HarePoint Analytics

For SharePoint

Administrator Guide



HarePoint Analytics for SharePoint 2016, product version: 16.0
HarePoint Analytics for SharePoint 2013, product version: 15.5

07/25/2016

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1. Introduction

HarePoint Analytics for SharePoint is a solution for getting web analytics reports in SharePoint 2016 and SharePoint 2013. 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.

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.

2. 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

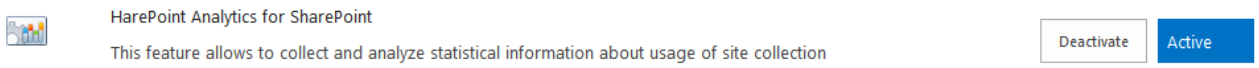
HarePoint Analytics for SharePoint is deployed to all servers in the SharePoint Farm. This product is a **Farm solution** and it adds several **Timer Jobs** and a **Site Collection Feature** during the deployment.
The **Settings page** for HarePoint Analytics is located at **SharePoint Central Administration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



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.

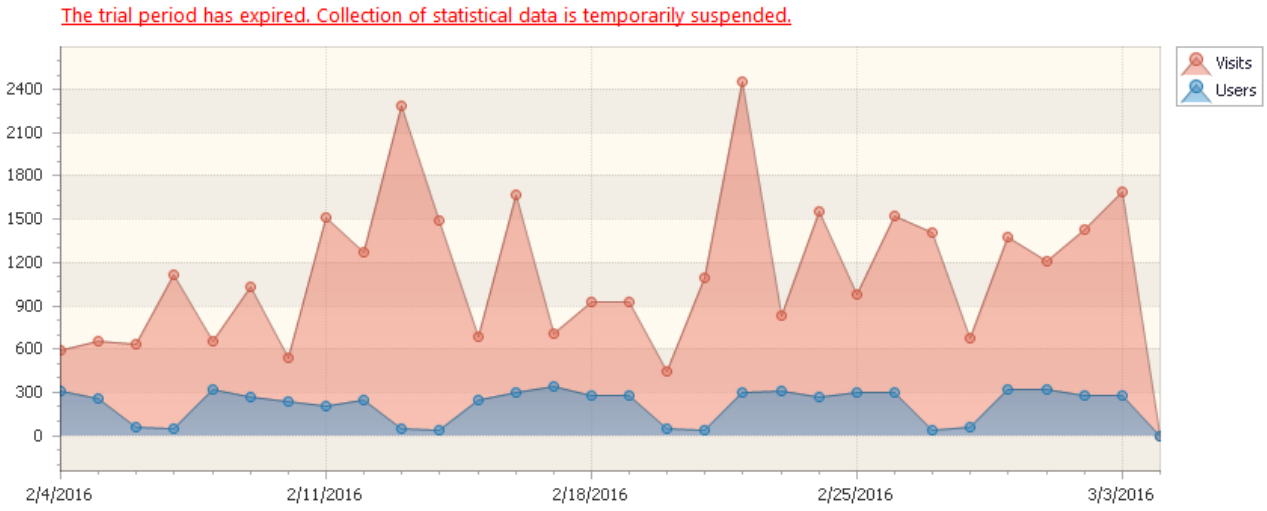
3.1.1. Trial period expired

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**:**



As well as at the top of each report:



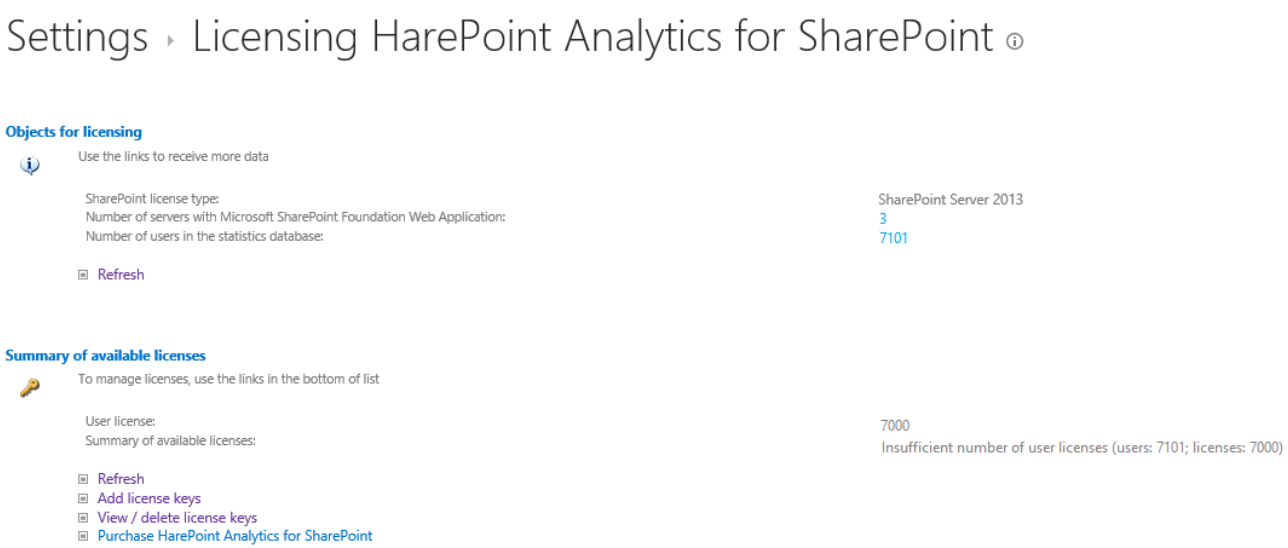
You have two options:

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

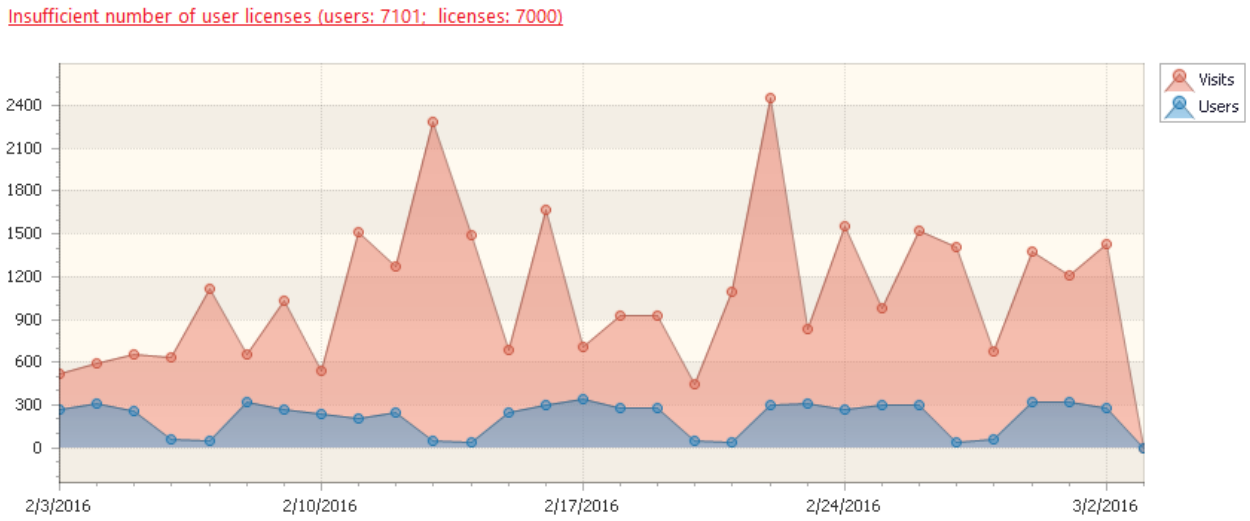
Make sure you resolve this situation as quickly as possible if you intend to continue using or trialing HarePoint Analytics and don't needs gaps in reports.

3.1.2. Number of users is exceeded

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



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 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 anonymous users and 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 the command-line utility Stsadm.exe

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 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** 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**
2. This distributive is for the correct version of SharePoint: SharePoint 2013/2016 (note there are three products available on HarePoint.com: HarePoint Analytics for SharePoint 2007, 2010, and 2013/2016).
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. A command-line tool for the SharePoint administration (**Stsadm.exe)** is accessible. You must be an administrator on the local computer to use Stsadm. It is located at the following path on the drive where SharePoint Products and Technologies are installed:

   SharePoint 2016
   %COMMONPROGRAMFILES%\Microsoft Shared\Web Server Extensions\16\BIN
   or
   C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\16\BIN

   SharePoint 2013
   %COMMONPROGRAMFILES%\Microsoft Shared\Web Server Extensions\15\BIN
   or
   C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\15\BIN

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 tools –** folder containing auxiliary tools; not used for installation.

- **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.
- **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

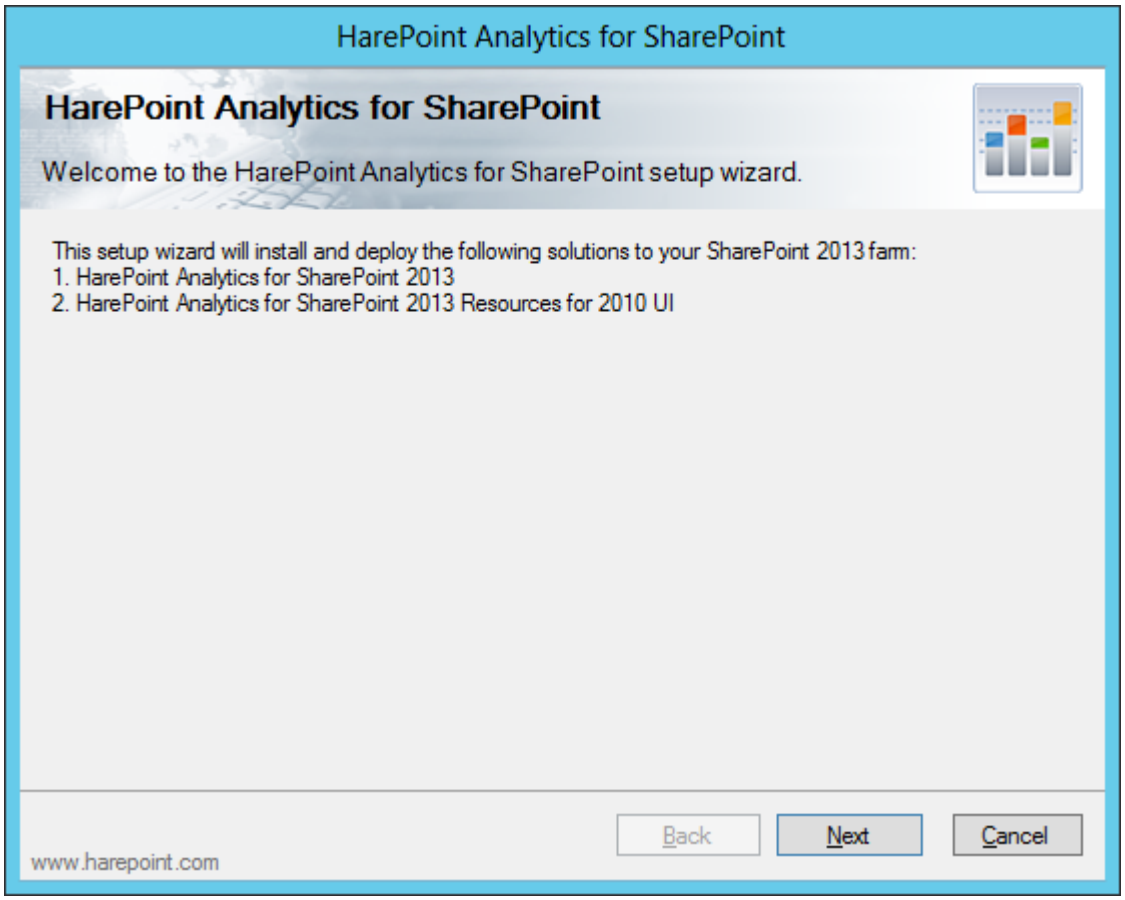
HarePoint Analytics for SharePoint can be deployed either in **automatic (recommended)** or in **manual** mode.

6.3. Automatic installation and deployment using Setup.exe

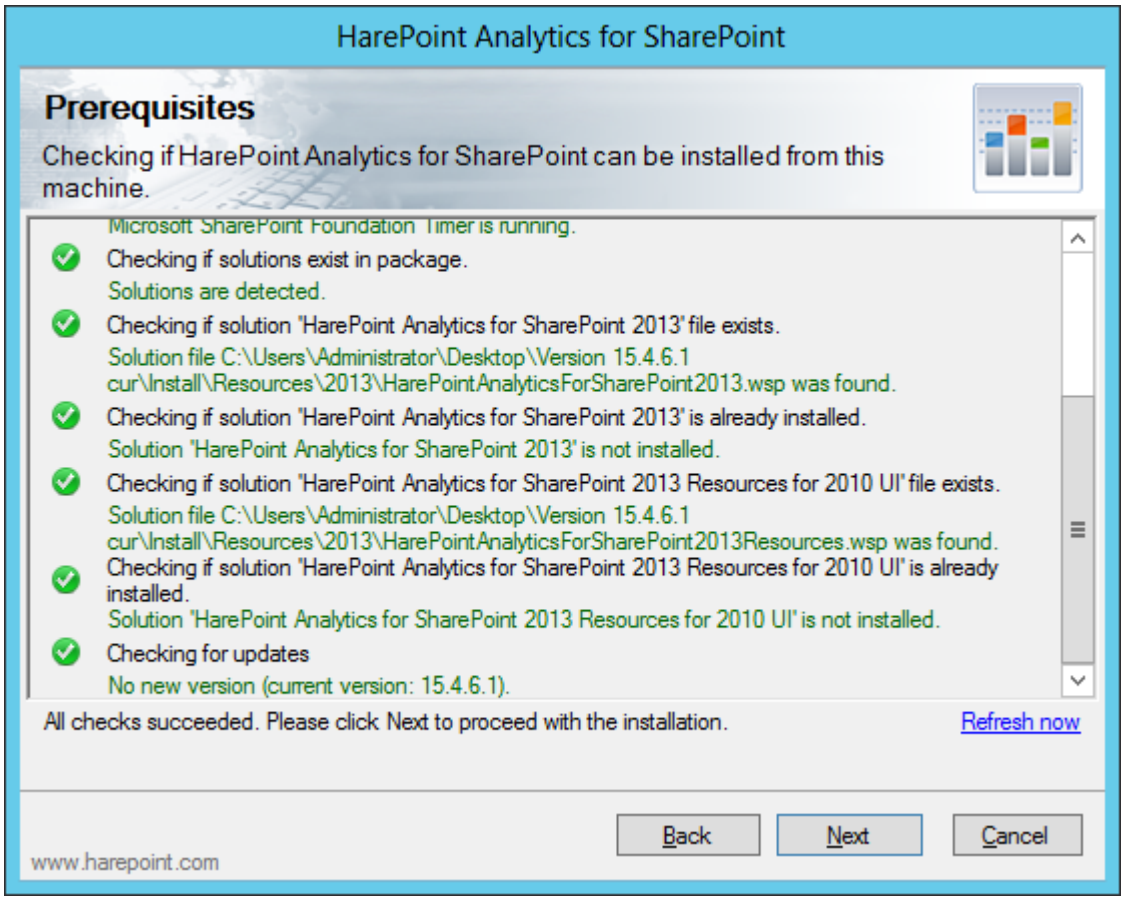
The automatic installation and deployment is performed by a special tool (Installer).

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

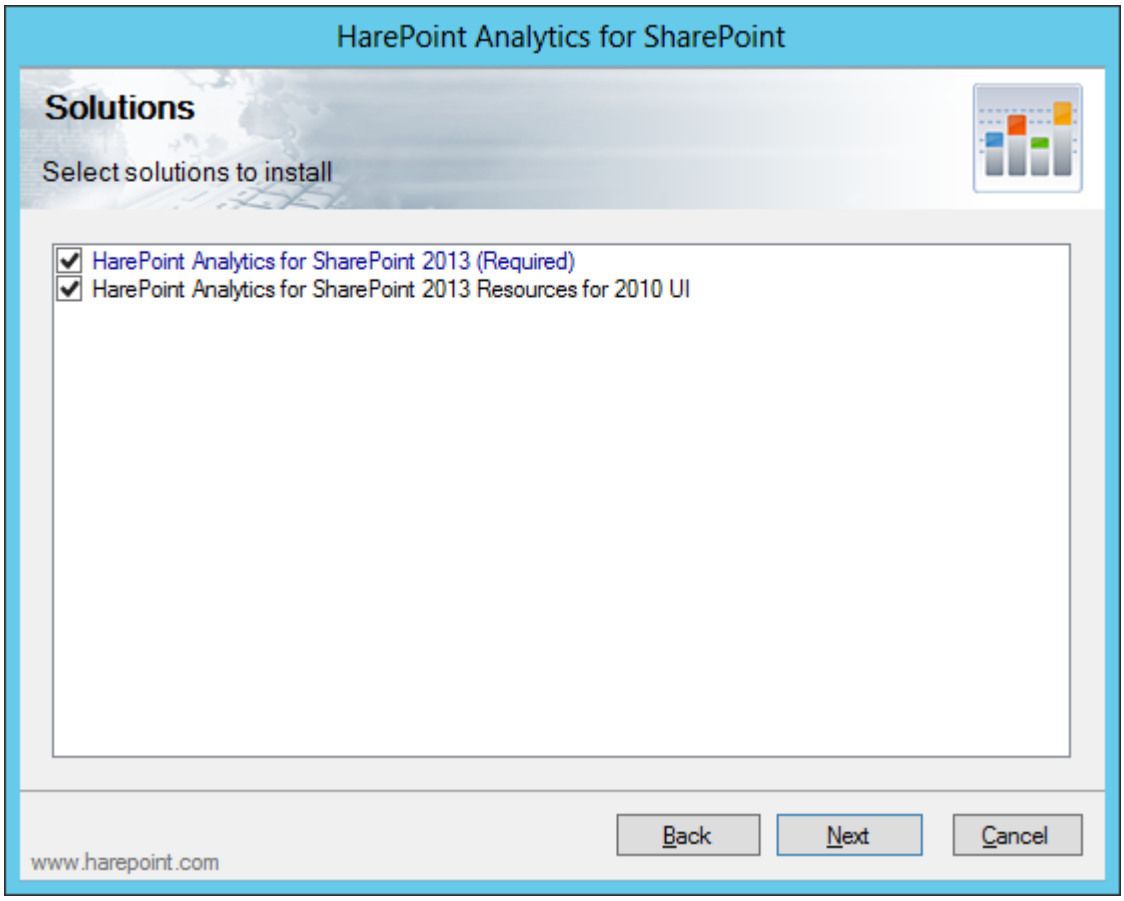


If you see a red mark in the list – you should fix the problem before continuing the installation.

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

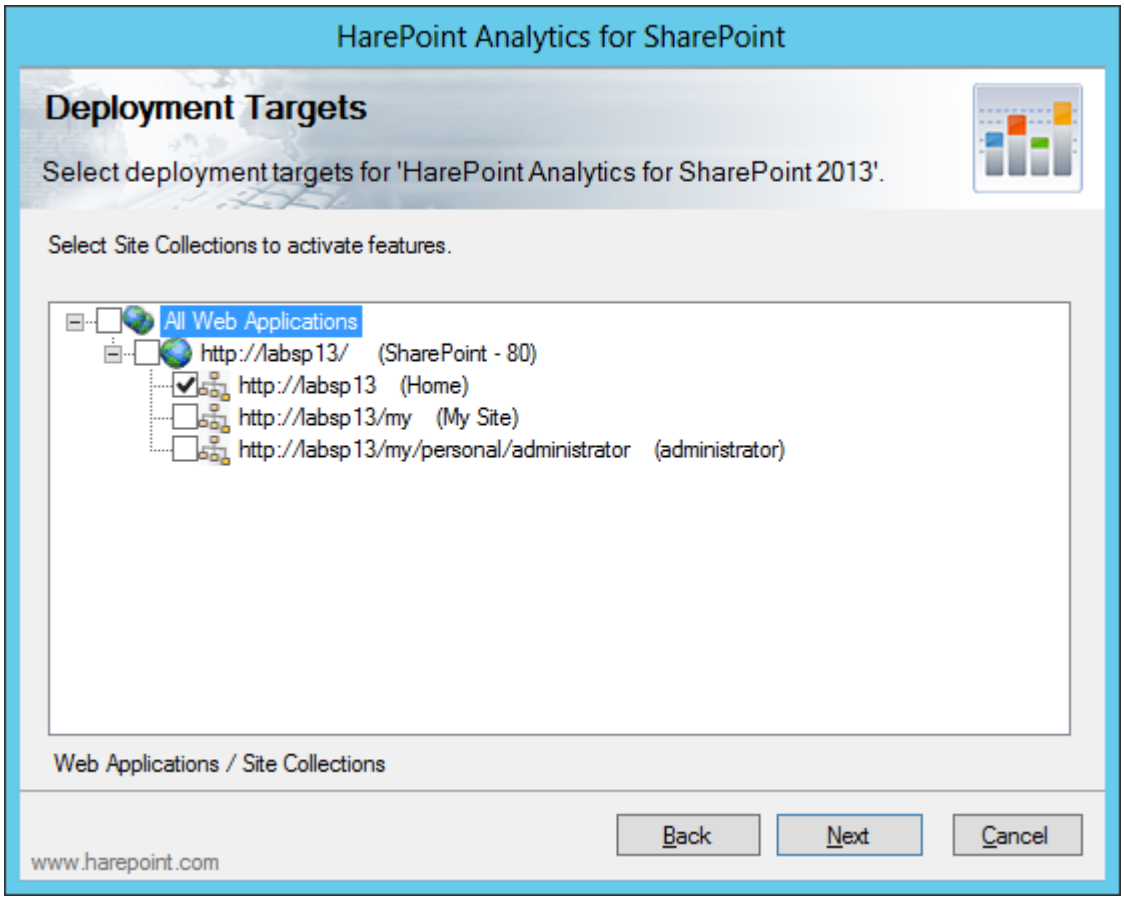


At the next step, optionally select to install resources for **2010UI sites**. If you do not have such sites, leave the second checkbox unchecked:



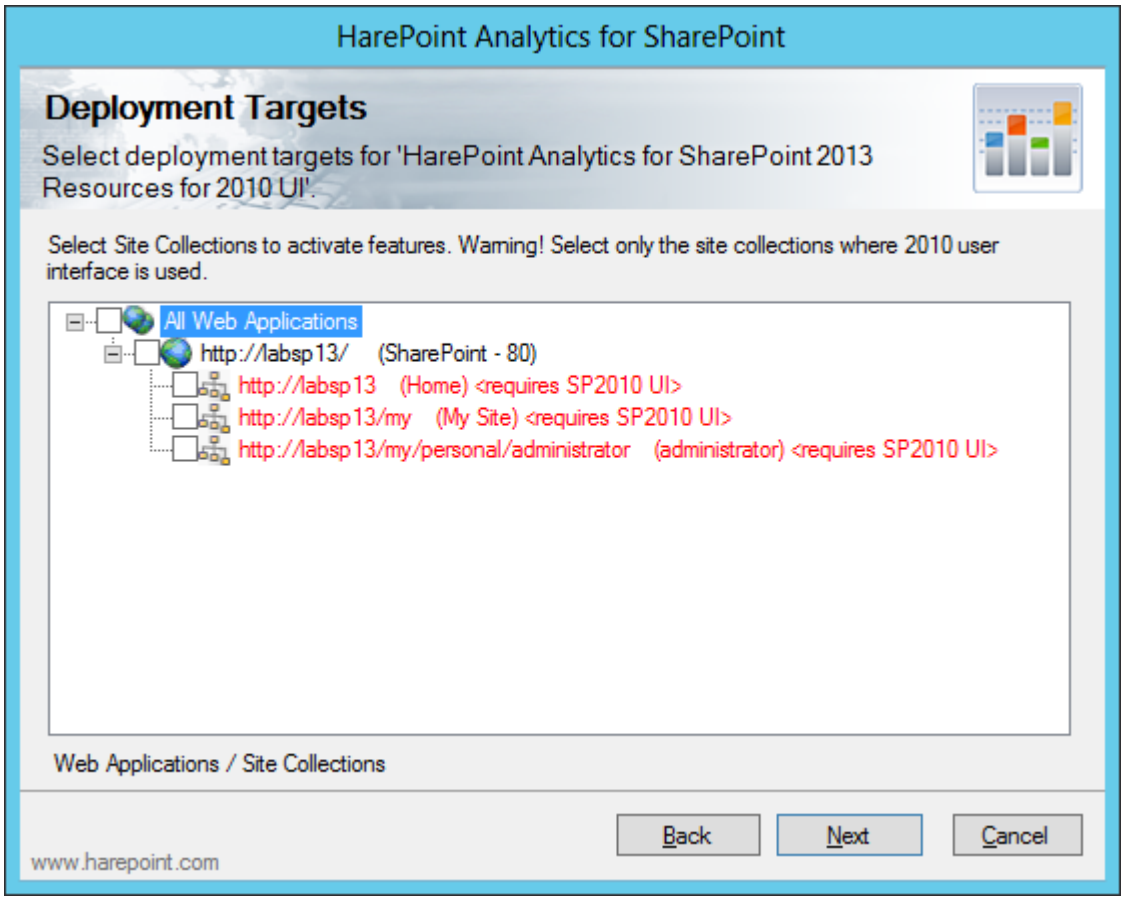
At the next step, you should select Site Collections where data collection feature need to be activated automatically after the installation is completed (feature can be activated or deactivated at any time later, if necessary).

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

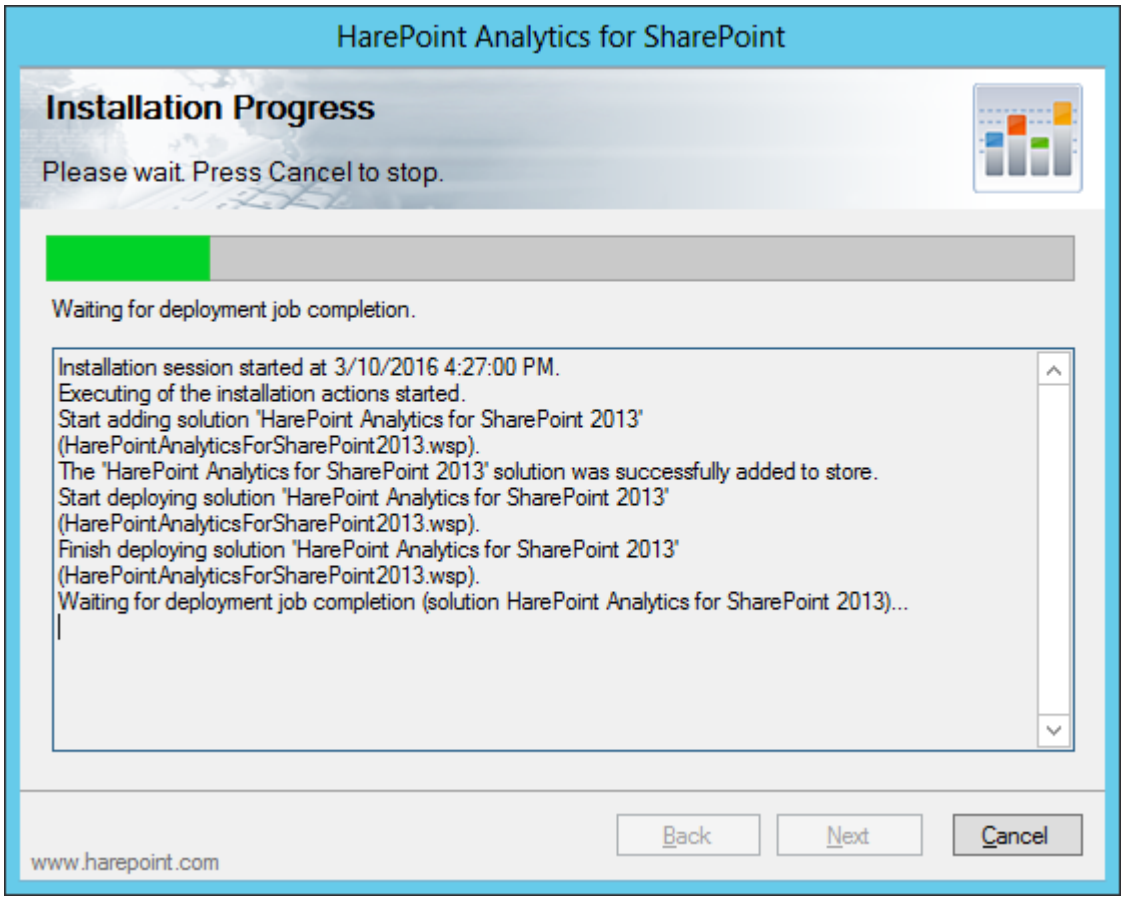


If you have previously selected to install resources for 2010UI sites, **at the next step** you would also need to select the 2010UI site collections where data collection feature need to be activated automatically after installation is complete (feature can be activated or deactivated at any time later):

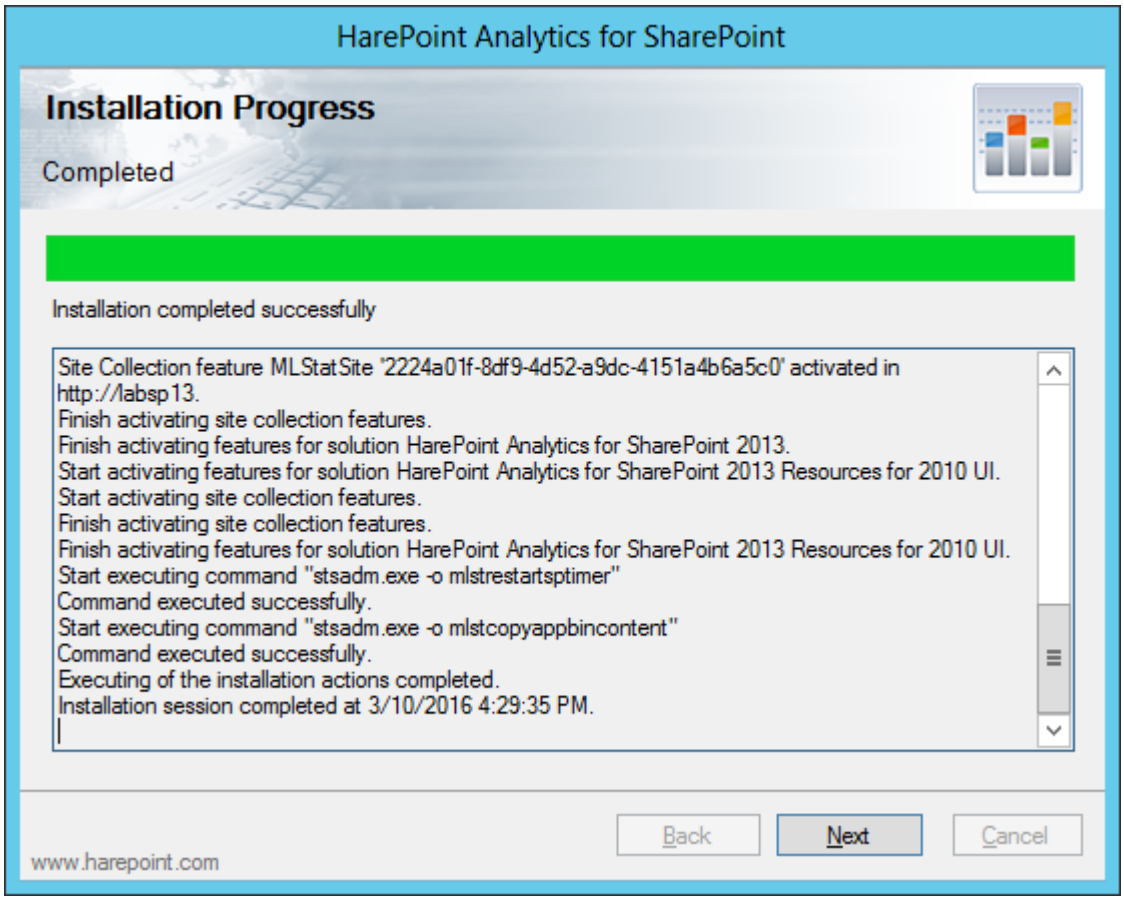
(**Note:** in the example on the screenshot none of the site collections have 2010UI sites, so that option is not available in that environment)



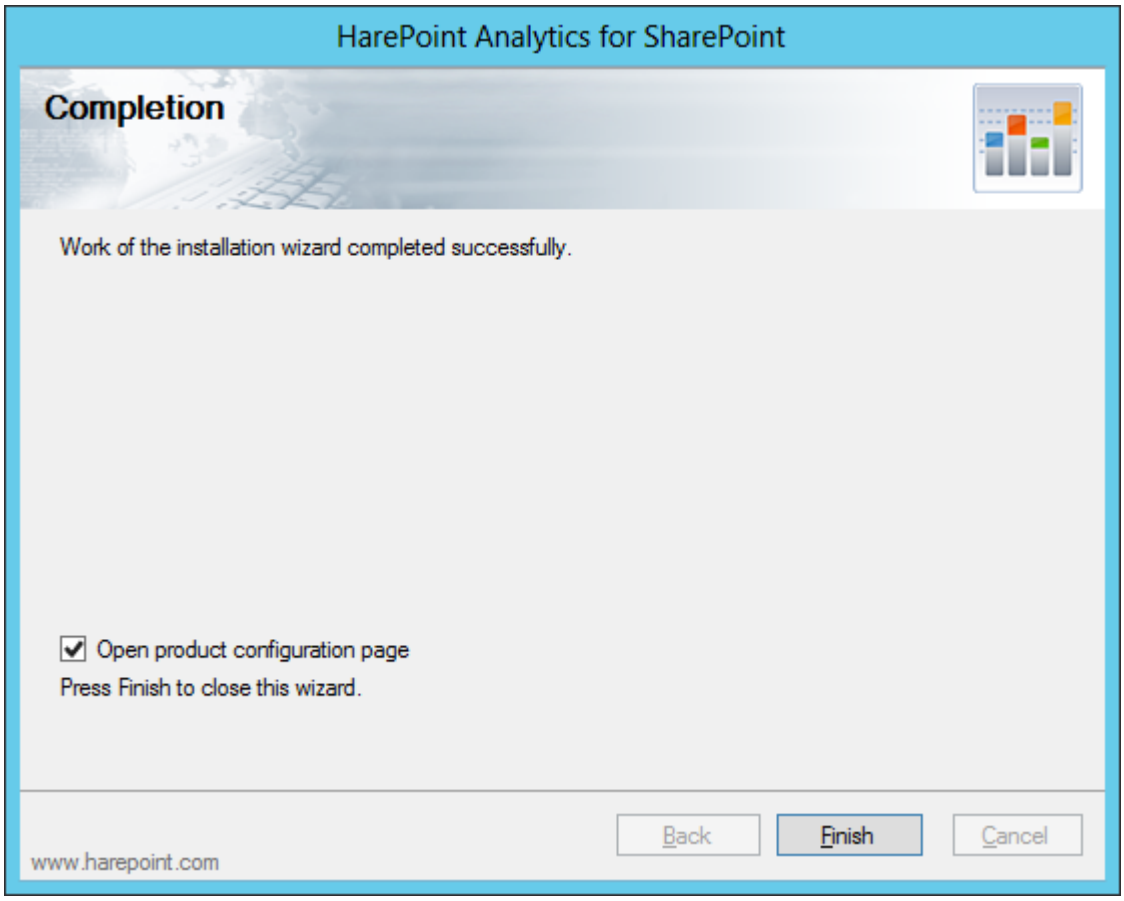
When you click "**Next**", the product deployment will be started and you will see the window with the status bar and deployment log:



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**.

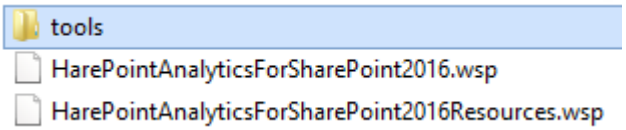
6.4. Manual installation and deployment

HarePoint Analytics for SharePoint 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.
The software distributive contains a folder named "**Install\Resources\2016"** with all the necessary files to deploy the product manually:

Tools – a folder that contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
MAPILabSharePointStatistics2016.wsp and **HarePointAnalyticsForSharePoint2016Resources.wsp** – the solution files that should be added to the repository of solutions in SharePoint.



Run **Command Prompt** (executable name **cmd.exe**) as **Administrator** and navigate to **Install\Resources\2016** folder.
Run the following commands:

1. **stsadm -o addsolution -filename MAPILabSharePointStatistics2016.wsp**
   to add a solution file to the solution store.
2. **stsadm -o deploysolution -name MAPILabSharePointStatistics2016.wsp –allowgacdeployment –immediate**
   to deploy the solution package to the SharePoint farm. The deployment will be started immediately.
3. After execution of **deploysolution** it is necessary to wait until the solution is deployed on all servers in the SharePoint Farm. To learn more about current status of the solution, run the following command:
   stsadm -o displaysolution -name MAPILabSharePointStatistics2016.wsp
   If the deployment of this solution is completed, you should be able to read "**DeploymentSucceeded**" under the **<LastOperationResult>** section as well as the value "**TRUE**" must be displayed under the <**Deployed**> section.
   If both values are correct, you can continue the installation of HarePoint Analytics, if not – wait for a while and check the status again by running **displaysolution** command.

Now the same for the second WSP package:

4. **stsadm -o addsolution -filename MAPILabSharePointStatistics2016Resources.wsp**
   to add a solution file to the solution store.
5. **stsadm -o deploysolution -name MAPILabSharePointStatistics2016Resources.wsp –allowgacdeployment – immediate**
   to deploy the solution package to the SharePoint farm. The deployment will be started immediately.
6. After execution of **deploysolution** it is necessary to wait until the solution is deployed on all servers in the SharePoint Farm. To learn more about current status of the solution, run the following command:
   stsadm -o displaysolution -name MAPILabSharePointStatistics2016Resources.wsp
   If the upgrade of the solution is completed, it will display "**DeploymentSucceeded**" under the **<LastOperationResult>** section, as well as "**TRUE**" under the <**Deployed**> section.

   If both values are correct, you can continue the installation of HarePoint Analytics, if not – wait for a while and check the status again by running **displaysolution** command.

Finally, two administrative commands to complete the deployment:

7. **stsadm -o mlstcopyappbincontent**
   This will copy the necessary resource files to all servers in the SharePoint farm. This command is an extension for the **stsadm.exe** utility distributed with HarePoint Analytics. This command is equivalent to running **stsadm -o copyappbincontent** on **each** SharePoint server in a farm.
8. **stsadm -o mlstrestartsptimer**
   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!**

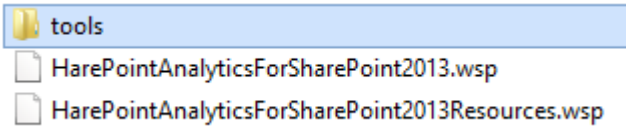
HarePoint Analytics for SharePoint 2013

The process of installing HarePoint Analytics for SharePoint 2013 is identical both for SharePoint Foundation 2013 and Microsoft 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.
The software distributive contains a folder named "**Install\Resources\2013"** with all the necessary files to deploy the product manually:

Tools – a folder that contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
MAPILabSharePointStatistics2013.wsp and **HarePointAnalyticsForSharePoint2013Resources.wsp** – the solution files that should be added to the repository of solutions in SharePoint.



Run **Command Prompt** (executable name **`cmd.exe`**) as **Administrator** and navigate to **Install\Resources\2013** folder.
Run the following commands:

9. **stsadm -o addsolution -filename MAPILabSharePointStatistics2013.wsp**
   to add a solution file to the solution store.
10. **stsadm -o deploysolution -name MAPILabSharePointStatistics2013.wsp –allowgacdeployment –immediate**
    to deploy the solution package to the SharePoint farm. The deployment will be started immediately.
11. After execution of **deploysolution** it is necessary to wait until the solution is deployed on all servers in the SharePoint Farm. To learn more about current status of the solution, run the following command:
    stsadm -o displaysolution -name MAPILabSharePointStatistics2013.wsp
    If the deployment of this solution is completed, you should be able to read "**DeploymentSucceeded**" under the **<LastOperationResult>** section as well as the value "**TRUE**" must be displayed under the <**Deployed**> section.
    If both values are correct, you can continue the installation of HarePoint Analytics, if not – wait for a while and check the status again by running **displaysolution** command.

Now the same for the second WSP package:

12. **stsadm -o addsolution -filename MAPILabSharePointStatistics2013Resources.wsp**
    to add a solution file to the solution store.
13. **stsadm -o deploysolution -name MAPILabSharePointStatistics2013Resources.wsp –allowgacdeployment – immediate**
    to deploy the solution package to the SharePoint farm. The deployment will be started immediately.

14. After execution of **deploysolution** it is necessary to wait until the solution is deployed on all servers in the SharePoint Farm. To learn more about current status of the solution, run the following command:
    stsadm -o displaysolution -name MAPILabSharePointStatistics2013Resources.wsp
    If the upgrade of the solution is completed, it will display "**DeploymentSucceeded**" under the **<LastOperationResult>** section, as well as "**TRUE**" under the <**Deployed**> section.

    If both values are correct, you can continue the installation of HarePoint Analytics, if not – wait for a while and check the status again by running **displaysolution** command.

