Step by Step Example:

This extension can create a word cloud from different sources so this document will provide an example using multiple data sources and word cloud settings. First let's get started with the user interface.

User Interface

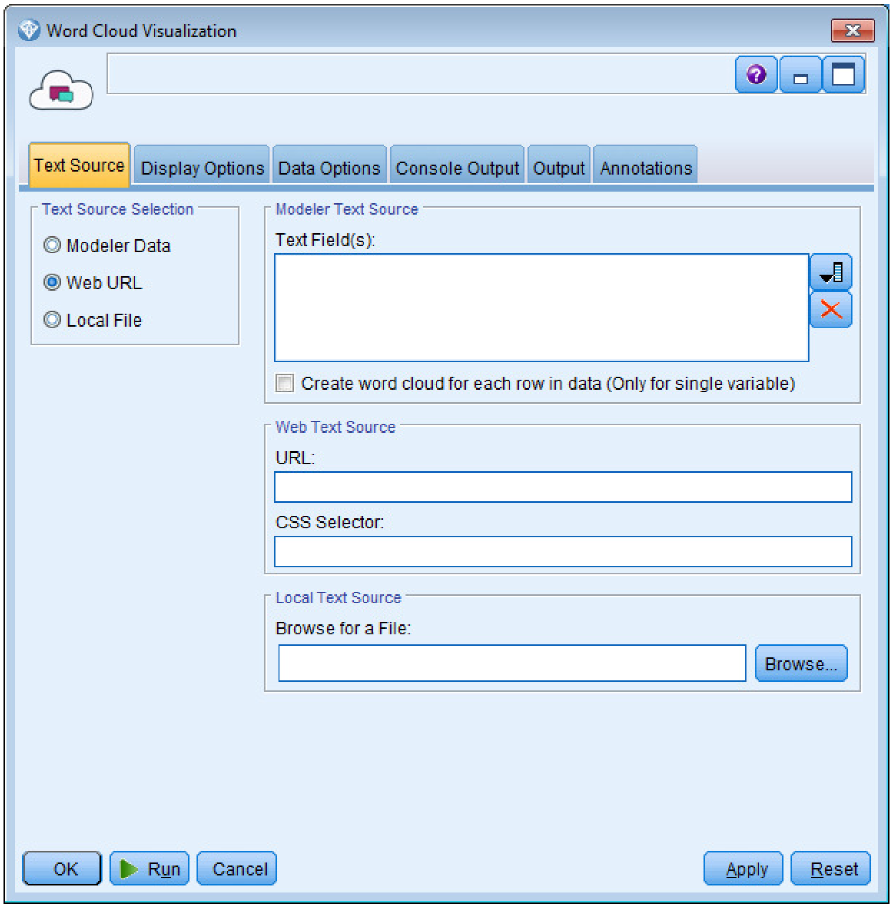
The first tab for this node is Text Source.

First chose the source of the text data, either from Modeler, Web, or Local file. This is selected using the radio button on the left side.

For Modeler Data, select one or more columns from the dataset containing text. If one column is selected, an option is available for creating a word cloud for each row of text in that column. This option is enabled by clicking the check box below the field selector. If that box is unchecked, or multiple columns are selected then the each column is concatenated into a single string and used to create a word cloud per column.

For Web Text, enter the URL containing the text for analysis and the appropriate CSS selector. If you are unfamiliar with CSS Selectors, I recommend a tool like http://selectorgadget.com/ to help find the correct HTML elements.

Local Text source files must be in a .txt format. One word cloud is generated for a text file.



