes

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 preliminary data preparation timer job is run. But in this case current date will not be performed by preliminary data preparation timer job.

☐ Prepare data without disabling of message queue job

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 [HarePoint Analytics Maintenance Guide – Data collection and Processing – Timer Jobs – Preliminary Data Preparation](#) 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
☐ Weekly
☐ Monthly and no later than

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

-  **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](#) |
[web application inter management](#) | [Tasks for exporting 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.

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

7/5/2021 2:00:01 AM

[Change 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

Prepare 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:

- ☒ **Daily** Starting every day between
☐ **Weekly** 2 AM ▼ 00 ▼
☐ **Monthly** and no later than
2 AM ▼ 00 ▼

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.

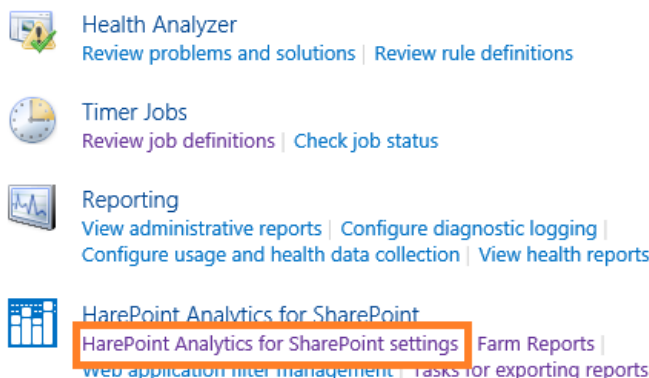
Default schedule is **daily, during the off-hours**.

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 [HarePoint Support](#) if you should enable this mechanism on your farm. You can also find more details on this option in [HarePoint Analytics Maintenance Guide – Data collection and Processing – Timer Jobs – Periodic Data Collection](#)

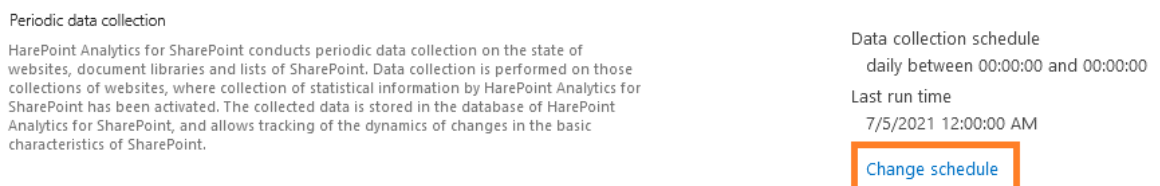
To change the schedule of **Periodic data collection** job, go to **Central Administration – Monitoring – HarePoint Analytics settings**:

Monitoring



The screenshot shows the 'Monitoring' section of the HarePoint Analytics settings. It contains four main links: 'Health Analyzer' (with sub-links 'Review problems and solutions' and 'Review rule definitions'), 'Timer Jobs' (with sub-links 'Review job definitions' and 'Check job status'), 'Reporting' (with sub-links 'View administrative reports', 'Configure diagnostic logging', 'Configure usage and health data collection', and 'View health reports'), and 'HarePoint Analytics for SharePoint' (with sub-links 'HarePoint Analytics for SharePoint settings', 'Farm Reports', 'web application timer management', and 'Tasks for exporting reports'). The 'HarePoint Analytics for SharePoint settings' link is highlighted with an orange box.

Click on **Change schedule** in **Periodic data collection** section:



The screenshot shows the 'Periodic data collection' settings. On the left, there is a description: '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.' On the right, the 'Data collection schedule' is set to 'daily between 00:00:00 and 00:00:00'. Below this, the 'Last run time' is '7/5/2021 12:00:00 AM'. A 'Change schedule' button is highlighted with an orange box.

Change the schedule in **Recurring Schedule** section:

This timer job is scheduled to run:

☒ Daily Starting every day between
☐ Weekly 12 AM ▼ 00 ▼
☐ Monthly and no later than
12 AM ▼ 00 ▼

Press the **OK** button to save the configuration.

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



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](#) |
[Web application filter management](#) | [Tasks for exporting reports](#)

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.

Schedule

daily between 23:00:00 and 23:00:00

Last run time

7/4/2021 11:00:00 PM

[Change schedule](#)

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 global catalogue. You can specify another account.

Account

☒ Use SharePoint farm account

☐ Account setup

Account

Password:

Domain controller

Data collection from Active Directory is by default performed automatically. If you specify a domain controller to be used for data collection, you can distribute the workload.

Domain controller

☒ Use the specified Domain Controller by default

☐ 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 scheduled to run:

☒ Daily Starting every day between
☐ Weekly 11 PM ▼ 00 ▼
☐ Monthly 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® 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 [Setting the Geographical locations database update](#) 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** [Data collection on server performance](#) 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 [Setting the data retention period](#) section in this Guide and **Data retention period** section in [HarePoint Analytics Maintenance Guide](#) 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



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](#) |
[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:

- ☐ Minutes Starting every week between
- ☐ Hourly at
- ☐ Daily and no later than
- ☒ Weekly at
- ☐ Monthly

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 [Reports Subscription Management](#) 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:**

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](#) | [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](#)

Change the schedule in **Recurring Schedule** section and click **OK**:

This timer job is scheduled to run:

☒ Minutes Every 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:**

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](#) | [Farm Reports](#) |
[web application inter management](#) | [Tasks for exporting 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

☐ 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 by email.

tc
ai
—
Le

- Critical
- Assert
- Exception
- Warning
- Unexpected
- Monitorable
- Information
- High
- Medium**
- Verbose

Set the **schedule**, as necessary:

This timer job is scheduled to run:

- ☐ Minutes Starting every day between
- ☐ Hourly 12 AM ▼ 00 ▼
- ☒ Daily and no later than
- ☐ Weekly 12 AM ▼ 00 ▼
- ☐ Monthly

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 [Statistic Information Cleaner](#) 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 [distributive package](#):

SharePoint SE/2019/2016 (Analytics 16.12 or later):

`<path_to_distributive>\Analytics Tools`

SharePoint 2013 (Analytics 15.17 or later):

`<path_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.

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:

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

- 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 [HarePoint Analytics Maintenance Guide](#) 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 [How it works – Data collection](#)):

- The following fields are filtered at HTTP Module level:
`RequestUrl, RequestUrlReferrer, RequestUserAgent, RequestHostAddress, RequestHostName, RequestAuthType, RequestIsAuthenticated, RequestAuthenticationName, UserAnonymous, 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 [Using command line tools to manage policies](#).

Normally both policies need to be set to **True**.

Data collection filter rules can be created and managed via the [web interface](#) or a [command line interface](#).

15.3.1. Filter levels

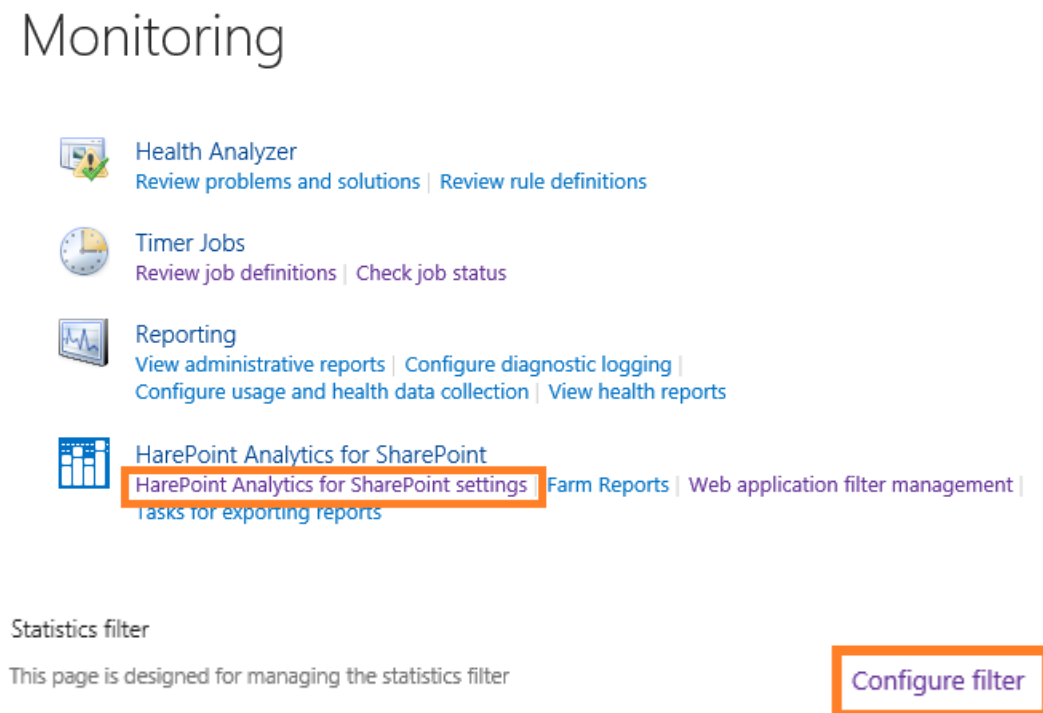
Farm level filter

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**:



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**:

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](#) | [Farm Reports](#) | [Web application filter management](#)
[Tasks for exporting reports](#)

Select the required application:

Collection of statistics filter rules for a web application ⓘ

Actions ▾ Settings ▾			Web Application: 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](#)

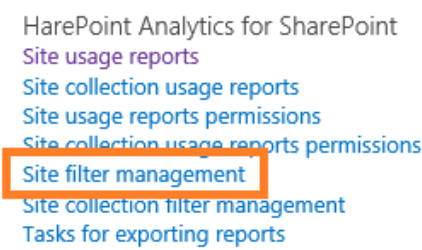
[Site collection filter management](#)

[Tasks for exporting reports](#)

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.

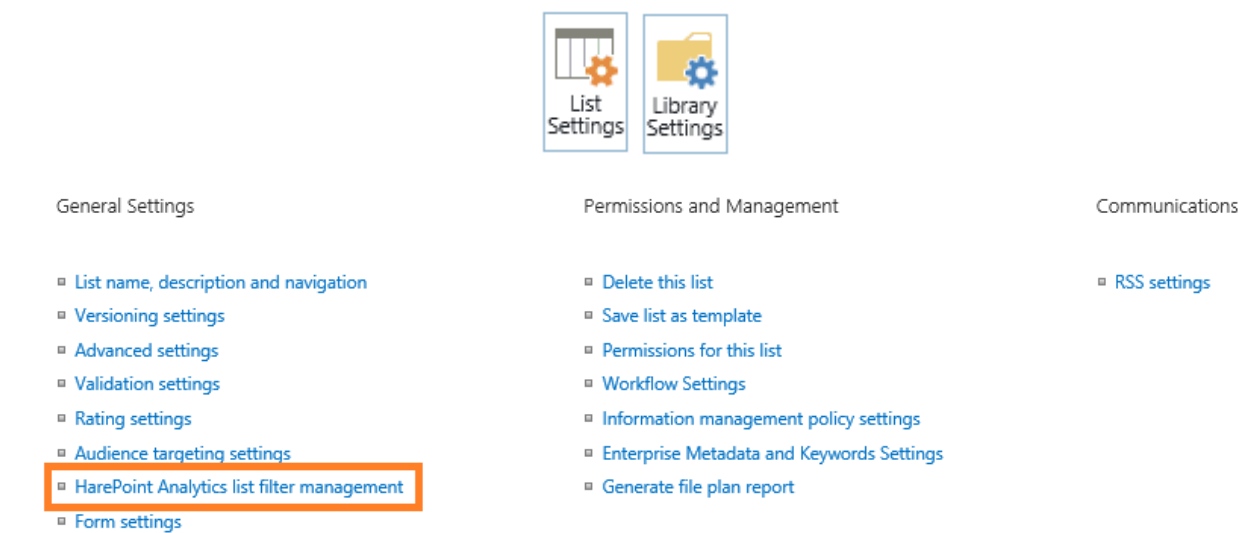
Access **Site Settings** for the required site, go to HarePoint Analytics for SharePoint section – **Site filter management** link:



List level filter

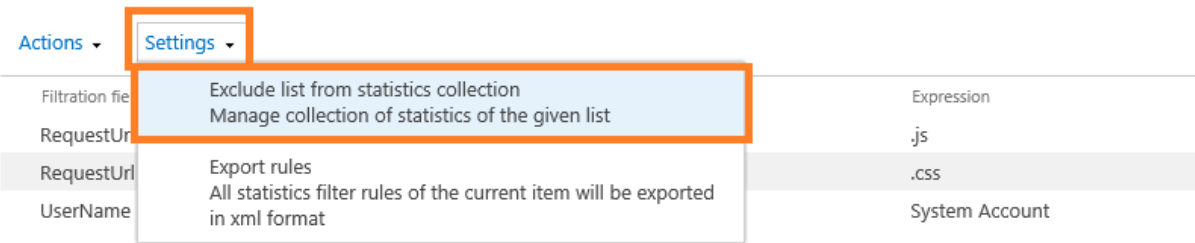
By default, list or document library level inherits the filter rules from a site level. The inheritance can be broken and a unique set of data collection rules can be created for each list or document library.

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



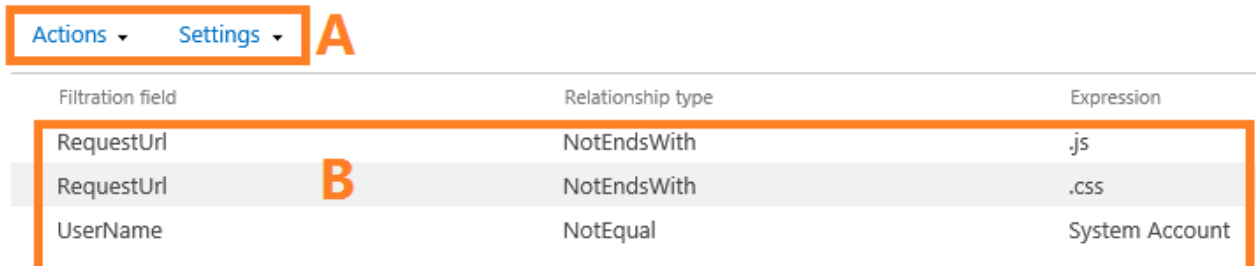
After selecting this option, no filter rule will be added to the list of filter rules, but the option will be changed to **Include list in statistics collection** – this is how you can check if the given library or list is excluded from data collection.

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

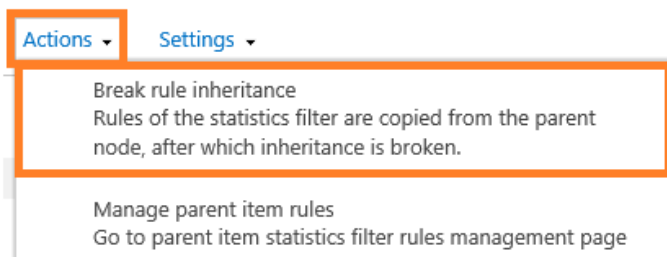


Filtration field	Relationship type	Expression
RequestUrl	NotEndsWith	.js
RequestUrl	NotEndsWith	.css
UserName	NotEqual	System Account

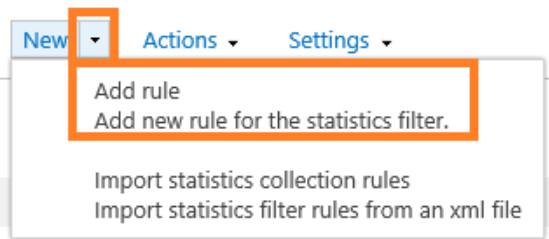
On this page, you can create, edit, delete, export and import data collection filter rules, break or re-establish the inheritance from the parent level.