Finally, two administrative commands to complete the deployment:

15. **stsadm -o mlstcopyappbincontent**
    This will copy the necessary resource files to all servers in the SharePoint farm. This command is an extension for the **stsadm.exe** utility distributed with HarePoint Analytics. This command is equivalent to running **stsadm -o copyappbincontent** on **each** SharePoint server in a farm.
16. **stsadm -o mlstrestartsptimer**
    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** 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**
2. This distributive is for the correct version of SharePoint: SharePoint 2013/2016 (note there are three products available on HarePoint.com: HarePoint Analytics for SharePoint 2007, 2010, and 2013/2016).
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. A command-line tool for the SharePoint administration (**Stsadm.exe)** is accessible. You must be an administrator on the local computer to use Stsadm. It is located at the following path on the drive where SharePoint Products and Technologies are installed:

   SharePoint 2016
   %COMMONPROGRAMFILES%\Microsoft Shared\Web Server Extensions\16\BIN
   or
   C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\16\BIN

   SharePoint 2013
   %COMMONPROGRAMFILES%\Microsoft Shared\Web Server Extensions\15\BIN
   or
   C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\15\BIN

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 tools –** folder containing auxiliary tools; not used for upgrade.
- **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.
- **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

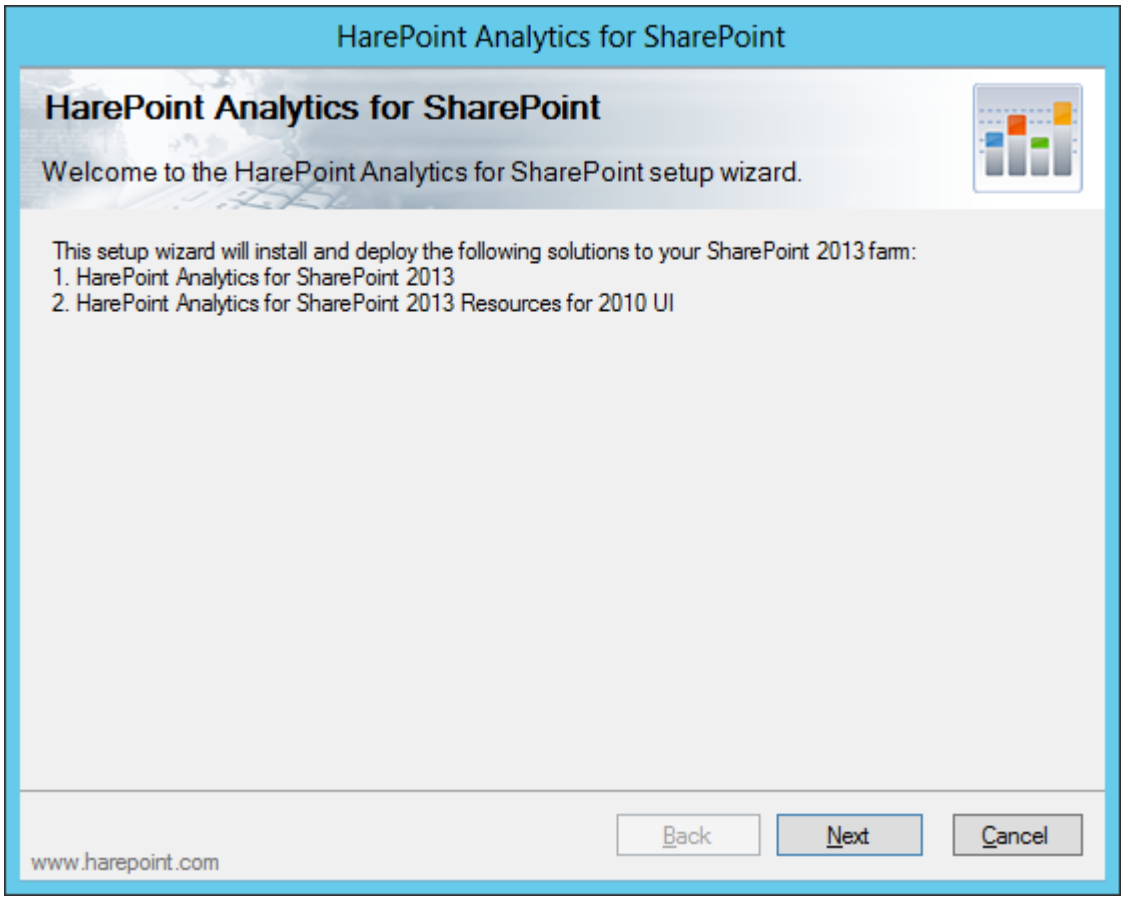
HarePoint Analytics for SharePoint can be updated either in **automatic (recommended)** or in **manual** mode.

7.3. Automatic upgrade using Setup.exe

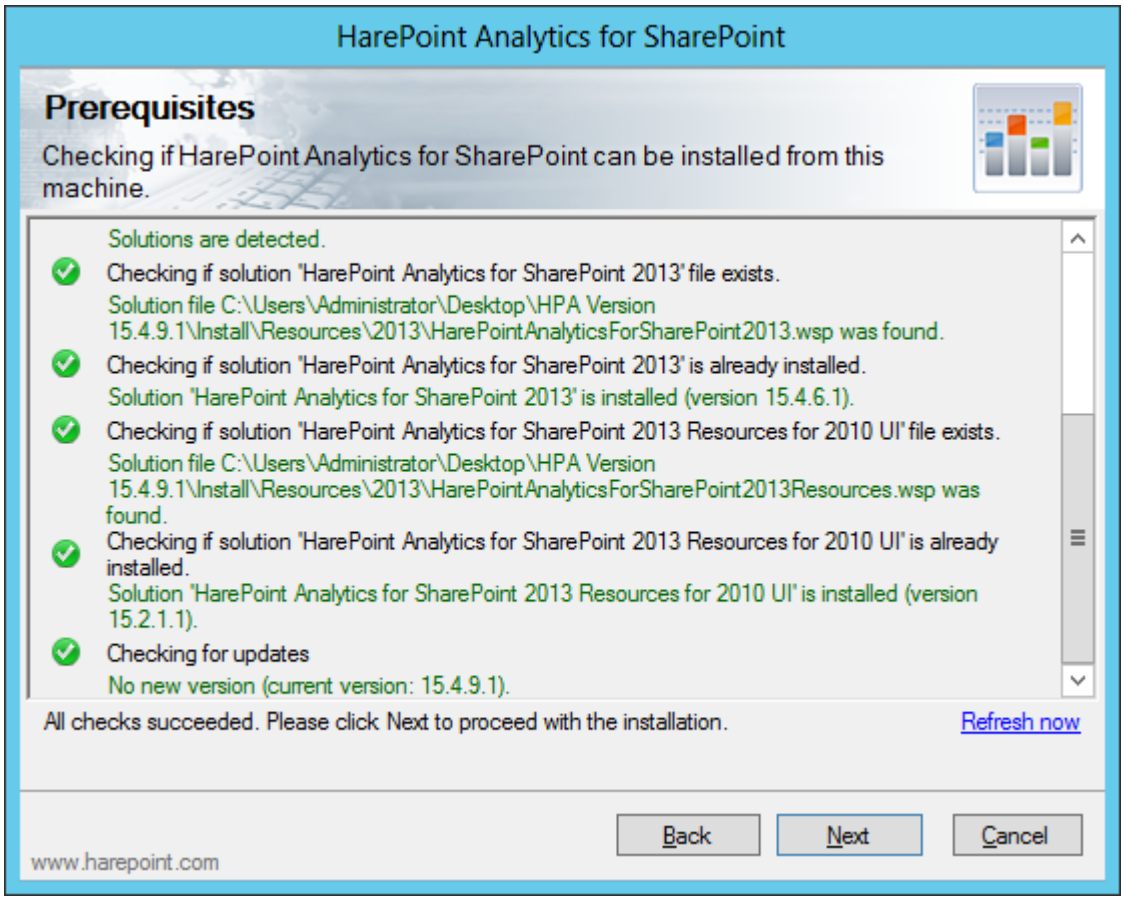
The automatic upgrade of the product is performed by a special tool (Installer).

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

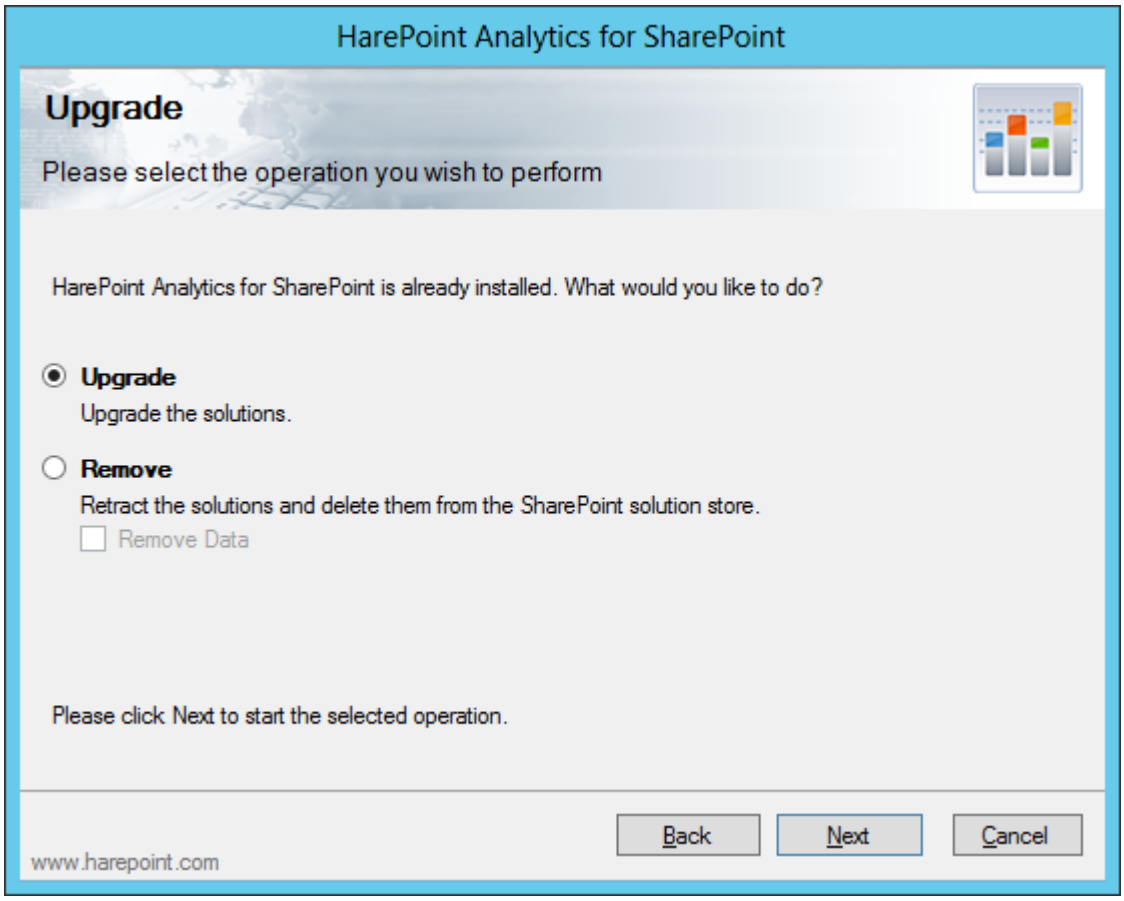


At the next step, the installation tool checks the prerequisites and permissions to upgrade the product. If everything is OK, you will see the following window:

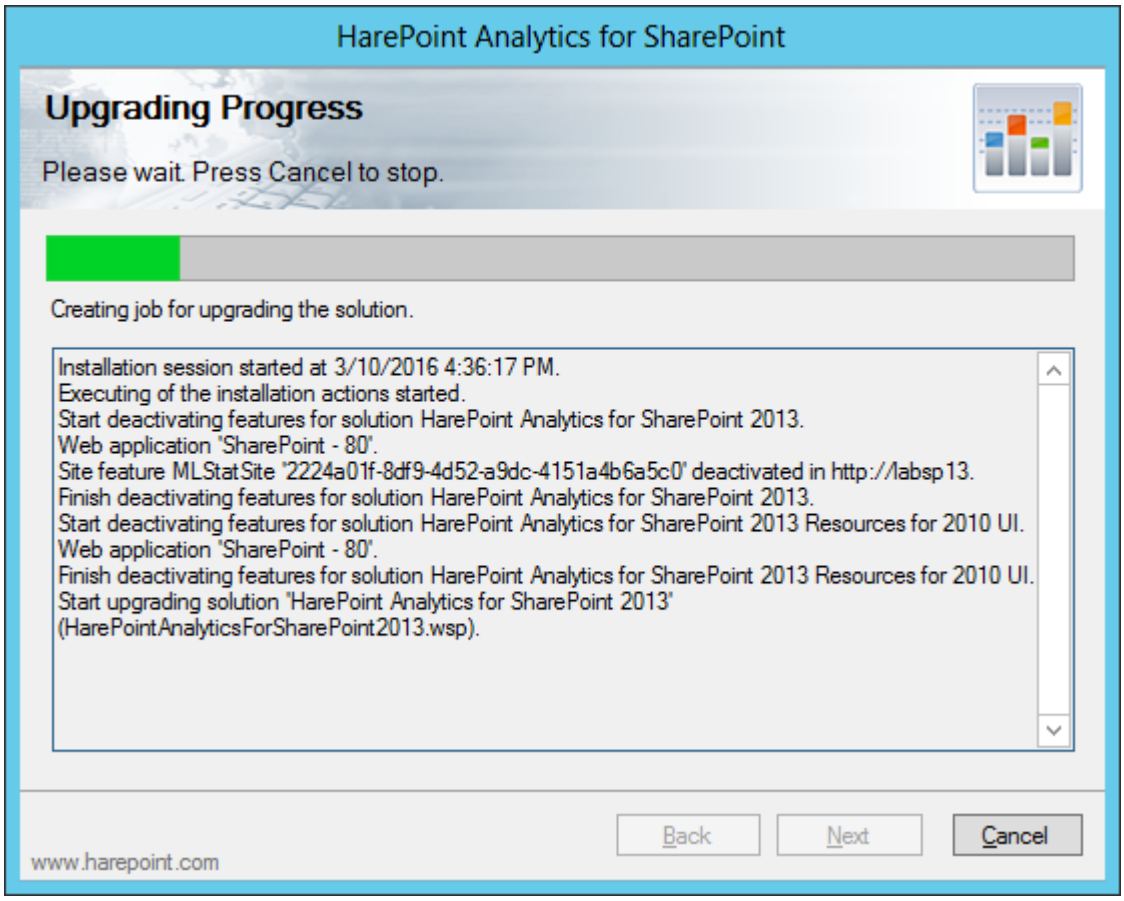


If you see a red mark in the list – you should fix the problem before continuing the upgrade of the product.

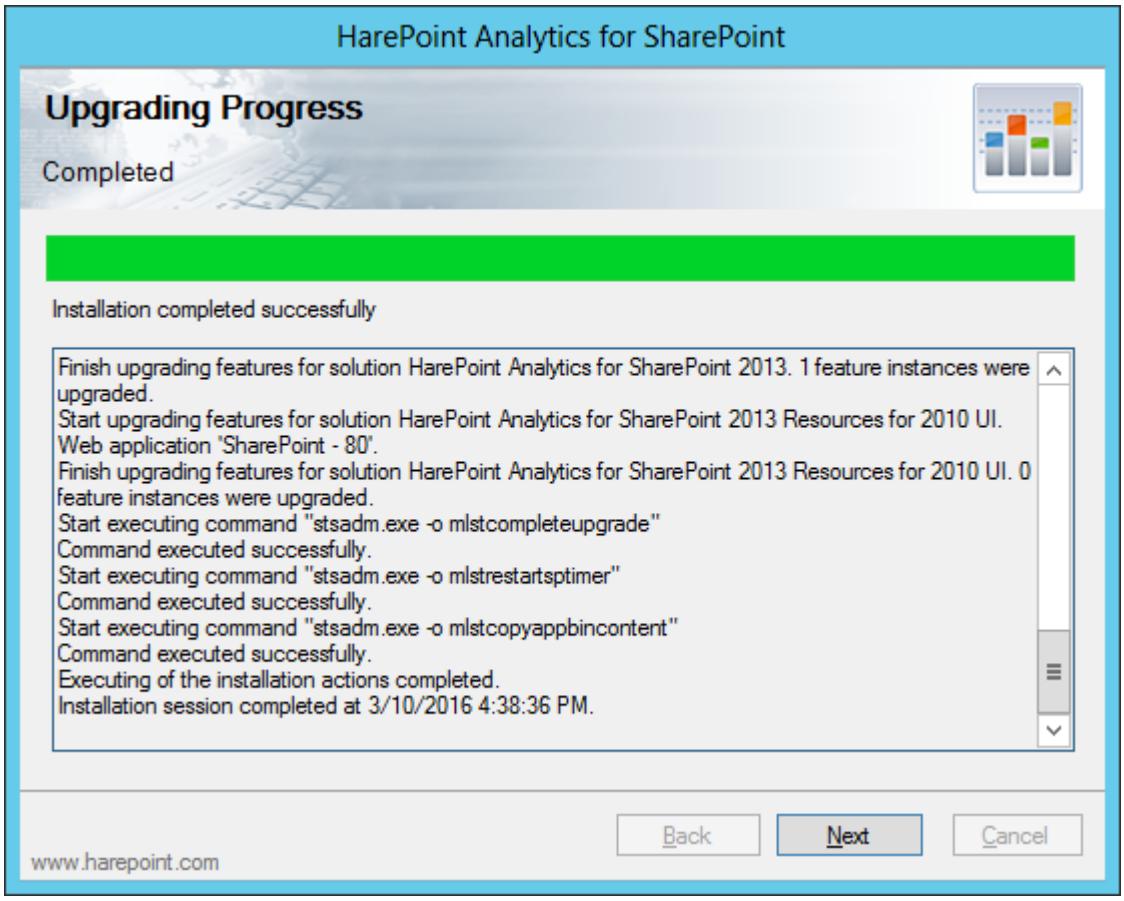
At the next step, select **Upgrade** and click the **Next** button:



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 **Installation completed successfully**:



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:

A. 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.

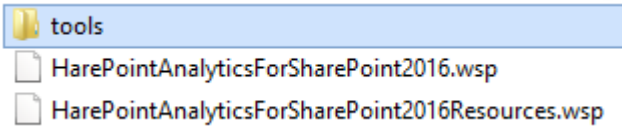
7.4. Manual upgrade

HarePoint Analytics for SharePoint 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.
The software distributive contains a folder named "**Install\Resources\2016"** with all the necessary files to upgrade the product manually:

Tools – a folder that contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
MAPILabSharePointStatistics2016.wsp and **HarePointAnalyticsForSharePoint2016Resources.wsp** – the solution files that should be added to the repository of solutions in SharePoint.



Run **Command Prompt** (executable name **`cmd.exe`**) as **Administrator** and navigate to **Install\Resources\2016** folder.

Run the following commands:

1. **stsadm -o upgradesolution -name MAPILabSharePointStatistics2016.wsp -filename MAPILabSharePointStatistics2016.wsp –allowgacdeployment –immediate**
   to upgrade the solution.
2. After execution of **upgradesolution** it is necessary to wait until the solution is upgraded on all servers in the SharePoint Farm. To learn more about the current status of the solution execute the following command**:**
   stsadm -o displaysolution -name MAPILabSharePointStatistics2016.wsp

   If the upgrade of the solution is completed, it will display **"DeploymentSucceeded**" under the **<LastOperationResult>** section, as well as **"TRUE**" under the **<Deployed**> section.
   If both values are correct, you can continue the upgrade of HarePoint Analytics, if not – wait for a while and execute **displaysolution** again.

Now the same for the second WSP package:

3. **stsadm -o upgradesolution -name MAPILabSharePointStatistics2016resources.wsp -filename MAPILabSharePointStatistics2016resources.wsp –allowgacdeployment –immediate**
   to upgrade the solution.
4. After execution of **upgradesolution** it is necessary to wait until the solution is upgraded on all servers in the SharePoint Farm. To learn more about the current status of the solution execute the following command:
   stsadm -o displaysolution -name MAPILabSharePointStatistics2016resources.wsp

   If the upgrade of the solution is completed, it will display "**DeploymentSucceeded**" under the **<LastOperationResult>** section as well as "**TRUE**" under the <**Deployed**> section.

If both values are correct, you can continue the upgrade of HarePoint Analytics, if not – wait for a while and execute **displaysolution** again.

Finally, three administrative commands to complete the deployment:

5. **stsadm -o mlstcompleteupgrade**
   stsadm -o mlstcopyappbincontent
   This command will copy the necessary resource files to all servers in the SharePoint farm. It is equivalent to running **stsadm -o copyappbincontent** on **each** SharePoint server in a farm.
   stsadm -o mlstrestartsptimer
   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.

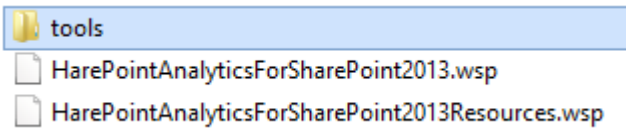
HarePoint Analytics for SharePoint 2013

The process for upgrading HarePoint Analytics for SharePoint 2010 is identical both for SharePoint Foundation 2013 and Microsoft SharePoint Server 2013.

Please read carefully the **Upgrading of the product version** 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.
The software distributive contains a folder named "**Install\Resources\2013"** with all the necessary files to upgrade the product manually:

Tools – a folder that contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
MAPILabSharePointStatistics2013.wsp and **HarePointAnalyticsForSharePoint2013Resources.wsp** – the solution files that should be added to the repository of solutions in SharePoint.



Run **Command Prompt** (executable name **`cmd.exe`**) as **Administrator** and navigate to **Install\Resources\2013** folder.

Run the following commands:

6. **stsadm -o upgradesolution -name MAPILabSharePointStatistics2013.wsp -filename MAPILabSharePointStatistics2013.wsp –allowgacdeployment –immediate**
   to upgrade the solution.
7. After execution of **upgradesolution** it is necessary to wait until the solution is upgraded on all servers in the SharePoint Farm. To learn more about the current status of the solution execute the following command**:**
   stsadm -o displaysolution -name MAPILabSharePointStatistics2013.wsp

   If the upgrade of the solution is completed, it will display **"DeploymentSucceeded**" under th**e <LastOperationResult>** section, as well as **“TRUE**” under the **<Deployed**> section.
   If both values are correct, you can continue the upgrade of HarePoint Analytics, if not – wait for a while and execute **displaysolution** again.

Now the same for the second WSP package:

8. **stsadm -o upgradesolution -name MAPILabSharePointStatistics2013resources.wsp -filename MAPILabSharePointStatistics2013resources.wsp –allowgacdeployment –immediate**
   to upgrade the solution.
9. After execution of **upgradesolution** it is necessary to wait until the solution is upgraded on all servers in the SharePoint Farm. To learn more about the current status of the solution execute the following command:
   stsadm -o displaysolution -name MAPILabSharePointStatistics2013resources.wsp

   If the upgrade of the solution is completed, it will display "**DeploymentSucceeded**" under the **<LastOperationResult>** section as well as “**TRUE**” under the <**Deployed**> section.
   If both values are correct, you can continue the upgrade of HarePoint Analytics, if not – wait for a while and execute **displaysolution** again.

Finally, three administrative commands to complete the deployment:

10. **stsadm -o mlstcompleteupgrade**
    stsadm -o mlstcopyappbincontent
    This command will copy the necessary resource files to all servers in the SharePoint farm. It is equivalent to running **stsadm -o copyappbincontent** on **each** SharePoint server in a farm.
    stsadm -o mlstrestartsptimer
    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.

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 2013/2016 (note there are three products available on HarePoint.com: HarePoint Analytics for SharePoint 2007, 2010, and 2013/2016).
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. A command-line tool for the SharePoint administration (**Stsadm.exe)** is accessible. You must be an administrator on the local computer to use Stsadm. It is located at the following path on the drive where SharePoint Products and Technologies are installed:

   SharePoint 2016
   %COMMONPROGRAMFILES%\Microsoft Shared\Web Server Extensions\16\BIN
   or
   C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\16\BIN

   SharePoint 2013
   %COMMONPROGRAMFILES%\Microsoft Shared\Web Server Extensions\15\BIN
   or
   C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\15\BIN

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 tools –** folder containing auxiliary tools; not used for removal.
- **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.
- **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.

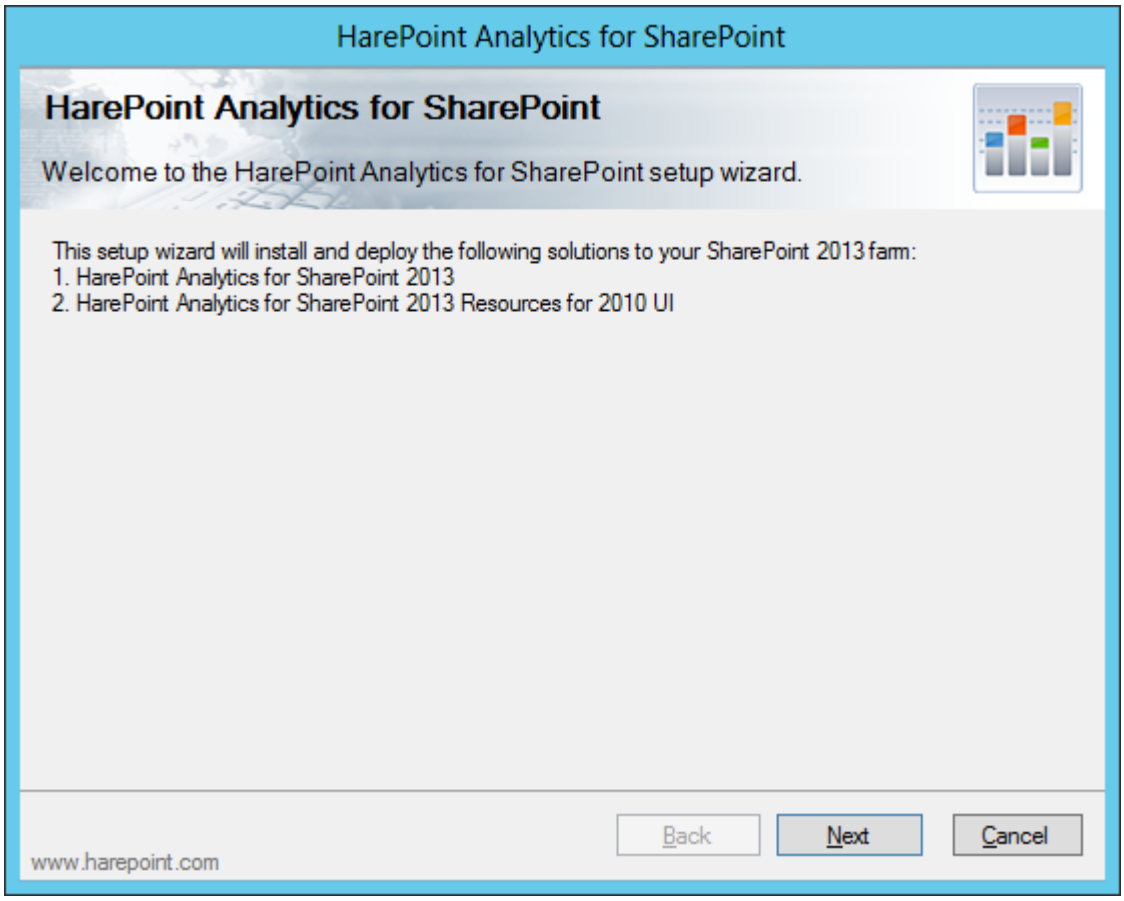
8.3. Automatic removing using Setup.exe

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

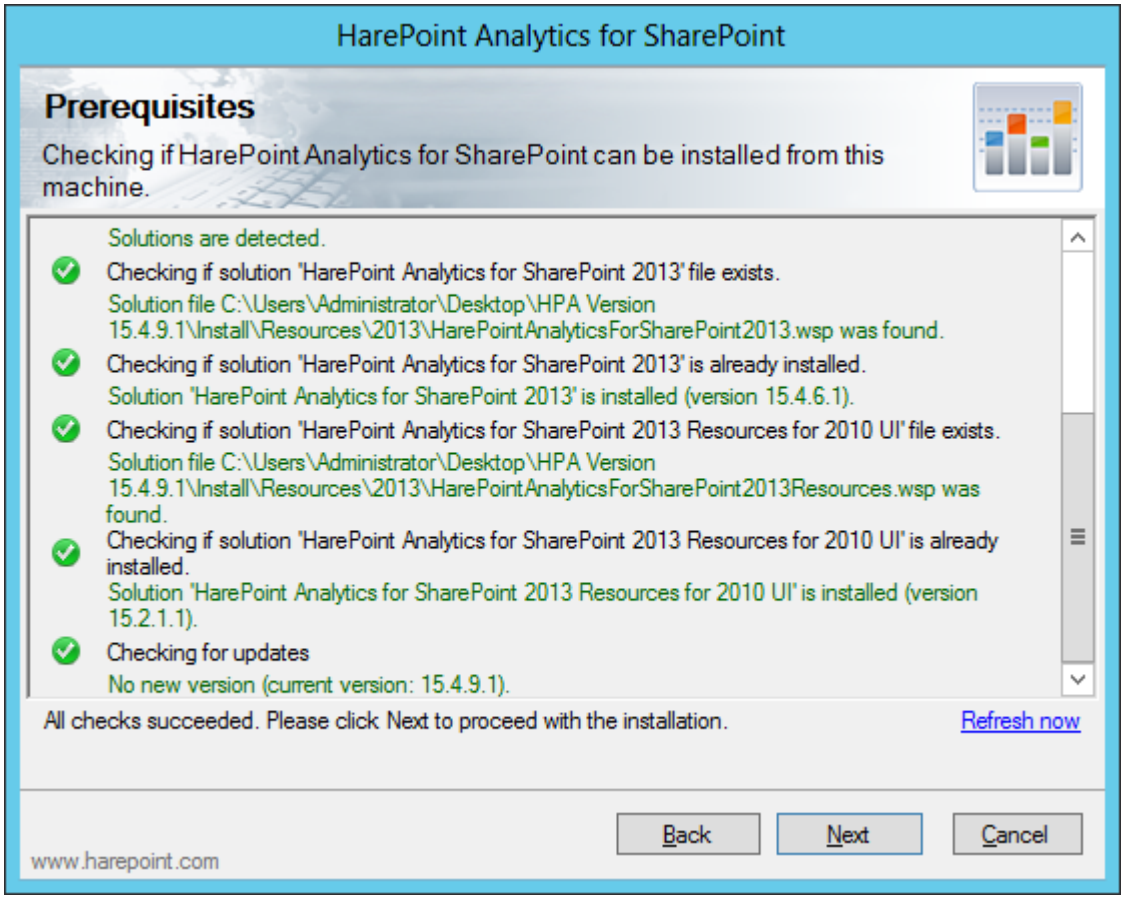
Go to one of the Web Front-End servers where you have unpacked the distributive package. Run S**etup.exe.**

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.

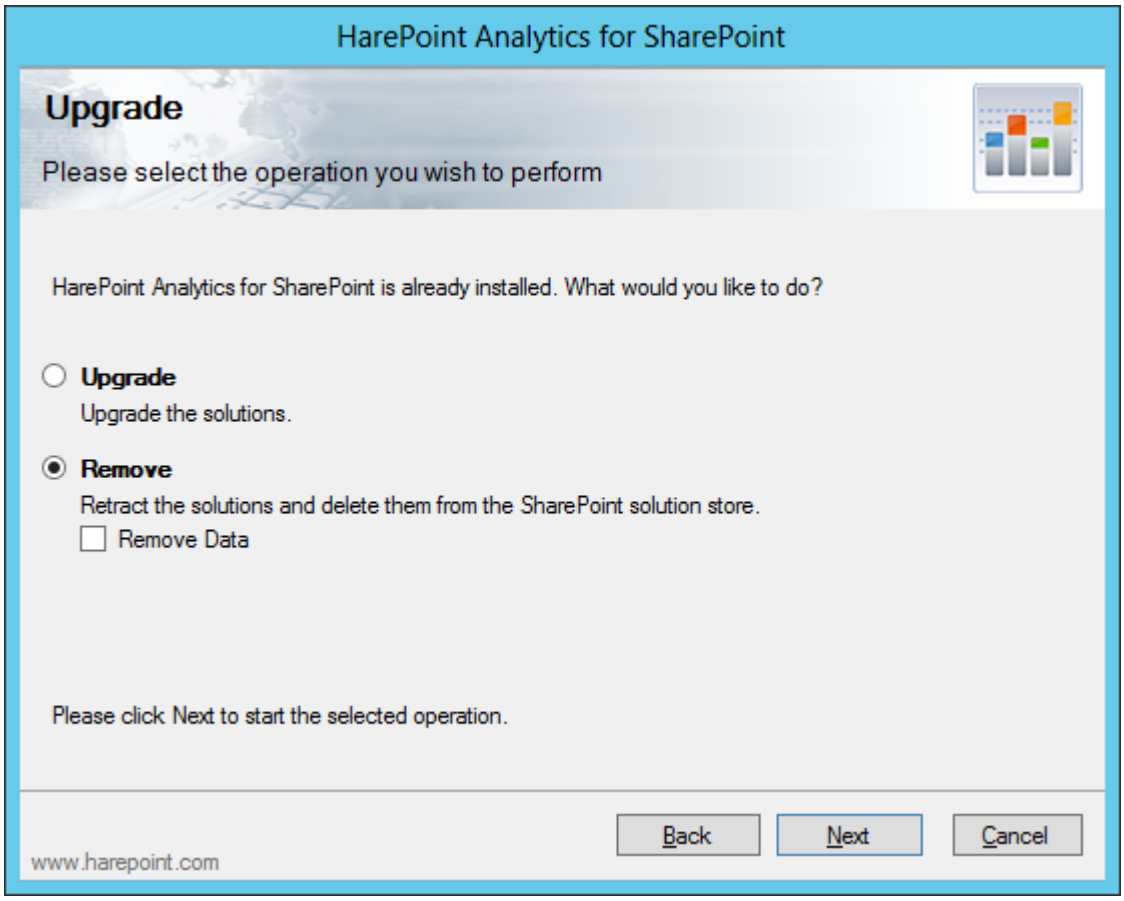
If the appropriate version is detected, you will see the following window:



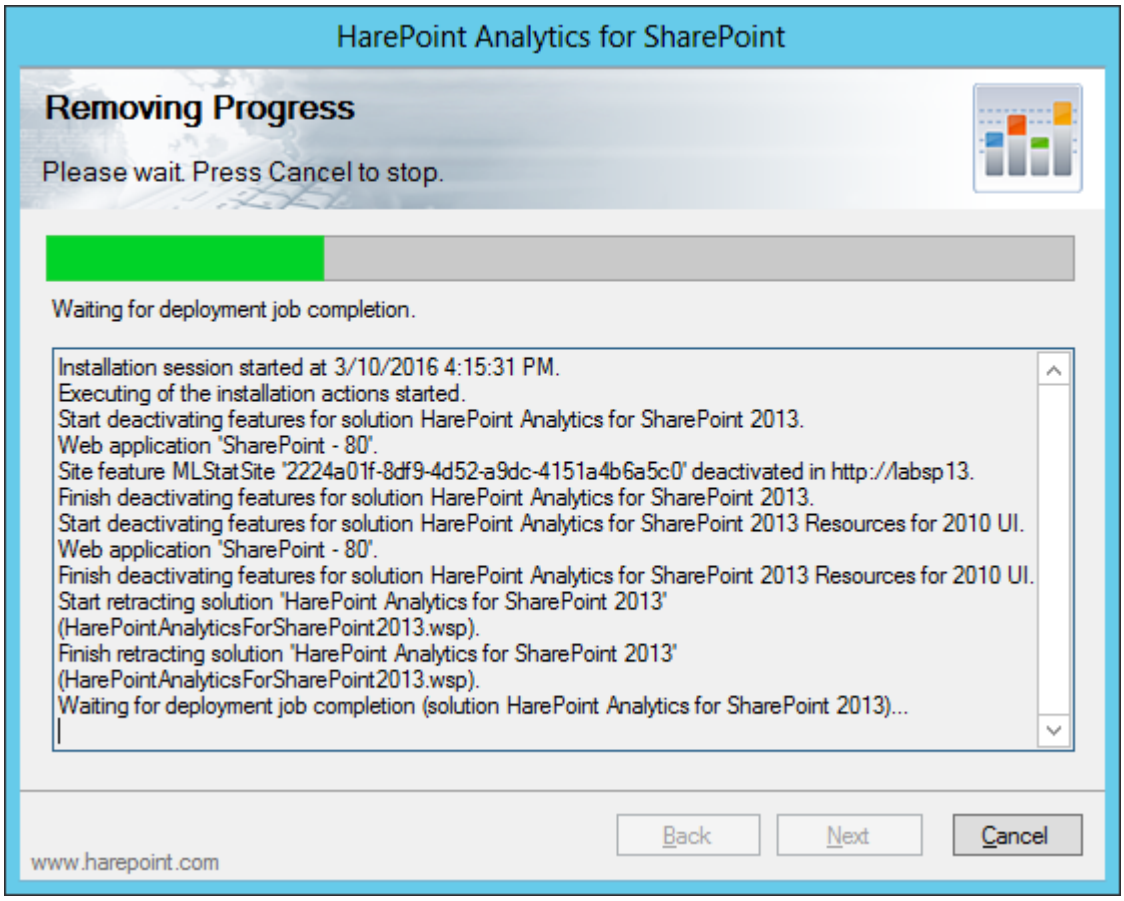
At the next step, the installation tool checks the prerequisites and permissions to remove the product. If everything is OK, you will see the following window:


HarePoint Analytics for SharePoint
Prerequisites
Checking if HarePoint Analytics for SharePoint can be installed from this machine.
Solutions are detected.
Checking if solution 'HarePoint Analytics for SharePoint 2013' file exists.
Solution file C:\Users\Administrator\Desktop\HPA Version 15.4.9.1\Install\Resources\2013\HarePointAnalyticsForSharePoint2013.wsp was found.
Checking if solution 'HarePoint Analytics for SharePoint 2013' is already installed.
Solution 'HarePoint Analytics for SharePoint 2013' is installed (version 15.4.6.1).
Checking if solution 'HarePoint Analytics for SharePoint 2013 Resources for 2010 UI' file exists.
Solution file C:\Users\Administrator\Desktop\HPA Version 15.4.9.1\Install\Resources\2013\HarePointAnalyticsForSharePoint2013Resources.wsp was found.
Checking if solution 'HarePoint Analytics for SharePoint 2013 Resources for 2010 UI' is already installed.
Solution 'HarePoint Analytics for SharePoint 2013 Resources for 2010 UI' is installed (version 15.2.1.1).
Checking for updates
No new version (current version: 15.4.9.1).
All checks succeeded. Please click Next to proceed with the installation.
Refresh now
Back
Next
Cancel
www.harepoint.com

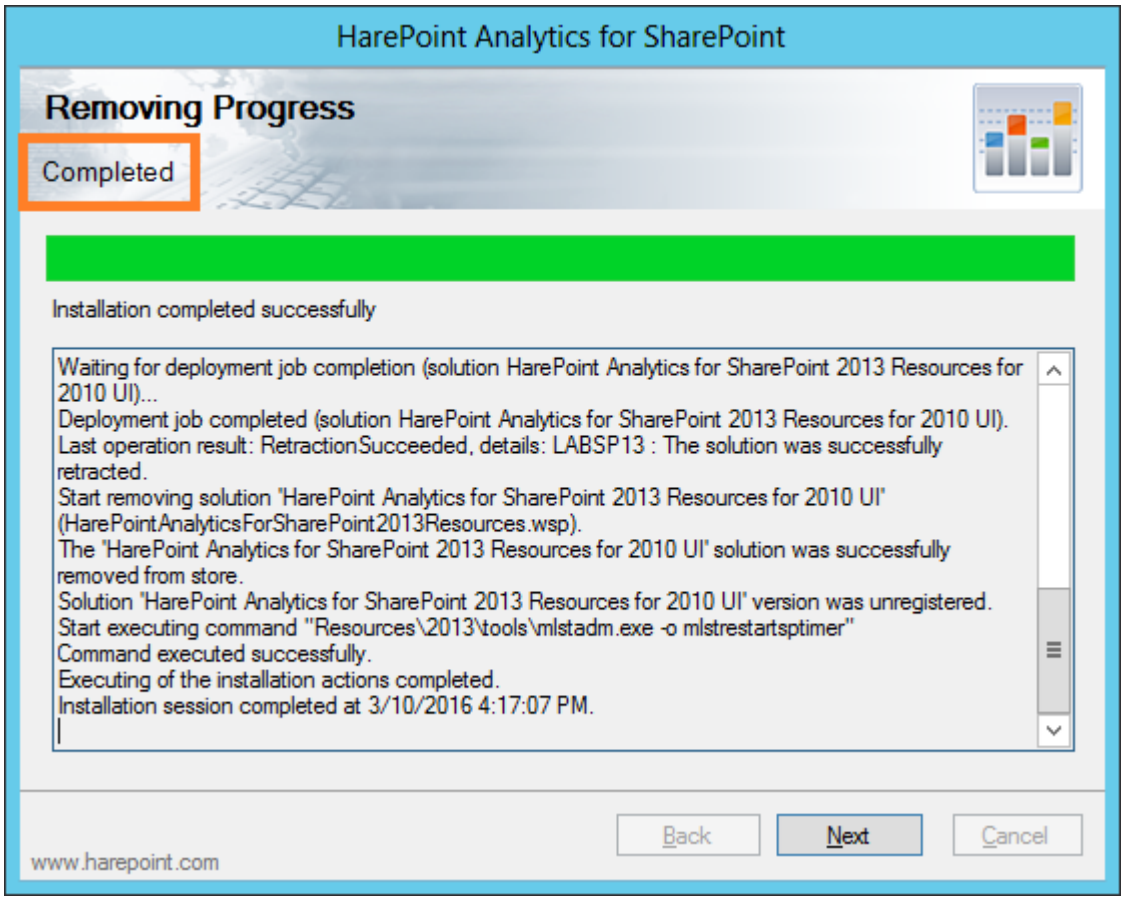
At the next step, select option "**Remove**" and click the **Next** button.
("Remove Data" option is non-functional for this product and should be ignored):



The 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.

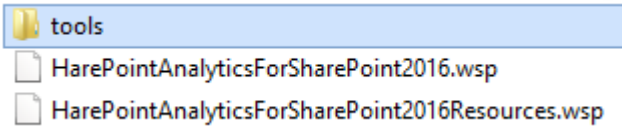
8.4. Manual removing

HarePoint Analytics for SharePoint 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.
The software distributive contains a folder named "**Install\Resources\2016"** with all the necessary files to upgrade the product manually:

Tools – a folder that contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
MAPILabSharePointStatistics2016.wsp and **HarePointAnalyticsForSharePoint2016Resources.wsp** – the solution files that should be added to the repository of solutions in SharePoint.



Run **Command Prompt** (executable name **cmd.exe**) as **Administrator** and navigate to **Install\Resources\2016** folder.

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

1. **stsadm -o retractsolution -name MAPILabSharePointStatistics2016.wsp –immediate**
2. After execution of **retractsolution** it is necessary to wait while the solution is retracted from all servers in the SharePoint Farm. To learn more about the current status of the solution execute the following command:
   stsadm -o displaysolution -name MAPILabSharePointStatistics2016.wsp

   If the retraction of the solution is completed, it will display **"RetractionSucceeded"** under the **<LastOperationResult>** section as well as **"FALSE"** under the **<Deployed>** section.
   If both values are correct, you can continue, if not – wait for a while and execute **displaysolution** again.
3. **stsadm -o deletesolution -name MAPILabSharePointStatistics2016.wsp**
   to delete the solution.

Now the same for the second WSP package:

4. **stsadm -o retractsolution -name MAPILabSharePointStatistics2016resources.wsp –immediate**
5. After execution of **retractsolution** it is necessary to wait while the solution is retracted from all servers in the SharePoint Farm. To learn more about the current status of the solution execute the following command:
   stsadm -o displaysolution -name MAPILabSharePointStatistics2016resources.wsp

   If the retraction of the solution is completed, it will display **"RetractionSucceeded"** under the **<LastOperationResult>** section as well as **"FALSE"** under the **<Deployed>** section.
   If both values are correct, you can continue, if no – wait for a while and execute **displaysolution** again.
6. **stsadm -o deletesolution -name MAPILabSharePointStatistics2016resources.wsp**
   to delete the solution.

