HarePoint Analytics

For SharePoint

Administrator Guide

HarePoint Analytics for SharePoint 2007 product version: 3.11
HarePoint Analytics for SharePoint 2010 product version: 14.13

06/08/2016

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1. Introduction

HarePoint Analytics for SharePoint (formerly MAPILab Statistics for SharePoint) is a solution for web analytics. It is the source of detailed information on the usage and performance of SharePoint-based portals and websites. Product reports cover such aspects as users and their behavior; usage of content, documents, list items and search services.

This manual has been produced by MAPILAB and contains information essential for the successful installation of HarePoint Analytics for SharePoint on your computer. We ask that you read the contents of this manual carefully before starting the installation process. This manual includes technical information regarding installation, upgrade, migration and configuration of the product. It is intended for SharePoint and SQL Server administrators. More information about the product and its usage you can find in User Guide and at:

http://harepoint.com/Products/HarePointAnalyticsForSharePoint/Default.aspx

2. Quick Start

1. Read the Preparation for deployment area of Administrator Guide.

2. Install the product as it described in Installation and deployment area.

3. Create the databases as it described in Initial Settings area

4. Grant the users with permissions to generate the reports as it described in Managing of the access to the reports area.

5. Create the tasks to send generated reports automatically by email as it described in Creation of the tasks to get reports by email area of Administrator Guide.

3. How it works

HarePoint Analytics for SharePoint is deployed on all servers in the SharePoint Farm. The product is deployed as the **Farm solution** and it adds several **Timer Jobs** and the **Site Collection Feature** during the deployment. The product is configured in **SharePoint Central Administration.**

3.1. Data collection

HarePoint Analytics for SharePoint collects data using its own **HTTP module** and **Timer Jobs**. The product doesn't modify SharePoint pages and doesn't add scripts to them. Also it doesn't use the IIS or SharePoint ULS logs for data collection.

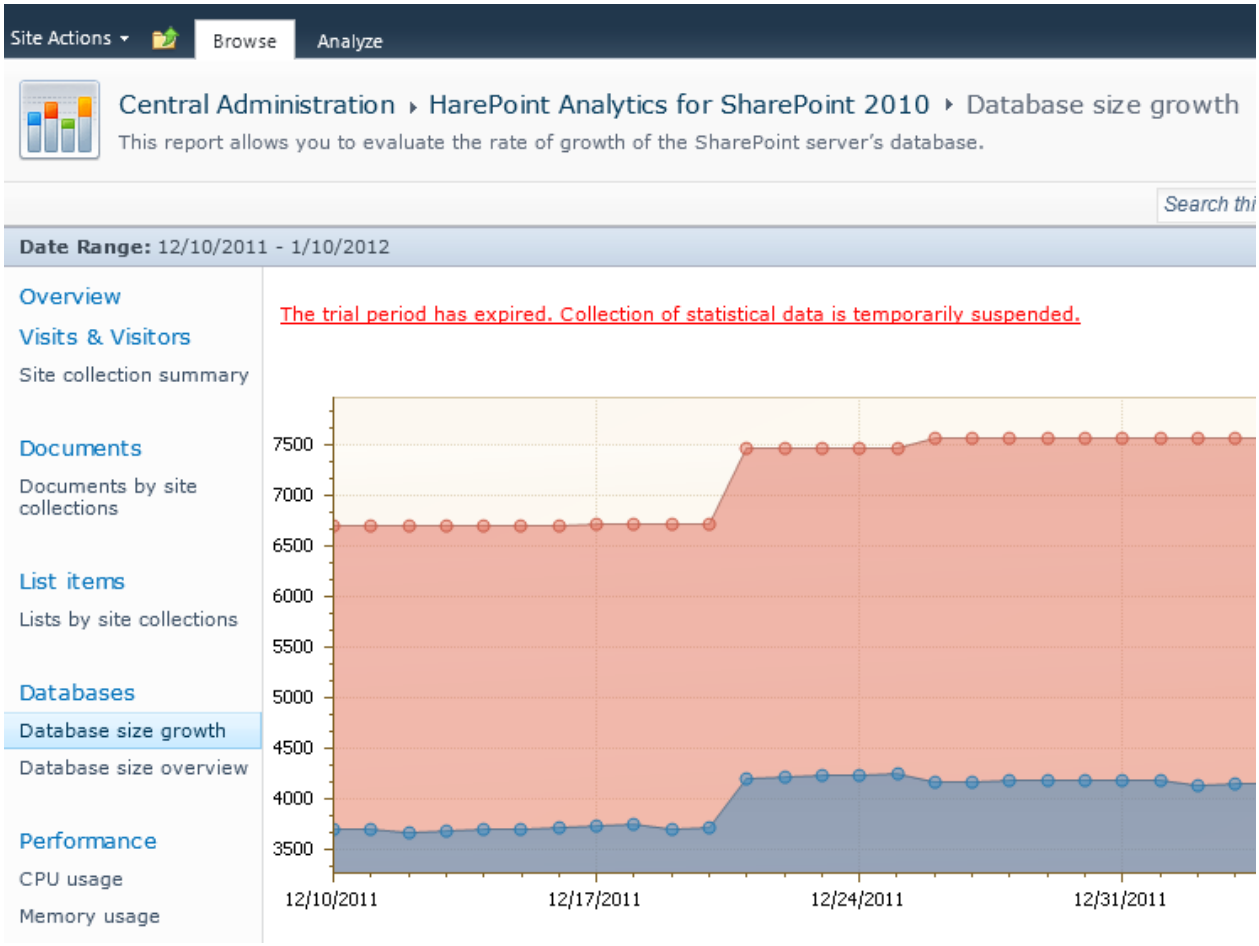
To start the data collection it is necessary to activate the **Site Collection Feature** named "HarePoint Analytics for SharePoint" for each site collection where the product should be used. When the **Feature** is activated the product starts data collection. Two separate SQL databases are used for the data storing: the first one is used as a queue database and data is collected into this database. A separate **Timer Job** starts by schedule, takes data from the queue database, enriches it with additional data and stores it in the second database. Two separate databases are used to decrease the loading of SQL server during the data collection and processing. All used **Timer jobs** and their settings are described in **HarePoint Analytics Timer Jobs** area of this document.

HarePoint Analytics uses the following methods for data collection:

- **HttpModule**. It adds own HttpModule to the web.config files for all web-applications in the farm.
- **EventReceivers**. It adds several event processors to the site collections where our feature is activated.
- **Timer jobs**. It adds several Timer Jobs for the Microsoft SharePoint Foundation Timer, which collects and processes data.
- **Active Directory**. It requests data from AD during the data collection using LDAP.
- **SharePoint API**. It collects data from the SharePoint content databases through the SharePoint object model.
- **SQL**. It gets some data using calls to SharePoint databases (SQL requests)
- **java-script**. To get details on user's click on search results HarePoint analytics adds java-script which requests data from web service search.asmx or mlsearch.asmx (if the internal SharePoint scripts are not added to the pages).

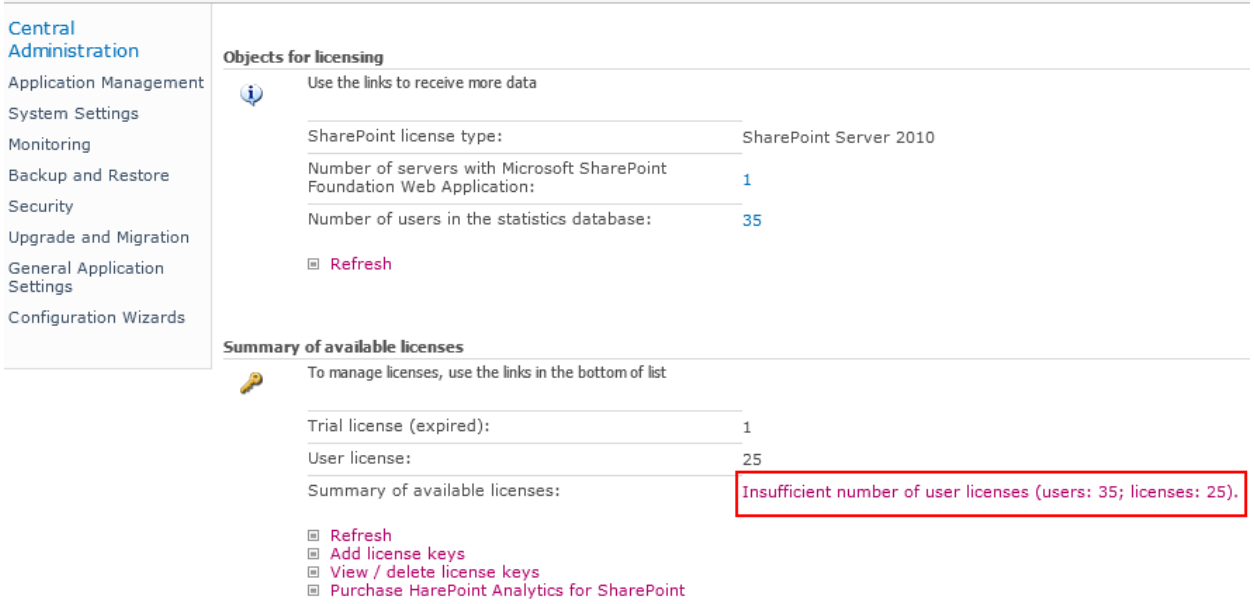
Data collection stops when a trial period ends. In such situations you will see a notification on the **HarePoint Analytics for SharePoint Settings** page**:**

and also in the bottom of the displayed report:

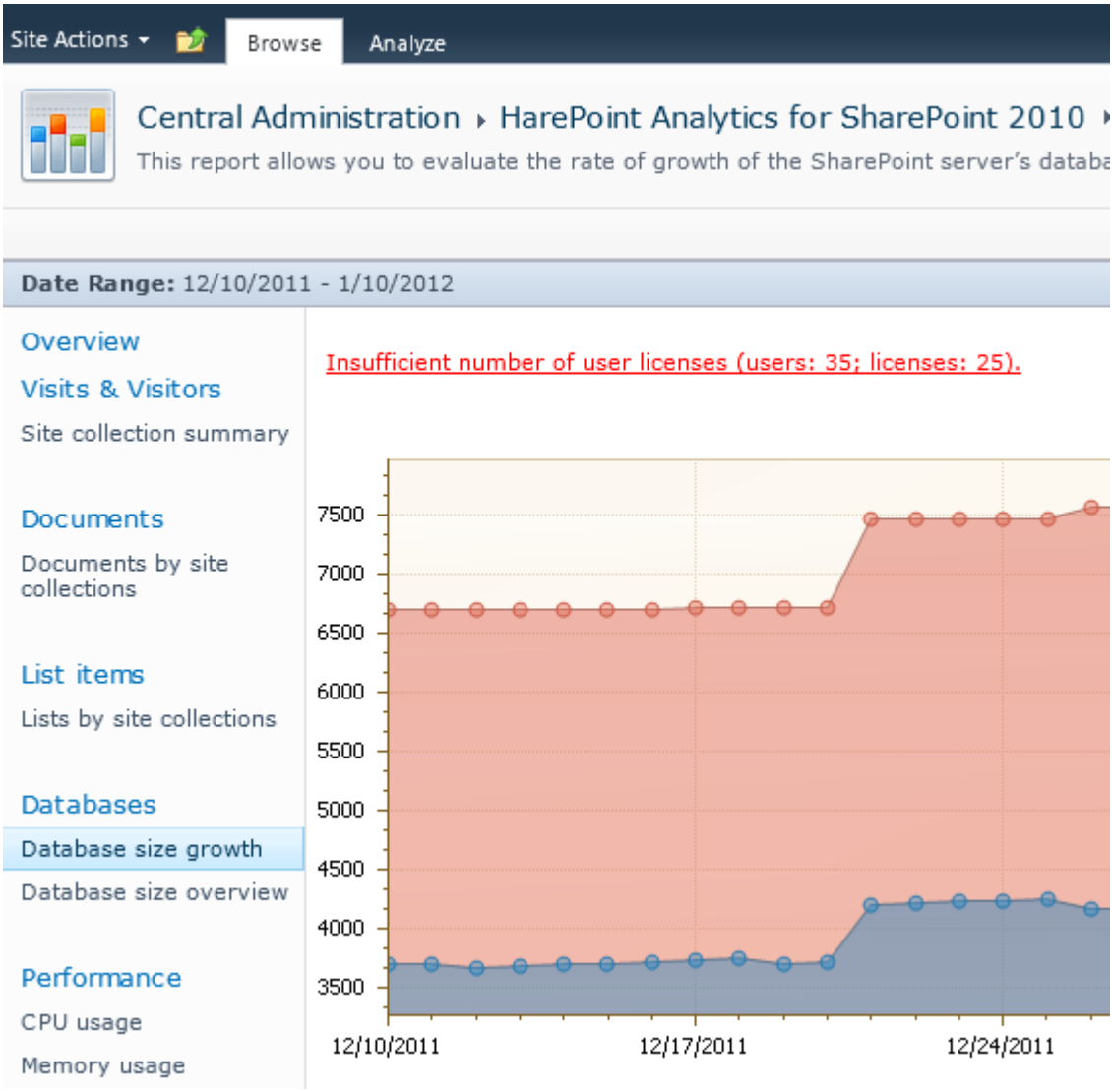


To extend the trial period additional **Trial Registration Key** is required.

Data collection doesn't stop when the number of SharePoint users exceeds the number of purchased licenses. If such situation occurs the product notifies you about it by adding a red string to the **HarePointAnalytics for SharePoint Settings** -> **Licensing** page:



And also in the bottom of the reports:



Data collection continues and the product works without any technical limitations.

3.1.1. Personal data which is 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. Equal to Name (There are differences in Active Directory object types).
- **CanonicalName**
  String like **thecompany.local/Staff/ John Smith**.
- **CommonName**
  User name. Equal 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.

3.2. Data processing

The product collects data in a real-time mode into the database which is used as a queue database. Each 5 minutes (default settings) data from this database is processed and stored in the second database as data of "level 0". Some data can be requested not so often (for example, the size of databases or the number of documents in the document library) and the data collection on such objects is performed by the second **Timer Job** by a separate schedule. Once a day one more **Timer Job** is started. It processes all data collected during a day and prepares data for reports (to speed up the report generation). This process takes time and prepares data of "level 1". So, new data is displayed in the reports on the next day.

The product stores detailed statistics within half of a year (default value is 180 days)

List of data which will be removed after one year

- 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)

Also all links to the deleted data are removed.

3.3. Report Generation

Reports can be generated in three ways:

- when a user clicks on the necessary report in the Dashboard;
- when a page with a web-part is opened by a visitor (a report is displayed by the HarePoint Analytics web-part);
- when a task sending the report automatically by e-mail is executed by the scheduler.

All the data collected during a day is processed and prepared to be displayed in the reports. So, all necessary data is pre-generated and when the report has to be generated, HarePoint Analytics just reads data from the database and displays it in tables or in a chart. When the user clicks "Export to PDF or XLS" the task is performed at the server side. The necessary data is read from the database tables and converted into the proper format.

3.4. Subscription to the reports

HarePoint Analytics allows you to create the tasks which will generate and send specified reports by e-mail in the specified time. To create a task a user should be granted with the permission of "**Site Settings**". Also, the SharePoint administrator can create necessary tasks for users. It is possible to select the report; specify the time range, exporting format; set the scheduler and specify the recipients which should get this data automatically. The number of the created tasks is unlimited. In a specified time the product prepares the report in a specified format (PDF or XLS) at the server side and sends it by e-mail to the lists of recipients.

To get more details about how to create the tasks, please look at the **Creation of the tasks to get reports by email** area of the Administrator 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 on all servers in the SharePoint farm. To install and deploy the program successfully, you must have administrator rights for both SharePoint servers and for the Windows Server on which the Product will be deployed. The product can be installed and deployed in two ways:

- Automatically using Setup.exe
- Manually using Stsadm.exe

We recommend using Setup.exe because it checks whether HarePoint Analytics can be installed and performs the installation automatically. It checks:

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

It allows you to:

- install and deploy the solution;
- repair the solution (retract the solution and deploy it again);
- remove the solution;
- select the web-applications to which the solution should be deployed.

Also, it generates **Installation.log** which simplifies the troubleshooting if any problems occur during the installation or deployment.

5.1. System requirements

5.1.1. HarePoint Analytics for SharePoint 2007

1. Microsoft Office SharePoint Server 2007, Windows SharePoint Services 3.0

2. Microsoft SQL Server 2005; SQL Server 2005 Express Edition
   Microsoft SQL Server 2005 Express Edition can be downloaded for free from the web-site of Microsoft Company

3. Windows Component: Message Queuing (it is optional. These components are required if you would like to use MSMQ instead of the SQL table as a queue for the data collection).

4. Microsoft .NET Framework 2.0 Service Pack 1
   Download x86 version from Microsoft Download Center
   Download x64 version from Microsoft Download Center

5. Internet Explorer 7.0 or newest is recommended to view reports

5.1.2. HarePoint Analytics for SharePoint 2010

1. Microsoft Office SharePoint Server 2010, SharePoint Foundation 2010
2. Microsoft SQL Server 2005 or higher; SQL Server 2005 Express Edition or higher
   Microsoft SQL Server 2005 Express Edition can be downloaded for free from the web-site of Microsoft Company
3. Microsoft .NET Framework 3.5 SP1.
   Microsoft .NET Framework 3.5 SP1 can be downloaded for free from the Microsoft Download Center
4. Internet Explorer 8.0 or newest is recommended to view reports

5.2. Before the installation and deployment

Here is a list of items which should be checked before the installation and deployment of the product.

1. The latest version of the product is downloaded from **HarePoint.com**
2. The correct product is downloaded (there are two products available on HarePoint.com: HarePoint Analytics for SharePoint 2007 and HarePoint Analytics for SharePoint 2010).
3. The downloaded product ZIP is unzipped into the temporary folder on the WFE server.
4. The SharePoint farm is configured completely.
5. The web-sites and SharePoint Central Administration web-site are working properly.
6. All files web.config are not write-protected.

In case of automatic installation and deployment using Setup.exe the following items will be checked automatically. In case of manual installation and deployment you should check also the following:

7. 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:

   %COMMONPROGRAMFILES%\microsoft shared\web server extensions\12\bin
   or
   %COMMONPROGRAMFILES%\microsoft shared\web server extensions\14\bin

8. You are starting the installation from the SharePoint Web front-end server.
9. You have administrator rights for both SharePoint servers and for the Windows Server on which the Product will be deployed.
10. Make sure that Administrative Service is started. The service name is one of the following:

- Microsoft SharePoint Foundation administrative service (for SharePoint 2010);
- Windows SharePoint Services Administration (for SharePoint 2007).

11. Make sure that SharePoint Timer Service is started.

5.3. Calculation of the Database size

For example, 500 users * 20 clicks per day * 20 days per month * 11 month = about 2,2 millions of clicks per year.

HarePoint Analytics for SharePoint saves two sets of data: detailed and summary.

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

With the default settings the products saves detailed data during one year, after one year detailed data are deleted. Summary data and Totals are never deleted.

So, the size of the database with 2.2 million hits will be about 15 GB after one year and it will be increasing very slowly with the same number of hits.

If the number of clicks is increased to 2.5 million – the database size will increase to 17 GB.

Growth of the size of the statistics database

Hit count	DB_size	reversed	data	index_size	unused
500000	5625.75 MB	1769840 KB	663424 KB	1091584 KB	14832 KB
1000000	7020.75 MB	3291240 KB	1236272 KB	2037384 KB	17584 KB
2500000	19672.44 MB	6690568 KB	2350552 KB	4315392 KB	24624 KB
3500000	31743.56 MB	8671248 KB	2996352 KB	5649744 KB	25152 KB
5500000	38269.13 MB	12969912 KB	4395576 KB	8545120 KB	29216 KB
8500000	42427.44 MB	14606256 KB	4998432 KB	9577896 KB	29928 KB

6. Installation and deployment

Please, read carefully the **Preparation for deployment** area of the **Administrator guide** before the installation.

The product distributive contains the following files and folders:

Bin – the folder contains a program library for the installation tool
Resources – the folder contains all necessary files to deploy HarePoint Analytics manually
HarePoint.Installer.Core.dll – core program library of 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
Setup.exe.config – XML file with the directions to the installation tool.

HarePoint Analytics for SharePoint can be deployed in the automatic mode and manually.

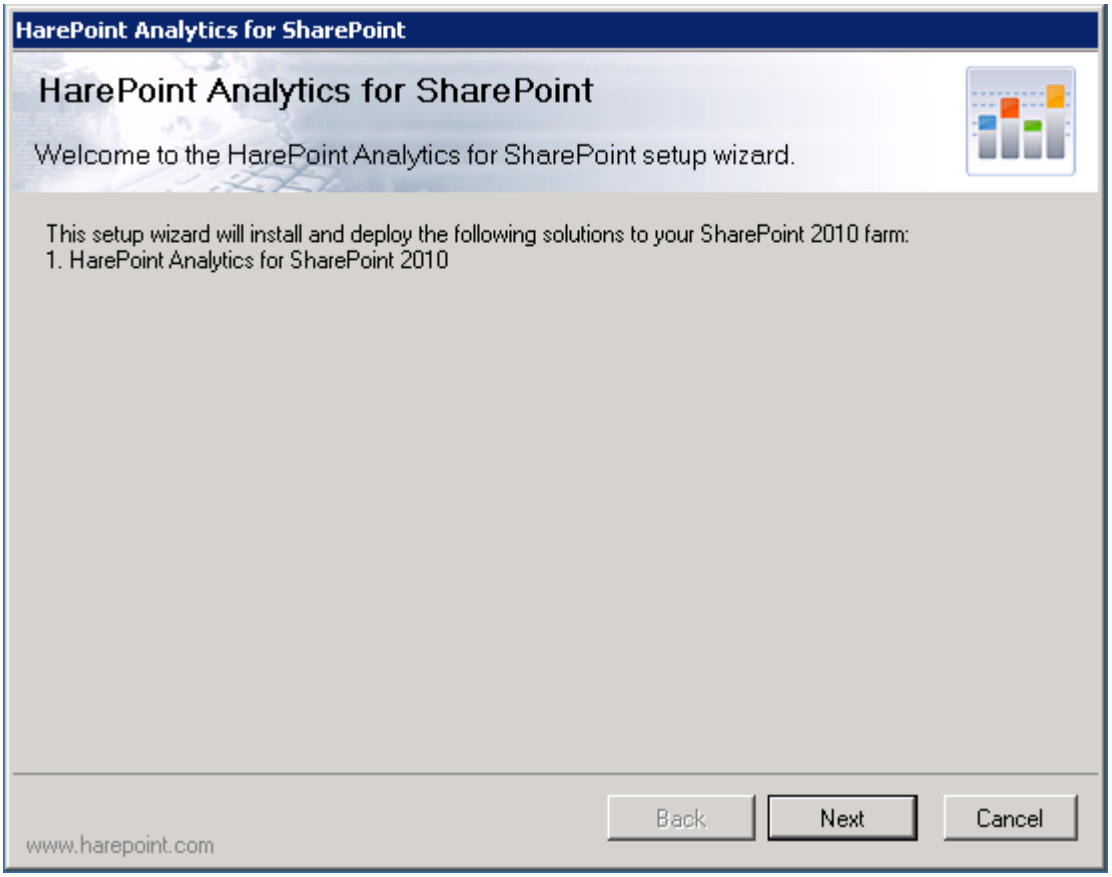
6.1. Automatic installation and deployment using Setup.exe

The Automatic installation and deployment processes are identical for both products: HarePoint Analytics for SharePoint 2007 and HarePoint Analytics for SharePoint 2010.

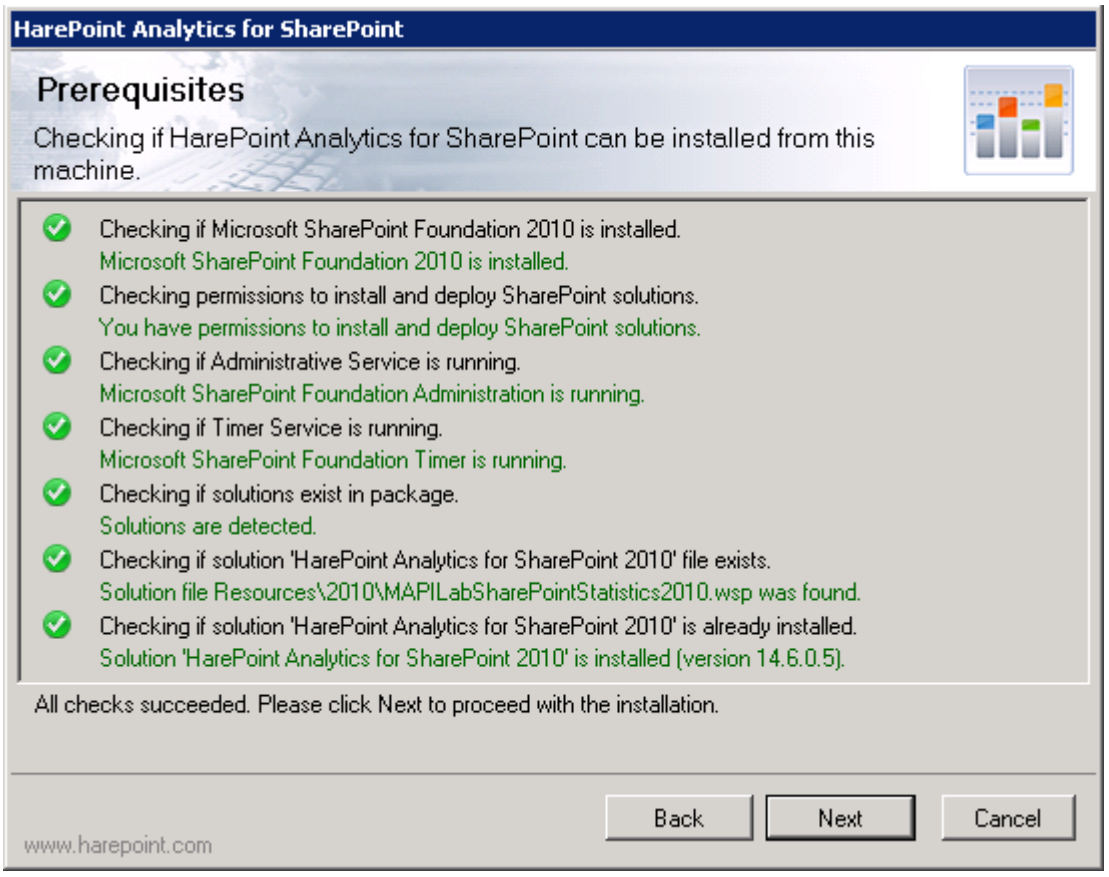
> Also you can watch video tour that will guide you through all steps of HarePoint Analytics deployment process:
>
> Show tour | Download offline version (7 Mb)

The installation and deployment are performed by a special tool. To start it click file **Setup.exe.**

At the first step the installation tool checks the version of SharePoint which is installed and shows the error message if incorrect distributive of the product is downloaded. If the appropriate version is detected you will see the following window:

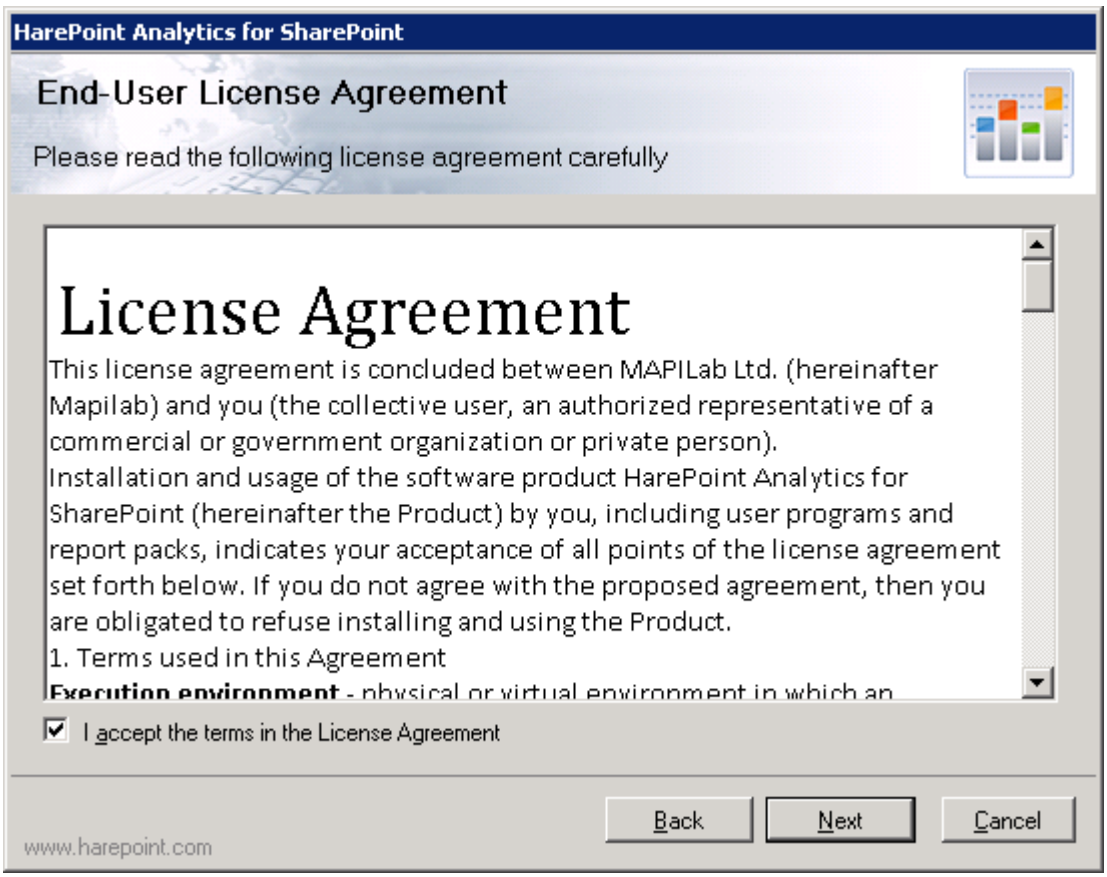


At the next step the installation tool checks the necessary components and the permission to install and deploy the product. If everything is OK you will see the following window:

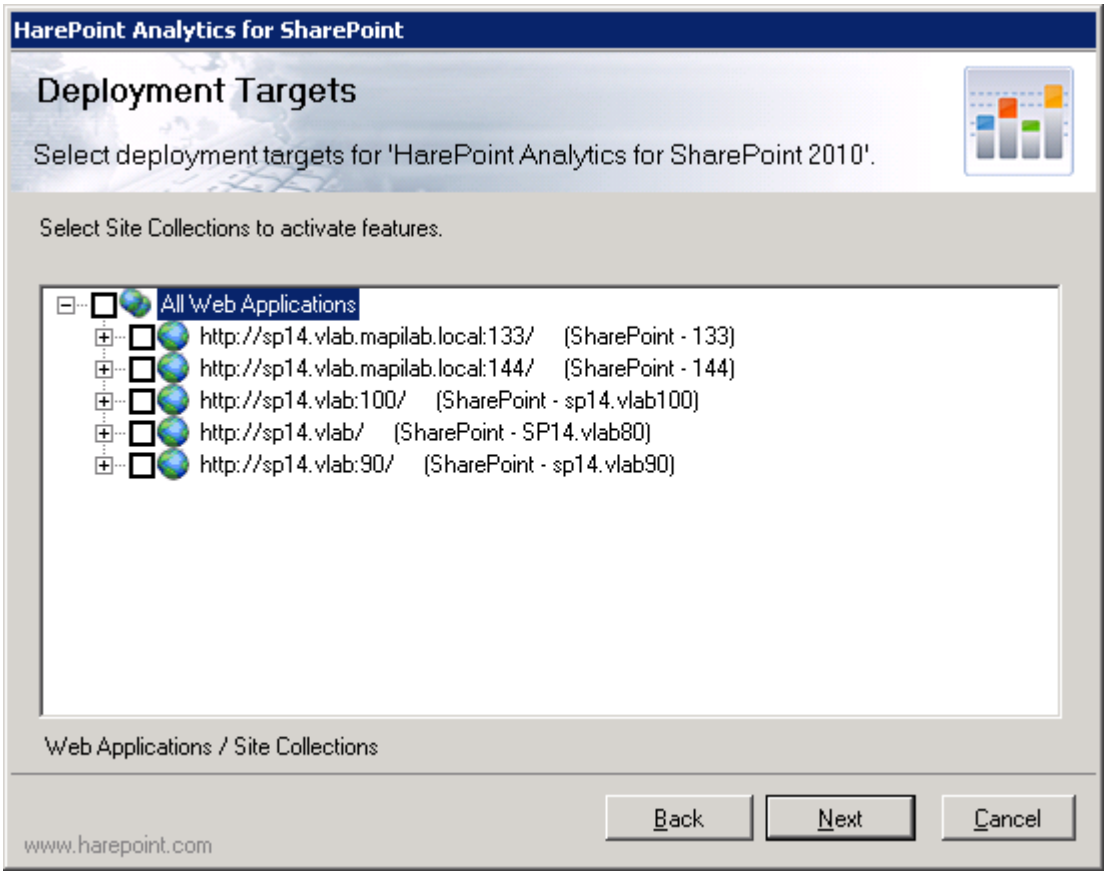


If you see a red mark in the list – you should fix the problem before continuing the installation.

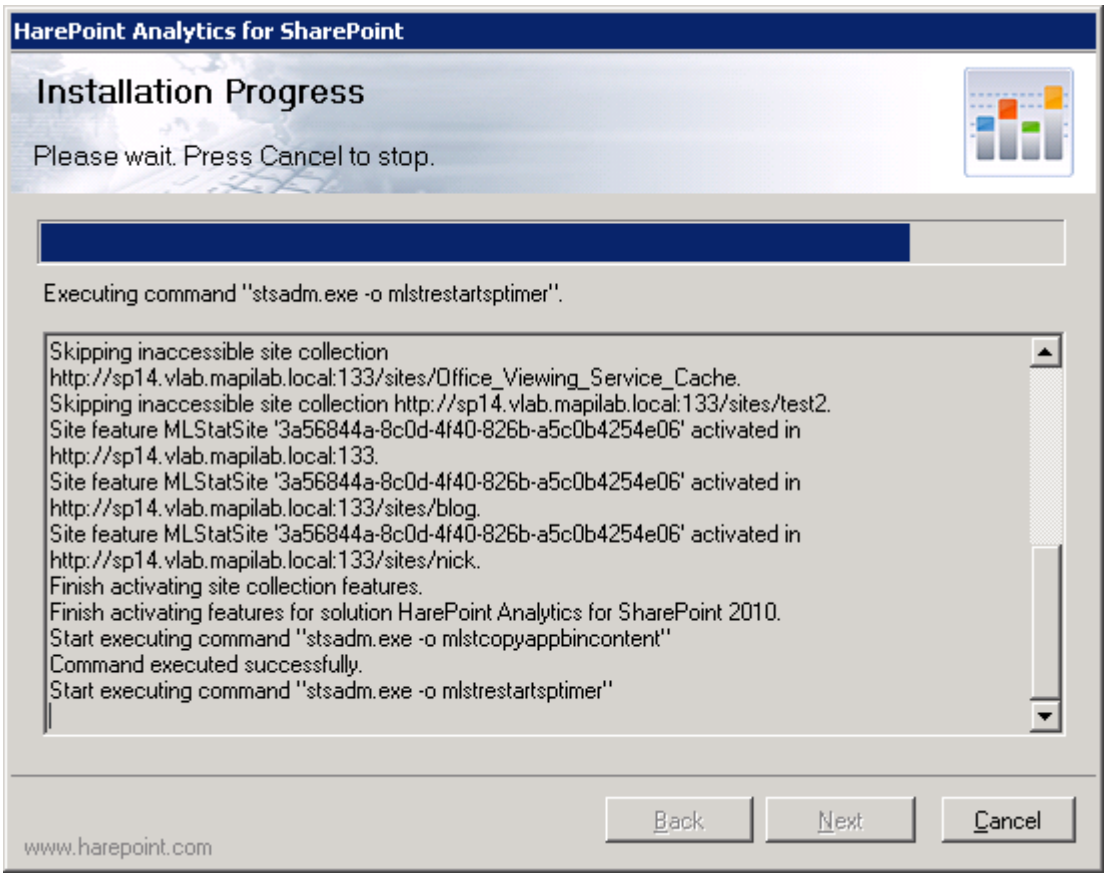
At the next step you should read and accept the License Agreement:



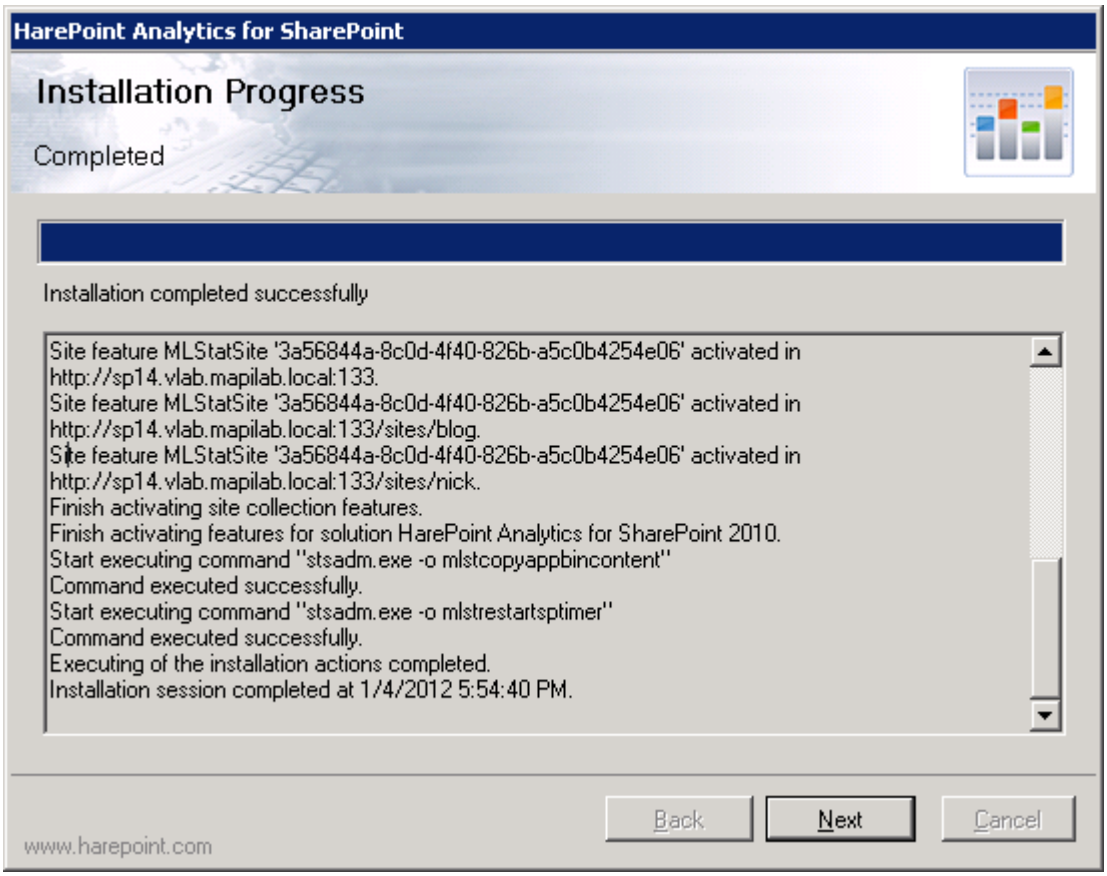
At the next step you should select the Web-applications and Site Collections to which the product should be deployed:



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



When the deployment is finished you will see message “Installation completed successfully” at once after the status bar:



Click **Next** and **Finish** to exit from the installation tool. The product is installed and deployed.

6.2. Manual installation and deployment

> Also you can watch video tour that will guide you through all steps of HarePoint Analytics deployment process in manual mode:
>
> Show tour | Download offline version (9 Mb)

6.2.1. HarePoint Analytics for SharePoint 2007

The process of installing HarePoint Analytics for SharePoint is identical for Windows SharePoint Services 3.0 and for Microsoft Office SharePoint Server 2007. Please read carefully the **Preparation for deployment** area of the **Administrator guide** before the installation.

The software distributive contains a folder named "**Resources\2007**". There are the necessary files to deploy the product manually:

Tools – folder which contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
deployment-guide.en.mht – quick guide which contains necessary data to deploy the product manually (English)
deployment-guide.en.pdf – quick guide which contains necessary data to deploy the product manually (English)
deployment-guide.ru.mht – quick guide which contains necessary data to deploy the product manually (Russian)
deployment-guide.ru.pdf – quick guide which contains necessary data to deploy the product manually (Russian)
harepoint-analytics-user-guide.en.mht – user guide (English)
harepoint-analytics-user-guide.en.pdf – user guide (English)
harepoint-analytics-user-guide.ru.mht – user guide (Russian)
harepoint-analytics-user-guide.ru.pdf – user guide (Russian)
license.en.mht – License agreement (EULA, English).
license.en.pdf – License agreement (EULA, English).
license.ru.mht – License agreement (EULA, Russian).
license.ru.pdf – License agreement (EULA, Russian).
MAPILabSharePointStatistics.wsp – the solution file which should be added to the repository of solutions of SharePoint.

Run **Command Prompt** (executable name `cmd.exe`) as **Administrator** and go to the folder where file **MAPILabSharePointStatistics.wsp** is located. Execute the following commands:

stsadm -o addsolution -filename MAPILabSharePointStatistics.wsp

to add a solution file to the solution store.

stsadm -o deploysolution -name MAPILabSharePointStatistics.wsp –allowgacdeployment – immediate

to deploy the solution package to the SharePoint farm. The deployment will be started immediately.

After execution of **deploysolution** it is necessary to wait while the solution is deployed 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 MAPILabSharePointStatistics.wsp

If the deployment of the solution is completed you should be able to find "**DeploymentSucceeded**" under the **<LastOperationResult>** section and also value "**TRUE**" must be displayed under the <**Deployed**> section. If both values are displayed you can continue the installation of HarePoint Analytics, if no – wait for a while and execute **displaysolution** again.

Next, run the **stsadm -o mlstcopyappbincontent** command to copy the necessary resource files to all servers in the SharePoint farm. This command is the extension for the **stsadm.exe** utility distributed with HarePoint Analytics. As the result of running this command, **stsadm -o copyappbincontent** will start on each SharePoint farm server.

As a result of these actions, the HarePoint Analytics solution will be deployed on the servers. Now you should configure the product. To learn more about it please visit the **Initial Settings** area of the **Administrator guide**.

6.2.2. HarePoint Analytics for SharePoint 2010

The process of installing HarePoint Analytics for SharePoint 2010 is identical for SharePoint Foundation 2010 and Microsoft SharePoint Server 2010. Please read carefully the **Preparation for deployment** area of the **Administrator guide** before the installation.

The software distributive contains a folder named "**Resources\2010**". There are the necessary files to deploy the product manually:

Tools – folder which contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
HarePointAnalyticsForSharePoint-AdminGuide.EN.mht – guide which contains necessary data to deploy and administrate the product manually (English)
HarePointAnalyticsForSharePoint-AdminGuide.EN.pdf – guide which contains necessary data to deploy and administrate the product manually (English)
HarePointAnalyticsForSharePoint-UserGuide.EN.mht – user guide (English)
HarePointAnalyticsForSharePoint-UserGuide.EN.pdf – user guide (English)
license.en.mht – License agreement (EULA, English).
license.en.pdf – License agreement (EULA, English).
license.ru.mht – License agreement (EULA, Russian).
license.ru.pdf – License agreement (EULA, Russian).
MAPILabSharePointStatistics2010.wsp – the solution file which should be added to the repository of solutions of SharePoint.

Run **Command Prompt** (executable name **`cmd.exe`**) as **Administrator** and go to the folder where the file **MAPILabSharePointStatistics2010.wsp** is located. Execute the following commands:

stsadm -o addsolution -filename MAPILabSharePointStatistics2010.wsp

to add a solution file to the solution store.

stsadm -o deploysolution -name MAPILabSharePointStatistics2010.wsp –allowgacdeployment –immediate

to deploy the solution package to the SharePoint farm. The deployment will be started immediately.

After execution of **deploysolution** it is necessary to wait while the solution is deployed on all servers in the SharePoint Farm. To learn more about current status of the solution execute the following command:

stsadm -o displaysolution -name MAPILabSharePointStatistics2010.wsp

If the deployment of the solution is completed you should be able to find "**DeploymentSucceeded**" under the **<LastOperationResult>** section and also the value "**TRUE**" must be displayed under the <**Deployed**> section. If both values are displayed you can continue the installation of HarePoint Analytics, if no – wait for a while and execute **displaysolution** again.