Adding a rule

1. Go to the data collection filter management page of the respective level.
2. 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 required field

Filtration field * ⓘ

Relationship type * ⓘ

Expression *

☐ ⓘ Ignore this rule for the events on documents and list items open and edition

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 [Using command line tools to manage policies](#)).

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 ⓘ 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**

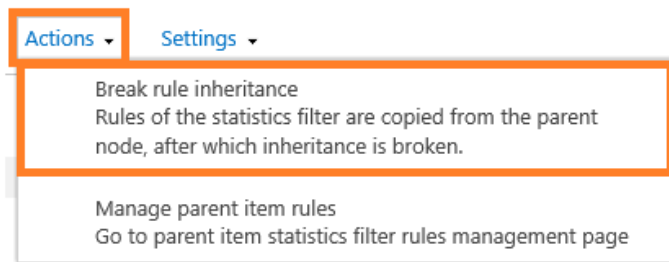
- **DocumentName** – Document Name
- **DocumentCreated** – Document creation time
- **DocumentTitle** – Document title
- **DocumentUrl** – Document URL
- **DocumentLength** – Document size in bytes
- **DocumentFolderName** – Document folder

e) **Users**

- **UserAnonymous** – 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.
2. 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:

 A screenshot of a dialog box titled 'Create rule for the statistics filter'. It contains the following fields: 'Filtration field *' with a dropdown menu showing 'UserName' and a help icon; 'Relationship type *' with a dropdown menu showing 'NotEqual' and a help icon; and 'Expression *' with a text area containing 'John Smith'. Below these fields is a checkbox labeled 'Ignore this rule for the events on documents and list items open and edition' which is currently unchecked. At the bottom right are 'OK' and 'Cancel' buttons. A note '* indicates a required field' is located in the top right corner of the dialog.

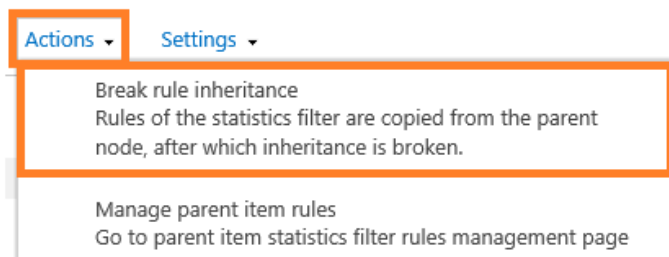
Edit the filter rule as necessary.

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.
2. 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.



Tick the rules to be deleted:

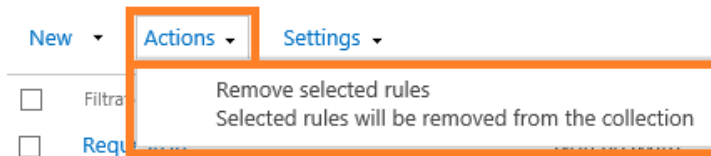
New

Actions

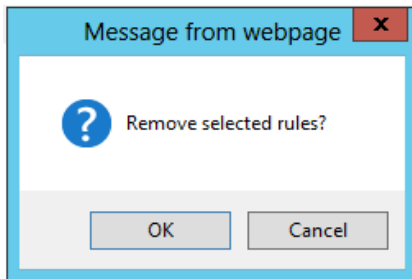
Settings

<input type="checkbox"/>	Filtration field	Relationship type	Expression
<input type="checkbox"/>	RequestUrl	NotEndsWith	.js
<input type="checkbox"/>	RequestUrl	NotEndsWith	.css
<input type="checkbox"/>	UserName	NotEqual	System Account
<input checked="" type="checkbox"/>	UserName	NotEqual	John Smith

3. In the **Actions** menu select **Remove selected rules**:



4. Confirm the rule deletion in the pop up dialog window:



Exporting rules

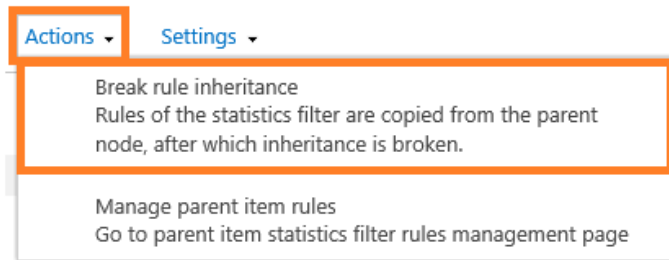
1. Go to the data collection filter management page of the respective level.
2. In the **Settings** menu select **Export rules**.



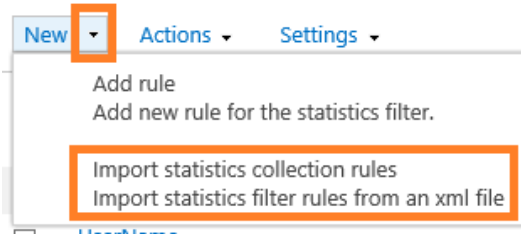
3. Specify the file name and click **Save**.
All data collection rules for this specific level will be saved to an XML file.

Importing rules

1. Go to the data collection filter management page of the respective level.
2. 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**:



3. In the popup window click **Browse...**, select an appropriate XML file with data collection filter rules and click **OK**:

Create rule for the statistics filter

* indicates a required field

File name *

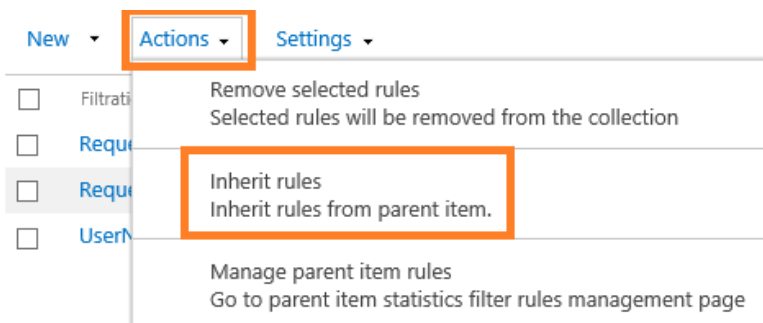
Browse...

OK

Cancel

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 |

DocumentFolderName | UserAnonymous | UserLoginName | userEmail |
 UserName | UserNotes | UserIsSiteAdmin | UserIsSiteAuditor |
 DoNotCollect>]
 [-relop <Greater | GreaterOrEqual | 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:

Statistics filter

This page is designed for managing the statistics filter

[Configure filter](#)

Statistics policies

This page is designed for managing the statistics global policies.

[Configure policies](#)

Data collection from additional fields

This page allows you to select additional fields from Active Directory and SharePoint User Profile from which data should be collected. These fields will also be available in the Visual Filters and can be added into the necessary reports.

[Configure custom data fields](#)

Additional HarePoint Analytics Databases for cross-farm reports

On this page you can add HarePoint Analytics databases from another SharePoint farms. These databases are used to build cross-farm reports.

[Configure additional databases](#)

By default, no custom fields are selected:

List of additional data sources ⓘ

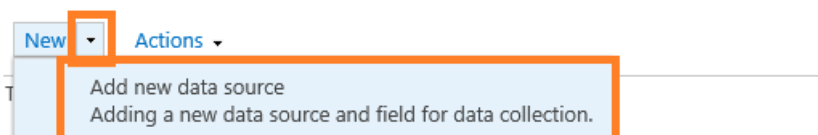
[New](#) ▾ [Actions](#) ▾

There are no items to show in this view.

Important note: 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**:

List of additional data sources ⓘ



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
Document metadata
List item metadata

Fields list *

Name *

Display name *

Data type *

String

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 Department
☐ Email
☐ Title
☐ Manager
☐ Office

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 a 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

☒ Filter by Active Directory fields

☒ Filter by SharePoint groups and users

☐ Filter by report fields

Visits

Unique visitors

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**:

Statistics filter

This page is designed for managing the statistics filter

[Configure filter](#)

Statistics policies

This page is designed for managing the statistics global policies.

[Configure policies](#)

Data collection from additional fields

This page allows you to select additional fields from Active Directory and SharePoint User Profile from which data should be collected. These fields will also be available in the Visual Filters and can be added into the necessary reports.

[Configure custom data fields](#)

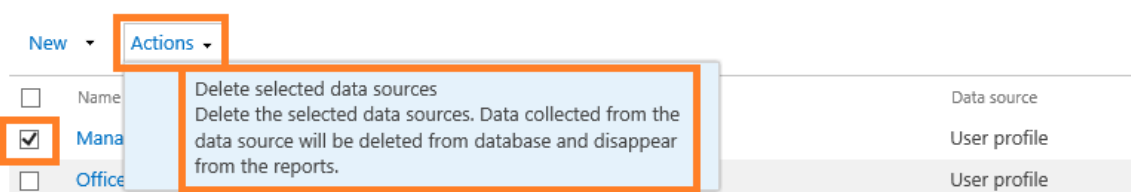
Additional HarePoint Analytics Databases for cross-farm reports

On this page you can add HarePoint Analytics databases from another SharePoint farms. These databases are used to build cross-farm reports.

[Configure additional databases](#)

Select the fields that need to be removed, click **Actions** button – **Delete selected data sources**:

List of additional 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 [previous](#) 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**:

Data collection from additional fields

This page allows you to select additional fields from Active Directory and SharePoint User Profile from which data should be collected. These fields will also be available in the Visual Filters and can be added into the necessary reports.

[Configure custom data fields](#)

Additional HarePoint Analytics Databases for cross-farm reports

On this page you can add HarePoint Analytics databases from another SharePoint farms. These databases are used to build cross-farm reports.

[Configure additional databases](#)

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

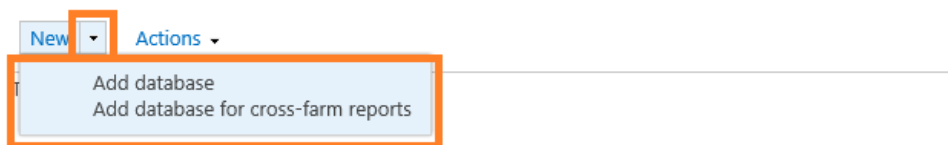
Last run time

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.

Additional HarePoint Analytics Databases



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

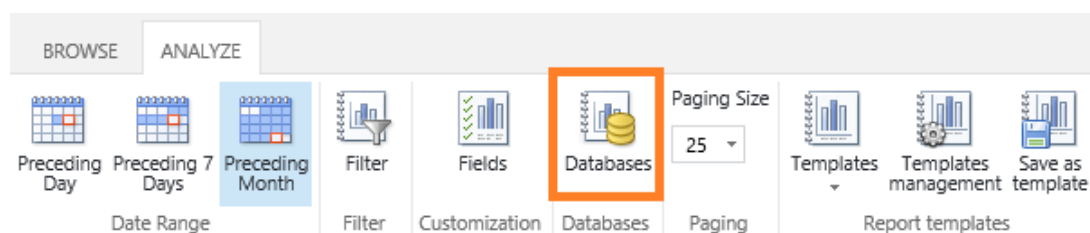
* indicates a required field

Display name *	<input type="text"/>
Server name *	<input type="text"/>
Database name *	<input type="text"/>
Use windows authentication *	<input checked="" type="checkbox"/>
Login *	<input type="text"/>
Password *	<input type="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.

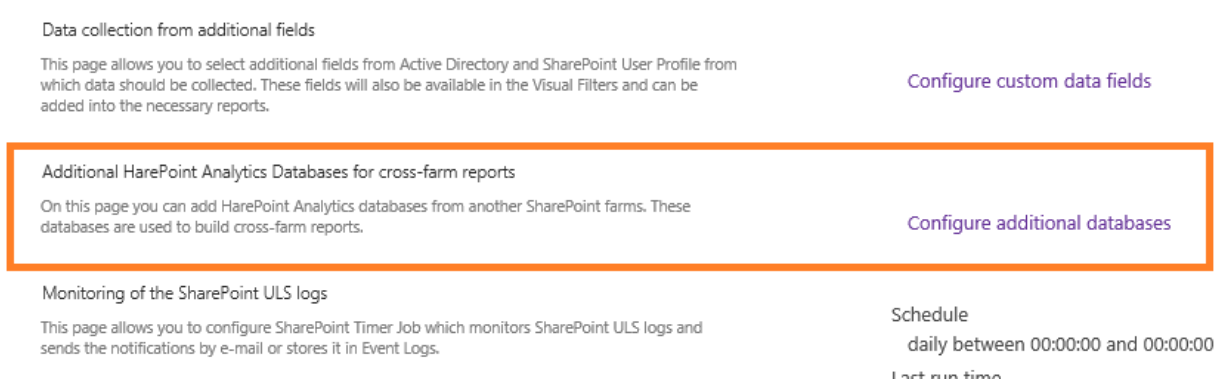
Once the additional database is added, you can go to farm reports (in Central Administration - Monitoring). Reports that support displaying cross-farm data, have **Databases** button available on the ribbon:



Click **Databases** button and choose the additional database from another farm, which data need to be displayed in the cross-farm report.

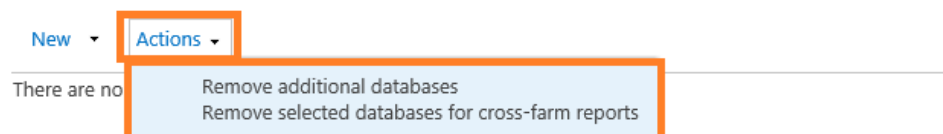
15.5.2. Removing databases for cross-farm reports

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 allow 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.

User profile fields

- ☒ Id
- ☐ SID
- ☒ Account name
- ☒ First name
- ☒ Last name
- ☐ Manager
- ☐ Name
- ☒ Work phone
- ☒ Work email
- ☐ Web site
- ☐ Office
- ☐ Title
- ☒ Department
- ☐ Active Directory Id
- ☐ About me
- ☐ User name
- ☐ Home phone

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 usage reports permissions](#)

[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 site 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

Save

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

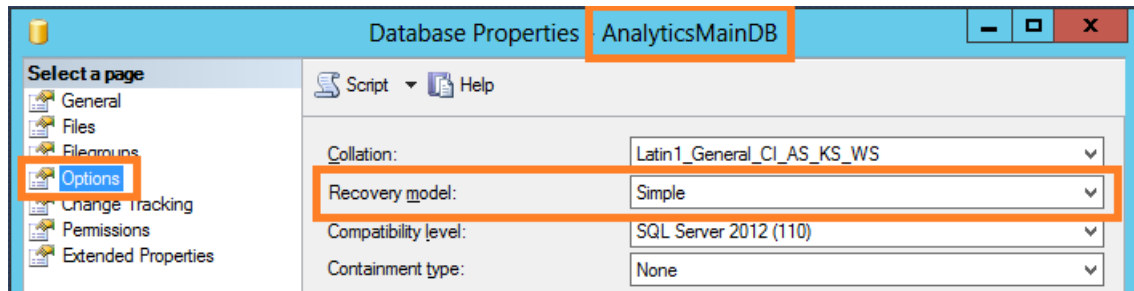
For most scenarios, it is recommended to set the recovery model for both HarePoint Analytics databases to **Simple**. This will reduce the logging level of SQL transactions, optimize hard drive operations and reduce the total database size.