Finally, the administrative command to complete the removal:

7. **stsadm –o mlstrestartsptimer**
   This command will restart SharePoint Timer Service on **each** server in the farm.

HarePoint Analytics for SharePoint 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.

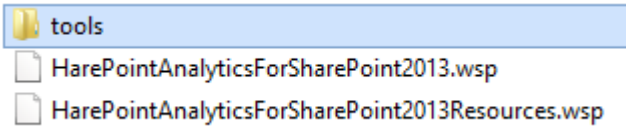
HarePoint Analytics for SharePoint 2013

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 Microsoft SharePoint Server 2013.

Go to **one of the Web Front-End servers** where you have the distributive package unpacked.
The software distributive contains a folder named "**Install\Resources\2013"** with all the necessary files to upgrade the product manually:

Tools – a folder that contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
MAPILabSharePointStatistics2013.wsp and **HarePointAnalyticsForSharePoint2013Resources.wsp** – the solution files that should be added to the repository of solutions in SharePoint.



Run **Command Prompt** (executable name **`cmd.exe`**) as **Administrator** and navigate to **Install\Resources\2013** folder.

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

8. **stsadm -o retractsolution -name MAPILabSharePointStatistics2013.wsp –immediate**
9. After execution of **retractsolution** it is necessary to wait while the solution is retracted from all servers in the SharePoint Farm. To learn more about the current status of the solution execute the following command:
   stsadm -o displaysolution -name MAPILabSharePointStatistics2013.wsp

   If the retraction of the solution is completed, it will display **"RetractionSucceeded**" under the **<LastOperationResult>** section as well as **"FALSE**" under the **<Deployed**> section.
   If both values are correct, you can continue, if not – wait for a while and execute **displaysolution** again.
10. **stsadm -o deletesolution -name MAPILabSharePointStatistics2013.wsp**
    to delete the solution.

Now the same for the second WSP package:

11. **stsadm -o retractsolution -name MAPILabSharePointStatistics2013resources.wsp –immediate**
12. After execution of **retractsolution** it is necessary to wait while the solution is retracted from all servers in the SharePoint Farm. To learn more about the current status of the solution execute the following command:
    stsadm -o displaysolution -name MAPILabSharePointStatistics2013resources.wsp

    If the retraction of the solution is completed, it will display **"RetractionSucceeded**" under the **<LastOperationResult>** section as well as **"FALSE**" under the **<Deployed**> section.
    If both values are correct, you can continue, if no – wait for a while and execute **displaysolution** again.
13. **stsadm -o deletesolution -name MAPILabSharePointStatistics2013resources.wsp**
    to delete the solution.

Finally, the administrative command to complete the removal:

14. **stsadm –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
- Site collections are migrated from one SharePoint 2013/2016 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 2013/2016

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

- 2007 -> 2013
- 2010 -> 2013
- 2007 -> 2016
- 2010 -> 2016

HarePoint Analytics need to be transferred to a 2013/2016 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, and HarePoint Analytics for SharePoint 2013 and HarePoint Analytics for SharePoint 2016 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
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 farm
After SharePoint upgrade is completed, the new 2013/2016 farm is configured, all necessary sites and site collections are online and working properly, you can install HarePoint Analytics for SharePoint 2013/2016. 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, 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.
To learn more about how to use the **Migration wizard,** refer to Migration wizard area of this Guide.

9.2. Migration from one 2013/2016 farm to another 2013/2016 farm

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

- 2013 -> 2013
- 2013 -> 2016

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 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 farm to a newer SharePoint 2013/2016 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 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 farm.
To learn more about how to use the **Migration wizard**, refer to Migration wizard section of this Guide.

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.

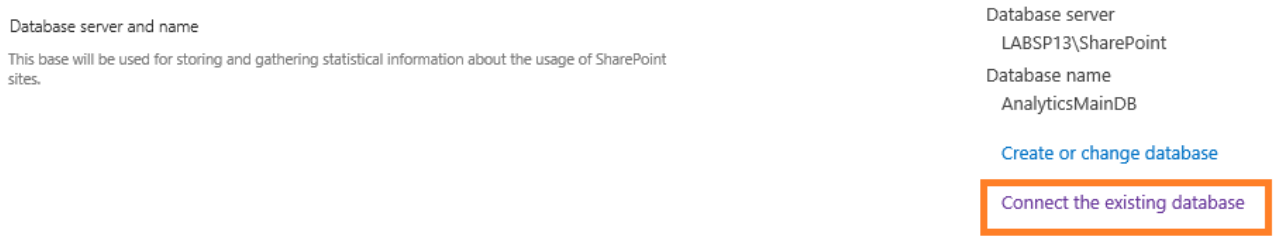
Note: When all running HarePoint Analytics job are completed, the product will continue collecting data into the Queue Database but these data will not be processed and will not be moved to Main Database. These data **will not be migrated/restored**.

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**.**

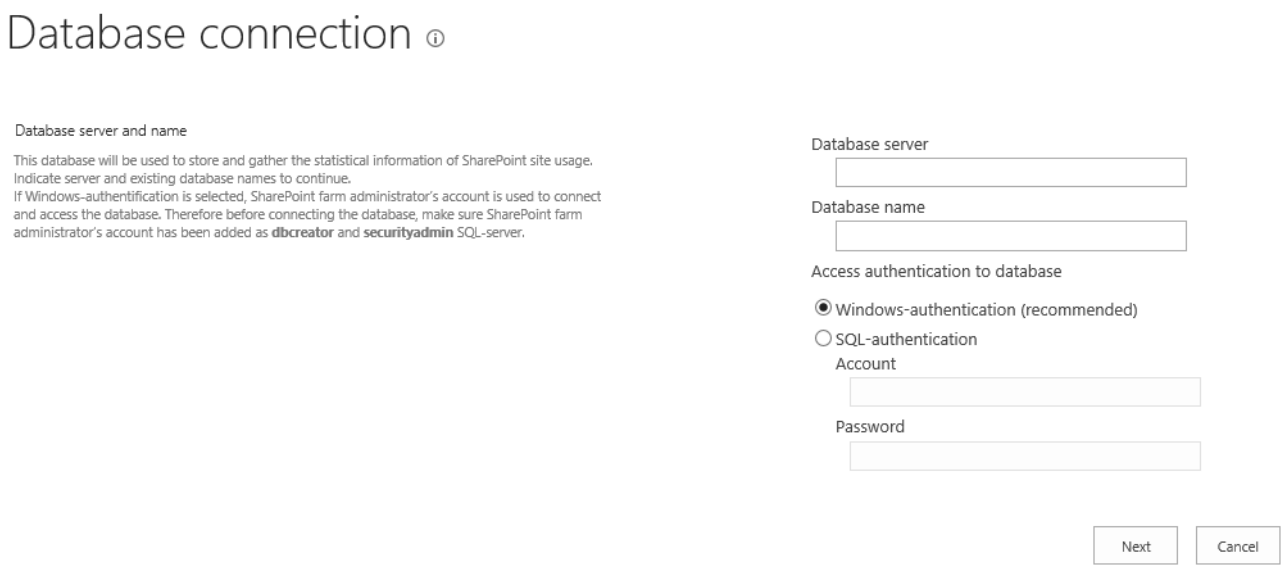
16.4. Migration wizard

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:



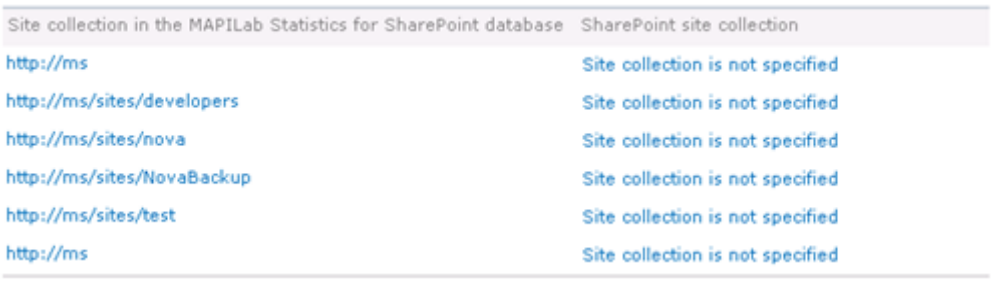
The database connection wizard will be started.

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

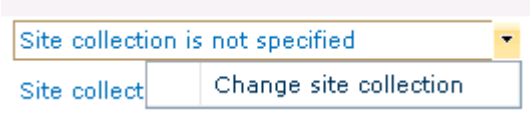


When you click the **Next**, the wizard first looks through the specified database and detects the site and site collection identifiers, which were previously used, then attempts to find the same site and site collections to **map the identifiers automatically**.

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:



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.



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.

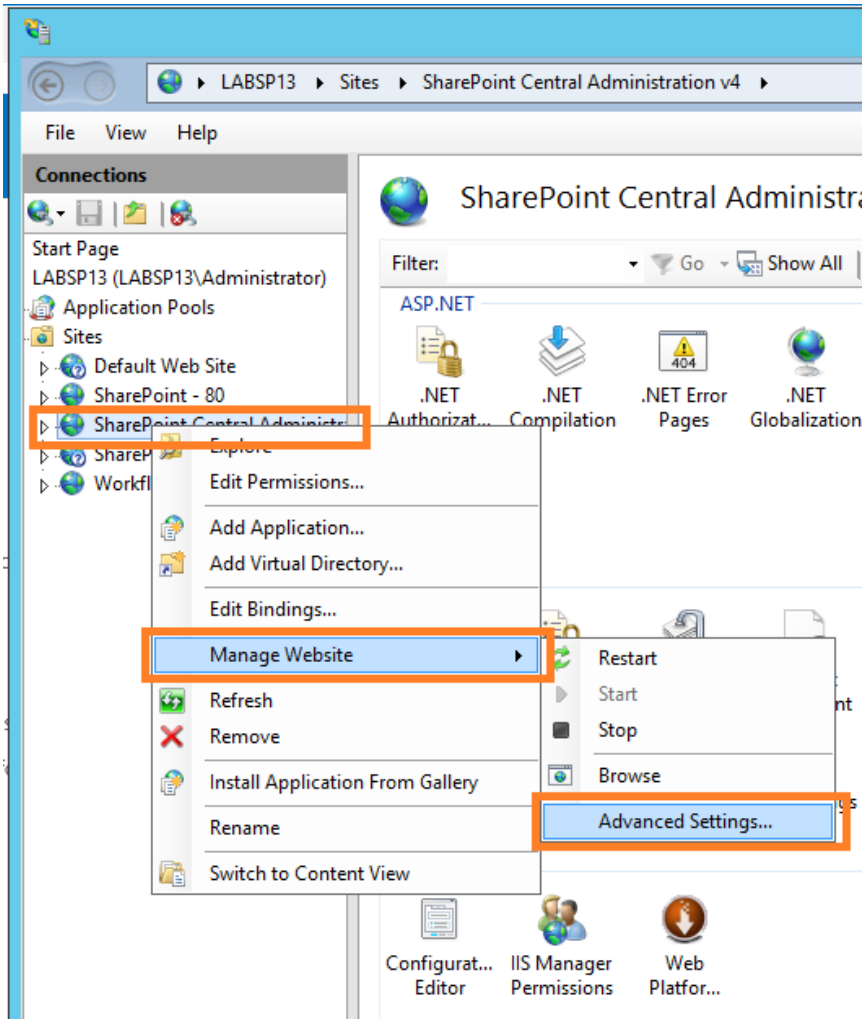
While the product is making changes, the following window is displayed:



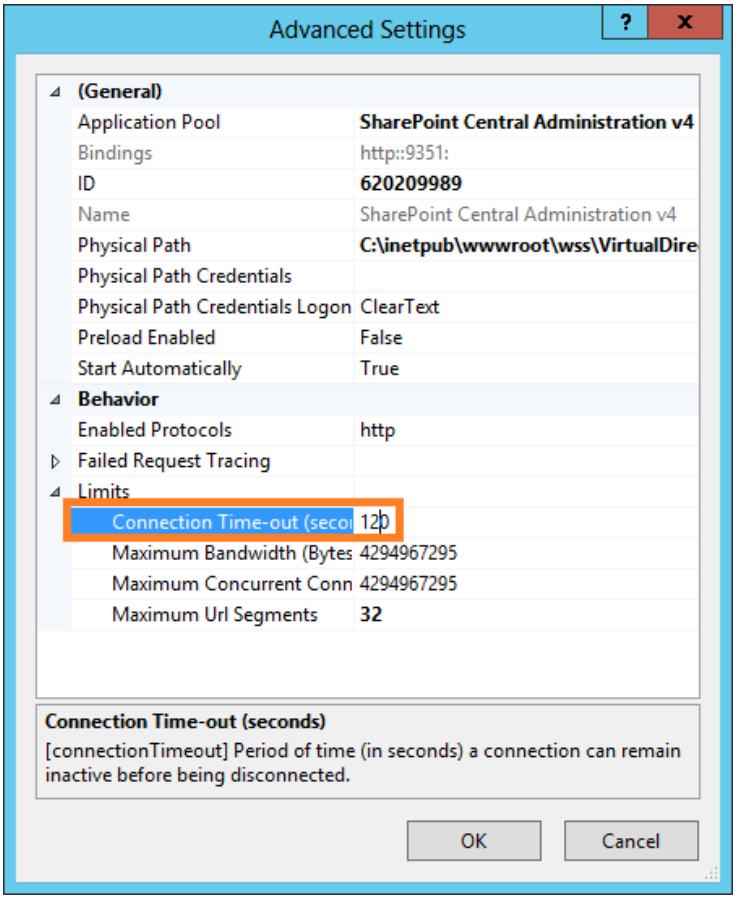
Important note: Do not close the browser tab, stop or refresh the page, as this will cancel the database processing and all changes will be rolled back by a SQL server!

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

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.

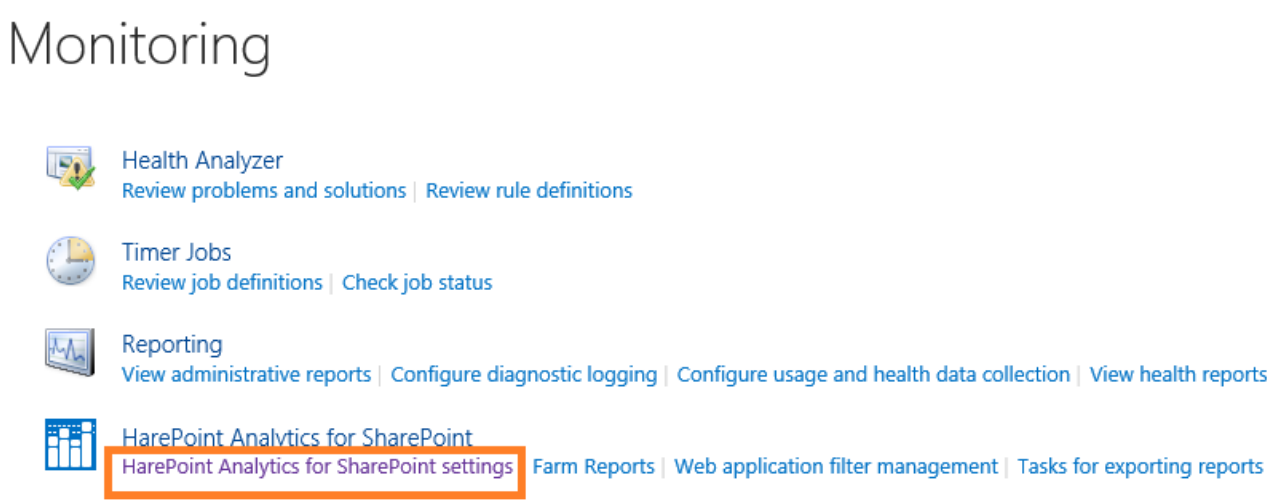
Both databases are created and connected automatically **right from HarePoint Analytics settings**, so there is no need to use SQL Management Studio for this.

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

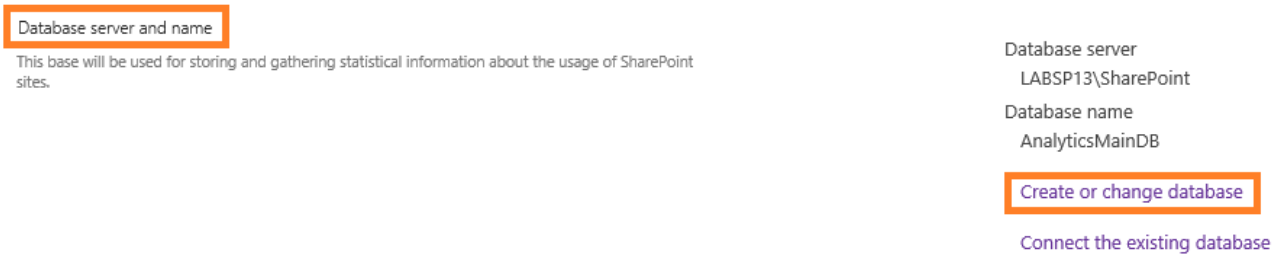
To create databases and connect them, go to product settings page in **SharePoint Central Administration**:

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

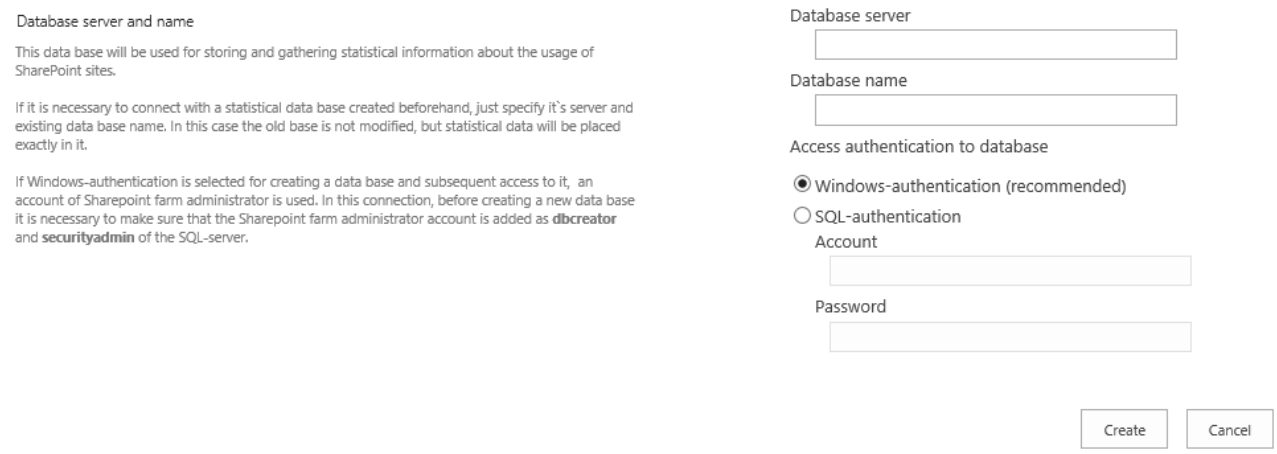


Main Database

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



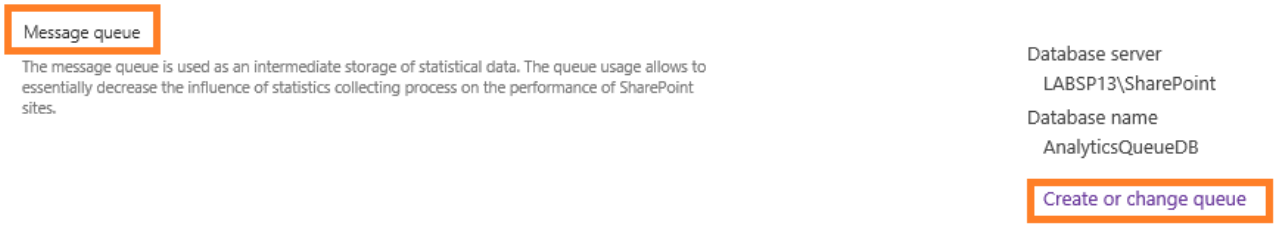
Specify **UNC path to the SQL server including the instance** (e.g. \\SQLSRV\Instance) or **SQL alias**, and the **name** for the new database (for example, HarePoint_Analytics_DB) and select the type of authentication that is used on the SQL server:



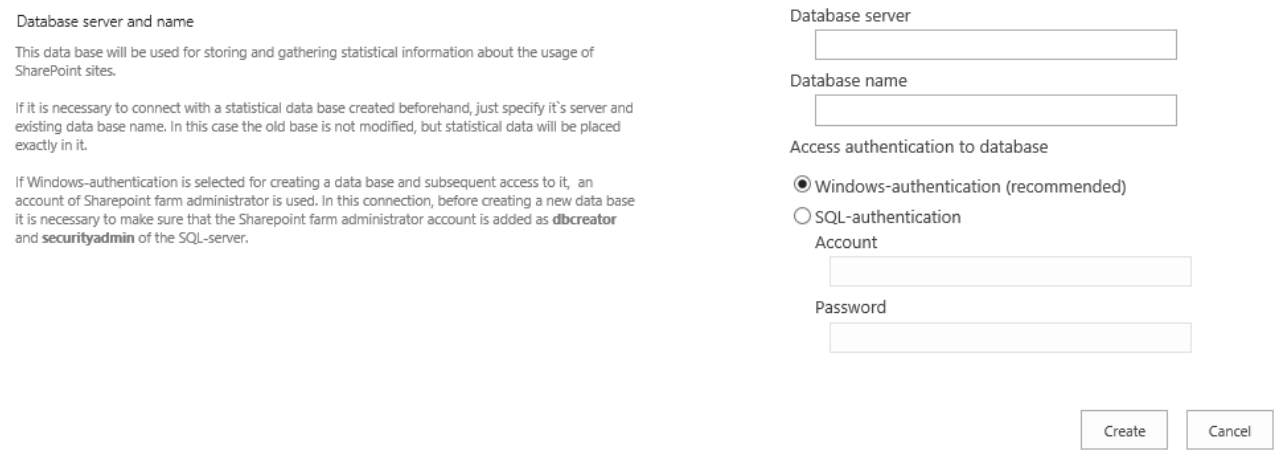
Click **Create** button. Creating a database has started. It can take some time.
As soon as database is created, it will be connected **automatically,** no additional actions required.

Queue Database

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



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:



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

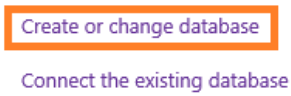
If you already have a database that has been used as Main Database for HarePoint Analytics, you can connect this database to the product.
To do this, there are **two options** available, see below.

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

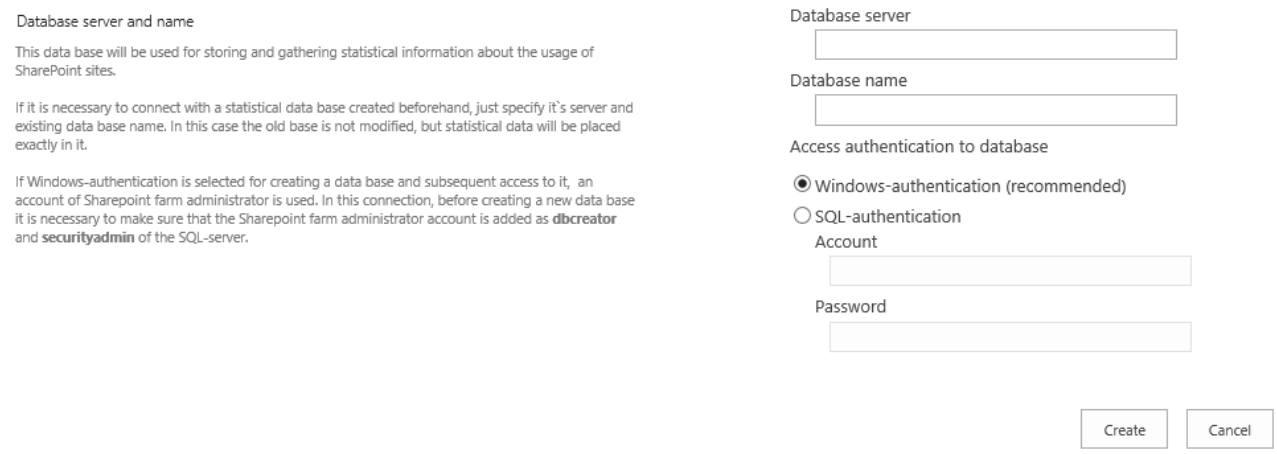
The wizard "**Create or change database**" (described in a previous section) allows you to create a new blank database as well as **connect an existing database**.



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).

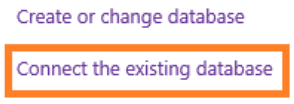
Click **Create or change database** link.
Specify **UNC path to the SQL server including the instance** (e.g. \\SQLSRV\Instance) or **SQL alias**, and the **name** of an **existing database**, select the type of authentication that is used on the SQL server:



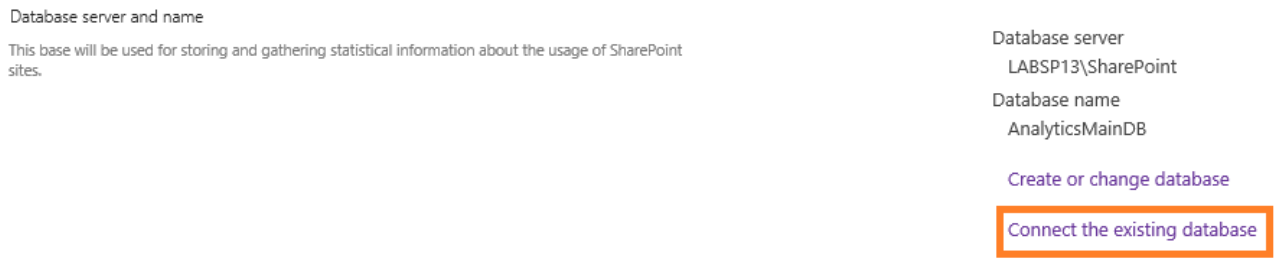
Option 2: Connecting a migrated or previously used database (Recommended)

In case if you have **migrated** sites or site collections, upgraded SharePoint from 2007/2010 to 2013/2016, 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.

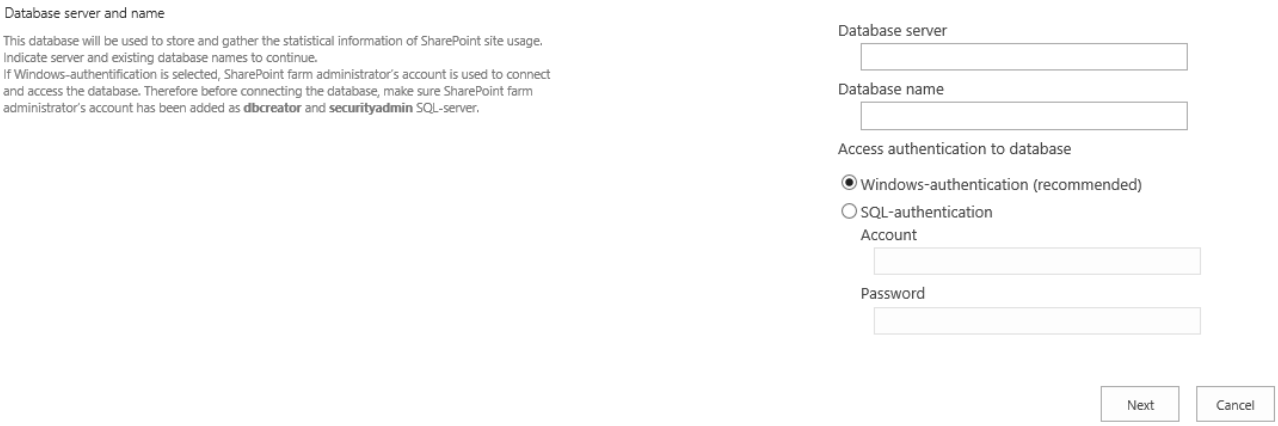
You can also use this option to connect a database that have been **previously used on the same farm**, instead of the Option 1.



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:



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:



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, 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
- If the database from **SharePoint 2013/2016 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:

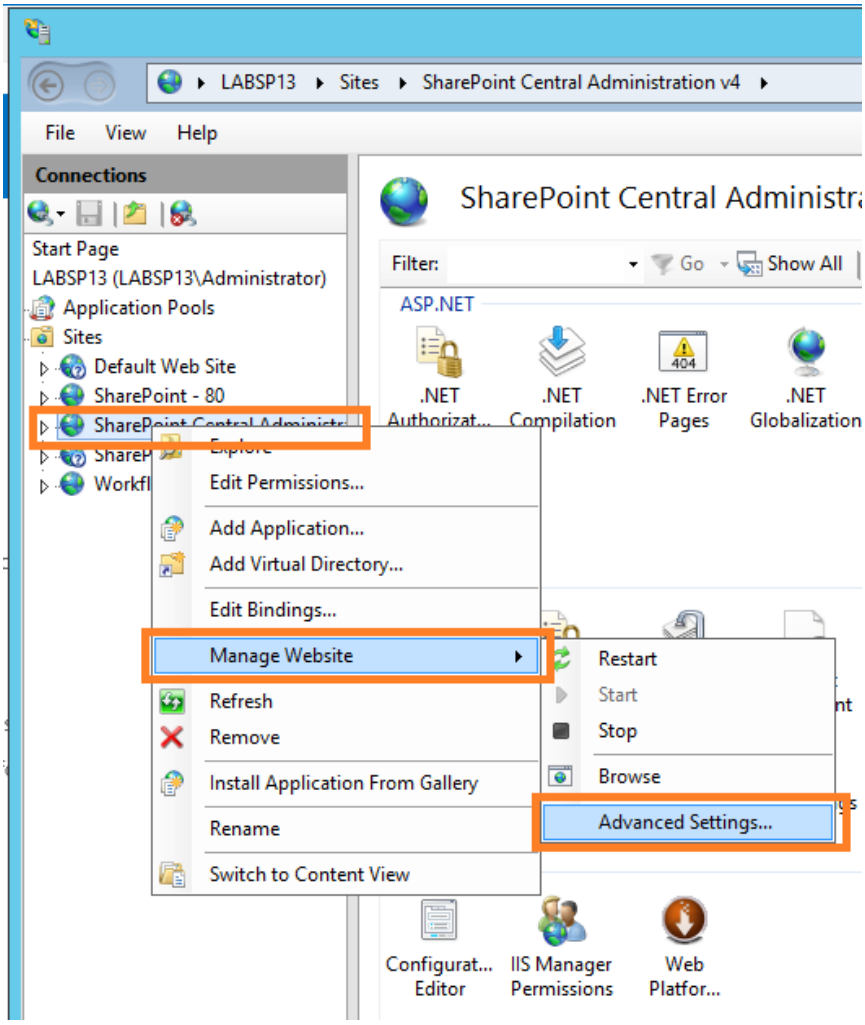


Important note: Do not close the browser tab, stop or refresh the page, as this will cancel the running modifications and they will be rolled back!

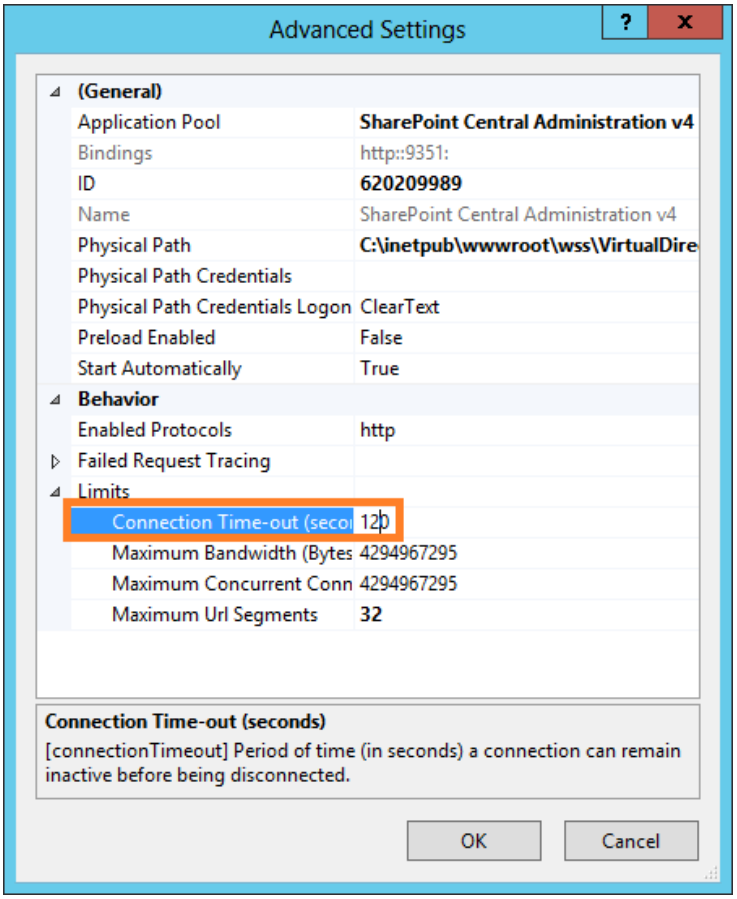
In case if time-out occurs before the process is completed, all the modifications will be rolled back by a SQL server!

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:

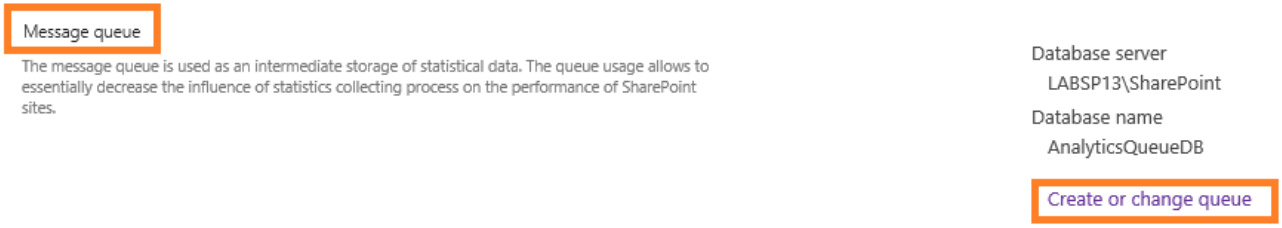


10.1.3. Connecting an existing Queue Database

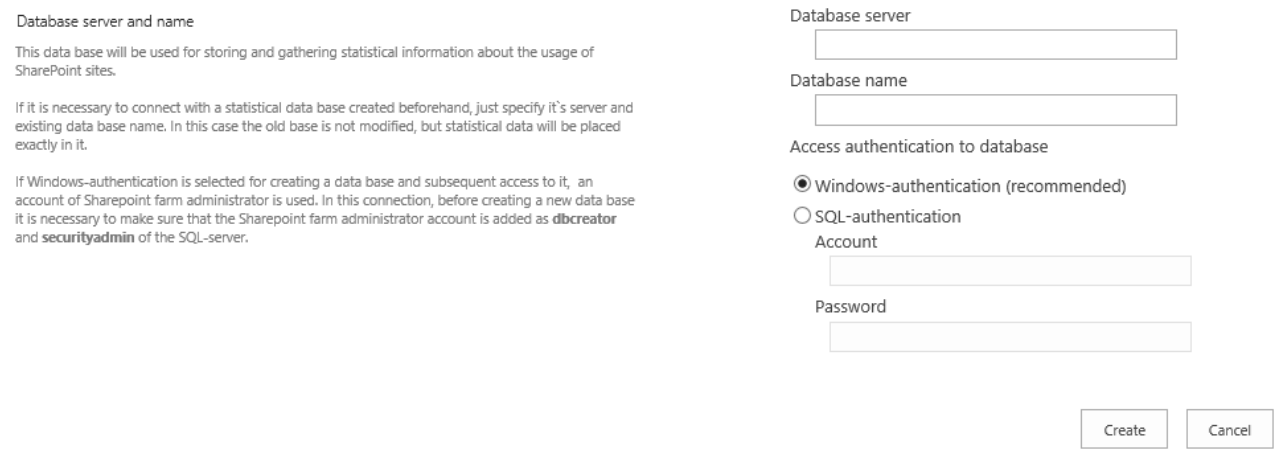
Important note: The following SQL permissions are required to able to connect databases:

- **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:



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).

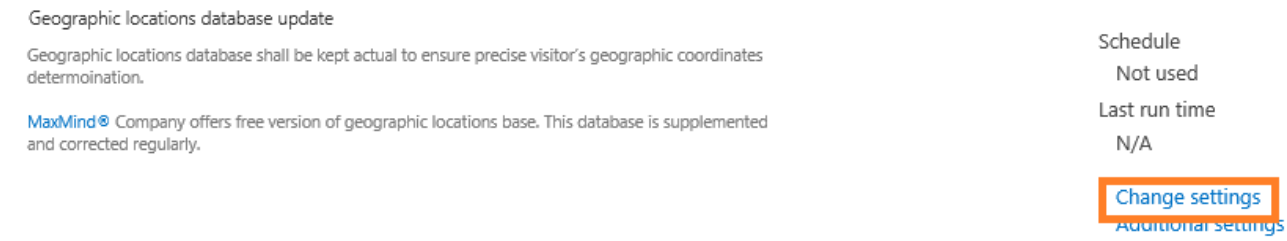
The geographical location can be detected based on:

- 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**.

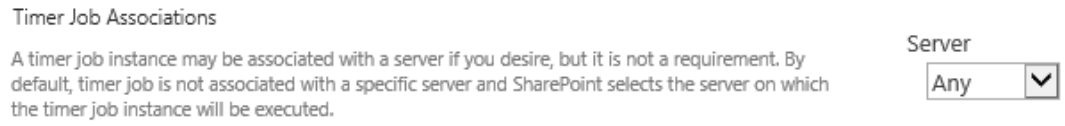
For both methods, a special Geographical locations database needs to be downloaded at least once, but it is recommended to keep it up to date to ensure precise visitors' geographical coordinates determination. MaxMind® company offers a free version of geographic locations database with monthly updates. 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**:

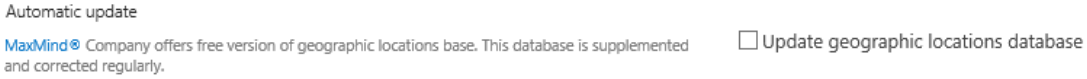


1. You can assign this timer job to run on a specific Web Front-End server only. It can be useful if only certain WFE server has internet access.

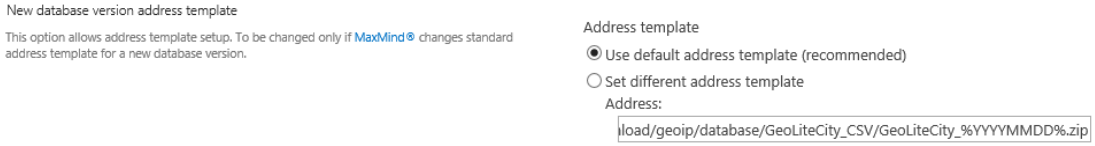
In a normal configuration It is recommended to leave the default setting (**Any**):



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):

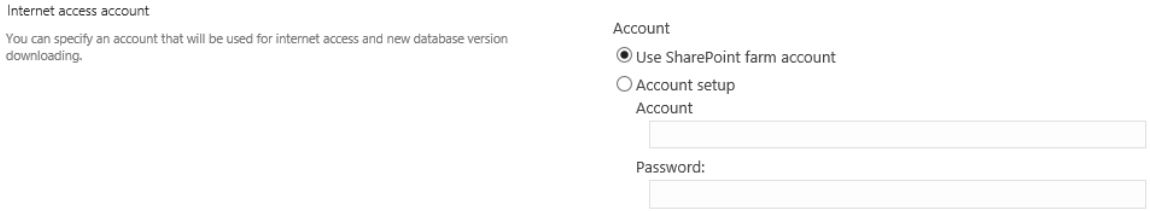


3. If MaxMind® has changed the **database address template**, you can adjust it in the settings. Normally it should be set to **Use default template.**

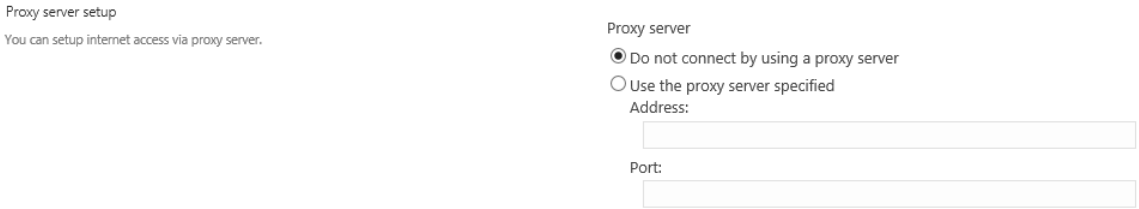


We would be grateful if you **report to HarePoint Technical Support** if noticed the database template had been changed.

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**.



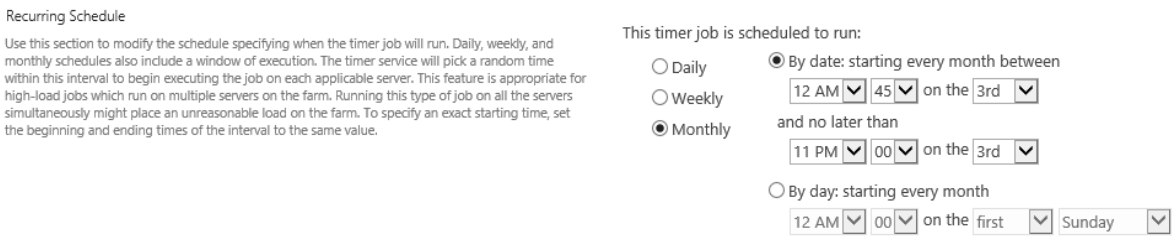
5. If **proxy server** needs to be used to access internet, you can specify it in the settings:



6. Specify the **connection time-out**, default is 1000s (= 16 min 40 sec)



7. Set the **schedule**:



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 (approx. 18 MB) can be requested from HarePoint – please contact HarePoint technical support.

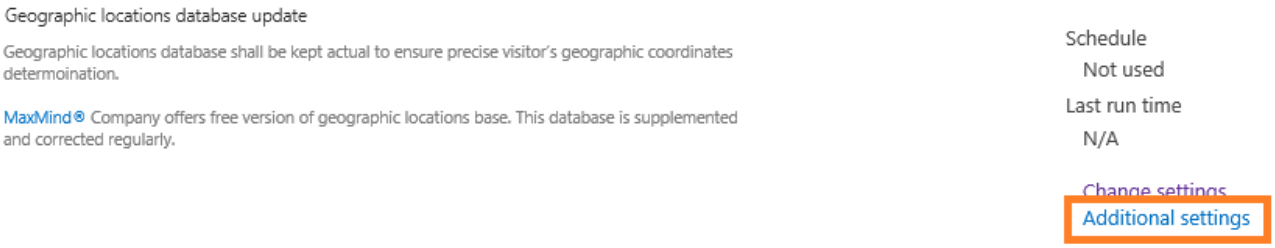
10.2.1. Detection the geographical location by IP address

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).