Next, run the **stsadm -o mlstcopyappbincontent** command to copy the necessary resource files to all servers in the SharePoint farm. This command is the extension for the **stsadm.exe** utility distributed with HarePoint Analytics. As the result of running this command, **stsadm -o copyappbincontent** will start on each SharePoint farm server.

As a result of these actions, the HarePoint Analytics solution will be deployed on the servers. Now you should configure the product. To learn more about it please look at the **Initial Settings** area of the **Administrator guide**.

7. Upgrading of the product version

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

Before starting the upgrading process please check the following:

1. The latest version of the product can be downloaded from **HarePoint.com**
2. The correct product is downloaded (there are two products available at HarePoint.com: HarePoint Analytics for SharePoint 2007 and HarePoint Analytics for SharePoint 2010).
3. The downloaded product ZIP is unzipped into the temporary folder on the WFE server.
4. All files web.config are not write-protected.

In case of automatic upgrading using Setup.exe the following items will be checked automatically. In case of manual upgrading you should check also the following:

5. 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:

   %COMMONPROGRAMFILES%\microsoft shared\web server extensions\12\bin
   or
   %COMMONPROGRAMFILES%\microsoft shared\web server extensions\14\bin

6. You are starting the installation from the SharePoint Web front-end server.
7. You have administrator rights for both SharePoint servers and for the Windows Server on which the Product will be deployed.
8. Make sure that Administrative Service is started. The service name is one of the following:
   - Microsoft SharePoint Foundation administrative service (for SharePoint 2010);
   - Windows SharePoint Services Administration (for SharePoint 2007).
9. Make sure that SharePoint Timer Service is started.

The product distributive contains the following files and folders:

Bin – the folder contains a program library for the installation tool
Resources – the folder contains all necessary files to deploy HarePoint Analytics manually
HarePoint.Installer.Core.dll – core program library of 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
Setup.exe.config – XML file with the directions to the installation tool.

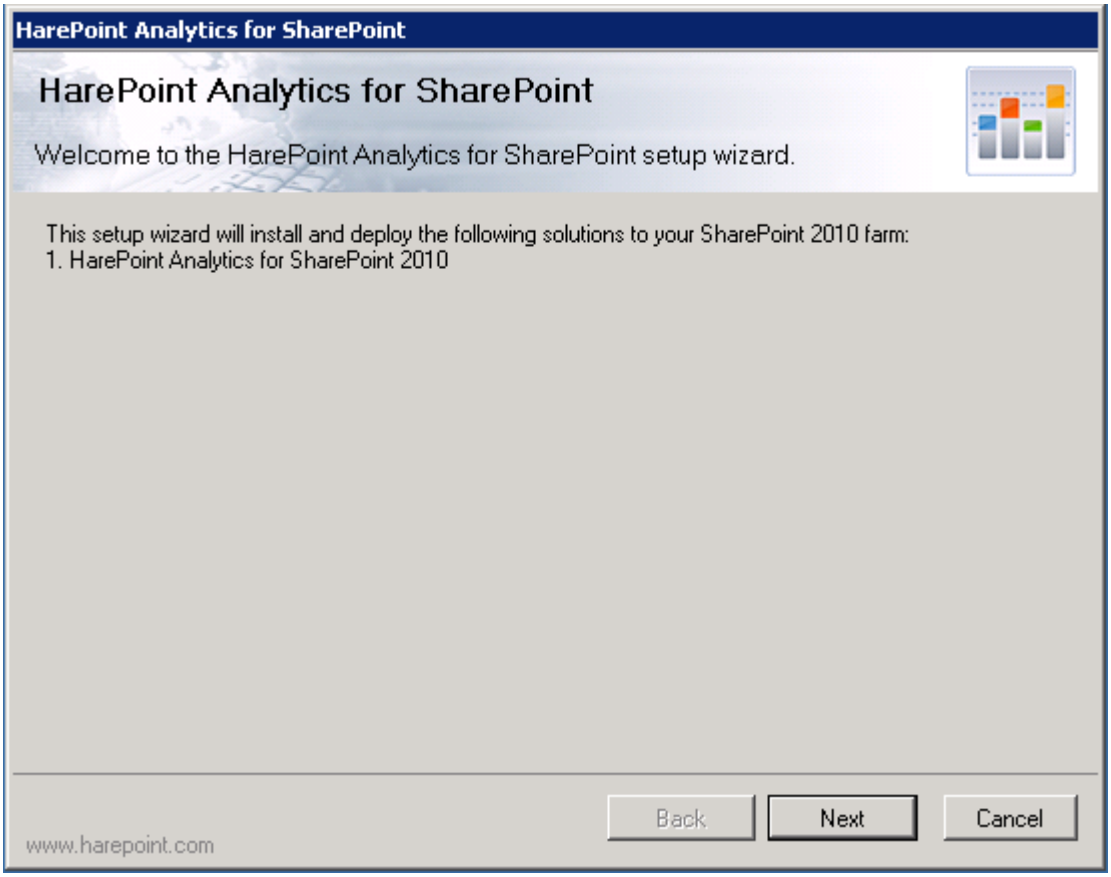
HarePoint Analytics for SharePoint can be upgraded in the automatic mode and manually.

7.1. Automatic upgrading using Setup.exe

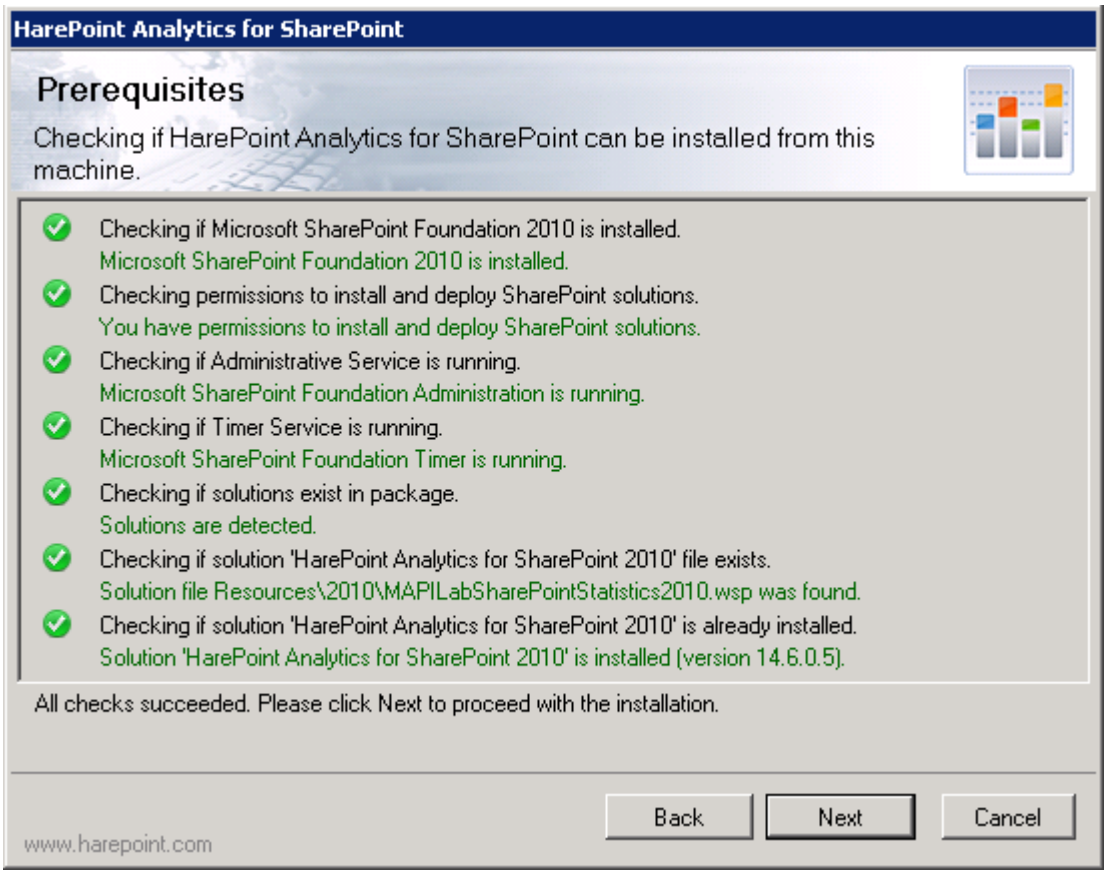
Automatic upgrading process is identical for both products: HarePoint Analytics for SharePoint 2007 and HarePoint Analytics for SharePoint 2010.

The installation, upgrading and removing of the product are performed by a special tool. To start it click file **Setup.exe.**

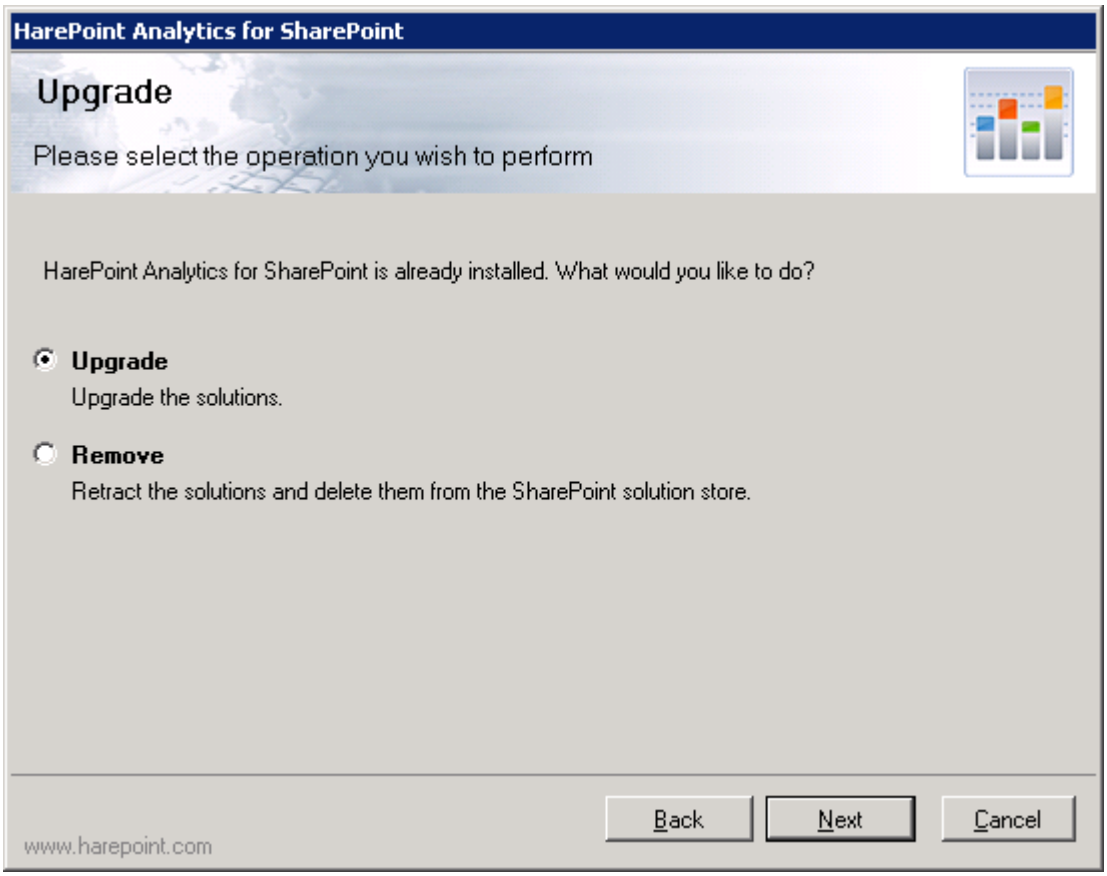
At the first step the installation tool checks the version of SharePoint which is installed and shows the error message if incorrect distributive of the product is downloaded. If the appropriate version is detected you will see the following window:



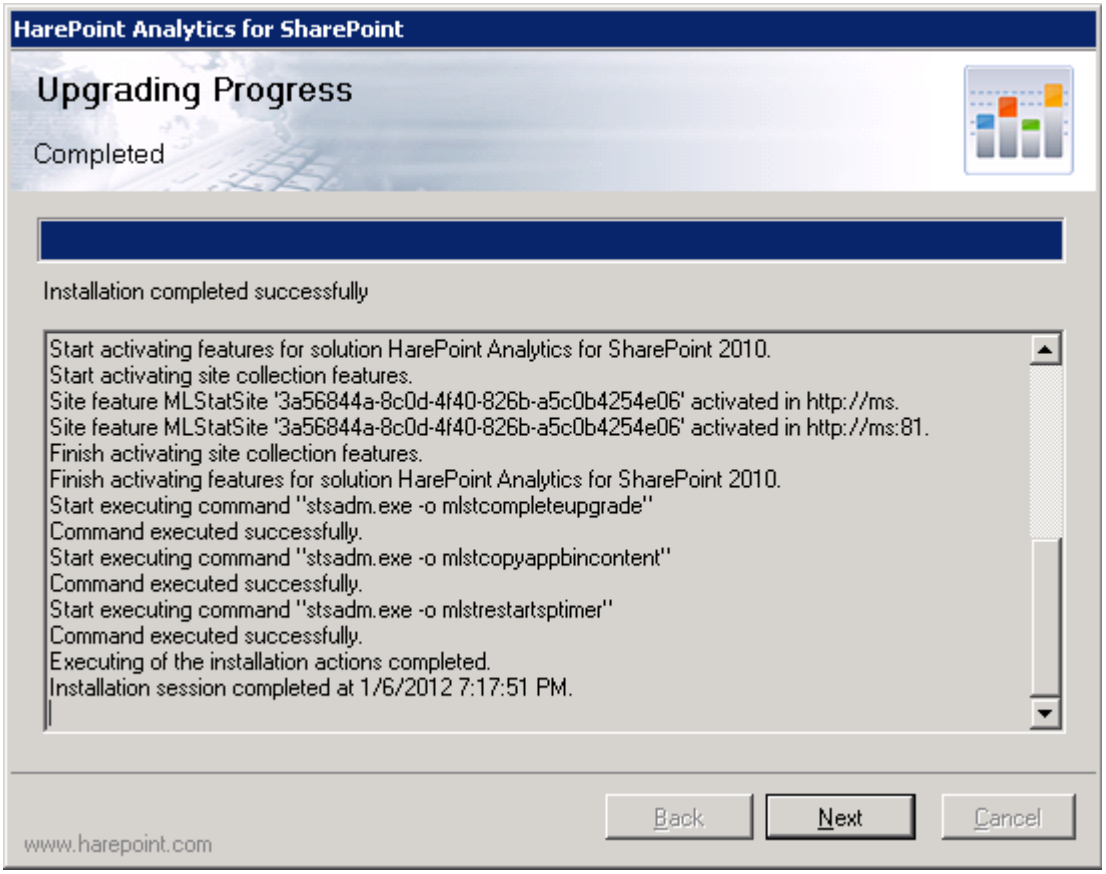
At the next step the installation tool checks the necessary components and the permission to install, upgrade or remove the product. If everything is OK you will see the following window:



If you see a red mark in the list – you should fix the problem before continuing the upgrading 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:



Click **Next** and **Finish** to close the wizard. The product is upgraded.

All settings should be applied automatically and you should change nothing but it is better to check it. Go to the **SharePoint Central Administration** web site and check the HarePoint Analytics settings:

- Connection to the databases;
- Schedulers for the data collection and processing;
- Filters (if you are using the data collection filters)
- Applied policies;
- Entered license keys.

7.2. Manual upgrading

7.2.1. HarePoint Analytics for SharePoint 2007

The process for upgrading HarePoint Analytics for SharePoint is identical for Windows SharePoint Services 3.0 and for Microsoft Office SharePoint Server 2007. Please read carefully the **Upgrading of the product version** area of the **Administrator guide** before the installation.

The software distributive contains a folder named "**Resources\2007**". There are the necessary files to deploy the product manually:

Tools – folder which contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
deployment-guide.en.mht – quick guide which contains necessary data to deploy the product manually (English)
deployment-guide.en.pdf – quick guide which contains necessary data to deploy the product manually (English)
deployment-guide.ru.mht – quick guide which contains necessary data to deploy the product manually (Russian)
deployment-guide.ru.pdf – quick guide which contains necessary data to deploy the product manually (Russian)
harepoint-analytics-user-guide.en.mht – user guide (English)
harepoint-analytics-user-guide.en.pdf – user guide (English)
harepoint-analytics-user-guide.ru.mht – user guide (Russian)
harepoint-analytics-user-guide.ru.pdf – user guide (Russian)
license.en.mht – License agreement (EULA, English).
license.en.pdf – License agreement (EULA, English).
license.ru.mht – License agreement (EULA, Russian).
license.ru.pdf – License agreement (EULA, Russian).
MAPILabSharePointStatistics.wsp – the solution file which should be added to the repository of solutions of SharePoint.

Run **Command Prompt** (executable name **`cmd.exe`**) as **Administrator** and go to the folder where file **MAPILabSharePointStatistics.wsp** is located. Execute the following commands:

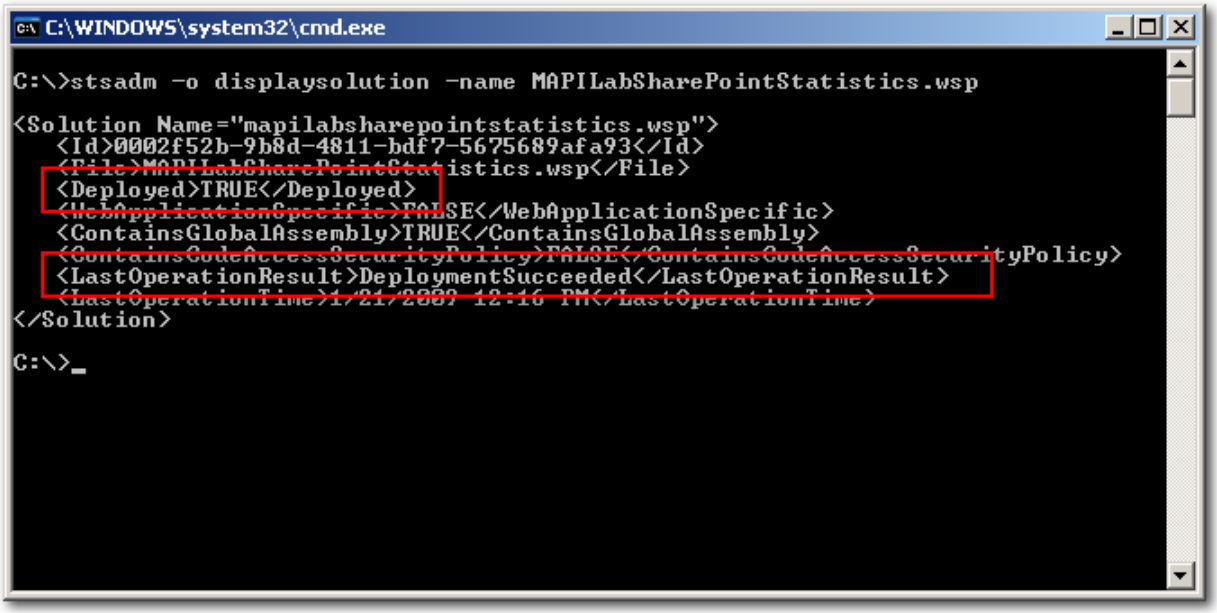
stsadm -o upgradesolution -name MAPILabSharePointStatistics.wsp -filename MAPILabSharePointStatistics.wsp -allowgacdeployment -immediate

to upgrade the solution.

After execution of **upgradesolution** it is necessary to wait while 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 MAPILabSharePointStatistics.wsp

If the deployment of the solution is completed you should be able to find "**DeploymentSucceeded**" under the **<LastOperationResult>** section and also value "**TRUE**" must be displayed under the <**Deployed**> section:



If both values are displayed properly you can continue the upgrade of HarePoint Analytics, if no – wait for a while and execute **displaysolution** again.

Next, run

stsadm -o mlstcompleteupgrade -copyappbincontent -restartsptimer

This command is the extension for the **stsadm.exe** utility distributed with HarePoint Analytics. As the result of running this command, **stsadm -o copyappbincontent** will be started on each SharePoint farm server and the **SharePoint Timer Service** will be restarted on all servers in the farm.

7.2.2. HarePoint Analytics for SharePoint 2010

The process for uninstalling HarePoint Analytics for SharePoint 2010 is identical for SharePoint Foundation 2010 and Microsoft SharePoint Server 2010. Please read carefully the "**Upgrading of the product version** area of the **Administrator guide** before starting the product upgrade.

The software distributive contains a folder named "**Resources\2010**". There are the necessary files to deploy the product manually:

Tools – folder which contains a tool developed by MAPILab Ltd to simplify the deployment of solutions for SharePoint.
HarePointAnalyticsForSharePoint-AdminGuide.EN.mht – guide which contains necessary data to deploy and administrate the product manually (English)
HarePointAnalyticsForSharePoint-AdminGuide.EN.pdf – guide which contains necessary data to deploy and administrate the product manually (English)
HarePointAnalyticsForSharePoint-UserGuide.EN.mht – user guide (English)
HarePointAnalyticsForSharePoint-UserGuide.EN.pdf – user guide (English)
license.en.mht – License agreement (EULA, English).
license.en.pdf – License agreement (EULA, English).
license.ru.mht – License agreement (EULA, Russian).
license.ru.pdf – License agreement (EULA, Russian).
MAPILabSharePointStatistics2010.wsp – the solution file which should be added to the repository of solutions of SharePoint.

Run **Command Prompt** (executable name **cmd.exe**) as **Administrator** and go to the folder where the file **MAPILabSharePointStatistics2010.wsp** is located. Execute the following commands:

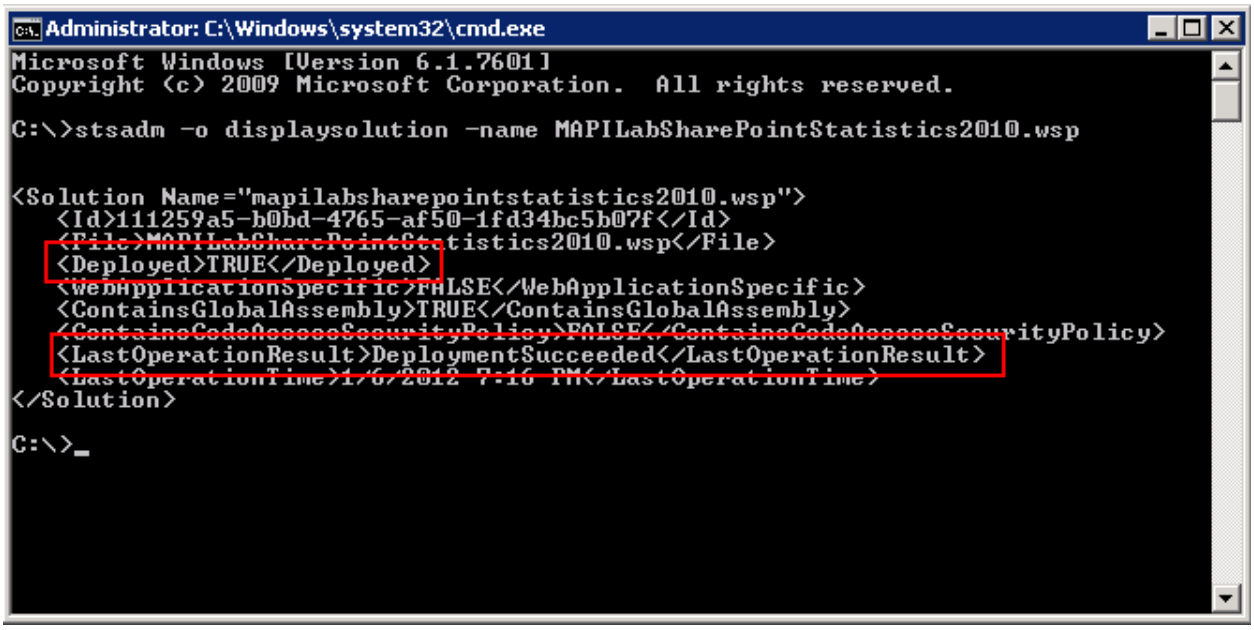
stsadm -o upgradesolution -name MAPILabSharePointStatistics2010.wsp -filename MAPILabSharePointStatistics2010.wsp –allowgacdeployment -immediate

to upgrade the solution.

After execution of **upgradesolution** it is necessary to wait while 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 MAPILabSharePointStatistics2010.wsp

If the deployment of the solution is completed you should be able to find "**DeploymentSucceeded**" under the **<LastOperationResult>** section and also value "**TRUE**" must be displayed under the <**Deployed**> section:



If both values are displayed properly you can continue the upgrade of HarePoint Analytics, if no – wait for a while and execute **displaysolution** again.

Next, run

stsadm -o mlstcompleteupgrade -copyappbincontent -restartsptimer

This command is the extension for the **stsadm.exe** utility distributed with HarePoint Analytics. As the result of running this command, **stsadm -o copyappbincontent** will be started on each SharePoint farm server and the **SharePoint Timer Service** will be restarted on all servers in the farm.

8. Removing the solution

Before removing the solution please make sure that all files web.config are not write-protected. During the removal, all of the settings, and also all of the collected statistical information stored in the databases will not be deleted.

HarePoint Analytics for SharePoint can be removed in the automatic mode and manually.

In case of automatic removing using Setup.exe the following items will be checked automatically. In case of manual upgrading you should check also the following:

1. 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:

   %COMMONPROGRAMFILES%\microsoft shared\web server extensions\12\bin
   or
   %COMMONPROGRAMFILES%\microsoft shared\web server extensions\14\bin

2. You are starting the installation from the SharePoint Web front-end server.
3. You have administrator rights for both SharePoint servers and for the Windows Server on which the Product will be deployed.
4. Make sure that Administrative Service is started. The service name is one of the following:
   - Microsoft SharePoint Foundation administrative service (for SharePoint 2010);
   - Windows SharePoint Services Administration (for SharePoint 2007).
5. Make sure that SharePoint Timer Service is started.

The product distributive contains the following files and folders:

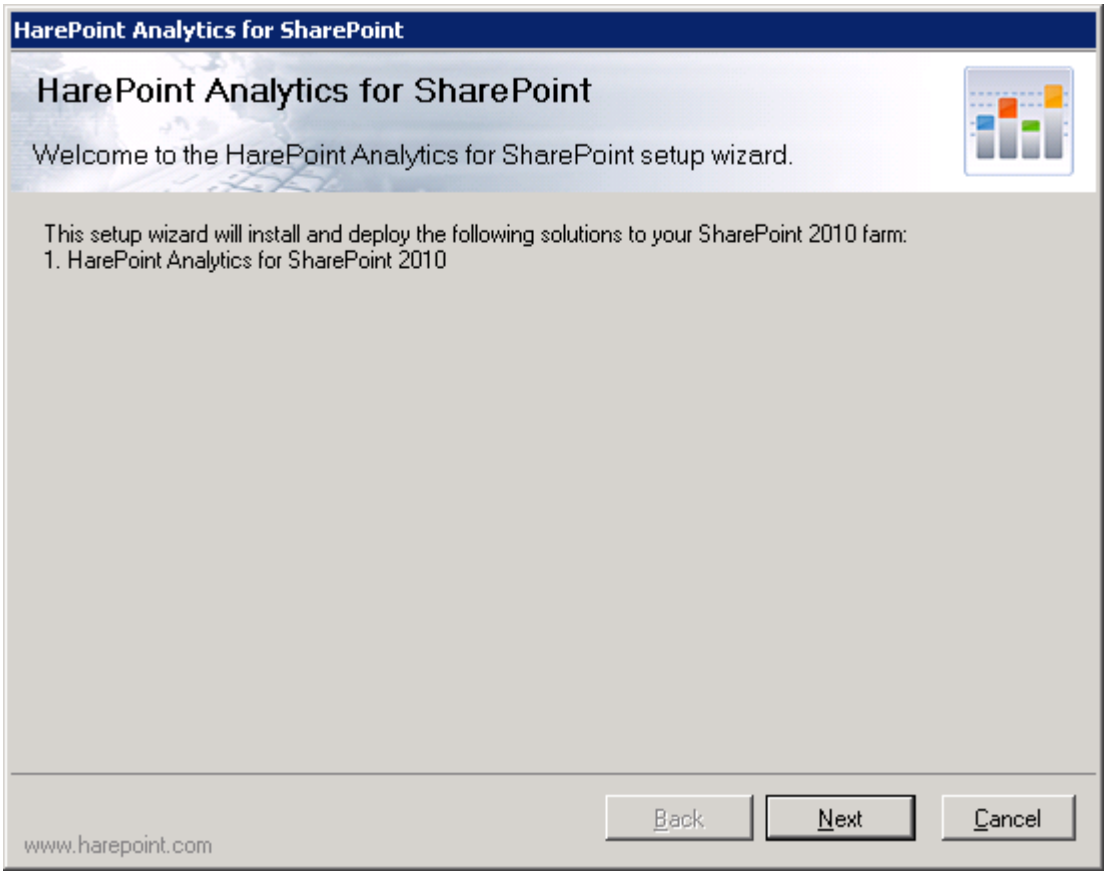
Bin – the folder contains a program library for the installation tool
Resources – the folder contains all necessary files to deploy HarePoint Analytics manually
HarePoint.Installer.Core.dll – core program library of the installation tool
installation.log – this file is created when the installation tool is started. It contains installation logs.
Setup.exe – executable file to start the installation tool
Setup.exe.config – XML file with the directions to the installation tool.

8.1. Automatic removing using Setup.exe

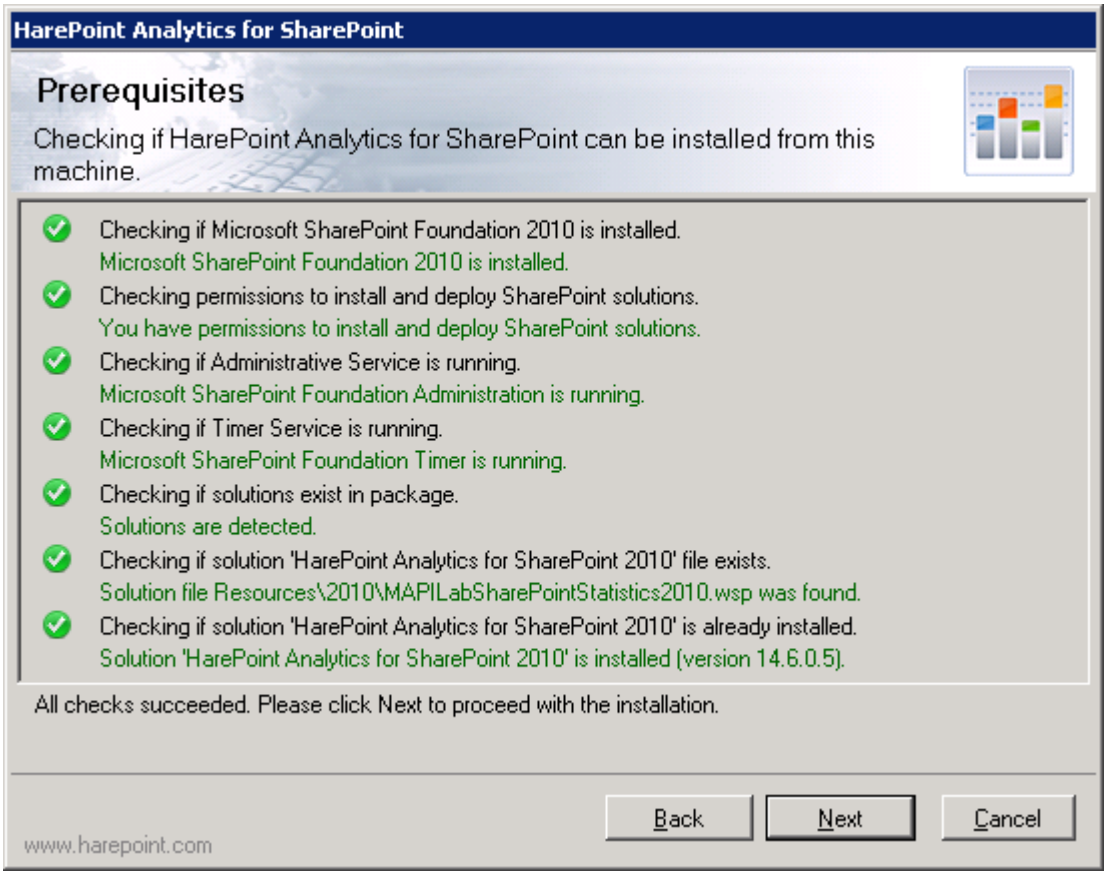
Automatic removing process is identical for both products: HarePoint Analytics for SharePoint 2007 and HarePoint Analytics for SharePoint 2010.

The installation, upgrading and removing the product are performed by a special tool. To start it click file **Setup.exe.**

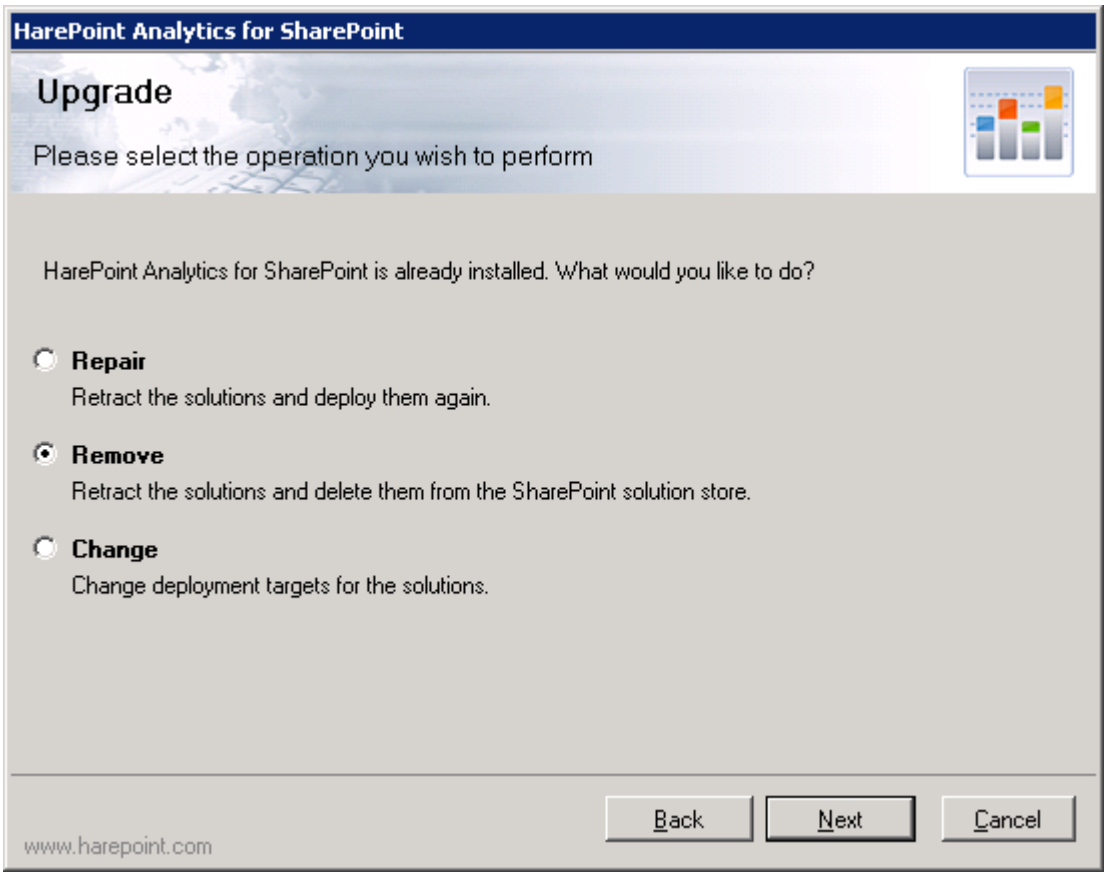
At the first step the installation tool checks the version of SharePoint which is installed and shows the error message if incorrect distributive of the product is downloaded. If the appropriate version is detected you will see the following window:



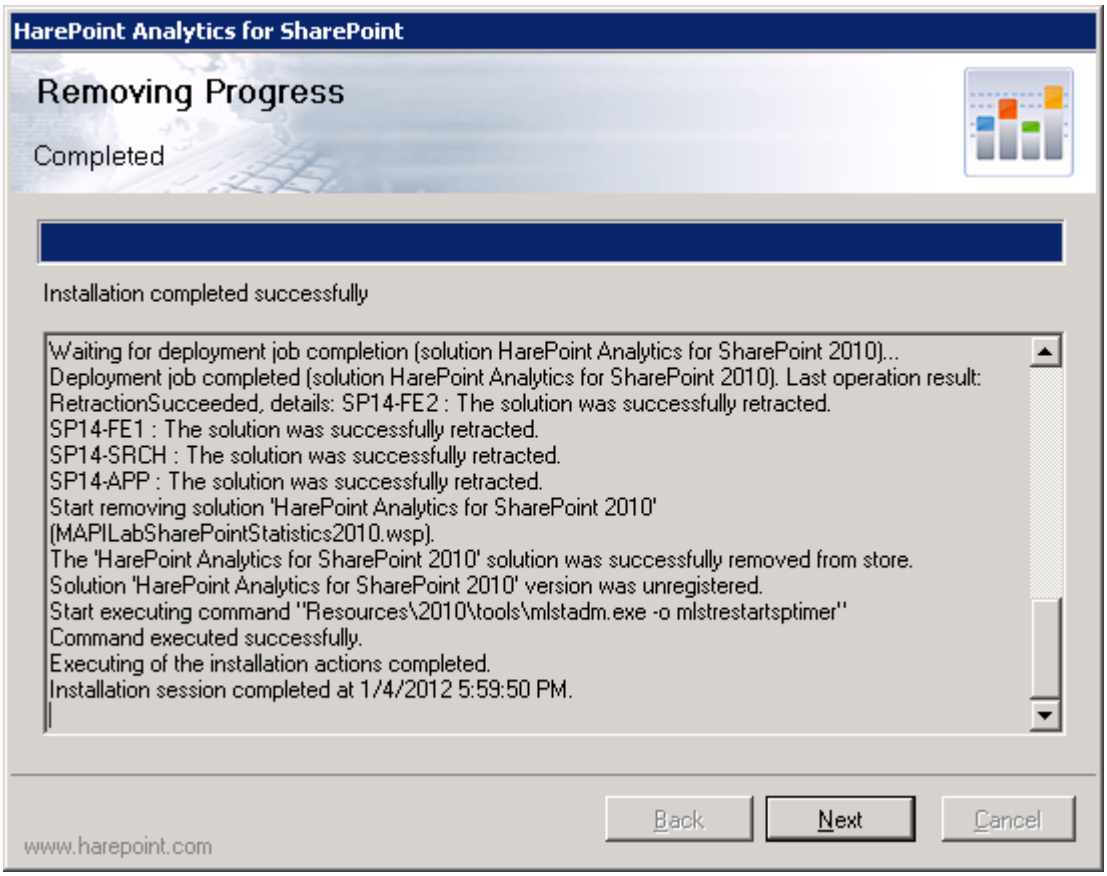
At the next step the installation tool checks the necessary components and the permission to install, upgrade or remove the product. If everything is OK you will see the following window:



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



When the product removing process is finished you will see the "**Installation completed successfully**" message below the status bar:



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

8.2. Manual removing

Please read carefully the **Removing the solution** area of the **Administrator guide** before starting the process of the product removing.

8.2.1. HarePoint Analytics for SharePoint 2007

The process for uninstalling HarePoint Analytics for SharePoint is identical for Windows SharePoint Services 3.0 and for Microsoft Office SharePoint Server 2007.

To remove the product from the SharePoint farm execute the following command:

stsadm -o retractsolution -name MAPILabSharePointStatistics.wsp –immediate

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 MAPILabSharePointStatistics.wsp

If the retracting of the solution is completed you should be able to find "**RetractionSucceeded**" under the **<LastOperationResult>** section and also value "**FALSE**" must be displayed under the <**Deployed**> section:

If both values are displayed properly you can continue the upgrade of HarePoint Analytics, if no – wait for a while and execute **displaysolution** again.

Next, run command:

stsadm -o deletesolution -name MAPILabSharePointStatistics.wsp

to delete the solution. After that, restart **Windows SharePoint Services Timer** on each server. You can either do this manually by using Services or using command:

`mlstadm -o mlstrestartsptimer`

`mlstadm` tool is included into the package of HarePoint Analytics for SharePoint (it is located in the **`tools`** subfolder).

8.2.2. HarePoint Analytics for SharePoint 2010

The process for uninstalling HarePoint Analytics for SharePoint 2010 is identical for SharePoint Foundation 2010 and Microsoft SharePoint Server 2010.

To remove the product from the SharePoint farm execute the following command:

stsadm -o retractsolution -name MAPILabSharePointStatistics.wsp –immediate

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 MAPILabSharePointStatistics.wsp

If the retracting of the solution is completed you should be able to find "**RetractionSucceeded**" under the **<LastOperationResult>** section and also value "**FALSE**" must be displayed under the <**Deployed**> section:

If both values are displayed properly you can continue the upgrade of HarePoint Analytics, if no – wait for a while and execute **displaysolution** again.

Next, run command:

stsadm -o deletesolution -name MAPILabSharePointStatistics.wsp

to delete the solution. After that, restart **Windows SharePoint Services Timer** on each server. You can either do this manually by using Services or using command:

`mlstadm -o mlstrestartsptimer`

`mlstadm` tool is included into the package of HarePoint Analytics for SharePoint (it is located in the **`tools`** subfolder).

9. Migration

When a site is restored from backup or it 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 the beginning. You will not see previously collected data in the reports. To avoid such problem a migration of the statistics data is required, too.

9.1. Migration from HarePoint Analytics for SharePoint 2007 to SharePoint 2010

Attention! Remove HarePoint Analytics for SharePoint 2007 before the migration of the SharePoint content database.

HarePoint Analytics for SharePoint 2007 is not compatible with HarePoint Analytics for SharePoint 2010. It is impossible to migrate the product from SharePoint 2007 to SharePoint 2010. You can migrate the collected data only.

Before starting the migration of your SharePoint content you should remove 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 the SharePoint ULS logs, because new SharePoint will try to access the incompatible components from HarePoint Analytics. To learn more about removing the product, please visit the "**Removing the solution**" area of the "**Administrator Guide**".

When HarePoint Analytics for SharePoint 2007 is removed you can migrate the SharePoint content. After this process is completed, the farm is configured, all necessary sites and site collections are online and working properly, you can install HarePoint Analytics for SharePoint 2010. To learn more about the product installation please visit the "**Installation and deployment**" of the "**Administrator Guide**".

After the installation of HarePoint Analytics for SharePoint 2010 you can connect the same database which has been used in HarePoint Analytics for SharePoint 2007. It should be done using a special wizard, because the data collected previously is connected to the web-sites and site collections with old identifiers, which were changed during the migration of the SharePoint content. So, if you just connect the same databases you will not see old data, only the data collected in new SharePoint will be displayed in the reports.

To learn more about how to use the "Migration wizard" please visit the Migration wizard area of the "**Administrator Guide**"

9.2. Migration from one Farm to another

Attention! Do not 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.

Attention! Do not migrate the sites when the Message queue database is not empty, you can lose the data stored in the Message queue database.

HarePoint Analytics for SharePoint should be installed for each SharePoint farm separately. The product stores data collected from all sites in the farm in one database. It is possible to use the same or different databases for each farm. We advise you to use the same statistics database for all farms, but in case of a great number of the SharePoint users and great number of hits per day it is better to use separate databases for each farm, because the product collects a lot of data and the size of database can be very high.

It is possible to migrate a single site data from one farm to another only when the data collected from different farms are stored in the same database. In such case you just need to reconnect the database to the product using a migration wizard and reassign the sites.

1. Stop the data processing.

   In HarePoint Analytics for SharePoint 2007:
   - Go to **SharePoint Central Administration -> Operations -> Timer job definitions**, locate timer job "**HarePoint Analytics for SharePoint – Process and store statistic information**" and disable this job. After that, it is necessary to wait while the job is finished. Go to **SharePoint Central Administration -> Operations -> Timer job statuses** and locate timer job **HarePoint Analytics for SharePoint – Process and store statistic information**. Wait while the status is changed to "**Succeeded**" or "**Aborted**". If the status is "**Initialized**" you have to wait. Do not change the database while this job processes data.

