



Tsuseki user documentation

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Abstract

The *Tsuiseki* data warehouse offers a variety of traffic analysis to interpret traffic in different ways and for a better assessment. The analysis will be thoroughly explained in the following document and it will be given an interpretation help for a better understanding of the displayed data.

1 Introduction

The *Tsuiseki* data warehouse provides various methods and analysis to better interpret the accumulated traffic. The analysis will be carried out with specific parameters that must be specified by the user. The calculated data are then presented to the user by a visual frontend.

This document helps to understand the single parameters and the different offered methods.

2 Parameters

The parameters of the data warehouse are divided into two groups. The relevant parameters for the specification of the analysis are referred to as **Request Parameters**. The second group of parameters allows to influence the analytical results and can be considered as additional data entry to the methods. This group is referred to as **Configuration Parameters**.

Further, the two groups of parameters are individually presented and the available parameters are listed in detail.

2.1 Request Parameters

The *Request Parameters* are used for the specification of each analysis. Depending on the analysis, certain parameters are available which the user can select or adjust via the frontend.

In Table 1, the existing parameters are listed and described.

Parameter	Unit	Description	Example
browser	-	This parameter reflects the browser with which the user has seen the site.	Microsoft Internet Explorer
browserversion	-	This parameter reflects the version of the browser used.	8.0
clicks	-	A click is the call of a link (reference), which is clicked by the user. This link will be tracked by Tsuiseki with an ID. Commonly it is an outgoing link.	197
clicks internal	-	Internal clicks are the percentage of clicks made by users who have caused more than one view on that site. This is usually a good indicator to determine the traffic, because internal clicks are due to users who have moved on the website.	120
ctr	percent	Numerical value of the click-through rate, which reflects the ratio of clicks to views.	12%
height	pixel	This parameter reflects the height of the viewport in the browser.	800px
network	-	This parameter corresponds to the external name of the network providing traffic on the website.	net123
operating system	-	This parameter reflects the operating system of the user.	Windows, Unix

partner	-	This parameter corresponds to the name of a partner from an external network.	partner123
path	-	This parameter reflects the different paths that are available on the website and have been visited by the users.	shopping
query	-	This parameter lists the search words entered by the user or sent from outside on the website.	searchword
qx	x-quadrant	This parameter corresponds to the x value of the internal 1000x1000 quadrant division of the screen. This way click coordinates can be aggregated to a single measure and e.g. used with a heat map.	2024
qy	y-quadrant	This parameter corresponds to the y value of the internal 1000x1000 quadrant division of the screen. This way click coordinates can be aggregated to a single measure and e.g. used with a heat map.	4086
referrer	url	The referrer corresponds to the website from which the user reached the current website by clicking a link.	-
search engine	-	This parameter corresponds to the search engine through which the user has arrived on the relevant website.	Yahoo
time end	time	This parameter reflects the ending point of the considered period in the analysis.	2009-07-05 15:00:00
time interval	number of intervals	This parameter allows the user to granulate down the data to intervals of one day. Thus, data can be viewed more precisely even over one day.	-
time start	time	This parameter reflects the starting point of the considered period in the analysis.	2009-07-01 11:00:00

type	-	This parameter indicates the type of clicks on that site. So you can e.g. own several sources of clicks (links) on one site and devide them by their type.	typeid
view	-	A view is equivalent to calling a path on the corresponding website. Consequently, a user causes two views, if he reaches to a bottom page from the home page by clicking a link.	8500
view internal	-	Internal views correspond to the proportion of views, made by users who have caused more than 1 view during their visit on the appropriate website.	5600
website	-	This parameter reflects the names of websites that have been registered for a user of the system and therefore has the right to carry out the analysis on Tsuiseki.	-
width	pixel	This parameter reflects the width of the viewport in the browser.	768px
x	pixel	This parameter corresponds to the x value of a user's mouse click on the website, if this causes a tracked-click (click).	467px
y	pixel	This parameter corresponds to the y value of a user's mouse click on the website, if this causes a tracked-click (click).	243px

Table 1: Overview of the Request Parameters

2.2 Configuration Parameters

The *Configuration Parameters* provide additional data transfer to the analysis and offer the user the ability to influence the presentation of the analysis results according to his own ideas. Depending on the analysis some of the parameters from the frontend will be offered for selection.