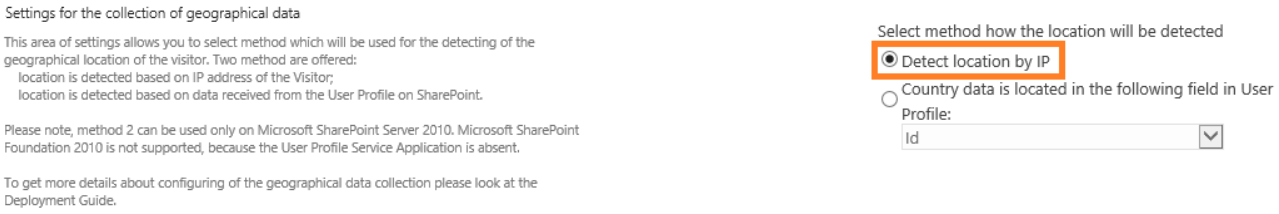
To detect visitor's country by IP address, the special **Geographical location database** is used. It is recommended to update Geographic locations database **once per month** to ensure precise location detection.

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**



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



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

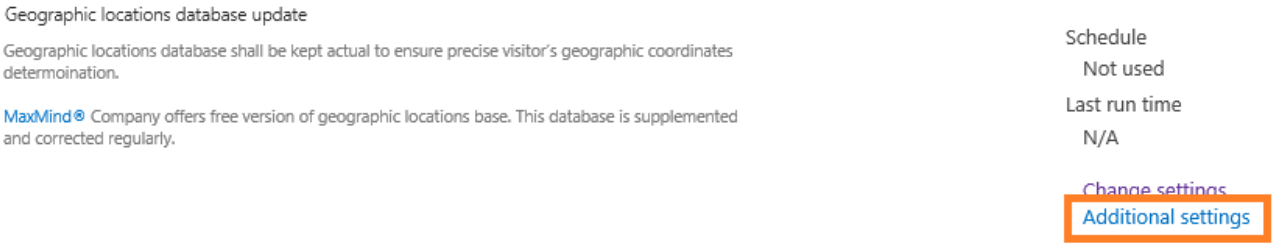
Important note: This method can be only used on Microsoft SharePoint Server 2013/2016. It is not available on Microsoft SharePoint Foundation 2013 since this edition does not incorporate SharePoint User Profile.

In case if you have synchronization established between **Active Directory** and SharePoint User Profile, you can use **AD field** to detect geographical locations.

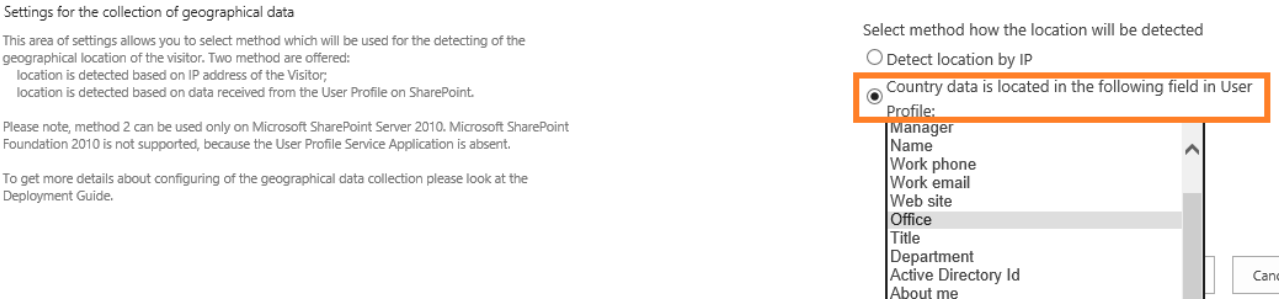
To detect the visitor's country based on a **specific field from SharePoint User Profile**, the special **Geographical location database** is used. For this method, it is sufficient to have Geographic locations database downloaded **at least once and never update it afterwards**.

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**



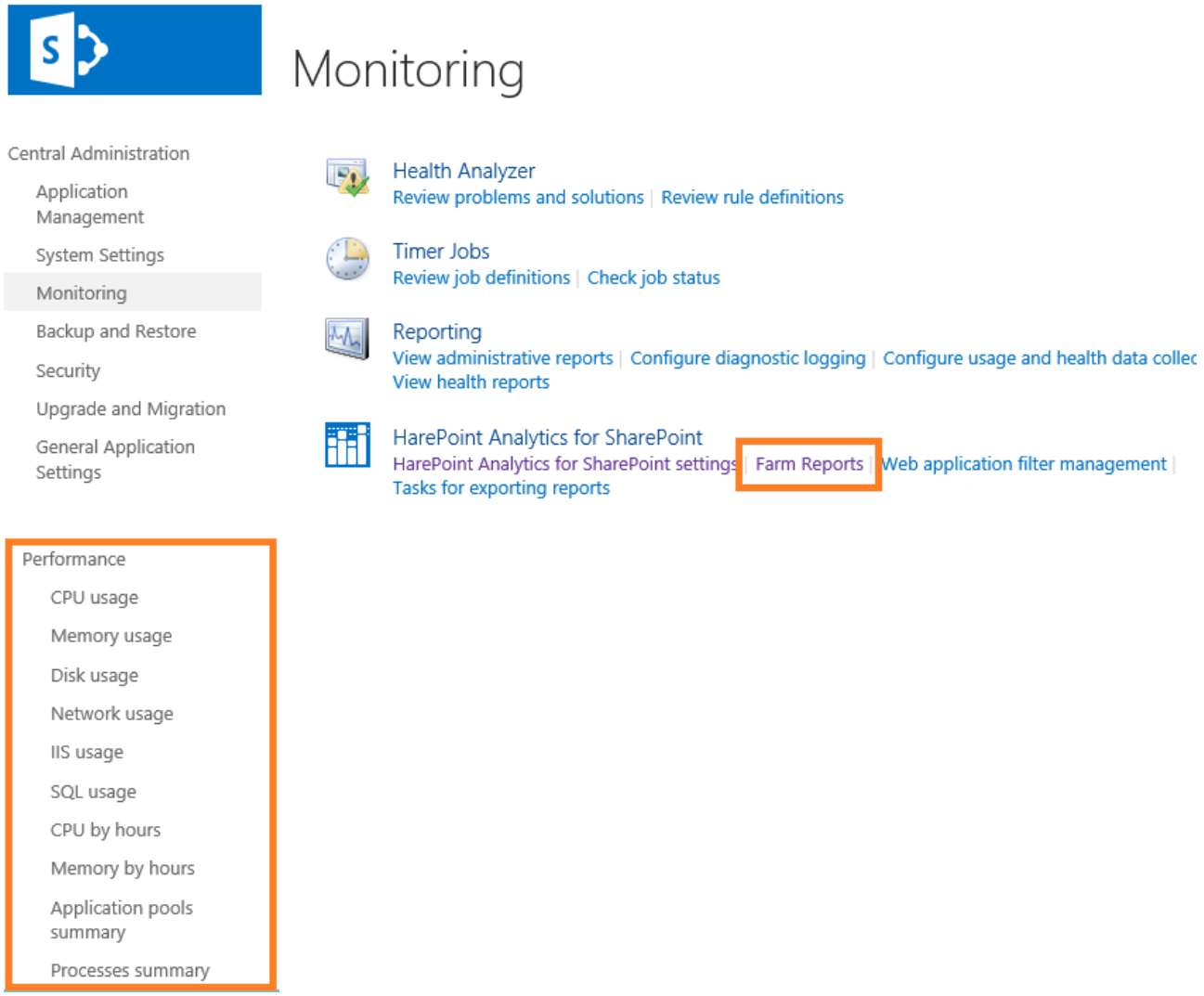
Select option "**Country data is located in the following field in User Profile**" and specify the field that contains the country data:



The selected field should contain the country data in the "**ISO 3166-1 alpha-2**" format (two characters for country codes). To learn more about this format, please follow this link: 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).



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.

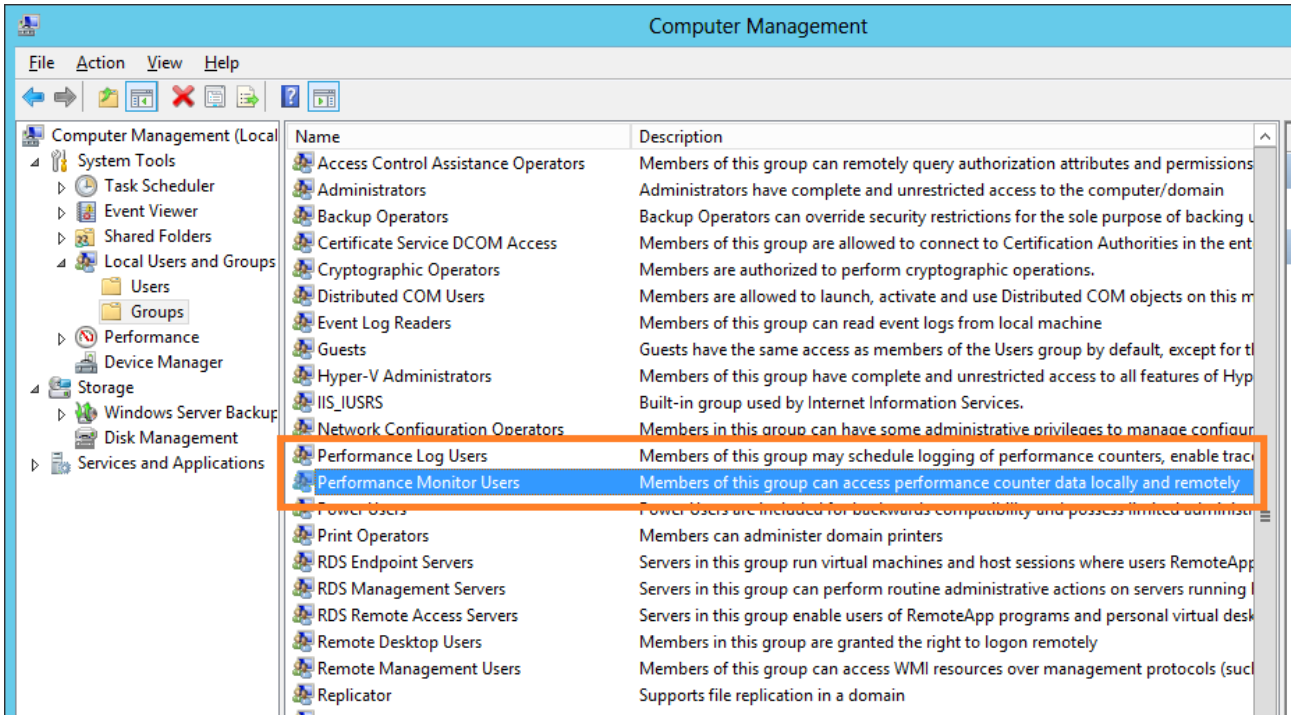
10.3.1. Granting permission to collect the performance data

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, or using a single command to restart it on all servers:

   stsadm -o mlstrestartsptimer

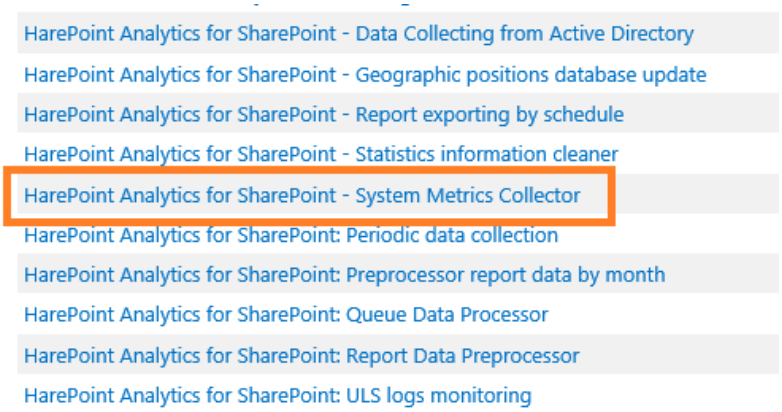
   (**mlstrestartsptimer** parameter is an extension of the **stsadm.exe** administrative utility. This extension is installed together with HarePoint Analytics for SharePoint).

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:



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.

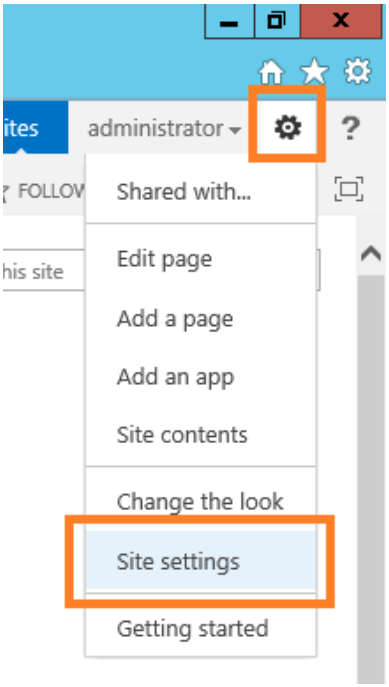
Data collection can be started in either of the following ways:

- using a web-interface
- using HarePoint Analytics Utility
- using a command line

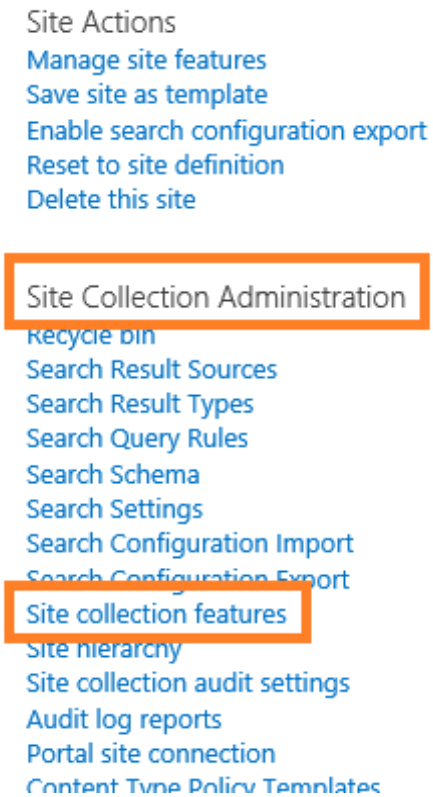
10.4.1. Activation of the data collection using a web-interface

To start data collection for the given site collection:

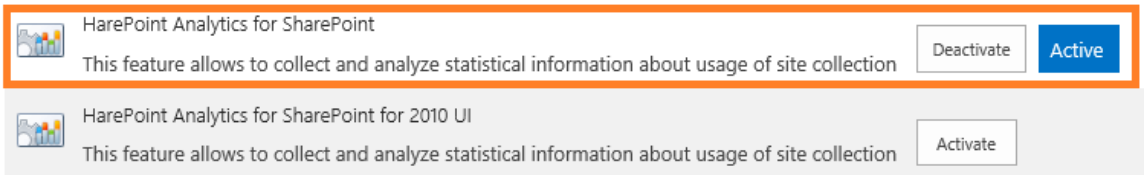
1. Log in as **Site Collection administrator**. (Note that Farm Administrator account **may not have** Site Collection Administration permissions).
2. Go to the **root site** of the site collection where you need to enable data collection.
3. Go to **Site settings**:



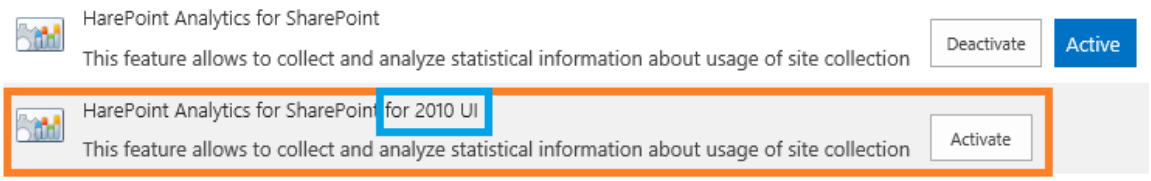
4. Go to the **Site collection features** page:



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



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



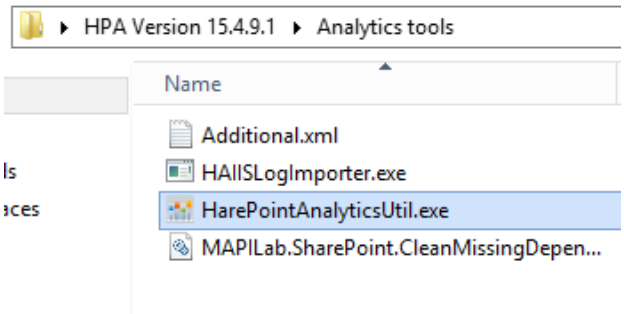
Note: only one of these features should be activated!

6. 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.

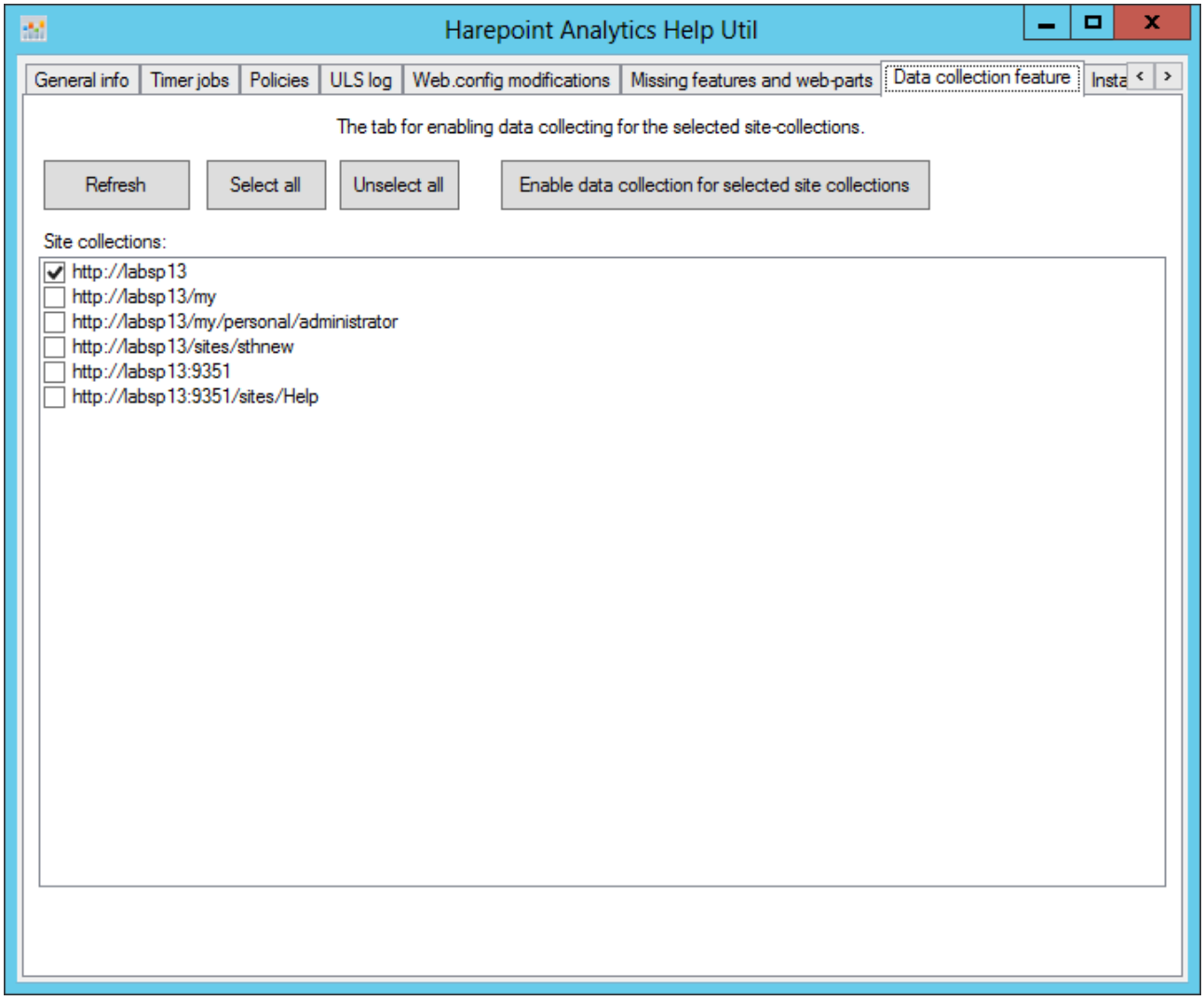
10.4.2. Activation of the data collection using HarePoint Analytics Utility

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 folder:



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 from the command line

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

stsadm -o activatefeature -name MLStatSite -url <url>

stsadm -o deactivatefeature -name MLStatSite -url <url>

Put the full URL of the site collection instead of **<url>** parameter (e.g. http://sp2016/sites/news/).

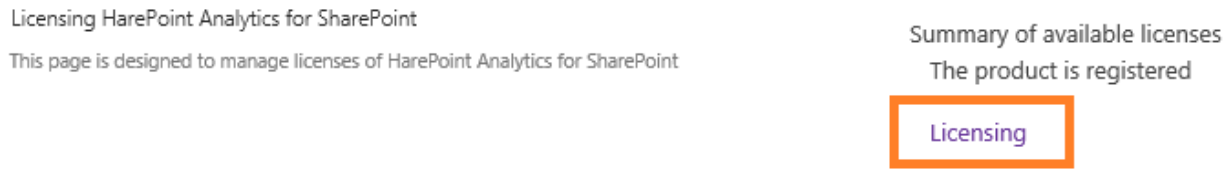
11. License management

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:



11.1. Licensing model

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

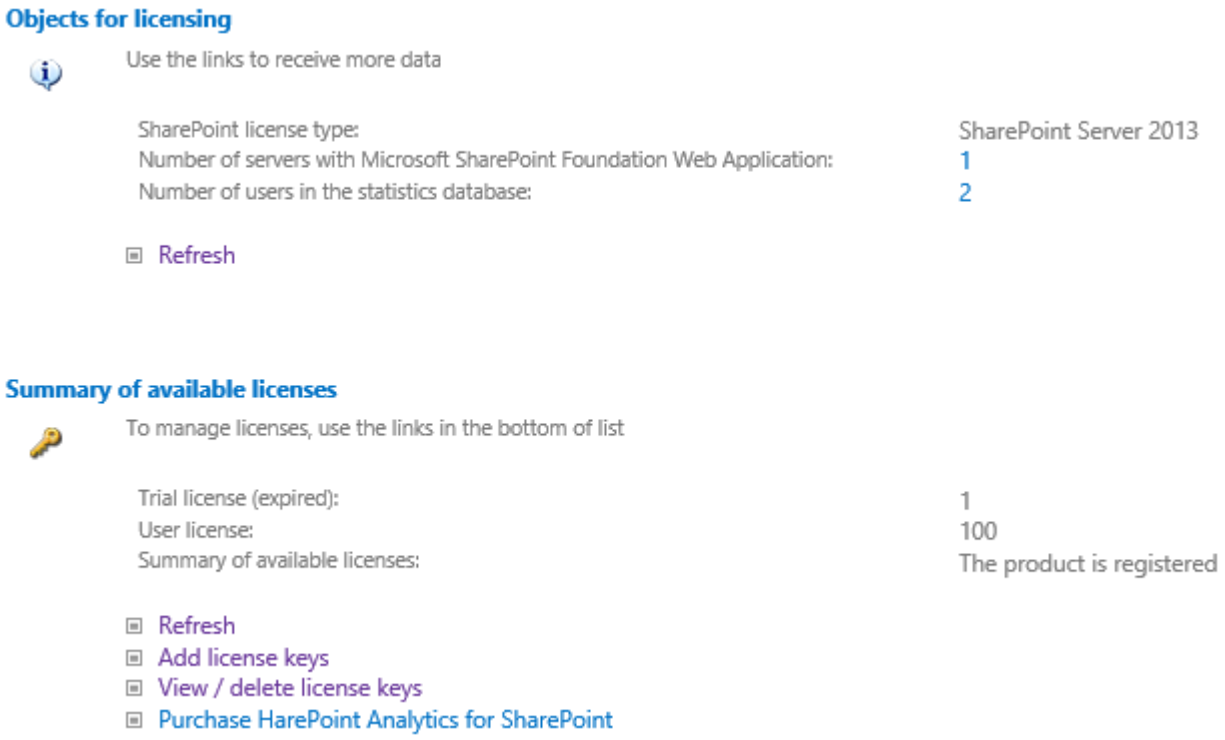
SharePoint user - a user that has been accessing site collections where HarePoint Analytics is enabled. This includes users interacting with SharePoint server through Microsoft Word, Microsoft Excel or other applications.

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

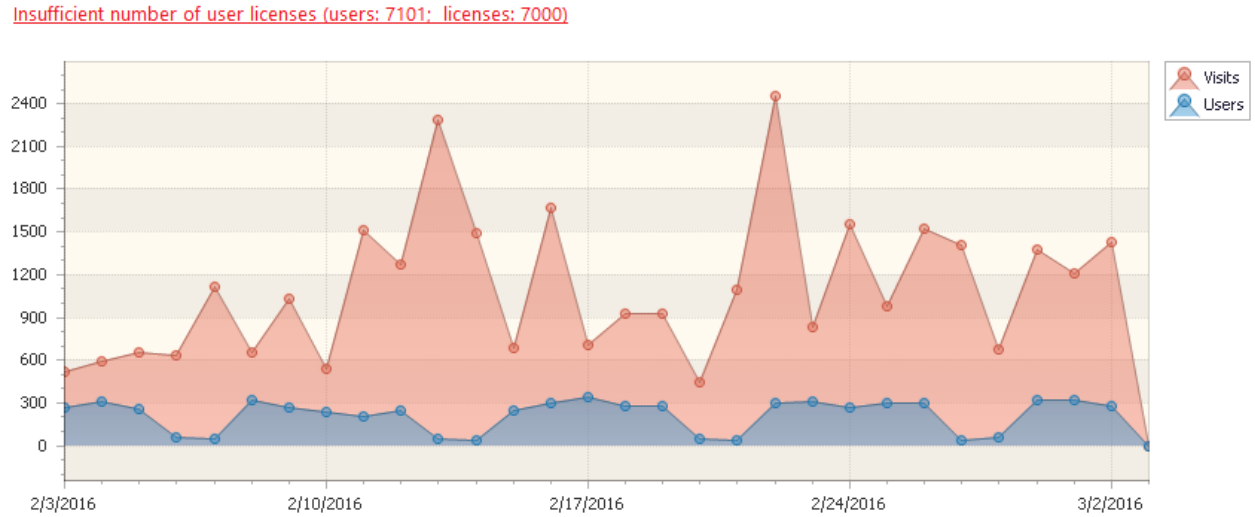
HarePoint Analytics for SharePoint calculates **unique visitors who have visited the SharePoint sites for the last three months**.

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:



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.

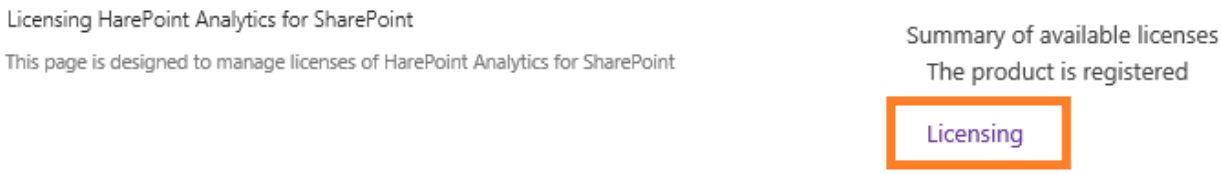
11.3. Entering the license keys

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.

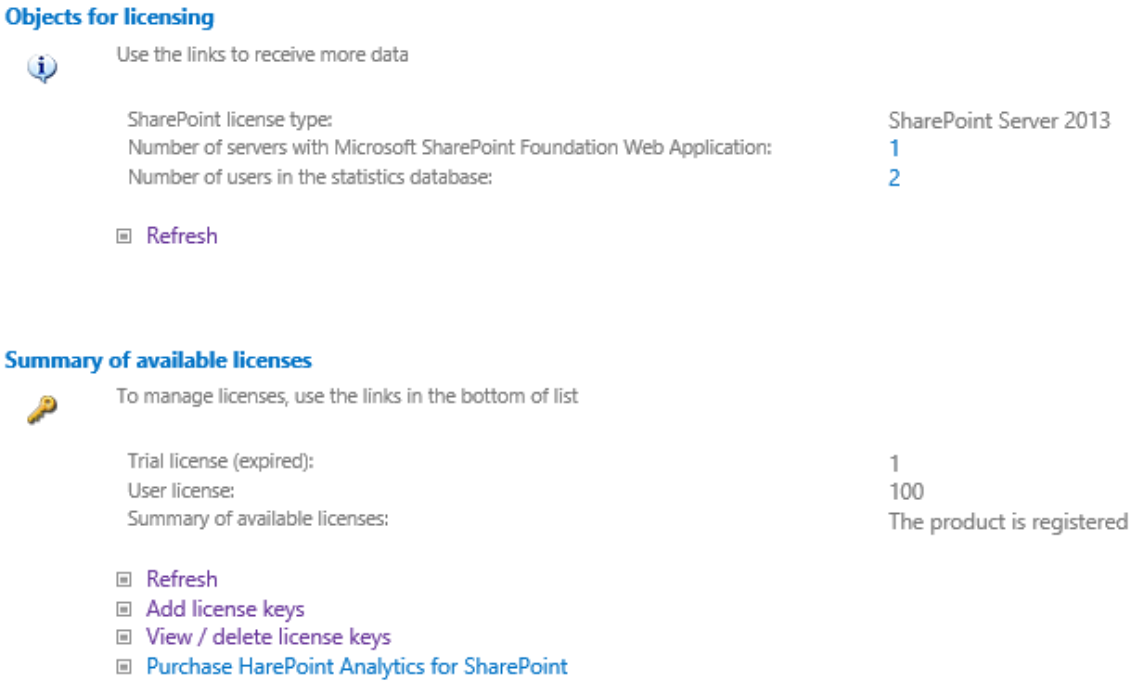
Important note: After the trial has **expired**, the data collection will be **stopped**. Make sure you enter permanent keys before the trial key has expired. Contact HarePoint Support if you experience any difficulties.

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**



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:

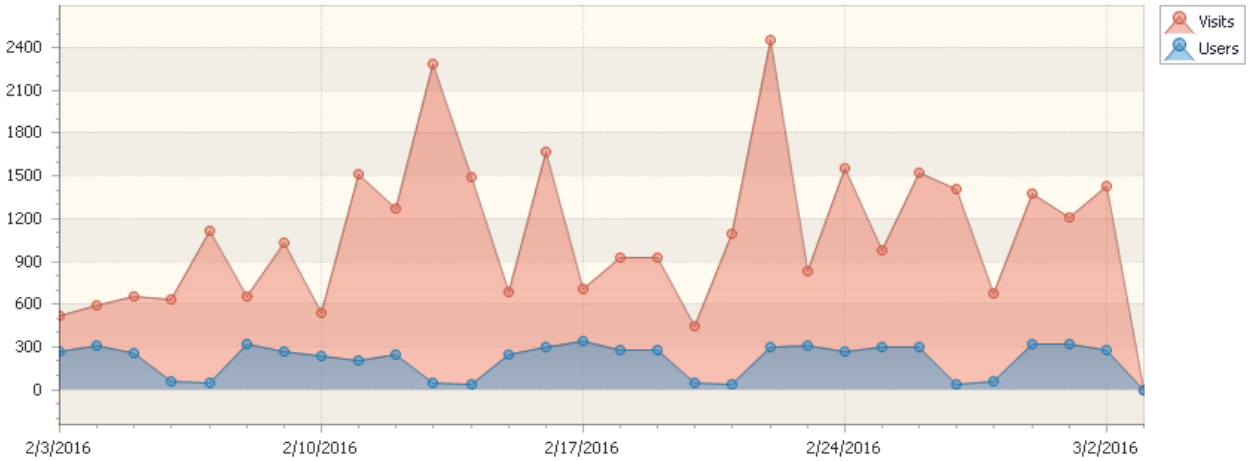


4. To add the license keys (either trial or permanent keys) click **Add license keys**.
   Please be attentive when entering the key. We recommend to **copy-and-paste** it via the clipboard to avoid mistyping or any other mistakes.
   Note: The license keys from HarePoint Analytics for SharePoint 2007, 2010 or 2016 **will not** be accepted by HarePoint Analytics for SharePoint 2013.
   The license keys from HarePoint Analytics for SharePoint 2007, 2010 or 2013 **will not** be accepted by HarePoint Analytics for SharePoint 2016.
   If you have been using HarePoint Analytics on older versions of SharePoint and plan to upgrade or move to SharePoint 2013/2016 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.

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:

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



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.

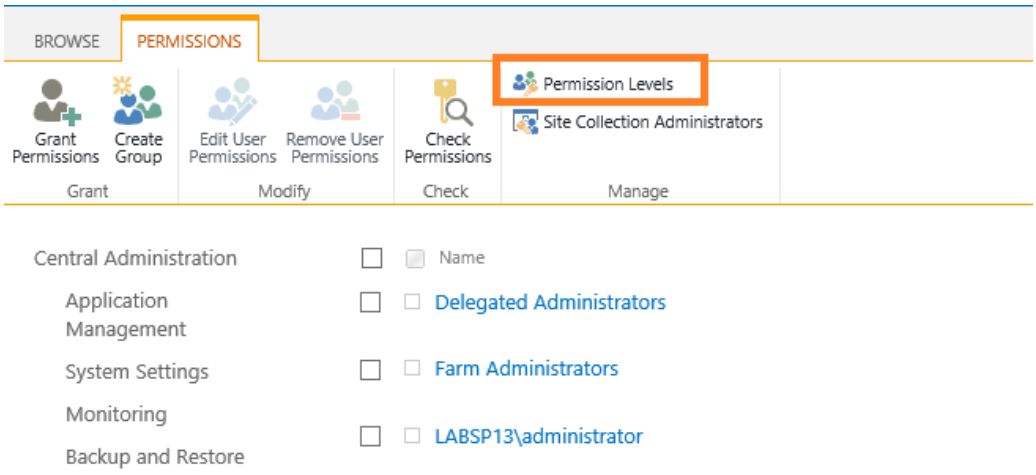
You can create a new **Permission level,** or edit the appropriate existing one to enable **View Web Analytics Data** permission.
Note: Each site collection has its own set of permission levels. Therefore, this permission level needs to be created on each site collection, where required.

Creating a new Permission Level

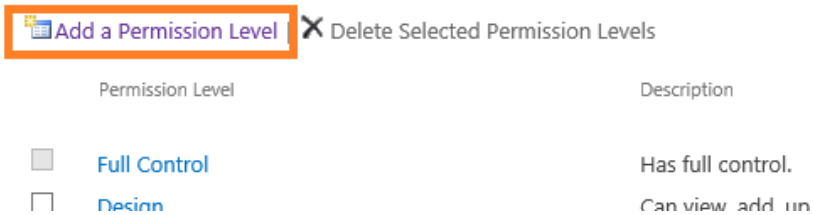
1. Go to **Site Settings - Site Collection Administration** on the root site of the site collection

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.

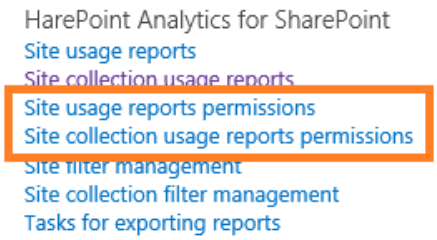
Important note: it is necessary to grant users **View Web Analytics Data** permission first, as described in the previous section.

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.

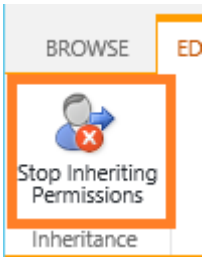
Follow these steps to set the unique access permissions for users for certain site or site collection:

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

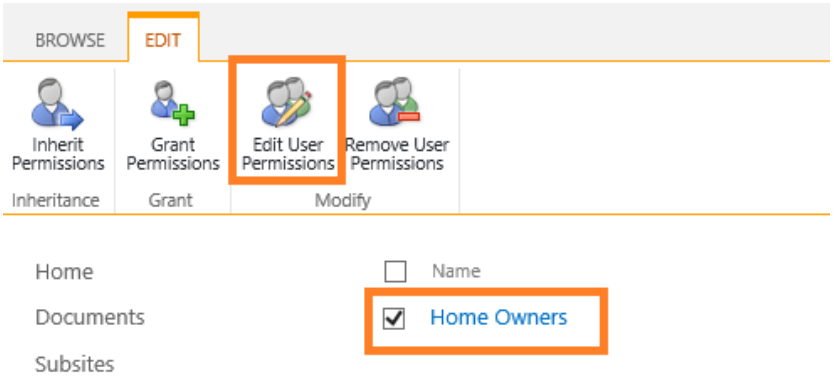
2. Go to **Site Actions - Site Settings** and click **Site usage reports permissions** or **Site collection usage reports permissions** under **HarePoint Analytics for SharePoint -** depending on the scope to apply the unique permissions:



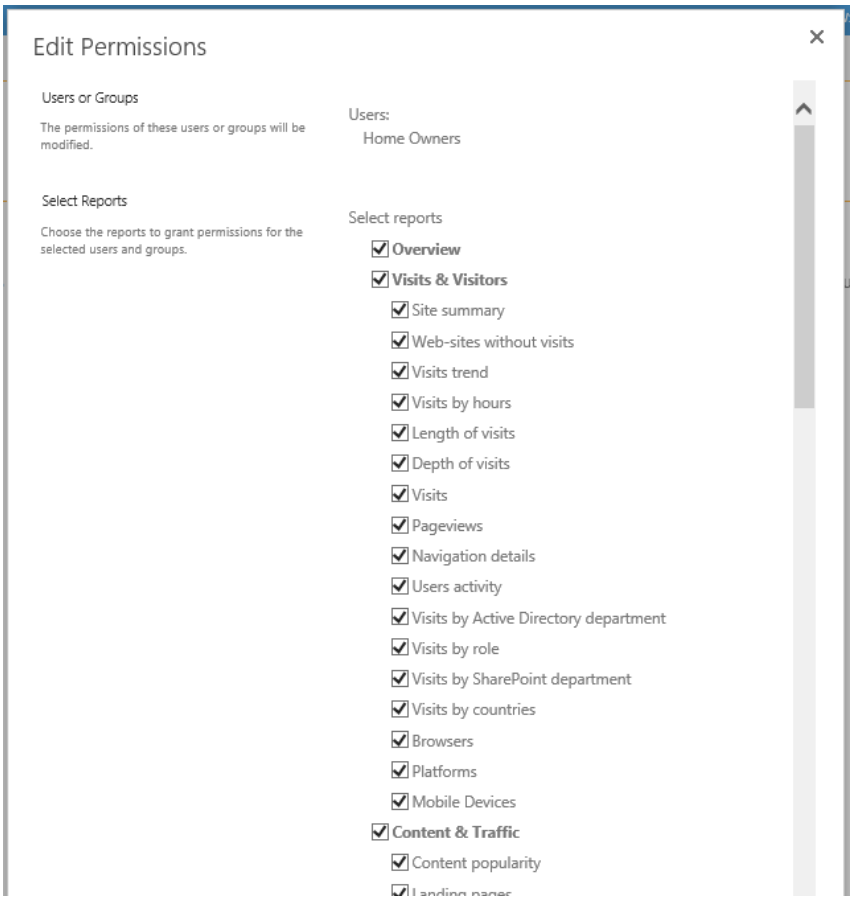
3. To be able to set the unique permissions to access reports, it is necessary to **Stop Inheriting Permissions**. To do this, click the button on the ribbon:



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

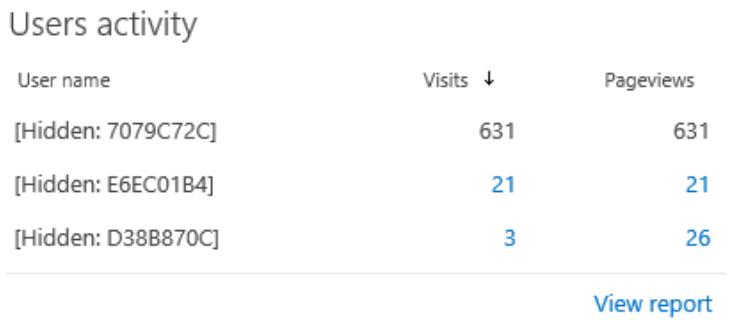


5. **Uncheck** the **reports** and **data types** to make them **unavailable** for this User group:



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:



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

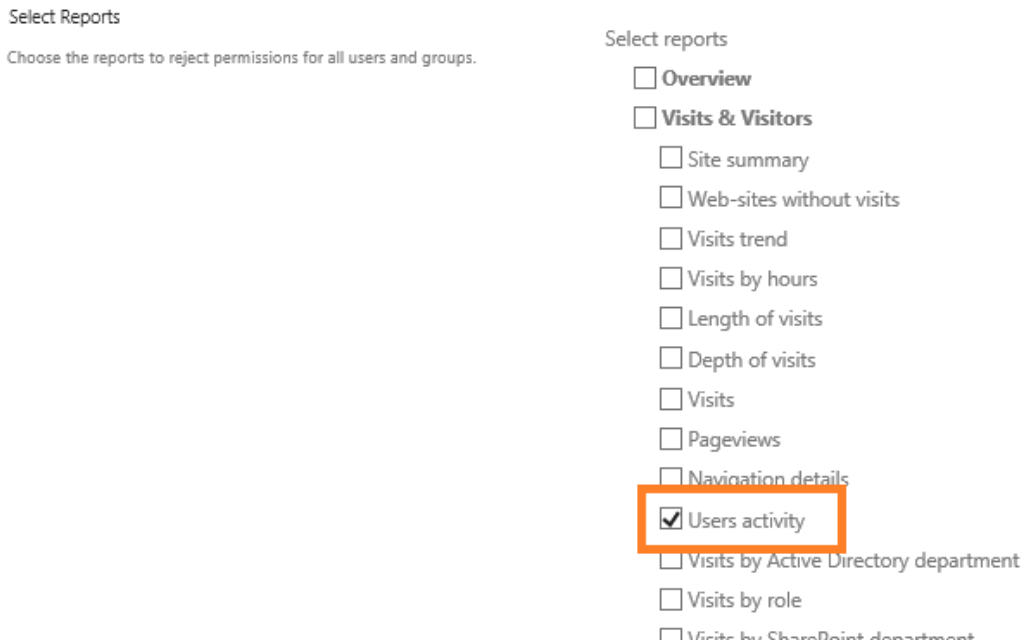
12.2.1. Removing reports from the list

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.