   In HarePoint Analytics for SharePoint 2010:
   - Go to **SharePoint Central Administration -> Monitoring ->Job definitions**, locate timer job "**HarePoint Analytics for SharePoint: Queue Data Processor**" and disable this job. After that, it is necessary to wait while the job is finished. Go to **SharePoint Central Administration -> Monitoring -> Timer Job statuses** and make sure that timer job "**HarePoint Analytics for SharePoint: Queue Data Processor**" is not listed in the "Running" jobs. If the job is listed there you have to wait. Do not change the database while this job processes data.

   When this job is stopped the product will continue collecting data into the queue database but the queue database will not be processed and new data will not appear in the reports. So, you will not lose data while the job is disabled but new data will not be displayed and the number of rows in the queue database will increase.

2. Migrate the sites.

3. Reconnect the statistics database using the migration wizard. To learn more about how to use the "Migration wizard" please look at the Migration wizard area of the "**Administrator 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.

1. Stop the data processing.

   In HarePoint Analytics for SharePoint 2007:

   - Go to **SharePoint Central Administration -> Operations -> Timer job definitions**, locate timer job **HarePoint Analytics for SharePoint – Process and store statistic information** and disable this job. After that, it is necessary to wait while the job is finished. Go to **SharePoint Central Administration -> Operations -> Timer job statuses** and locate timer job **HarePoint Analytics for SharePoint – Process and store statistic information**. Wait while the status is changed to **Succeeded** or **Aborted**. If the status is **Initialized** you have to wait. Do not change the database while this job processes data.

   In HarePoint Analytics for SharePoint 2010:

   - Go to **SharePoint Central Administration -> Monitoring ->Job definitions**, locate timer job **HarePoint Analytics for SharePoint: Queue Data Processor** and disable this job. After that, it is necessary to wait while the job will be finished. Go to **SharePoint Central Administration -> Monitoring -> Timer Job statuses** and make sure that timer job **HarePoint Analytics for SharePoint: Queue Data Processor** is not listed in the Running jobs. If the job is listed there you have to wait. Do not change the database while this job processes data.

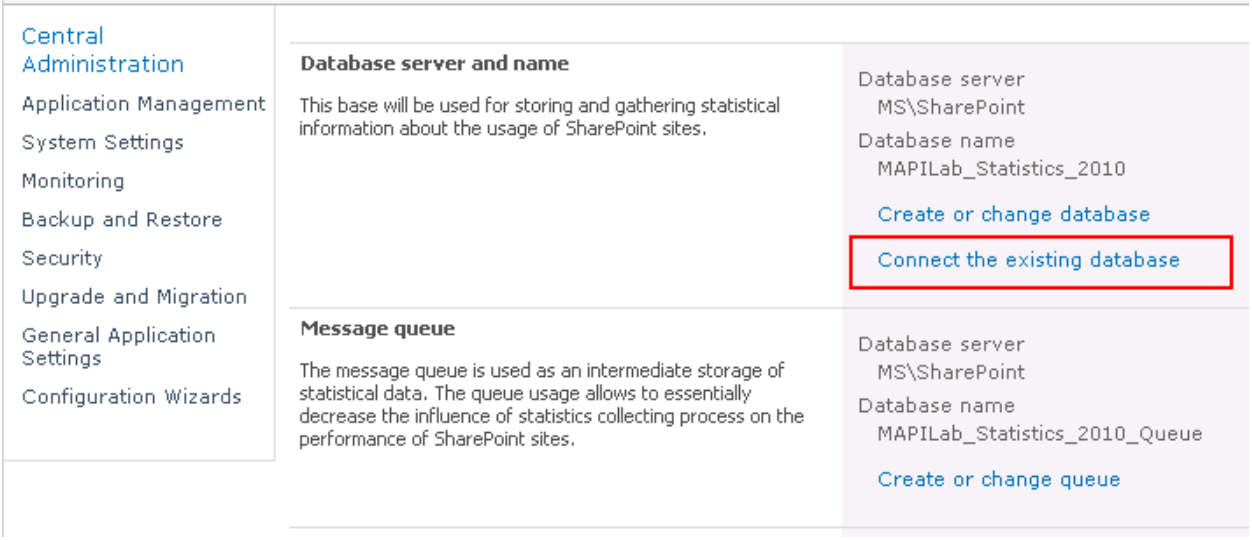
   When this job is stopped the product will continue collecting data into the queue database, but the queue database will not be processed and new data will not appear in the reports. So, you will not lose data while the job is disabled, but new data will not be displayed and the number of rows in the queue database will increase.

2. Migrate the sites.

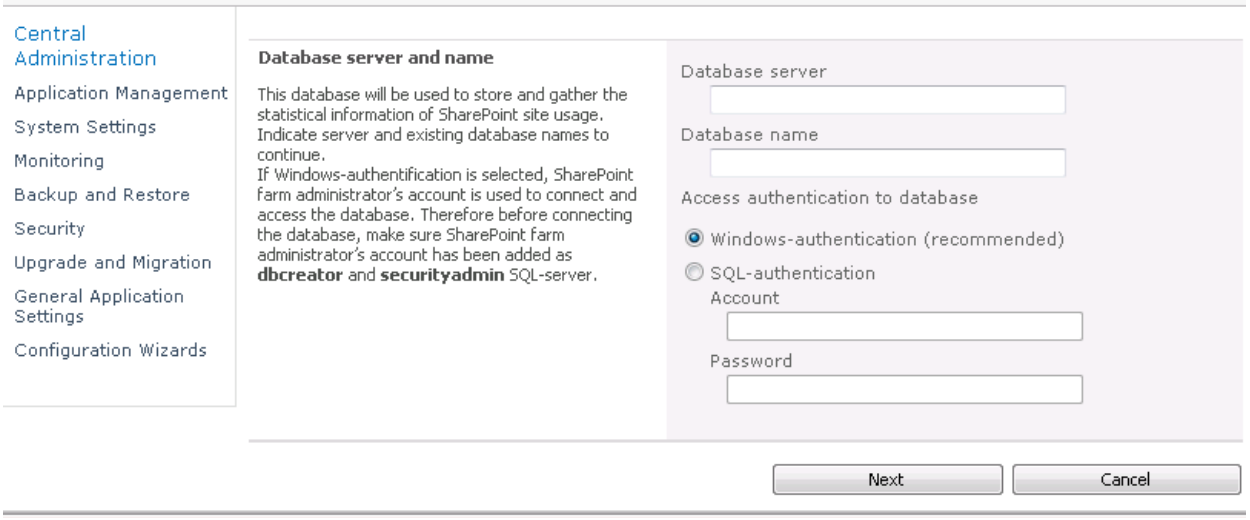
3. Reconnect the statistics database using the migration wizard. To learn more about how to use the Migration wizard please visit the Migration wizard area of the **Administrator Guide**

9.3.1. Migration wizard

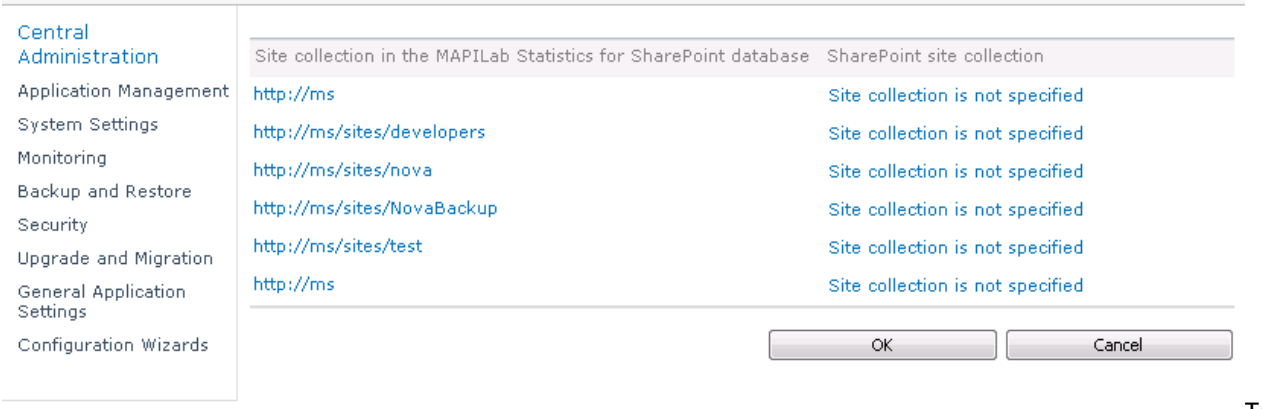
To start the data migration wizard you should point to **SharePoint Central Administration -> Monitoring -> HarePoint Analytics for SharePoint Settings** and click the **Connect the existing database** link:



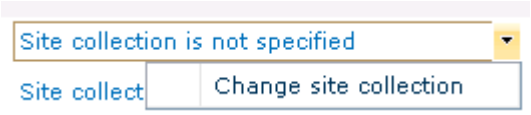
The database connection wizard will be started. At the first step you should set the connection to the database server and specify the name of the HarePoint Analytics database that was previously used:



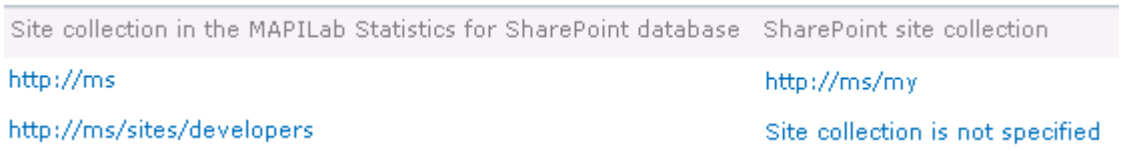
When you click the **Next** button the wizard looks through the specified database and detects the Site and Site collection identifiers which were previously used and tries to find the same site and site collections to assign the identifiers automatically. The sites and site collections to which the wizard was not able to assign the IDs automatically will be displayed and you can make the assignment manually:



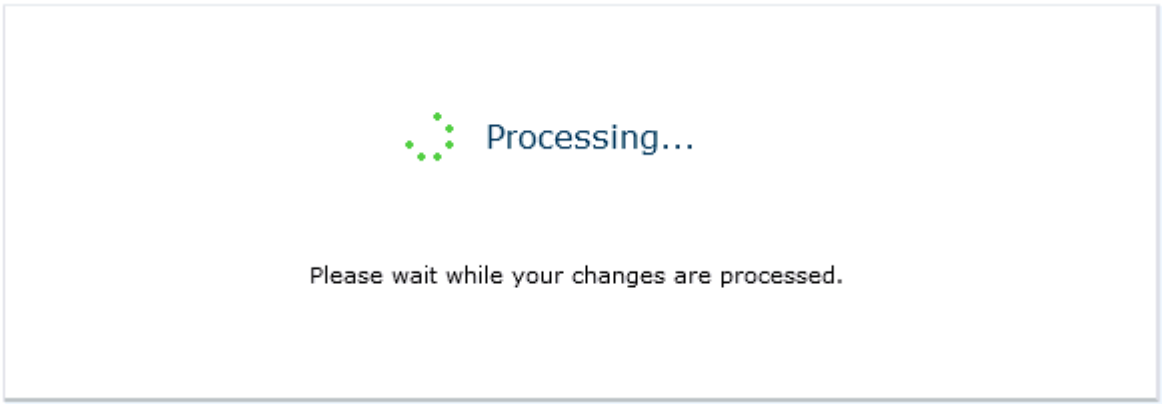
To select the site or site collection which should be assigned to the site or site collection in the list, click the **Site collection is not specified** link and select the **Change site collection** option.



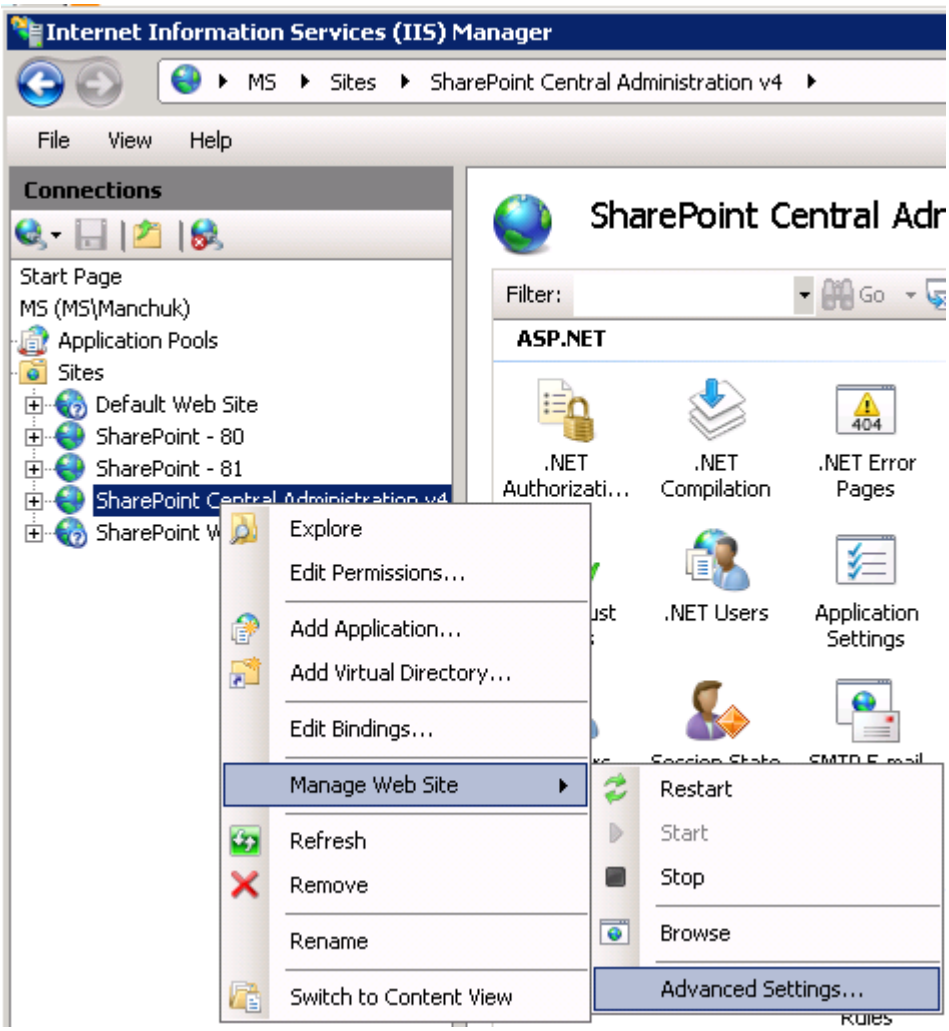
When a new site collection is assigned it will be displayed in the list:



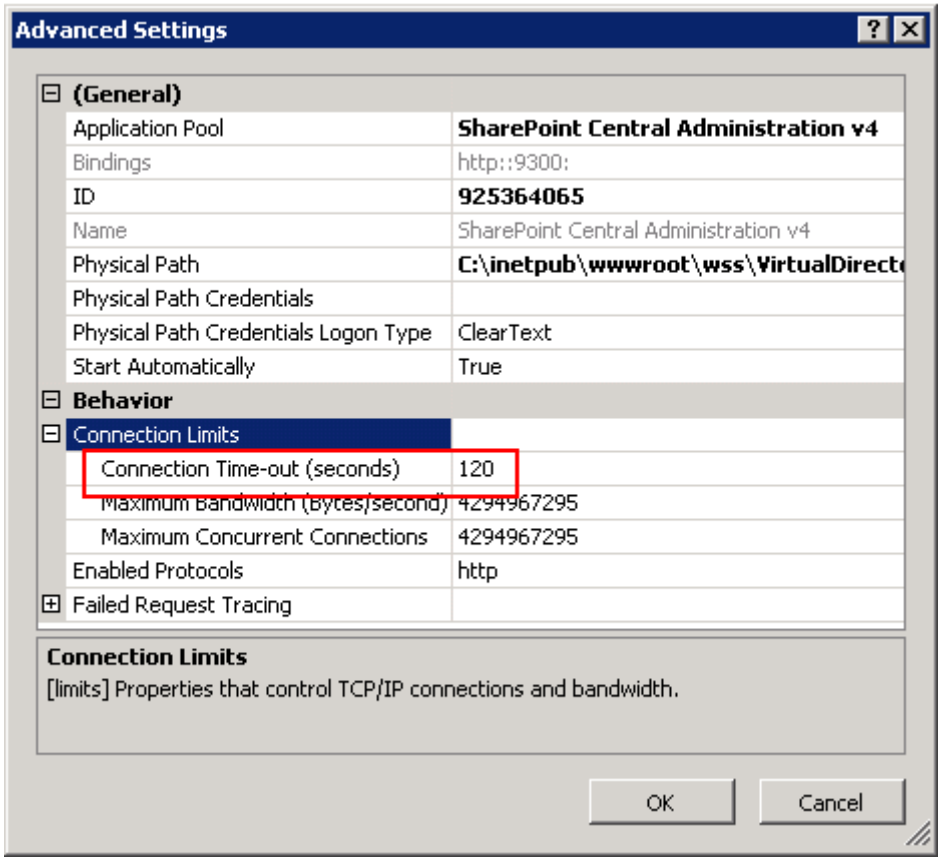
You can leave the sites and site collections which were not used anymore unassigned. Click the **OK** button when you finish the assignment and the product will start the database processing. It can take time because the wizard should look through all data in the database and reassign the site and site collection identifiers. Also during this process the wizard changes the database structure to comply with the structure of HarePoint Analytics for SharePoint 2010. While the product makes the changes the following window is displayed:



If this process takes long time the **time-out** error may appear. It is not a problem, the task which was started continues working in the background. Wait for a few minutes and go to the **HarePoint Analytics for SharePoint Settings** page in **SharePoint Central Administration** and make sure that the specified database is listed in the settings. To solve the problem with time-out you can change the **time-out** settings in Internet Information Services 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::9300:
ID
925364065
Name
SharePoint Central Administration v4
Physical Path
C:\inetpub\wwwroot\wss\VirtualDirect
Physical Path Credentials
Physical Path Credentials Logon Type
ClearText
Start Automatically
True
Behavior
Connection Limits
Connection Time-out (seconds)
120
Maximum Bandwidth (Bytes/second)
4294967295
Maximum Concurrent Connections
4294967295
Enabled Protocols
http
Failed Request Tracing
Connection Limits
[limits] Properties that control TCP/IP connections and bandwidth.
OK
Cancel

10. Initial settings

After the product installation and deployment the product should be configured.

10.1. Databases

10.1.1. Creation of new databases

Two separate SQL databases are used:

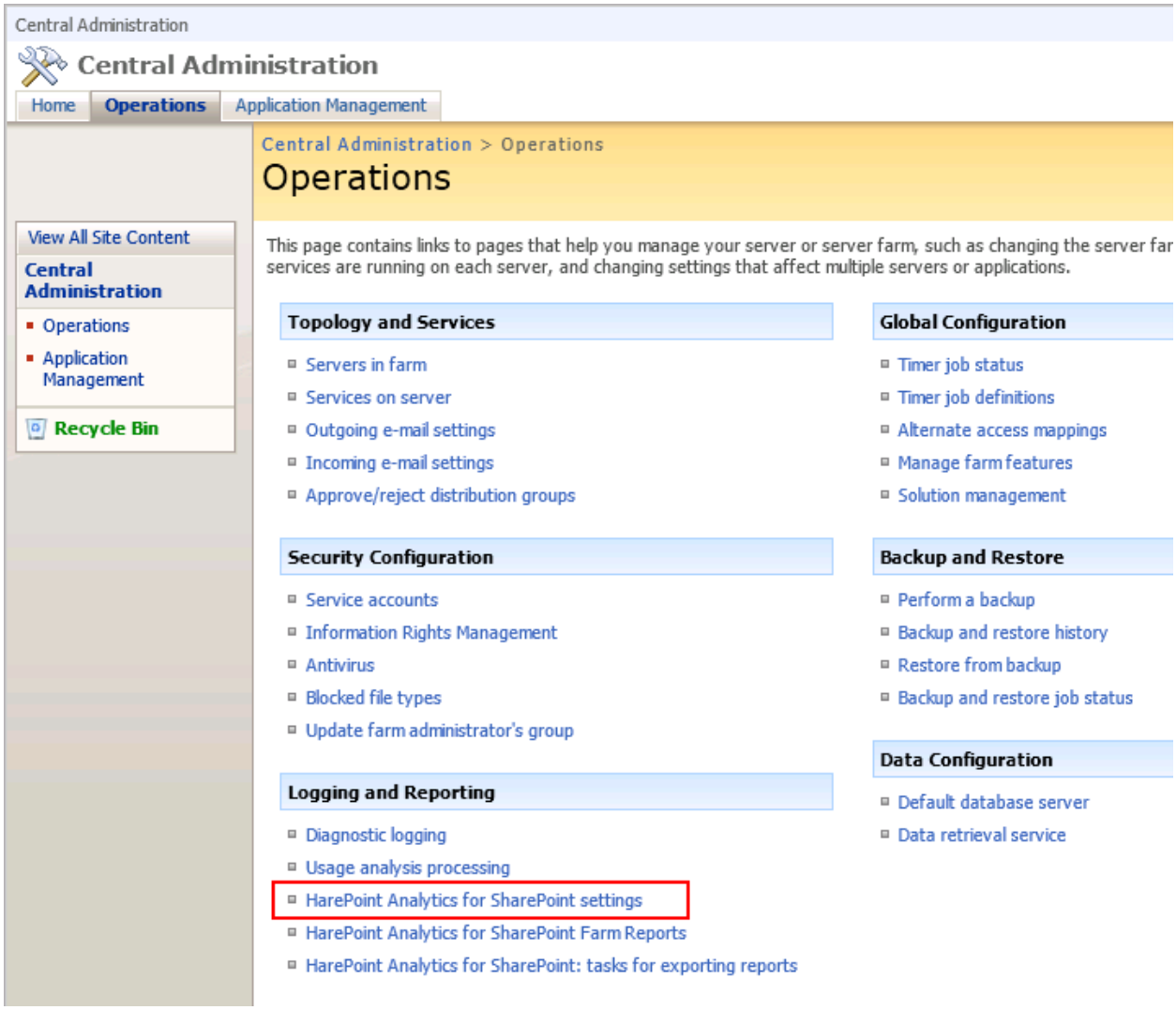
- Message queue. This database is used as an intermediate storage of statistical data. The queue usage allows to essentially decreasing the influence of the statistics collecting process on the performance of SharePoint and SQL servers.
- Statistics database. This database is used for storing and gathering statistical information about the usage of SharePoint sites.

The databases can be created on the server where SharePoint databases are located or you can use a separate SQL server or database instance. For the high-loaded systems with a great number of users and hits we advise you to use a separate instance of SQL.

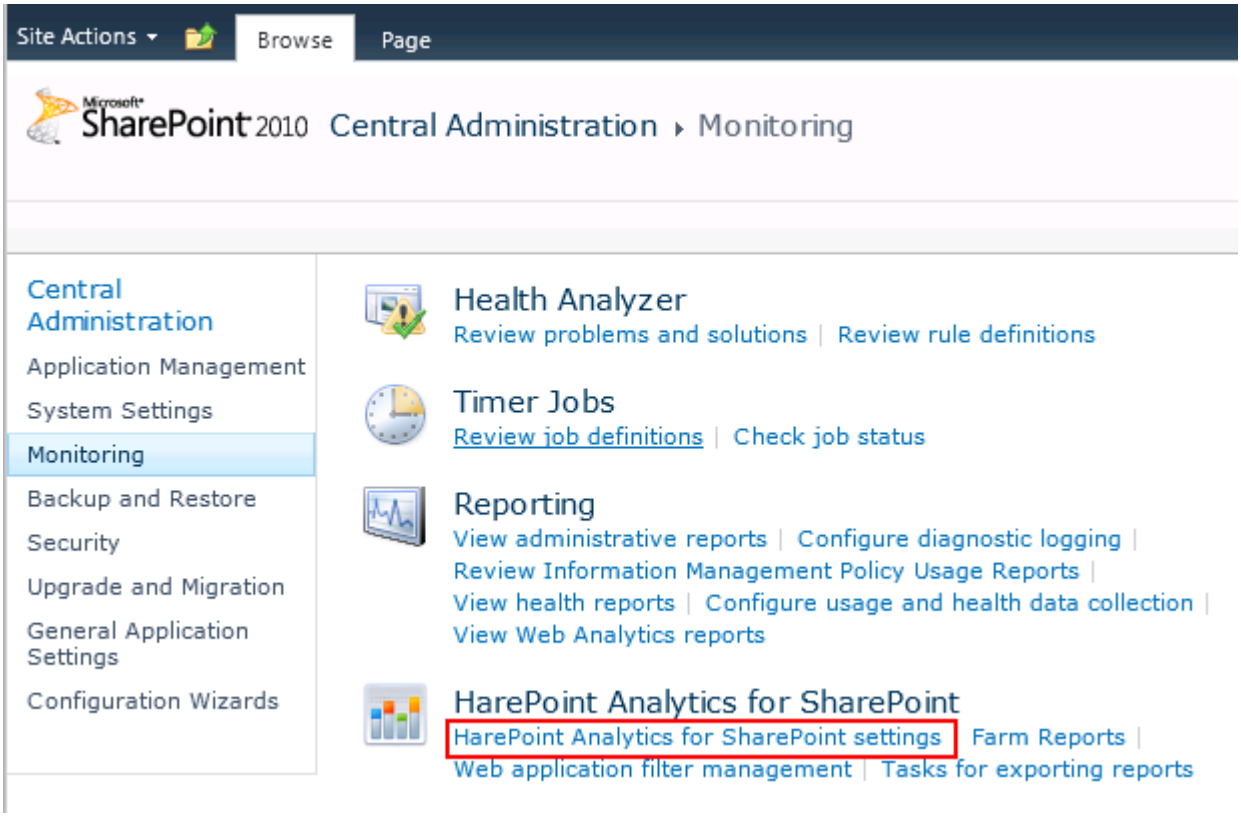
HarePoint Analytics for SharePoint collects data in a real-time mode and stores it into the “message queue” database.

To create the database go to the product settings page in **SharePoint Central Administration**:

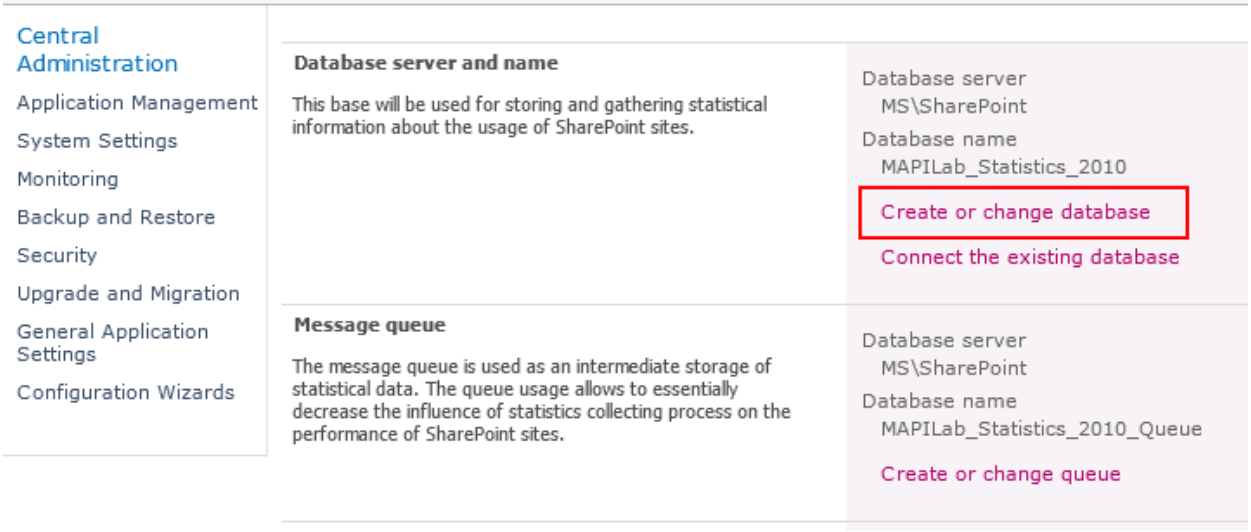
- for SharePoint 2007: **SharePoint Central Administration -> Operations -> HarePoint Analytics for SharePoint Settings:**



- for SharePoint 2010: **SharePoint Central Administration -> Monitoring -> HarePoint Analytics for SharePoint Settings:**



To create a statistics database on the SQL server click link: **Create or change database**:



Specify UNC path to the SQL server, name of the database (for example, HarePoint_Analytics_Db) and select the type of authentication which is used on the SQL server:

Repeat the last two steps for the "**Message queue**" database. Please note, it is necessary to use two different databases for the statistics data and for the Message queue.

Click the "**Create**" button to create a new database or to connect the existing database if the database with the same name is already created.

Wizard "**Create or change database**" allows you to create a new blank database or to connect the existing database. In case of connecting the existing database this wizard doesn't modify the database, it just configures the connection string. If you have moved the sites or statistics database, it is necessary to use the "**Connect the existing database**" wizard.

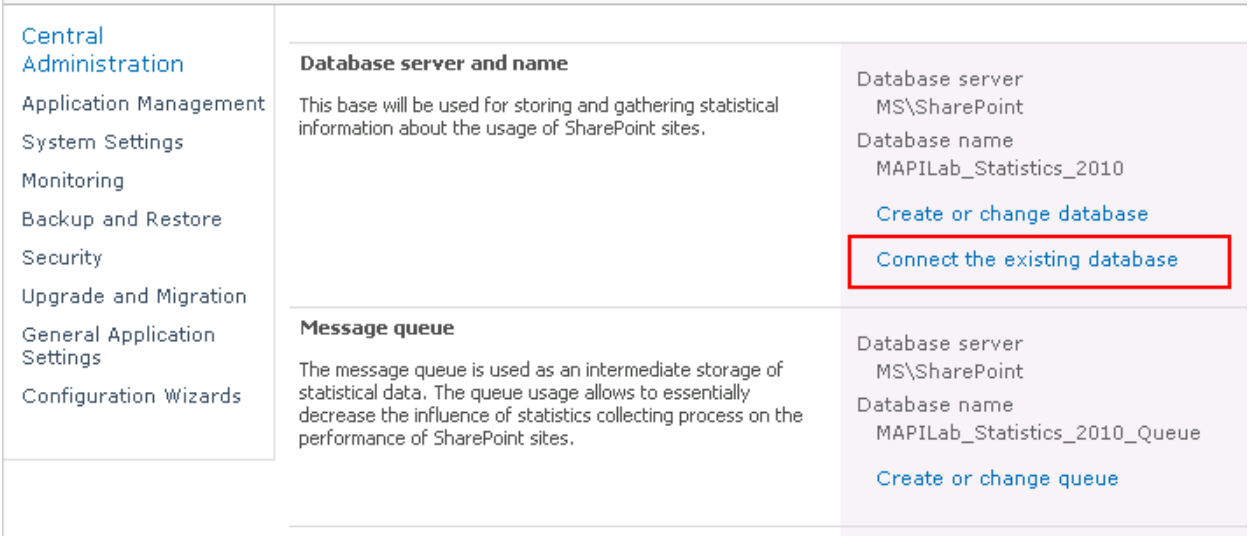
10.1.2. Connecting the existing database

To connect the existing statistics database go to:

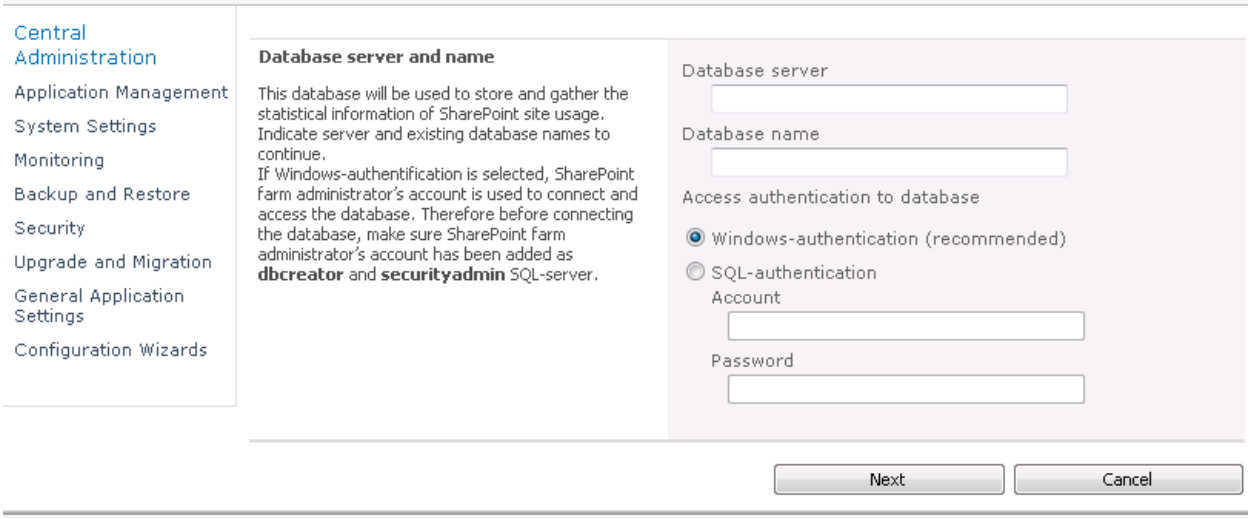
SharePoint Central Administration -> Operations-> HarePoint Analytics for SharePoint Settings (in SharePoint 2007)

SharePoint Central Administration -> Monitoring -> HarePoint Analytics for SharePoint Settings (in SharePoint 2010)

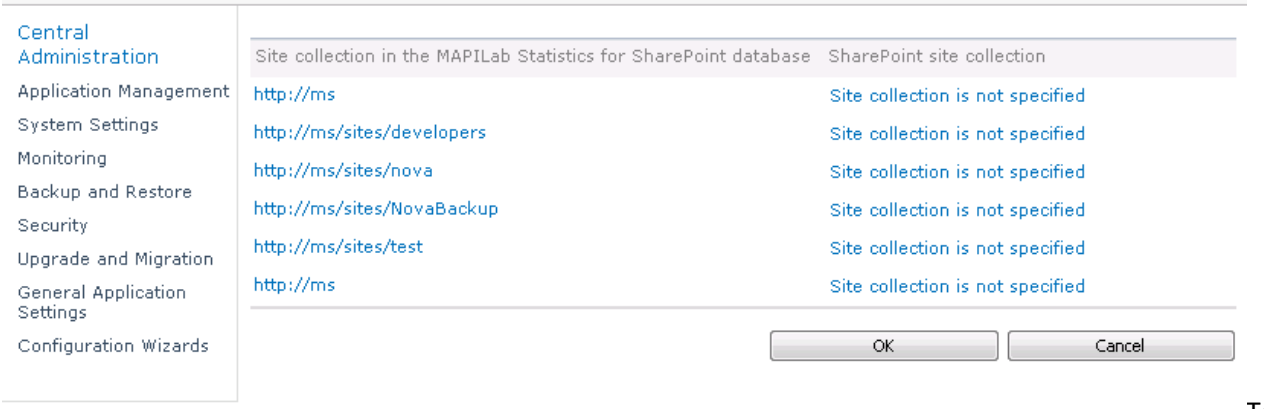
and click the **Connect the existing database** link:



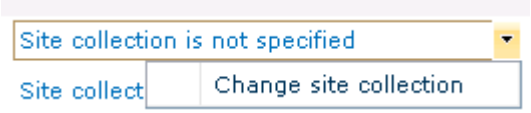
The database connection wizard will be started. At the first step you should set the connection to the database server and specify the name of the HarePoint Analytics database which was previously used:



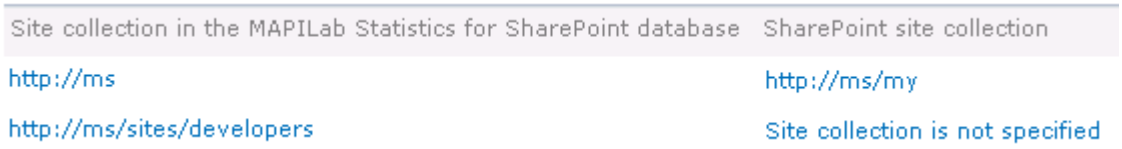
When you click the "Next" button the wizard looks through the specified database and detects the Site and Site collection identifiers which were previously used and tries to find the same site and site collections to assign the identifiers automatically. The sites and site collections to which the wizard was not able to assign the IDs automatically will be displayed and you can make the assignment manually:



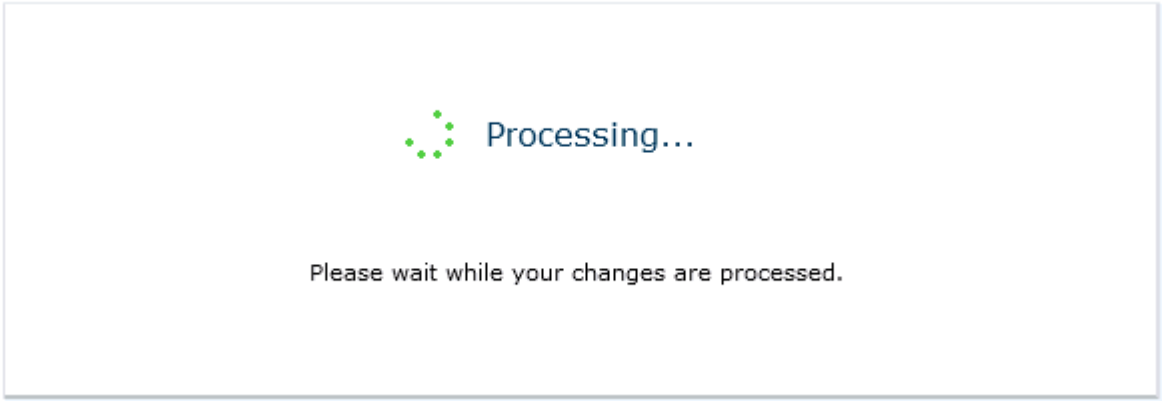
To select the site or site collection which should be assigned to the site or site collection in the list, click the "**Site collection is not specified**" link and select the "**Change site collection**" option.



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



You can leave the sites and site collections which were not used anymore unassigned. Click the "**OK**" button when you finish the assignment and the product will start the database processing. It can take time, because the wizard should look through all data in the database and reassign the site and site collection identifiers (if the identifiers are reassigned). While the product makes changes the following window is displayed:



If this process takes long time a "time-out" error may appear. It is not a problem, the task which was started continues working in the background. Wait for a few minutes and go to the "**HarePoint Analytics for SharePoint Setting**s" page in "**SharePoint Central Administration**" and make sure that the specified database is listed in the settings. To solve the problem with time-out you can change the "time-out" settings in Internet Information Services for the SharePoint Central Administration web-site.

To connect the existing Message queue database, click link "**Create or change queue**" on the "**HarePoint Analytics Settings**" page in "**SharePoint Central Administration**".

10.2. Setting the Geographic locations database update

HarePoint Analytics for SharePoint includes two reports that show you the geographical location of visitors:

- Visits by countries;
- Visits by countries details.

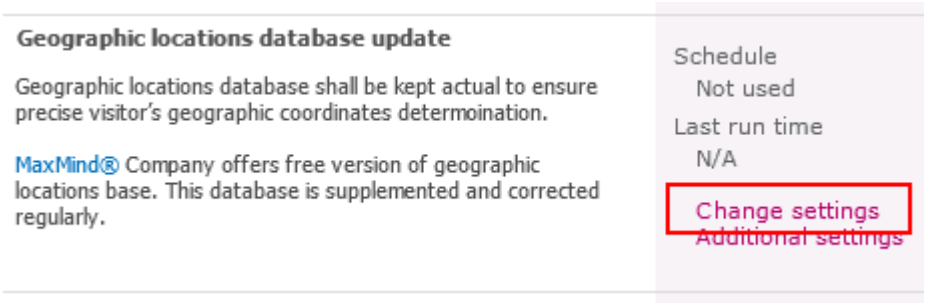
The geographical location can be detected based on the visitor IP address or based on the country data specified in User Profile on SharePoint.

10.2.1. Detection the geographical location by IP address

To detect the visitor's country by IP address special "Geographical location database" is used. Geographic locations database should be kept actual to ensure precise visitor geographic coordinates determination. MaxMind® company monthly offers a free version of geographic locations database. The Update process allows you to download the latest version of the geographic locations database and import data into the HarePoint Analytics for SharePoint database.

To update the Geographical location database automatically do the following:

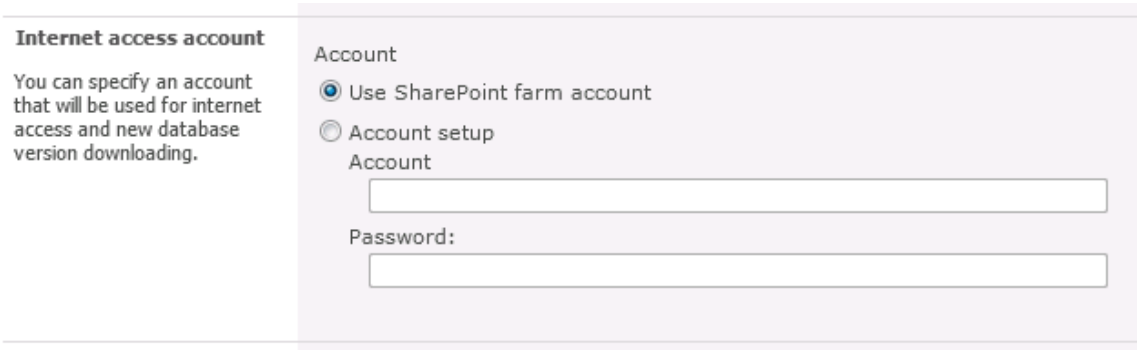
1. Use the farm administrator account to open the **SharePoint Central Administration** web site.
2. Go to the **Operations** page (for SharePoint 2007) or **Monitoring** page (for SharePoint 2010).
3. Click link "**HarePoint Analytics for SharePoint Settings**".
4. Click link **Change Settings** in the **Geographic locations database update** area of the settings:



5. Check option **Update geographic locations database** in the **Automatic update** area of the settings:

6. Default schedule is selected in accordance with the updated geographic locations database version published by MaxMind® .
   Attention! We do not recommend updating the geographic locations database more often than once a month.
7. Set Internet access settings. If your SharePoint farm account has no Internet access, you have to specify another account under the **Internet access account**. If necessary, please also specify your

proxy server settings.



8. Click **OK**.

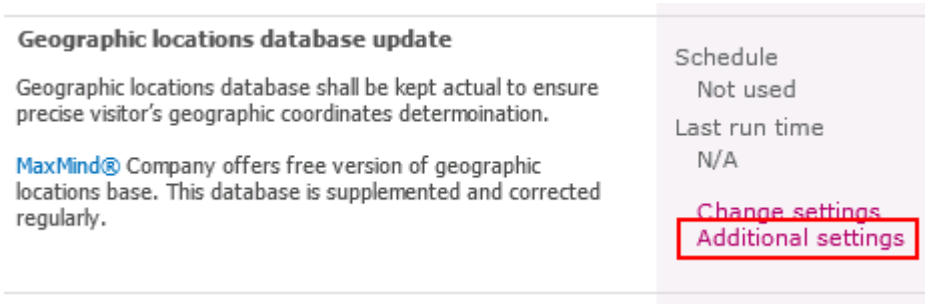
Geographic location database update runs in the context of **OWSTimer.exe**. You can track the task progress of the HarePoint Analytics for SharePoint - Geographic locations database update on the **Timer Job Status** page.

