Technical Paper

Creating Reports Using SAS Web Analytics Aggregates and SAS Information Maps

Use the set of information maps that SAS Web Analytics provides to further filter and analyze your Web data

This paper outlines the process for creating a report that showcases visitors' searches and corresponding traffic for a Web site.

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Introduction

SAS Web Analytics provides out of the box reports that use SAS Web Report Studio. These reports use a set of information maps, which can also be used to create other reports and SAS BI Dashboards.

Example: Creating a Top Search Term Report

Suppose that a consumer wants to see a report that showcases visitors' searches and corresponding traffic for a Web site. This information exists in the warehouse, but it is not available in any report. The process for creating such a report is outlined here.

Part 1 – Create the Information Map

SAS Web Report Studio uses information maps as data sources. Information maps retrieve data from warehouse tables on demand. Think of information maps as stored queries. Thus, a report uses an information map, which in turn uses physical tables. When a report is run, the information map runs its query, retrieves data, and delivers the data to the report to display. The following example shows how an information map can be created, thereby enabling users to filter the data and report on it.

Tip: Before starting SAS Information Map Studio, determine which tables contain the appropriate data for the report. In our example, the Top Search Term report uses the Referrer Search Term Aggregate – Day, the Search_Engine_Dim, and the Search_Term_Dim tables.

Open SAS Information Map Studio and click the **Server** tab. (See Figure 1.) Expand the <webmart> WaMart library so that all of the tables are visible. Drag the Referrer Search Term Aggregate – Day, the Search_Engine_Dim, and the Search_Term_Dim tables to the Selected Resources pane. Figure 1 illustrates the contents of the Selected Resources pane after all of the tables have been dragged to it.

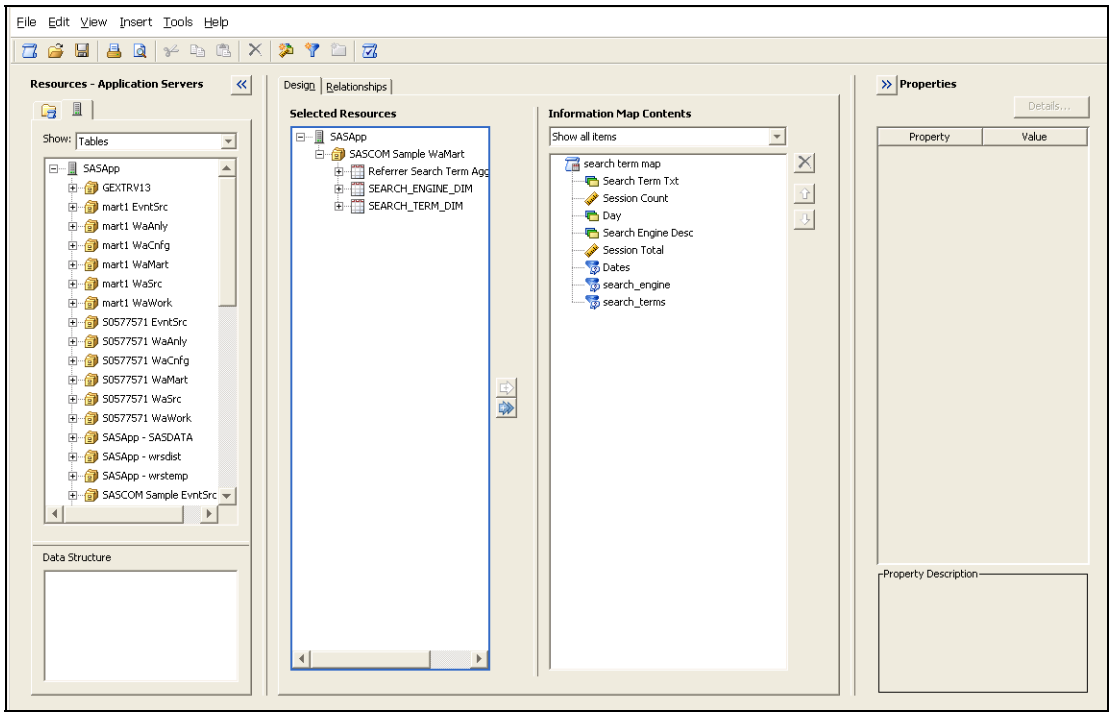


Figure 1 SAS Information Map Studio

Next, define the relationships between the tables by matching the primary keys within the dimension tables with their correspondents in the aggregate table. Figure 2 illustrates how the tables appear in SAS Information Map Studio after the relationships have been defined.