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 [Maintenance of Main statistics database](#) 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**.



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 [How it works](#) 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**:

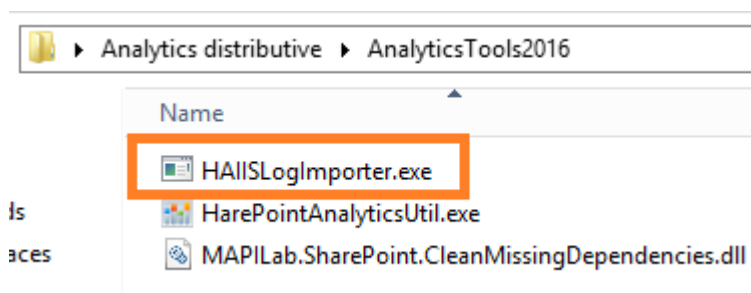
1. **Import data using IIS Importer tool**
2. **Contact HarePoint Support to get a special SQL script that will compile data for the given date range**
3. **Run the SQL script to compile the imported data and see them in reports**

These three steps are described below in details.

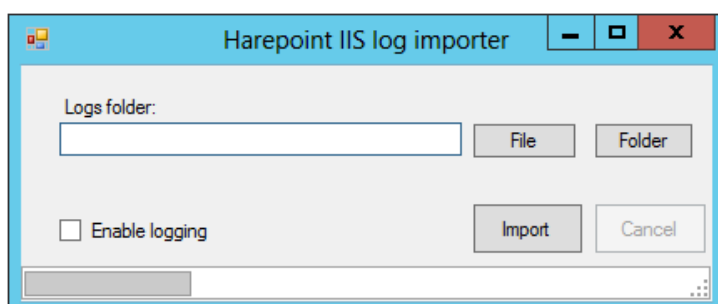
Step 1: Import data using IIS Importer tool

Define the date range for data that you are going to import.

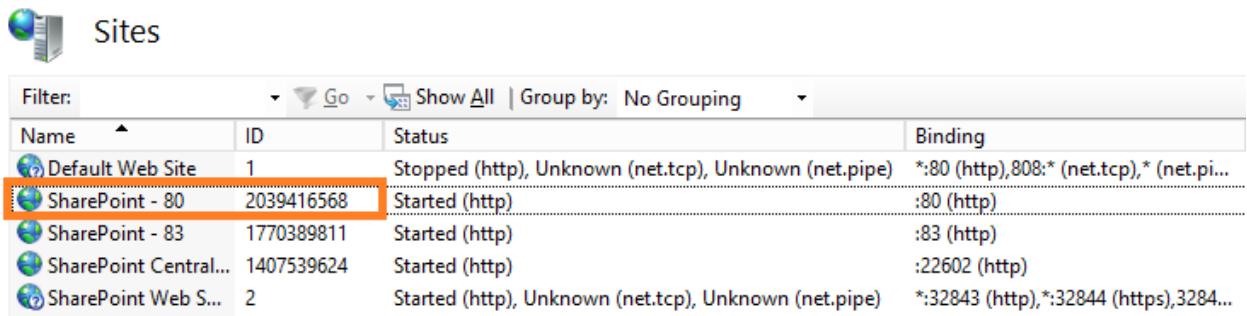
IIS Log Importer tool can be found in a **distributive package** in **Analytics Tools2016** or **Analytics Tools2013** folder (select folder according to the SharePoint version; for SharePoint SE and 2019 use AnalyticTools2016 folder):



Start this tool on any **Web Front-End Server** using **Farm Administrator** account:



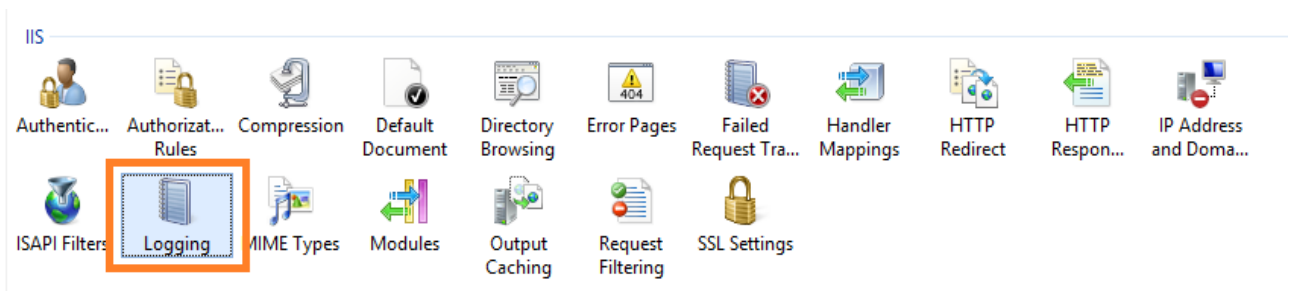
Open **IIS Manager**, go to **Sites**. In the list of sites, identify the web application that you are going to import data for, and note the corresponding **ID**:



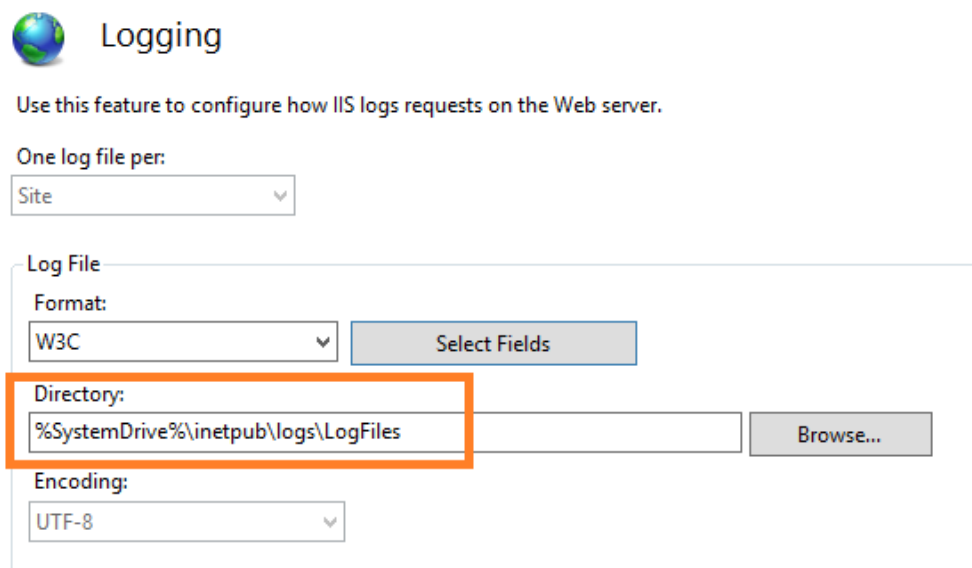
The screenshot shows the 'Sites' section of IIS Manager. A table lists several web sites. The 'SharePoint - 80' site is highlighted with an orange box. The table has four columns: Name, ID, Status, and Binding.

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:



The screenshot shows the 'Logging' configuration page in IIS Manager. The 'Directory' field is highlighted with an orange box and contains the path '%SystemDrive%\inetpub\logs\LogFiles'. Other fields include 'Format' (W3C), 'Encoding' (UTF-8), and a 'Browse...' button.

Use this feature to configure how IIS logs requests on the Web server.

One log file per:
Site

Log File

Format:
W3C Select Fields

Directory:
%SystemDrive%\inetpub\logs\LogFiles Browse...

Encoding:
UTF-8

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 > LogFiles >			
Name	Date modified	Type	Size
W3SVC568646675	6/27/2015 9:12 AM	File folder	
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	

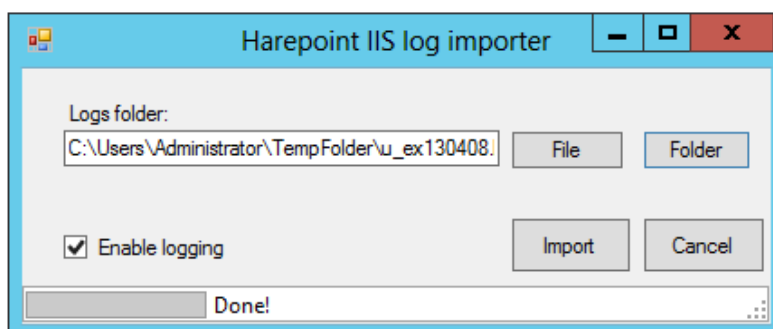
Open the corresponding subfolder. It is recommended to **copy** one or several files that you are going to import to a **newly created folder**.

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 [Setting the data retention period](#) 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.



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 [Preliminary Data Preparation timer job](#) **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 support@harepoint.com, or create a ticket on <http://harepoint.com/Support/>.

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 [Report generation](#) 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 [Managing access to the reports](#). 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 - [Adding a web-part](#).

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 [Adding a web-part](#) 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.

2. 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 [Manual installation HarePoint Analytics for SharePoint 2019/2016](#)).

3. Create and configure **Subscription Settings Service**:

(for more details refer to <https://docs.microsoft.com/en-us/sharepoint/administration/configure-an-environment-for-apps-for-sharepoint>)

- 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 SharePoint	Microsoft SharePoint Foundation Sandboxed Code Service	No	Enable Auto Provision	✓	Yes
	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
	Project Management	No	Enable Auto Provision	✓	Yes

- 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 <https://docs.microsoft.com/en-us/powershell/module/sharepoint-server/New-SPSubscriptionSettingsServiceApplication?view=sharepoint-ps>)

```

Administrator: SharePoint 2016 Management Shell

PS C:\Users\perezhogin> $sa = New-SPSubscriptionSettingsServiceApplication -App
licationPool 'SharePoint Web Services Default' -Name 'Subscriptions Settings Serv
ice Application' -DatabaseName 'Subscription'
PS C:\Users\perezhogin> New-SPSubscriptionSettingsServiceApplicationProxy -Servi
ceApplication $sa

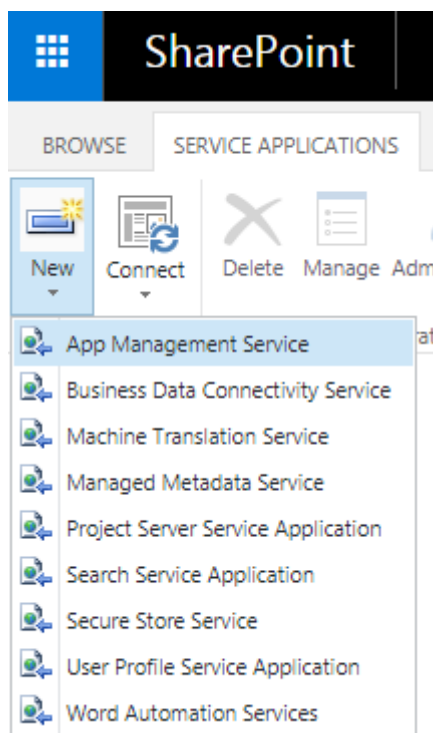
DisplayName                TypeName                Id
-----
Microsoft SharePo... Microsoft SharePo... e0ee3342-c5f6-4d30-a3cf-d3effcb6e8f3

PS C:\Users\perezhogin> _

```

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**:



- 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:

New App Management Service Application



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.

Database Server

2016Sql

Database Name

App_Management_ad1a278c-7d36-428e-

Database authentication

☒ Windows authentication (recommended)

☐ SQL authentication

Account

Password

Failover Server

You can choose to associate a database with a specific failover server that is used in conjunction with SQL Server database mirroring.

Failover Database Server

Application Pool

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.

☒ Use existing application pool

SharePoint Web Services Default

☐ Create new application pool

Application pool name

Select a security account for this application pool

HAREPOINT\spfarmadmin

[Register new managed account](#)

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:

Central Administration

- Application Management
- System Settings
- Monitoring
- Backup and Restore
- Security
- Upgrade and Migration
- General Application Settings
- Apps
- Office 365
- Configuration Wizards
- SharePoint HelpDesk for SharePoint

Server: 2016SHAREPOINT | Role: Custom | View: Configurable

Service	Status	Compliant	Action
App Management Service	Started		Stop
Business Data Connectivity Service	Started		Stop
Central Administration	Started		Stop
Claims to Windows Token Service	Started		Stop
Distributed Cache	Started		Stop
Document Conversions Launcher Service	Stopped		Start
Document Conversions Load Balancer Service	Stopped		Start
Lotus Notes Connector	Stopped		Start
Machine Translation Service	Started		Stop
Managed Metadata Web Service	Started		Stop
Microsoft SharePoint Foundation Incoming E-Mail	Started		Stop
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):

SharePoint

Sites

</

6. Configure App catalog:

- Go to **Central Administration -> Apps -> Manage App Catalog**.
Choose **Create a new app catalog site** and click **OK**:



Manage App Catalog

Central Administration

Application Management
System Settings
Monitoring
Backup and Restore
Security
Upgrade and Migration
General Application Settings
Apps
Office 365
Configuration Wizards
SharePoint HelpDesk for SharePoint

Web Application: <http://2016sharepoint/> 

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

☐ Enter a URL for an existing app catalog site

OK

b) Fill in **Title**, **URL**, **Site collection administrator** fields:



Create App Catalog

Central Administration

Application Management
System Settings
Monitoring
Backup and Restore
Security
Upgrade and Migration
General Application Settings
Apps
Office 365
Configuration Wizards
HarePoint HelpDesk for SharePoint

OK

Cancel

Web Application

Select a web application.

Web Application: <http://2016sharepoint/>

To create a new web application go to [New Web Application](#) page.

Title and Description

Type a title and description for your new site. The title will be displayed on each page in the site.

Title:

App catalog

Description:

Web Site Address

Specify the URL name and URL path to create a new site, or choose to create a site at a specific path.

URL:

<http://2016sharepoint> /sites/

app_catalog

To add a new URL Path go to the [Define 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 name:

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**.



Configure App URLs ⓘ

Central Administration

Application Management
System Settings
Monitoring
Backup and Restore
Security
Upgrade and Migration
General Application Settings
Apps
Office 365
Configuration Wizards
HarePoint HelpDesk for SharePoint

App URLs will be based on the following pattern: <app prefix> - <app id>.<app domain>

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 your DNS servers. It is recommended to use a unique domain for apps.

App domain:

App prefix

The app prefix will be prepended to the subdomain of the app URLs. Only letters and digits, no hyphens or periods allowed.