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

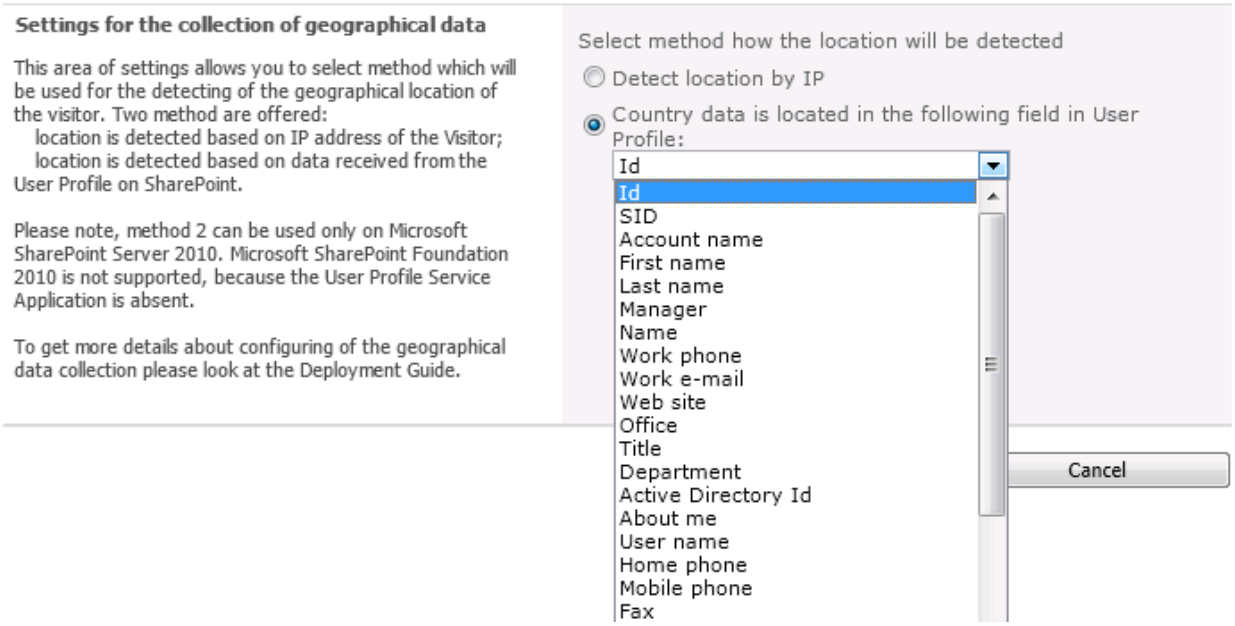
This method can be used only on Microsoft SharePoint Server 2007 and 2010. Windows SharePoint Services 3.0 and Microsoft SharePoint Foundation 2010 doesn't allow to use this method of country detection.

To detect the visitor's country based on data specified in User's Profile on SharePoint do the following:

1. Use the farm administrator account to open the **SharePoint Central Administration** web site.
2. Go to the **Operations** page (for SharePoint 2007) or **Monitoring** page (for SharePoint 2010).
3. Click link "**HarePoint Analytics for SharePoint Settings**".
4. Click link the **Additional Settings** in the **Geographic locations database update** area of the settings:



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



The selected files 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 link:
http://en.wikipedia.org/wiki/ISO_3166-1

10.3. Data collection on server performance

Timer job named "**HarePoint Analytics for SharePoint - System Metrics Collector**" collects the farm server performance data. This timer job is disabled by default. You need to configure the data collection settings to gather additional statistical information on the farm server performance, such as: enable timer job for the statistical data collection and assign permissions to the SharePoint farm account to gather the performance data on relevant farm servers.

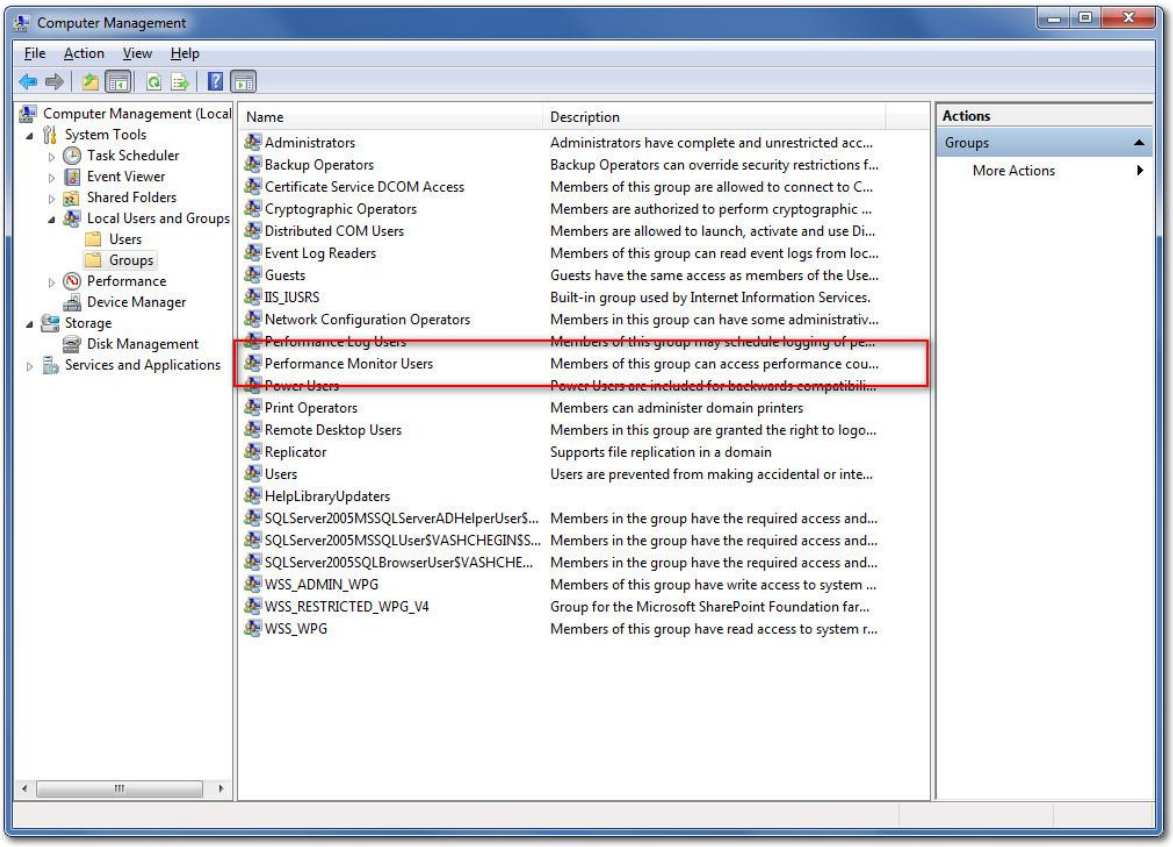
10.3.1. Assigning permission to collect the performance data

To allow the collection of the server performance data for the SharePoint farm account it is necessary to grant this account with the permission:

1. Open the **Computer Management** window on the server where you want to allow the farm performance data collection.

2. From the **System Tools** menu select **Local Users and Groups** and click on **Groups**

3. Add the SharePoint farm account to group **Performance Monitor Users**:



4. Restart **Windows SharePoint Services Timer** on each server. You can either do this manually by using Services or using command:

   stsadm -o mlstrestartsptimer

   parameter **mlstrestartsptimer** is the extension of the **stsadm.exe** administrative utility, which is added at the time of installing HarePoint Analytics for SharePoint.

10.3.2. Activation of the collecting statistical information on the farm server performance

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

1. Use the farm administrator account to open the **SharePoint Central Administration** web site.
2. Go to the **Operations** page (for SharePoint 2007) or **Monitoring** page (for SharePoint 2010).
3. Go to **Timer Job Definition** (for SharePoint 2007) or **Review job definitions** (for SharePoint 2010).
4. Locate a timer job named "**HarePoint Analytics for SharePoint - System Metrics Collector"** in the list of timer jobs:

5. Go to the timer job settings page and enable this timer job.

10.4. Starting the data collection

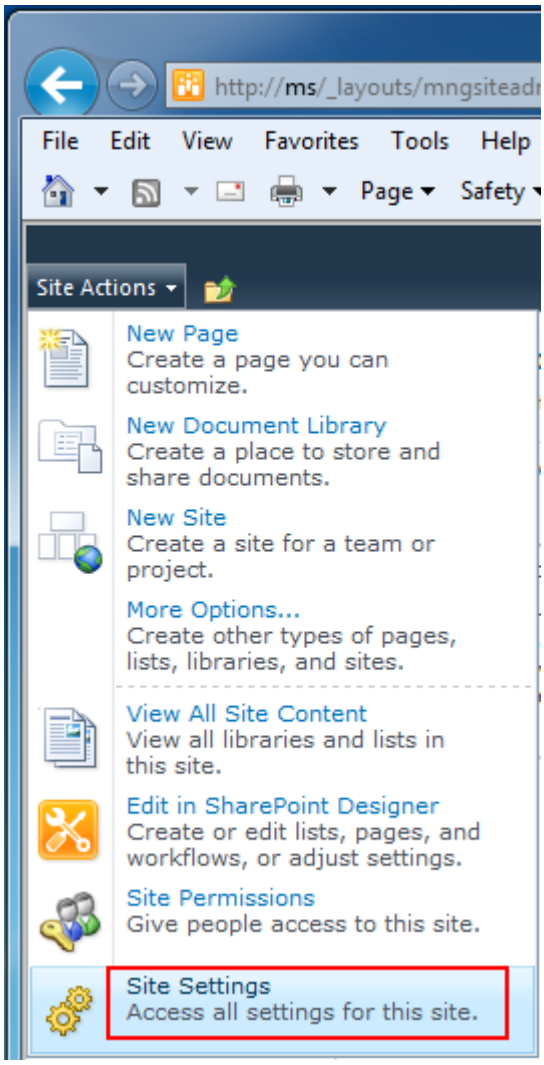
HarePoint Analytics for SharePoint is deployed on the SharePoint farm. If the product is installed in the automatic mode (using setup.exe) the data collection is started automatically. In case of manual installation you should start the data collection at once after creation of databases. Data collection should be started for each site collection where you would like to use the product.

Data collection can be started using a web-interface or using a command line.

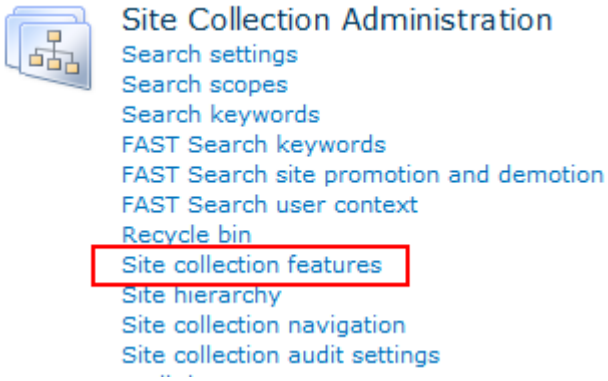
10.4.1. Activation of the data collection using a web-interface

To start data collection on the site collection:

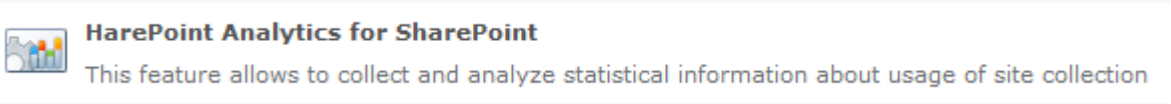
1. Open the web-site which is located in the **Site Collection** where the data collection should be activated. Use an account which is added into the "**Site collection administrators**" permission group.
2. Go to "Site actions" \ "Site settings":



3. Go to the "Site collection features" page:



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



5. Repeat these steps for each **Site collection** where the product should collect data and show the reports.

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

10.4.2. Activation of the data collection from the command line

To activate / deactivate the statistics collection feature from the command line, execute one of the following commands:

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

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

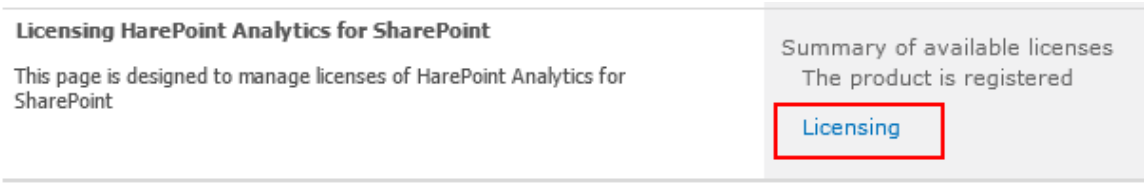
Where instead of **<url>** the address of the site collection should be indicated (e.g. http://moss/personal/mysite/).

11. License management

Registration of HarePoint Analytics for SharePoint is performed through the acquisition of the necessary number of licenses in the form of license keys and their subsequent entry on the license management page of the product. The license keys should be entered for each farm where the product is installed.

To open the license management page:

1. Use the farm administrator account to open the **SharePoint Central Administration** web site.
2. Go to the **Operations** page (for SharePoint 2007) or **Monitoring** page (for SharePoint 2010).
3. Click link "**HarePoint Analytics for SharePoint Settings**".
4. Go to the **Licensing** page of settings:



11.1. Licensing model

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

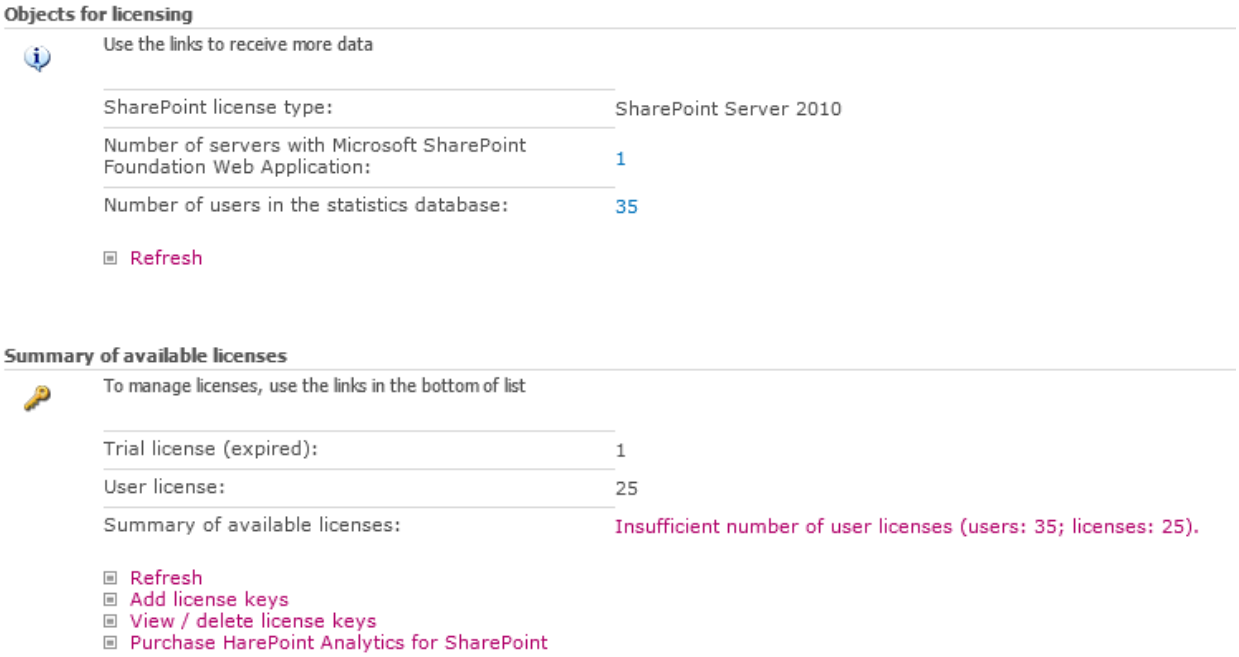
SharePoint user - a user authorized in any way on a SharePoint server; including users interacting with a SharePoint server through Microsoft Word, Microsoft Excel or other applications.

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

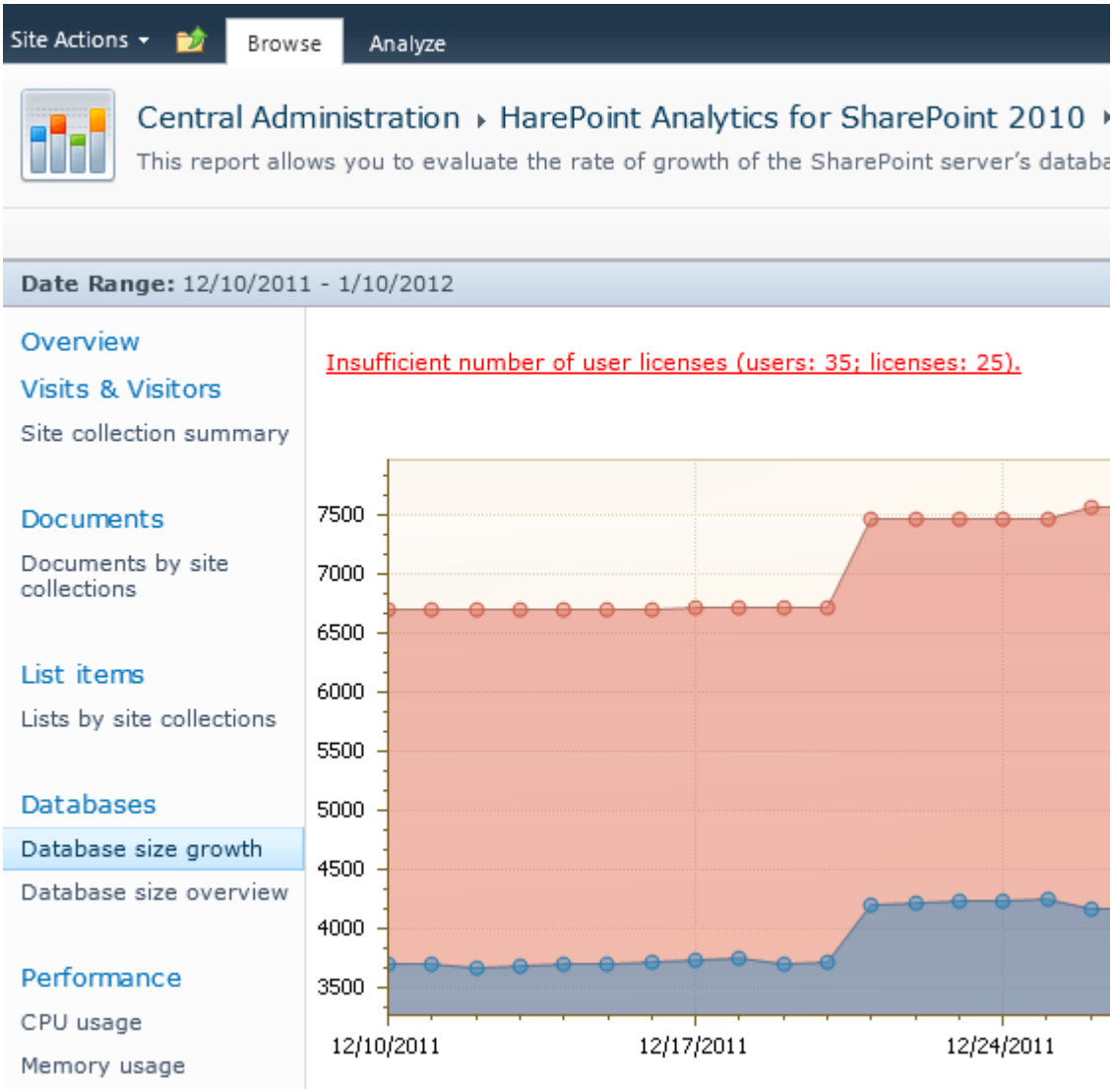
HarePoint Analytics for SharePoint calculates unique visitors who have visited the SharePoint sites during the last three months and whose data is stored in the product database.

Determine the number of users with access to the server farm, where HarePoint Analytics for SharePoint is installed on any or all of the servers. The corresponding number of licenses should be purchased. If you know that the number of real users is smaller, but you don't know this number, you can get the necessary data from HarePoint Analytics for SharePoint when the product is installed and used in Trial Mode. To do this go to the "**HarePoint Analytics for SharePoint Settings**" page on **SharePoint Central Administration** and click link "Licensing" to open the **License Management** page. You will find all necessary data there:



Please note that this page does not show the total number of users allowed to access SharePoint, but rather the number of users who have visited SharePoint since the start of data collection and whose data has been stored in the Product database.

If the product is not installed on Production and you cannot determine the exact number of required licenses you can purchase an approximate number of licenses, register the product, start using it and purchase additional licenses later. If the number of users exceeds the number of purchased licenses you will get a notification in the bottom of reports:



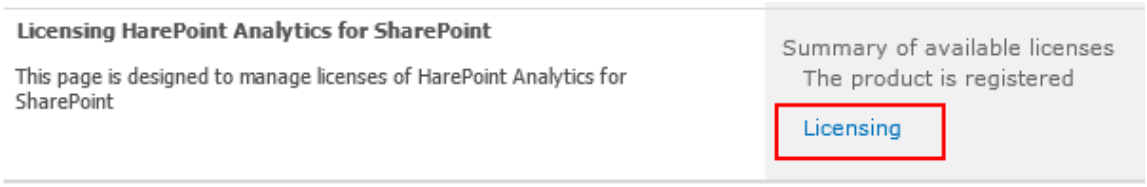
but the data collection will not be stopped. The product continues working without any technical limitations.

If the server can be accessed by anonymous users through the Internet, you need a **special license**. This type of license may also be advantageous in the case of a very large number of SharePoint users.

11.3. Entering the license keys

When the product is installed and deployed for the first time the Trial Registration key is

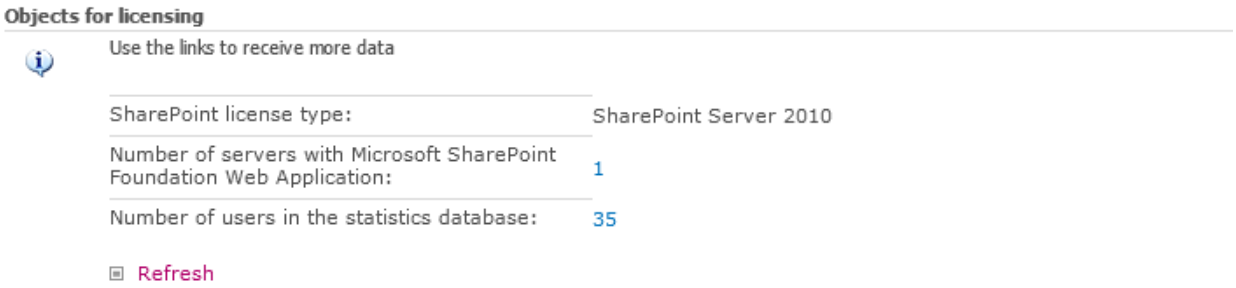
1. Use the farm administrator account to open the **SharePoint Central Administration** web site.
2. Go to the **Operations** page (for SharePoint 2007) or **Monitoring** page (for SharePoint 2010).
3. Click link "**HarePoint Analytics for SharePoint Settings**".
4. Go to the **Licensing** page of the settings:

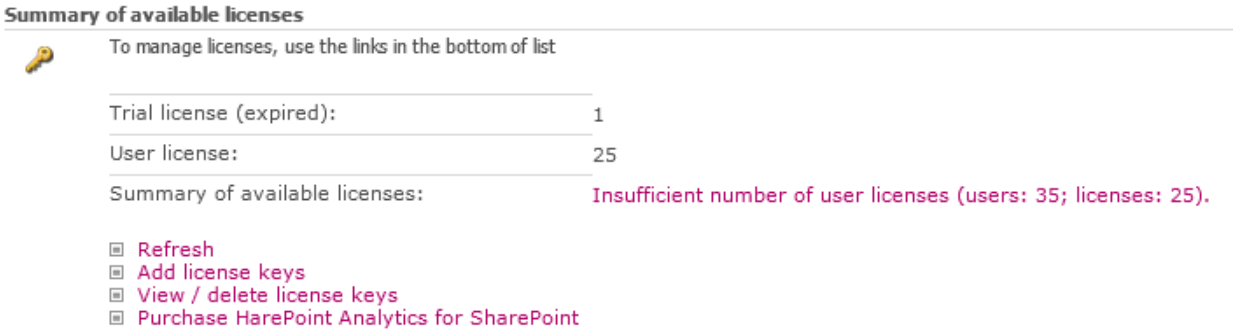


There are two areas:

- Objects for licensing. It shows you details on the number of the WFE servers and the number of unique users who accessed the SharePoint from the date when the product was deployed and data collection was activated.

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





5. To add the registration keys (trial and permanent keys) click link "Add license keys". Please note that the code is case-sensitive; so be careful entering it. Or even better, just use copy-n-paste via Clipboard to avoid mistyping.

11.4. Extending the number of licenses

If the number of SharePoint users is increasing it is possible that you will face with the problem when the number of users exceeds the number of purchased licenses. In this case the following notification occurs in the reports:

Insufficient number of user licenses (users: 35; licenses: 25).

and you have to purchase additional licenses. You can purchase it on www.HarePoint.com. The minimal license pack is “50-users license”. After purchasing additional licenses you will get one or several registration keys which should be added to the list of registration keys as it described in the Entering the license key area of **Administrator Guide**.

12. Managing the access to the reports

HarePoint Analytics allows the SharePoint Administrators to grant users with the permission to view the reports data and also to remove specified reports from the list of available reports in the dashboard.

12.1. Managing user's permissions to access the reports

By default all users who have permission **View Usage Data** (in SharePoint 2007) or **View Web Analytics Data** (in SharePoint 2010) can open HarePoint Analytics Dashboard and view the reports data. SharePoint Administrator can also set unique permissions to allow specified users to access the reports on a separate site collection or a web-site.

12.1.1. Granting the users with the permission to use any reports of HarePoint Analytics

Server administrators can grant or deny access to view the reports. It is managed by granting the users with the **View Usage Data** (in SharePoint 2007) or **View Web Analytics Data** (in SharePoint 2010) permission. You can create a new **Permission level** or edit the existing one.

If you create a new **Permission Level** -- you should also change the user's group permissions and mark with a tick this new **Permission Level** to allow viewing the reports:

1. Go to the **SharePoint Central Administration** web-site.
2. Point to "Site Actions" \ "Site Settings" and click on "Site Permissions" in the "User and Permissions" area
3. Click the **Permission Levels** ribbon button
4. Click on the "**Add a Permissions Level**" link
5. Type a name (for example "View HarePoint Analytics reports")
6. Select checked **View Usage Data** (in SharePoint 2007) or **View Web Analytics Data** (in SharePoint 2010) in the **Site Permissions** area.
7. Make sure that **View Pages** and **Open** are checked, too.
8. Click on the **Create** button.

New **Permission Level** is created. After that you should open a group of users to which you would like to grant this **Permission Level** and select the checked **Permission Level** there. You can do it on the **Site actions** \ **Site Settings** \ **People and Groups** page.

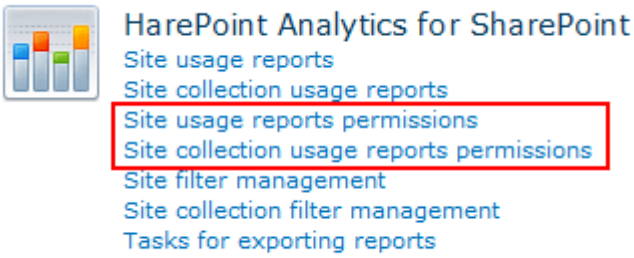
12.1.2. Granting the permission to use the reports on a separate site collection or a web-site

HarePoint Analytics allows the SharePoint Administrators to manage the access permissions to use the reports for a separate site collection or a web-site. First, it is necessary to grant users with permission **View Usage Data** (in SharePoint 2007) or **View Web Analytics Data** (in SharePoint 2010) as it described in the previous area of Administrator Guide.

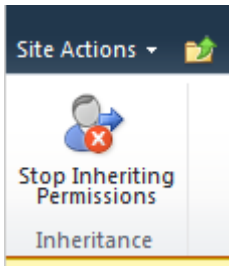
Next, to set unique access permissions for a specified site collection or a web-site do the following:

1. Using the SharePoint Administrator account, go to the web-site where you would like to change the permissions.

2. Point to “Site Actions” \ “Site Settings” and click link **Site usage reports permissions** or **Site collection usage reports permissions** depending on the scope at which you would like to change the permissions:



3. To set unique permissions to view the reports it is necessary to **Stop Inheriting Permissions**. To do this click the button:



4. Now you can set unique permissions to allow specified users to work with the reports.

12.2. Managing the policies

HarePoint Analytics has a set of global parameters named “Policies”. Using the policies you can encrypt personal data when it is displayed in the reports, hide some reports, encrypt the personal data during the data collection, etc.

The policies can be set using command line tool stsadm.exe or through the web interface in the product settings. Please note, some policies can be enabled by using stsadm.exe only.

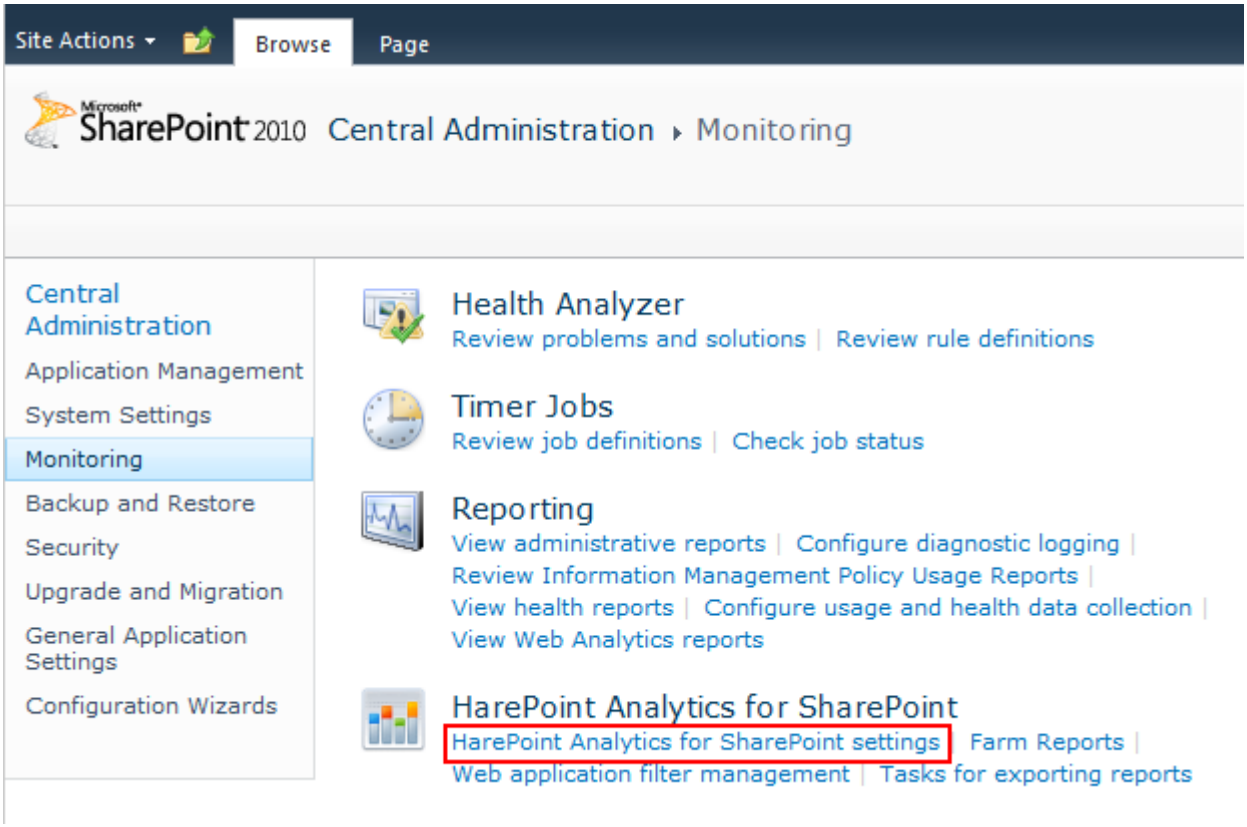
To set policies from the command line execute the following command:

stsadm –o mlstsetpolicy –PolicyName parameter

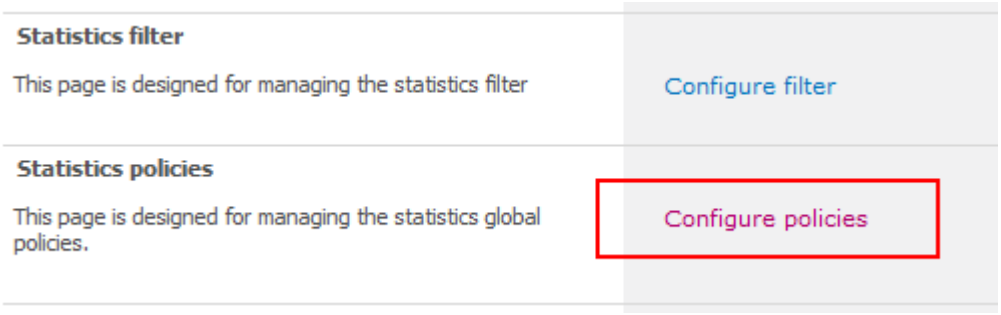
Policies Name	Default value	Description
maskusername	false	Display the user name in the encrypted form.
maskaddepartment	false	Display the department name imported from the Active Directory in the encrypted form.
maskadgroup	false	Display the group name imported from the Active Directory in the encrypted form.
maskspdepartment	false	Display the department name obtained through the object model of SharePoint in the encrypted form.
maskspgroup	false	Display the group name obtained through the object model of SharePoint in the encrypted form.
maskiisrole	false	Display the role name IIS in the encrypted form.
maskurl	false	Display the web-site addresses in the encrypted name.
maskdoclibname	false	Display the names of the SharePoint libraries in the encrypted form.
maskdocliblocation	false	Display the location of libraries in the encrypted form.
maskdocname	false	Display the document names in the encrypted form.
maskdoclocation	false	Display the location of documents in the encrypted form.
masklistname	false	Display the names of the SharePoint lists in the encrypted form.
masklistlocation	false	Display the location of the SharePoint lists in the encrypted form.
masklistitemname	false	Display the names of the list items in the encrypted form.
masklistitemlocation	false	Display the location of the list items in the encrypted form.
disabledReports	null	The list of the hidden reports identifiers.
disableReport	null	Remove the report from the report list.
enableReport	null	Return the report to the report list.
showAnalyzeTab	false	Show tab Analyze in the interface ribbon for working with reports by default.
timeExpiration	720	The storage time of the cache when processing the queue of statistics.
cacheLimit	1000000	The limiting size of the cache of the queue of statistics processing. The value indicates the maximum amount of statistical events.
encryptuserinfo	false	Encrypt users’ personal data at the stage of collection.
collectAccessDenied	true	Collect the statistics on visiting the Access Denied by users.
allowModifyReportTemplates	true	Allow users to create and modify their own report templates.
useDataCollectionFiltersOnHTTP	true	Apply data collection filter rules during HTTP request. Please notice that this filtration works only for following fields:

		RequestUrl, RequestUrlReferrer, RequestUserAgent, RequestHostAddress, RequestHostName, RequestAuthType, RequestIsAuthenticated, RequestAuthenticationName, UserAnonimous, DoNotCollect.
useDataCollectionFiltersOnQueueProcessing	true	Apply data collection filter rules while processing analytics queue.

To manage the policies using a web interface go to **SharePoint Central Administration \ Monitoring \ HarePoint Analytics for SharePoint Settings**:

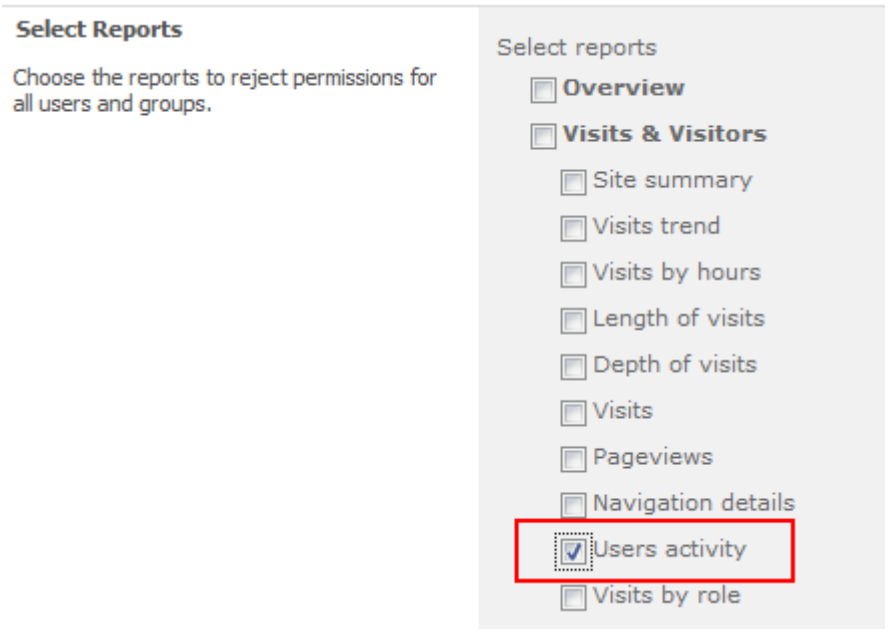


Scroll the page down to **Configure policies** and follow this page of settings:



12.2.1. Removing reports from the list

Go to **SharePoint Central Administration \ Monitoring \ HarePoint Analytics for SharePoint Settings** and click link **Configure Policies**. To remove a report from a list it is necessary to select the "checked" report:



After clicking the **OK** button the selected reports will not be displayed in the dashboard anymore.

You can do the same using command:

stsadm -o mlstsetpolicy -disablereport ReportName

where **ReportName** is the identifier of the report. You can get it from the full report URL, for example for the report named "Visits by countries" URL looks like:

http://ms.local/_layouts/MAPILab/Statistics/Report.aspx?ReportId=VisitsByLocation&Scope=Site

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

stsadm -o mlstsetpolicy -disablereport VisitsByLocation

To return the report into the list it is necessary to execute command:

stsadm -o mlstsetpolicy -enablereport VisitsByLocation

12.2.2. Encryption of the data in reports

HarePoint Analytics allows the Administrators to set policy to encrypt data which is displayed in the reports. If such policy is enabled for a specified data type (for example, for User Name) the reports contain something like the following instead of User Name:

Users activity

User name	Visits ↓	Pageviews
[Hidden: B26AB80D]	25	590
[Hidden: 7079C72C]	10	7
[Hidden: 93F22F34]	6	114
[Hidden: 3279AAA9]	4	49
[Hidden: 1CF0362E]	2	21
[Hidden: 8D447C8C]	1	33

View report

HarePoint Analytics allows encrypting the following data types:

- User Name
- 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

Please note, this policy doesn't encrypt data in the database, which is encrypted during the data output, so disabling this policy restores data in reports.

12.2.3. Encrypt user data during the data collection

The law in some countries doesn't allow to store the user personal data. HarePoint Analytics allows you to encrypt user personal data during the data collection, so, the database will contain data which cannot be restored to detect the user personal data. To turn on this feature it is necessary to use the following command:

stsadm -o mlstsetpolicy – encryptuserinfo true

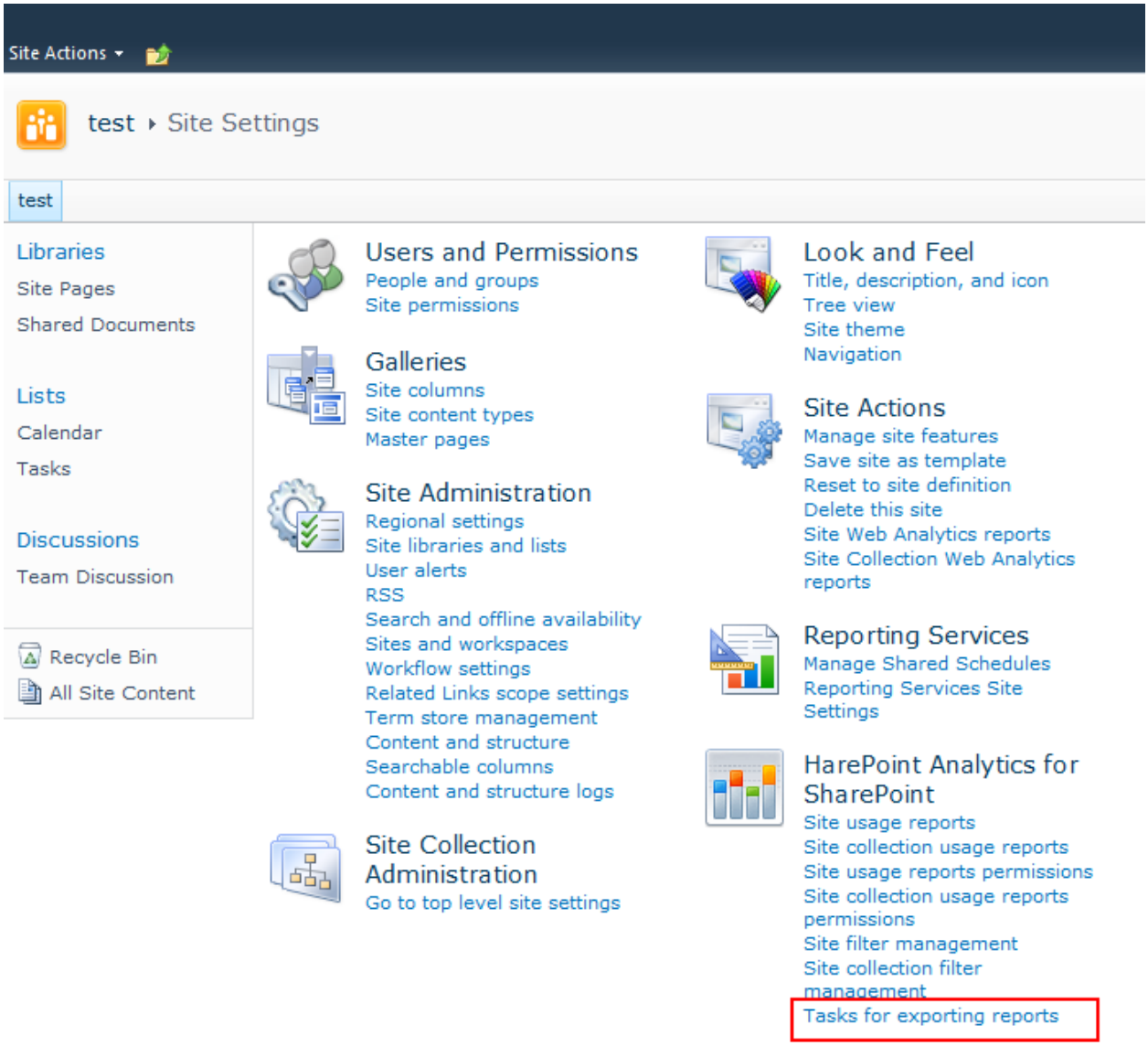
Please note, the data will be encrypted and cannot be restored even if this policy is disabled: new data will be collected without the encryption, but the previously collected data will be displayed as encrypted.

13. Creation of the tasks to get reports by email

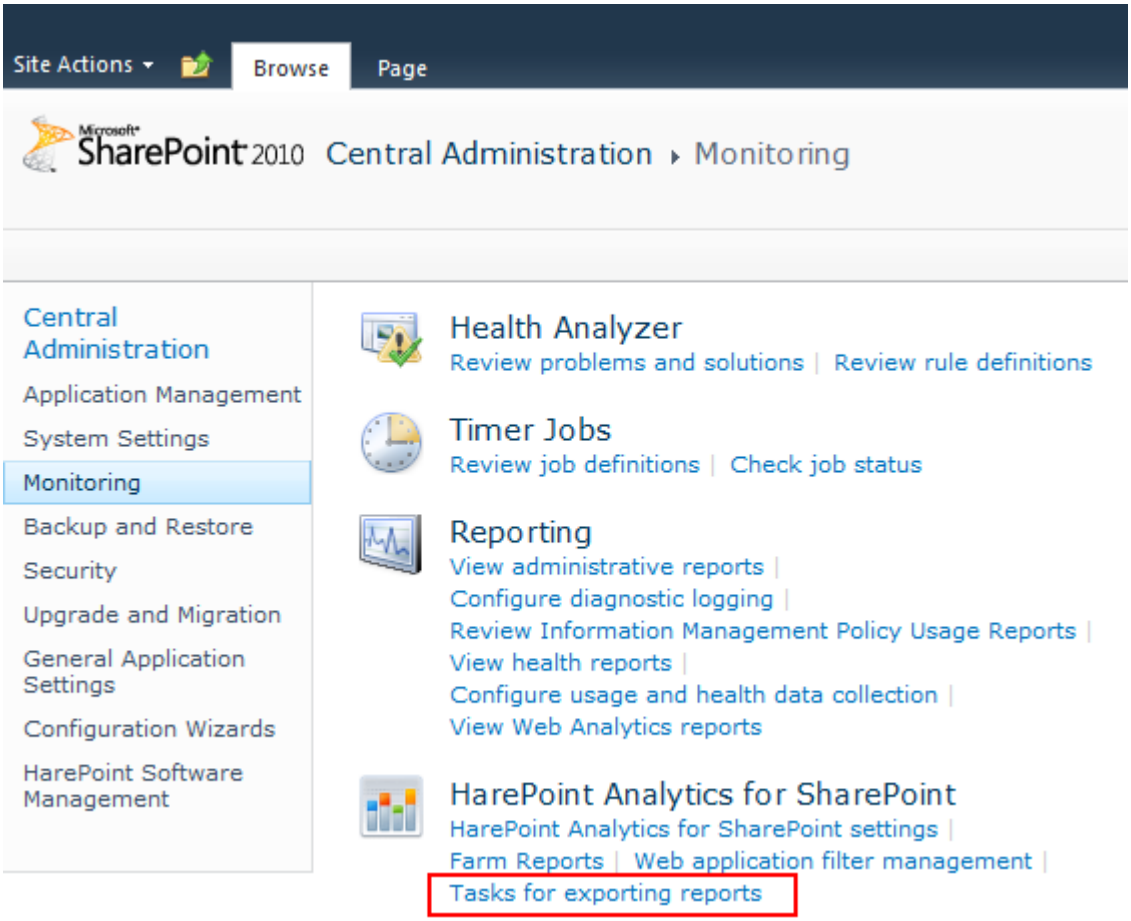
HarePoint Analytics allows users to get reports sent by email automatically. User or Administrator can create a Task and the specified report will be sent to the specified emails automatically by a scheduler.