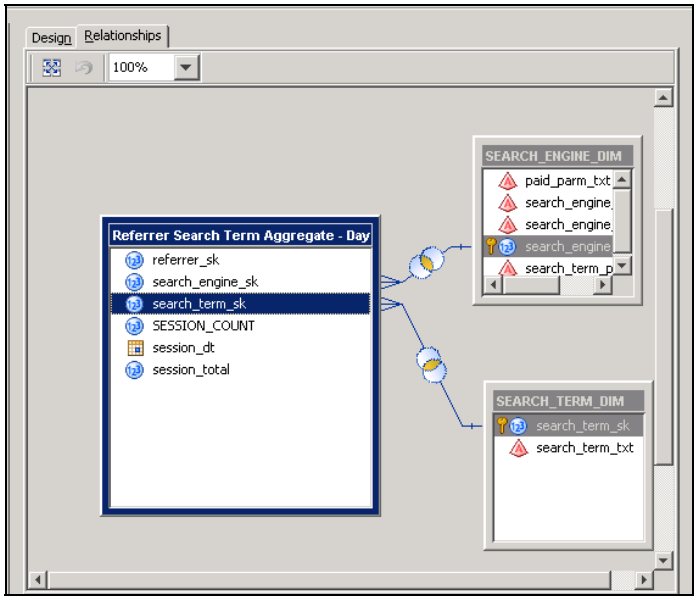


Figure 2 Relationships Tab

After you have defined the relationships, any of the fields from the three tables can be used within a report that uses this information map as its source data. For this example (see Figure 3), select the following fields:

- Referrer Search Term Aggregate – Day: **Session_dt**, **Session_Count**, and **Session_Total**
- Search_Engine_Dim: **Seach_Engine_Desc**
- Search_Term_Dim: **Search_Term_Txt**

Use the arrows (see Figure 3) to move the selected fields to the Information Map Contents pane. The selected fields are now data items, and their properties can be modified:

- Search_Engine_Desc – Change the data item name to **`Search Engine`**.
- Search_Term_Txt – Change the data item name to **`Search Term`**.
- Day – Change the data item name to **`Dates`**.
- Session_Total – Change the data item name to **`Total Visits`**, and in the Property column, change Default Aggregation to **`MAX`**.
- Session_Count – Change the data item name to **`Visits`**.

For information about modifying properties for data items, see the Information Map Studio Help.

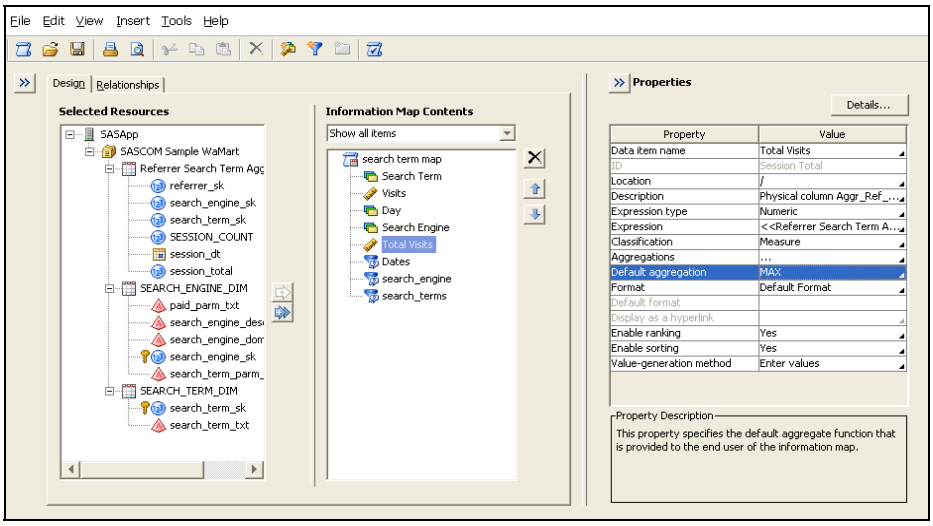


Figure 3 Selection of Columns from Tables

Lastly, enable the user to filter the information map. Two filters enable the report user to select a date range and one or more search engines with reasonable flexibility.

Date Range Filter

Click the Funnel icon on the toolbar, which opens the New Filter window. Figure 4 contains a completed date range filter window. Enter the following information in the New Filter window:

- In the **Filter name** field, enter **`Dates`**.
- In the **Description** field, enter **`Select Dates`**.
- From the **Data item** drop-down list, select **Day**.
- From the **Condition** drop-down list, select **Range of periods (is between)**.
  - From the **Value(s)** drop-down list, select **Specify 'From' and 'To' values separately**.
  - For both the **From** and **To** drop-down lists, select **Prompt user for value(s)**.