App prefix:

OK

Cancel

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**:



Manage App Catalog ⓘ

Central Administration

Application Management
System Settings
Monitoring
Backup and Restore
Security
Upgrade and Migration
General Application Settings
Apps
Office 365
Configuration Wizards
HarePoint HelpDesk for SharePoint

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.](#)

Site URL:

http://2016sharepoint/sites/app_catalog

Primary administrator:

Ivan Perezhogin

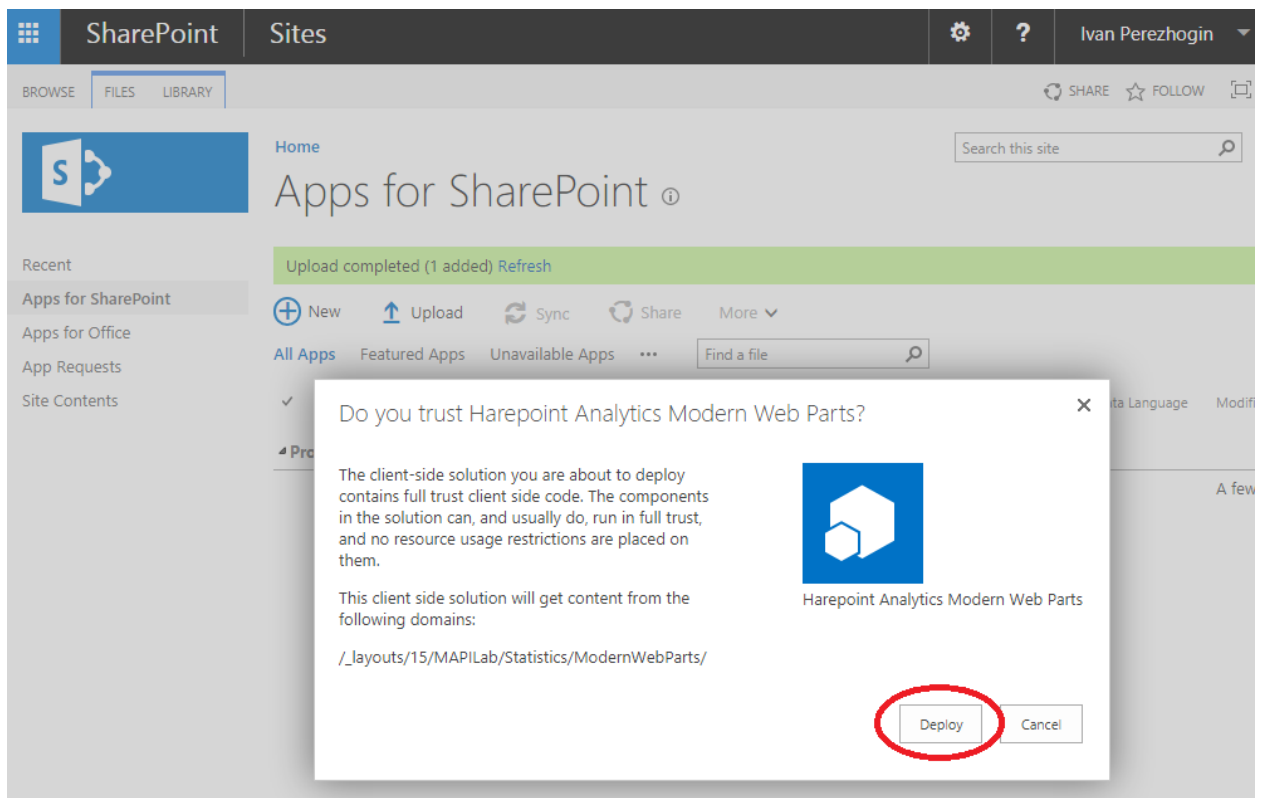
[View site settings](#)

Web Application: <http://2016sharepoint/>

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**:

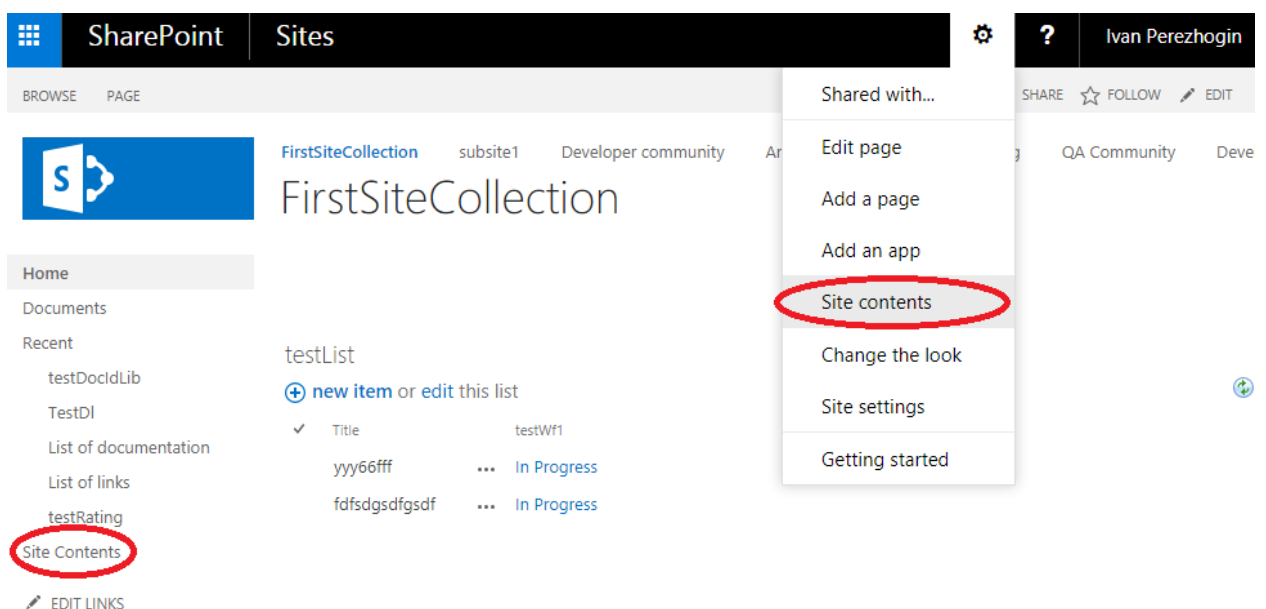


The configuration part is complete.

Now you can make HarePoint Analytics Modern Web Part available on your sites.

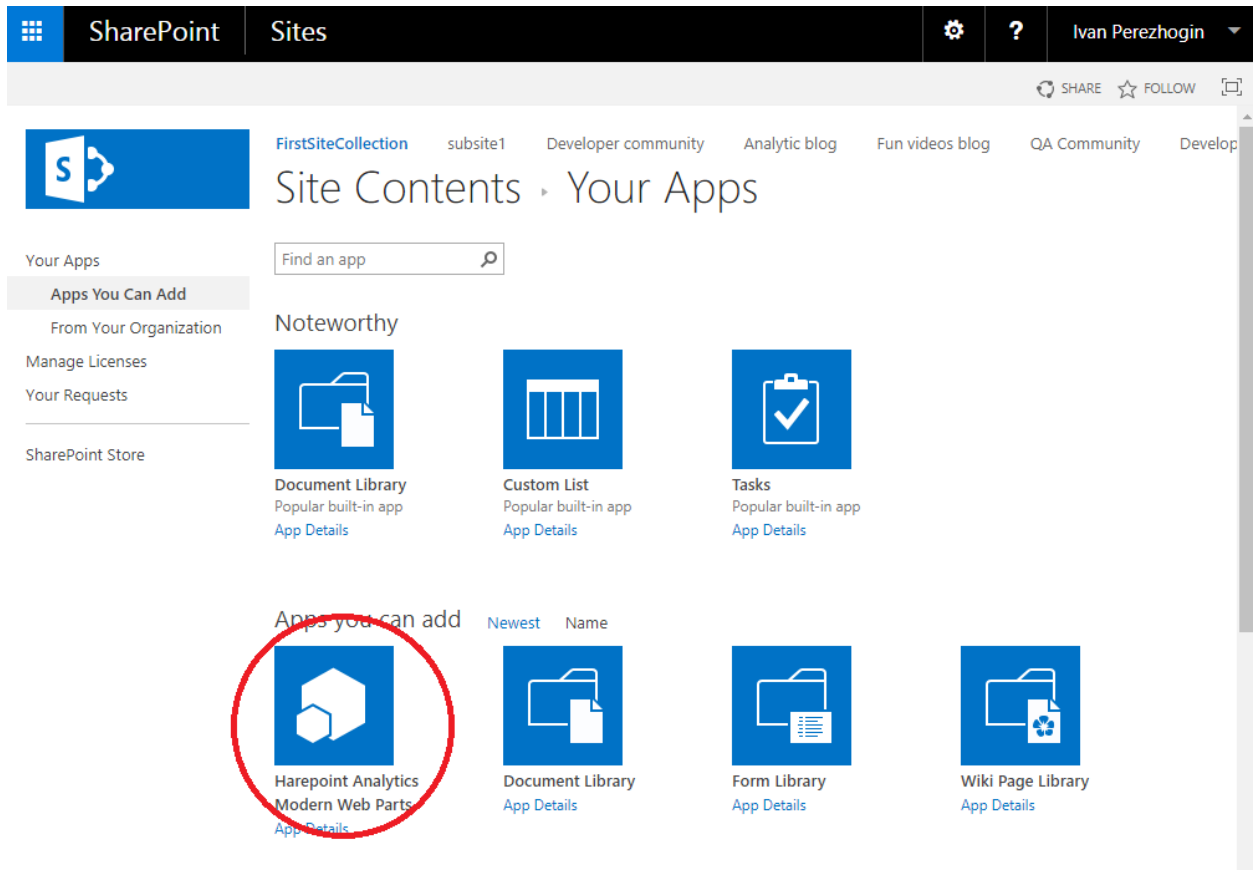
8. Add **HarePoint Analytics Modern Web Parts** app to the site:

- 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.

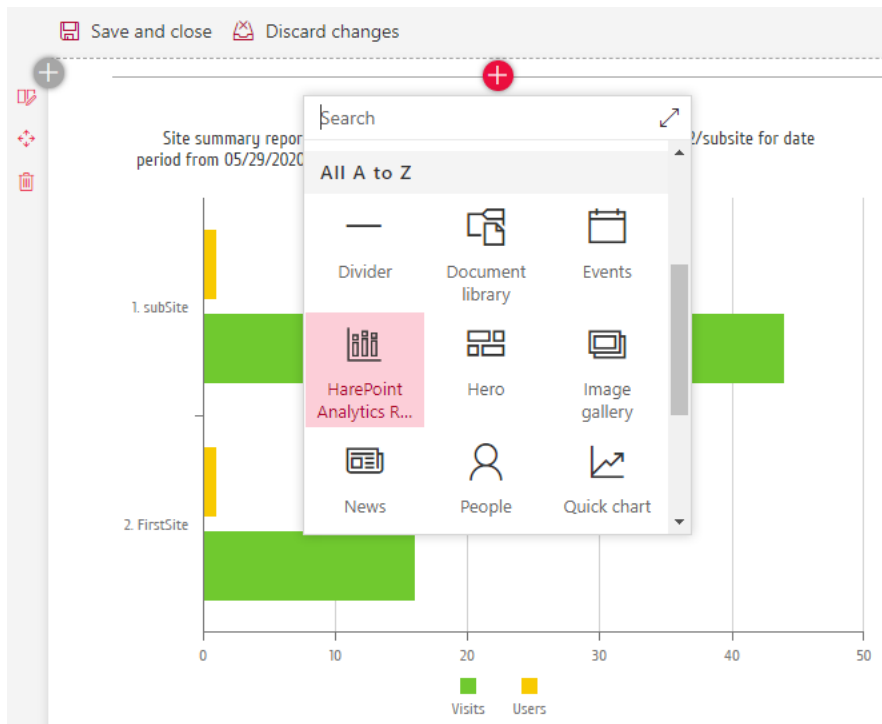
17.2. Adding a web-part

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:



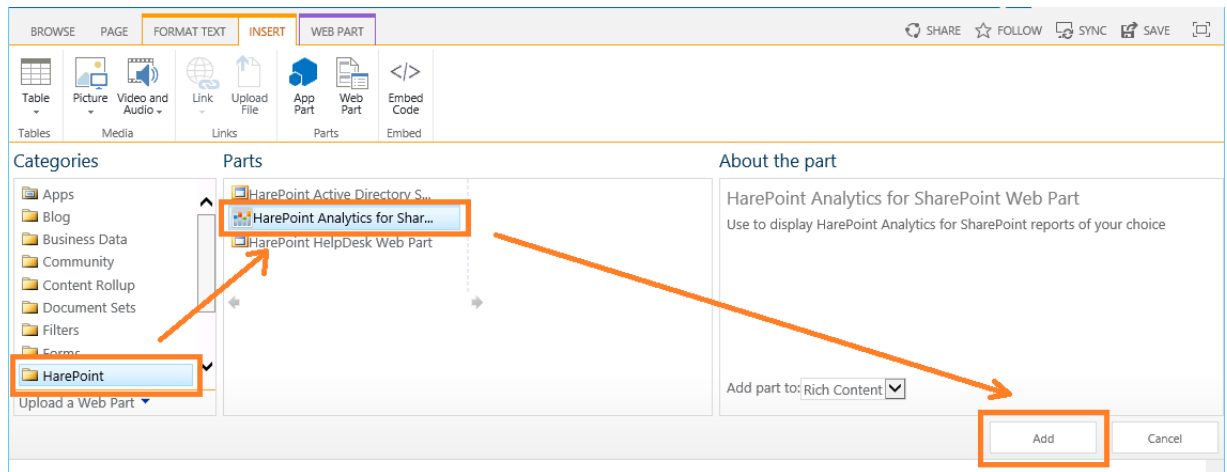
For **Classic Mode**, the new HarePoint Analytics web part is available under **Insert** ribbon tab, **Web part** button:



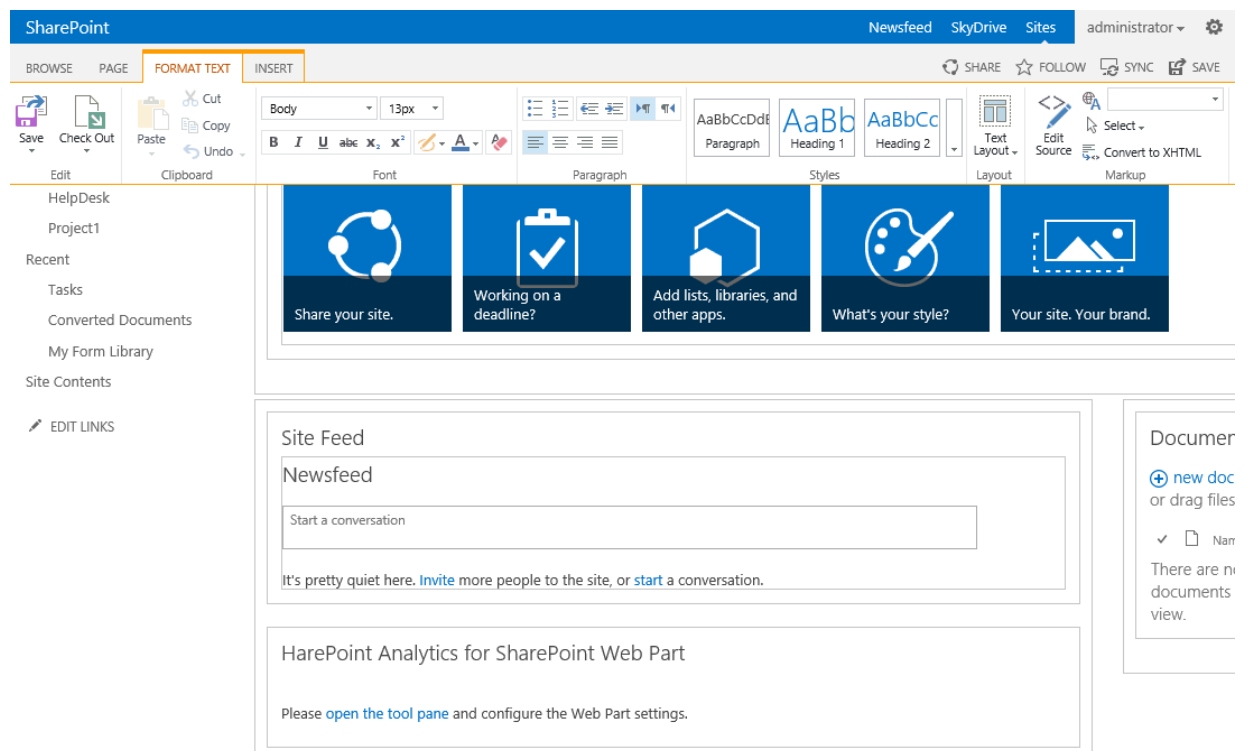
Go to **HarePoint** web-part category, and then select **HarePoint Analytics for SharePoint** web-part.