Lists of subscriptions to receive reports are defined in the range of the SharePoint site collection. You can go to the subscription management page using link **Tasks for exporting reports** in section **HarePoint Analytics for SharePoint** on page **Site Settings** of the corresponding SharePoint site collection.

You can create an unlimited number of tasks. To create a task for sending reports at a site or a site collection scope open the web-site and point to “Site actions” \ “Site Settings” \ “Tasks for exporting reports”:



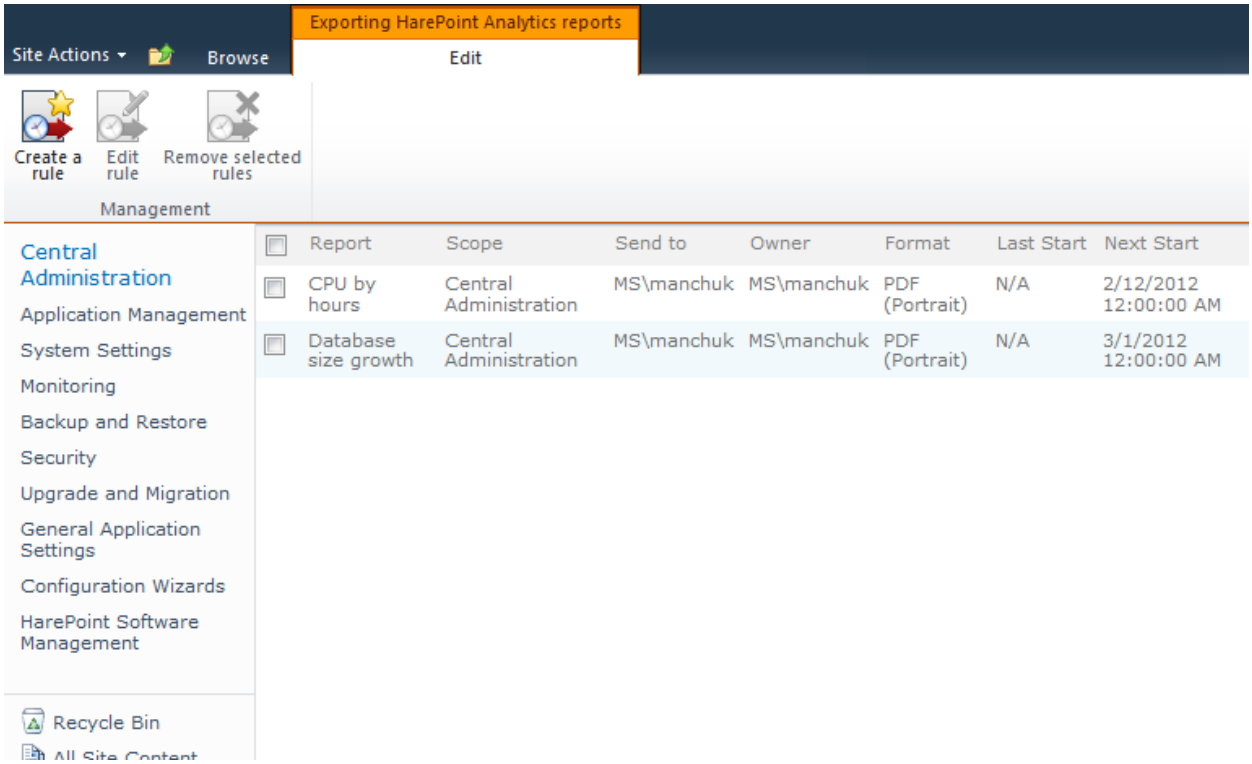
To create a task to send reports the farm scope open the **Central Administration** web-site and point to “Site actions” \ “Site Settings” \ “Monitoring” \ “Tasks for Exporting reports”:



To create a new task:

1. click the “Create a rule” button on the ribbon
2. select the scope:
   - Site collection;
   - This site only;
   - This site and subsites.
3. Select the report which should be sent
4. Specify the users to which the report should be sent
5. Set the scheduler (daily, weekly, monthly)
6. Select the format (Microsoft Excel file or PDF)
7. In the Filters group of the settings select the data range (yesterday, current week, previous week, current month, etc.) and set the necessary filters.
8. Define View for the report
9. Click the OK button to save the task.

For the Farm reports located in Central Administration the list of created tasks looks like the following:



More information on the task for sending reports settings you can find in section «Sending Reports by email»

13.1 Template Customization in HarePoint Analytics for SharePoint

An option for template customization of the e-mail messages, in which reports are sent, is available in HarePoint Analytics for SharePoint. Moreover, it is possible to use a company logo in the reports exported to .pdf.

For that purpose the product adds the site-collection and farm feature named: “HarePoint Analytics for SharePoint: Templates”.

When activating the feature “HarePoint Analytics for SharePoint: Templates” a hidden document library named MLStatTemplates is added at the root web-site of the site collection.
The default templates are added to Default folder of this library:

1. ExportToPdfHeaderLogo.gif – a header logo of PDF file with the report. By default a logo of MAPILab Ltd. company is used (80x80 pixel picture). You may substitute this picture with your own without changing the file name.
2. ReportSubscriptionEmailTemplate.htm – a template used when sending a message. This template is an HTML document, which may be individually modified. Date from <title></title> tag will be used as the 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 address. This macro will be substituted with string which looks like the following one: http://<siteurl>/_layouts/MAPILab/Statistics/Report.aspx?ReportId=ReportId&Scope=Site
    - #ManageReportSubscriptions_Url# -- Address of the page to edit the subscriptions for the automatic report receipt.

You may modify the files of this library with Microsoft SharePoint Designer 2010.

It is also possible to create templates in other languages. For that purpose, you have to create a folder with the first 2 letters of the country code (according to ISO 3166-1) within the document library MLStatTemplates and add the modified files ExportToPdfHeaderLogo.gif and ReportSubscriptionEmailTemplate.htm to this folder.

For example:

MLStatTemplates/DE/ReportSubscriptionEmailTemplate.htm

MLStatTemplates/FR/ReportSubscriptionEmailTemplate.htm

In order to use templates globally, activate feature (1) in the Central Administration.

In order to use templates only for the site collections selected, activate feature (1) in the site collections needed.

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, which is configured by its settings. By default all **HarePoint Analytics Timer Jobs** are configured optimally for the middle size of the SharePoint Farm. But in some configurations some optimization may be required. Administrator Guide describes each **HarePoint Analytics Timer Job** and ways of optimizing their execution.

HarePoint Analytics adds the following Timer Jobs:

1. HarePoint Analytics for SharePoint: Data Collecting from Active Directory
2. HarePoint Analytics for SharePoint: Geographic positions database update
3. HarePoint Analytics for SharePoint: Report exporting by schedule
4. HarePoint Analytics for SharePoint: System Metrics Collector
5. HarePoint Analytics for SharePoint: Periodic data collection
6. HarePoint Analytics for SharePoint: Queue Data Processor
7. HarePoint Analytics for SharePoint: Report Data Preprocessor

14.1.1. Data Collecting from Active Directory

It is a **Timer Job** which imports data from Active Directory into the HarePoint Analytics database.

HarePoint Analytics for SharePoint regularly collects data on the Active Directory users, groups and key structures. The collected data are directed to the HarePoint Analytics for the SharePoint database to be later used for generating several report types, with **Active Directory** filters enabled.

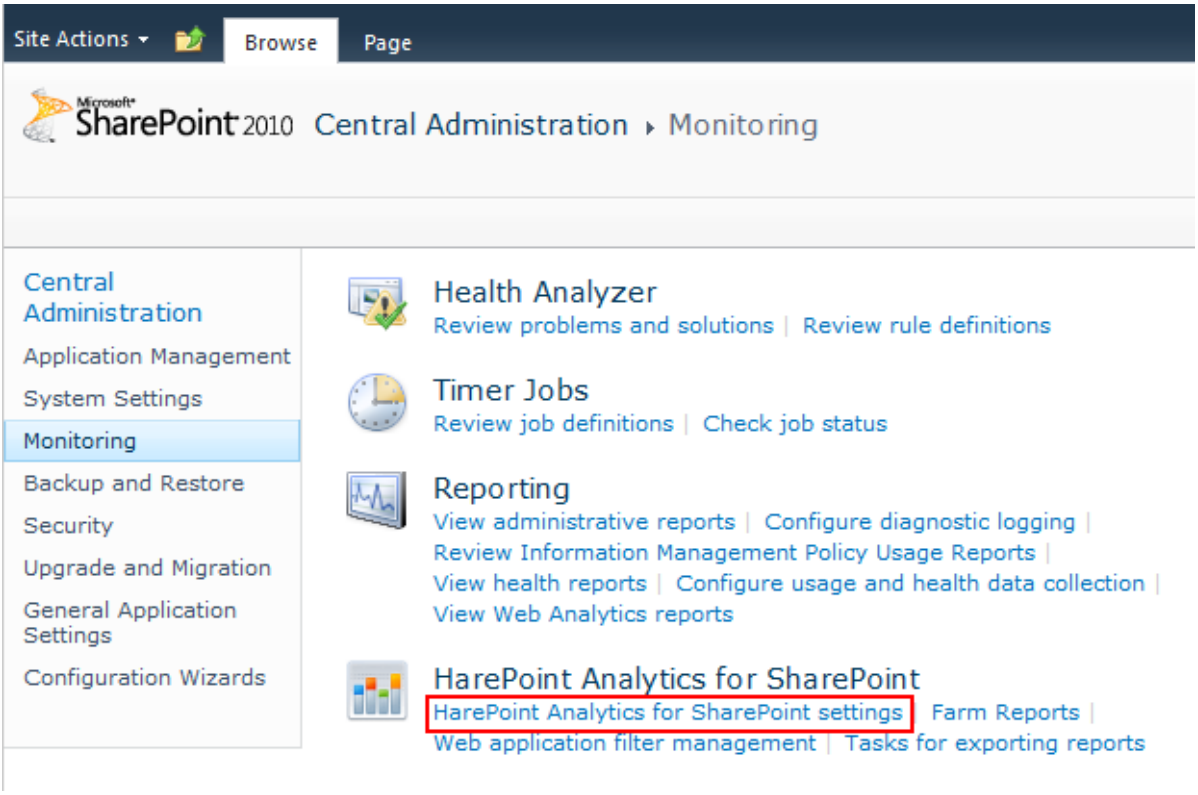
By default, data import **from Active Directory** is performed daily. Because user data stored in **Active Directory**, as a rule, is change very seldom, then the mentioned frequency of imports is more than sufficient for maintaining the relevance of the data. It is unreasonable to import data more often than once a day for two reasons:

1. The loading at servers maintaining the operation of Active Directory and the database server increases.
2. The preparation of data for reports is performed once a day by default. So, if you make a decision about the necessity for more frequent import from **Active Directory**, then you need to reschedule the task for preparing the data HarePoint Analytics for SharePoint - Report Data Preprocessor.

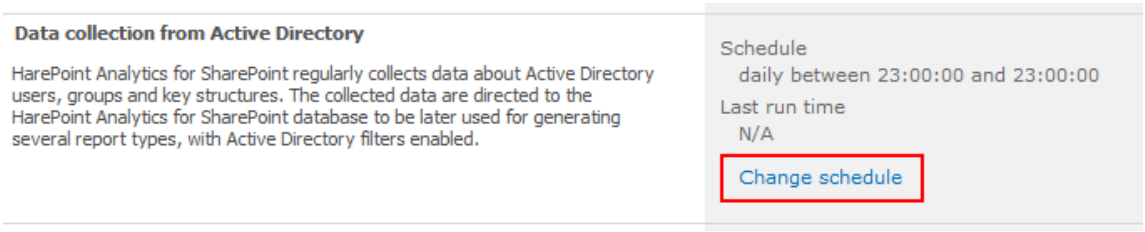
On the other hand, if the changes in your organization's infrastructure occur infrequently or not at all, it is reasonable to increase the frequency of data import from **Active Directory** up to once a week.

To change the schedule of the data import from **Active Directory**:

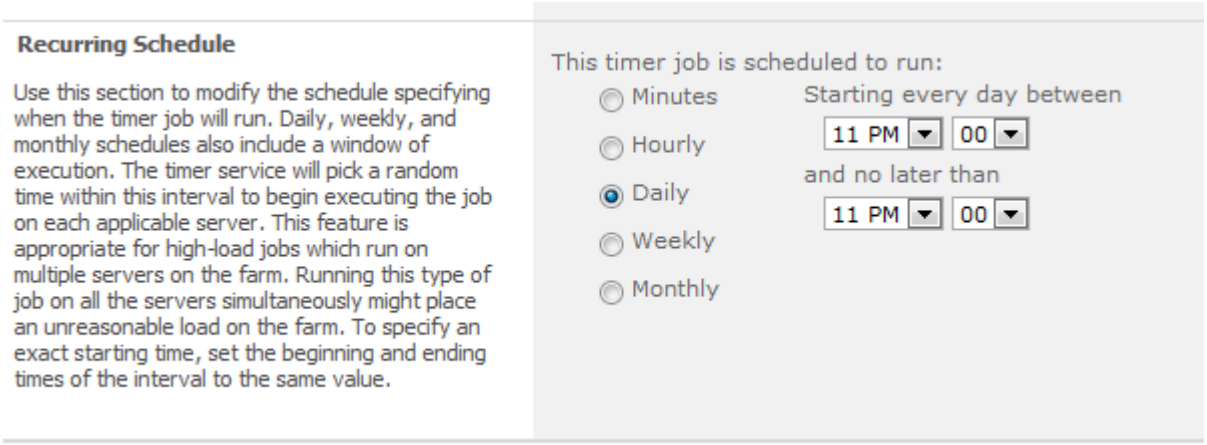
1. Go to the SharePoint **Central Administration** page. You must use the farm administrator account during the authorization.
2. Open the **Monitoring** page.
3. Go to the settings of HarePoint Analytics for SharePoint using the hyperlink located in the **HarePoint Analytics for SharePoint** section:



4. Open the page of setting the data import from Active Directory by clicking on link **Change Schedule** in section **Data collection from Active Directory:**



5. Change the schedule with the help of the settings in section **Recurring Schedule**:



6. Press the **OK** button.

14.1.2. Geographic locations database update

Geographic locations database must be kept actual to ensure precise visitor's geographic coordinates determination. MaxMind® Company offers a free version of geographic locations base. This database is supplemented and corrected regularly.

By default, this definition of the task is inactive. It is reasonable to activate and configure the task parameters only if you need to work with the reports on the geographical location of users in your SharePoint farm.

During the task implementation data on the ranges of IP-addresses, which help to determine the geographical location of the visitor, are updated. The MaxMind® company, which provides these data, updates them not more frequently than once a month. Therefore, reducing the period of data update is impractical.

Details on how to configure the process of the database of geographical location update you can find in paragraph **Geographic locations database update setting**.

14.1.3. System Metrics Collector

This Timer Job collects data on the Servers' performance for displaying data in the reports from the **Performance** group in **Central Administration**.

Group **Performance** includes such reports as **CPU Usage, Memory usage, Disk usage, Network usage**, etc. The minimum period of averaging the data in these reports is 5 minutes. Therefore, the task of collecting the relevant data is also performed once every 5 minutes. By default, the task is inactive, i.e. data collection on the performance is not implemented.

Since data collection on the performance in general can create quite a serious load on the SharePoint farm server, it is reasonable to activate this task only for the duration of the respective investigation. Changing the task schedule is not recommended.

The process of activation and setting task System Metrics Collector is described in paragraph **Configuring Data Collection Settings for Servers' Performance** .

14.1.4. Periodic data collection

HarePoint Analytics for SharePoint conducts periodic data collection on the state of websites, document libraries and lists of SharePoint. Data collection is performed on those collections of websites, where collection of statistical information by HarePoint Analytics for SharePoint has been activated. The collected data is stored in the database of HarePoint Analytics for SharePoint and allows tracking the dynamics of changes in the basic characteristics of SharePoint.

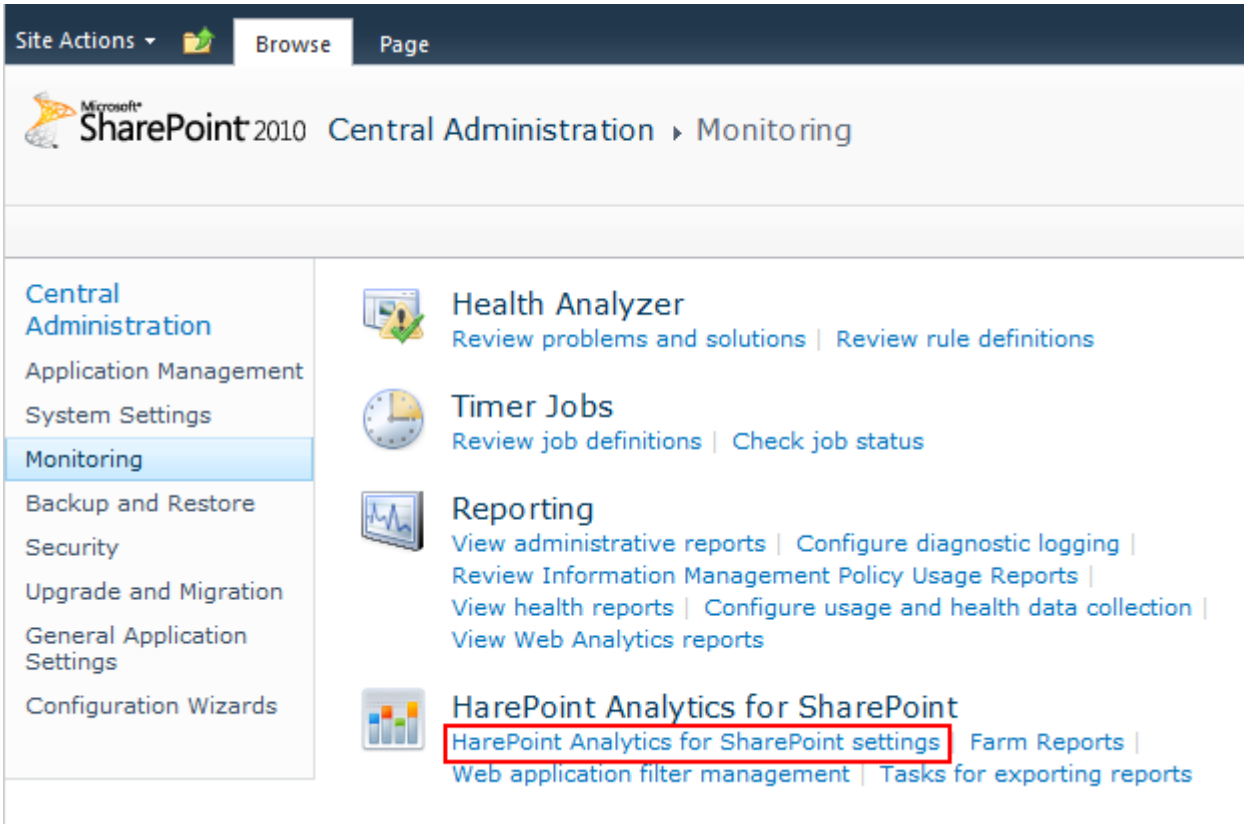
During the task implementation data on the database sizes, the number of records in the lists of the SharePoint sites, etc. are collected. All the collected data are changing slowly. The characteristic period of a significant change in these data is about a week.

By default, the task is implemented once a day. Collecting such data more frequently is not recommended, because it will not add any information content to the respective reports.

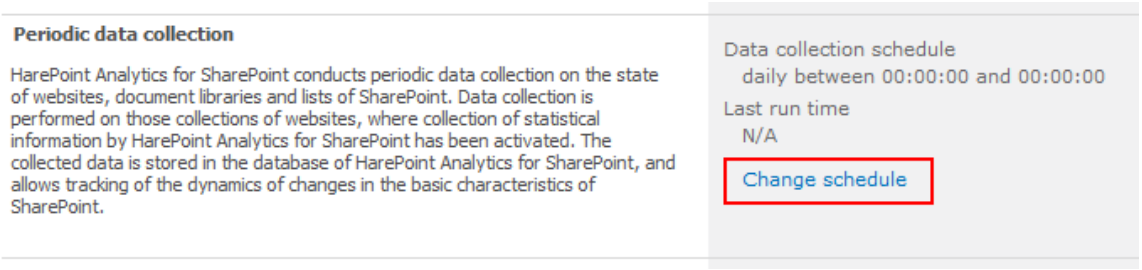
In the case of a large number of web-sites (10000 and more), the frequency of data collection can be significantly increased – up to a week or even more.

To change the schedule of the implementation of task **Periodic data collection**:

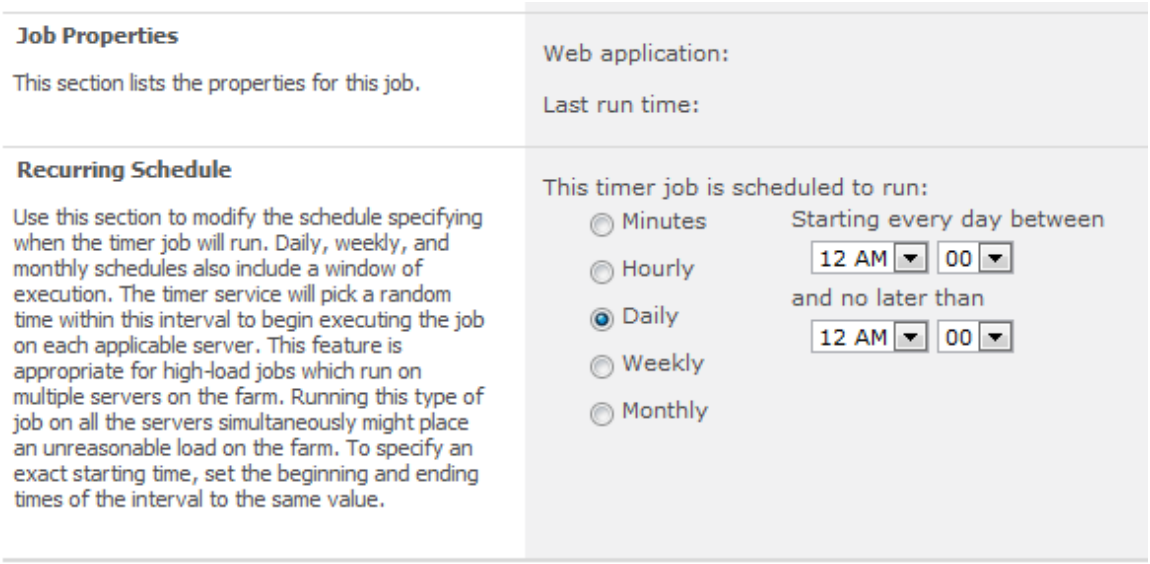
1. Go to the SharePoint **Central Administration** page. You must use the farm administrator account during the authorization.
2. Open the **Monitoring** page.
3. Go to the settings of HarePoint Analytics for SharePoint using the hyperlink located in the **HarePoint Analytics for SharePoint** section:



4. Open the page of setting the data import from Active Directory by clicking on link **Change schedule** in section **Periodic data collection**:



5. Change the schedule with the help of the settings in section **Recurring Schedule**:



6. Press the **OK** button.

14.1.5. Queue Data Processor

In HarePoint Analytics for SharePoint statistical information (events of viewing pages, editing documents, etc.) is processed in two stages:

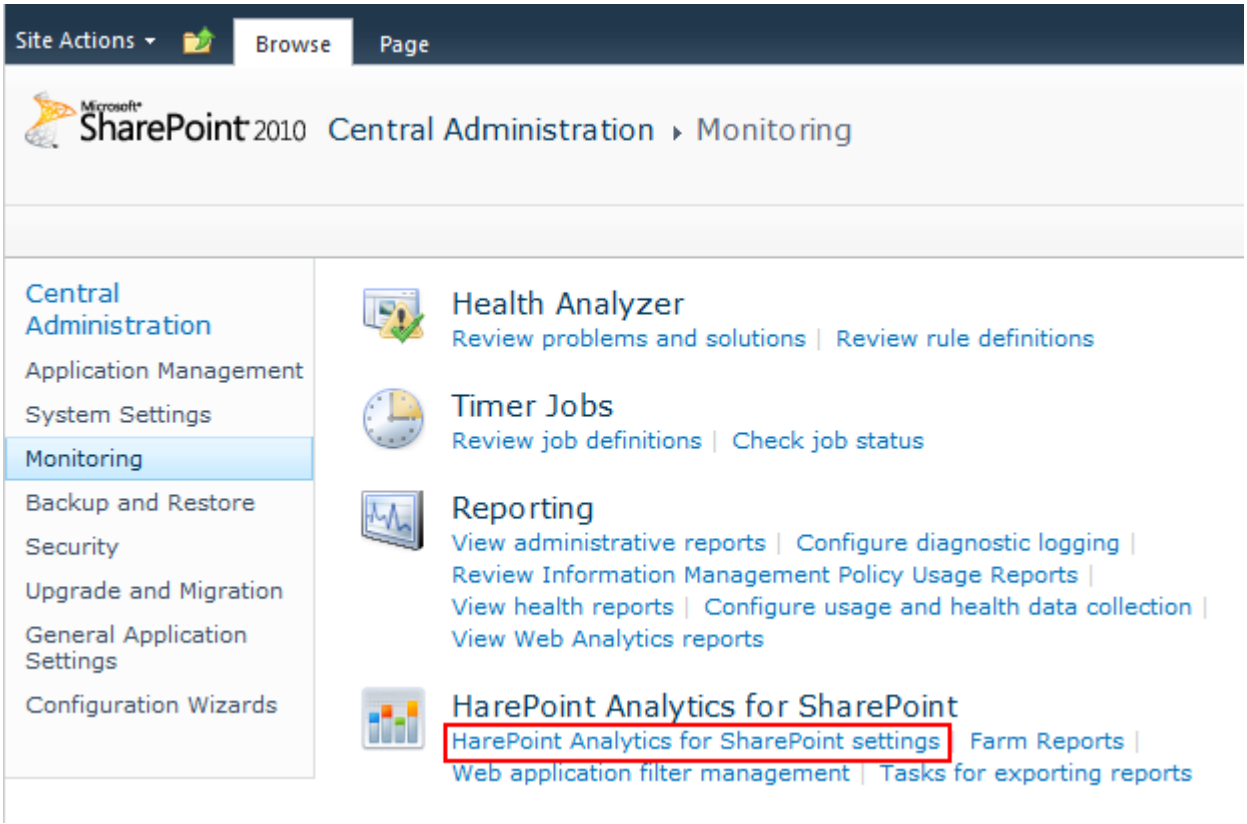
1. Information on the statistical event is hosted in an intermediate storage, the so-called queue. The queue is stored in a separate database. This process is optimized in such a way that to minimize the impact of the process of gathering statistical information on the normal operation of the SharePoint web applications.
2. Periodically, during the implementation of task **HarePoint Analytics for SharePoint - Queue Data Processor**, statistical events are selected from the queue, processed, supplemented by the data obtained through the SharePoint object model and placed in database **HarePoint Analytics**, where they are kept long enough.

By default, data processing from the queue is performed once every 5 minutes. In general, such a schedule is optimal.

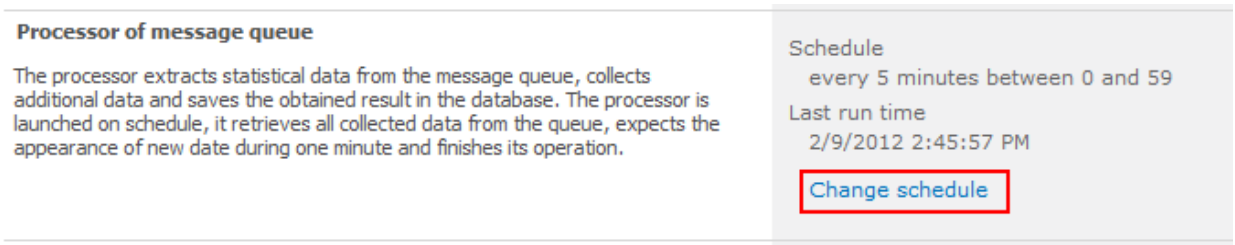
However, there are situations when the loading of the SharePoint farm servers is strongly pronounced, depending on the time of a day. For example, a very heavy loading during the day and very little at night. In this case, it is reasonable to reschedule the queue processing task in such a manner that it would be conducted only at night.

To change the schedule of the implementation of task **Queue Data Processor**:

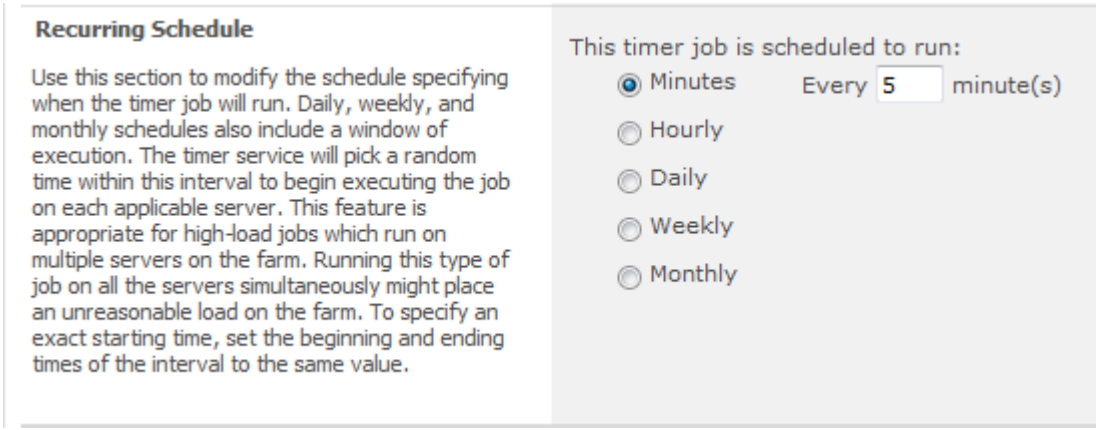
1. Go to the SharePoint **Central Administration** page. You must use the farm administrator account during the authorization.
2. Open the **Monitoring** page.
3. Go to the settings of HarePoint Analytics for SharePoint using the hyperlink located in the **HarePoint Analytics for SharePoint** section:



4. Open the page of setting the processing of the message queue by clicking on link **Change schedule** in section **Processor of message queue** of the settings:



5. Change the schedule with the help of the settings in section **Recurring Schedule**:



6. Press the **OK** button.

14.1.6. Report Data Preprocessor

In order to speed up the process of building reports, data preparation is performed beforehand, according to a task schedule. During data preparation, outdated data details are deleted. The process of preparation for the report building puts a substantial load on the SQL Server, which may cause a noticeable reduction in the performance of SharePoint.

By default, the process of data preparation is performed once a day.

Determining how often to run the data preparation is a compromise between how fast the statistics will appear in the reports and how often you can use the SQL-server in the increased load mode. The choice depends heavily on how the SharePoint farm web-sites are used.

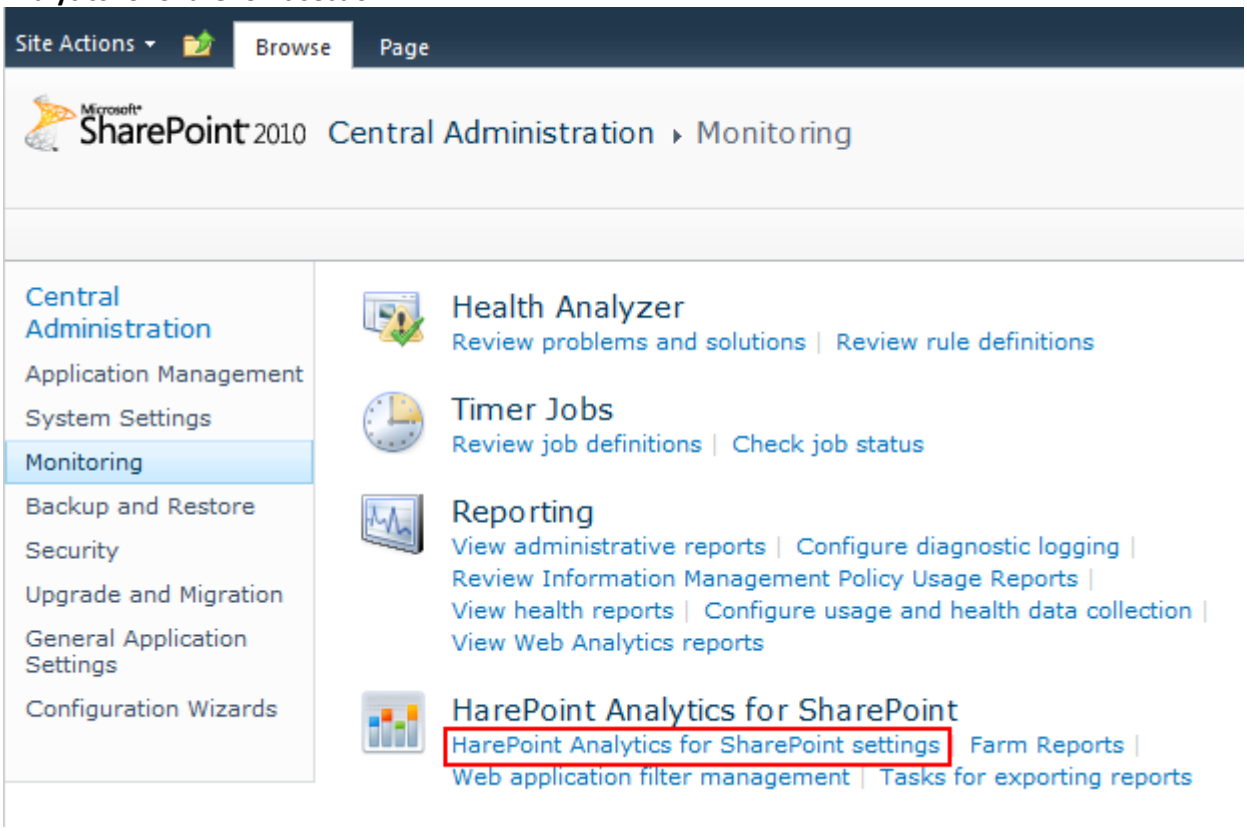
If your SharePoint farm sites are used extensively during the day, it is reasonable to configure the schedule of task Report Data Preprocessor in such a manner, that its implementation falls on the night. For more intensive use of web-sites, when the load does not decrease even at night, you may run the data preparation weekly, on weekends. However, under such settings, the data in most reports will appear daily or weekly, i.e. with a substantial delay.

If the loading on the sites is small, the data preparation can be performed more frequently, such as hourly. Implementing this task even more frequently is not recommended.

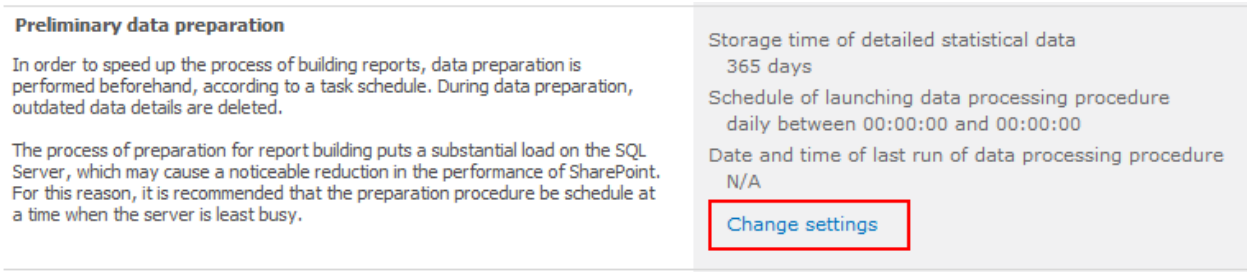
To change the schedule of the implementation of task **Report Data Preprocessor**:

1. Go to the SharePoint **Central Administration** page. You must use the farm administrator account during the authorization.
2. Open the **Monitoring** page.

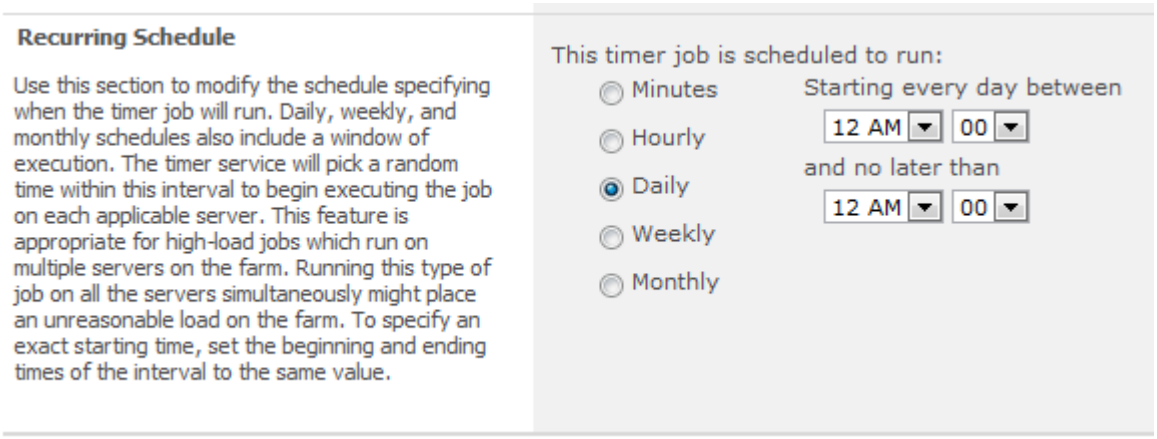
Go to the settings of HarePoint Analytics for SharePoint using the hyperlink located in the **HarePoint Analytics for SharePoint** section:



3. Open the page of setting the data preparation for reports by clicking on link **Change schedule** in section **Preliminary data preparation**:



4. Change the schedule with the help of the settings in section **Recurring Schedule**:



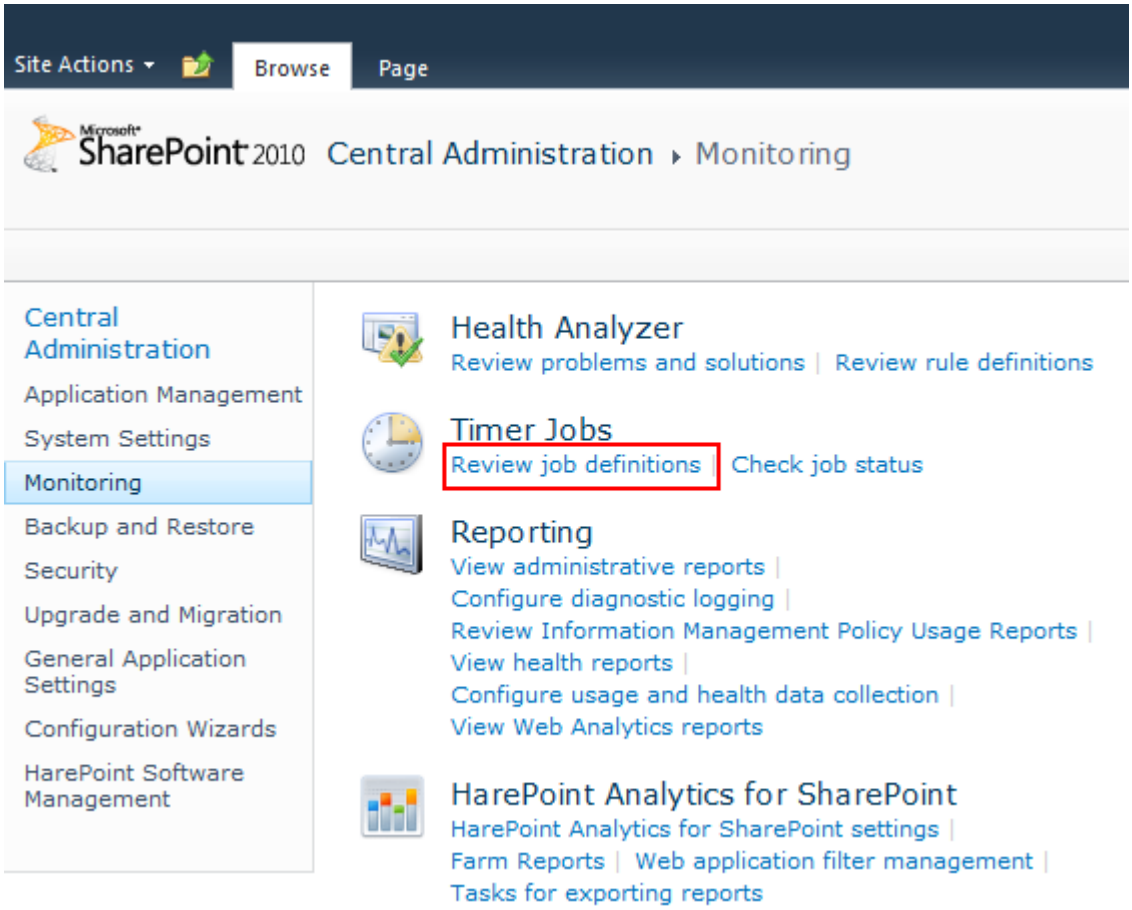
5. Press the **OK** button.

14.1.7. Sending reports by email

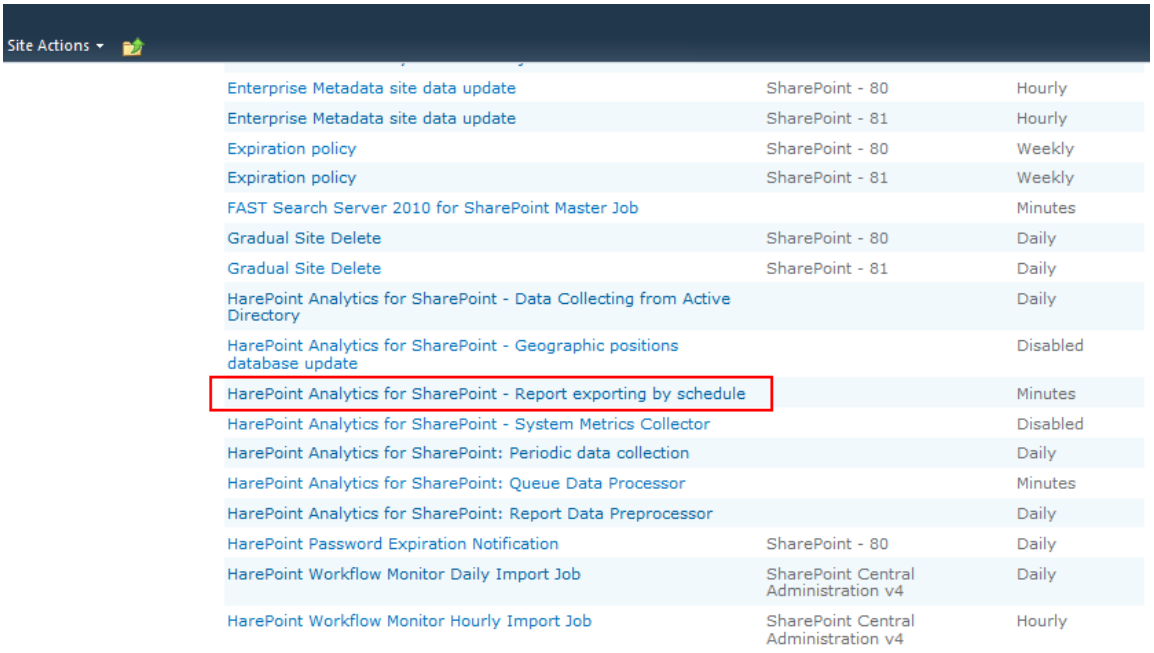
By default, the task of sending the report is done once every 10 minutes. In the process of implementation, the bypassing of the web-site collection of the current SharePoint farm and the delivery to the found subscription lists are carried out. Since the lowest frequency of the subscription is one day, the frequency of the implementation of this task can also be increased up to a day. This makes sense if the farm contains a large number of web-site collections.