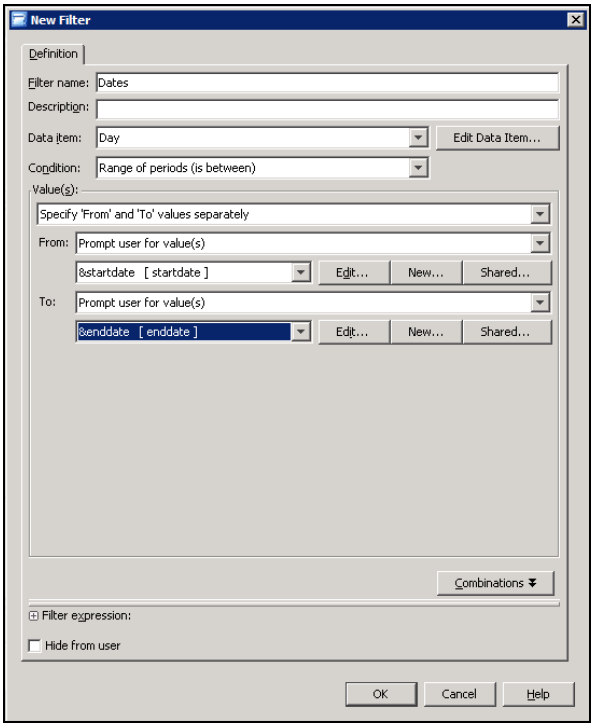


Figure 4 Create Date Filter

- Create date prompts for the From and To values:
  - Click **New** to create a new prompt, which opens the Edit Prompt window. (See Figure 5.)
  - On the **General** tab, enter the following information:
    - In the **Name** field, enter **`startdate`**.
    - In the **Displayed text** field, enter **`Start Date`**.
  - On the **Prompt Type and Values** tab, make no changes. See Figure 6.
  - Repeat the process to create the "To" prompt.
    - In the **Name** field, enter **`enddate`**.
    - In the **Displayed text** field, enter **`End Date`**.
  - After the date prompts are created, select **&startdate** from the **From** drop-down list, and select **&enddate** from the **To** drop-down list.
- The complete filter displays in the Filter combinations area in the Edit Filter window. (See Figure 6.)

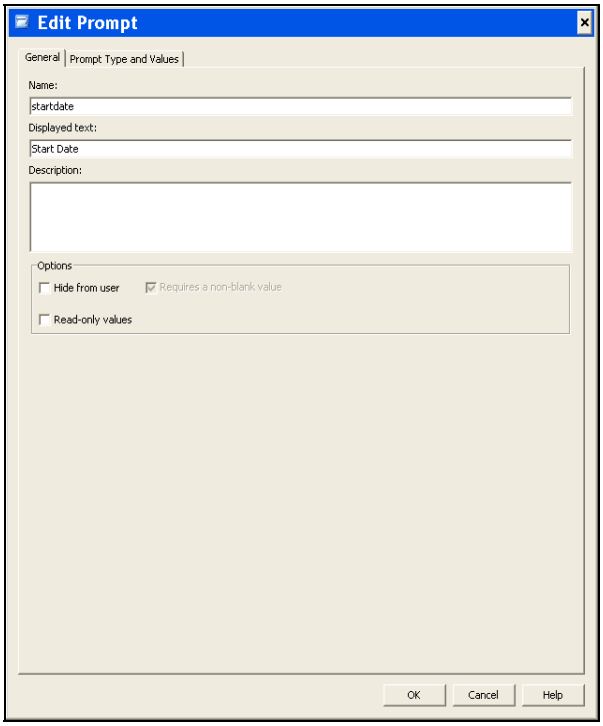


Figure 5 Start Date Filter General Tab

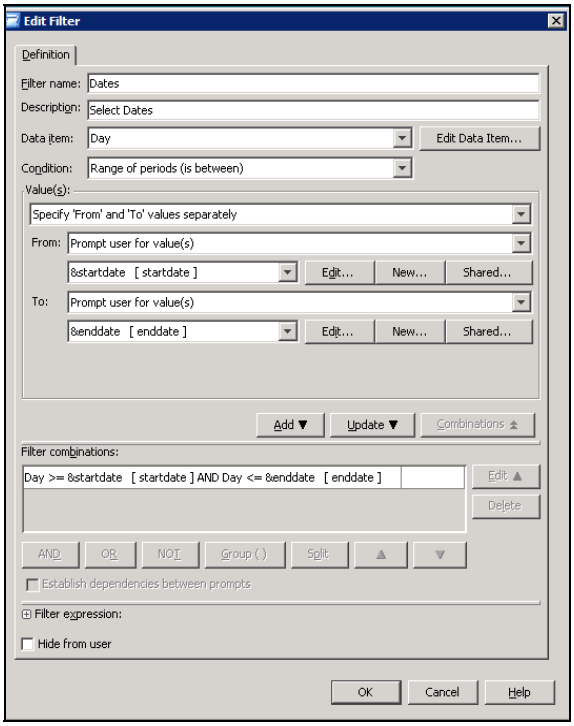


Figure 6 Start Date Filter Prompt Type Tab

Search Engine Filter

To create the search engine filter, click the Funnel icon on the toolbar to open the Edit Filter window. Figure 7 shows a completed search engine filter window. Enter the following information in the Edit Filter window:

- In the **Filter name** field, enter **`search_engine`**.
- In the **Description** field, enter **`Select Search Engine`**.
- From the **Data item** drop-down list, select **Search Engine**.
- From the **Condition** drop-down list, select **Is equal to**.
- From the **Value(s)** drop-down list, select **Prompt user for value(s)**, and then click **New**. Figure 8 shows an example of the search engine prompt.
    - After the Edit Prompt window opens, enter the following information on the **General** tab:
        - In the **Name** field, enter **`search engine`**.
        - In the **Displayed text** field, enter **`Select Search Engine`**.
    - Click the **Prompt Type and Values** tab, and enter the following information:
        - From the **Method for populating prompt** drop-down list, select **User selects values from a dynamic list** to display new items.

- From the **Number of values** drop-down list, select **single value** to enable the user to select only a single search engine at a time. Otherwise, select **Multiple values**. For this example, select **Multiple values**.
- In the **Minimum value count** field, enter **1**.
- In the Data source area, select **Specify a data source**, click **Browse,** and then select the Search_Engine_Dim table.
- From the **Column** drop-down list in the Unformatted Values area, select **search_engine_desc.**
- From the **Column** drop-down list in the Formatted (Displayed) Values area, select **search_engine_desc.**
- From the **Sort order** drop-down list, select **Ascending by formatted value**.