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:



The web-part will be added to the place where the cursor was located:

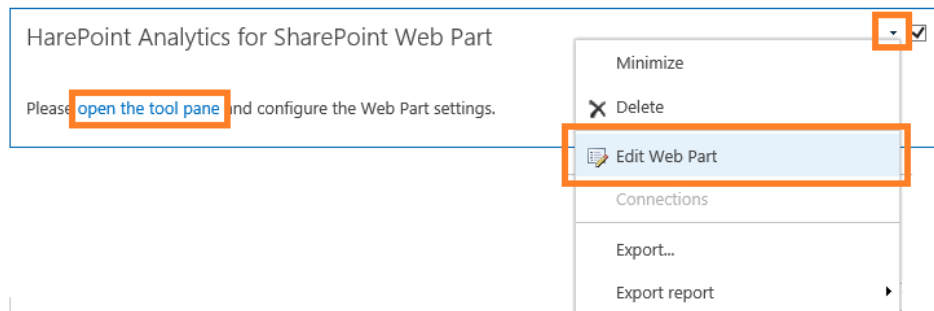


After the web-part is added to the page, it needs to be configured.

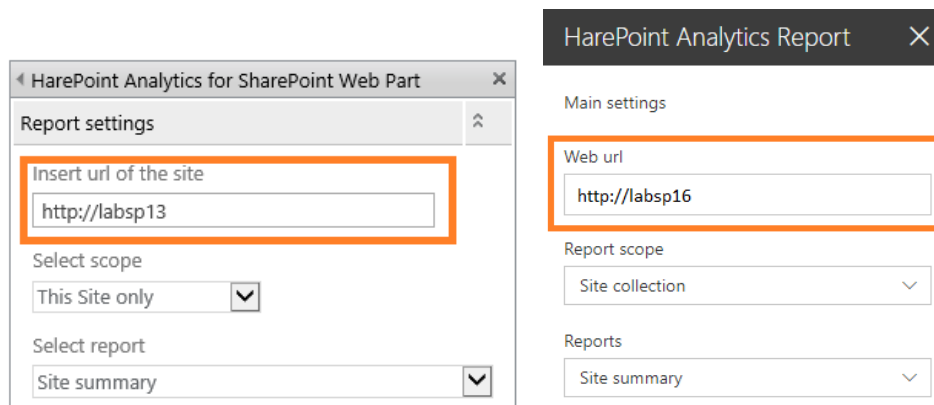
For modern web-part, click **Edit web part** icon:



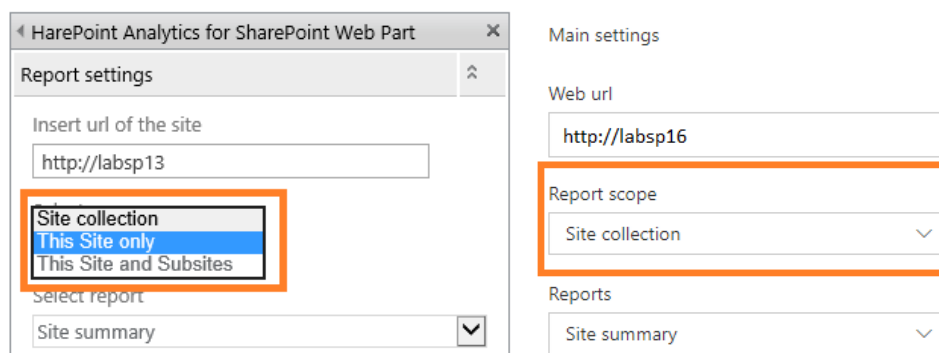
For the classic web-part, expand the web-part menu, select **Edit Web Part**, or click the link **open the tool pane**:



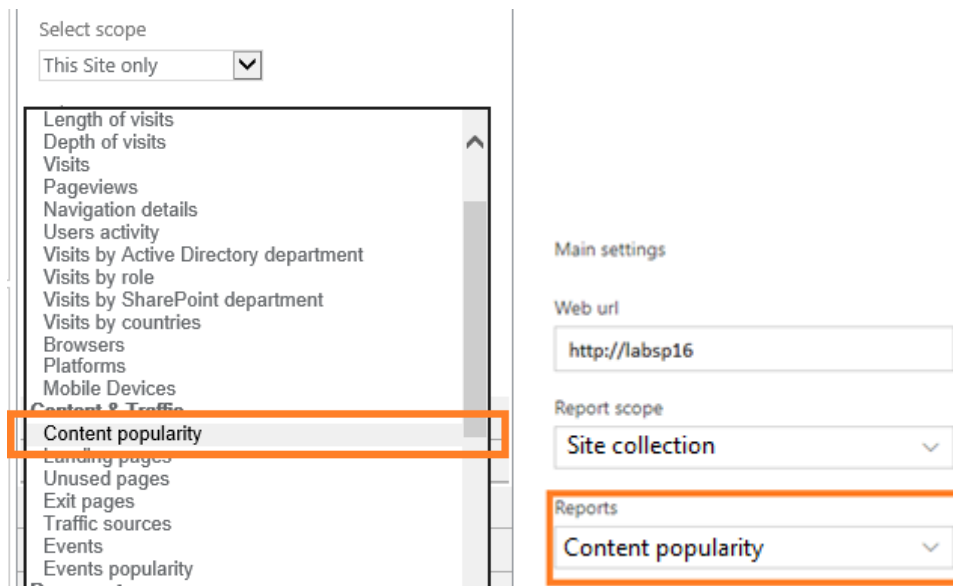
Web-parts for Classic Experience and Modern experience have identical settings, as indicated below. In the web-part settings, **adjust the URL, if necessary** – by default, the URL of the current site is used to display reports from the current site, but it can be the URL of any other site on this SharePoint farm:



Select the **scope**, note that some reports are only available for Site Collection scope:

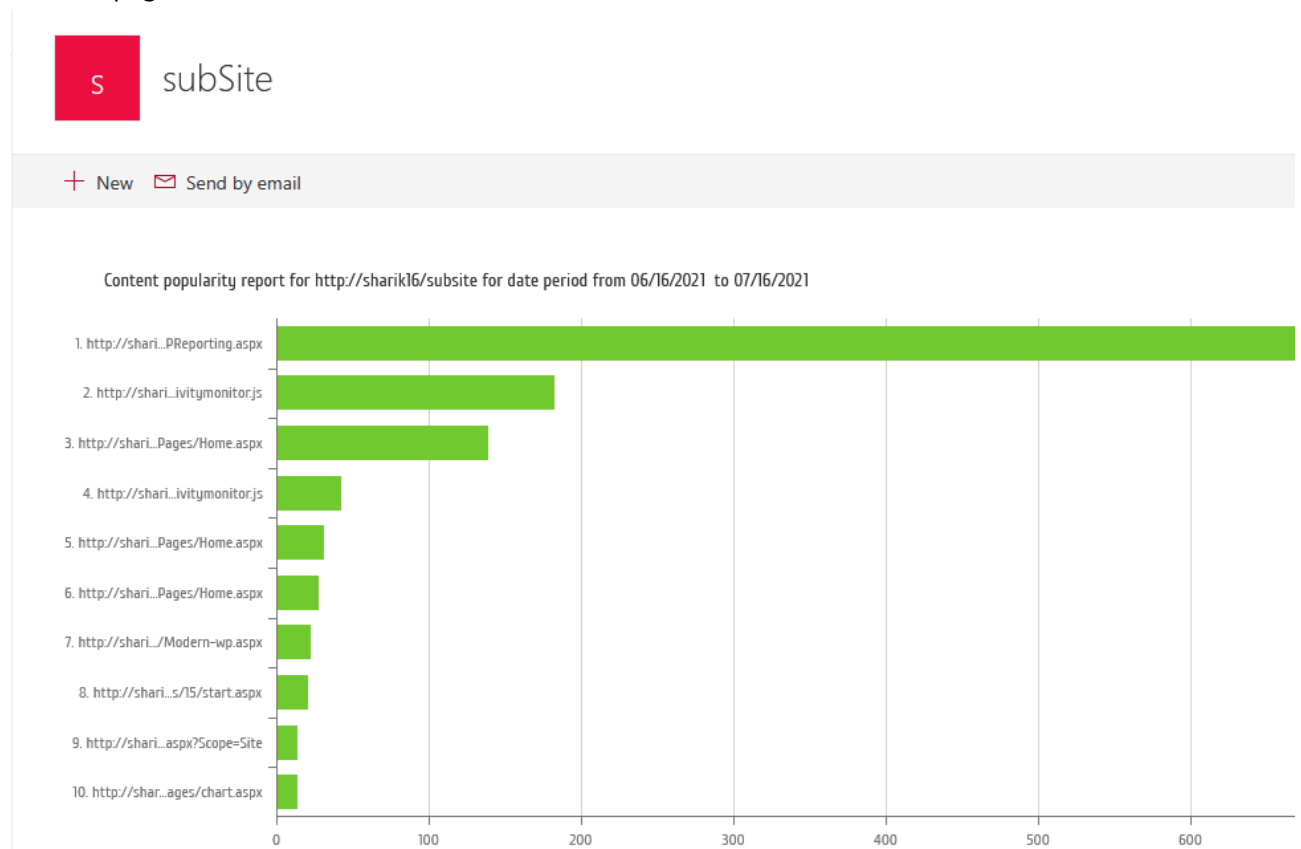


Select the report from the dropdown list:



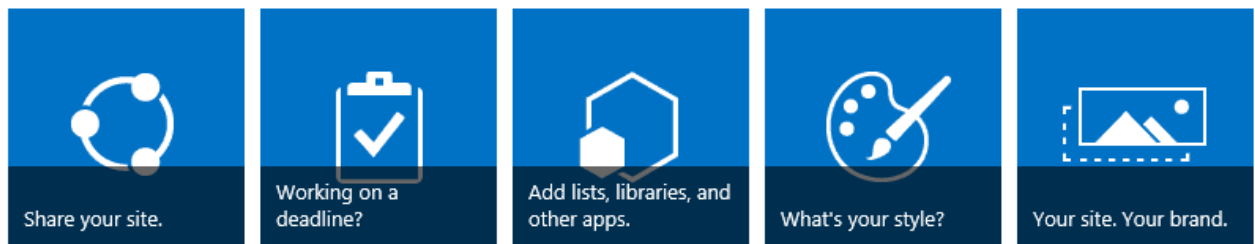
Click **OK** at the bottom of web-part settings panel. The web-part now displays a selected report:

Modern pages:



Classic view:

Get started with your site [REMOVE THIS](#)



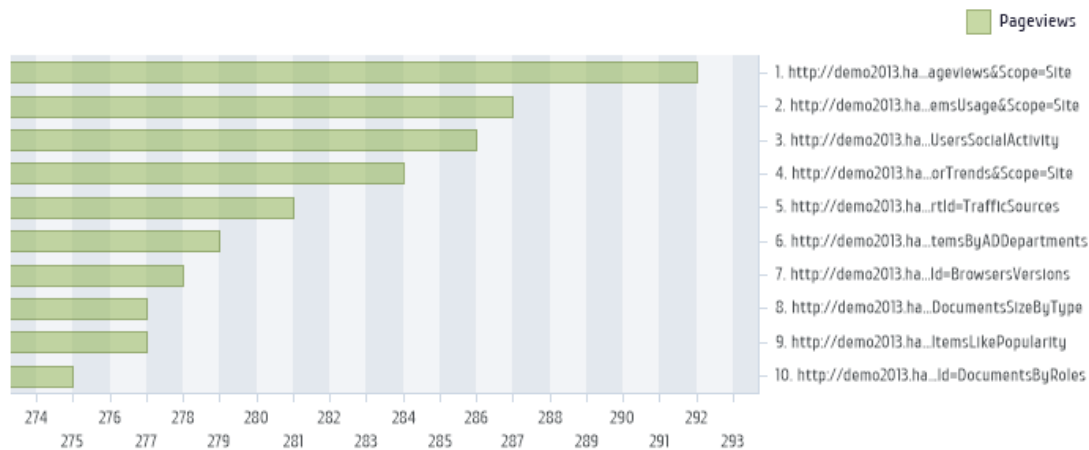
Newsfeed

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.

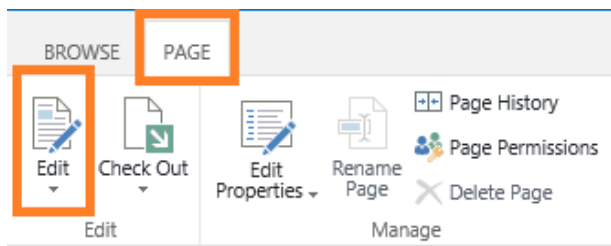
The detailed configuration of the **classic web-part** is described in the next paragraph [Configuring a web-part \(Classic experience\)](#).

The detailed configuration of the **modern web-part** is described in [Configuring a Modern web-part](#) paragraph.