To change the schedule of the implementation of task **Report exporting by schedule**:

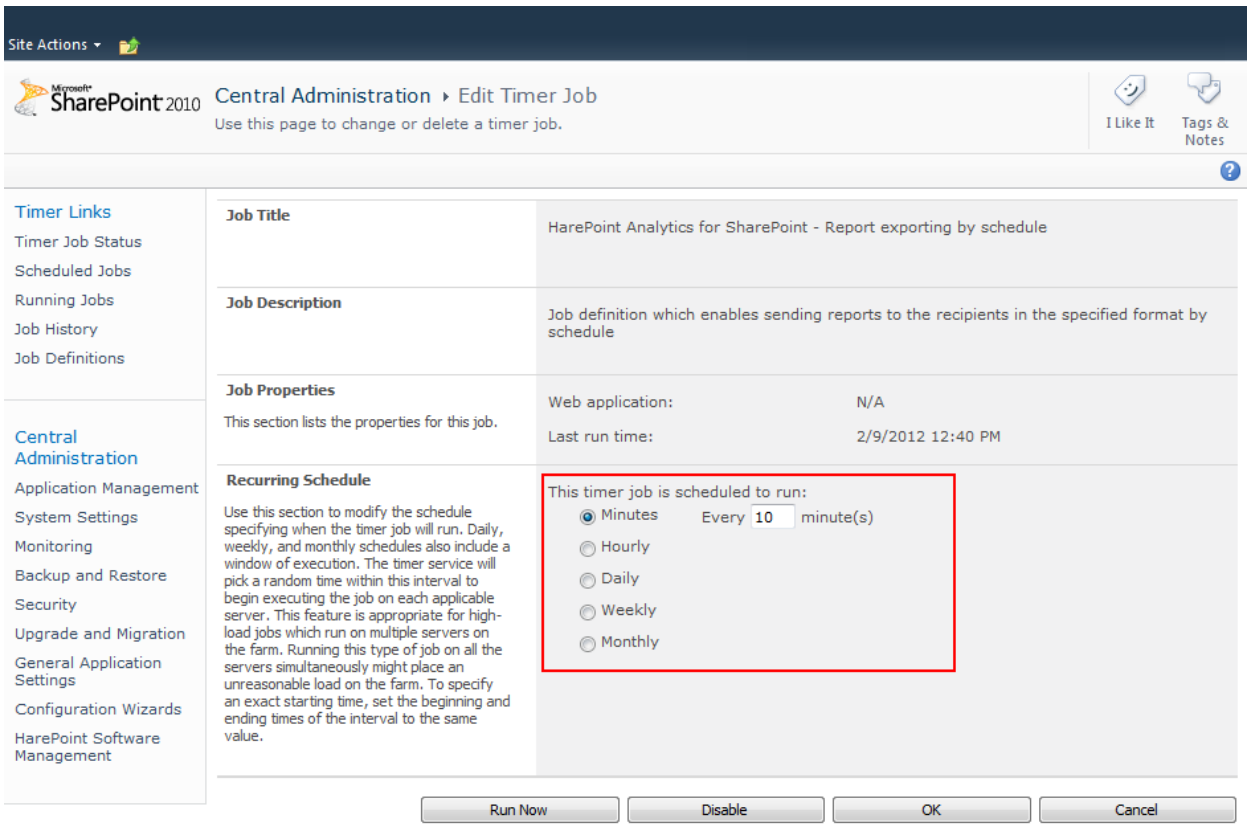
1. Go to the SharePoint **Central Administration** page. You must use the farm administrator account during the authorization.
2. Open the **Monitoring** page.
3. Open page **Job Definitions** by clicking on link **Review job definitions** in section **Timer Jobs**:



4. On page **Job Definitions** find link **HarePoint Analytics for SharePoint - Report exporting by schedule** and click on it to follow to the page of setting the task implementation:



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



14.2. Setting the period of saving the detailed data

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 (since version 14.11.5.8).

Note: This is performed by means of **Stsadm.exe**, which is normally located at:
C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14\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. Command-line tools overview

During the deployment of the HarePoint Analytics for SharePoint solution the list of operations of administrative utility **stsadm.exe** extends by a special set of operations. Some of these operations are needed at the stage of deploying or upgrading the solution, while others offer the possibility of customizing the product parameters from the command line.

14.3.1. The guide on the additional Stsadm.exe operations

The names of all additional operations from the extended set start with prefix **mlst**. The table with a brief description of the extended set of operations is given below.

Name	Description
mlstaddfilter	Add a filter rule for data collection.
mlstcompleteupgrade	Completing the process of the HarePoint Analytics for SharePoint solution upgrade.
mlstcopyappbincontent	Perform operation **stsadm-o copyappbincontent** on all servers of the current SharePoint farm.
mlstdisplayfilter	Display the current state of the filter for data collection.
mlstdisplaypolicies	Display the current state of the HarePoint Analytics for SharePoint global policies.
mlstencryptuserinfo	Encrypt the previously collected users' personal data.
mlstexportfilters	Export the filter of data collection to the file on a disk.
mlstimportfilters	Import the filter of data collection from the file on a disk.
mlstremovefilter	Delete a rule from the filter of data collection.
mlstresetfilter	Reset the filter to the default value.
mlstrestartsptimer	Restart the **SharePoint 2010 Timer** service on all servers of the current SharePoint farm.
mlstsetpolicy	Set the value of the global HarePoint Analytics for SharePoint policy.

14.3.2. Operations

Operation mlstaddfilter

The operation adds a filter rule for data collection. Learn more about filtering data during the collection phase in paragraph **Filters of data collection**.

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]

Parameters

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	This parameter specifies the target range of the filter to be formed. • **farm** The SharePoint farm level. • **webapp** The SharePoint 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** points to a web-application, a collection of web sites, a web site or a SharePoint list. In case of forming the filter of 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, which is used in the processing of the filtering rule. The fields of the collected data are described in paragraph **Managing the rules of the data collection filter via a web interface**.
relop	A string identifier of the relation. 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**. • **NotEqual** Not equal to **expression**. • **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		No	When creating a filter rule do not inherit the filter rules from the parent object.

Add a filter that excludes the requests on the local network during the data collection:

```
stsadm -o mlstaddfilter -scope farm -fieldid RequestHostAddress -relop
NotMatchRegex -expression "192\.168\.\d+\.\d+"
```

Operation mlstcompleteupgrade

The operation of completing the upgrade process of the HarePoint Analytics for SharePoint solution. Used only when upgrading the solution.

Syntax

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

Parameters

Parameter	Value	Mandatory?	Description
restartsptimer	<no>	No	After the completion of the upgrade process restart the **SharePoint 2010 Timer** service on all servers in the current farm SharePoint.
copyappbincontent	<no>	No	After the completion of the upgrade process perform operation stsadm-o copyappbincontent on all servers in the current SharePoint farm.

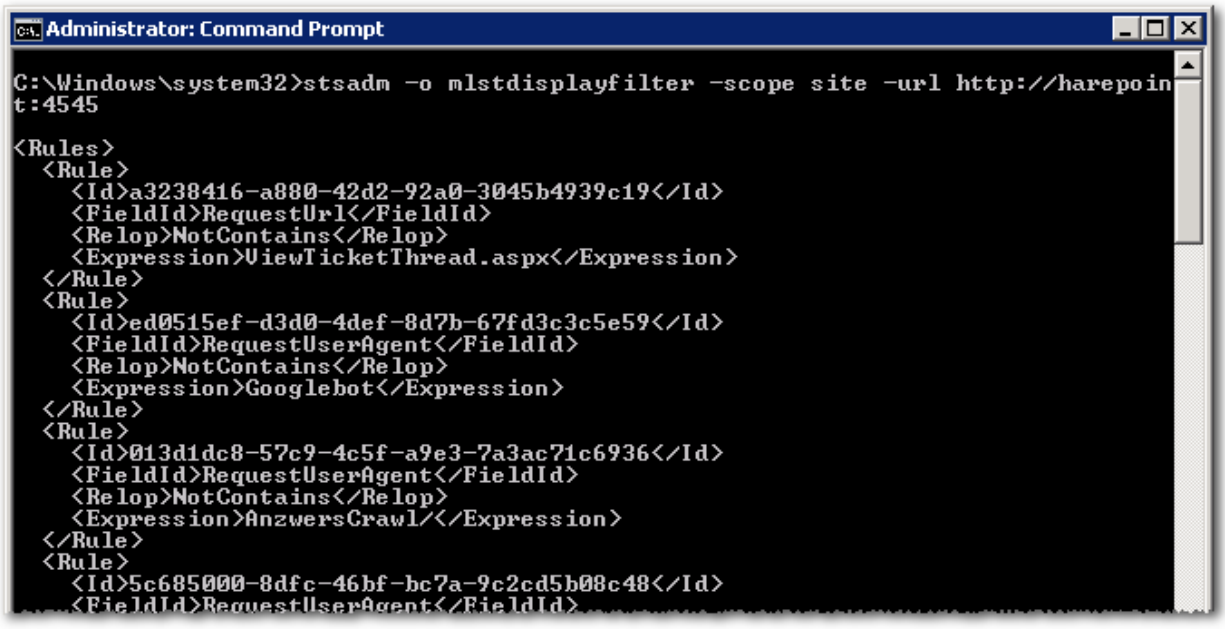
Operation mlstcopyappbincontent

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

stsadm -o mlstcopyappbincontent

Operation mlstdisplayfilter

Display the current state of the filter of data collection.



Syntax

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

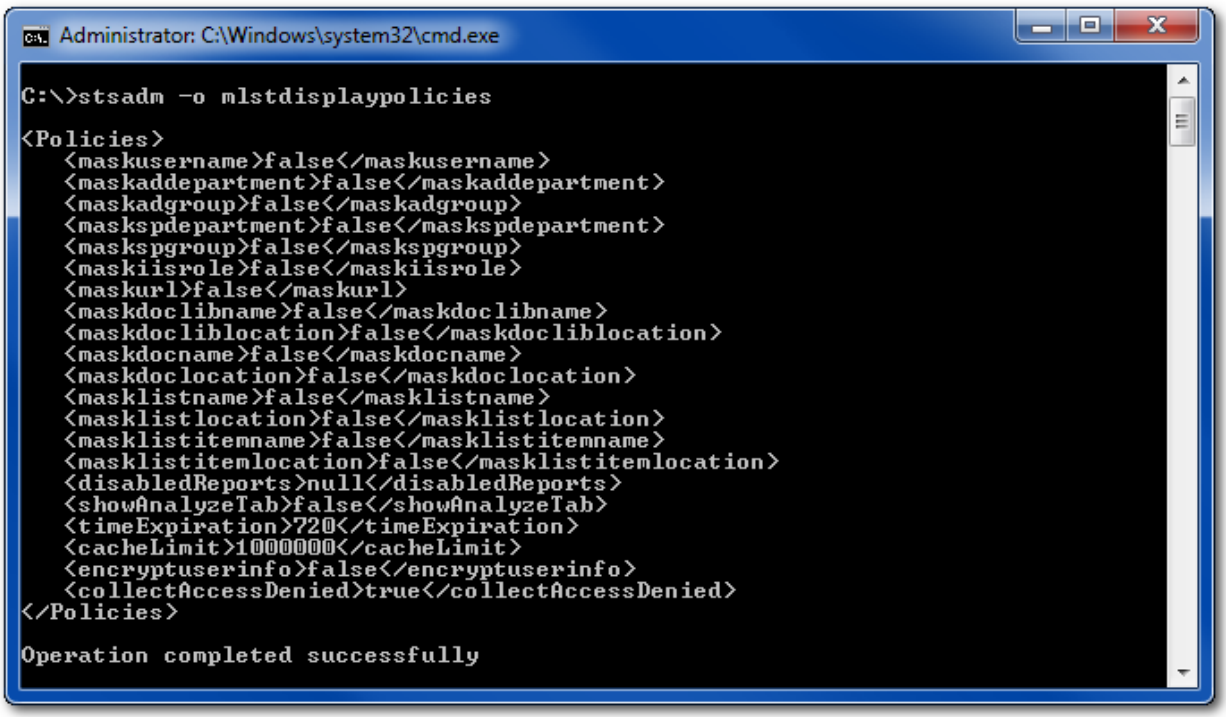
Parameters

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	The parameter specifies the target range of the filter to be formed. • **farm** The SharePoint farm level. • **webapp** The SharePoint web-application level. • **site** The web-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** points to a web-application, a collection of web sites, a web site or a SharePoint list. In case of forming the filter of the farm level, this parameter may be omitted.
effective	<no>	No	When specifying this parameter, the state of the filter is displayed taking into account the inheritance of the parent element filter.

Operation mlstdisplaypolicies

Display the current status of the HarePoint Analytics for SharePoint policies. Policies in HarePoint Analytics for SharePoint are global settings of the product that are applied to the entire SharePoint farm as a whole. The list of policies is given in paragraph The HarePoint Analytics for SharePoint policy identifiers.

The result of the operation is as follows:



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

Syntax

```
stsadm -o mlstdisplaypolicies
```

Operation mlstencryptuserinfo

Encrypt the previously collected users' personal data. Typically, this operation is performed after setting policy **encryptuserinfo** with the help of operation mlstsetpolicy.

Syntax

```
stsadm -o mlstencryptuserinfo
```

Operation mlstexportfilters

Export the filter of data collection to the file on a disk. Data on the current state of the filter are exported to the xml format.

Syntax

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

Parameters

Parameter	Value	Mandatory?	Description
scope	One of the values: • farm • webapp • site • web • list	Yes	The parameter specifies the target range of the filter to be formed. • **farm** The SharePoint farm level. • **webapp** The SharePoint web-application level. • **site** The web-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** points to a web-application, a collection of web sites, a web site or a SharePoint list. In case of forming the filter of the farm level, this parameter may be omitted.
filename	File name	Yes	The name of the file for exporting the filter data in the xml format.

Operation mlstimportfilters

Import the filter of data collection from the file on a disk. For import it is necessary to use the file obtained during export with the help of operation Operation mlstexportfilters.

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 target range of the filter to be formed. • **farm** The SharePoint farm level. • **webapp** The SharePoint web-application level. • **site** The web-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** points to a web-application, a collection of web sites, a web site or a SharePoint list. In case of forming the filter of the farm level, this parameter may be omitted.
filename	File name	Yes	File name with data obtained after operation Operation mlstexportfilters.

Operation mlstremovefilter

Delete a rule from the filter of data collection.

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 target range of the filter to be formed. • **farm** The SharePoint farm level. • **webapp** The SharePoint web-application level. • **site** The web-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** points to a web-application, a collection of web sites, a web site or a SharePoint list. In case of forming the filter of the farm level, this parameter may be omitted.
ruleid	The string in the form of **a3238416-a880-42d2-92ae-304Sb4939cl9**	No	The identifier of the rule that should be deleted. The list of the values of rule identifiers can be obtained with the help of operation Operation mlstdisplayfilter.
all	<No>	No	Delete all filter rules.

Operation mlstresetfilter

During carrying out the operation all rules of the current filter are removed and the inheritance of the parent object filter rule is restored.

```
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 target range of the filter to be formed. • **farm** The SharePoint farm level. • **webapp** The SharePoint web-application level. • **site** The web-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** points to a web-application, a collection of web sites, a web site or a SharePoint list. In case of forming the filter of the farm level, this parameter may be omitted.

Operation mlstrestartsptimer

Restart service **SharePoint 2010 Timer** on all servers of the current SharePoint farm.

Syntax