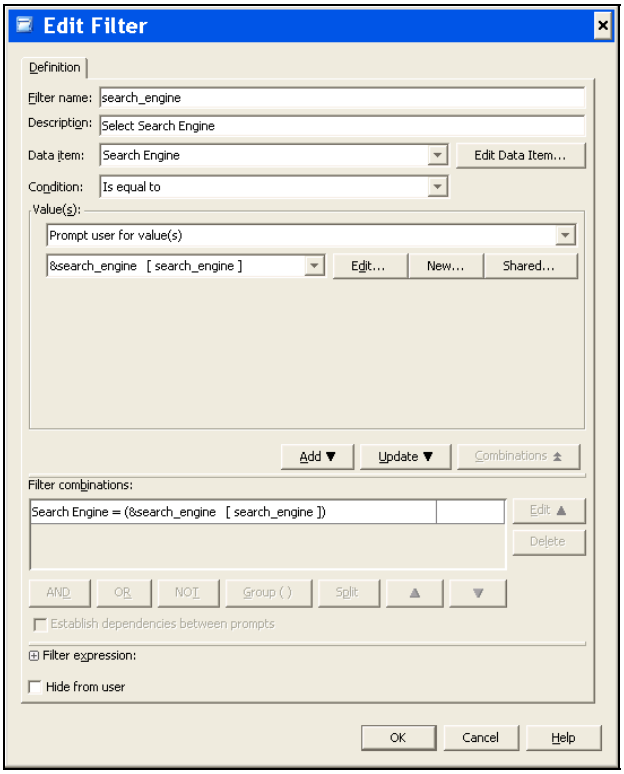


Figure 7 Search Engine Filter

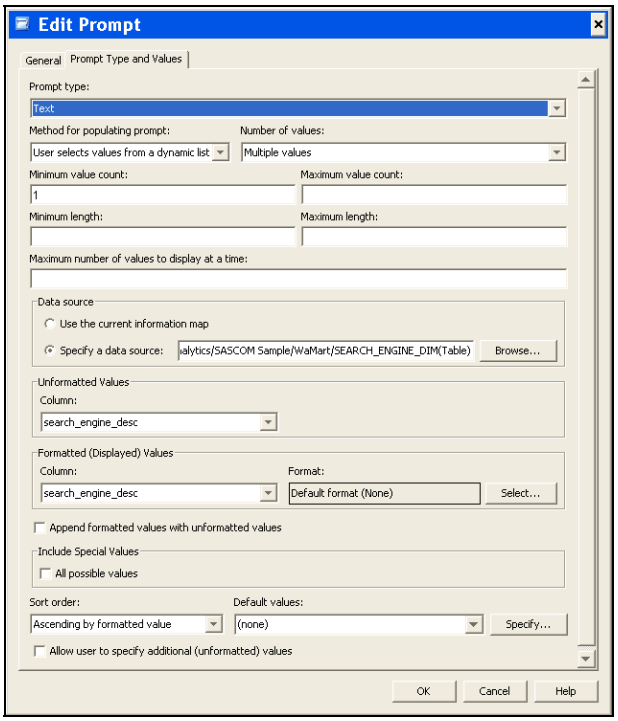


Figure 8 Selecting Table for Dynamic Prompt

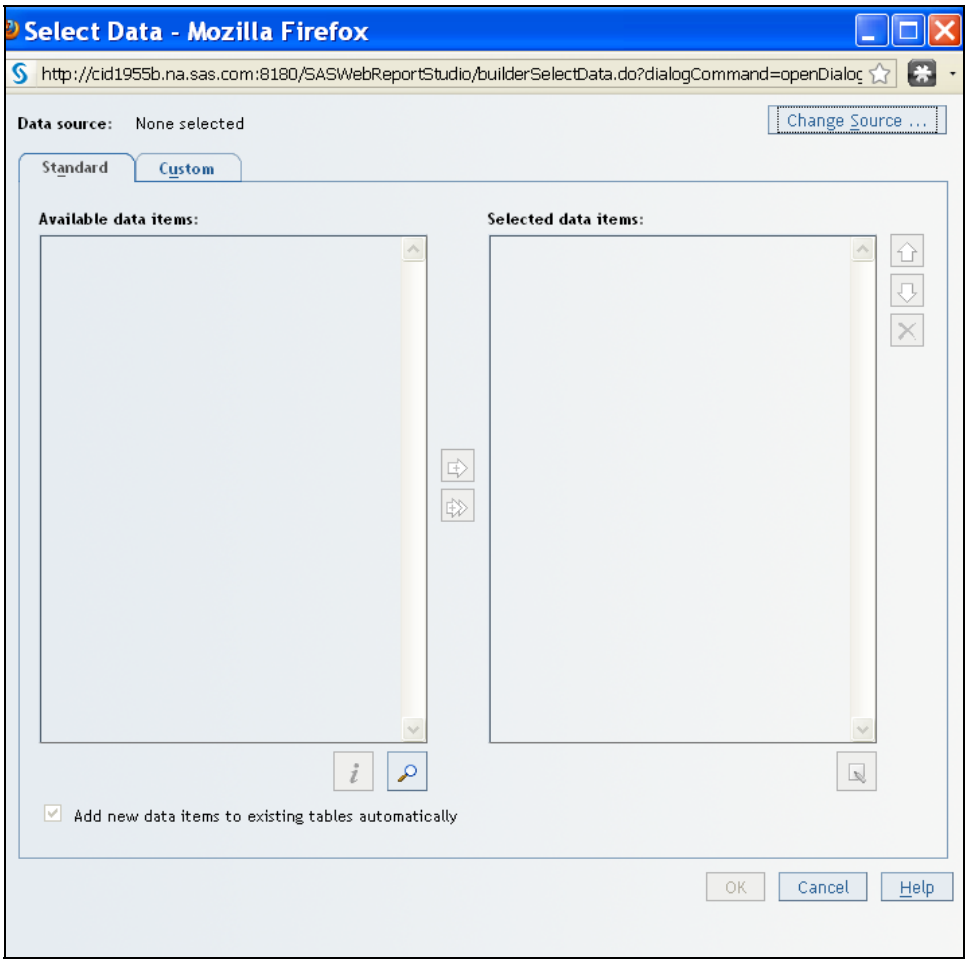
Save the information map as "search term map."