Text Source Selection
○ Modeler Data
● Web URL
○ Local File

Modeler Text Source
Text Field(s):
☐ Create word cloud for each row in data (Only for single variable)

Web Text Source
URL:
CSS Selector:

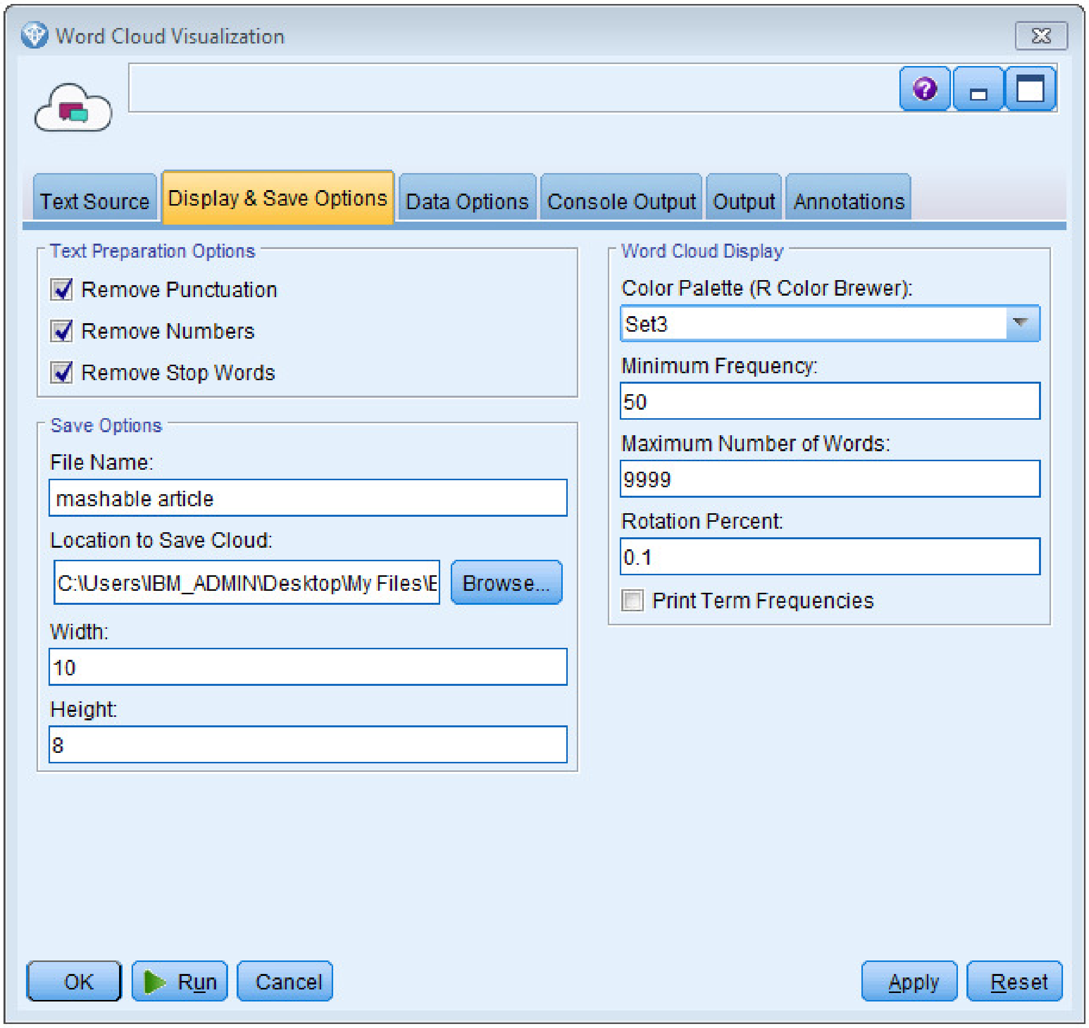
Local Text Source
Browse for a File:
Browse...

The second tab for this node is Display & Save Options.

The tab contains options for text preparation, defaulting to removing punctuation, numbers, and ('english') stop words from the text.

The word cloud display group of parameters adjust the colors used based on the R Color Brewer package. The minimum frequency of words to be used in the word cloud, the maximum number of words to display, and the rotation percent of words can be set in this section. You can also print the words with their respective frequencies by checking the box in this section.

The Save option will create a .png file containing the word cloud(s) generated by the node. If multiple files are created (for multiple word clouds) then a value at the end of the file name will increment for each file. The width and height values in this section are in inches.



Text Preparation Options

☑ Remove Punctuation

☑ Remove Numbers

☑ Remove Stop Words

Save Options

File Name: mashable article

Location to Save Cloud: C:\Users\IBM_ADMIN\Desktop\My Files\E Browse...