```
stsadm -o mlstrestartsptimer
```

operation mlstsetpolicy

HarePoint Analytics has a set of global parameters named “Policies”. Using the policies you can encrypt personal data when displayed in the reports, hide some reports, encrypt the personal data during the data collection, etc.

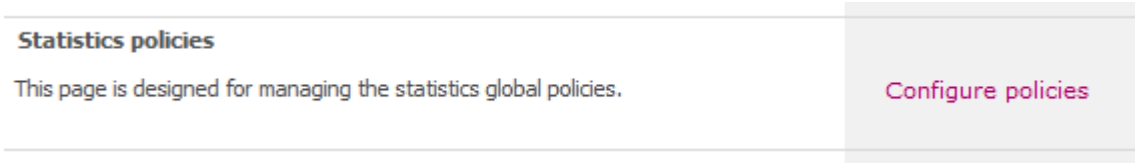
The policies can be set using command line tool stsadm.exe or through the web interface in the product settings. Please note, some policies can be enabled by using stsadm.exe only.

To set policies execute the following command:

stsadm –o mlstsetpolicy –PolicyName parameter

Policies Name	Default value	Description
maskusername	false	Display the user name in the encrypted form.
maskaddepartment	false	Display the department name imported from Active Directory in the encrypted form.
maskadgroup	false	Display the group name imported from Active Directory in the encrypted form.
maskspdepartment	false	Display the department name obtained through the harePoint object model in the encrypted form.
maskspgroup	false	Display the group name obtained through the SharePoint object model in the encrypted form.
maskiisrole	false	Display the IIS role name in the encrypted form.
maskurl	false	Display web-page addresses in the encrypted form.
maskdoclibname	false	Display the SharePoint library names in the encrypted form.
maskdocliblocation	false	Display library locations in the encrypted form.
maskdocname	false	Display document names in the encrypted form.
maskdoclocation	false	Display document locations in the encrypted form.
masklistname	false	Display the SharePoint list names in the encrypted form.
masklistlocation	false	Display the SharePoint list locations in the encrypted form.
masklistitemname	false	Display the names of list items in the encrypted form.
masklistitemlocation	false	Display the location of list items in the encrypted form.
disabledReports	null	The list of the identifiers of disabled reports.
disableReport	null	Delete the report from the report list.
enableReport	null	Return the report to the report list.
showAnalyzeTab	false	Show tab Analyze in the report processing ribbon by default.
timeExpiration	720	The time of cache storage when processing the queue of the statistical data.
cacheLimit	1000000	The limit size of the cache of the statistical data processing. The value defines the limit number of statistical events.
encryptuserinfo	false	Encrypt users' personal data at the collection stage.
collectAccessDenied	true	Collect the statistics on visiting page Access Denied by users.

To set policies such as **disableReport** or **maskusername** using a web interface open the Central Administration - > Monitoring -> HarePoint Analytics for SharePoint settings and click link **Configure policies:**



There you can choose the reports of rejecting permissions for all users and groups and remove the reports from the list. Also you can select data types which should be encrypted in the reports. The following data types can be encrypted:

14.4. Managing the Data collection filters

HarePoint Analytics for SharePoint includes powerful and easy-to-use filtering system of statistical data at the collection stage. The statistics filter rules can be set at 5 different levels: farm level, web application level, site collection level, web level, and list level. Succession of filter rules does exist between these levels.

Statistics collection filters are managed by means of the web interface and command line.

HarePoint Analytics applies some of the filters as early as before basing the data in the database of the queue, on the level of HttpModule. Such filtration does not issue any additional requests to the context database of SharePoint, and therefore does not increase the load time of a webpage. At the same time, such filtration considerably narrows down the database of the queue, which results in the significant reduction of the queue processing time.

The data is also verified during queue processing. This provides filtration for the data which were enqueued but not processed yet.

Please notice that only following fields filtered at the HttpModule level:

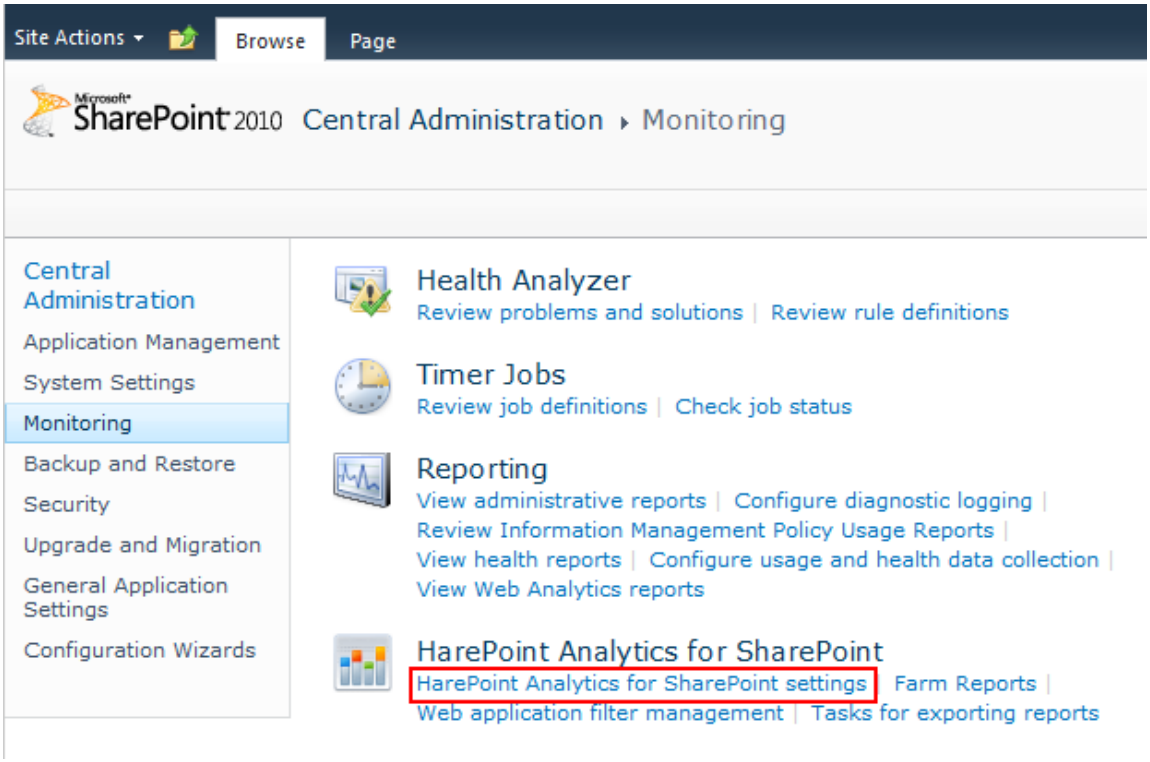
```
RequestUrl, RequestUrlReferrer, RequestUserAgent, RequestHostAddress,
RequestHostName, RequestAuthType, RequestIsAuthenticated,
RequestAuthenticationName, UserAnonimous, DoNotCollect
```

By default data collection filter rules are applied both by the HTTP request and by processing queue. You can change it by configuring the "useDataCollectionFiltersOnHTTP" and "useDataCollectionFiltersOnQueueProcessing" policies.

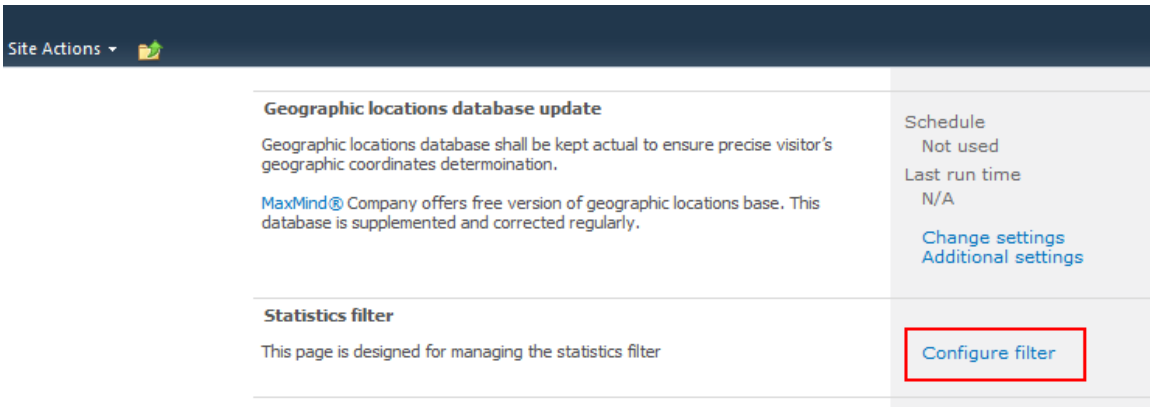
14.4.1. Farm level filter rules.

This is a basic level which is a parent for all other levels. It allows controlling the collection of statistical data across the entire SharePoint farm. To go to the farm level filter rules page the following operations should be performed:

1. Go to page **SharePoint Central Administration.** The Farm administrator account should be used for authorization.
2. Open the **Monitoring** page.
   Go to the settings page of HarePoint Analytics for SharePoint using the hyperlink located in the **HarePoint Analytics for SharePoint** section:



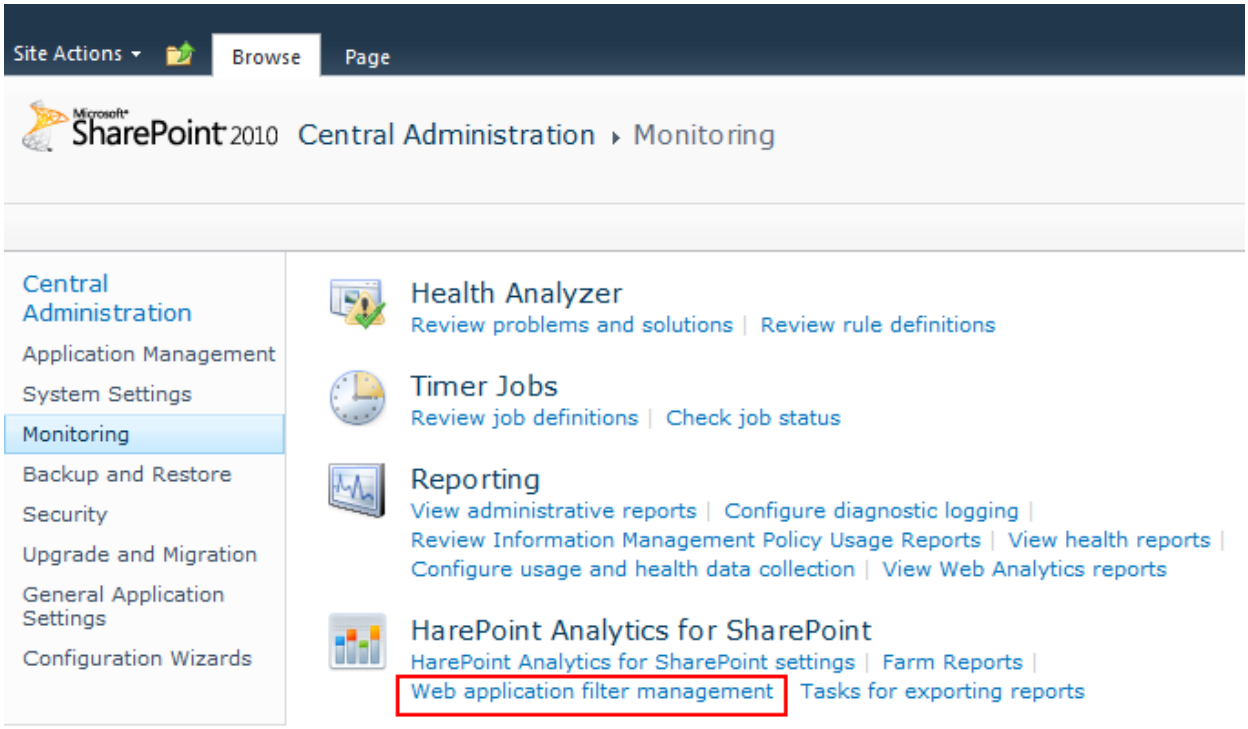
3. Go to the filter rules page using hyperlink **Configure Filter** located in the **Statistics Filter** section**:**



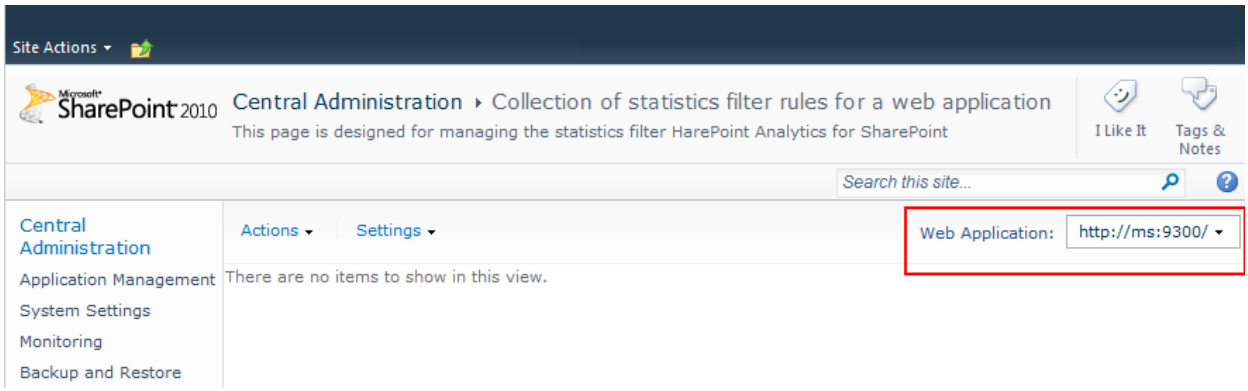
14.4.2. Web application filter rules level

This level inherits by default the filter rules of the farm level. The inheritance can be broken and a unique set of statistics collection rules can be created for each web application. To go to the web application filter rules management page the following operations should be performed:

1. Go to page **SharePoint Central Administration.** The Farm administrator account should be used for authorization.
2. Open the **Monitoring** page.
3. Go to the **Web application filter management** page:



4. Select the required application:



14.4.3. Site collection level filter rules

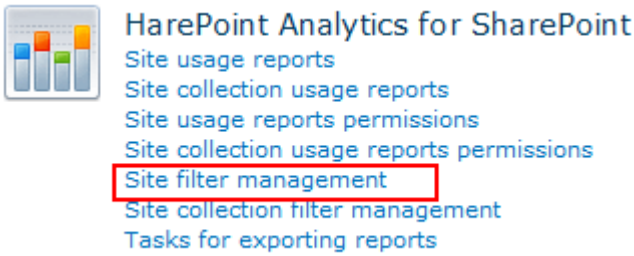
This level inherits by default the filter rules of the respective web application. The inheritance can be broken and a unique set of statistics collection filter rules can be created for the respective site collection. To go to the site collection filter management page the following operations should be performed:

1. Open a web-site which belongs to the site collection where you would like to create or change the data collection filter
2. Select **Site Settings** from the dropdown **Site Actions** menu.
3. In the **HarePoint Analytics for SharePoint** section select **Site collection filter management** :

14.4.4. Site level filter rules

This level inherits by default the filter rules of the respective site collection. The inheritance can be broken and a unique set of statistics filter rules can be created for the respective site. To go to the statistics site filter management page the following operations should be performed:

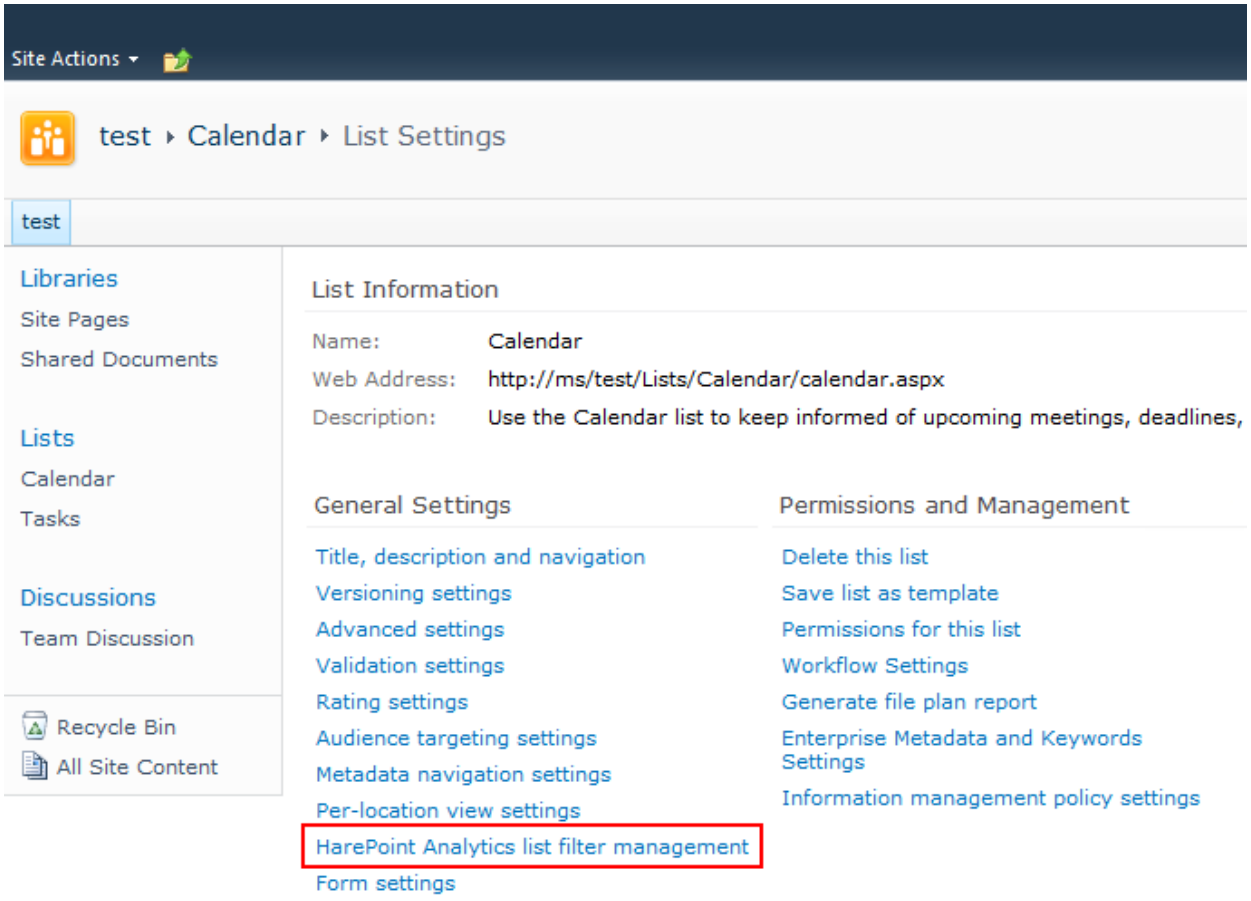
4. Open a web-site for which you would like to create or change the data collection filter
5. Select **Site Settings** from the dropdown **Site Actions** menu.
6. In the **HarePoint Analytics for SharePoint** section select **Site filter management** :



14.4.5. List level filter rules

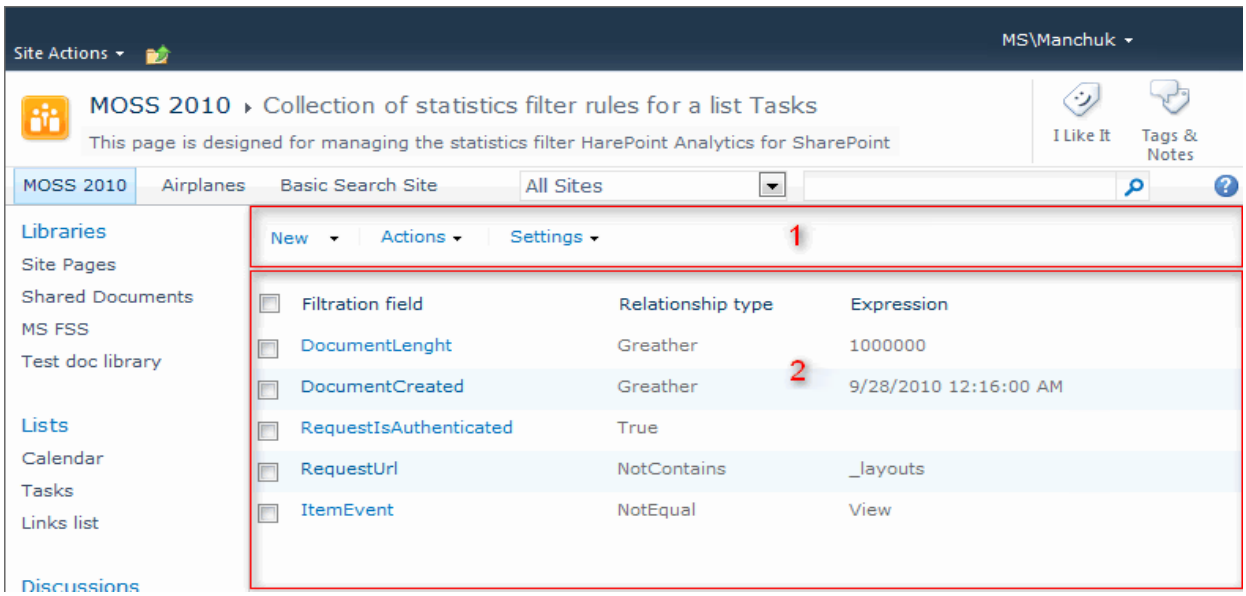
This level inherits by default the filter rules of the respective site. The inheritance can be broken and a unique set of statistics filter rules can be created for the respective list. To go to the statistics list filter management page the following operations should be performed:

1. Select **List Settings** from the **List** tab of the list setting ribbon**.**
2. Select **HarePoint Analytics list filter management** in the **General Settings** section of the list parameters**.**



14.5. Management of the statistics collection rules via the web interface

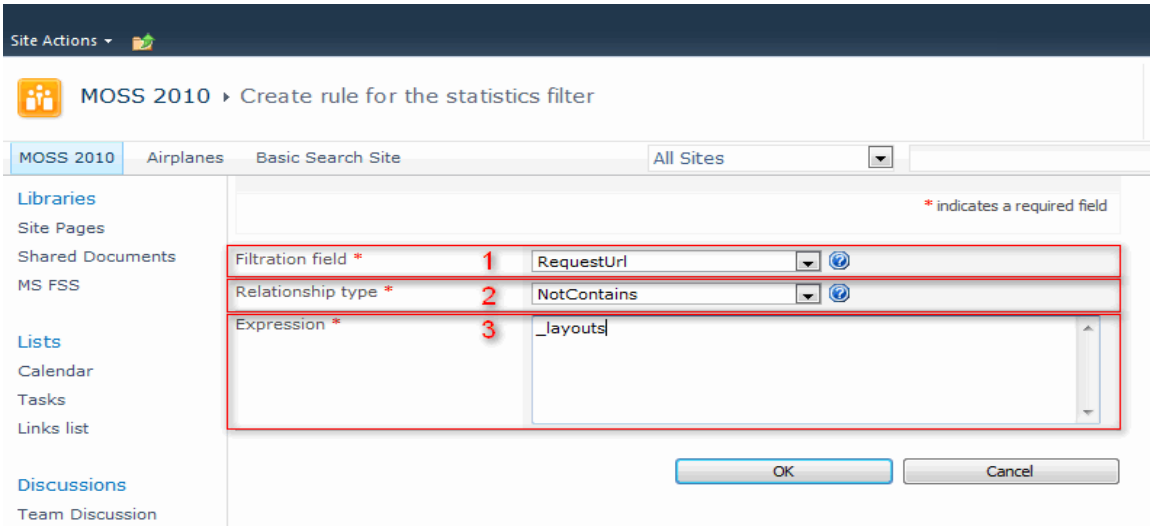
Statistics filter rules are managed in the same manner at various levels. The statistics filter rules management page contains the list of rules (marked with 2 on the print screen) and actions menu (marked with 1):



This page enables to create, edit, delete, export and import statistics collection filter rules. Moreover, the statistics collection filter rules can be inherited or the inheritance of parent object rules can be terminated. In addition, statistics collection can be completely disabled.

14.5.1. Adding a rule

1. Go to the statistics collection filter management page of the respective level.
2. By default the statistics collection filter rules at all levels except the farm are inherited from the parent object. In this case creation, editing, removal and import of rules are inaccessible. To create unique rules for the current object, the inheritance of parent object rules should be terminated. For this purpose select **Break rule inheritance** from the **Actions** menu. The inheritance will be terminated and the parent object rules will be copied from the current object and become available for editing.
3. Select **Add rule** from the **New** menu
4. Indicate **Filtration field** on the opened page (marked with 1 on the print screen), according to which the statistics will be filtered, specify **Relation option** (marked with 2) and specify **Expression** (marked with 3):



5. Press **OK**.

Filter rule fields can be divided into several categories:

1. **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
2. **List items**
   - **ItemEvent –** List item event
   - **ItemDisplayName –** Displayed list item name
   - **ItemName –** List item name
   - **ItemTitle -** List item title
   - **ItemCreated –** List item creation time
3. **Lists**
   - **ListTitle –** List title
   - **ListDescription –** List description
   - **ListDefaultViewUrl –** List URL
   - **ListBaseTemplate –** List base template
   - **ListBaseType –** List base type
4. **Documents**
   - **DocumentName –** Document Name
   - **DocumentCreated –** Document creation time
   - **DocumentTitle –** Document title
   - **DocumentUrl -** Document URL
   - **DocumentLength –** Document size in bytes
   - **DocumentFolderName –** Document folder
5. **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

14.5.2. Rule editing

1. Go to the statistics filter management page of the respective level.
2. Select the required rule from the list of rules on the statistics filter management page and go to editing page using a hyperlink, e.g. **RequestUrl**
3. On the opened page please select the required values for **Filtration field**, **Relation option**, **Expression** and press **OK**. The rule can also be removed by the **Delete** button.

14.5.3. Rule deletion

1. Go to the statistics filter management page of the respective level.
2. Tick the rules to be deleted.
3. In the **Actions** menu select **Remove selected rules.**
4. Press **OK** in the appearing window.

14.5.4. Rule export

1. Go to the statistics filter management page of the respective level.
2. In the **Settings** menu select **Export rules**.
3. Specify the file name and press **Save**. Statistics collection rules will be saved in the respective XML file.

14.5.5. Rule import

1. Go to the statistics filter management page of the respective level.
2. In the **New** menu select **Import statistics collection rules** .
3. In the opened page press **Browse…,** select XML file with statistics collection filter rules and press **Open**.
4. Press **OK.**

14.6. Managing the statistics collection filter rules via the command line

In addition to managing statistics collection filter rules via the web interface, it is also possible to manage the rules from the command line using the extension commands for **stsadm** utility: **mlstdisplayfilter, mlstaddfilter, mlstremovefilter, mlstresetfilter, mlstexportfilters, mlstimportfilters**.

14.6.1. Viewing of rules

To display filter rules of any level the following command should be used:

stsadm -o mlstdisplayfilter

-scope <farm | webapp | site | web | list> - level of the statistics collection filter rules, permissible values of a farm, webapp (web application), site(site collection), web, list.

[-url <url of web application, site collection, site or list>] - address of the object of the corresponding level, required field for a web application, site collection, site and list.

[-effective] – effective set of rules, i.e. filter rules of the current object together with the filter rules of all parent objects.

14.6.2. Resetting the rule

To delete all unique rules for the given level and restore the inheritance of parent object rules, the following command should be used:

stsadm -o mlstresetfilter

-scope <farm | webapp | site | web | list> - level of the statistics collection filter rules, permissible values of a farm, webapp (web application), site(site collection), web, list.

[-url <url of web application, site collection, site or list>] - address of the object of the corresponding level, required field for a web application, site collection, site and list.

14.6.3. Adding a rule

To create a filtration rule for any level the following command should be used:

stsadm -o mlstaddfilter

-scope <farm | webapp | site | web | list> - level of the statistics collection filter rules, permissible values of a farm, webapp (Web application), site(site collection), web, list.

[-url <url of web application, site collection, site or list>] - address of the object of the corresponding level, required field for a web application, site collection, site and 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>] - filter field.

[-relop <Greather | GreatherOrEqual | Less | LessOrEqual | Equal | NotEqual | True | False | StartsWith |NotStartsWith | EndsWith | NotEndsWith | Contains | NotContains| Empty | NotEmpty | MatchRegex | NotMatchRegex>] - - type of the relation between the filter field and this field value

[-expression <filter expression>] – expression for the filter field

[-fromscratch] – create a rule without copying the parent object rules

14.6.4. Rule deletion

To delete a rule/rules the following command should be used:

stsadm -o mlstremovefilter

-scope <farm | webapp | site | web | list> - level of the statistics collection filter rules, permissible values of a farm, webapp (web application), site (site collection), web, list.

[-url <url of web application, site collection, site or list>] - address of the object of the corresponding level, required field for a web application, site collection, site and list.

{-ruleid <filter rule identifier> | -all} – unique identifier of the deleted rule (when viewing the rule) or **all –** delete all rules.

14.6.5. Rule export

To export the list of rules of a certain level the following command should be used:

stsadm -o mlstexportfilters

-scope <farm | webapp | site | web | list> - level of the statistics collection filter rules, permissible values of a farm, webapp (Web application), site(site collection), web, list.