In Table 2, the existing parameters are listed and described.

Parameter	Unit	Description	Example
cpv	currency	Parameter which can be used for the calculation of costs and reflects the "cost per view".	0.012
limit	number of rows	How many rows of analysis results are to be reissued.	1000
max	-	A maximum value to be specified.	40
min	-	A minimum value to be specified.	1
order	-	The order of individual columns of the analysis results.	views DESC

Table 2: Overview of the Configuration Parameters

3 Dashboard analysis

After logging in into *Tsuiseki* the dashboard appears and delivers first compressed data to obtain a quick and first overview. The following section includes descriptions of individual analysis and aids to interpret these analysis are given.

3.1 Bot-Rate

This analysis provides information on the *networks* and their *bot-rate*. Therefore, the number of *clicks*, the number of *bot clicks* and the proportion of *bot clicks* and *clicks* are listed.

3.2 Bot-Rate Development

This analysis provides information on the development of the *bot-rate* in the *networks*. Therefore, the percentage change of *clicks*, the *bot clicks* and the *bot-rate* are listed.

3.3 Overview

This analysis provides the total number of *views*, *clicks* and *ctr* for a specific period on the website.

3.4 Top Networks

This analysis returns those *networks* with the largest volumes of *views* and also gives information about the number of *clicks* and the resulting *ctr*.

3.5 Traffic Development

This analysis provides the *network* with the greatest differences in the *views*. For this observation period, the set is compared with the same interval before the observation period. So if you have set a week as the observation period, this week's data are compared to the previous week. In addition, the differences concerning *clicks* and *ctr* are listed.

3.6 Traffic Info

This analysis provides information about the traffic, for a better analysis of it. This includes, among other things the number of *frames*, the *dwell time* and the *bot clicks*.

4 Tsuiseki analysis

The data warehouse provides a range of methods, which analyze the data and present them to the user. In the following section, the individual analysis are described and aids are given to interpret the analytical results.

4.1 Bot-Rate Partner

This analysis returns the presumed percentage of *bot clicks* from the *partners* of the *network*. This results in an overview of the percentage of bot *clicks* of all the *partners* in the network.

4.2 Bot-Rate Development

This analysis provides information on the development of the *bot-rate* in the *networks*. Therefore, the percentage change and the absolute values of *clicks*, the *bot clicks* and the *bot-rate* are listed.

4.3 Dwell Time

This analysis determines the *page dwell time* and the *total dwell time* and shows it as minimum, maximum and average for the viewing period.

If in one column data for *page dwell time* are present but not for *total dwell time*, only *views* but no *clicks* occurred. Based on the definition of *page dwell time*, which is the time between two *views*, those data can be calculated without *clicks*. Based on the definition of the *total dwell time*, which is the time between the first *view* and the last *click*, those data cannot be calculated without any *clicks*.

If in one column data are shown for *total dwell time* but not for *page dwell time*, no more than one *view* has occurred. Based on the definition of *page dwell time*, which is the time between two *views*, data can not be calculated if a user is not causing two *views*. Based on the definition of *total dwell time*, which is the time between the first *view* and the last *click*, data can be calculated if the user causes a *click* on the page he caused a *view* on.

4.4 Entry Pages

This analysis identifies the top entry pages of the considered period. An entry page is the *path* which the user has gone to first within his session on the website.

4.5 Exit Pages

This analysis identifies the exit pages during the considered period. An exit page is the last page seen by the user on the website before the user is forwarded to an external website.

The number of *views* is not equal to the total number of *total views* of the period under consideration, as these are only the views of the exit page. A user may have visited an exit page several times without being forwarded to an external website.