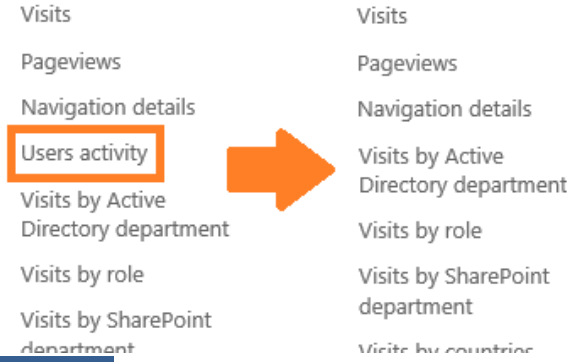
Note: This policy only removes a report from a list of reports. It **does not** stop data collection and/or processing for the given report.

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:



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:



The same result can be achieved by using the following command:

stsadm -o mlstsetpolicy -disablereport <report name>

where **report name** is the identifier of the report. You can obtain it from the full report URL.

Example: for the report named "Visits by countries" URL looks like this:

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

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

stsadm -o mlstsetpolicy -disablereport VisitsByLocation

To bring the report back to the list it is necessary to execute command:

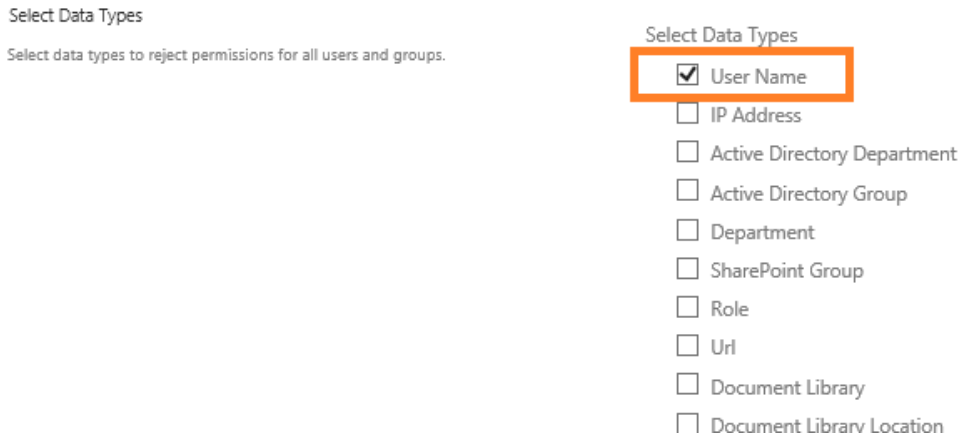
stsadm -o mlstsetpolicy -enablereport VisitsByLocation

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).

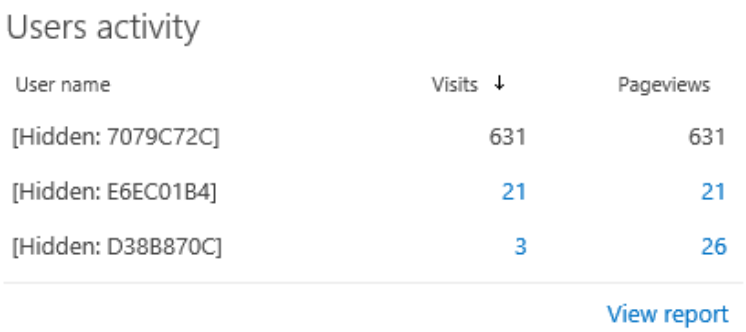
Note: It is possible to manage this on "per-user and per- site collection" basis – refer to Managing users' unique permissions to access reports.

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:



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:



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.

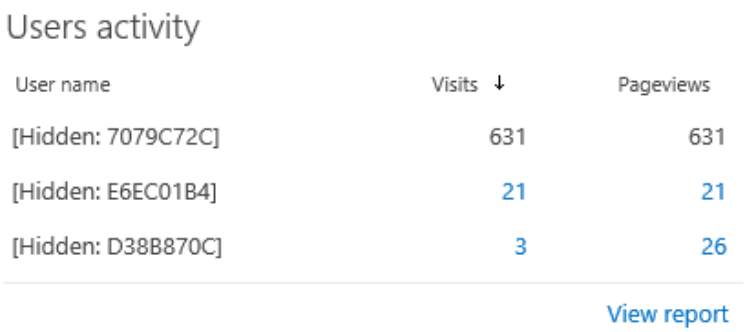
12.2.3. Encrypt user's data during the data collection

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.

To turn on this feature, use the following command:

Stsadm -o mlstsetpolicy -encryptuserinfo true

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



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.

In addition to enabling this policy, it might be reasonable to **run the following command**:

stsadm -o mlstencryptuserinfo

This command will encrypt the **previously collected** personal data, so you can be sure that **all** 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

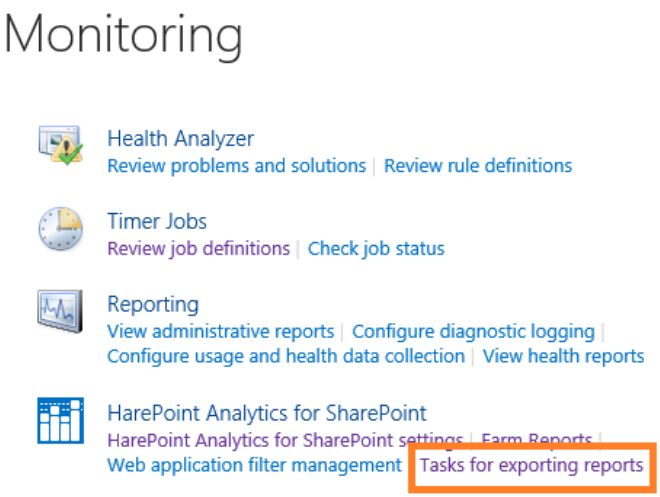
In HarePoint Analytics, users can **subscribe** to reports to receive them **by e-mail** and/or have the report saved to a **document library**, by a schedule.
This is an alternative way of getting statistical reports from HarePoint Analytics (all possible ways are mentioned in Report generation paragraph).

You can access the **Subscription Management** page in several ways:

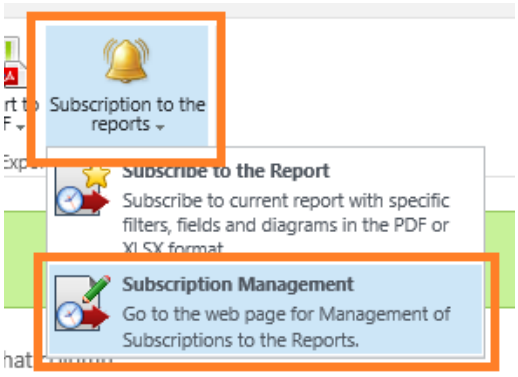
- from **Site Settings – HarePoint Analytics section** - **Tasks for exporting reports** to subscribe **to site or site collection reports**:



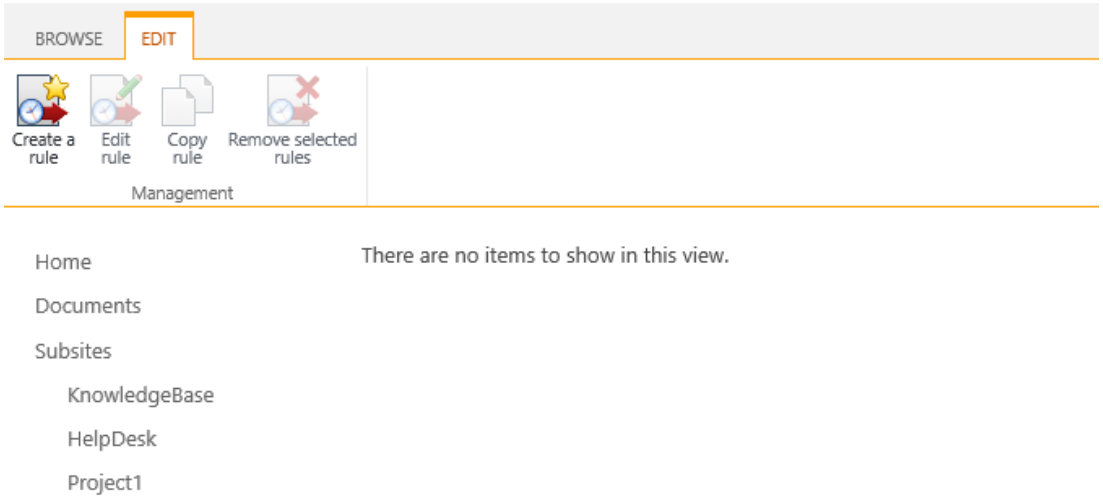
- from **Central Administration – Monitoring – HarePoint Analytics section – Tasks for exporting reports**, to subscribe to **farm reports**:



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



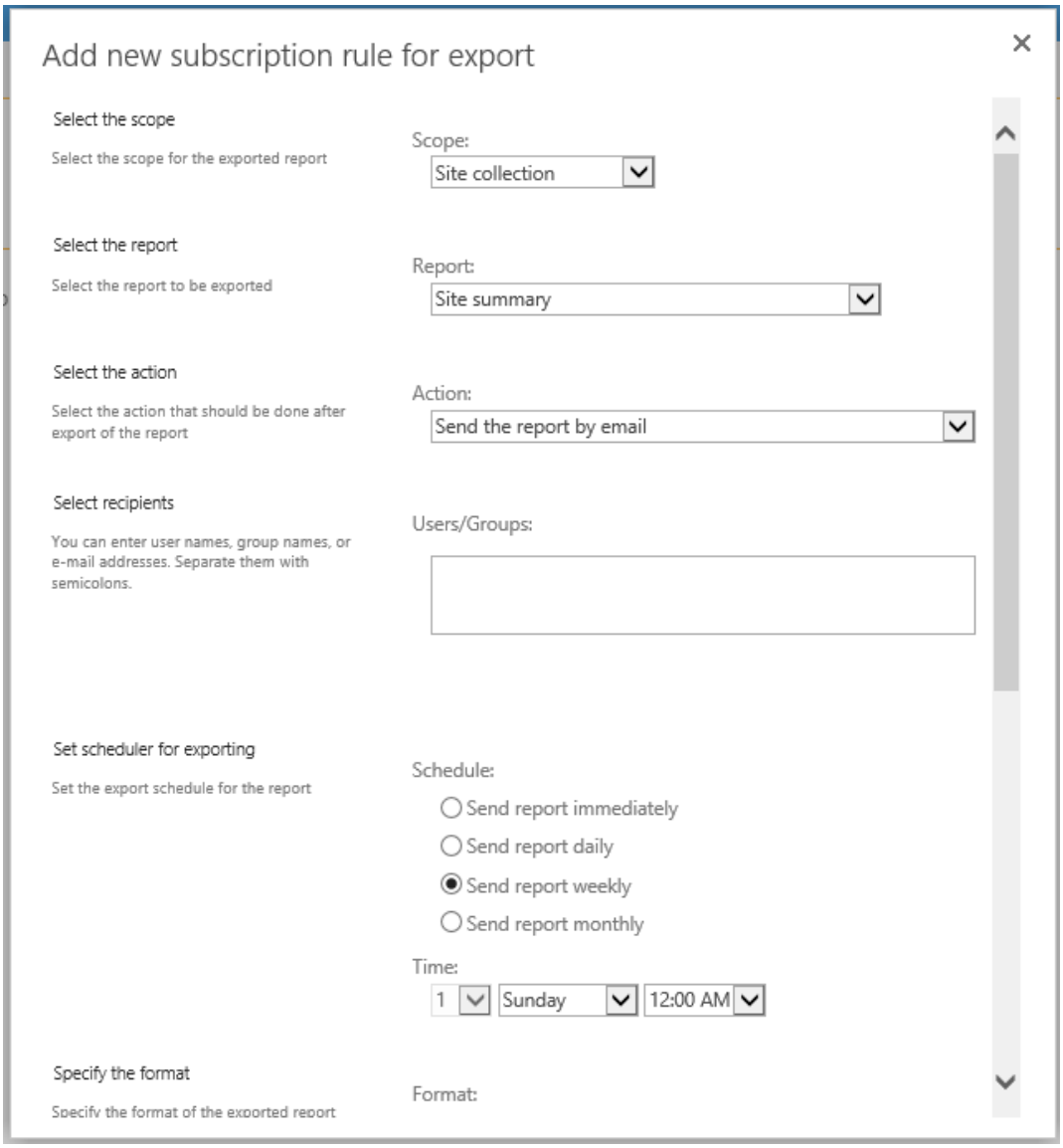
This will bring you to a corresponding subscription management page:



13.1. Adding a new subscription

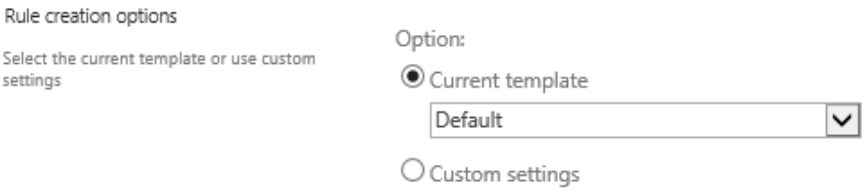
Follow these steps to **create a new task**:

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

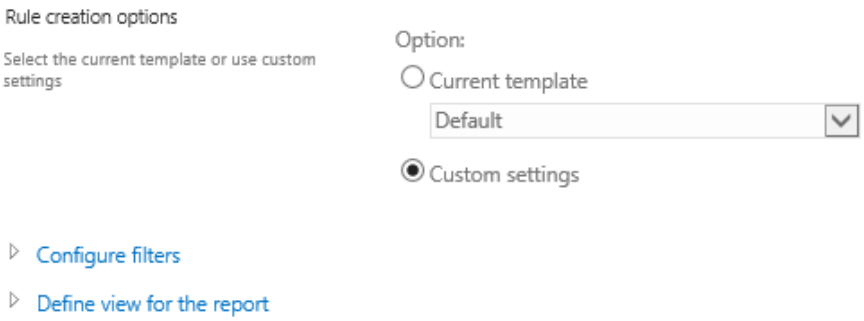


2. select the **scope** (not available for farm reports):
    a. Site collection
    b. This site only
    c. This site and subsites
3. Choose the **report** that should be sent
4. Select the **delivery method**:
    a. Send by e-mail
    b. Save to a document library
    c. Send by e-mail and save to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



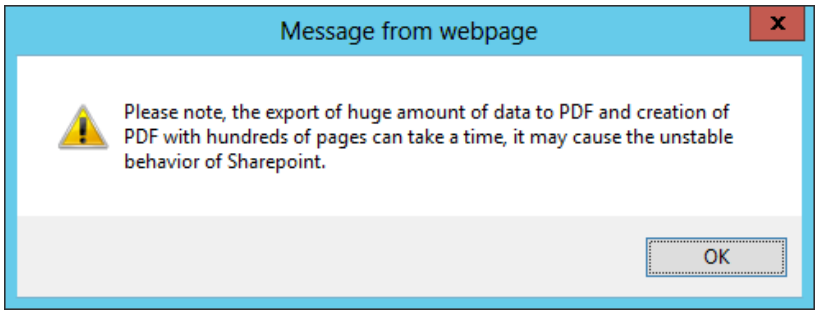
or set all the parameters **manually**:



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:

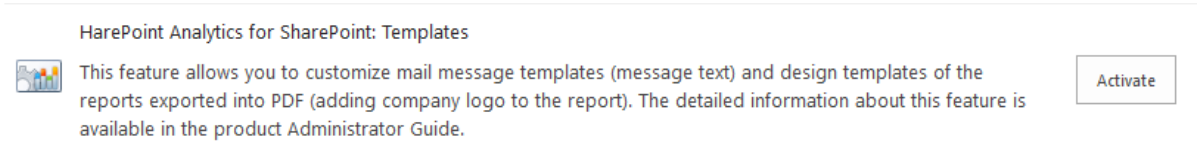


However, technically there are no limitations to the size of the exported report.

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:



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 MAPILab Ltd. 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
   - #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

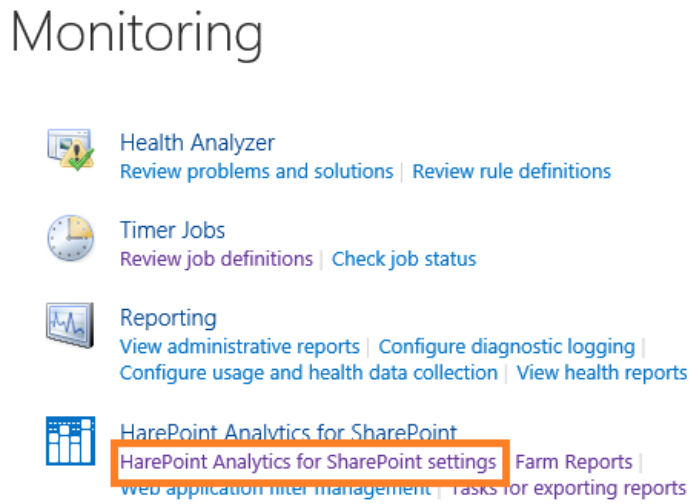
14. Advanced Settings

14.1. HarePoint Analytics Timer Jobs

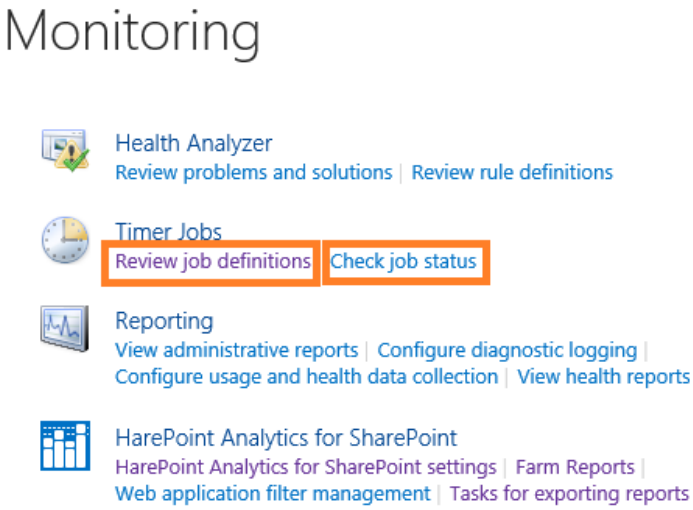
HarePoint Analytics for SharePoint creates several **Timer Jobs** during the solution deployment. The **Timer Jobs** are started by a schedule.

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)

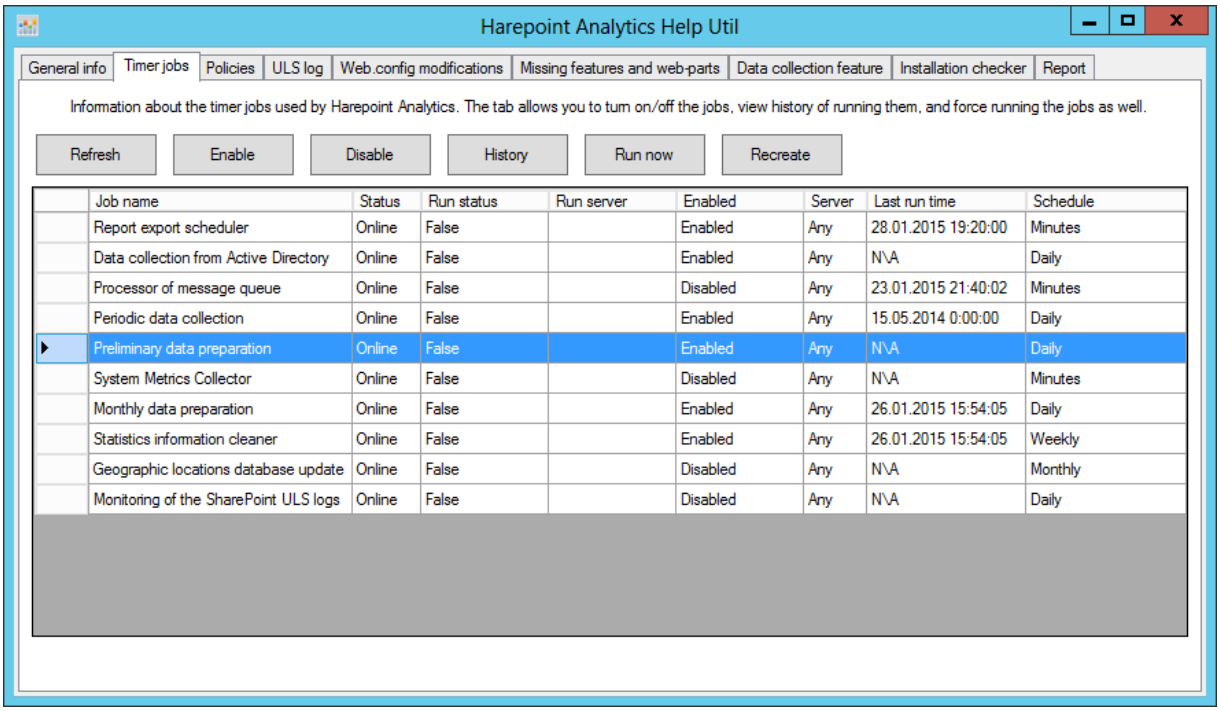


- in centralized SharePoint timer jobs management sections: **Central Administration – Monitoring – Review job definitions** and **Check job status** sections (all HarePoint Analytics timer jobs displayed, possible to find out the current status and progress, run jobs manually)



- 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



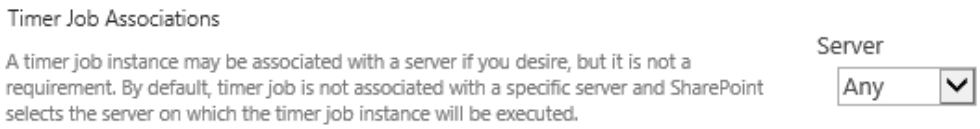
Schedule

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 of different servers. In the product settings it is possible to assign a timer job to a certain server, so that it will always be executed on this server.



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.

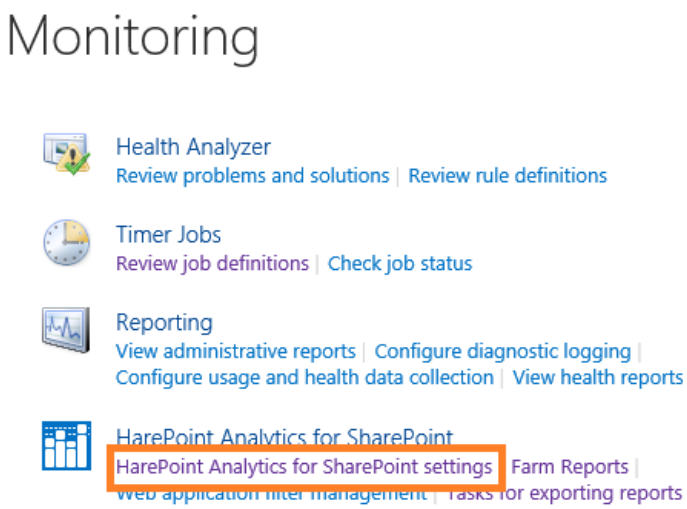
14.1.1. Processor of Message Queue (Queue Data Processor)

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.

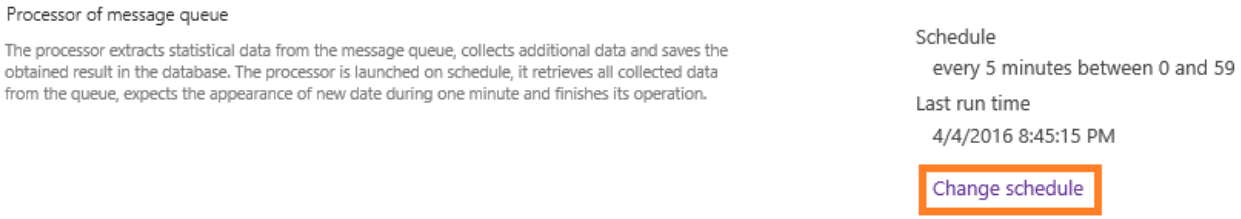
Default schedule is every **5 minutes**. Recommended is every 5-10 minutes.

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.

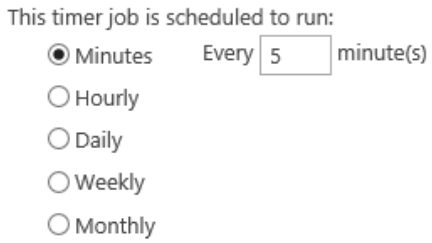
To change the schedule of **Processor of Message Queue,** go to **Central Administration – Monitoring – HarePoint Analytics settings**:



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



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



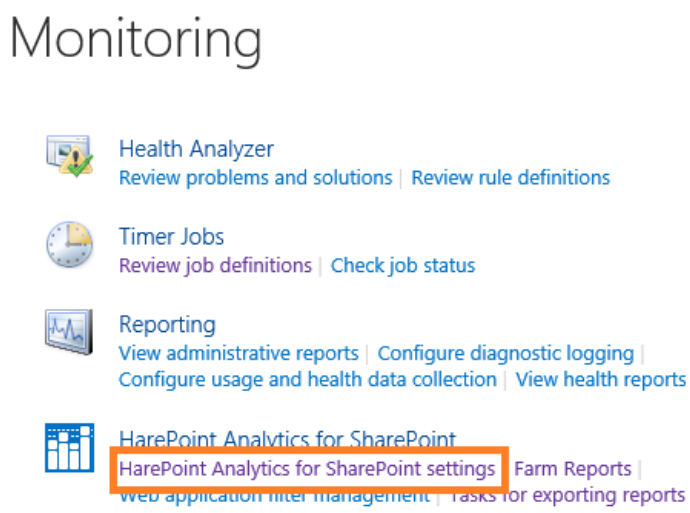
Press the **OK** button to save changes.

14.1.2. Preliminary Data Preparation (Report Data Preprocessor)

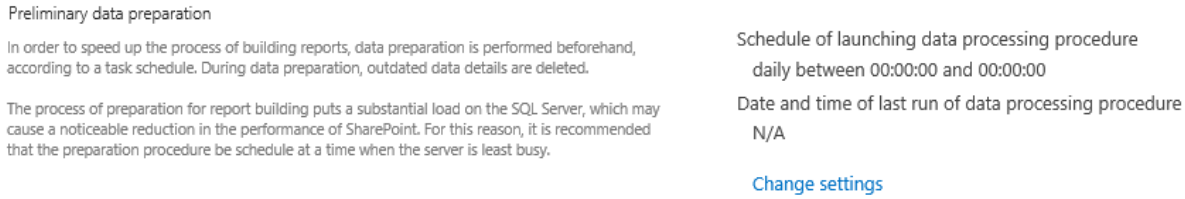
Preliminary Data Preparation (in timer job definitions called **Report Data Preprocessor**) is a key timer job in HarePoint Analytics. This timer job processes the data collected during the day (from various sources) and prepares all the information for the daily reports. This approach ensures the data 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.

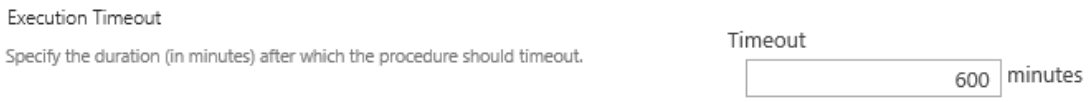
To change the settings of **Report Data Preprocessor**, go to **Central Administration – Monitoring – HarePoint Analytics settings**:



Click on **Change settings** in **Preliminary Data Preparation** section:



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.

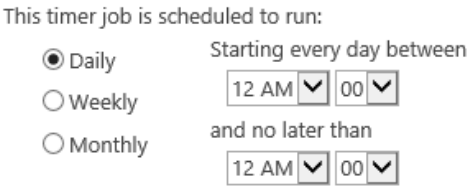


The option **Prepare data without disabling of message queue job** should normally be **unchecked**:



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:



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

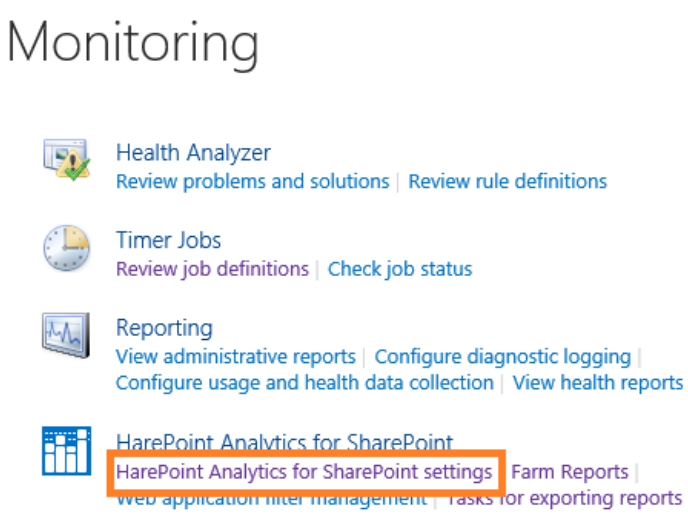
Important note: It is **not recommended** to click **Run now** button during the working hours, as this timer job puts a substantial load on the SQL server and can take up to several hours to complete.

14.1.3. Monthly Data Preparation (Preprocessor report data by month)

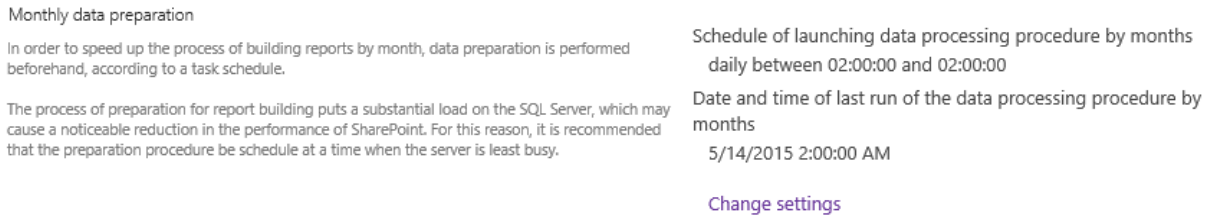
The **Monthly Data Preparation (**in timer job definitions called **Preprocessor report data by month)** timer job prepares the data for Monthly reports based on the data from Daily reports, which in turn are prepared by the **Preliminary Data Preparation** timer job. If for some reason the daily data 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.

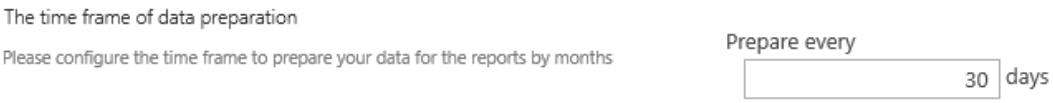
To change the settings of the **Monthly Data Preparation** job**,** go to **Central Administration – Monitoring – HarePoint Analytics settings**:



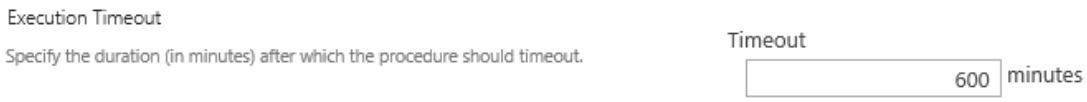
Click on **Change settings** in **Monthly Data Preparation** section**:**



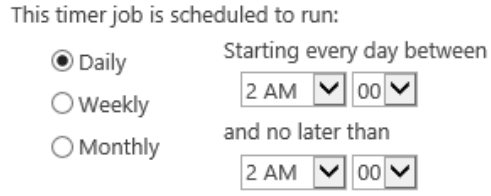
The time frame of data preparation is set to **30 days** by default and should not be changed:



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.



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



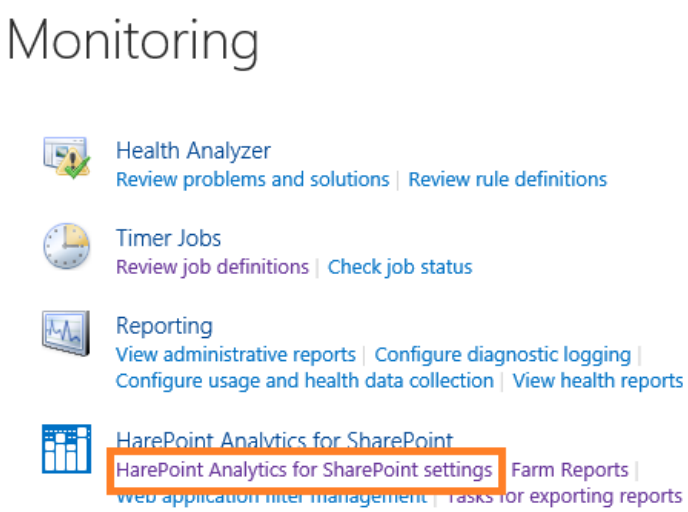
Click **OK** to save the configuration.

14.1.4. Periodic data collection

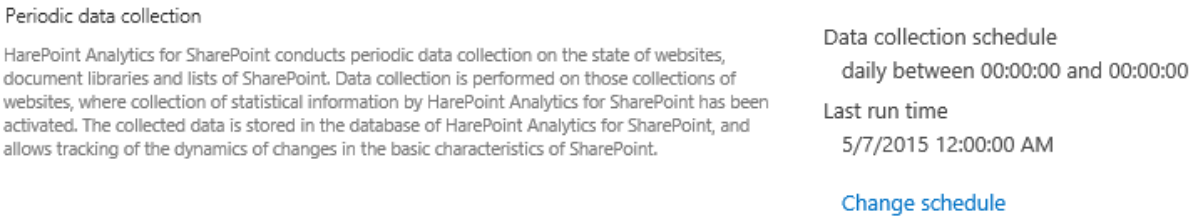
The **Periodic Data Collection** timer job collects **additional information** from SharePoint, such as the status and parameters of websites, lists, and document libraries.
Note: This job **does not** collect data about the document usage or webpage clicks.

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.

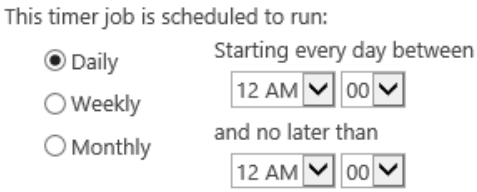
To change the schedule of **Periodic data collection** job, go to **Central Administration – Monitoring – HarePoint Analytics settings**:



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



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

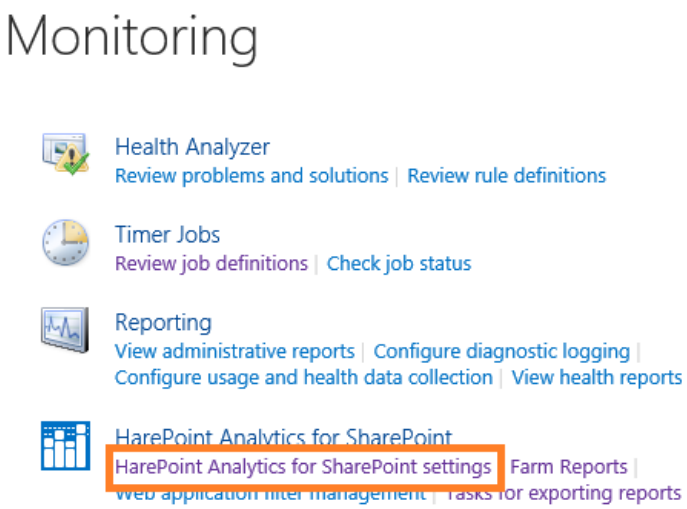


Press the **OK** button to save the configuration.

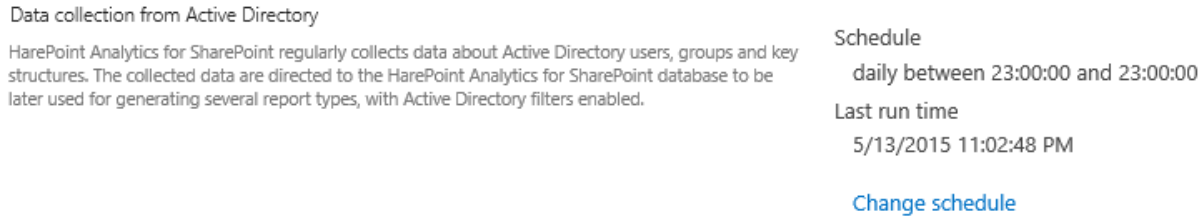
14.1.5. Data Collection from Active Directory

This timer job collects **additional information** about Active Directory users and groups, as well as some other key parameters from AD.

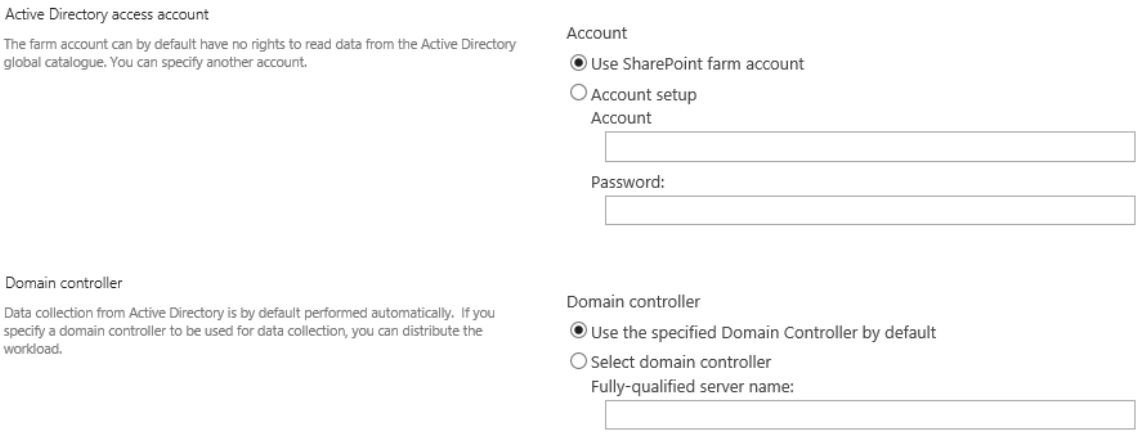
To **change the schedule or settings** of **Data Collecting from Active Directory** timer job, go to **Central Administration – Monitoring – HarePoint Analytics settings**:



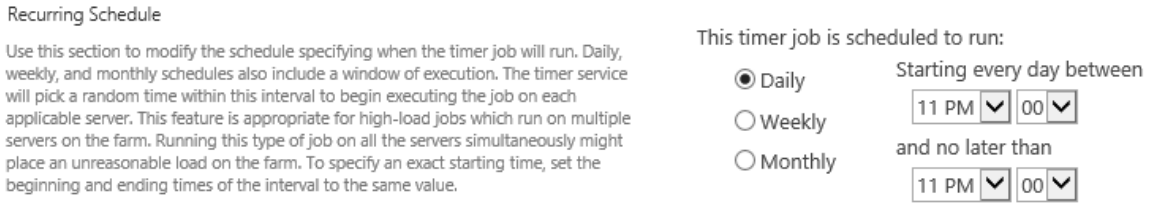
Click on **Change Schedule** link for this timer job:



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.



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.



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

14.1.6. 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.

14.1.7. System Metrics Collector

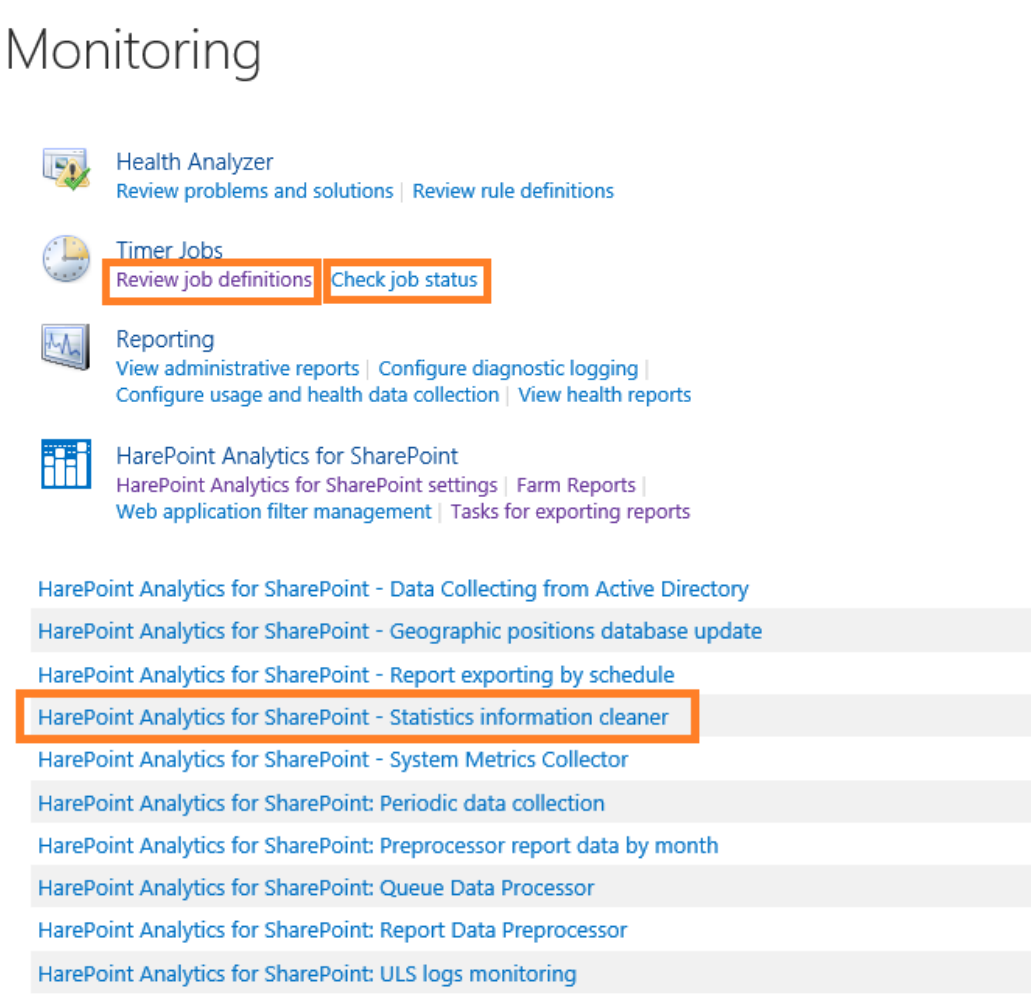
The **System Metrics Collector** timer job is used to collect data on WFE servers' performance, such as **CPU Usage, Memory usage, Disk usage, Network usage**, etc. These data are solely available in the **Performance** category of **farm reports** in **Central Administration**.

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.

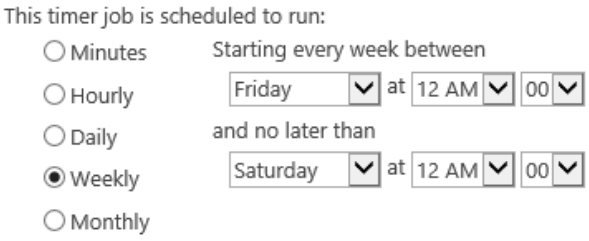
14.1.8. Statistics Information Cleaner

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**:



Default and recommended schedule is **once weekly during off-hours**.