[-url <url of web application, site collection, site or list>] – address of the object of the corresponding level, required field for a web application, site collection, site and list.

-filename – name of a file the list of rules in XML format will be written to.

14.6.6. Rule import

To import the list of rules of a certain level, the following command should be used:

stsadm -o mlstimportfilters

-scope <farm | webapp | site | web | list> - level of the statistics collection filter rules, permissible values of a farm, webapp (Web application), site(site collection), web, list.

[-url <url of web application, site collection, site or list>] - address of the object of the corresponding level, required field for a web application, site collection, site and list.

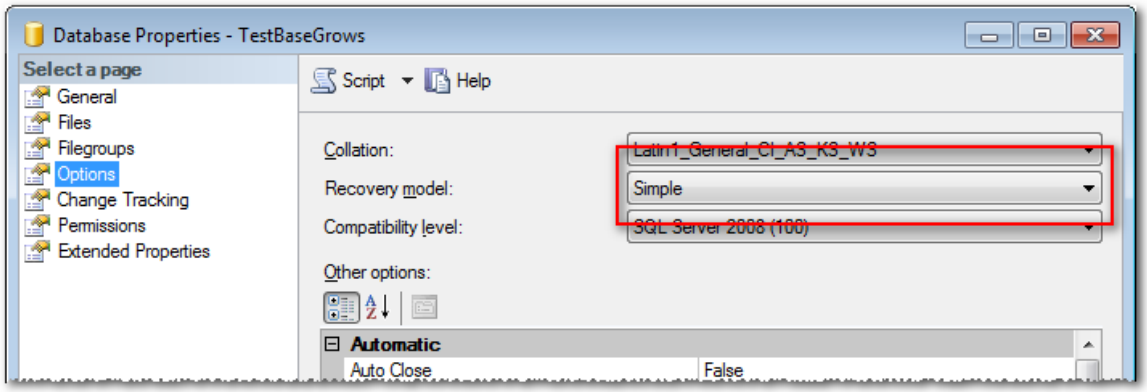
-filename - name of a file containing the list of filter rules in XML format.

15. Managing of the statistics database

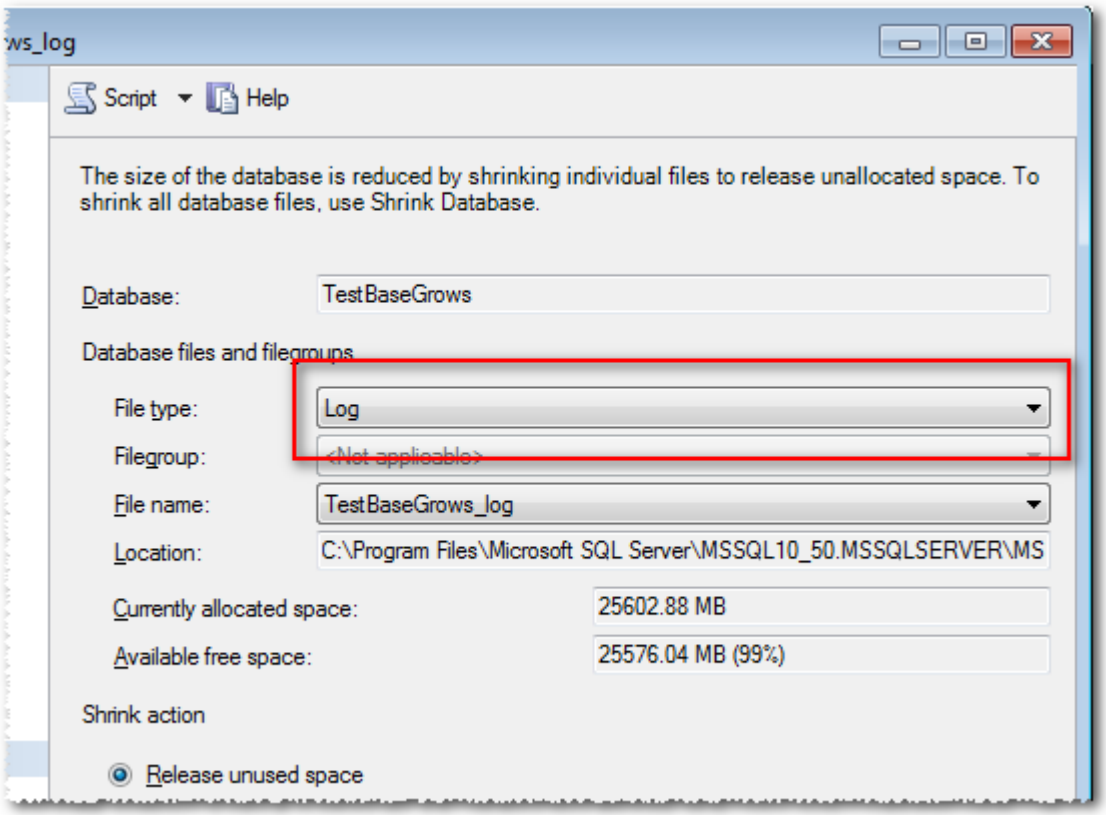
HarePoint Analytics for SharePoint works a lot with the databases of statistics and queues, which greatly increases the log file (*.ldf) of the statistics database. One of the measures of the statistics database maintenance is the cleaning up of its log file.

15.1. The process of cleaning up the log file

1. Open SQL Management Studio
2. Right click on the chosen database, select Properties.
3. In the left tab select menu item Options
4. In Recovery model select Simple. This option means that the changes made since the last backup are not protected. In the case of an accident, these changes must be redone.



5. Click OK.
6. Right click on the chosen database, then Tasks, then Shrink and at last Files.
7. In the new window select Log.



8. Click OK.
9. Right click on the chosen database, select Properties.
10. In the left tab select menu item Options
11. In Recovery model select Full.
12. Click OK.

If you have SQL Server Agent installed on your SQL server you can make the cleaning up of the log file of the statistics database in the form of a task and run it by schedule.

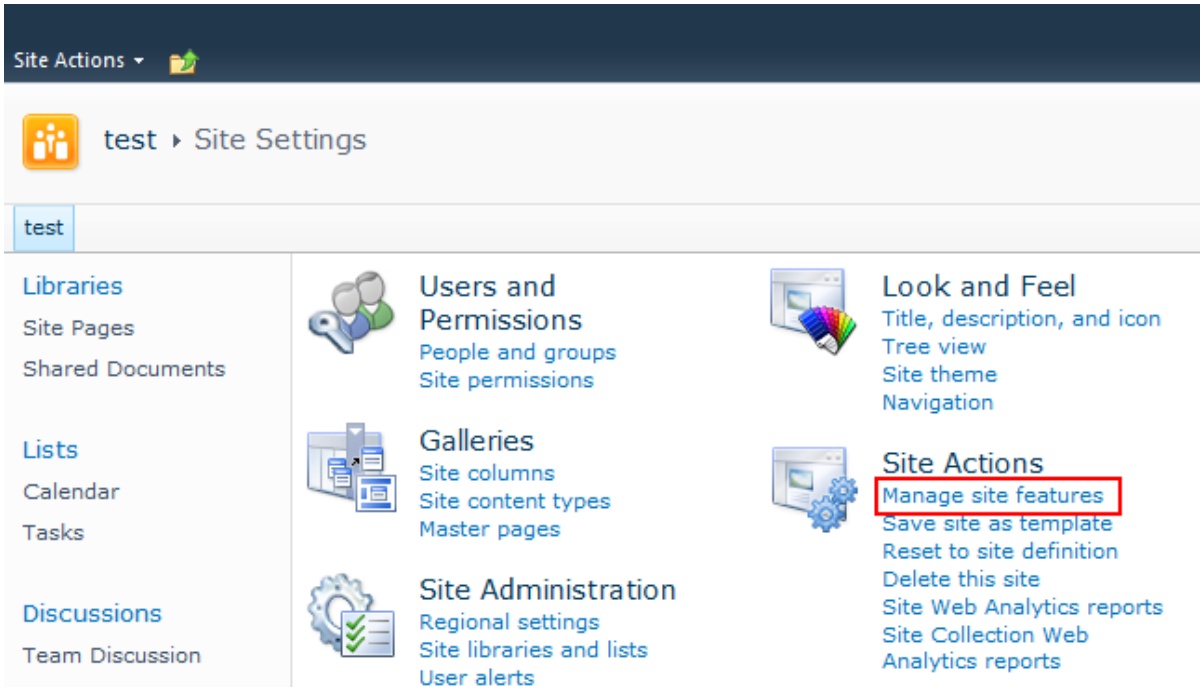
16. Customizing the Dashboard

By default the HarePoint Analytics Dashboard cannot be modified. It is a predefined page which contains the summary of a web-site or a site collection. There is a possibility to replace the predefined Dashboard with a web-part page where the necessary reports can be placed. It can be done by activation of feature **HarePoint Analytics for SharePoint: Dashboard** on the scope where a Dashboard should be replaced.

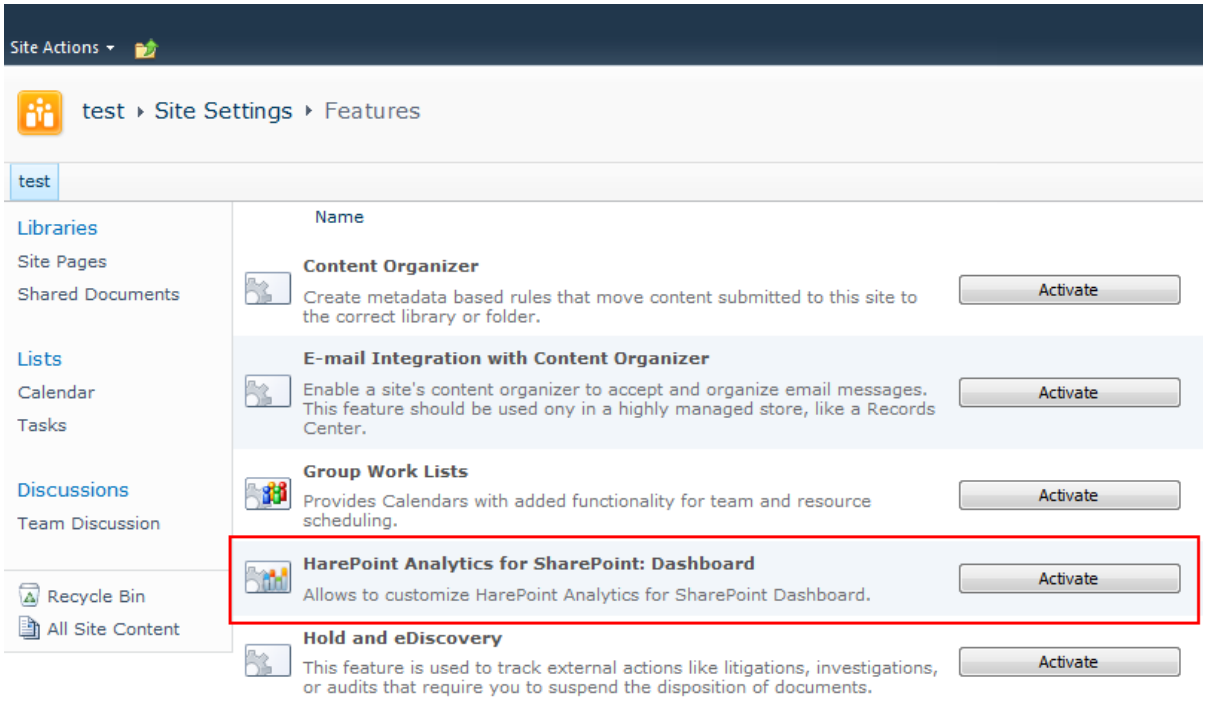
16.1. Customizing the Dashboard for a separate web-site

To replace the predefined HarePoint Analytics Dashboard with a web-part page for a separate web-site do the following:

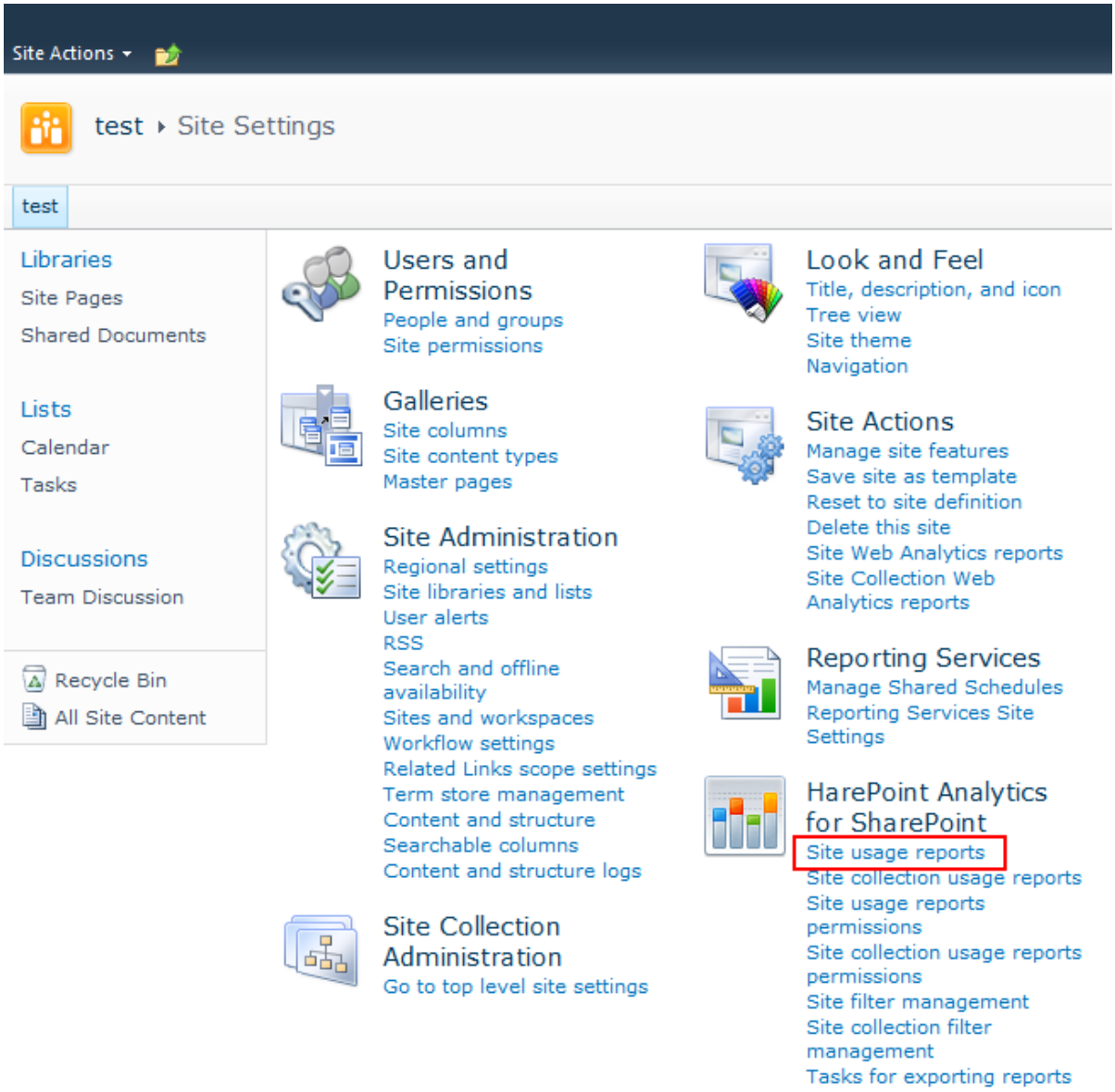
1. Using the Site Owner account open the web-site for which the Dashboard should be changed
2. Point to Site actions \ Site Settings
3. Click the **Manage site features** link:



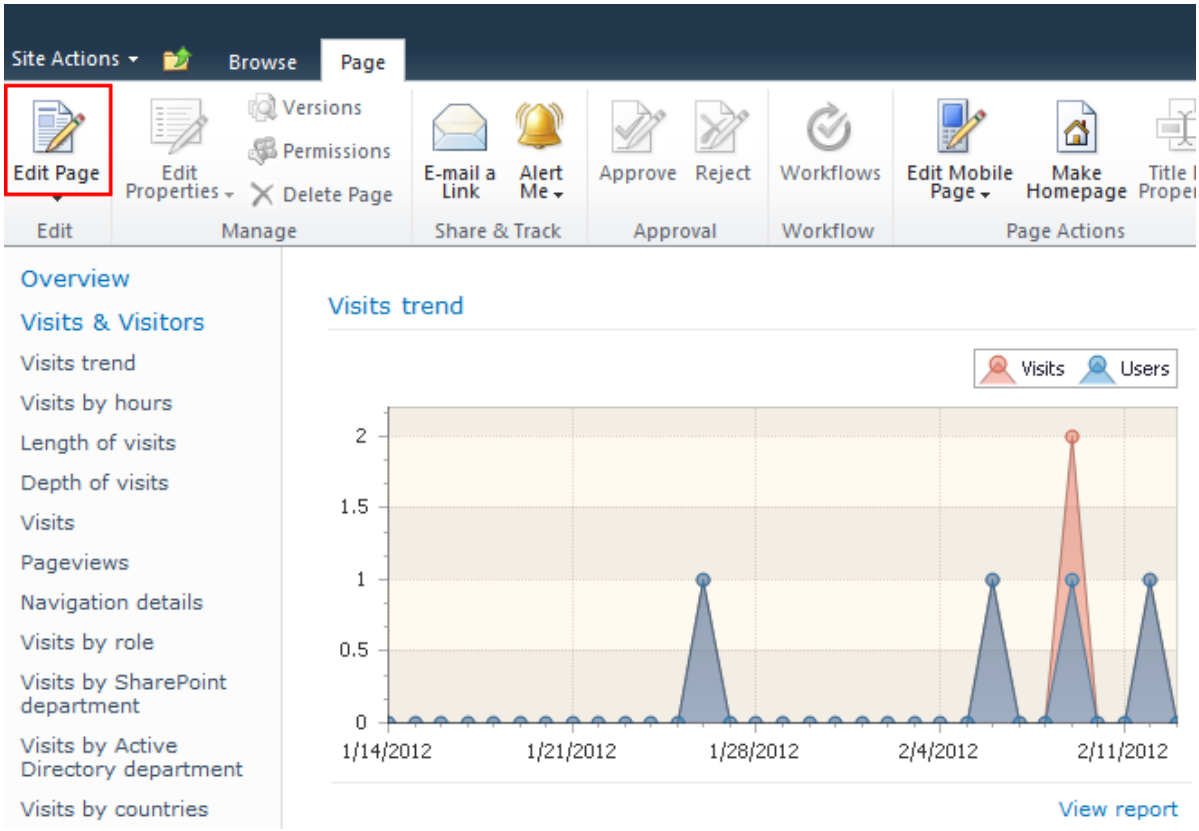
4. Locate the **HarePoint Analytics for SharePoint: Dashboard** feature and activate it:



5. Get Back to the Site Settings and click link **Site usage report:**



6. Point to the **Page** tab on the ribbon and click the **Edit Page** button:

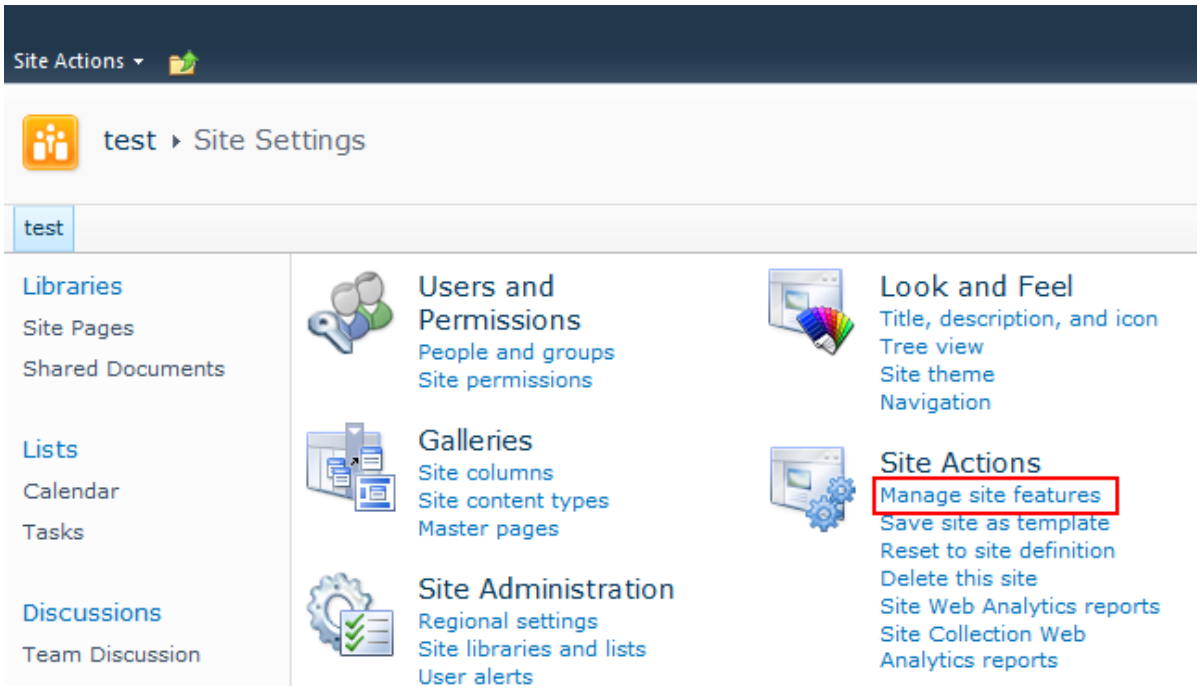


Now you can delete the web-parts, add new or change the settings of the existing one. To learn more about how to place a web-part with the report to the page visit the following area of Administrator Guide.

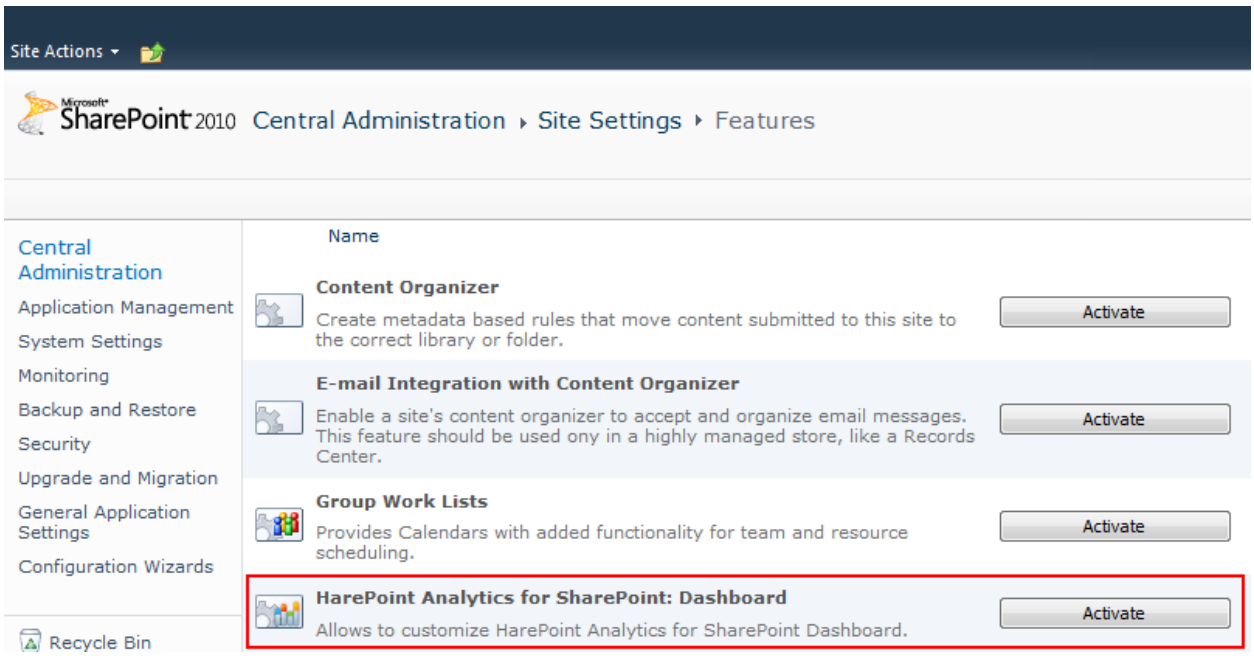
16.2. Customizing the Dashboard for a site collection

To replace the predefined HarePoint Analytics Dashboard with a web-part page for a site collection scope reports do the following:

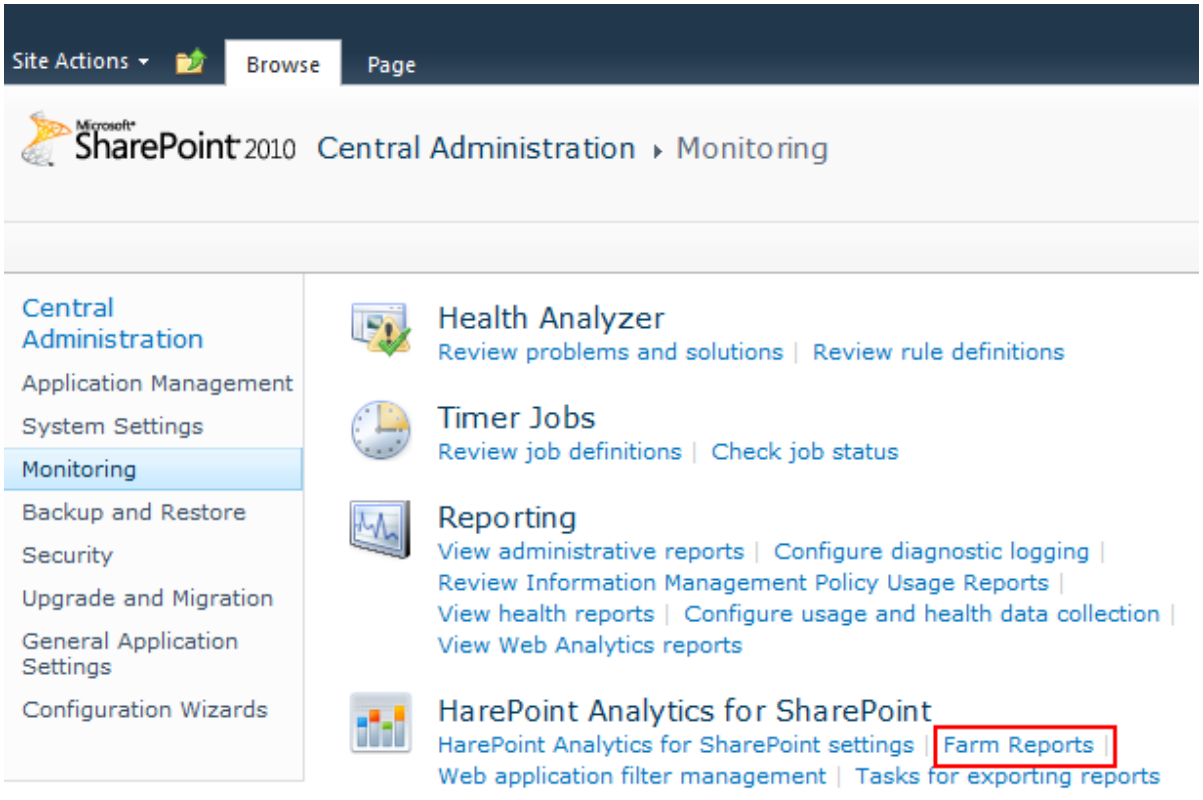
1. Using the Site Collection Administrator account open the root web-site for which the Dashboard should be changed
2. Point to Site actions \ Site Settings
3. Click the **Manage site features** link:



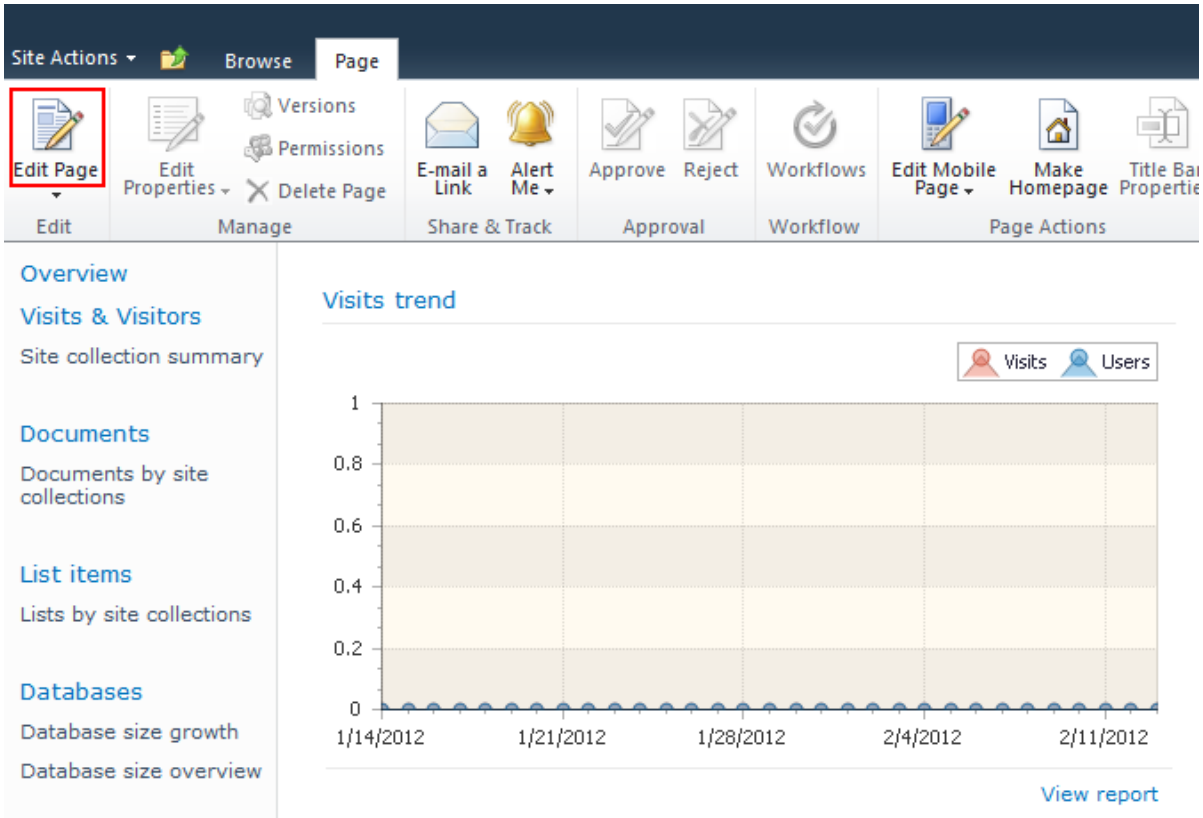
4. Locate the **HarePoint Analytics for SharePoint: Dashboard** feature and activate it:



5. Go to the **Monitoring** page of Central Administration
6. Click link **Farm Reports**



7. Point to the **Page** tab on the ribbon and click the **Edit Page** button:



Now you can delete the web-parts, add new or change the settings of the existing one. To learn more about how to place a web-part with the report to the page visit the following area of Administrator Guide.

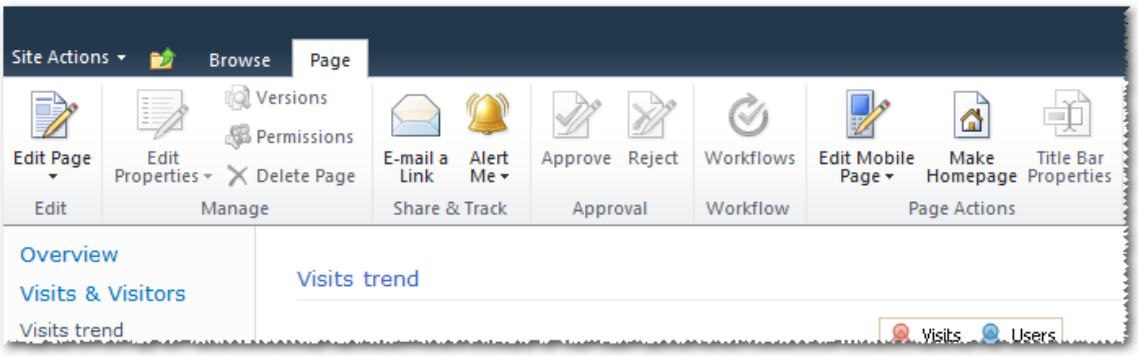
16.3. Customizing the Dashboard for the Farm scope reports

The Customization of the Dashboard for the Farm scope reports is not available currently. This feature will be added in one of the next product versions.

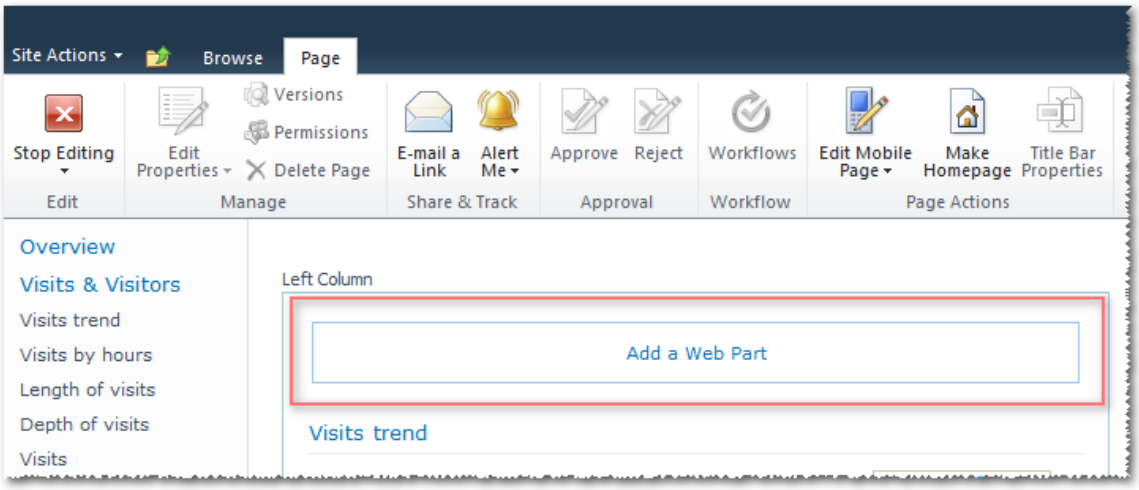
16.4. Adding a report to dashboard Overview

To add a new report to the report dashboard:

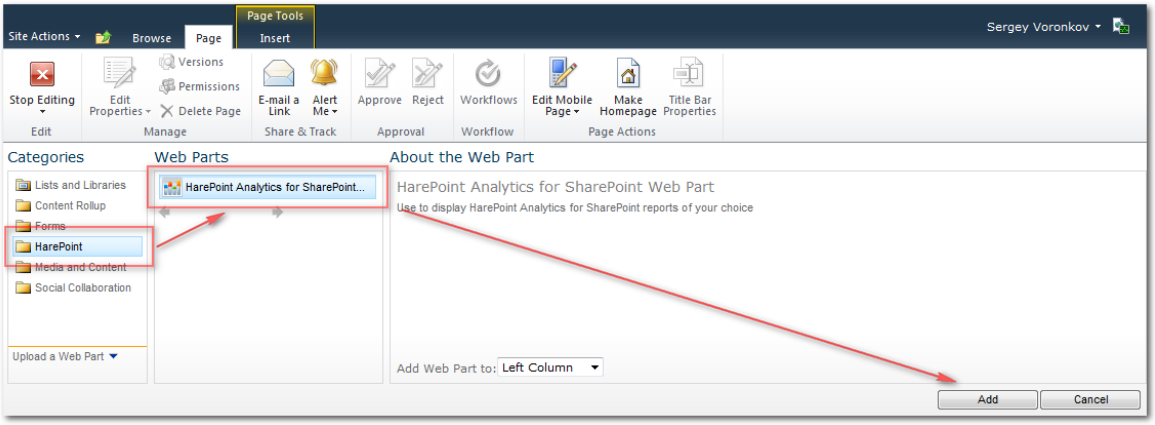
1. Open the report dashboard.
2. Open tab **Page** in the ribbon.



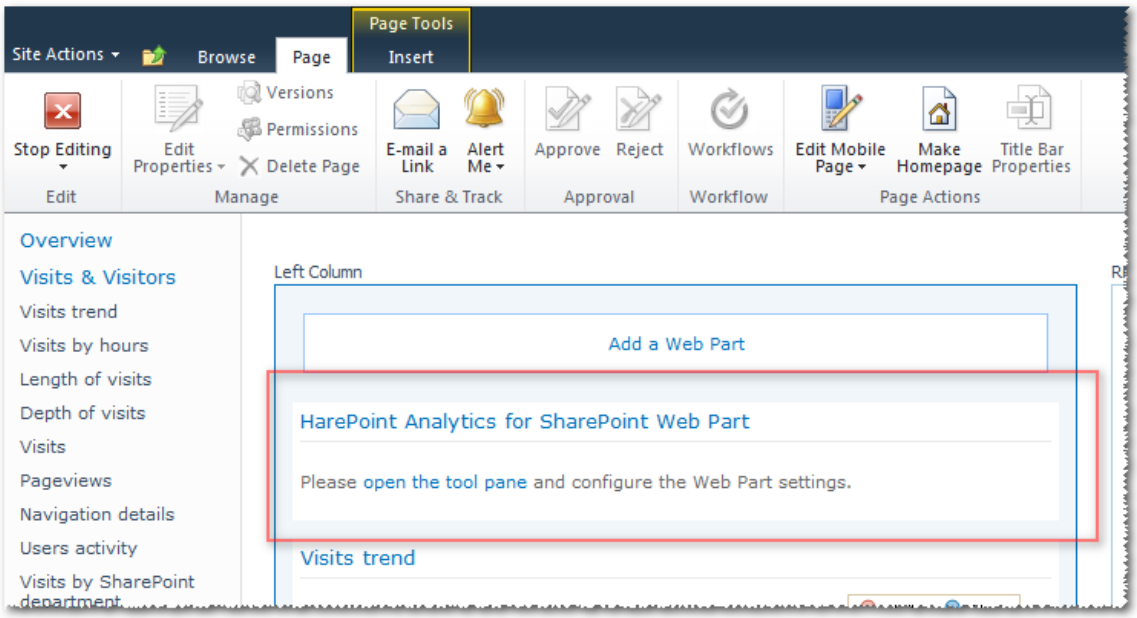
3. Click **Edit Page**.
4. In one of the columns click **Add a Web Part**.



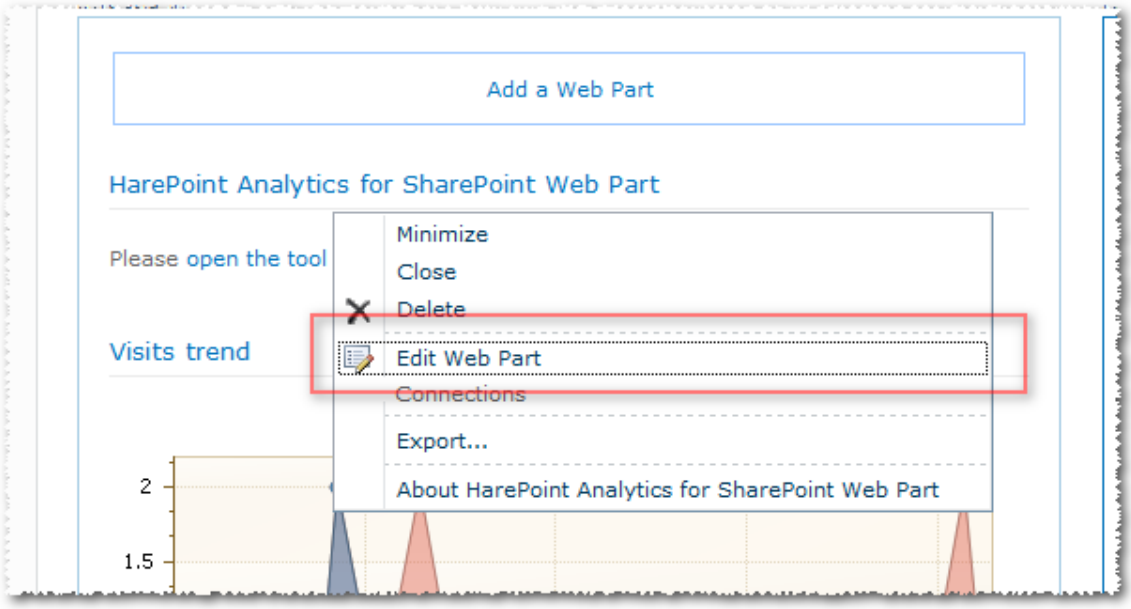
5. On the next panel select category **HarePoint**, and then web-part **HarePoint Analytics for SharePoint**. Click **Add**.



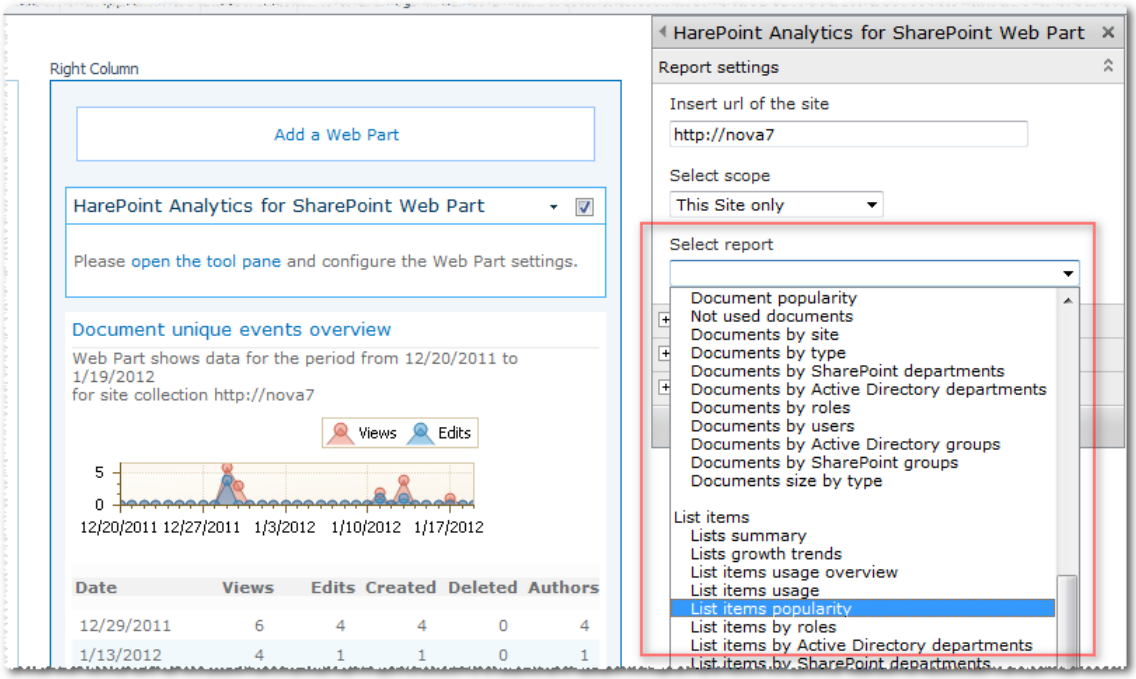
6. A new web-part will appear in the selected area. To complete the process of adding a report it must be configured properly.



7. In the web-part menu select **Edit Web Part**, or click the link **open the tool part**.

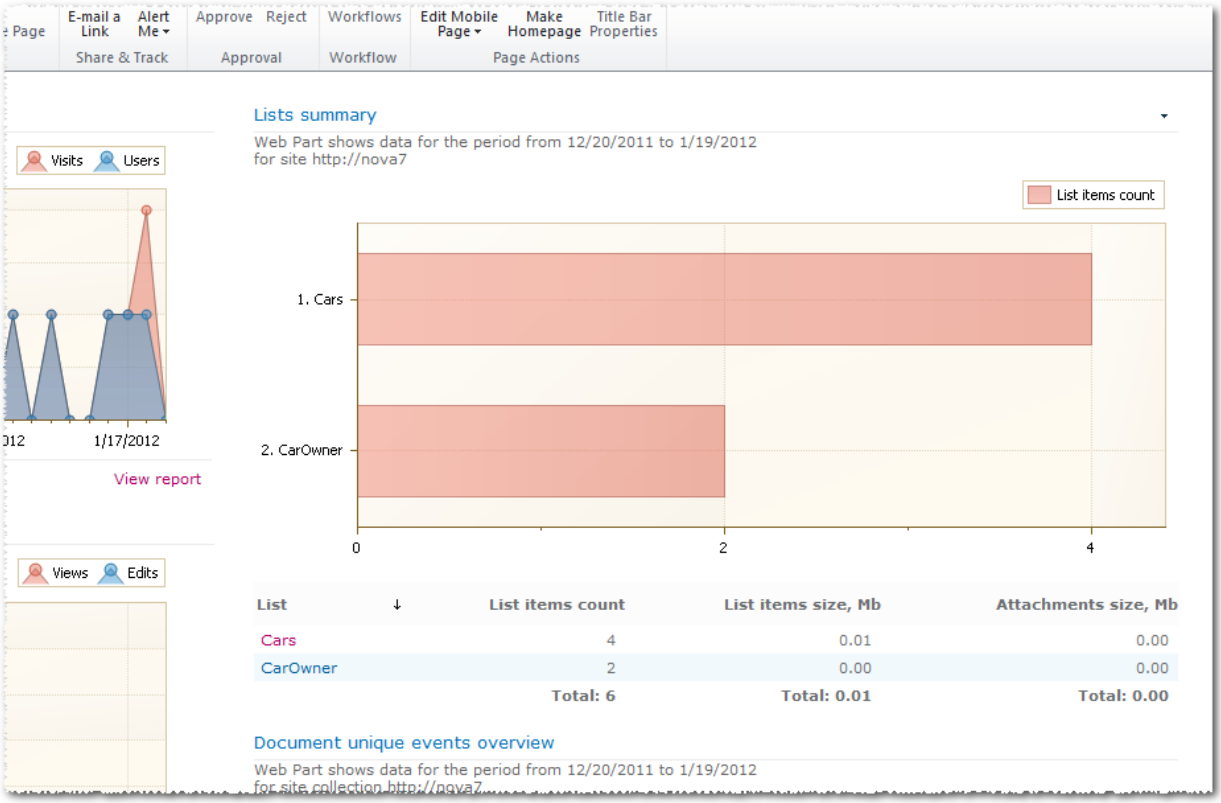


8. In the next panel of web-part settings select any report from dropdown list **Select report**.



9. Click OK at the bottom of the panel of web-part settings.

As a result of the above actions the selected report will appear on the report dashboard.

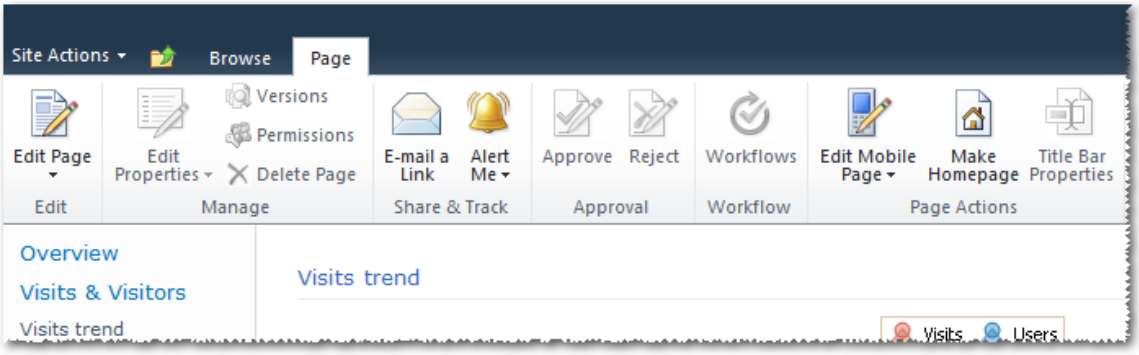


Web-part **HarePoint Analytics for SharePoint** allows you to customize a lot of parameters that determine the appearance of a report, data range included into the report, and much more. More details about the process of adding and configuring this part are given in paragraph Adding and configuring web-part HarePoint Analytics for SharePoint.

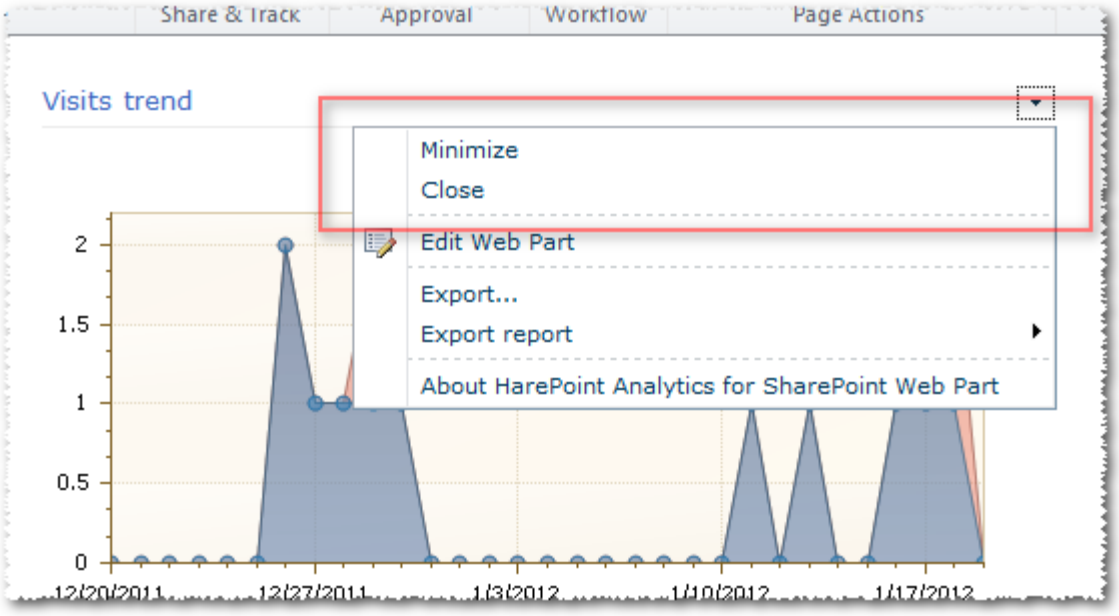
16.5. Deleting a report from dashboard Overview

To delete a report from the report dashboard:

1. Open the report dashboard.
2. Open tab **Page** in the ribbon.



3. Click **Edit Page**.
4. In the web-part menu of the report that you would like to delete, click Close or Minimize, depending on how you would like to delete the report from the dashboard.



17. Adding and configuring web-part

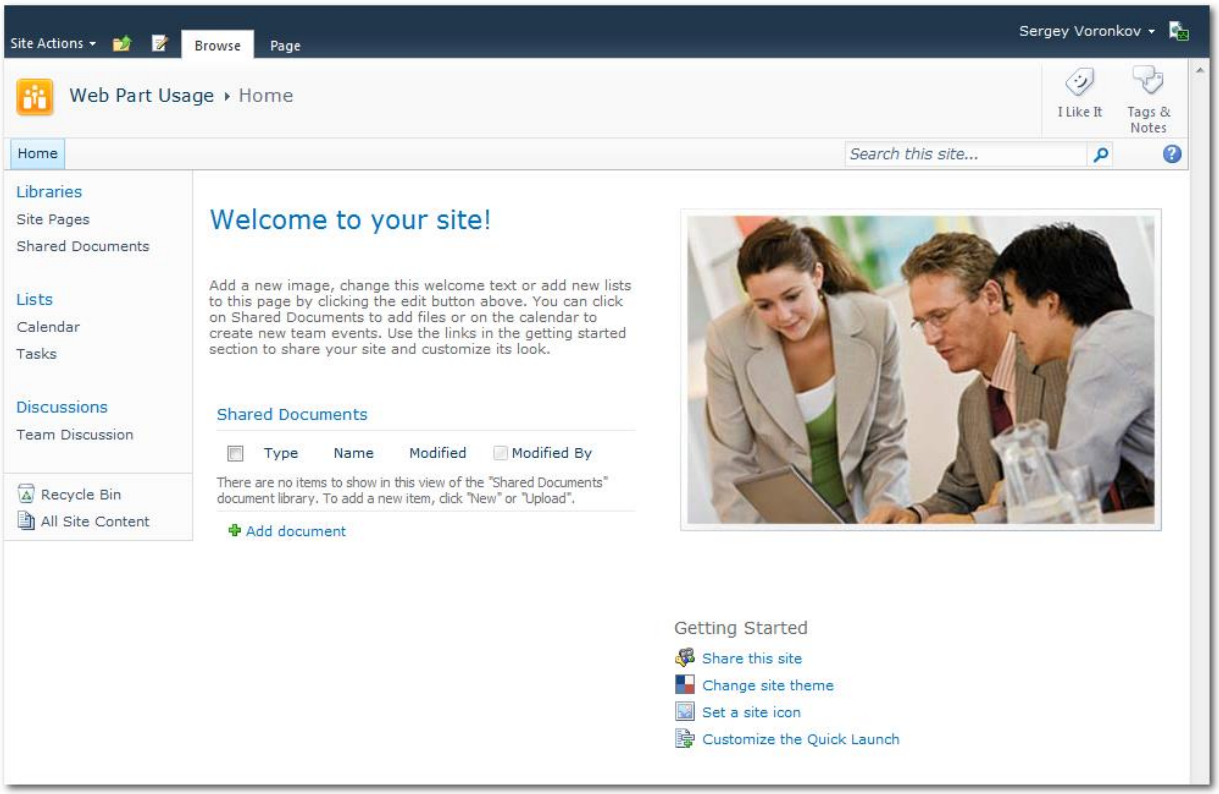
In the process of deployment and activation of functions of HarePoint Analytics solution for SharePoint, special web-part **HarePoint Analytics for SharePoint** is added to the web-part collection of site collection SharePoint.

Using this web-part you can:

- Add a report to any page of the SharePoint site.
- Create any report dashboards.
- Provide users with low access level with the ability of viewing statistical reports without providing access to the standard interface for working with reports.

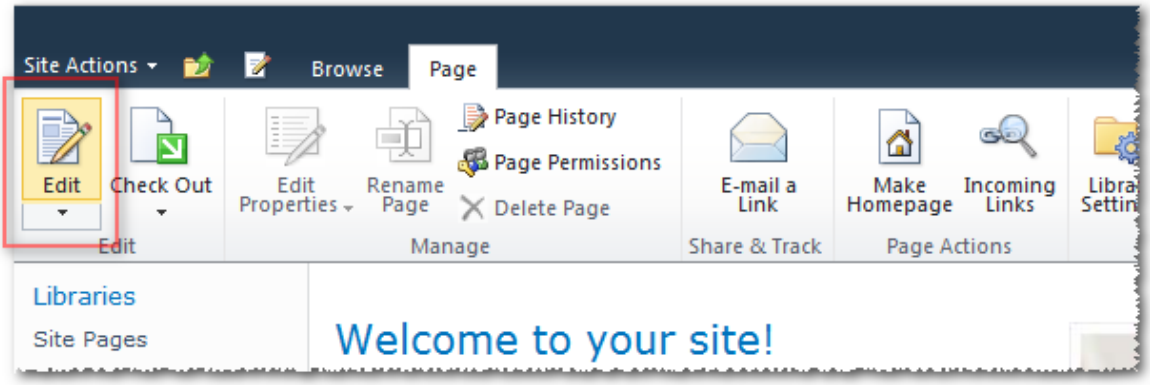
17.1. Adding a web-part

Let's consider the process of adding web-part HarePoint Analytics for SharePoint by example of modifying the cover page of the standard SharePoint web-site.

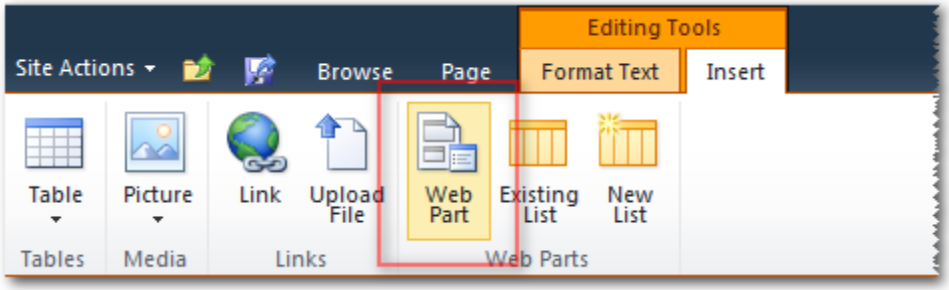


To add web-part HarePoint Analytics for SharePoint to the page:

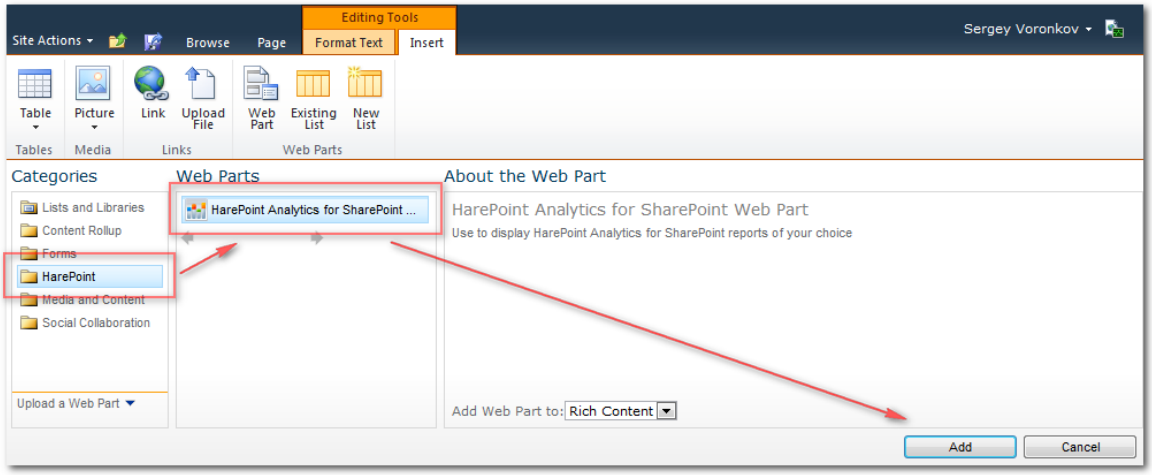
1. Open tab **Page** in the ribbon. Click Edit to enter the edit page mode.



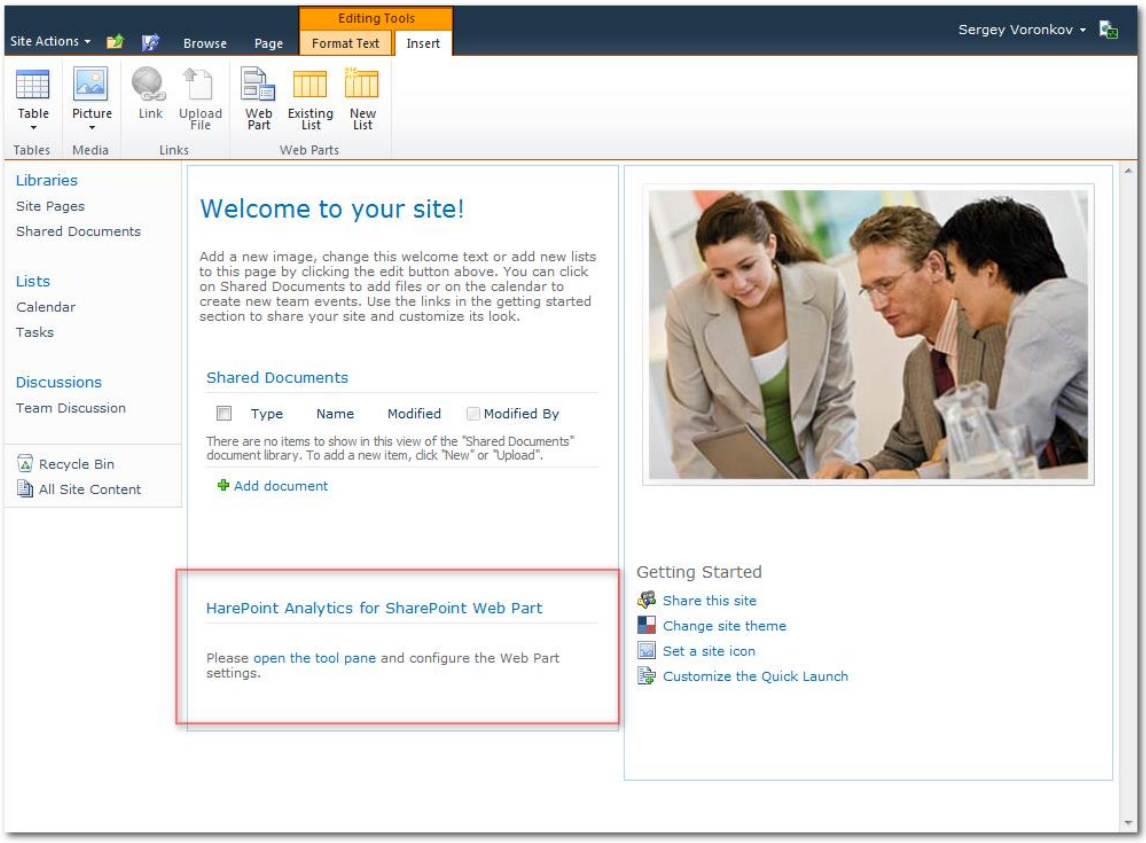
2. Place the cursor at the location where you would like to add the web-part.
3. On contextual tab **Insert** of the ribbon click **Web Part**.



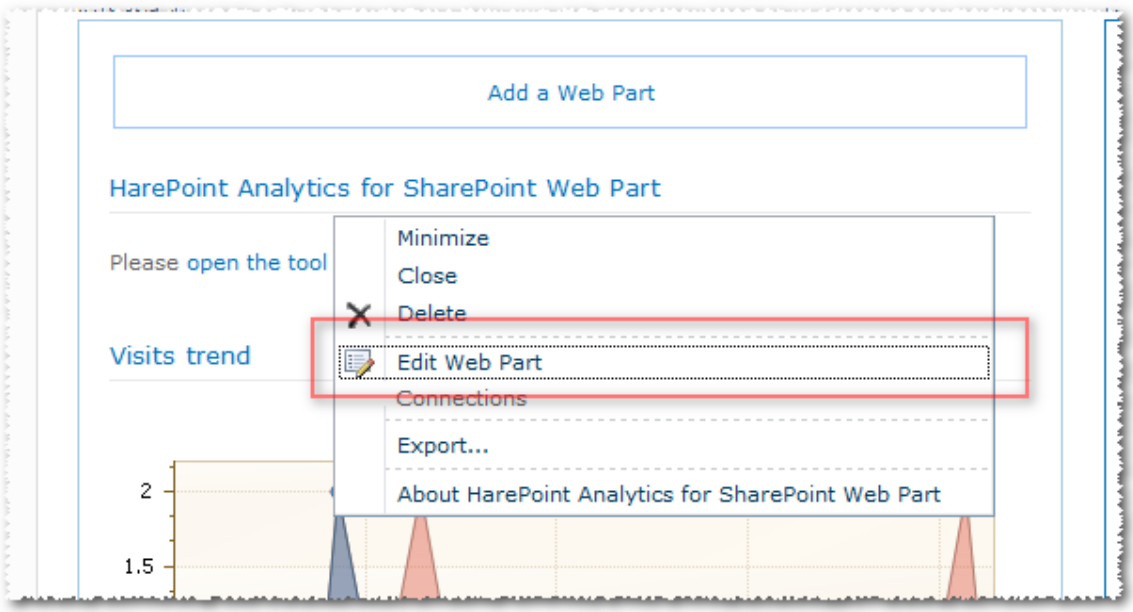
4. On the next panel select category **HarePoint**, and then web-part **HarePoint Analytics for SharePoint**. Click **Add**.



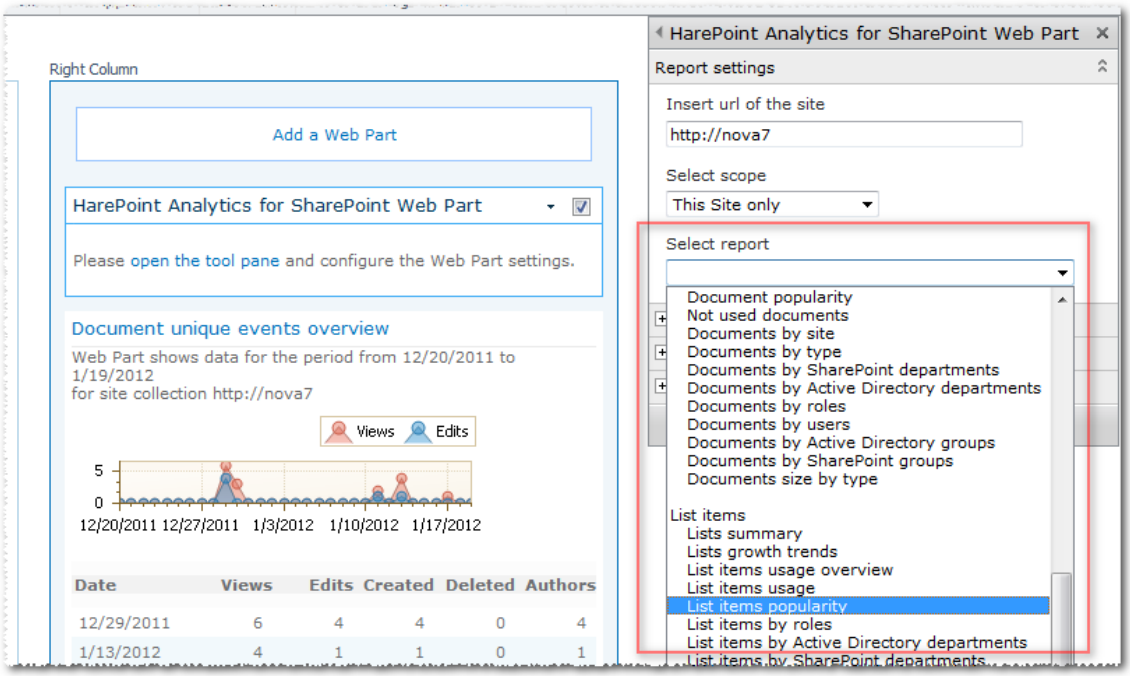
5. The web-part will be added to that place of the page where the cursor is located.



6. In the web-part menu select **Edit Web Part** or click the link **open the tool part**.



7. In the resulting panel of web-part settings, select any report from dropdown list **Select report**.



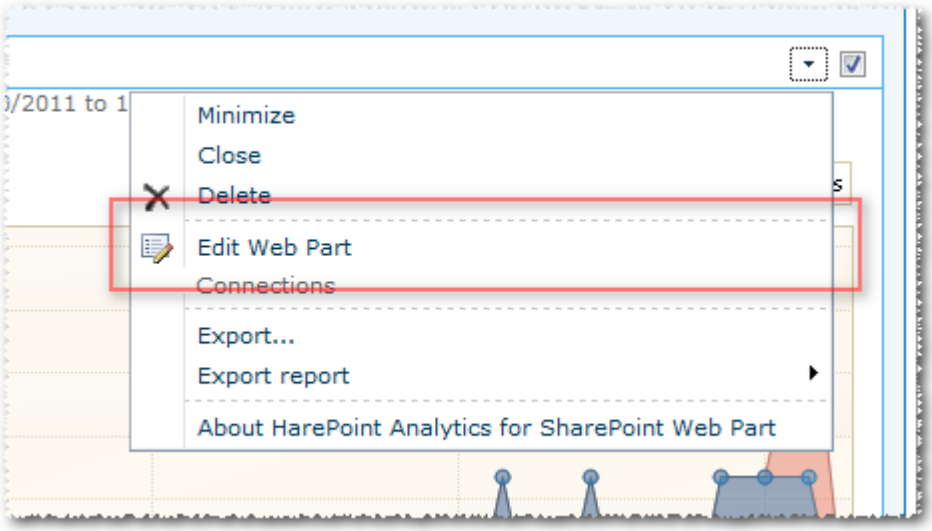
8. Click **OK** at the bottom of the panel of web-part settings.

Selecting a report is the minimum possible configuration of the web-part. Detailed configuration of the web-part is discussed in paragraph Configuring a web-part.

17.2. Configuring a web-part

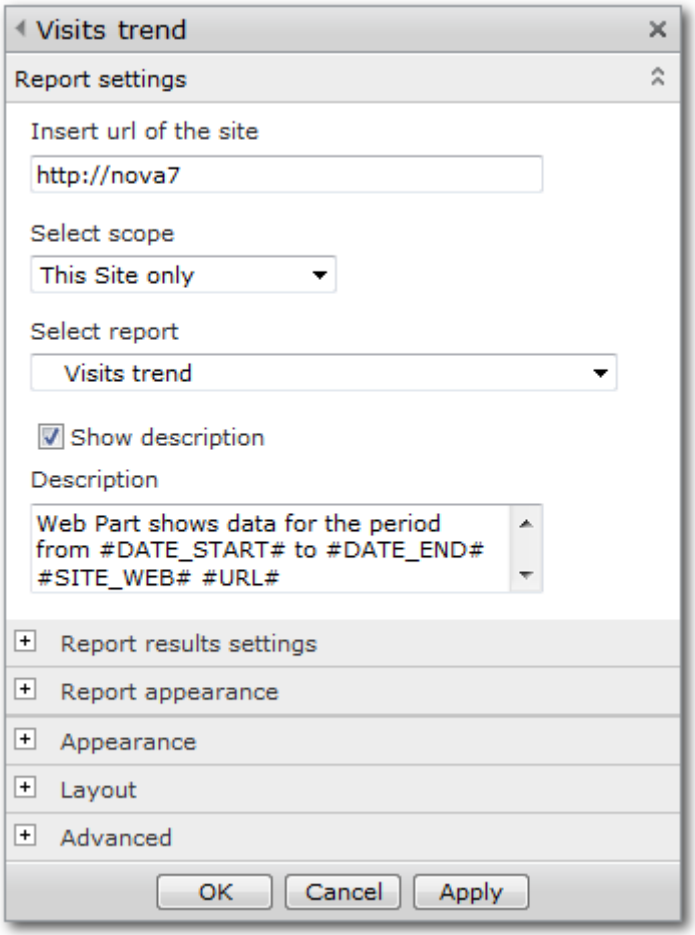
Configuring web-part **HarePoint Analytics for SharePoint** doesn't differ from configuring another web-part delivered with distributive SharePoint.

The web-part setting dashboard is opened in the standard way, by choosing item **Edit Web Part** of the web-part menu.



The setting dashboard of the web-part, in addition to standard sections Appearance, Layout and Advanced, contains special sections (tool panel - instrumental parts) to set specific parameters. These instrumental

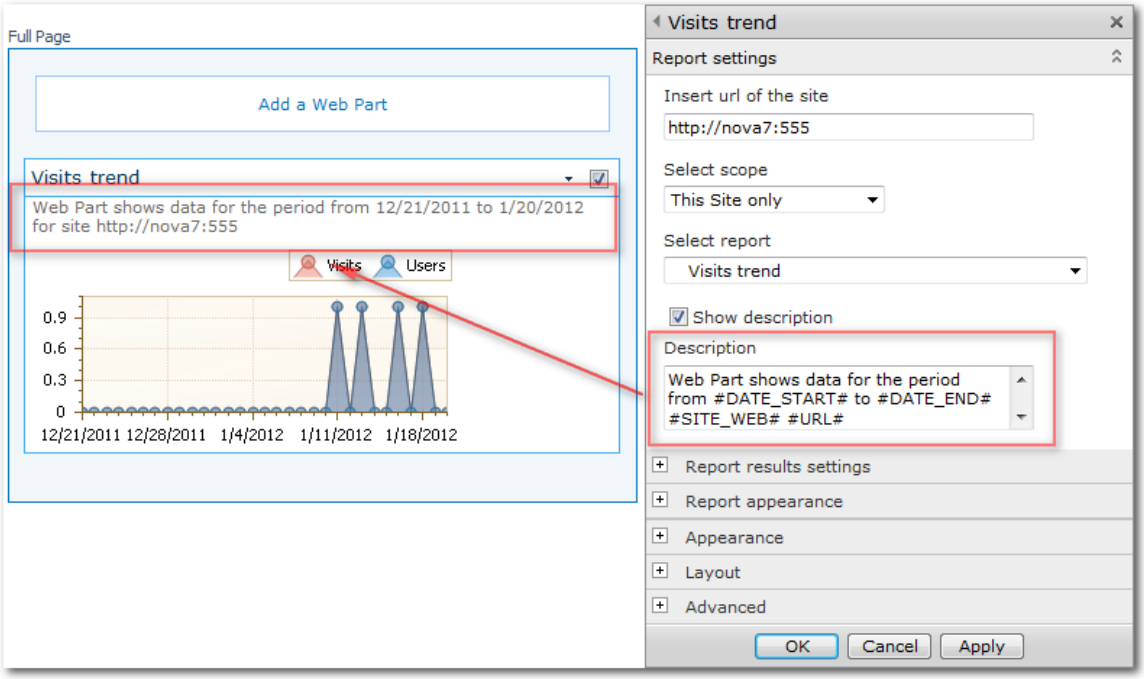
parts are not displayed as long as you select any of the reports in dropdown list **Select report**.



17.2.1. Tool panel Report settings

The tool panel contains the minimum possible set of web-part settings.

- **Insert url of the site**
  The address of a web site for which the report is built. By default, this address is selected as the address for the current web site. If it is necessary to show reports of one web site on the page of another one, the address can be changed. Such approach may be useful in the case when you need to compare the statistics of different web sites.
- **Select scope**
  The parameter determines the data range used for building the report: **Site collection**, **This Site only**, **This Site and Subsites**. Adding multiple web-parts to one page, showing the same record, but with different data ranges is a good way to analyze which of the web sites contributes most to a particular statistical parameter.
- **Select report**
  The dropdown list contains a list of reports available for displaying through a web-part. This includes all reports available in the product, except specifying reports and reports at the level of SharePoint farm.
- **Show description**
  To show the description in the report header.
- **Description**
  The template of description in the report header.

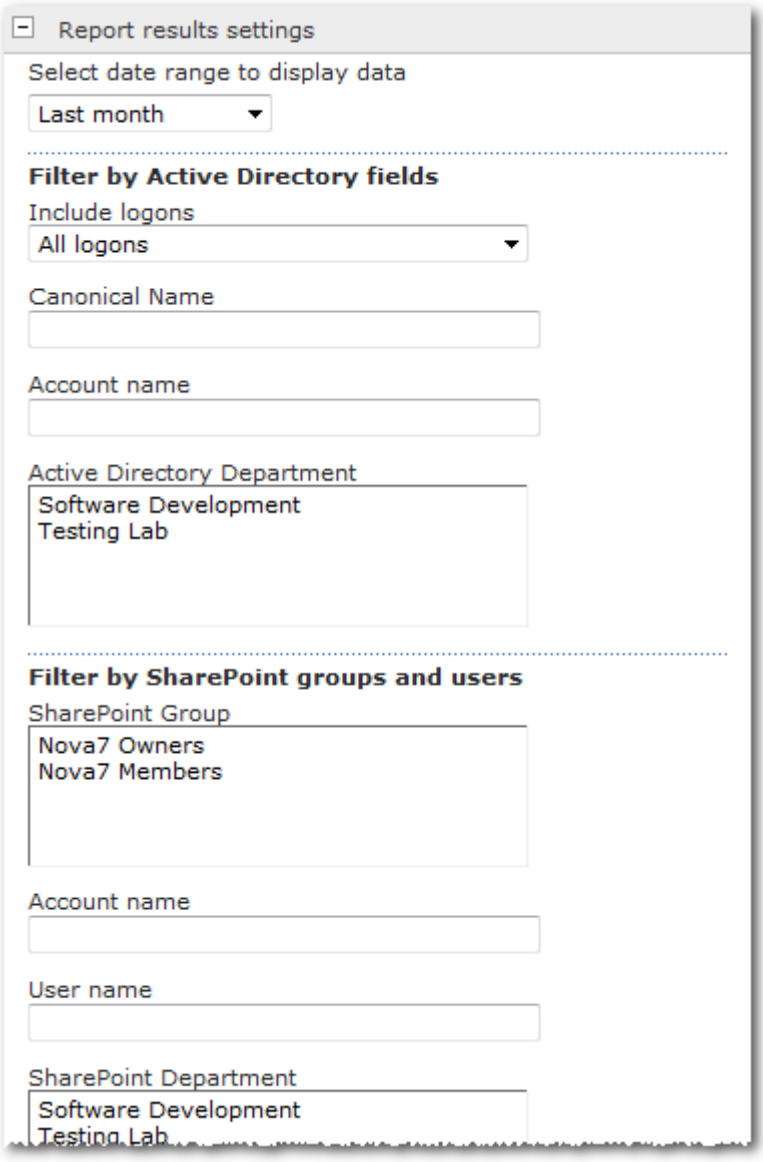


The description template includes macros that are replaced by context-dependent values during creation of the web-part contents. The following macros are available:

a. **#DATE_START#**
   The date of the reporting period start.
b. **#DATE_END#**
   The date of the reporting period finish.
c. **#SITE_WEB#**
   The macro is replaced by word **site** or **site collection**, depending on the range specified in field **Select scope**.
d. **#URL#**
   Address, specified in field **Insert url of the site**.

17.2.2. Tool panel Report results settings

The tool part contains filter settings for building the report. The content of this tool part is completely dependent on what report is selected in field Select report.

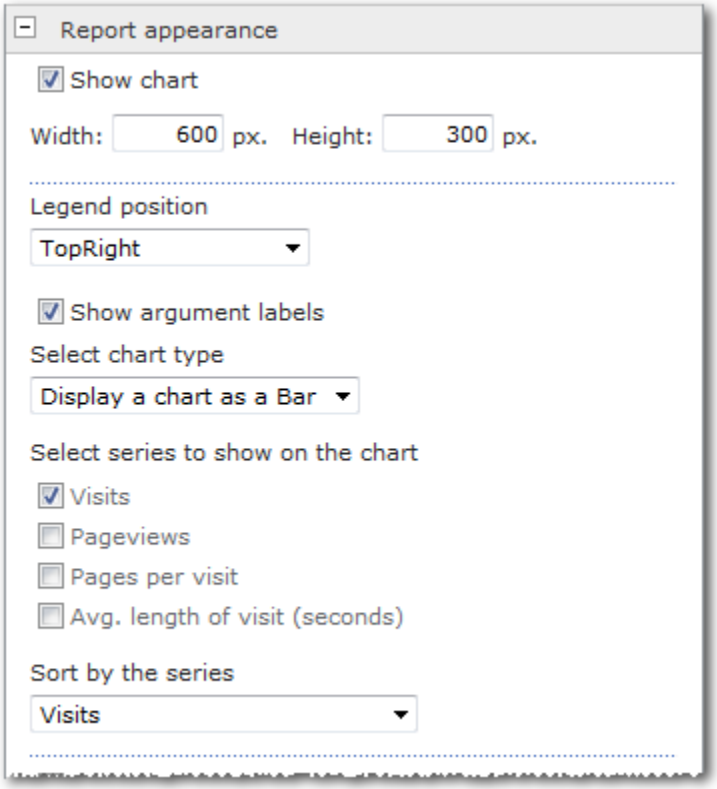


The filter list fully repeats the list of report filters. How to work with such filters is described in paragraph Filters use.

17.2.3. Tool panel Report appearance

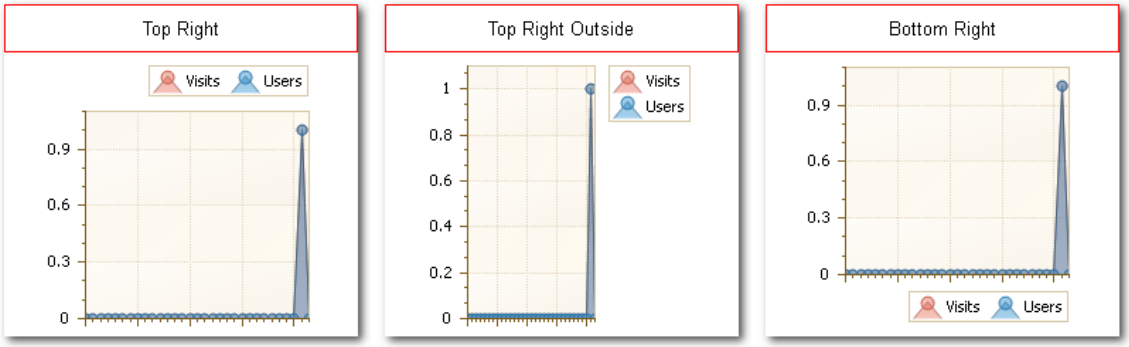
The tool panel allows you to configure the parameters of displaying the report web-part.

Conventionally, the settings displayed on the panel can be divided into two groups: chart displaying settings and table displaying settings with the report data. Displaying settings of the chart for some reports are not available, since these reports do not include charts.

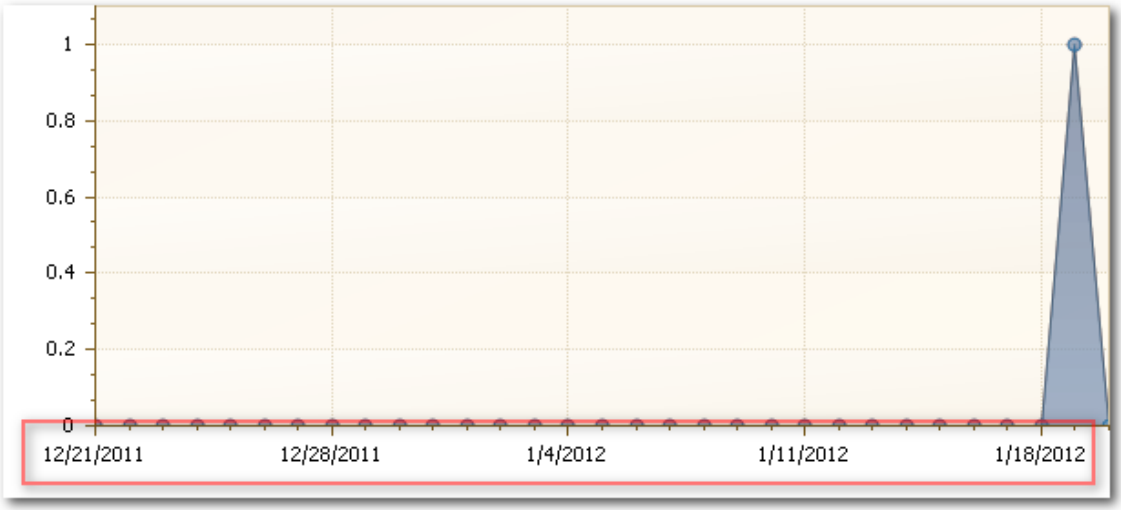


The group of chart settings contains the following fields:

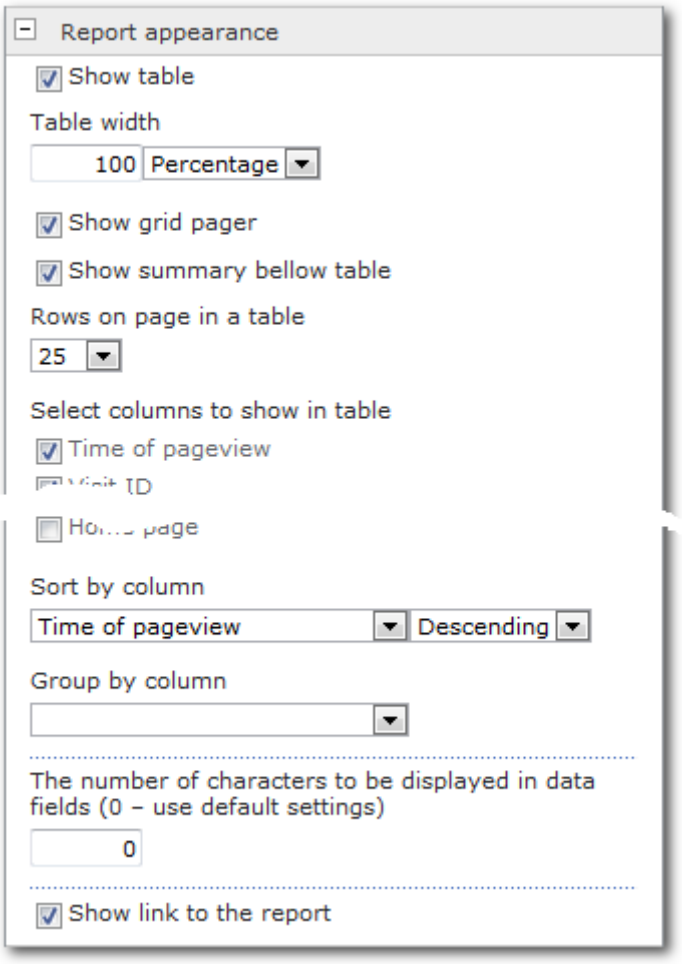
- **Show chart**
  A flag that allows you to completely hide a chart in the report.
- **Width, Height**
  The chart size in pixels.
- **Legend position**
  The position of the report legend. In addition, by using this option, you can hide the legend. Here are some examples of possible legend position:



- **Show argument labels**
  The option allows you to hide labels near the horizontal axis.

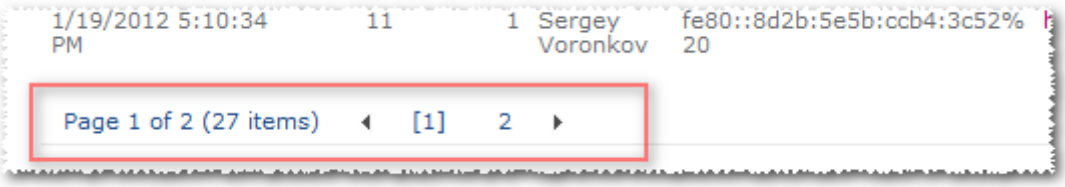


- **Select chart type**
  The chart type. You can use two types: Bar or Pie. Not every report has the option.
- **Select series to show on the chart**
  Selecting data series to be displayed in the chart.
- **Sort by the series**
  Sorting series in the chart.

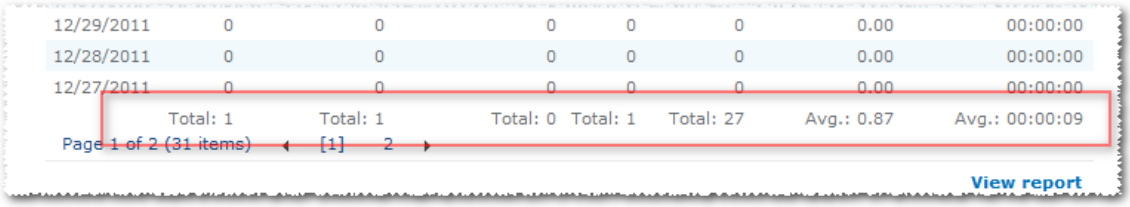


The group of table settings allows you to configure the following parameters:

- **Show table**
  The parameter allows you to hide a table in the report.
- **Show grid pager**
  Displaying the grid pager under the table.



- **Show summary bellow table**
  Displaying the summary string under the table.



- **Select columns to show in table, Sort by column, Group by column**
  Selecting columns to be included in the report, sorting and grouping.
- **The number of characters to be displayed in data fields**
  The parameter provides the ability of specifying the maximum length of rows in the table. If any of the rows in the table exceeds the specified length, then it is cut off:

- **Show link to the report**
  To show the link to the standard page of viewing the report.

18. Adding tracker for Java Script events (HarePoint Analytics 2010 only)

During the site operation you may need to track JavaScript events or you may need to perform an analysis of user activity on the page. **SharePoint Analytics for SharePoint** provides a mechanism for the collection of such information.

18.1. Track page events

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

```
<script type="text/javascript"
src="<webUrl>_layouts/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.

Further, insert the following code string 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 with the length of not more than 100 symbols (**required**),

`<eventName>` is an event name with the length of not more than 100 symbols (**optional**),

`<eventDescription>` is additional information of the event with the length of not more than 200 symbols (**optional**),

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

Example:

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

18.2. Track events on page load

To track JavaScript events when loading the page, 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/MAPILab/Statistics/haloader.js"></script>
```

Where,

`<eventType>` is an event type (**required**),

`<eventName>` is an event name (**optional**),

`<eventDescription>` is additional information of the event (**optional**),

`<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/MAPILab/Statistics/haloader.js">
</script>
```