The number of *clicks* equals all clicks registered on this *path*.

4.6 Free Traffic

This analysis identifies the *views* and *clicks* of the free entries. A free entry exists if a user has not come on the website via a *network* but on his own.

4.7 Overview Daily

This analysis reflects the total daily data, which can vary in detail depending on the viewing period and depth. On default the registered *views*, *internal views*, *clicks*, *internal clicks*, the *ctr* and information on the *bot rate* are considered.

Depending on the viewing depth the sum of *views* may differ. If one e.g. goes deeper on *type*, the number of *views* may increase, because one *path* may include different types of *clicks*. These different click types get the same number of *views* but those are listed separately.

In contrast to **Overview Periodic** (see section 4.9) all data from the observation period will represent a whole day and not a period.

4.8 Overview Daily with Types

This analysis reflects the daily overview, which can vary in detail depending on the viewing period and depth. On default the registered *views*, *internal views*, *clicks*, *internal clicks*, the *ctr* (Click Through Rate), the existing *types* and information on *bot rate* are used.

Depending on the viewing depth the sum of *views* can be different. If one e.g. goes deeper on *type*, the number of *views* may increase, because one *path* may include different types of *clicks*. These different click types get the same number of *views* but those are listed separately.

Unlike **Overview Periodic with Types** (see section 4.10) all data from the observation period are presented as a whole day and not periodic.

The difference to the **Overview Daily** (see section 4.7) method lies in the representation of the *type* data. In this method, they are displayed as a column, which increases the clarity and provides a quick overview.

4.9 Overview Periodic

This analysis reflects the periodic overview, which can vary in detail depending on the viewing period and depth. On default the registered *views*, *internal views*, *clicks*, *internal clicks*, the *ctr* (Click Through Rate) and information on *bot rate* are used.

Depending on the viewing depth the sum of *views* may differ. If one e.g. goes deeper on *type*, the number of *views* may increase, because one *path* may include different types of *clicks*. These different *click* types get the same number of *views* but those are listed separately.

In contrast to **Overview Daily** (see section 4.7) all data from the observation period will be presented as a whole period and not per day.

4.10 Overview Periodic with Types

This analysis reflects the periodic overview, which can vary in detail depending on the viewing period and depth. On default the registered *views*, *internal views*, *clicks*, *internal clicks*, the *ctr* (Click Through Rate), the existing *types* and information on *bot rate* are used.

Depending on the viewing depth the sum of *views* can be different. If one e.g. goes deeper on *type*, the number of *views* may increase, because one *path* may include different types of *clicks*. These different *click* types get the same number of *views* but those are listed separately.

Unlike **Overview Daily with Types** (see section 4.8) all data from the observation period are presented as a whole period and not per day. The difference to the **Overview Periodic** (see section 4.9) method lies in the representation of the *type* data. In this method, they are displayed as a column, which increases the clarity and provides a quick overview.

4.11 Partner Activity

This analysis calculates the percentage of *clicks* and *views* and presents them for each *partner*. Therefore it is possible to even sort small partners by the percentage of their total traffic and click through rate (*ctr*).

4.12 Path Analysis

This analysis presents the used *paths* of the user on the website. This provides a better knowledge of the user's behavior on the various websites.

If a list of *paths* is always indicating the same path, there are many possible reasons. For one thing, the users could have searched for something on the very same path or have just refreshed it, which is leading to a new view and leaving the user on the same path. For another thing, it is possible that one user is repeatedly been put on the same path within a 15 minute session by the network. This leads to a list of paths on which the different parts point out the same path.

4.13 Paths

This analysis aggregates the visited *paths* of the viewing period and presents the total amount of visits of a path sorted by frequency.

4.14 Profit Calculation

This analysis allows the calculation of earnings based on an observation period and taking account of the CPV (Cost Per View) and the PPC (Profit Per Click) revenue.