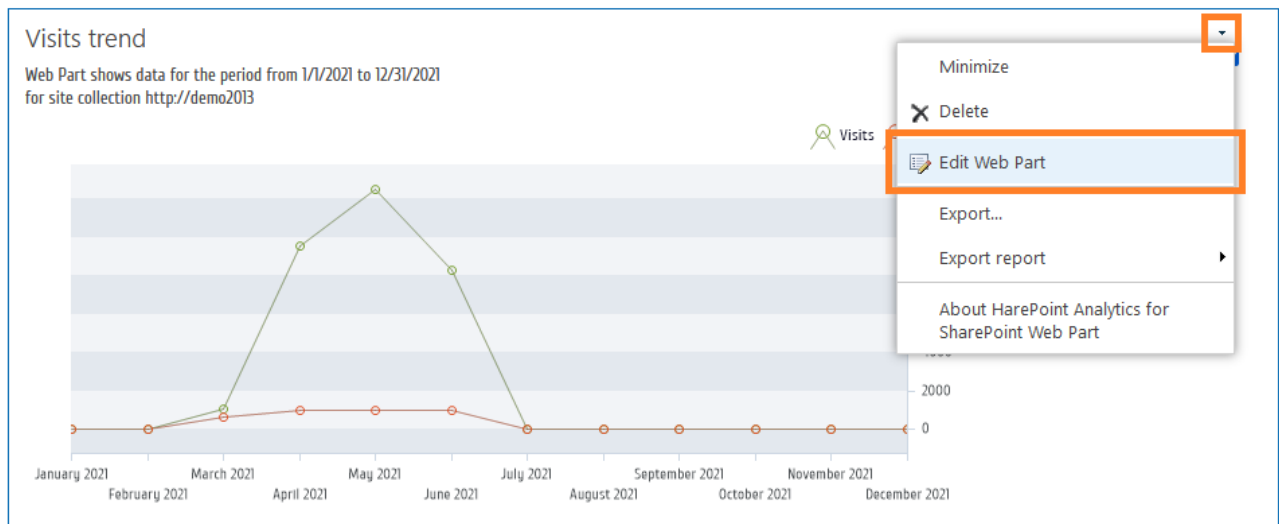
17.3. Configuring a web-part (Classic experience)

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

☒ 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

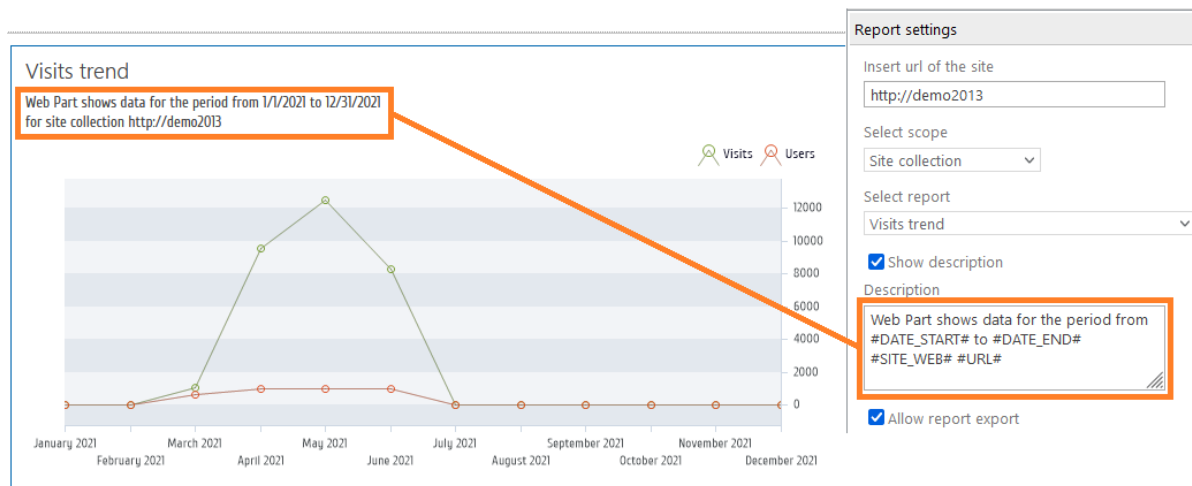
OK Cancel Apply

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
- **#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 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

100

Percentage

Show grid pager

Show summary bellow table

Rows on page in a table

25

Select columns to show in table

Chart settings

Table settings

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:

The figure displays four line charts showing 'Visits' (green line) and 'Users' (red line) over a 12-month period from January 2021 to December 2021. The y-axis represents the count, ranging from 0 to 12,000. The x-axis shows the months. The legend is positioned in different ways in each example:

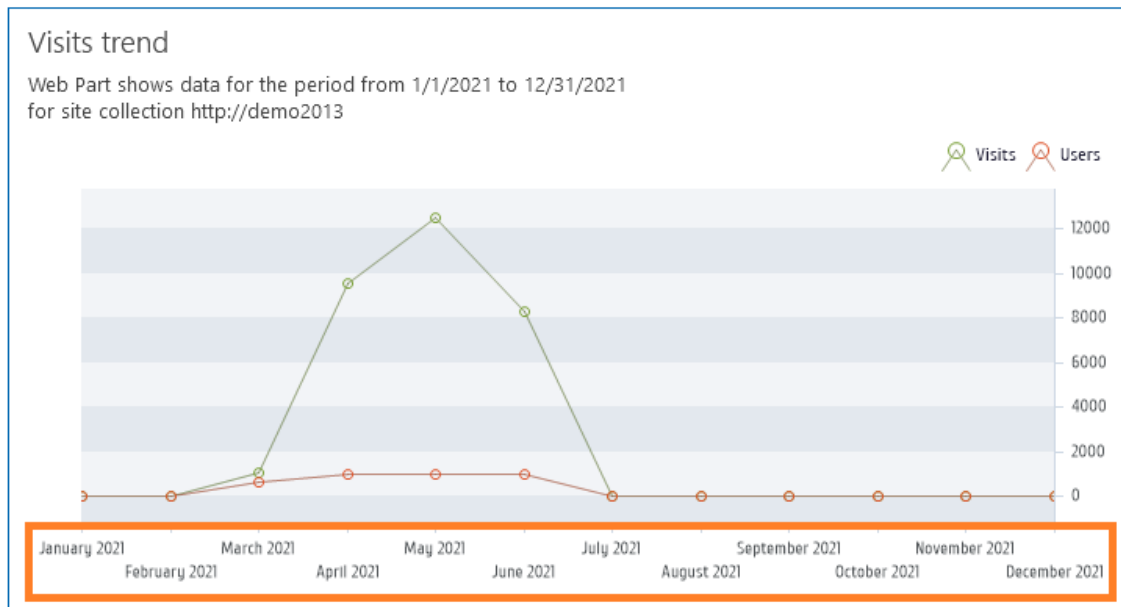
- Top Right:** The legend is located inside the chart area at the top right corner.
- Top Right Outside:** The legend is located outside the chart area at the top right corner.
- Bottom Right:** The legend is located inside the chart area at the bottom right corner.
- Bottom Left Outside:** The legend is located outside the chart area at the bottom left corner.

HarePoint.Com | Adding and configuring a web-part

164

- **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
Total: 8678	
Page 1 of 2 (31 items) <div> ◀ [1] 2 ▶ </div>	

- **Show summary below table**

Select to show or hide the summary line under the table.

6/13/2021	55	45	53
6/12/2021	83	69	61
6/11/2021	371	315	365
Total: 8678		Total: 7286	Total: 8436
Page 1 of 2 (31 items) <div> ◀ [1] 2 ▶ </div>			

- **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>

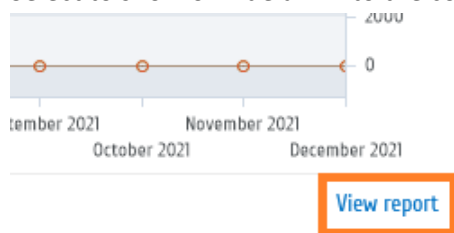
http://labsp13/_layouts/15/MAPILab/Statistics/Report.aspx?Scope=Site

http://labsp13/_layouts/15/MAPILab/Statistics/ExportRule.aspx?Scope=&IsDlg=1

http://labsp13/_layouts/15/MAPILab/Statistics/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.

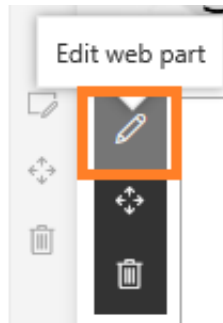


- **Keep filter settings for the link**
When this setting is checked, the link will contain the web-part filter settings, so when clicking the link, the corresponding report page will open and display the report in an **exact same way** as a web-part.
If this setting is not checked, clicking the link 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. [Table settings](#)
4. [Chart settings](#) (not available for reports that do not contain charts)

17.4.1. Main settings

HarePoint Analytics Report
✕

Main settings

Web url

http://labsp16

Report scope

Site collection ▼

Reports

Site summary ▼

Report description

#REPORT# report for #URL# for date period from #DATE_START# to #DATE_END#

☒ Show link 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

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 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. Filter settings

HarePoint Analytics Report

×

Filter settings

Report period

LastMonth

▼

☐ Compare to other time period

Compared time period offset

1

Monthes

▼

^ Common filters

Site

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

×

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

▼

Desc

▼

< 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
Total: 8678	

Page 1 of 2 (31 items) ◀ [1] 2 ▶

- **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 Report ×

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 ▼ Desc ▼

< Back
4 of 4
Next >

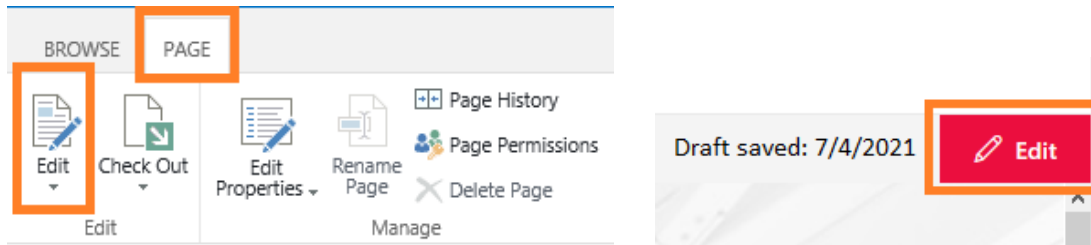
Page 4: Chart settings page allows you to configure how a chart in a report is displayed by a web-part. The contents of this page depends on which report is selected in **Reports** field, and is completely identical to chart settings for the given report (**Charts** button on the ribbon).

- **Show chart**
Select to show or hide a chart
- **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**.
- **Chart series** (where applicable)
Select the series to be displayed on the chart.

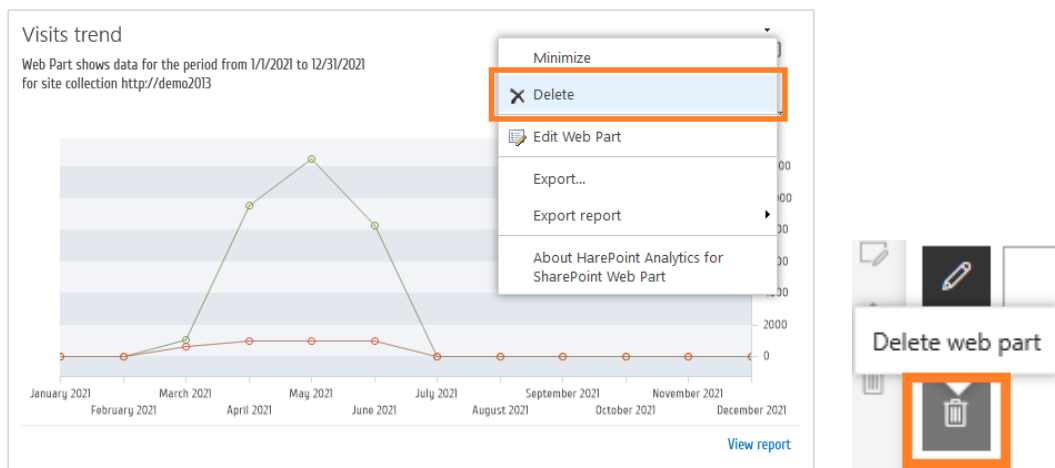
- **Sort series by** (where applicable)
Choose the series to sort by.

17.5. Removing a web-part

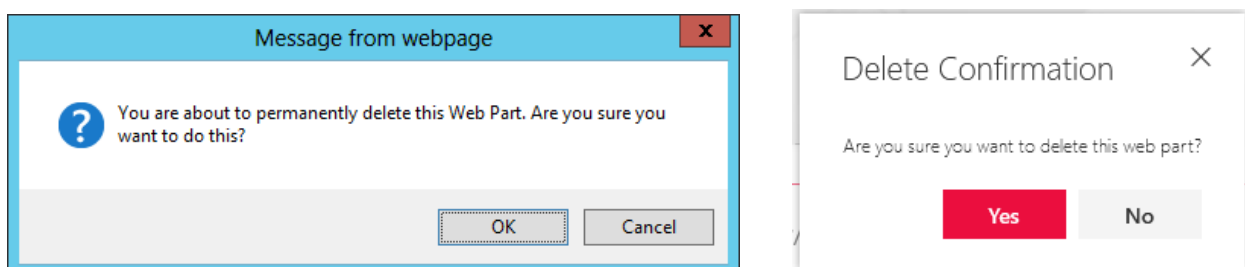
To remove a classic web-part, or a modern web-part, go to **Edit page** mode:



Open the web-part menu and click **Delete**:



Confirm the web-part deletion:



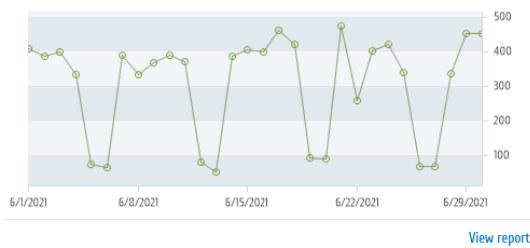
Save changes on this page.

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

Visits trend



Document libraries summary



Visits by countries



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.

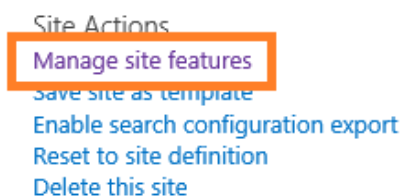
In order to be able to customize the Dashboard, activate the **site level** feature **HarePoint Analytics for SharePoint: Dashboard** on the corresponding sites.

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**



3. Scroll to **HarePoint Analytics for SharePoint: Dashboard** feature and activate it:

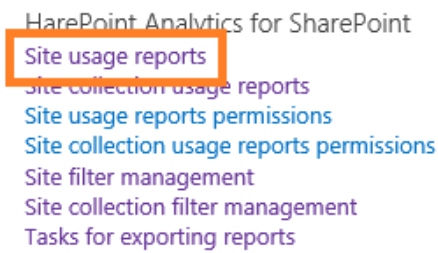


HarePoint Analytics for SharePoint: Dashboard

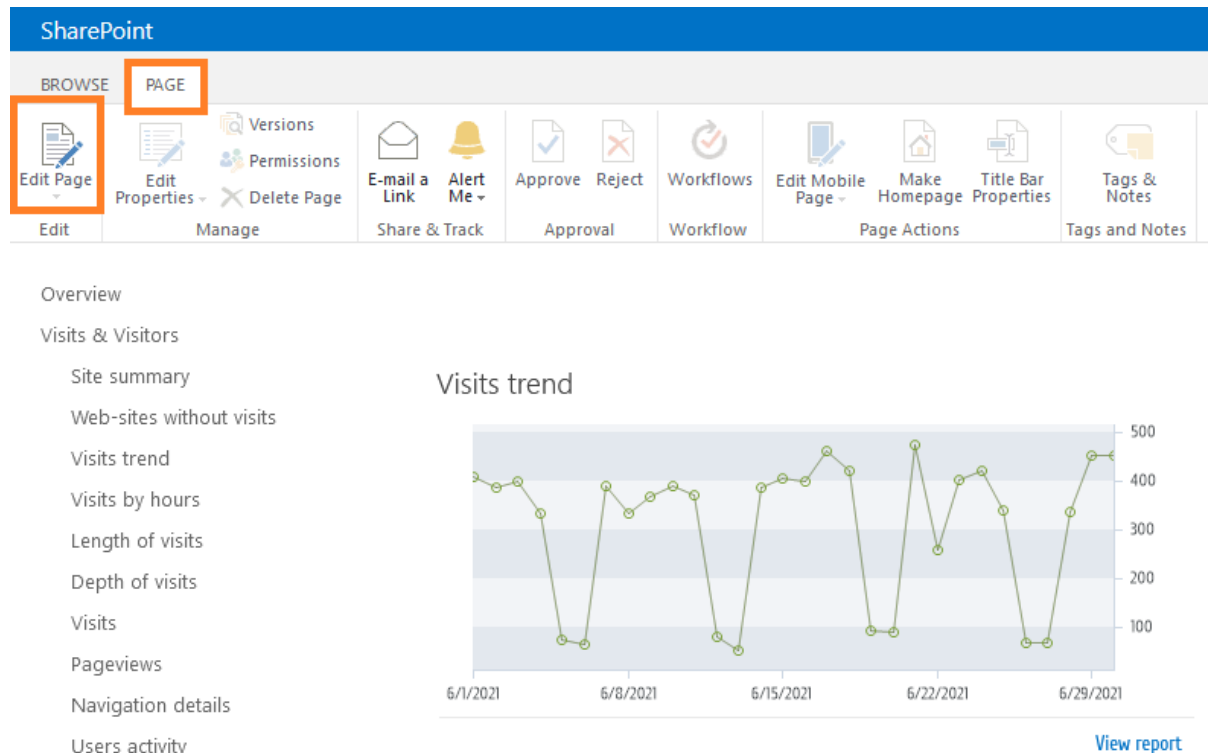
Allows to customize HarePoint Analytics for SharePoint Dashboard.