Part 2 – Create the SAS Web Report Studio Report

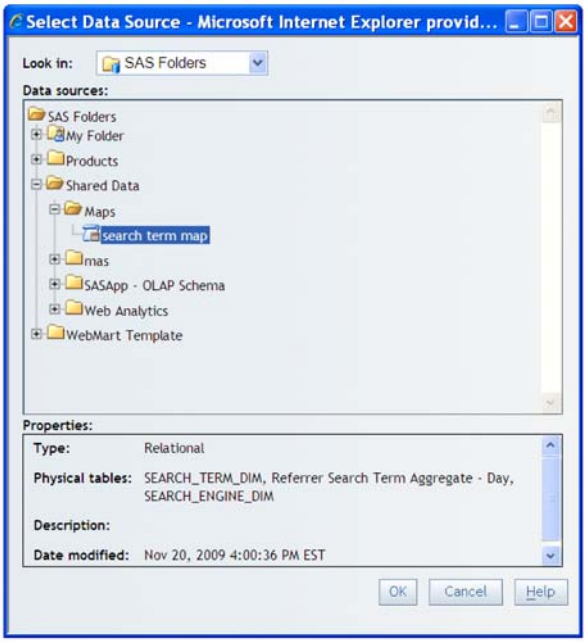
Use SAS Web Report Studio to create a Top Search Term report by completing these steps:

1. Open SAS Data Integration Studio and select **Getting Started►New Report**. A new report window opens and displays an untitled report.

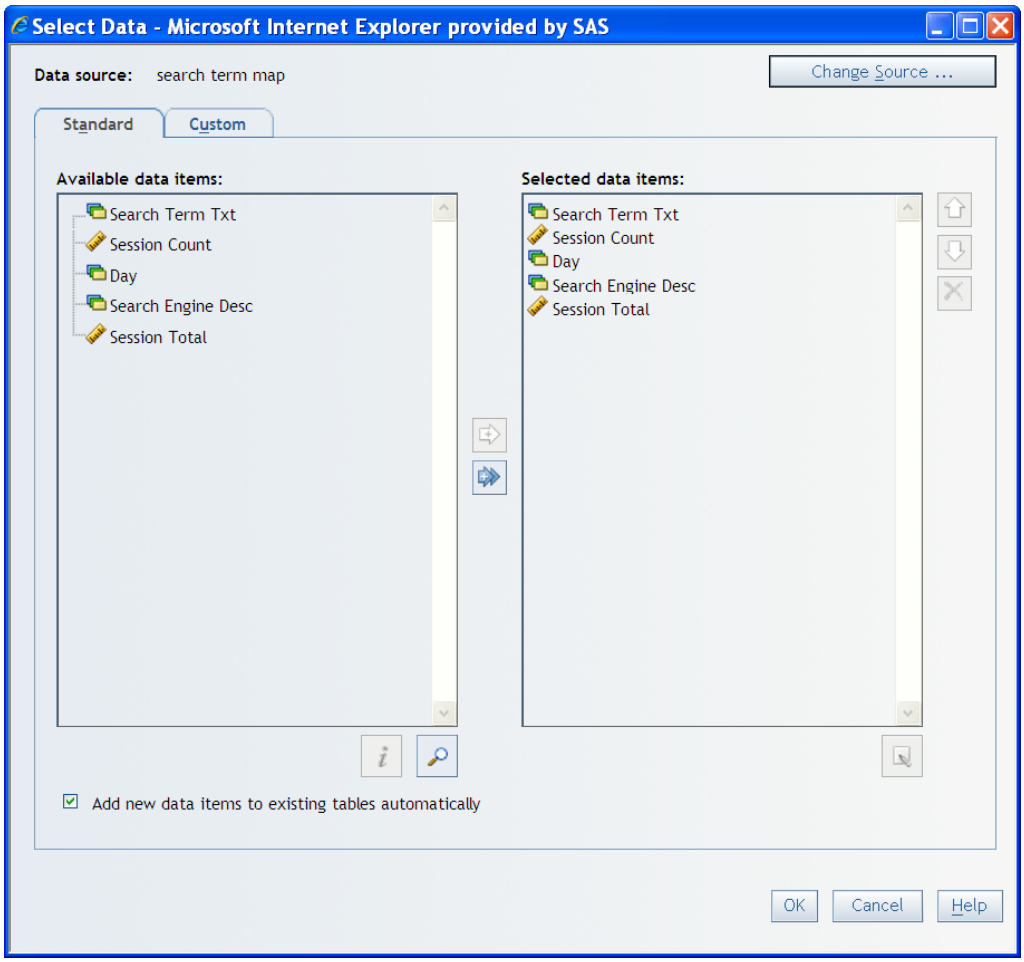
2. From the **Options** drop-down list, select **Select Data**. The Select Data window opens. Click **Change Source**.



a. Navigate to the folder where the information map that was created in Part 1 resides.



b. Select **search term map**, which was created in Part 1. Click **OK**.



c. Click the double arrows to select all data items, and then click **OK**. The report's Section Data pane now contains the selected data items.