4.15 Query Trends

This analysis examines the queries in the period and opposes them to the *views* and *clicks* to calculate the *ctr* (click through rate). So you can identify the most frequently entered queries that provide the best *ctr*.

4.16 Referrer Check

This analysis provides information on the specific referrers and helps to visualize the connections of the referrers into the *networks*, *partners* and other parameters.

4.17 Search Engines

This analysis will return the total number of visits (*views*), which have been conducted by search engines to the site during the period.

4.18 Search Engine Analysis

This analysis allows a more detailed discussion of search engine traffic, which has been lead by a selected search engine to the subject website.

4.19 Top Referrer

This analysis examines the Top 50 *referrers* in the considered period by *views*. A referrer is a website that has lead the user to the website.

4.20 Traffic Characteristics

This analysis will return key figures, which can be used for the identification of bot traffic and also allow an estimation of the quality of the traffic.

Following (see Table 3) the various key figures will be viewed in detail:

4.21 Traffic Development

This analysis provides information on the development of the traffic volume. Therefore, the percentage change and the absolute values of *views*, the *clicks* and the *ctr* are listed.

Key Figure	Unit	Interpretation
Estimated Bot Clicks	percent	It returns a percentage of the total registered <i>clicks</i> in the period under consideration and the recognized <i>bot clicks</i> .
Click Through Rate (CTR)	percent	It will relate <i>views</i> and <i>clicks</i> in the certain time period and return a percentage.
Suspicious Click Coordinates	percent	All clicks of the period will be related to the suspicious clicks.
Page Dwell Time	time	The average time spent on a page as well as the maximum and minimum time spent will be determined and shown.
Total Dwell Time	time	The average total time spent as well as the maximum and minimum total time spent will be determined and shown.

Table 3: Traffic Key Figures

5 Graphs

Tsuiseki provides the ability to display data in different graphs. Below some graphs are presented.

5.1 Chart General Statistics

This chart provides general statistical data on a website that can be combined. Thus, the user can see *views*, *clicks*, *ctr*, the number of *bot clicks* and the *bot rate* all together over a time period. Moreover, it is possible to granulate the data within a single day in time intervals, in order to get e.g. a comparison of the data of all 6 hours within one day.

The dashboard uses this method for the **Trend** chart.

Glossary

Bot

A software simulating an user and generating clicks.

Bot-Rate

Reflects the ratio of *bot clicks* to *clicks*.

click

The user clicks on an outgoing link and will be lead to a feed partner or another website.

click coordinates

The x and y coordinates of the cursor when the user is clicking the link.

Configuration Parameter

Provide additional data transfer to the analysis and offer the user the ability to influence the presentation of the analysis results according to his own ideas

ctr

Numerical value of the click-through rate, which reflects the ratio of clicks to views.

dashboard

After logging in into Tsuiseki the dashboard appears and delivers first compressed data to obtain a quick and first overview.

frame

A HTML-Frame where a targeted page is opened.

frontend

Graphical user interface to the Tsuiseki system.

heatmap

A graphic presentation of data that expresses the attributes of a variable in a coordinate system of two dimensions by color.

internal click

If an user clicks on an external link after he has clicked from his entry page to other pages on the respective website, he creates an internal click. Therefore, the internal clicks are a ratio of the total number of clicks.

internal view

If an user clicks from his entry page to other pages on the respective website, he creates internal views. Therefore, the internal views are a ratio of the total number of views.

layer

A HTML-Layer where a target website is opened in.

network

Name of the source that delivers traffic on the website.

Page dwell time

The time spent per page is defined by the interval between two views.

partner

Name of a sub-source in a network that delivers traffic to the website.

pop-up

A browser that intentionally or unintentionally will open new and has a certain window size.

Request Parameter

Parameters for the specification of an analysis.

Total dwell time

We define the total dwell time as the time between the first view and the last click depending on the click to occur later than the view. Plus, the difference may not be greater than a certain value x .

view

The web server is serving the website for an IP address.

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