Activate

4. Get back to Site Settings and click **Site usage report** under **HarePoint Analytics** section:



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](#).

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**

Site Actions

Manage site features

Save site as template

Enable search configuration export

Reset to site definition

Delete this site

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 usage reports permissions

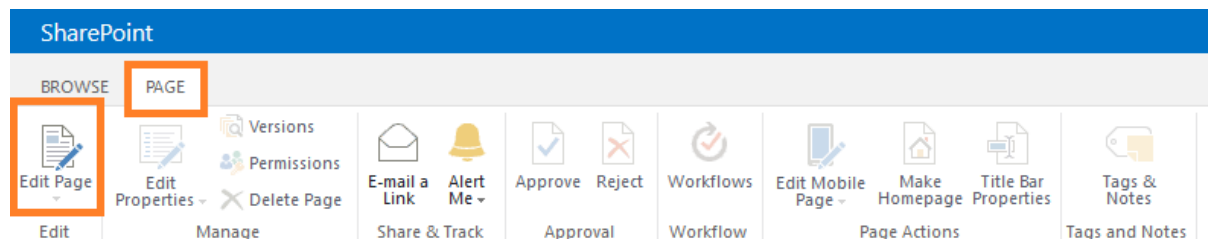
Site collection usage reports permissions

Site filter management

Site collection filter management

Tasks for exporting reports

5. Expand the **Page** tab on the ribbon and click **Edit Page** button:



Overview

Visits & Visitors

Site summary

Web-sites without visits

Visits trend

Visits by hours

Length of visits

Depth of visits

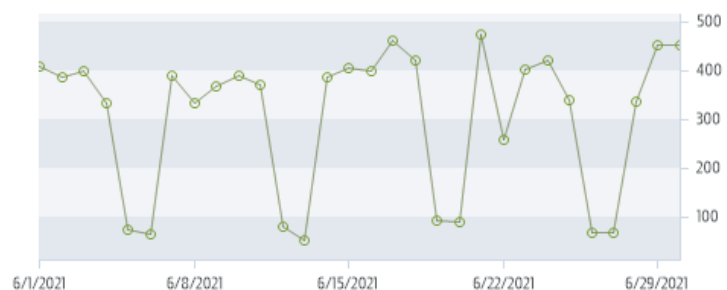
Visits

Pageviews

Navigation details

Users activity

Visits trend



[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](#).

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 [distributive package](#):

SharePoint SE/2019/2016 (Analytics 16.12 or later):

<path_to_distributive>\Analytics Tools

SharePoint 2013 (Analytics 15.17 or later):

<path_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
mlstaddfilter	–	Adds a rule for the data collection filter
mlstcompleteupgrade	complete-upgrade	Used for completing the manual solution upgrade of HarePoint Analytics
mlstcustomreports	–	Management for custom reports (that are provided upon individual inquiry)
mlstcopyappbincontent	copy-appbincontent	Performs the operation stsadm-o copyappbincontent on all 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
mlstresetfilter	–	Restores the data collection filter rules inheritance from the parent level
mlstrestartstimer	restart-sptimer	Restarts the SharePoint Timer Service on all servers in the current SharePoint farm
mlstsetpolicy	set-policy	Sets the value of the global HarePoint Analytics policy
mlstsetdatakeepdays	set-data-keep-days	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 [Data collection filters](#) 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>]
```

```

[-fieldid <RequestId | RequestUrlReferrer | RequestUserAgent |
RequestHostAddress | RequestHostName | RequestAuthType |
RequestIsAuthenticated | RequestAuthenticationName |
ItemEvent | ItemDisplayName | ItemName | ItemTitle |
ItemCreated | ListTitle | ListDescription | ListDefaultViewUrl |
ListBaseTemplate | ListBaseType | DocumentName |
DocumentCreated | DocumentTitle | DocumentUrl | DocumentLenght |
DocumentFolderName | UserAnonymous | 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>]

```

Parameters

Parameter	Value	Mandatory?	Description
scope	One of the values: <ul style="list-style-type: none"> • farm • webapp • site • web • list 	Yes	This parameter specifies the scope of the filter to be created: <ul style="list-style-type: none"> • 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, http://server_name	Yes	Depending on the value of parameter scope , url 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

			omitted
fieldid	A string identifier of the data field. See above, in the block of syntax description.	Yes	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
relop	A relation operator. See above, in the block of syntax description.	Yes	<p>The relation between the field value with identifier fieldid and the value of parameter expression.</p> <ul style="list-style-type: none"> • Greater Greater than expression. • GreaterOrEqual Greater or equal to expression. • Less Less than expression. • LessOrEqual Less or equal to expression. • Equal Equal to expression. Case sensitive! • NotEqual Not equal to expression. Case sensitive! • True For the Boolean data types. True. • False For the Boolean data types. False. • StartsWith The string starts with expression. • NotStartsWith The string doesn't start with expression. • EndsWith The string ends with expression. • NotEndsWith The string doesn't end with expression. • Contains The string contains expression. • NotContains The string doesn't contain expression. • Empty An empty string. • NotEmpty A nonempty string. • MatchRegex The string matches regular expression expression. • NotMatchRegex The string doesn't match regular expression expression.
Expression	Number, string, regular expression.	Yes	An expression for filtration.
Fromscratch	(None)	No	<p>If target scope inherits the rules, the inheritance will be automatically broken.</p> <p>This parameter prevents copying the parent level</p>

			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

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 [Manual upgrade](#) section.

Syntax

```
stsadm -o mlstcompleteupgrade
    [-restartsptimer]
    [-copyappbincontent]
```

Parameters

Parameter	Value	Mandatory?	Description
restartsptimer	<none>	No	Restart the SharePoint Timer Service on all servers in the current SharePoint farm after the upgrade is completed
copyappbincontent	<none>	No	Perform operation stsadm -o copyappbincontent on all 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 **mlstcustomreports** operation or HarePoint Analytics Utility (refer to [HarePoint Analytics Maintenance Guide](#) 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. Note: enclose the file path in “double quotes” to ensure proper processing of special symbols.	Yes	Adds the single 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 clear 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 [Data collection filters](#) 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://harepoint:4545

<Rules>
  <Rule>
    <Id>a3238416-a880-42d2-92a0-3045b4939c19</Id>
    <FieldId>RequestUrl</FieldId>
    <Relop>NotContains</Relop>
    <Expression>ViewTicketThread.aspx</Expression>
  </Rule>
  <Rule>
    <Id>ed0515ef-d3d0-4def-8d7b-67fd3c3c5e59</Id>
    <FieldId>RequestUserAgent</FieldId>
    <Relop>NotContains</Relop>
    <Expression>Googlebot</Expression>
  </Rule>
  <Rule>
    <Id>013d1dc8-57c9-4c5f-a9e3-7a3ac71c6936</Id>
    <FieldId>RequestUserAgent</FieldId>
    <Relop>NotContains</Relop>
    <Expression>AnzwersCrawl</Expression>
  </Rule>
  <Rule>
    <Id>5c685000-8dfc-46bf-bc7a-9c2cd5b08c48</Id>
    <FieldId>RequestUserAgent</FieldId>

```

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: <ul style="list-style-type: none"> • farm • webapp • site • web • list 	Yes	The parameter specifies the scope of the filter to be displayed. <ul style="list-style-type: none"> • 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, http://server_name	Yes	Depending on the value of parameter scope , url 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>	No	Use this parameter to display the inherited 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:

```
<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 />
  <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>User_Profile_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>
</Policies>
```

The displayed data contain a list of all policy names and their current values.

Syntax

stsadm -o mlstdisplaypolicies

Parameters

(none)

19.2.7. Operation mlstdisplaydatakeepdays

Displays the current data retention period settings.

Refer to [Checking the current settings for the retention period](#) 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 [Encrypt user data during the data collection](#) 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 [Preliminary Data Preparation](#) 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 [Data collection filters](#) 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: <ul style="list-style-type: none">farmwebappsite	Yes	The parameter specifies the scope of the filter to be exported. <ul style="list-style-type: none">farm The farm level

	<ul style="list-style-type: none"> • web • list 		<ul style="list-style-type: none"> • 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, http://server_name	Yes	Depending on the value of parameter scope , url 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 [Operation mlstexportfilters](#) operation.

To learn more about filtering data at the stage of data collection, refer to [Data collection filters](#) 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: <ul style="list-style-type: none"> • farm • webapp • site • web • list 	Yes	The parameter specifies the scope of the filter to be imported. <ul style="list-style-type: none"> • 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, http://server_name	Yes	Depending on the value of parameter scope , url 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 [Data collection filters](#) 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: <ul style="list-style-type: none"> • farm • webapp • site • web • list 	Yes	The parameter specifies the scope of the filter to be removed. <ul style="list-style-type: none"> • 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, http://server_name	Yes	Depending on the value of parameter scope , url 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-3045b4939c19	No	The identifier of the rule that should be deleted. The list of rule identifiers can be obtained with the help of Operation mlstdisplayfilter operation
all	<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 [Data collection filters](#) 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: <ul style="list-style-type: none">• farm• webapp• site• web• list	Yes	The parameter specifies the scope of the filter to be reset. <ul style="list-style-type: none">• 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, http://server_name	Yes	Depending on the value of parameter scope , url 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 [Using command line to manage policies](#) 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 [Setting new retention period](#) 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: <ul style="list-style-type: none">truefalse	Yes	<ul style="list-style-type: none">Set to true to use the default site themeSet to false to use the current site theme

19.3. HarePointAnalyticsUtil.exe operations description

19.3.1. Operation complete-upgrade

Used for completing the manual solution upgrade of HarePoint Analytics
Refer to [Manual upgrade](#) 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:

```
PS C:\Users\AdminSP2016\Downloads\HPA 16.12\AnalyticsTools> .\HarePointAnalyticsUtil.exe get-policies
HarePoint Analytic's policies:
reportSecurityDataTypeCollection - maskusername = false; maskip = false; maskaddepartment = false; maskadgroup = false; m
lse; maskdoclibname = false; maskdocliblocation = false; maskdocname = false; maskdoclocation = false; masklistname = fa
false; maskworkflowinfo = false; maskaddsfields = false; maskupdsfields = false; maskdocdsfields = false; masklistitemds
disabledReports -
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
Done.
```

The displayed data contain a list of all policy names and their current values.

Syntax

HarePointAnalyticsUtil.exe get-policies

Parameters

(none)

19.3.4. Operation get-data-keep-days

Displays the current data retention period settings.

Refer to [Checking the current settings for the retention period](#) 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 [Encrypt user data during the data collection](#) 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 [Preliminary Data Preparation](#) 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 [Using command line to manage policies](#) 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 [Setting new retention period](#) 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: <ul style="list-style-type: none">• true• false	Yes	<ul style="list-style-type: none">• Set to true to use the default site theme• Set to false to use the current site theme

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)
- [using HarePoint Analytics Utility](#) – **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 [distributive package](#):

SharePoint SE/2019/2016 (Analytics 16.12 or later):

<path_to_distributive>\Analytics Tools

SharePoint 2013 (Analytics 15.17 or later):