3. From the Section Data pane, click **Options**, and then select **Section Filters**. This opens the Section Filters window (see Figure 9), and enables users to select prompts.

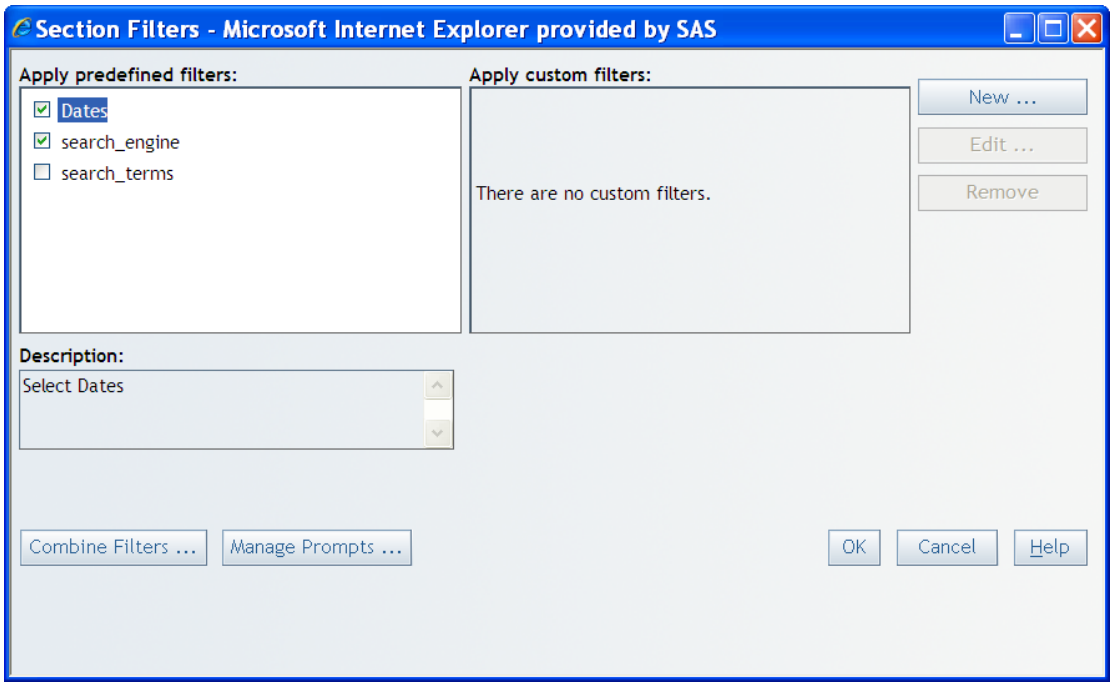
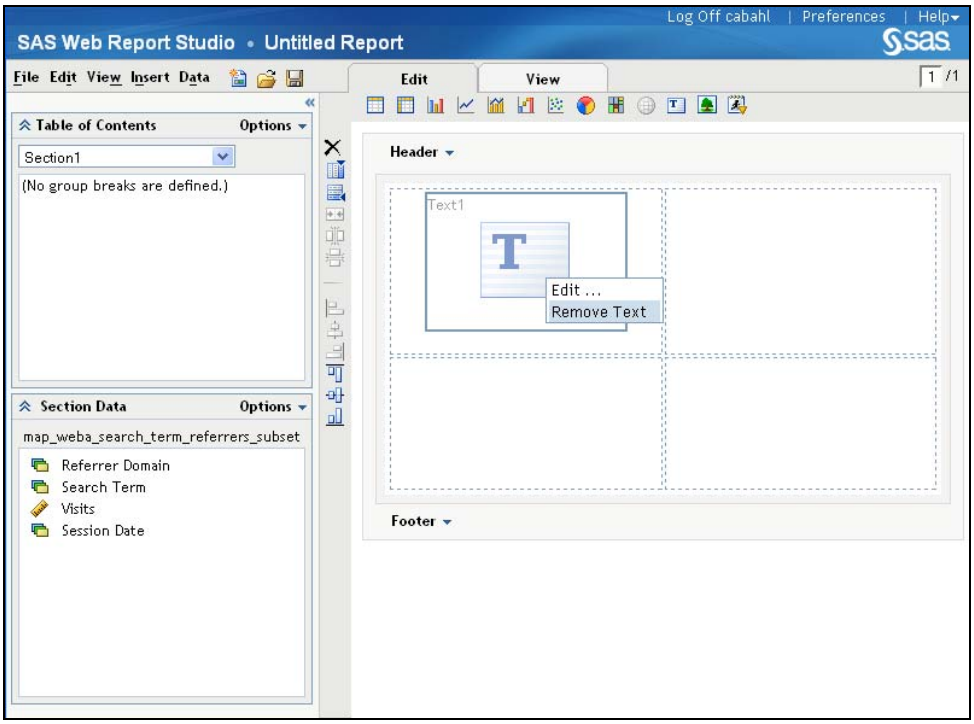