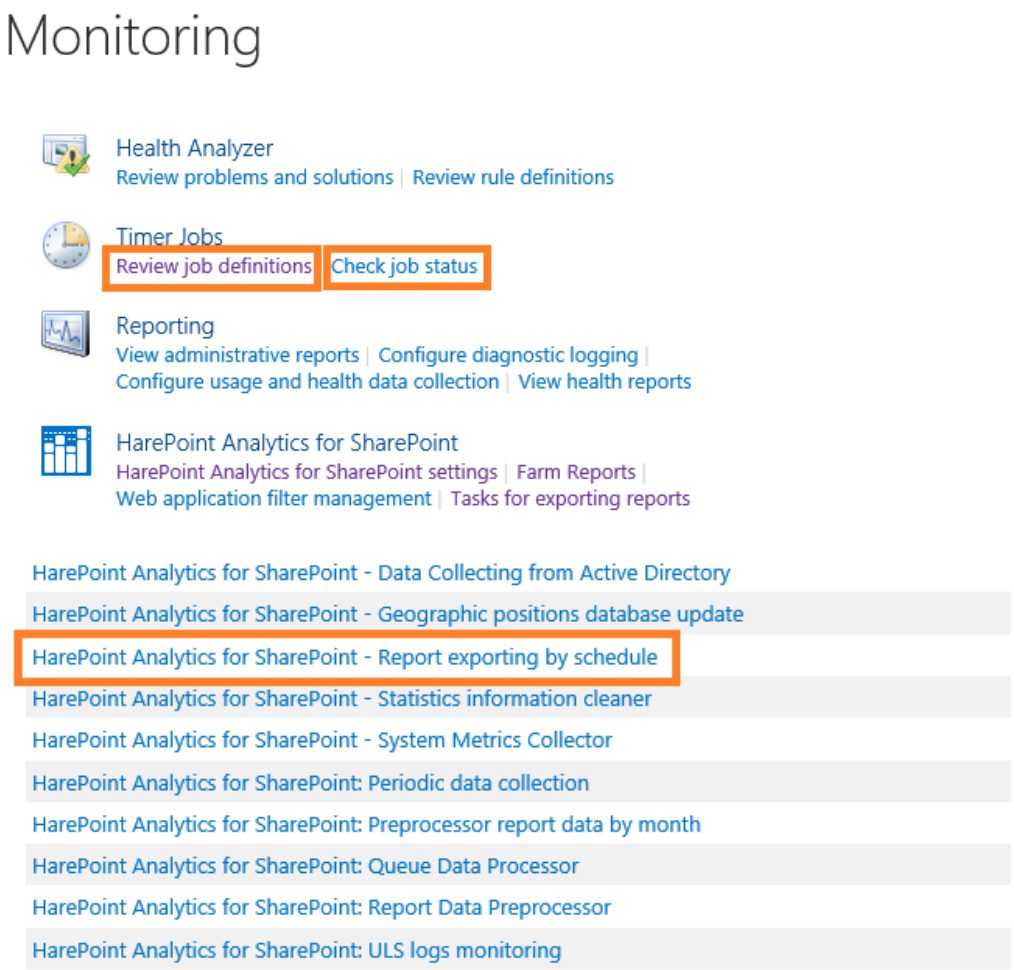


14.1.9. Report exporting by schedule

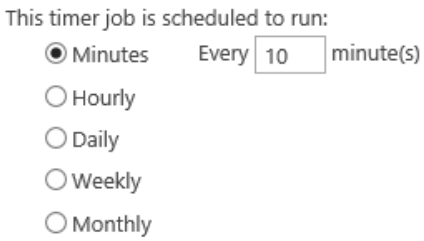
Report exporting by schedule timer job is used to export the scheduled reports and send them by-email, or save to selected document library. This is performed for all sites and site collections by a single timer job. Refer to Reports Subscription Management for more information.

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**:



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

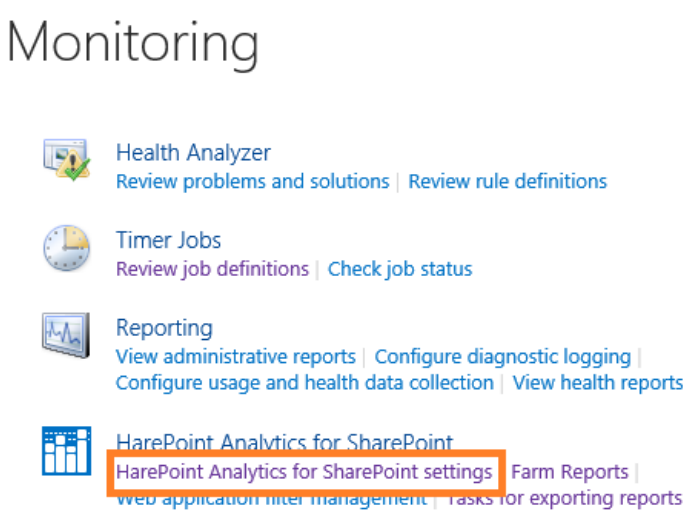


14.1.10. Monitoring of the ULS logs

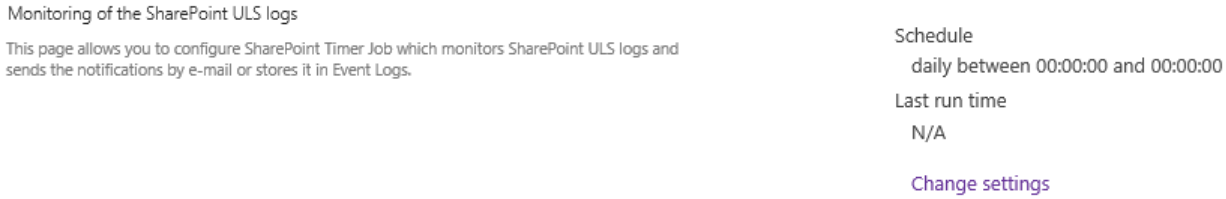
Monitoring of the ULS logs (in timer job definitions called **ULS logs monitoring**) is used to monitor SharePoint ULS logs and send notifications by e-mail or submit events to Event Log when certain events have been logged.

This timer job is **optional** and **disabled by default**.

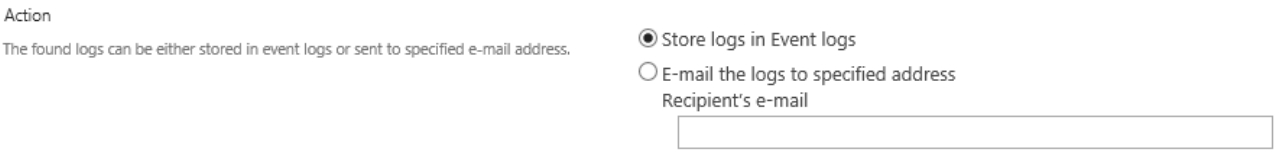
To change the settings of this timer job, go to **Central Administration – Monitoring – HarePoint Analytics settings**:



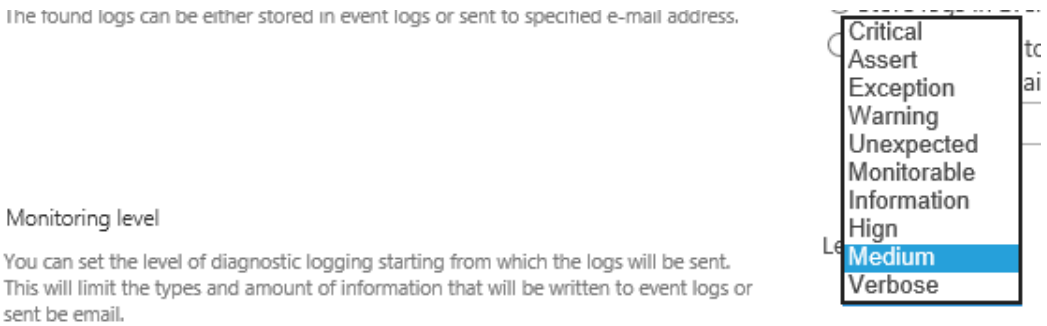
Click on **Change Settings** in **Monitoring of the SharePoint ULS logs** section:



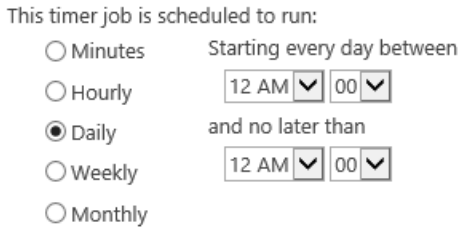
Select the **delivery method**: send to Event logs or send by e-mail:



Select the **monitoring level** for the messages to be notified about:



Set the **schedule**, as necessary:



Click **OK** to save the settings.

14.2. Setting the data retention period

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.

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

Note: This is performed by means of **Stsadm.exe**, which is normally located at:
C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\15\BIN

14.2.1. Setting new retention period

Use the following command to set the new retention period:

Stsadm -o mlstsetstatdatakeepdays -<parameter> <amountofdays>

Parameters (amount of days should be set for each parameter; 0 (zero) – disables the data removing):

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)

Data in daily reports (default is 180 days)**:**

- VisitsReports
- DocsReports
- ListsReports

- SearchReports
- PerformanceReports (in Central Administration)

Examples:

Stsadm -o mlstsetstatdatakeepdays -visitsmain 30
Sets a retention period for unprocessed data for Visits reports to 30 days.

Stsadm -o performancereports 0
Disables the data cleanup for performance reports.

14.2.2. Checking the current settings for the retention period

Stsadm -o mlstdisplaystatdatakeepdays

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

```
C:\Program Files\Common Files\microsoft shared\Web Server Extensions\15\BIN>Stsa
dm -o mlstdisplaystatdatakeepdays

<Statistics data keeping>
   <visitsMainDays>90</visitsMainDays>
   <docsListsMainDays>90</docsListsMainDays>
   <searchesMainDays>90</searchesMainDays>
   <visitstReportsDays>180</visitstReportsDays>
   <docsReportsDays>180</docsReportsDays>
   <listsReportsDays>180</listsReportsDays>
   <searchesReportsDays>180</searchesReportsDays>
   <performanceReportsDays>180</performanceReportsDays>
</Statistics data keeping>

Operation completed successfully
```

14.3. 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, UserAnonimous, DoNotCollect`
- Filtering for the other fields is performed while data are being transferred to the Main Database.

Exceptionally for troubleshooting purposes, it is possible to disable either or both of these two filtering stages, by using **useDataCollectionFiltersOnHTTP** and **useDataCollectionFiltersOnQueueProcessing** policies respectively – refer to Using stsadm.exe 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.

14.3.1. Filter levels

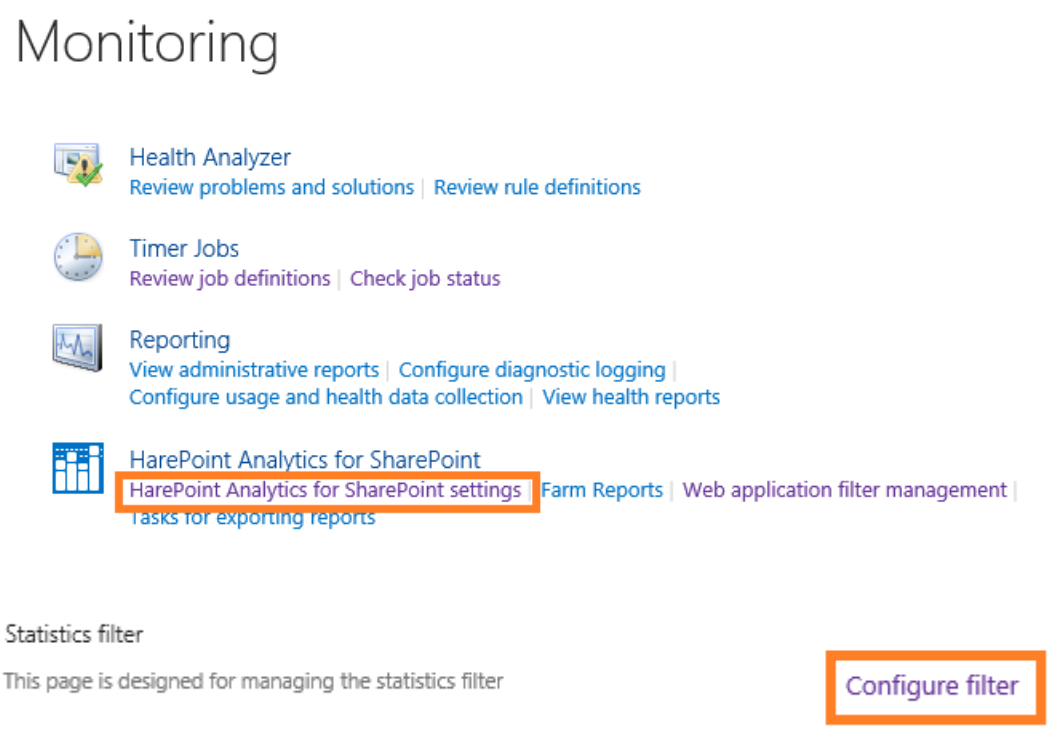
Farm level filter

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.

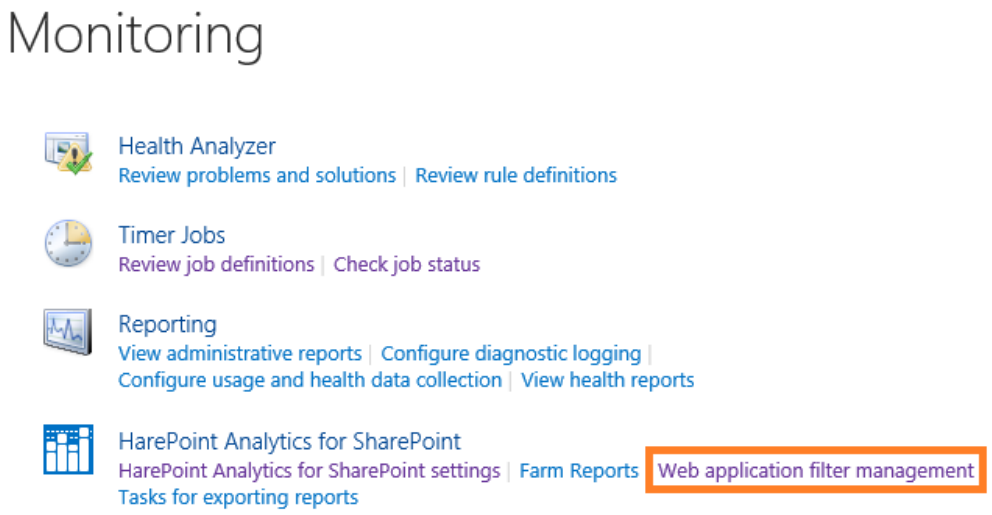
To access the farm level filter rules settings, go to **Central Administration – Monitoring – HarePoint Analytics Settings – Statistics filter**:



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**:



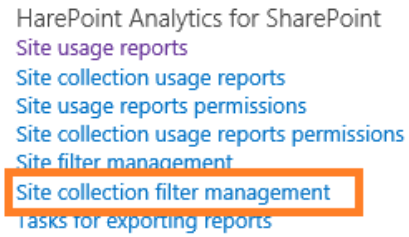
Select the required application:



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.

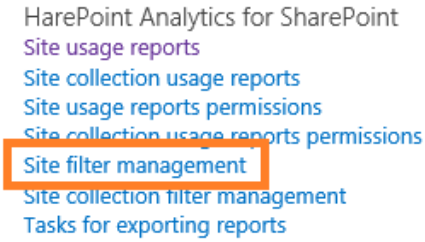
Access **Site Settings** for the required site collection, go to HarePoint Analytics for SharePoint section – **Site collection filter management** link:



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.

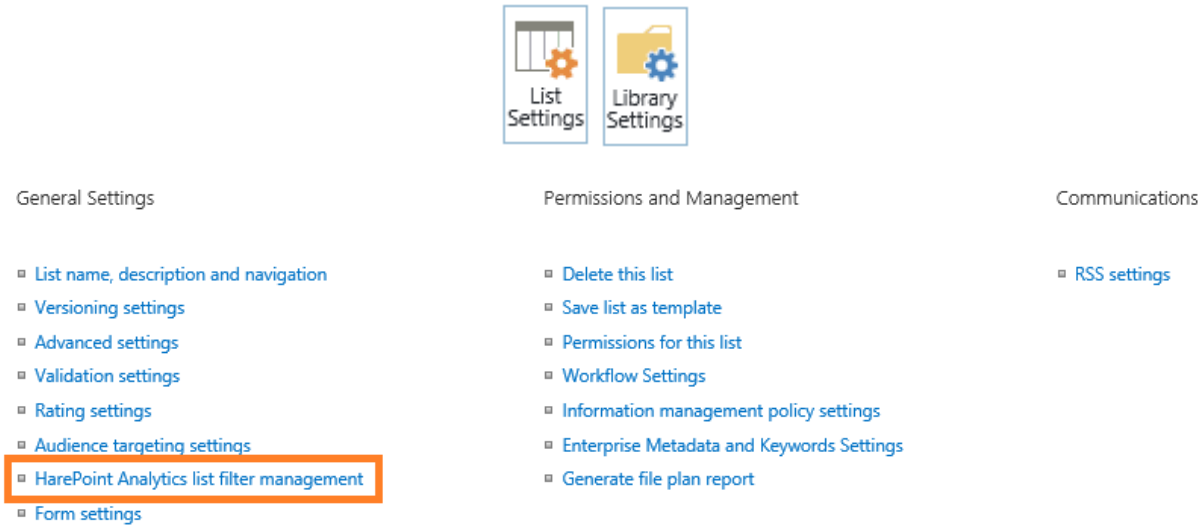
Access **Site Settings** for the required site, go to HarePoint Analytics for SharePoint section – **Site filter management** link:



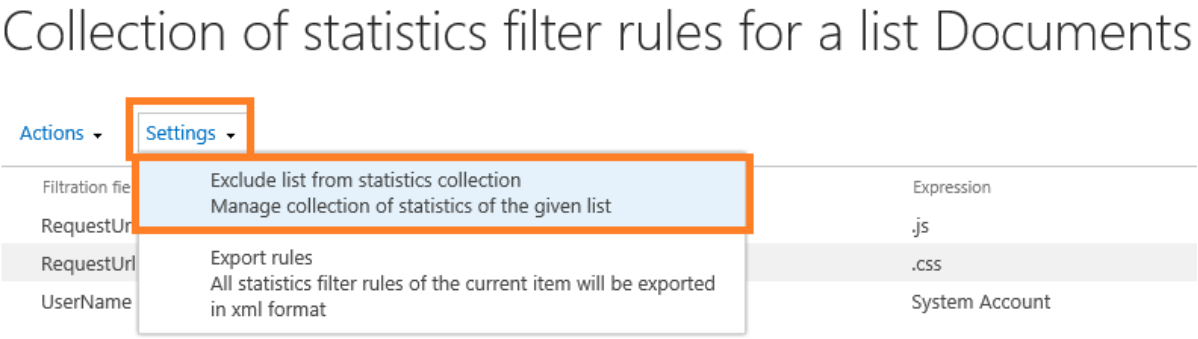
List level filter

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:**



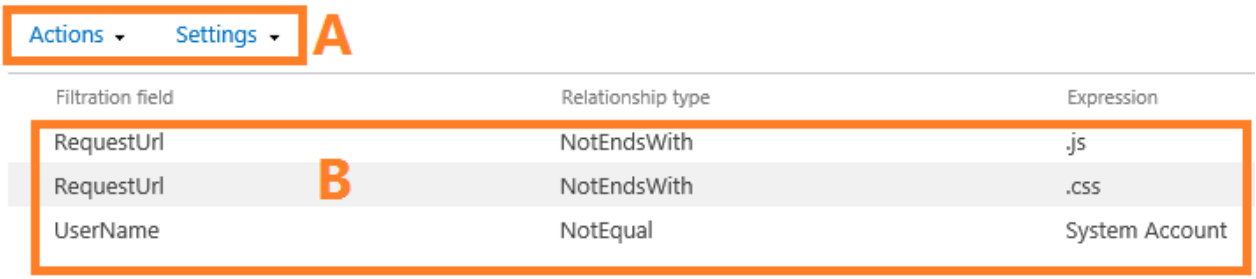
After selecting this option, no filter rule will be added to the list of filter rules, but the option will be changed to **Include list in statistics collection** – this is how you can check if the given library or list is excluded from data collection**.**

14.3.2. 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

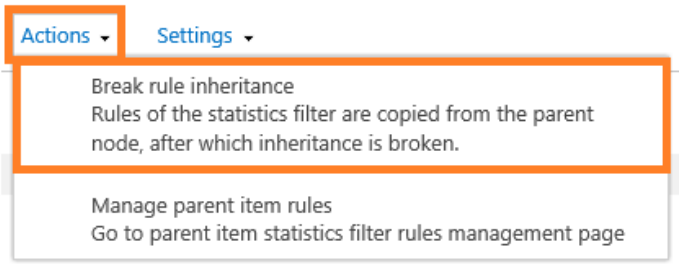


On this page, you can create, edit, delete, export and import data collection filter rules, break or re-establish the inheritance from the parent level.

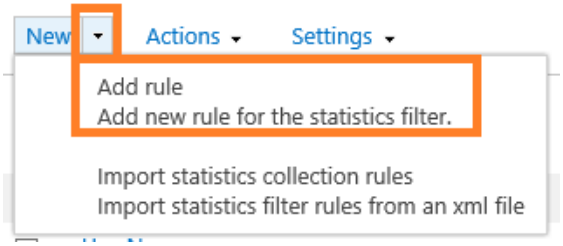
Adding a rule

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

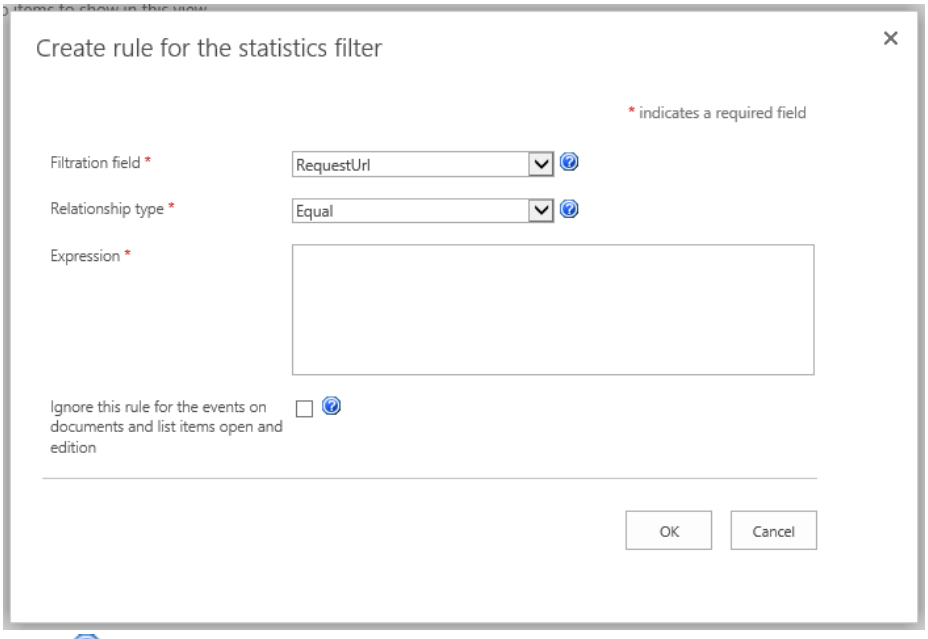
2. By default, the data collection filter rules at all levels except the farm level are inherited from the parent level. In this case, it is not possible to add a rule for this level.
   In order to be able to create a unique rule for this level, the rule inheritance need to be broken. To do this, select **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**:



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!

Note: Equal and **NotEqual** 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

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

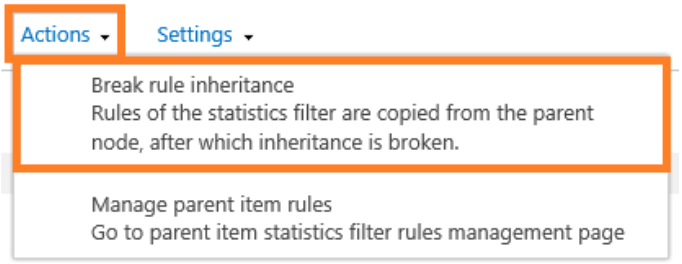
e) **Users**
- **UserAnonimous –** Anonymous user

- **UserLoginName –** User login name
- **UserEmail –** User email box
- **UserName –** User name
- **UserNotes –** User notes
- **UserIsSiteAdmin –** User site collection administrator
- **UserIsSiteAuditor -** Site collection auditor

Editing a rule

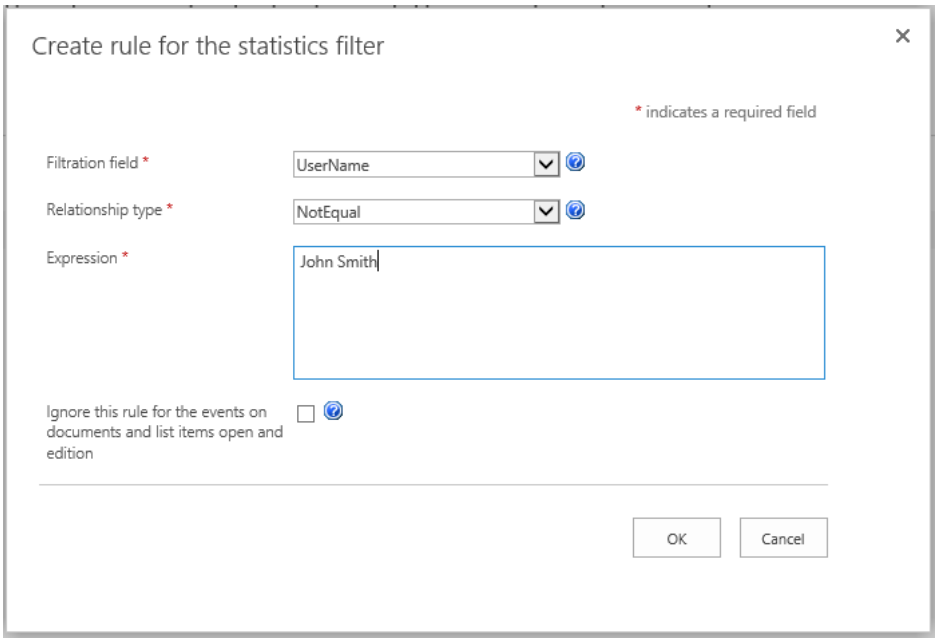
1. Go to the data collection filter management page of the respective level.

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:



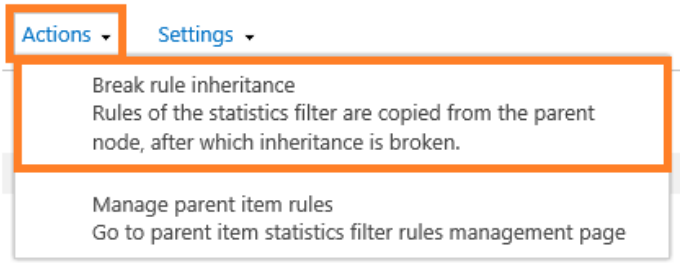
   Edit the filter rule as necessary.
   Click icon for more details and examples.

4. Click **OK** to save the changes.

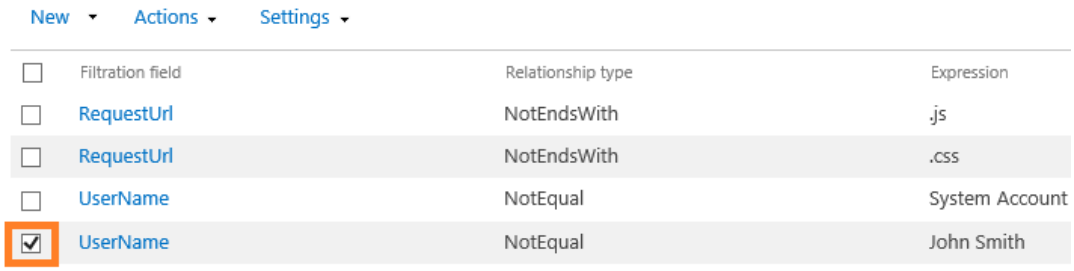
Deleting a rule

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

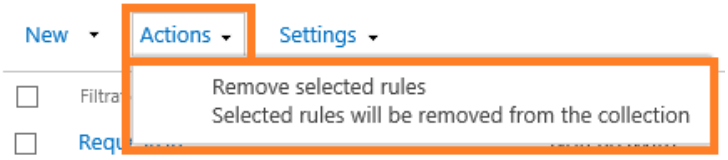
2. By default, the data collection filter rules at all levels except the farm level are inherited from the parent level. In this case, it is not possible to delete rules for this level.
   In order to be able to delete rules for this level, the rule inheritance need to be broken. To do this, select **Break 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.



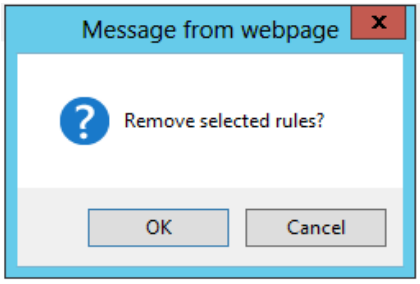
   Tick the rules to be deleted:



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**.

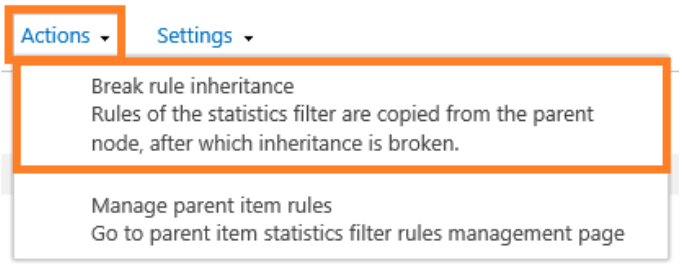


3. Specify the file name and click **Save**.
   All data collection rules for this specific level will be saved to an XML file.

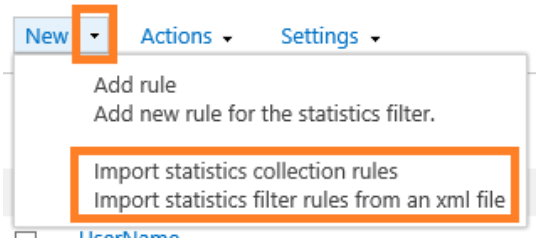
Importing rules

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

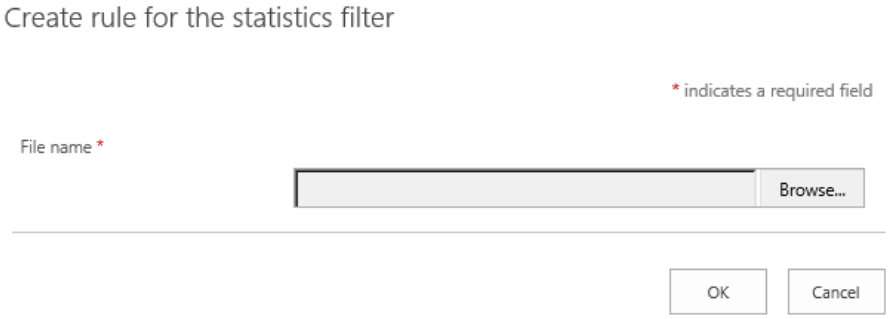
2. By default, the data collection filter rules at all levels except the farm level are inherited from the parent level. In this case, it is not possible to import rules for this level.
   In order to be able to import rules for this level, the rule inheritance need to be broken. To do this, select **Break 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**:



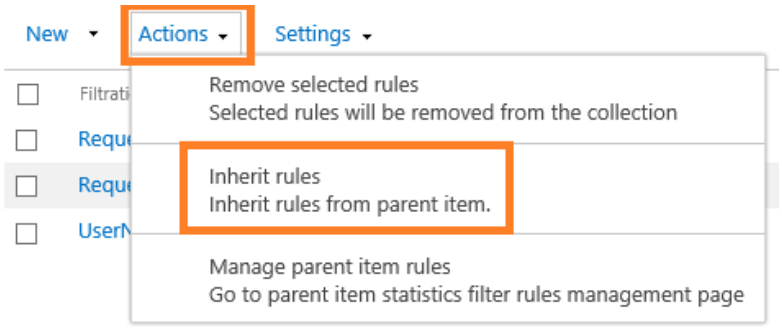
3. In the popup window click **Browse…,** select an appropriate XML file with data collection filter rules and click **OK**:



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**!

14.3.3. Managing rules via the command line 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
C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\15\BIN

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 | UserAnonimous | UserLoginName | UserEmail |

UserName | UserNotes | UserIsSiteAdmin | UserIsSiteAuditor |

DoNotCollect>]

[-relop <Greather | GreatherOrEqual | Less | LessOrEqual | Equal |

NotEqual | True | False | StartsWith | NotStartsWith | EndsWith |

NotEndsWith | Contains | NotContains | Empty | NotEmpty |

MatchRegex | NotMatchRegex>]

[-expression <filter expression>]

[-fromscratch]

[-ignoreforevents <true | false>]

For a detailed description, refer to Operation mlstaddfilter.

Note: if the target scope **inherits** the filter rules, the inheritance will be **automatically broken**. All parent level filter rules will be copied to the given level.

Deleting a rule

To delete a certain rule or all rules for a specific scope, use the following command:

stsadm -o mlstremovefilter

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

{-ruleid <filter rule identifier> | -all}

For a detailed description, refer to Operation mlstremovefilter.

Note: if the given scope inherits filter rules, the rules will not be deleted.

Exporting rules

To export all filter rules for a specific scope to an XML file, use the following command:

stsadm -o mlstexportfilters

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

-filename

For a detailed description, refer to Operation mlstexportfilters.

Importing rules

To import the filter rules for a specific scope, use the following command:

stsadm -o mlstimportfilters

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

-filename

For a detailed description, refer to Operation mlstimportfilters.

Note: if the target scope **inherits** the filter rules, the inheritance will be **automatically broken**. All parent level filter rules will be copied to the given level.

Inheriting rules from parent level

To delete all unique rules for the given scope and restore the inheritance from the parent level, use the following command:

stsadm -o mlstresetfilter

-scope <farm | webapp | site | web | list>

[-url <url of web application, site collection, site or list>]

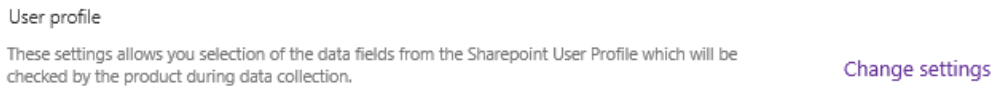
For a detailed description, refer to Operation mlstresetfilter.

Note: all **unique rules** for this scope (if any) will be **permanently removed**!

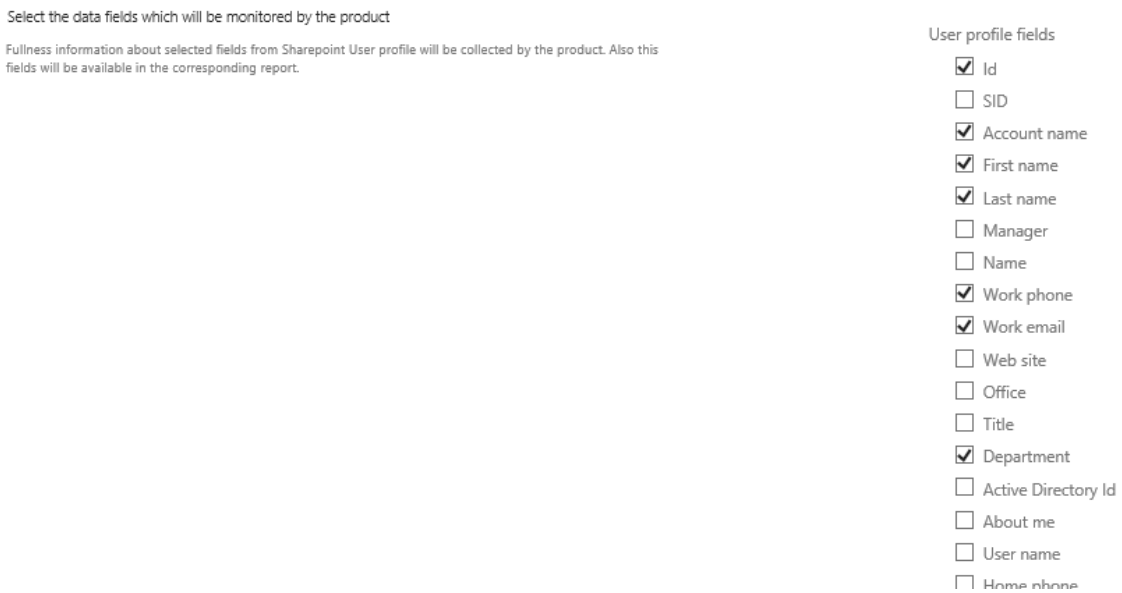
14.4. User Profile Fullness report settings

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**.

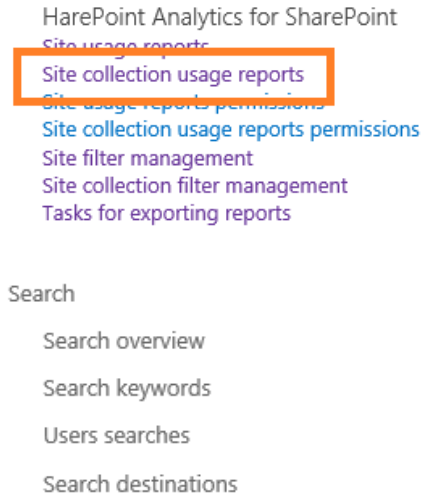


Check the fields to be monitored, as necessary:



14.5. 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.



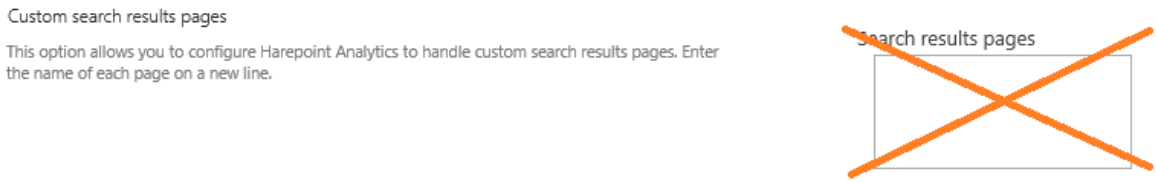
Different configuration is required for 2013/2016 and 2010 experience site collections, see below.

14.5.1. 2013/2016 experience site collections

Important note: If you are using **Enterprise Search Center** in SharePoint, the **HarePoint Analytics site collection feature** needs to be activated on Search Center site collection!
All the search statistics will be displayed **only in Search Center cite collection usage reports**.

If you are **not** using Enterprise Search Center, search statistics will also be collected and displayed on **corresponding site collection usage reports**.

Note: The **Custom search results pages** setting is **not applicable** for 2013/2016 experience site collections:

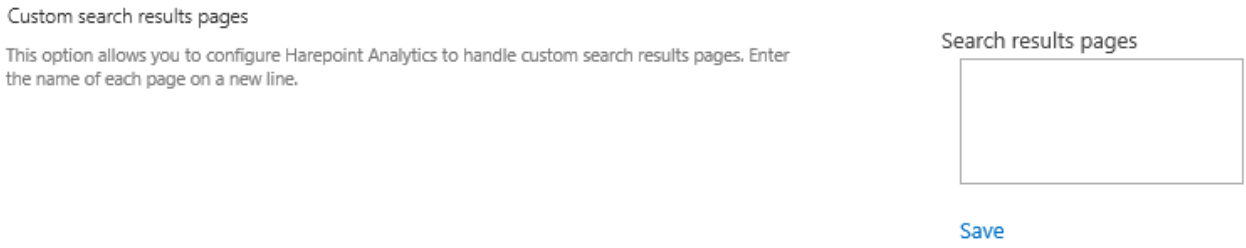


14.5.2. 2010 experience site collections

If you have **2010UI 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**:



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.

14.6. Switching to Simple recovery model

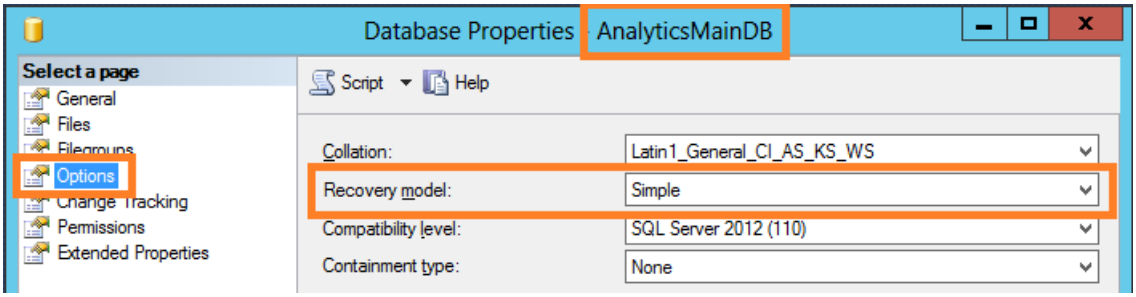
For most scenarios, it is recommended to set the recovery model for both HarePoint Analytics databases to **Simple**. This will reduce the logging level of SQL transactions, optimize hard drive operations and reduce the total database size.

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**.

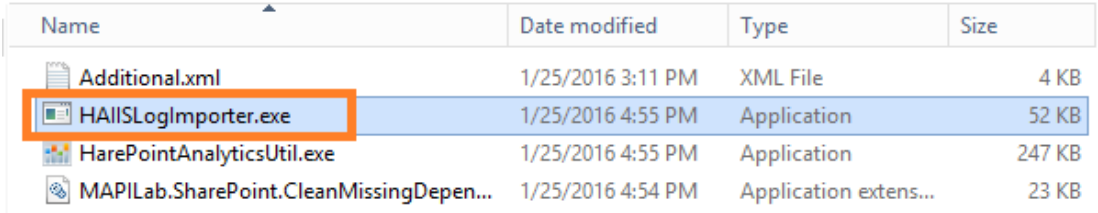
Be sure to perform these steps for both Queue and Main database.

15. Importing data from IIS logs (optional)

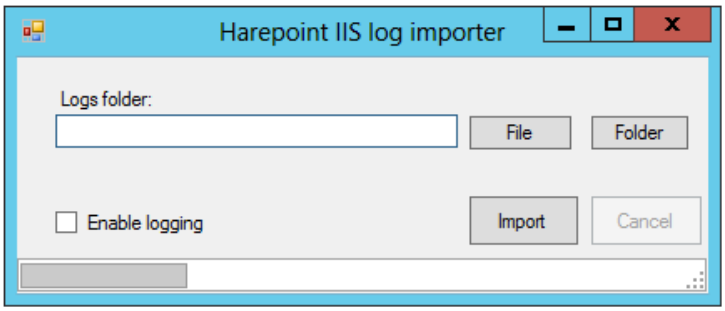
HarePoint Analytics uses its own data collection engine, which is based on HTTP modules that are installed on each Web Front-End server. That is, HarePoint Analytics is **not** getting data from other sources, in particular from IIS logs. (Refer to How it works for more details).
The data collection 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.