<path_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

or

HarePointAnalyticsUtil.exe get-policies

It will output data in plain text format:

```
PS C:\Users\AdminSP2016\Downloads\HPA_16.12\AnalyticsTools> .\HarePointAnalyticsUtil.exe get-policies
HarePoint Analytics policies:
reportSecurityDataTypeCollection - maskusername = false; maskip = false; maskaddepartment = false; maskadgroup = false; m
lse; maskdoclibname = false; maskdocliblocation = false; maskdocname = false; maskdoclocation = false; masklistname = fa
false; maskworkflowinfo = false; maskadddfields = false; maskupdsfields = false; maskdocdsfields = false; masklistitemds
disabledReports -
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
collectContentObsForSites - 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
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 [from web interface](#).

Several policies have values that are 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 [web interface](#).

Policy Name	Parameter default value	Description
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 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 form.
Maskdoclocation (read only)	false	Display location of documents in the encrypted form.
Masklistname (read only)	false	Display names of the SharePoint lists in the encrypted form.
Masklistlocation (read only)	false	Display location of the SharePoint lists in the 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 Removing reports from the list for more information.

disableReport <report name> (set only)		Hide the report from the reports list.
enableReport <report name> (set only)		Show the report in the reports list.
showAnalyzeTab	false	Show “Analyze” tab on the ribbon expanded by default (if false , “Browse” tab is expanded).)
securitycacheexpiration	60 (recommended)	The time (in minutes), for how long the user permissions are cached.
timeExpiration	720 (recommended)	The storage time (in minutes) of the data in the cache that is used during the queue database processing.
cacheLimit	1000000 (recommended)	The size of the cache that is used during the 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 Denied” page by users.
allowModifyReportTemplates	true	Allow users to create and modify their own report templates.
useDataCollectionFiltersOnHTTP	True (recommended)	Enable data collection filter rules that work at HTTP Module level. Note: this applies only to the following fields: <i>RequestUrl, RequestUrlReferrer, RequestUserAgent, RequestHostAddress, RequestHostName, RequestAuthType, RequestIsAuthenticated, RequestAuthenticationName, UserAnonymous, DoNotCollect</i> .
useDataCollectionFiltersOnQueueProcessing	True (recommended)	Enable data collection filter rules that work at Queue Database processing level. Note: this applies to the fields that are not mentioned above
allowForAuthorized	false	Allows all authorized users to access all reports by default
allowForAnonymous	false	Allows all anonymous users to access all reports 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)		Add this web applications to list of disabled web applications and site collections
enablewebapp <URL> (set only)		Remove this web application from list of disabled web applications and site collections
disablesitecollection <URL> (set only)		Add this site collection to list of disabled web applications and site collections
enablesitecollection <URL> (set only)		Remove this web application from list of disabled web applications and site collections
prepareDataByDay	false	(not in use in later versions)
collectContentDbsForSites	false (recommended)	Collect information about site collections content databases
exportLinksAsText	true	Should the links in exported reports contain links as text (true), or as links to reports (false)

enableSocialReport	true	Enables or disables data collection for Social category of reports
collectWebSizeSql	true (recommended)	If set to true , calculate the size of web-sites by querying the content database; otherwise this information will be requested from SharePoint Object Model.
collectWebSize	true (recommended)	Calculate the size of web-sites (if false , this calculation is disabled entirely)
exportUseWebAppAsRoot	true	Display all site collections in the current web application when creating a subscription to a report (if false , 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 https://msdn.microsoft.com/en-us/library/8kb3ddd4(v=vs.110).aspx
useSecuredExportTree	false	When set to true , 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 (recommended)	When set to false , HarePoint Analytics will skip processing pages with 404 HTTP code.
collectContentTypes	true (recommended)	When set to false , HarePoint Analytics will not collect data on content types
collectFileAuthorFromListItem	false (recommended)	Used only for specific farm configuration when file properties and list item properties differ
siteFeatureOnlyForFarmAdmin	false	When set to true , the site collection level feature of HarePoint Analytics will only be visible to farm administrators
embedFontsInPdf	true (recommended)	PDF report generation tweak
useOldStylePdf	false	PDF report generation tweak. When set to true , uses the PDF converter from older versions of HarePoint Analytics
useSubscriptionForExportTree	false (recommended)	For multi-tenant environments only. When set to true , limits the export targets tree view to current tenant.
hidePositiveFilters	true (recommended)	Hide positive relationship types (<i>Contains, Equals, MatchRegex</i> , 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 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 true , disables displaying data in custom fields. Useful when viewing cross-farm reports, since not all farms may have same set of custom fields added.
encryptAdditionalUserInfo	false	Extends the encryptuserinfo policy by additionally encrypting 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.


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](#) | [Farm Reports](#) |
[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 [Removing reports from the list](#) 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

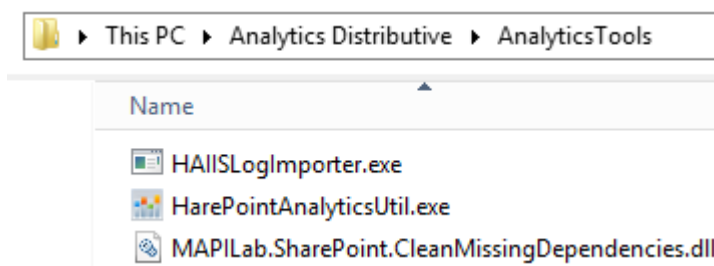
A special Utility is shipped with HarePoint Analytics that is designed to simplify product maintenance and troubleshooting. It can be found in distributive package:

for SharePoint SE/2019/2016

<path_to_distributive>\Analytics Tools

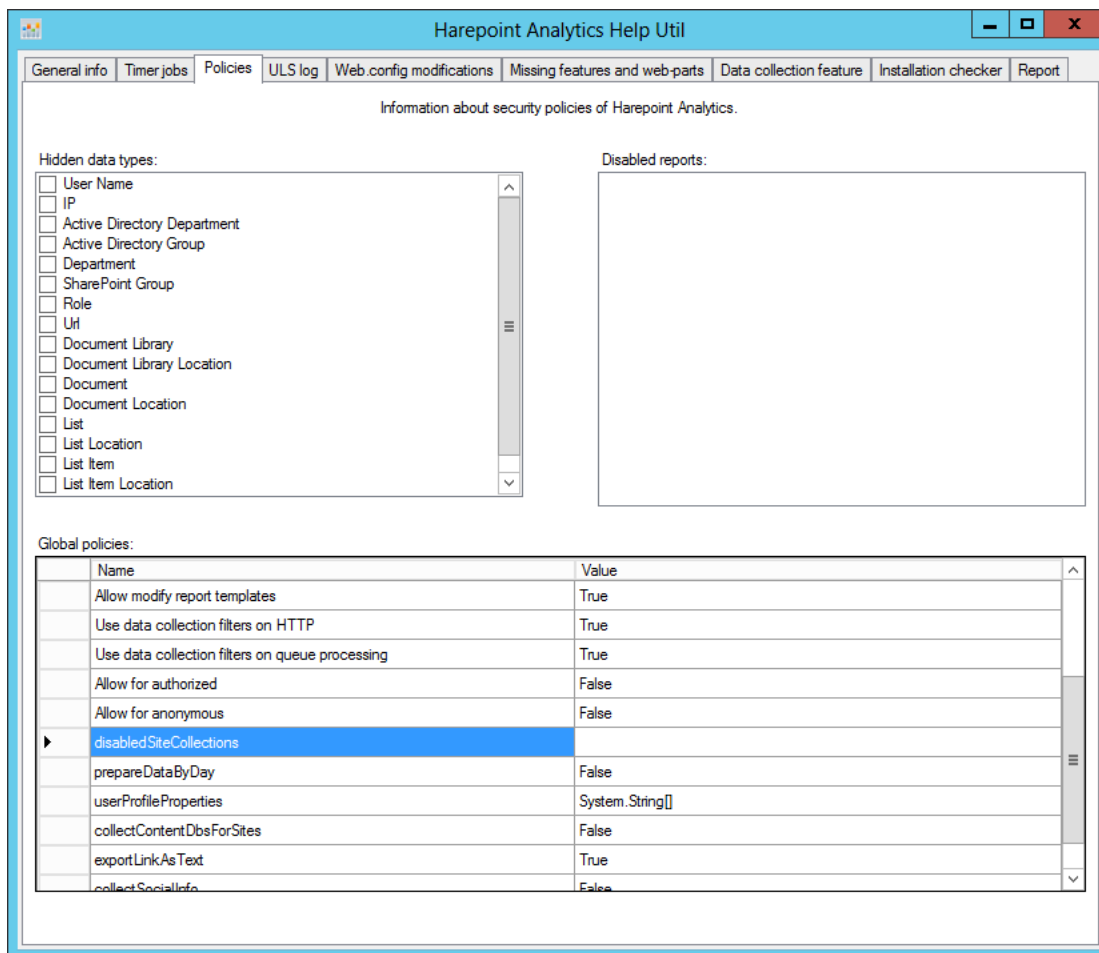
for SharePoint 2013

<path_to_distributive>\Analytics Tools2013



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

Go to **Policies** tab. Policies **can only be viewed** from the Utility.



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 [Switching to Simple recovery model](#) 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.

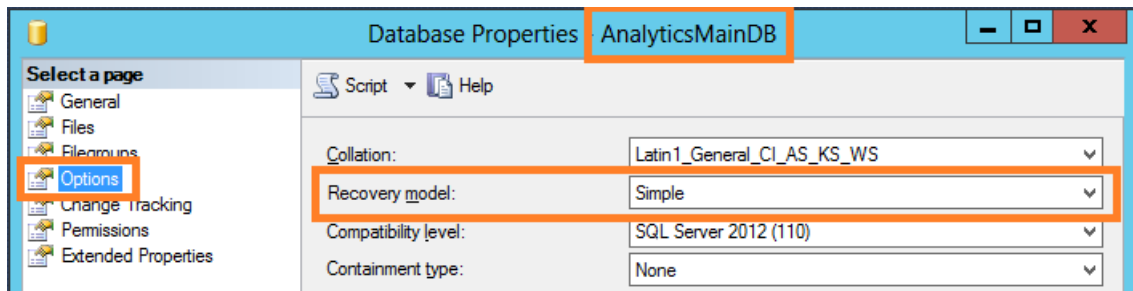
21.1. Shrinking the transaction log

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

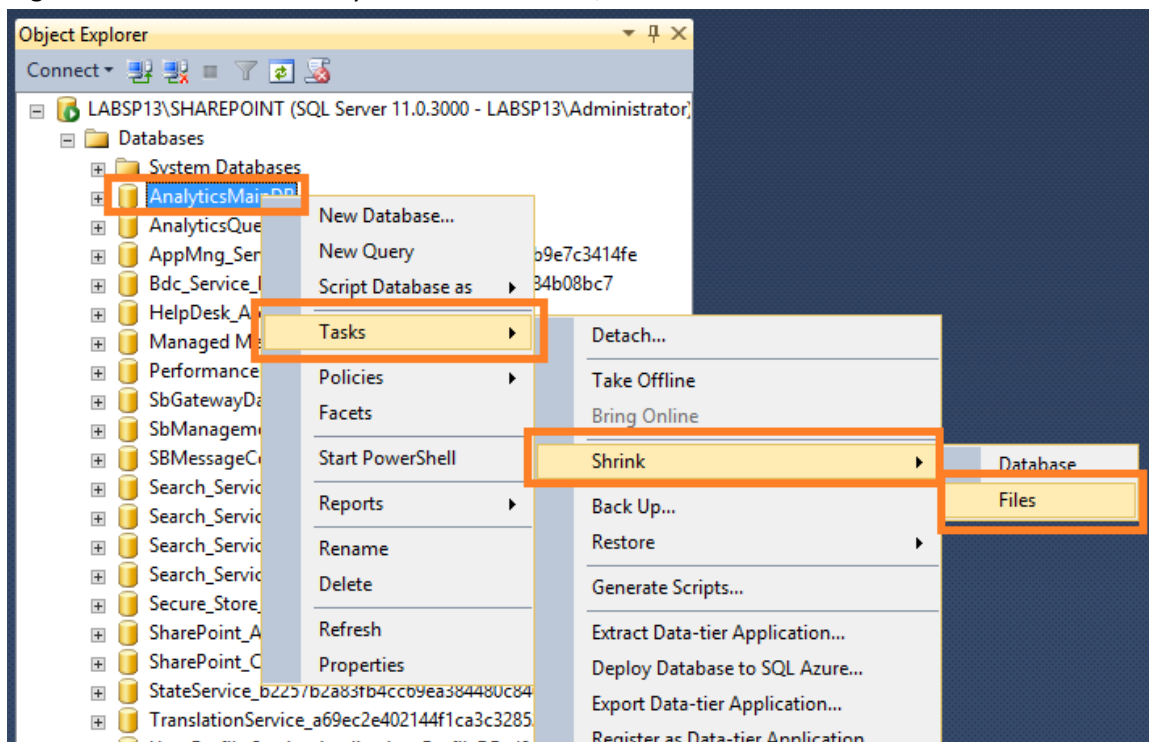
log. This is performed by temporarily switching to Simple model, running a Shrink task and then switching back to Full model.

Follow the steps below:

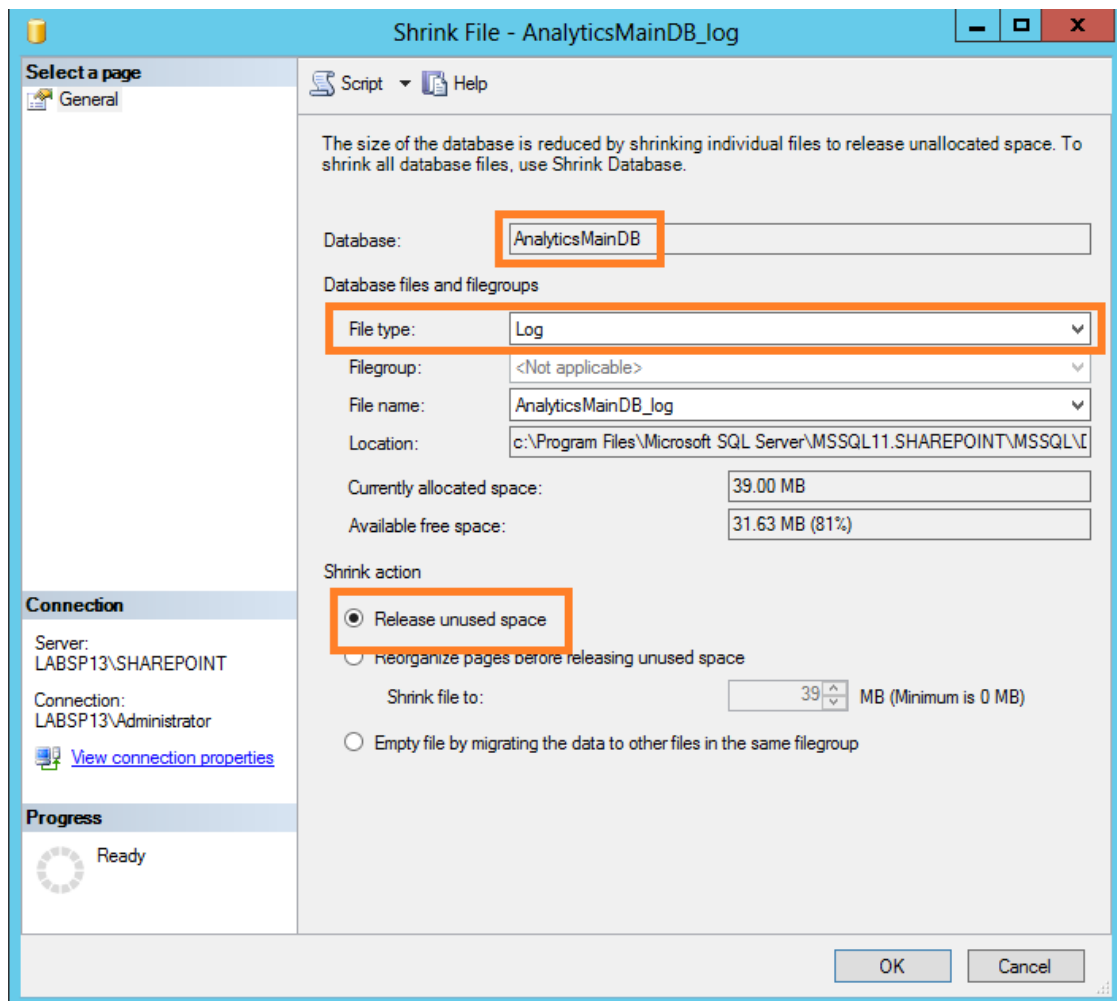
1. Open **SQL Management Studio**
2. Right click on HarePoint Analytics **Main Database**, go to **Properties – Options**.
3. In **Recovery model** select **Simple**.



4. Click **OK**.
5. Right click on HarePoint Analytics **Main Database**, then **Tasks – Shrink – Files**:



6. In the new window, in the File type field select **Log**.
Make sure **Shrink action** is set to **Release unused space**:



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 [How it works](#) 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:

```
<a href="#" 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>
```

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:

```
<script type="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 support@harepoint.com, or create a ticket at <http://harepoint.com/Support/>:

1. **describe** the situation
2. attach relevant **screenshots**
3. attach the **report** generated by **HarePoint Analytics Utility – Report** tab:

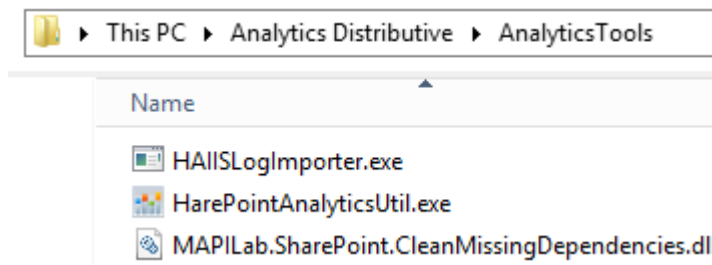
The **HarePoint Analytics Utility** can be found in distributive package:

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.