Figure 9 Section Filters Window

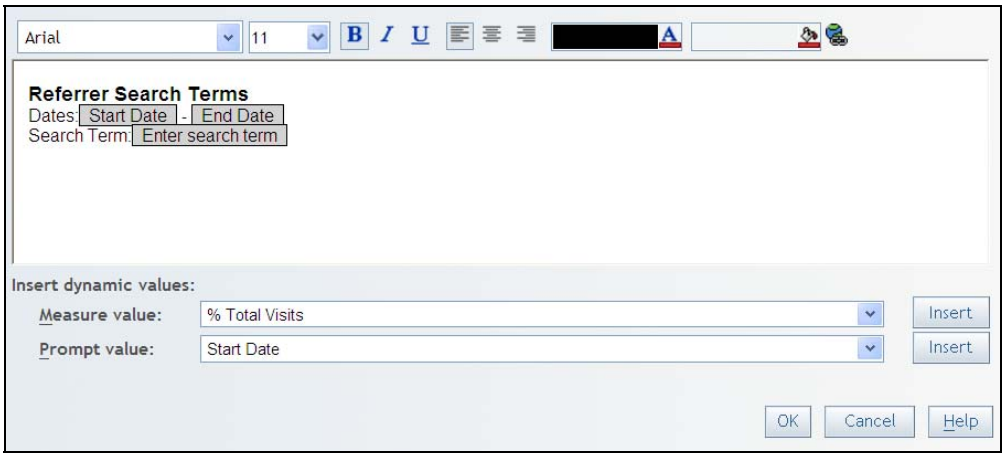
a. Select the **Dates** and **search_engine** check boxes.
b. Click **OK**.

4. Use the text box to create a report title. For more information, see the Web Report Studio Help.

a. Drag the icon from the toolbar to the first cell. Right-click the text object and select **Edit** to open the Edit Text dialog box.

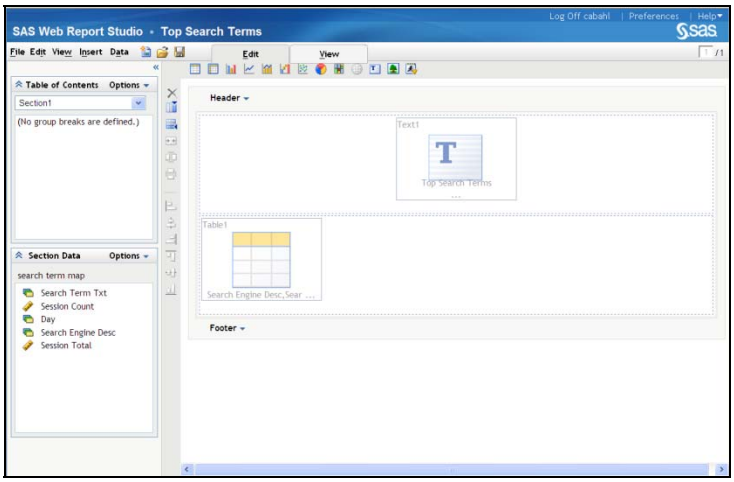


b. Enter the title in the text box. In the following example, the title is the first line. The second line contains the text "Dates" and the value of one of the prompts. To add a prompt value, select the prompt from the **Prompt value** drop-down list, and click **Insert**. The third line contains the search term.



c. Click **OK** when the title is complete.

5. To make the report display the data, click the table icon on the toolbar, and drag it to the second row. Right-click **Table1** to view a list of formatting options. This example uses the options Assign Data and Create a Filter.



a. To assign data items:

   - Right-click **Table1**.
   - Select **Assign Data**, and then use the drag-and-drop feature to select and order the columns that the report will display.

b. To create a filter:

   - Right-click on the table, and then select **Filter and Rank**.
   - From the list of data items, select **session count**.
   - In the **Type** field, select the **Filter** radio button.
   - From the **Operator** drop-down list, select **greater than or equal to**.
   - In the **Value** field, enter **4**.