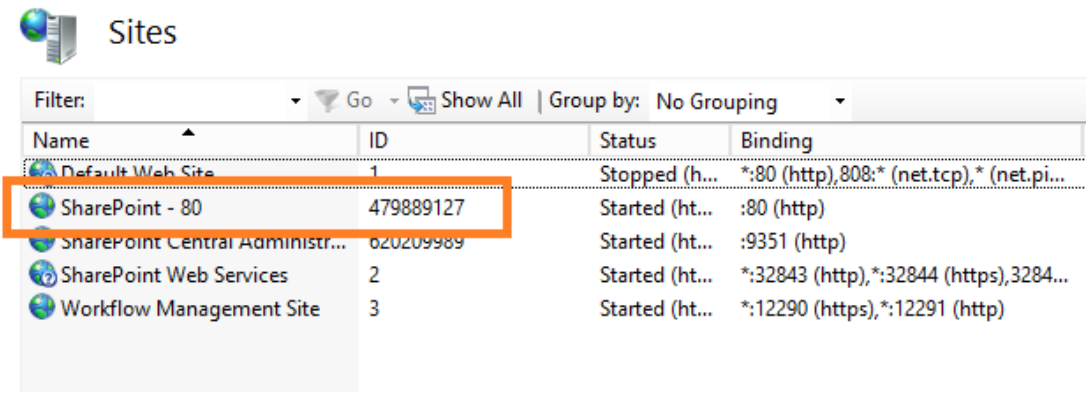
IIS Log Importer tool can be found in a **distributive package** in **Analytics Tools** folder:



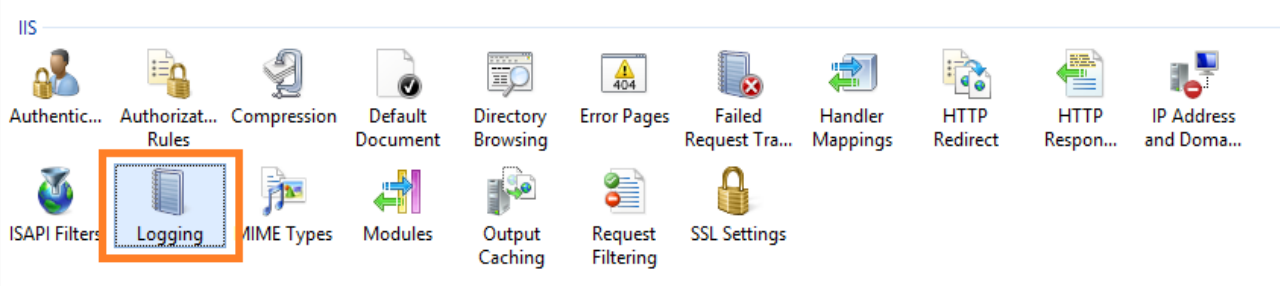
Start this tool on any **Web Front-End Server** using **Farm Administrator** account:



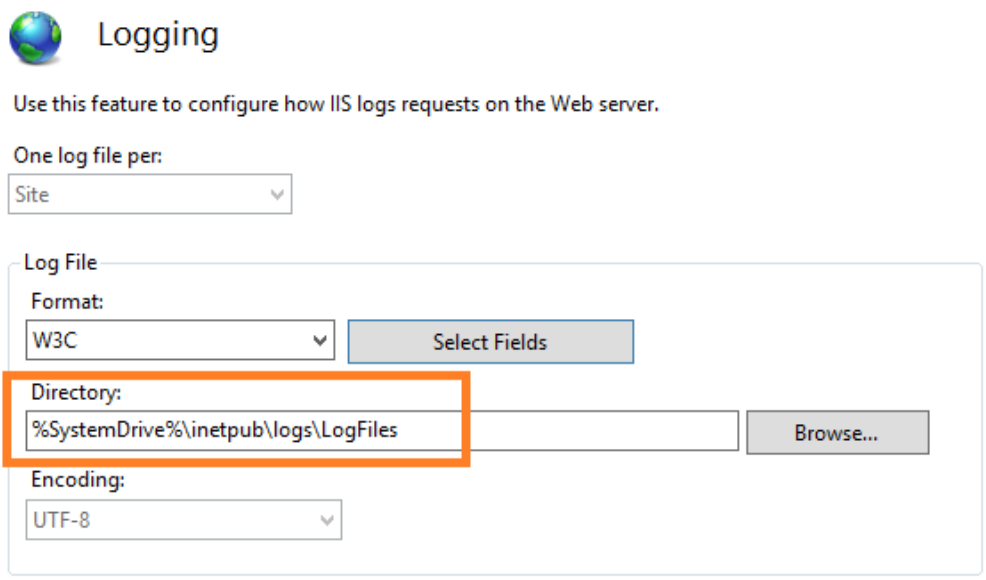
Open **IIS Manager**, go to **Sites**. In the list of sites, identify the web application that you are going to import data for, and note the corresponding **ID**:



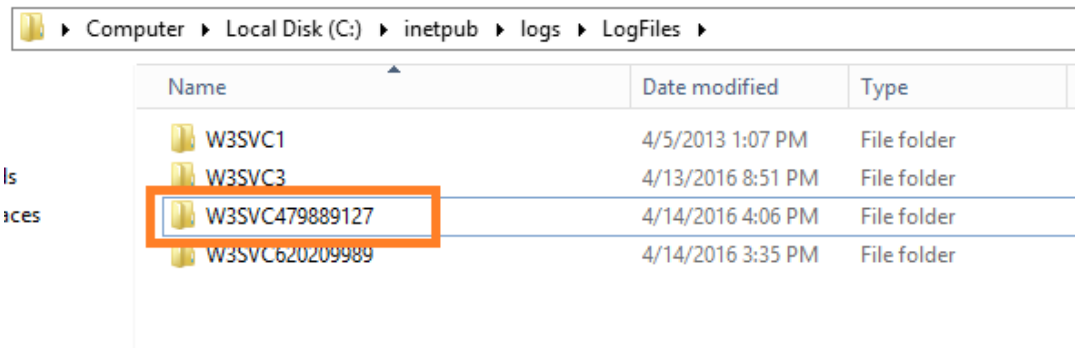
Click on this site in the left pane. Click on **Logging** under the **IIS** section:



Identify the directory where the IIS logs are saved:



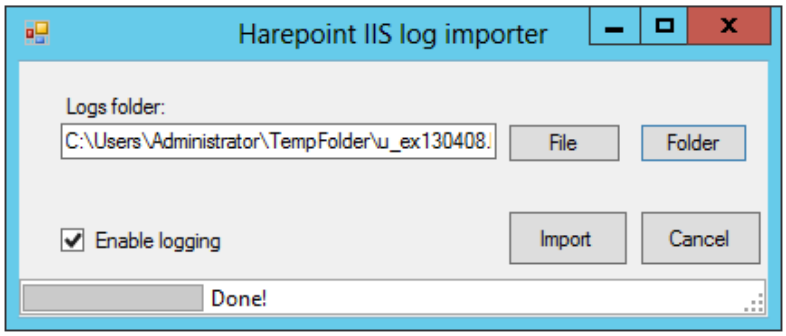
Open that directory. **Identify the subfolder by ID** (where the IIS logs for the required web application are stored):



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.

Note: the imported data **need to be pre-processed** before they will be displayed in reports. Preprocessing is performed by Preliminary Data Preparation timer job that starts every day at midnight by default.

16. Adding and configuring a web-part

During the product deployment and installation, HarePoint Analytics **web-part** is added to the gallery of web parts. This web part can display any report from site or site collection level of reports.
Note: Farm reports cannot be displayed by a web-part.

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

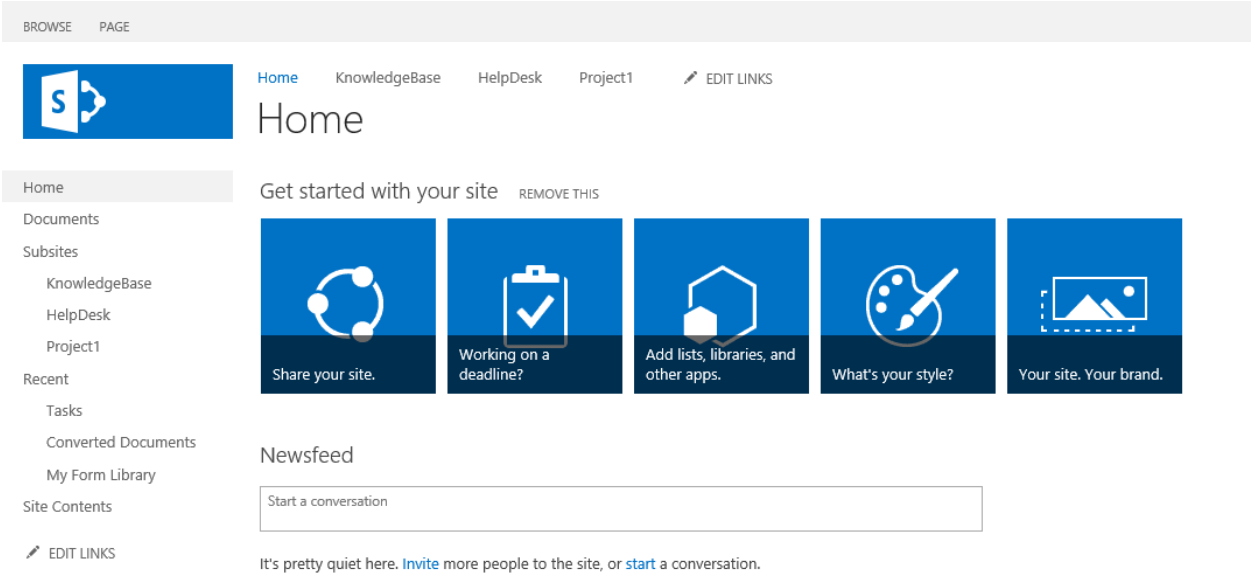
Important note: the web-part requires the same **permissions** as reports – refer to Managing access to the reports. In particular, if you place a web-part to the page, this page will become inaccessible for those users who do not have the corresponding permissions in HarePoint Analytics.

Using this web-part, you can:

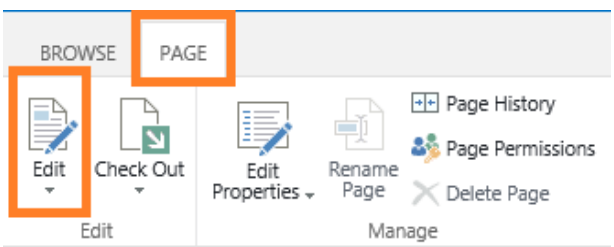
- Display a report for any site or site collection on any SharePoint page across the whole farm
- Create custom dashboards easily and flexibly by placing several web-parts on a new blank page

16.1. Adding a web-part

Access the page where you need to add a web-part.

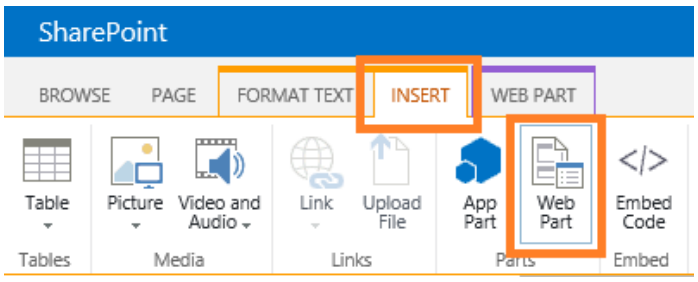


Expand the **Page** tab on the ribbon. Click **Edit** button to enter the page edit mode.

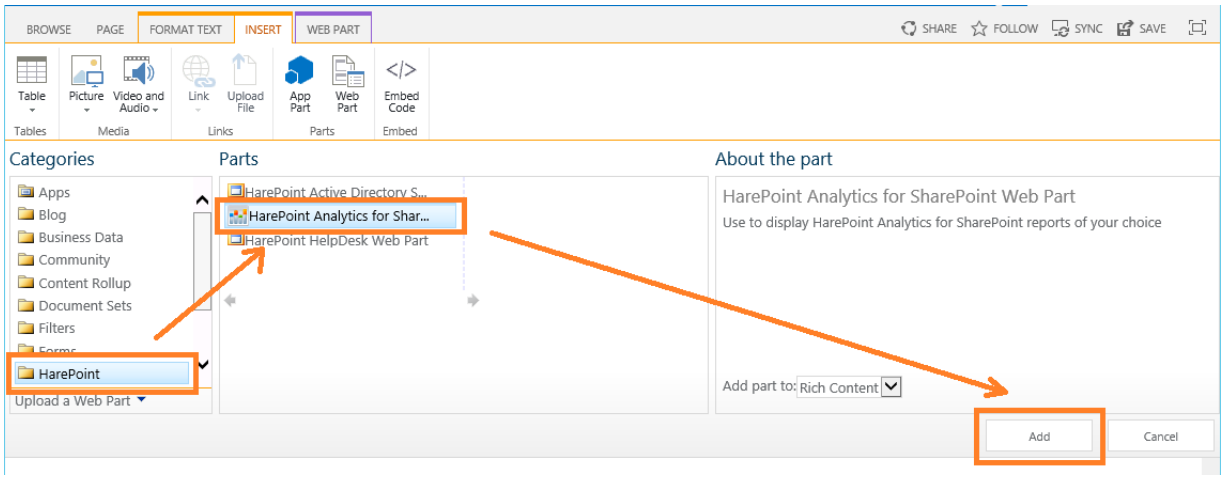


Place the cursor tp a place on the page where you would like to add the web-part.

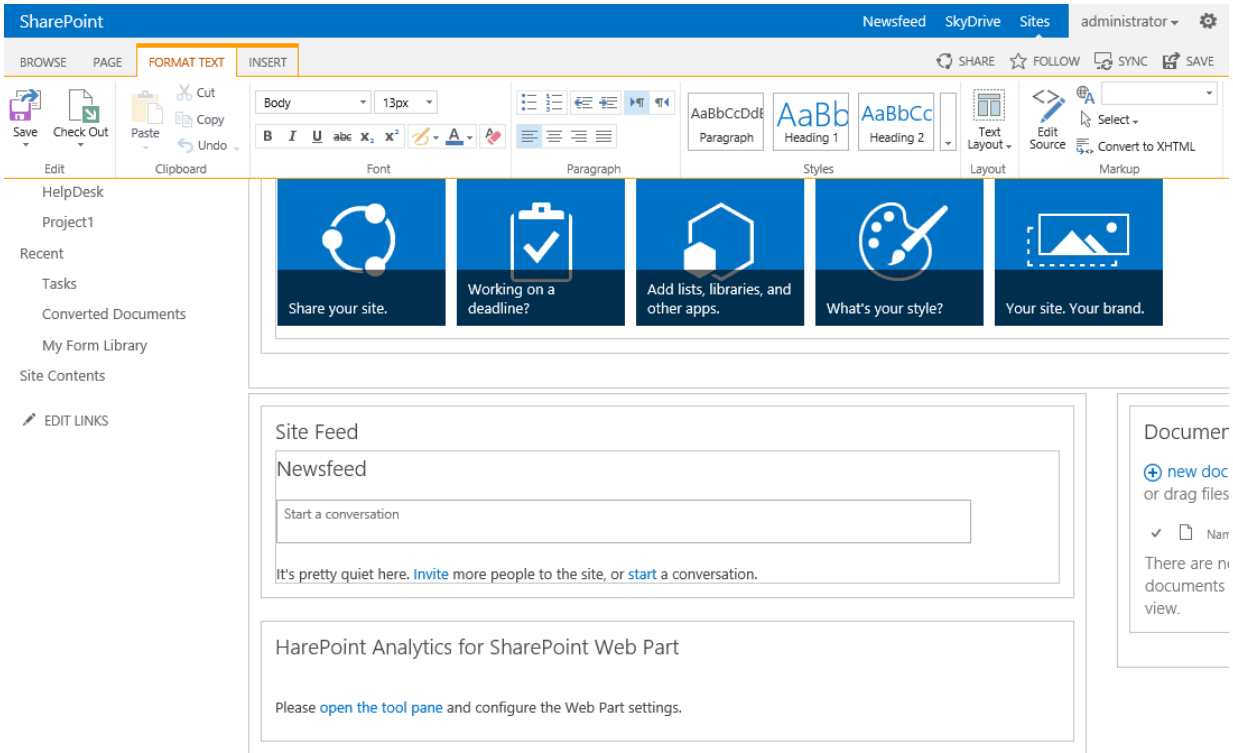
Go to **Insert** tab on the ribbon and click **Web Part** icon:



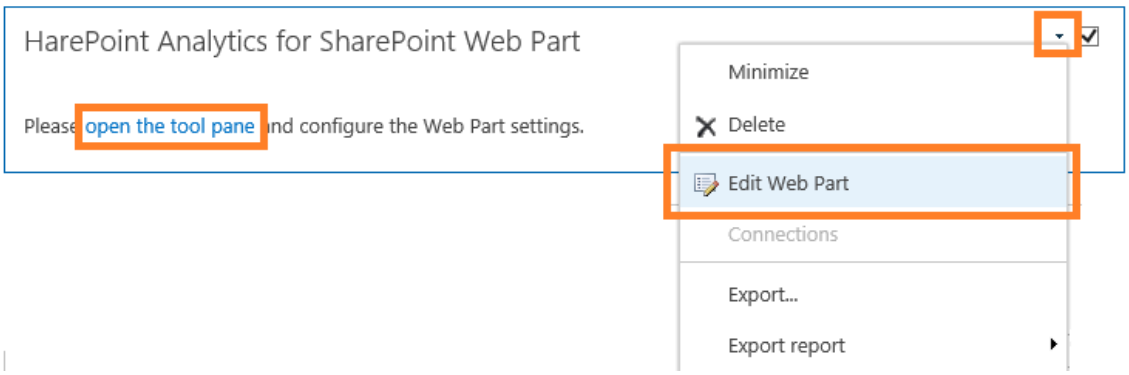
Go to **HarePoint** web-part category, and then select **HarePoint Analytics for SharePoint** web-part. Click **Add** button:



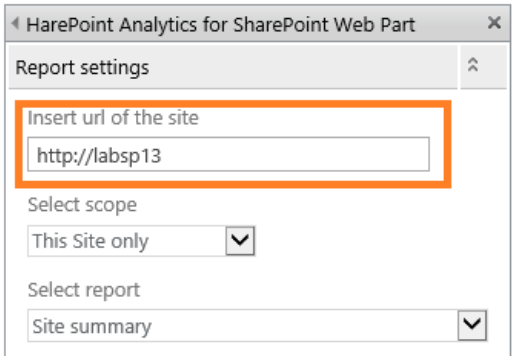
The web-part will be added to the place where the cursor was located:



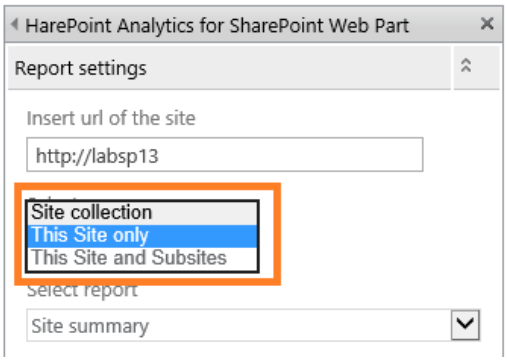
The web-part needs to be configured.
In the web-part menu, select **Edit Web Part**, or click the link **open the tool pane**:



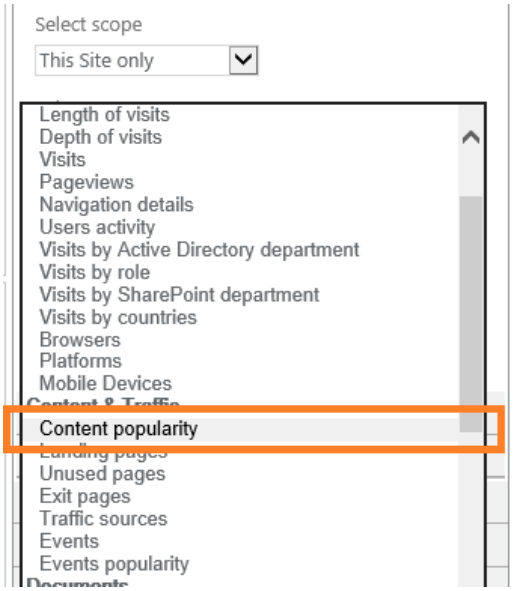
In the web-part settings, **adjust the URL, if necessary** – by default, the URL of the current site is used to display reports from the current site, but it can be the URL of any other site on this SharePoint farm:



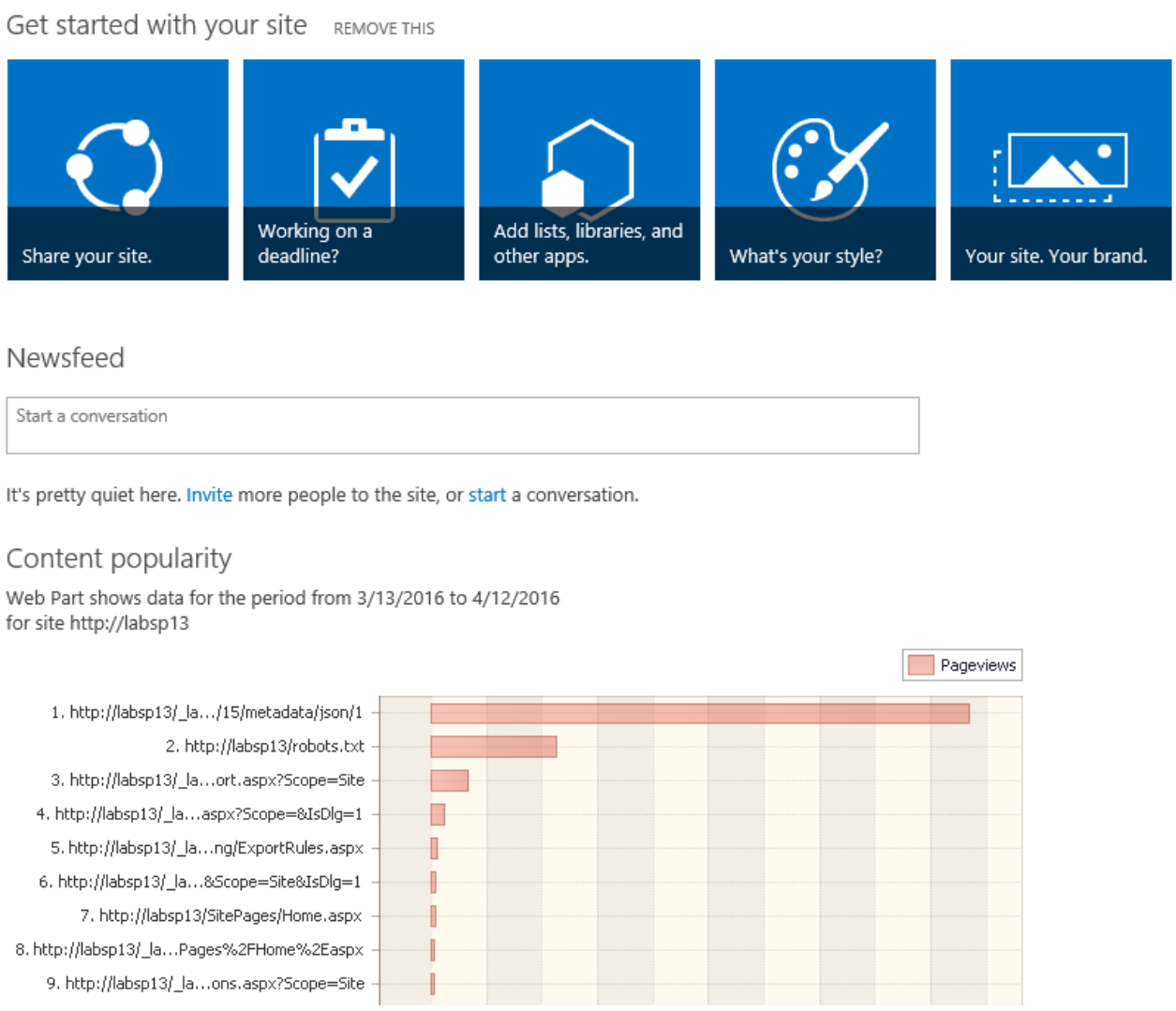
Select the **scope**, **note** that some reports are only available for Site Collection scope:



Select the report from the dropdown list:



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

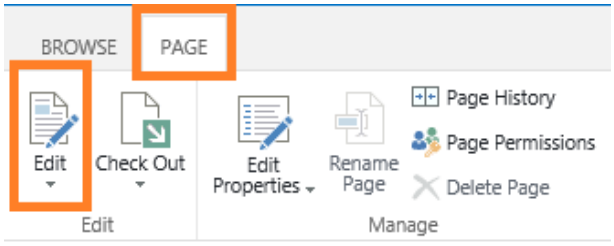


Described are the **minimum steps** to set up the web-part.
The detailed configuration of the web-part is described in the next paragraph Configuring a web-part.

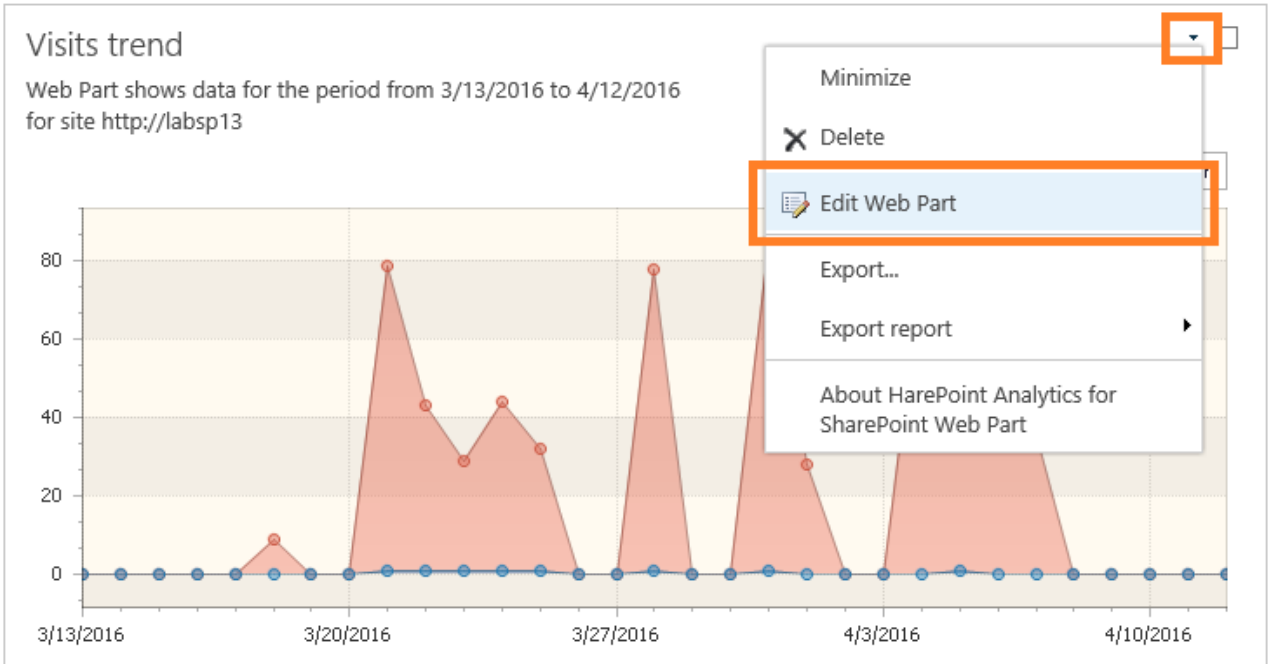
16.2. Configuring a web-part

Configuring **HarePoint Analytics for SharePoint** web-part is identical to configuring any other web-part that is available in SharePoint.

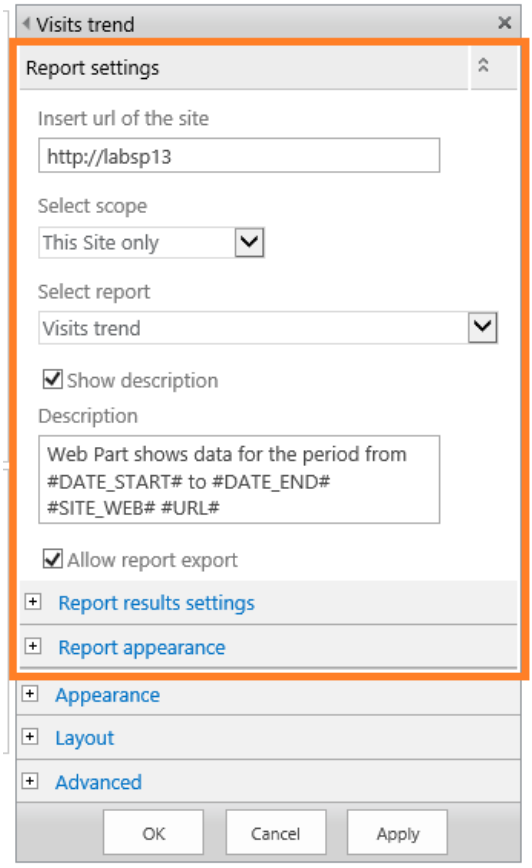
To access the web-part settings, go to **Edit page** mode:



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:

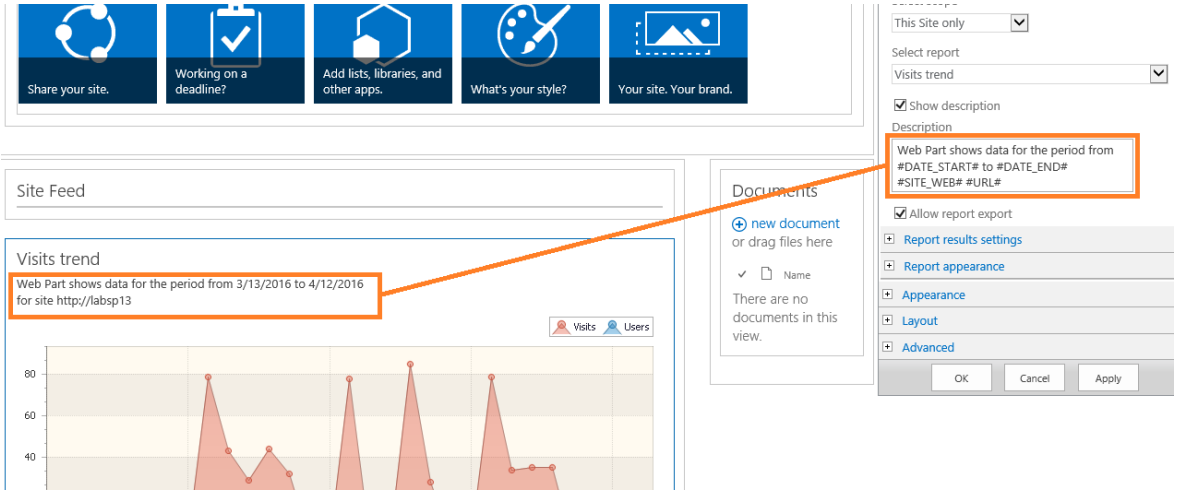


Note: Be sure to click **OK** button to save the web-part settings.

16.2.1. 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.

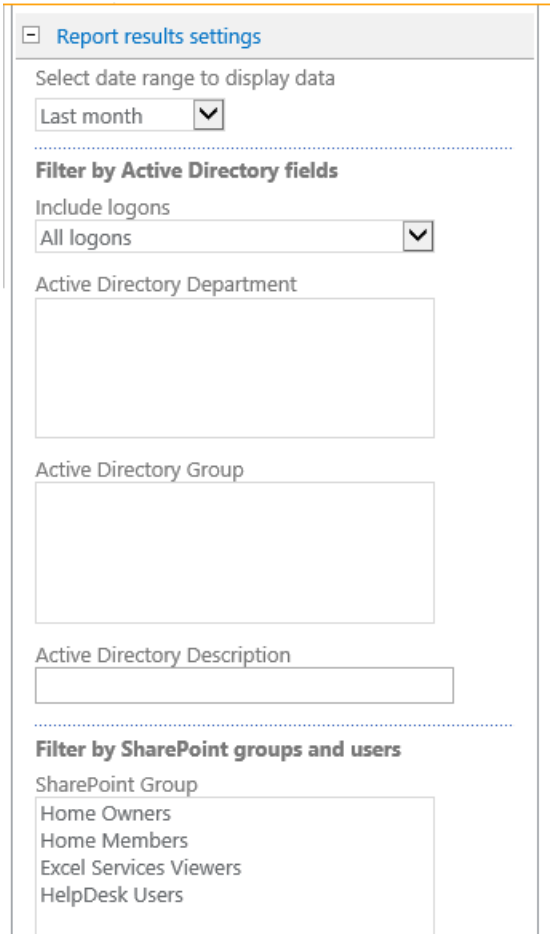


The description template may include the following **macros**:

- **#DATE_START#**
  The starting date of the reporting date range
- **#DATE_END#**
  The ending date of the reporting date range
- **#SITE_WEB#**
  This macro is replaced by a word **site** or **site collection**, depending on the scope of the report
- **#URL#**
  URL of the source site for which the report is displayed (equal to **Insert url** setting)

16.2.2. 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):



16.2.3. 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

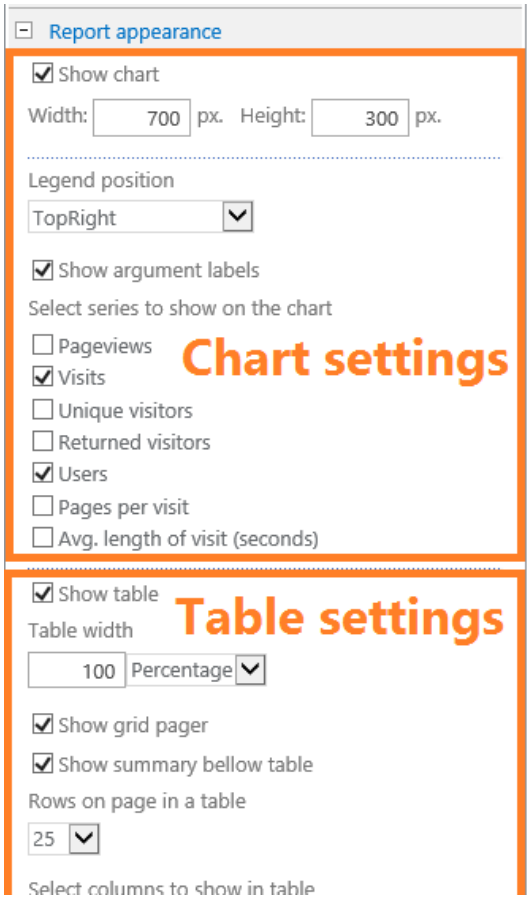
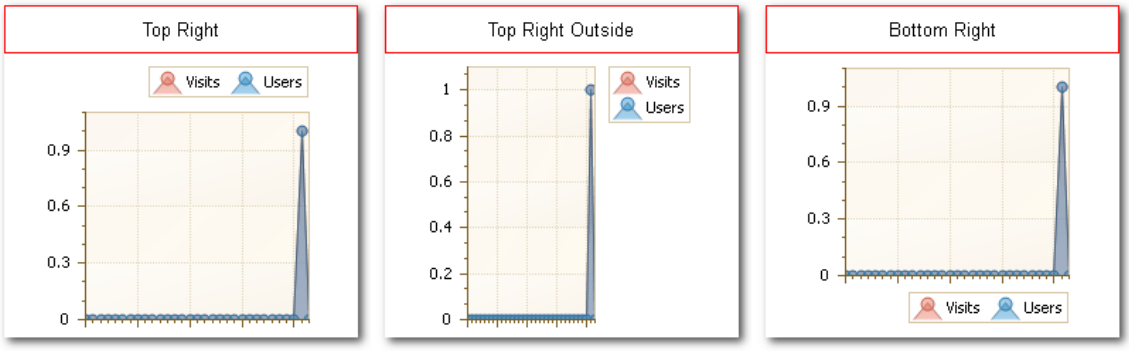


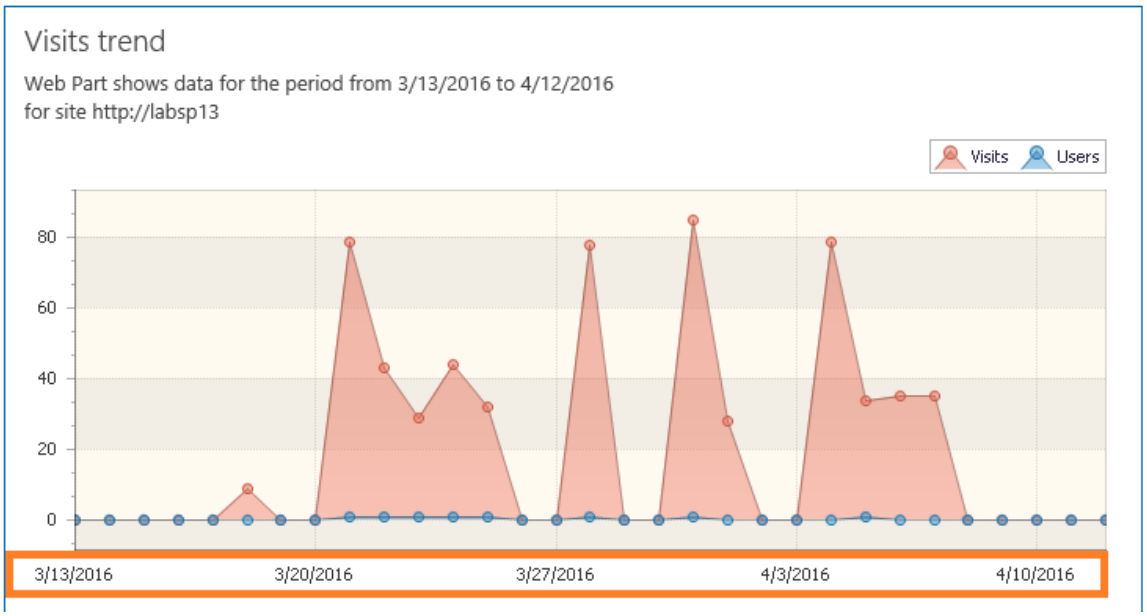
Chart settings

The **chart settings** section contains the following parameters:

- **Show chart**
  Select to show or hide a chart
- **Width, Height**
  Specify the chart size in pixels
- **Legend position**
  Specify the position of the report legend. It is also possible to hide the legend. Here are several examples of legend positions:



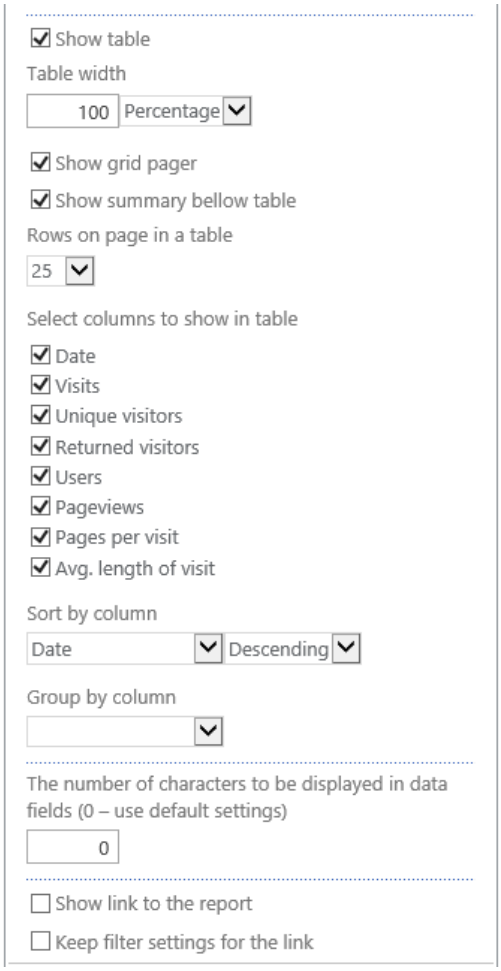
- **Show argument labels**
  Select to show or hide the labels near the horizontal axis.



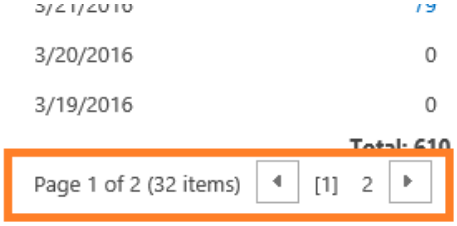
- **Select chart type** (where applicable)
  Select the chart type. Two types are available: **Bar chart** or **Pie chart**.
- **Select series to show on the chart** (where applicable)
  Select the series to be displayed on the chart.
- **Sort by the series** (where applicable)
  Choose the series to sort by.

Table settings

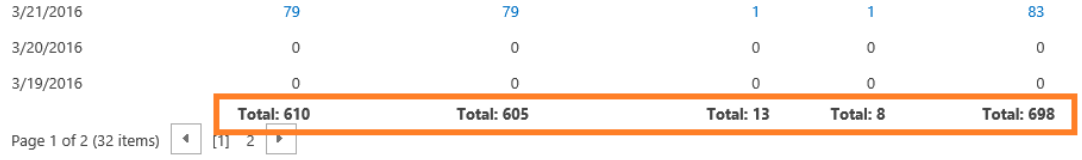
The **table settings** section contains the following parameters:



- **Show table**
  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:



- **Show summary bellow table**
  Select to show or hide the summary line under the table.



- **Rows on page on a table**
  Specify how many rows should be displayed per page in the report. The fixed values **10, 25, 50, 100, 500** are available.

- **Select columns to show in table**
  Select the columns to be displayed in the report. The set of available columns depends on the selected report.
- **Sort by column**
  Select the column to sort by, as well as the sorting order (**ascending, descending**).
- **Group by column**
  Select the column to group by. This is optional.
- **The number of characters to be displayed in data fields**
  Specify the maximum length for text lines in the table. Longer text lines will be shortened by skipping a part of the text in the middle and replacing it with ellipsis (…):

  http://labsp13/_layouts/15/metadata/json/1

  http://labsp13/robots.txt

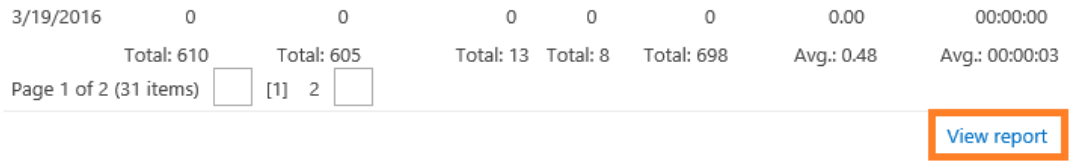
  http://labsp13/_layouts/15/MAPILab/Statistics/Report.aspx?Scope=Site

  http://labsp13/_layouts/15/MAPI…itExportRule.aspx?Scope=&IsDlg=1

  http://labsp13/_layouts/15/MAPI…tics/Exporting/ExportRules.aspx

  http://labsp13/SitePages/Home.aspx

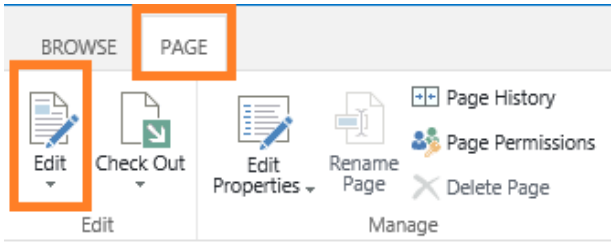
- **Show link to the report**
  Select to show or hide a link to the corresponding report page.



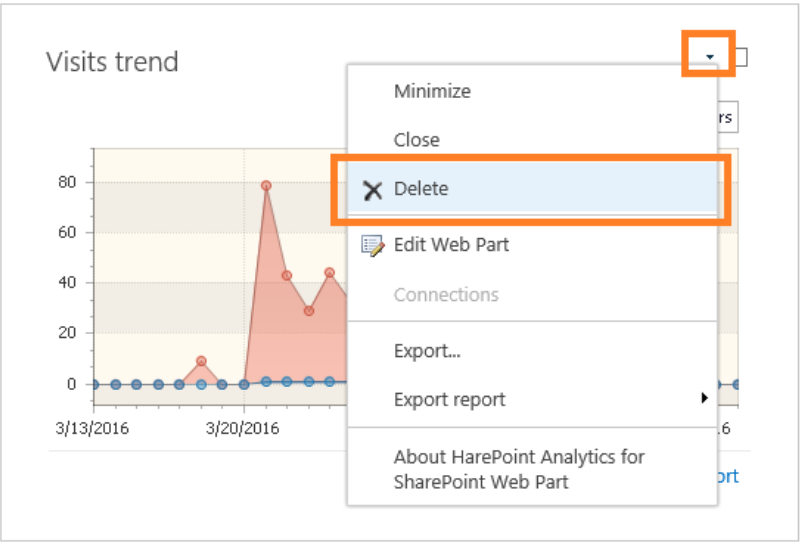
- **Keep filter settings for the link**
  When this setting is checked, the link will contain the web-part filter settings, so when clicking the link, the corresponding report page will open and display the report in an **exact same way** as a web-part.
  If this setting is not checked, clicking the link will open the corresponding report, but with the **default** filter settings.

16.3. Removing a web-part

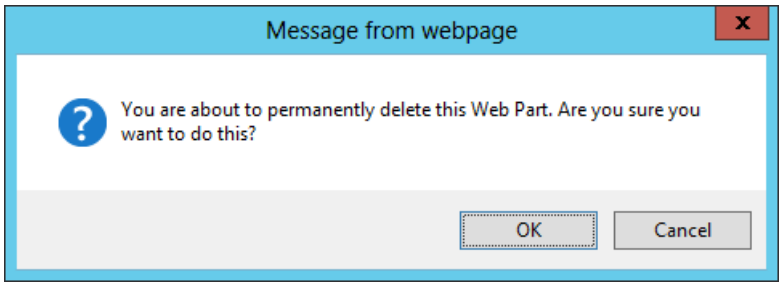
To remove a web-part, go to **Edit page** mode:



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

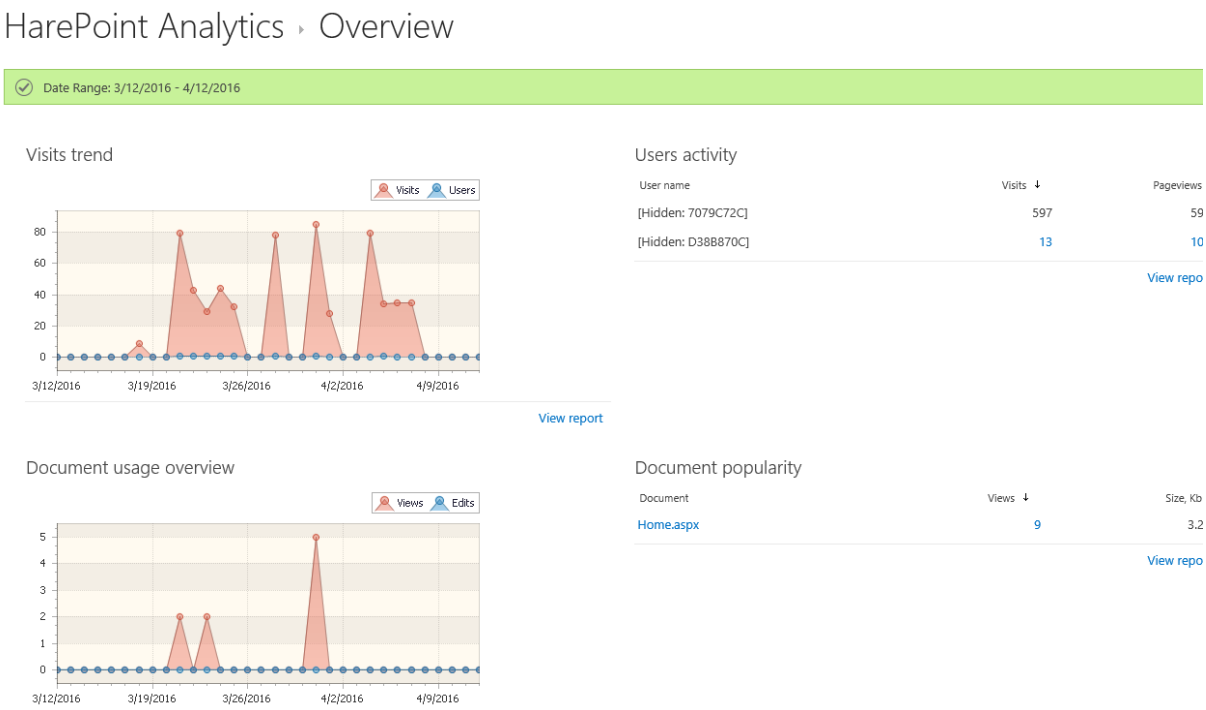


Confirm the web-part deletion:



17. 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.



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.

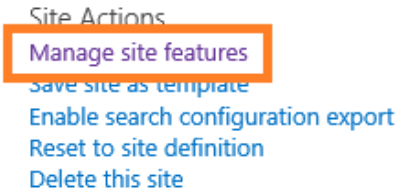
In order to be able to customize the Dashboard, activate the **site level** feature **HarePoint Analytics for SharePoint: Dashboard** on the corresponding sites.

Important note: It is not possible to customize a Dashboard for the Farm scope.

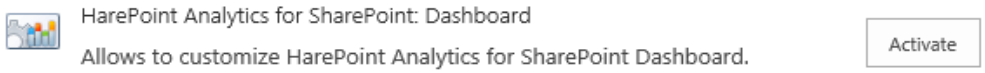
17.1. Customizing a Dashboard for a site

To replace the predefined HarePoint Analytics Dashboard with a web-part page for a site scope reports, follow these steps:

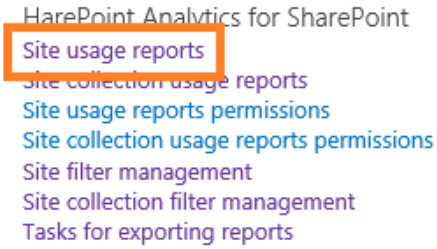
1. Login as Site Owner and access the site for which the Dashboard should be customized
2. Go to **Site Settings** - **Manage site features**



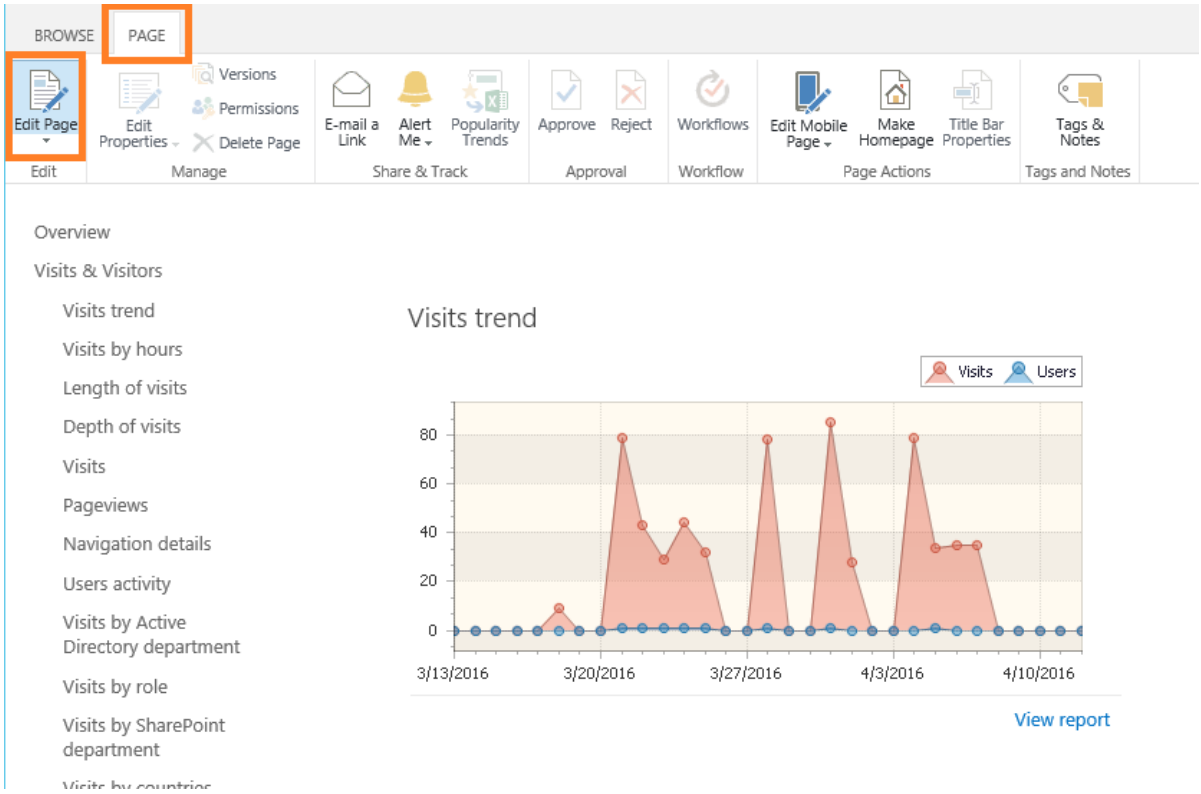
3. Scroll to **HarePoint Analytics for SharePoint: Dashboard** feature and activate it:



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:



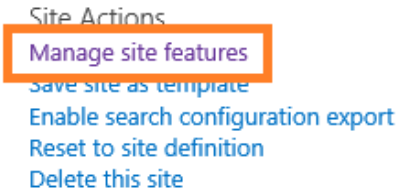
Each section on the Dashboard is now represented as a web-part, so you can **change** settings of existing web-parts, **add** new web-parts, or **remove** web-parts as necessary.

For **further details** regarding web-parts configuration, **refer to** [Adding and configuring a web-part](#).

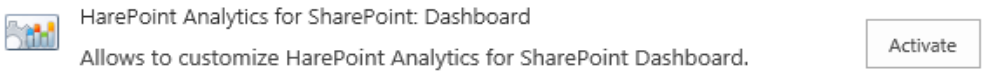
17.2. Customizing a Dashboard for a site collection

To replace the predefined HarePoint Analytics Dashboard with a web-part page for a site collection scope reports, follow these steps:

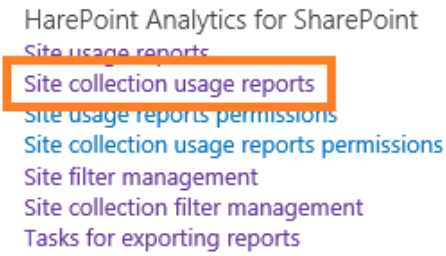
1. Login as Site Collection Administrator and access the **root site** of a site collection for which the Dashboard should be customized
2. Go to Site Settings - **Manage site features**



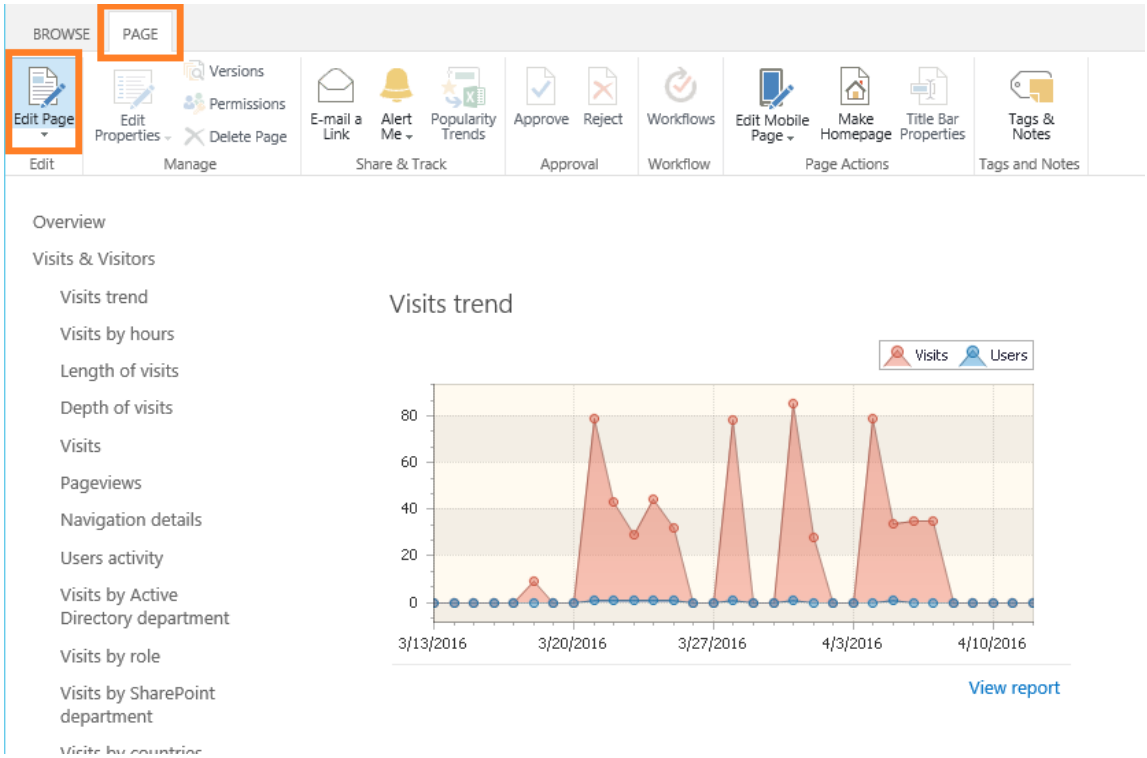
3. Scroll down to **HarePoint Analytics for SharePoint: Dashboard** feature and activate it:



4. Go back to the **root site of the site collection** and click **Site collection usage reports** 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. Command-line tools overview

During the deployment of the HarePoint Analytics for SharePoint solution, the list of operations of 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.

18.1. List of additional Stsadm.exe operations

The names of all operations from the extended 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 as follows:
stsadm -help <command name>

Name	Description
mlstaddfilter	Adds a rule for the data collection filter
mlstcompleteupgrade	Used for completing the manual solution upgrade of HarePoint Analytics
mlstcopyappbincontent	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	Displays the current state of HarePoint Analytics global policies
mlstdisplaydatakeepdays	Displays the current data retention periods for various data sets
mlstencryptuserinfo	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
mlstrestartsptimer	Restarts the **SharePoint Timer Service** on **all** servers in the current SharePoint farm
mlstsetpolicy	Sets the value of the global HarePoint Analytics policy
mlstsetdatakeepdays	Sets the data retention period
mlstusedefaulttheme	Forces using the default theme on report pages

18.2. Operations description

18.2.1. 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 <RequestUrl | RequestUrlReferrer | RequestUserAgent |
```

```
        RequestHostAddress | RequestHostName | RequestAuthType |
        RequestIsAuthenticated | RequestAuthenticationName |
        ItemEvent | ItemDisplayName | ItemName | ItemTitle |
        ItemCreated | ListTitle | ListDescription | ListDefaultViewUrl |
        ListBaseTemplate | ListBaseType | DocumentName |
        DocumentCreated | DocumentTitle | DocumentUrl | DocumentLenght |
        DocumentFolderName | UserAnonimous | UserLoginName | UserEmail |
        UserName | UserNotes | UserIsSiteAdmin | UserIsSiteAuditor |
        DoNotCollect>]
    [-relop <Greather | GreatherOrEqual | Less | LessOrEqual | Equal |
        NotEqual | True | False | StartsWith | NotStartsWith | EndsWith |
        NotEndsWith | Contains | NotContains | Empty | NotEmpty |
        MatchRegex | NotMatchRegex>]
    [-expression <filter expression>]
    [-fromscratch]
    [-ignoreforevents <true | false>]
```

Parameters

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	This parameter specifies the scope of the filter to be created: • **farm** The farm level • **webapp** The web-application level • **site** The site collection level • **web** The site level • **list** The list level
url	Valid URL-address, for example, 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	The relation between the field value with identifier **fieldid** and the value of parameter **expression**. • **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	If target scope inherits the rules, the inheritance will be automatically broken. This parameter prevents copying the parent level rules to the target level. That is, the newly added

			rule will become the only one rule for this level.
ignoreforevents	Boolean	No	Ignore this filter rule for document and list item events. More details: Adding a data collection rule

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+"
```

18.2.2. 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

18.2.3. Operation mlstcopyappbincontent

Performs operation **stsadm -o copyappbincontent** on **all** servers of the current SharePoint farm.

Syntax

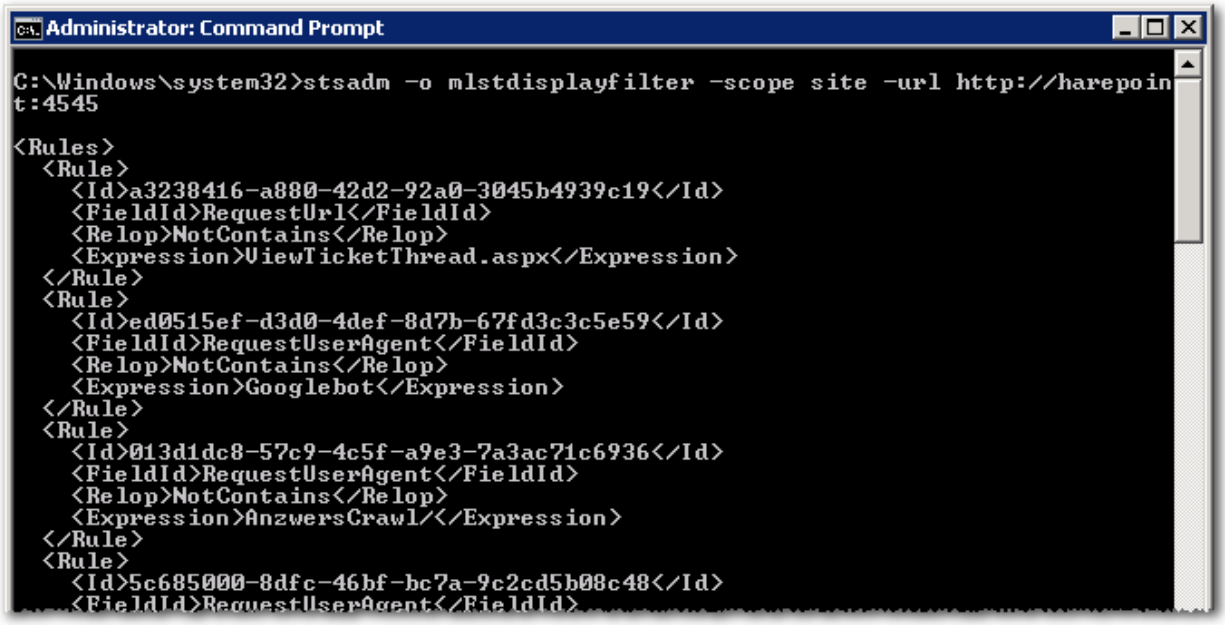
```
stsadm -o mlstcopyappbincontent
```

Parameters

(none)

18.2.4. 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.



Syntax

```
stsadm -o mlstdisplayfilter
      -scope <farm | webapp | site | web | list>
      [-url <url of web application, site collection, site or list>]
      [-effective]
```

Parameters

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	The parameter specifies the scope of the filter to be displayed. • **farm** The farm level • **webapp** The web-application level • **site** The site collection level • **web** The site level • **list** The list level
url	Valid URL-address, for example, 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

18.2.5. 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 stsadm.exe to manage policies paragraph.

The output of the operation is as follows:

```
C:\Program Files\Common Files\microsoft shared\Web Server Extensions\15\BIN>stsa
dm -o mlstdisplaypolicies

<Policies>
   <maskusername>false</maskusername>
   <maskip>false</maskip>
   <maskaddepartment>false</maskaddepartment>
   <maskadgroup>false</maskadgroup>
   <maskspdepartment>false</maskspdepartment>
   <maskspgroup>false</maskspgroup>
   <maskiisrole>false</maskiisrole>
   <maskurl>false</maskurl>
   <maskdoclibname>false</maskdoclibname>
   <maskdocliblocation>false</maskdocliblocation>
   <maskdocname>false</maskdocname>
   <maskdoclocation>false</maskdoclocation>
   <masklistname>false</masklistname>
   <masklistlocation>false</masklistlocation>
   <masklistitemname>false</masklistitemname>
   <masklistitemlocation>false</masklistitemlocation>
   <maskworkflowinfo>false</maskworkflowinfo>
   <disabledReports>null</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</useDataCollectionFiltersOnQu
eueProcessing>
   <allowForAuthorized>false</allowForAuthorized>
   <allowForAnonymous>false</allowForAnonymous>
   <disabledSiteCollections>null</disabledSiteCollections>
   <prepareDataByDay>false</prepareDataByDay>
   <userProfileProperties>UserProfile_GUID AccountName FirstName LastName WorkPh
one WorkEmail Department PictureURL</userProfileProperties>
   <collectContentDbsForSites>false</collectContentDbsForSites>
   <exportLinkAsText>true</exportLinkAsText>
   <collectSocialInfo>false</collectSocialInfo>
   <collectWebSizeSql>true</collectWebSizeSql>
</Policies>

Operation completed successfully
```

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

Syntax

```
stsadm -o mlstdisplaypolicies
```

Parameters

(none)

18.2.6. 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 mlstdisplaypolicies
```

Parameters

(none)

18.2.7. 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-woking hours. Make sure Preliminary Data Preparation timer job is not running at that time.

Syntax

```
stsadm -o mlstencryptuserinfo
```

Parameters

(none)

18.2.8. 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: • farm • webapp	Yes	The parameter specifies the scope of the filter to be exported. • **farm**

	• site • web • list		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 exporting the farm level filter, this parameter may be omitted
filename	File name	Yes	The name for the output XML file

18.2.9. 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: • farm • webapp • site • web • list	Yes	The parameter specifies the scope of the filter to be imported. • **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

18.2.10. 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: • farm • webapp • site • web • list	Yes	The parameter specifies the scope of the filter to be removed. • **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-304Sb4939cl9**	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**

18.2.11. 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: • farm • webapp • site • web • list	Yes	The parameter specifies the scope of the filter to be reset. • **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.

18.2.12. Operation mlstrestartsptimer

Restarts **SharePoint Timer Service** on **all** servers in the SharePoint farm.

Syntax

```
stsadm -o mlstrestartsptimer
```

Parameters

(none)

18.2.13. 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 stsadm.exe to manage policies section for a complete description of the available policies.

18.2.14. 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.

18.2.15. 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
```

Parameters

(none)

19. 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 command line tool **stsadm.exe** (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)

19.1. Using stsadm.exe to manage policies

To **view** current values for all properties, execute the following command:

stsadm -o mlstdisplaypolicies

It will output data in XML format:

```
C:\Program Files\Common Files\microsoft shared\Web Server Extensions\15\BIN>stsa
dm -o mlstdisplaypolicies

<Policies>
   <maskusername>false</maskusername>
   <maskip>false</maskip>
   <maskaddepartment>false</maskaddepartment>
   <maskadgroup>false</maskadgroup>
   <maskspdepartment>false</maskspdepartment>
   <maskspgroup>false</maskspgroup>
   <maskiisrole>false</maskiisrole>
   <maskurl>false</maskurl>
   <maskdoclibname>false</maskdoclibname>
   <maskdocliblocation>false</maskdocliblocation>
   <maskdocname>false</maskdocname>
   <maskdoclocation>false</maskdoclocation>
   <masklistname>false</masklistname>
   <masklistlocation>false</masklistlocation>
   <masklistitemname>false</masklistitemname>
   <masklistitemlocation>false</masklistitemlocation>
   <maskworkflowinfo>false</maskworkflowinfo>
   <disabledReports>null</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</useDataCollectionFiltersOnQu
eueProcessing>
   <allowForAuthorized>false</allowForAuthorized>
   <allowForAnonymous>false</allowForAnonymous>
   <disabledSiteCollections>null</disabledSiteCollections>
   <prepareDataByDay>false</prepareDataByDay>
   <userProfileProperties>UserProfile_GUID AccountName FirstName LastName WorkPh
one WorkEmail Department PictureURL</userProfileProperties>
   <collectContentDbsForSites>false</collectContentDbsForSites>
   <exportLinkAsText>true</exportLinkAsText>
   <collectSocialInfo>false</collectSocialInfo>
   <collectWebSizeSql>true</collectWebSizeSql>
</Policies>

Operation completed successfully
```

To **set** policies from the command line, execute the following command:

stsadm -o mlstsetpolicy -<PolicyName> <parameter>

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 using **mlstsetpolicy** command. 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)	null	The list of the hidden reports identifiers. Refer to Removing reports from the list for more information.

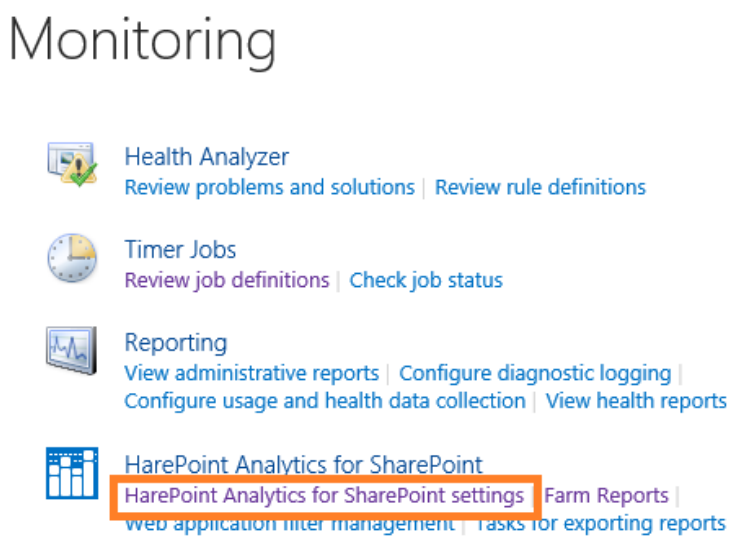
disableReport <report name> (set only)		Hide the report from the reports list.
enableReport <report name> (set only)		Show the report in the reports list.
showAnalyzeTab	false	Show “Analyze” tab on the ribbon expanded by default (if **false**, “Browse” tab is expanded).)
securitycacheexpiration	60 (recommended)	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!**
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: *RequestUrl, RequestUrlReferrer, RequestUserAgent, RequestHostAddress, RequestHostName, RequestAuthType, RequestIsAuthenticated, RequestAuthenticationName, UserAnonimous, DoNotCollect*.
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)	null	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	Process backlog data in day-by-day mode (refer to HarePoint Analytics Maintenance guide for detailed description)
collectContentDbsForSites	false (recommended)	Collect information about site collections content databases
exportLinkAsText	true	Should the links in exported reports contain

		links as text (**true**), or as links to reports (**false**)
collectsocialdata	false	(not used, added for future versions)
collectWebSizeSql	true (recommended)	Calculate the size of web-sites by querying the content database
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)

Note: some policies are only available in later versions of HarePoint Analytics.

19.2. 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**:



Scroll the page down to **Statistic policies** and click **Configure policies**:

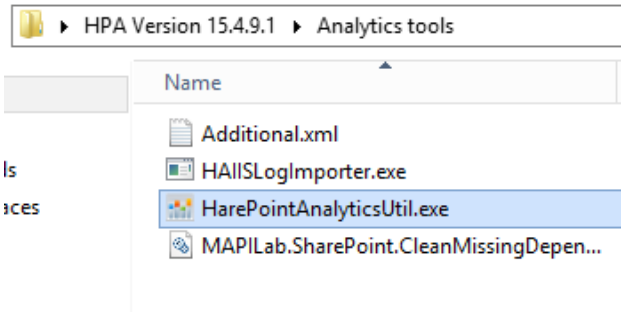


Policies are divided into two sections:

- **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

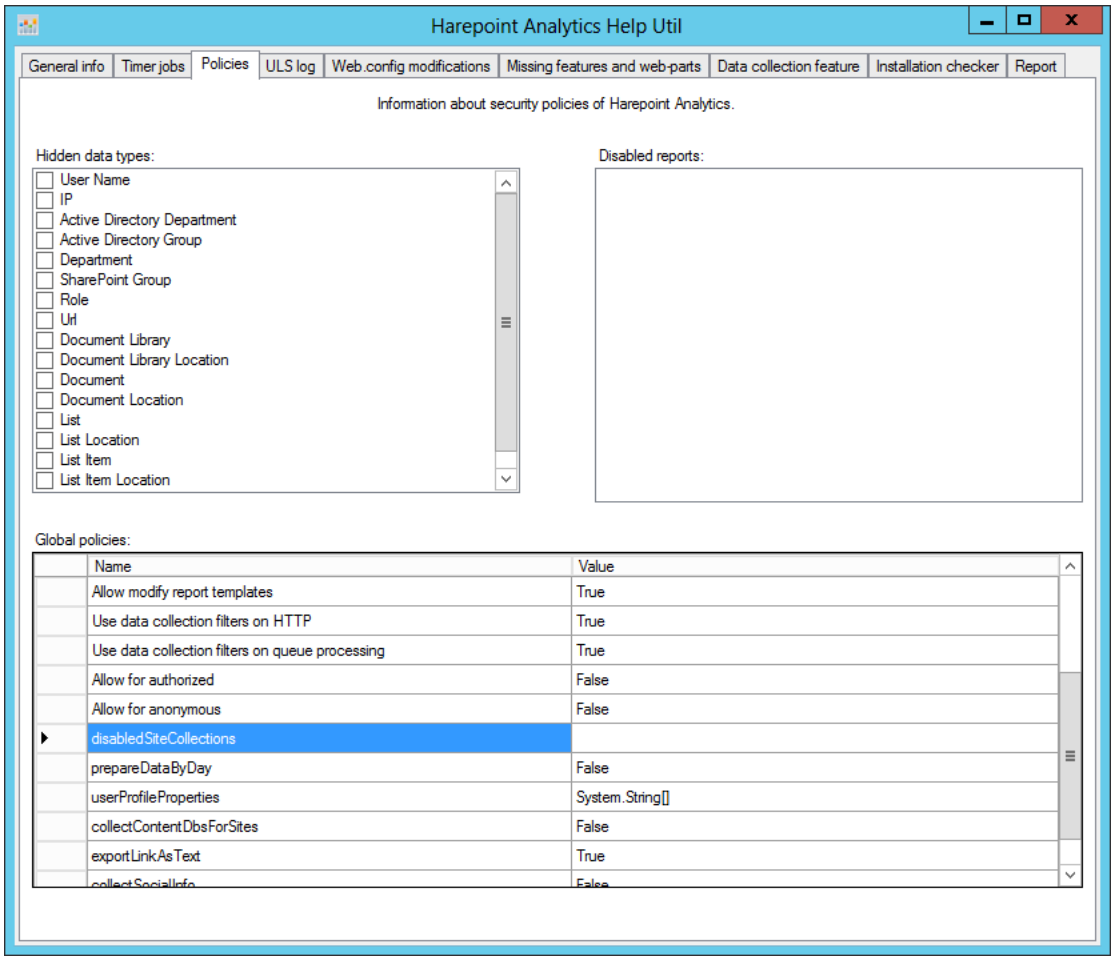
19.3. Using HarePoint Analytics Utility to view the policies

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



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.**

20. 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.

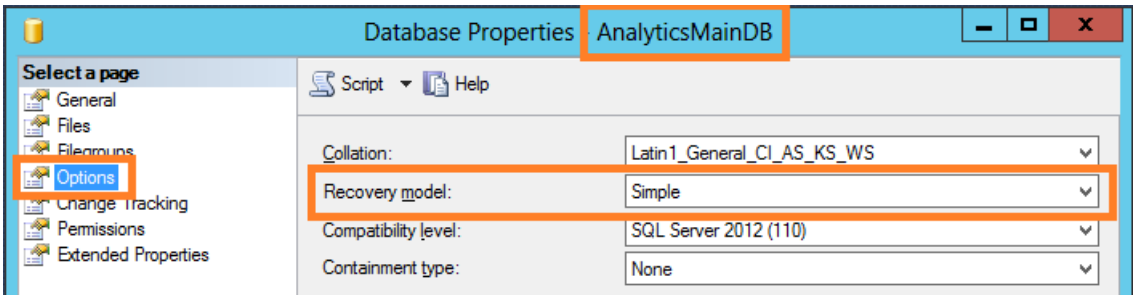
If for some reason it is not possible and **Full** is the required setting, it is recommended to perform shrinking transaction log file on a regular basis.

20.1. 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.

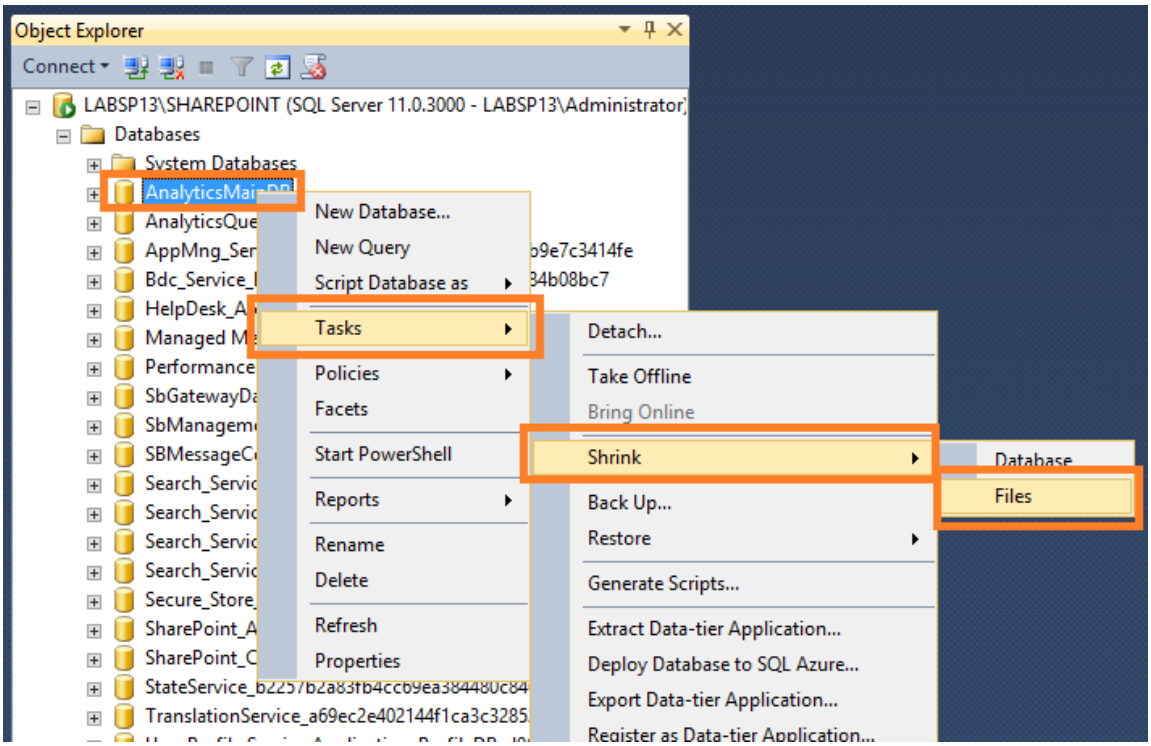
Follow the steps below:

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

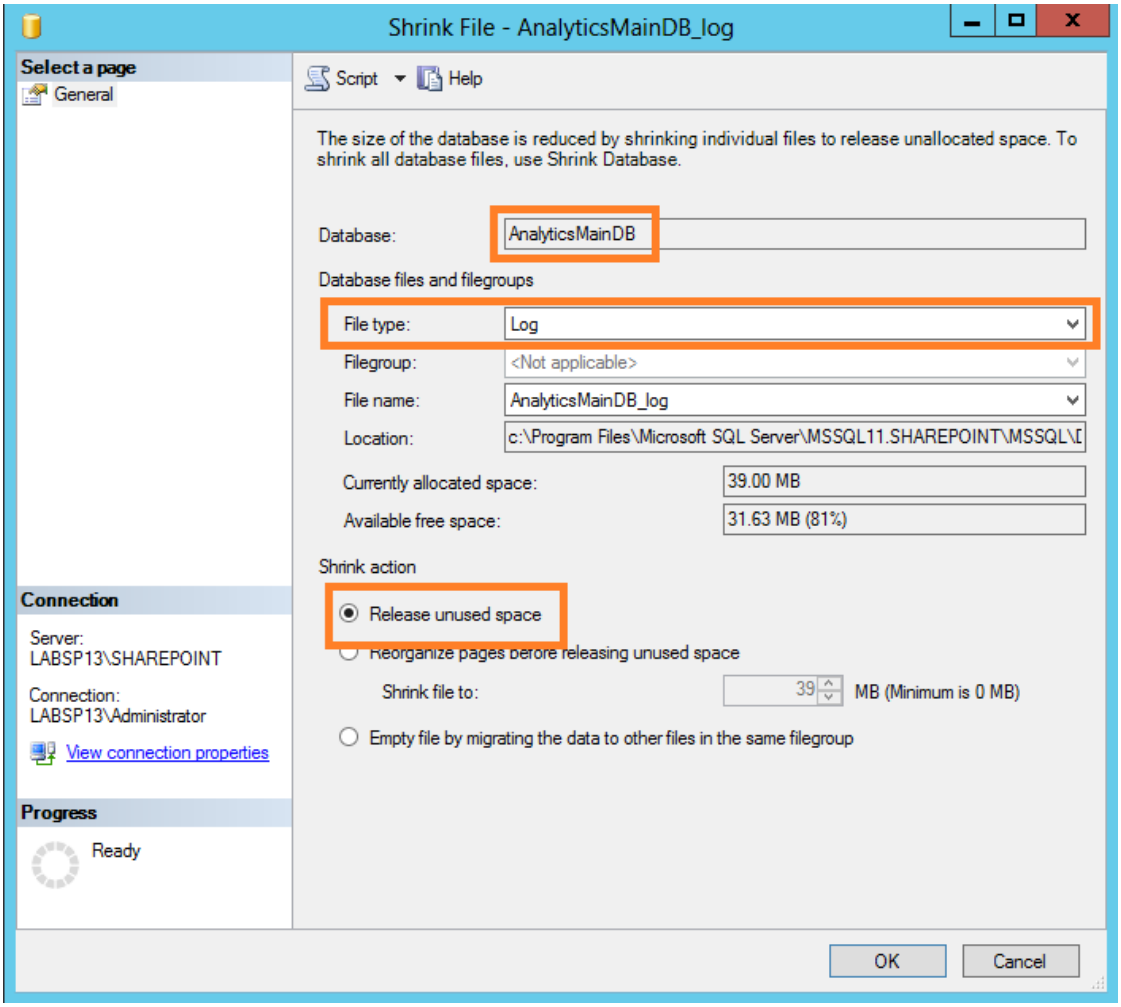


4. Click **OK**.

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.

21. 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).

21.1. Track page events

To track JavaScript events on a page, you need to include the **haloader.js** script. To do this, add the following code to the end of the **<head>** section of the page:

```
<script type="text/javascript"
src="<webUrl>_layouts/15/MAPILab/Statistics/haloader.js" ></script>
```

Where,

`<webUrl>` is a server relative URL of the current site/subsite. It will be equal to "**/**" for the root site of a site collection.

Next, insert the following code to the method that is called when an event to be registered occurs:

```
_haq.push(['trackEvent', '<eventType>', '<eventName>', '<eventDescription>
', '<eventValue>']);
```

Where,

`<eventType>` is an **event type** (maximum length: 100 symbols) (**required**),

`<eventName>` is an **event name** (maximum length: 100 symbols) (**optional**),

`<eventDescription>` is **additional information** of the event (maximum length: 200 symbols) (**optional**),

`<eventValue>` is a **numerical value** of the event (**optional**).

You can define which data you need to be displayed in HarePoint Analytics Event report, and transfer the corresponding values to this method. This could be fixed values, or values from variables on the page.

Example:

```
<ahref="#" onclick="_haq.push(['trackEvent', 'Purchase', 'MyProduct',
'PurchasePage', 0.99]);">Buy (0.99$)</a>
```

21.2. 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 "**/**".

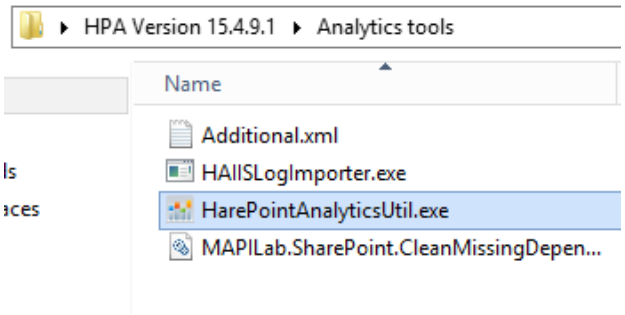
Example:

```
<scripttype="text/javascript">
var _haq = _haq || [];
_haq.push(['trackEvent', 'Page view', 'Main page']);
</script>
<script
type="text/javascript"src="/_layouts/15/MAPILab/Statistics/haloader.js">
</script>
```

22. Contacting HarePoint Support

If you have questions or need assistance, please contact HarePoint Support via support@harepoint.com, or create a ticket on http://harepoint.com/support:

1. **describe** the situation
2. attach the relevant **screenshots**
3. attach the **report** generated by **HarePoint Analytics Utility – Report tab** (see below), preferably with **all options checked** and **ULS log date range** set according to the time frame when the issue took place or related timer jobs were running.
   HarePoint Analytics Utility can be found in distributive package in **Analytics Tools** folder:



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