6. Test the report by clicking the **View** tab. (See Figure 10.)

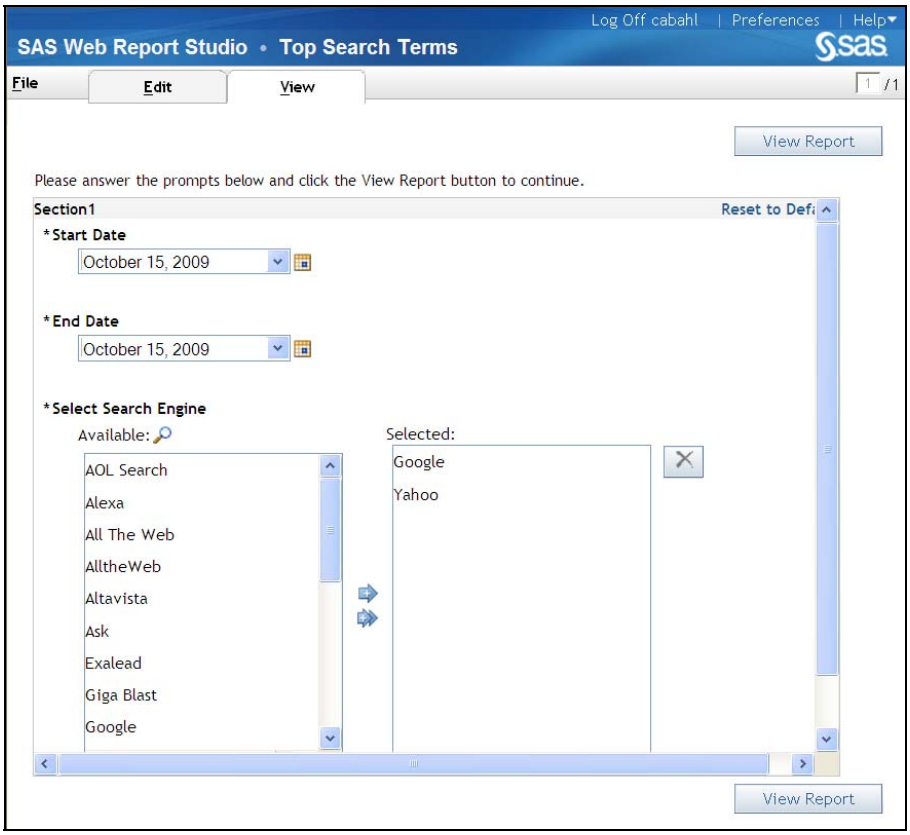
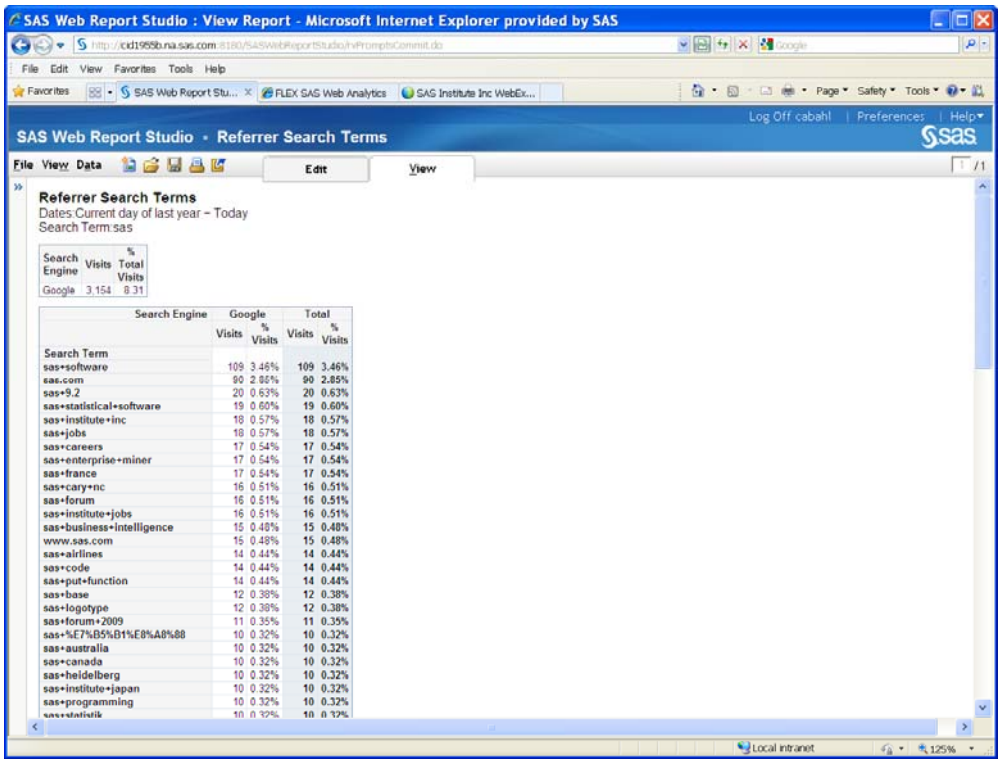


Figure 10 Testing the Report

Note: The report was sorted by the Total Visits column.


SAS Web Report Studio : View Report - Microsoft Internet Explorer provided by SAS
SAS Web Report Studio • Referrer Search Terms
Log Off cabahl | Preferences | Help
File View Data
Edit
View
Referrer Search Terms
Dates:Current day of last year – Today
Search Term:sas
Search Engine | Visits | % Total Visits
Google | 3,154 | 8.31
Search Engine | Google | | Total | |
Visits | % Visits | Visits | % Visits
Search Term
sas+software | 109 | 3.46% | 109 | 3.46%
sas.com | 90 | 2.86% | 90 | 2.85%
sas+9.2 | 20 | 0.63% | 20 | 0.63%
sas+statistical+software | 19 | 0.60% | 19 | 0.60%
sas+institute+inc | 18 | 0.57% | 18 | 0.57%
sas+jobs | 18 | 0.57% | 18 | 0.57%
sas+careers | 17 | 0.54% | 17 | 0.54%
sas+enterprise+miner | 17 | 0.54% | 17 | 0.54%
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Local intranet
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