Width: 10

Height: 8

Word Cloud Display

Color Palette (R Color Brewer): Set3

Minimum Frequency: 50

Maximum Number of Words: 9999

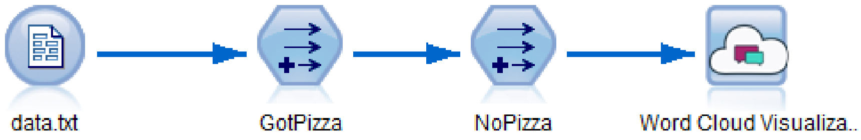
Rotation Percent: 0.1

☐ Print Term Frequencies

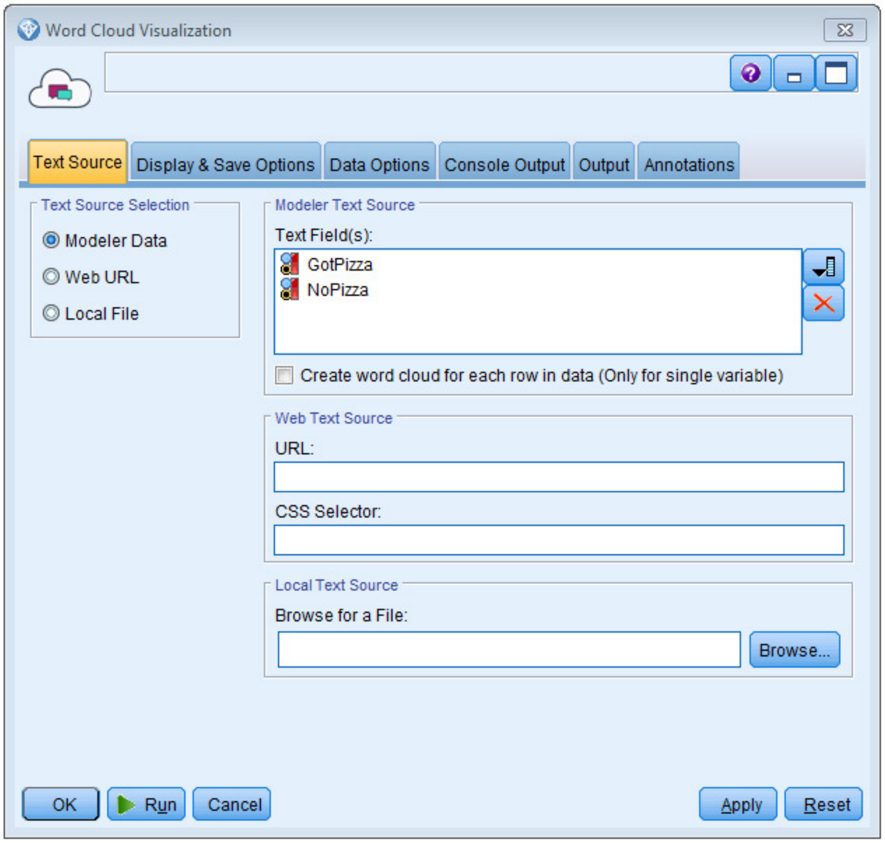
Modeler Data – Comparing Two Columns

In this example, we will create two columns of text and create a word cloud for each column. The dataset is included in this dataset and is a group of postings from the Random Acts of Pizza sub-Reddit. Each observation in this dataset is the original post made asking for a Pizza donation and a column with True or False corresponding to if the original poster (OP) received a pizza.

As a preprocessing step, I derived two new columns. One column only contains the original post if the outcome was True and one if it was False. The stream included in the folder includes these derive nodes.



Connect the Word Cloud Visualization node and choose the two new fields for the Modeler Text fields. The Modeler Data button should be selected in the "Text Source Selection" group, and the box for creating clouds for each row should be unchecked. We want this unchecked because we want to look at all the words in each column and create two word clouds that are representative of OPs that got pizza and OPs that did not.



Text Source Selection

● Modeler Data

○ Web URL

○ Local File

Modeler Text Source

Text Field(s):

GotPizza

NoPizza

□ Create word cloud for each row in data (Only for single variable)

Web Text Source

URL:

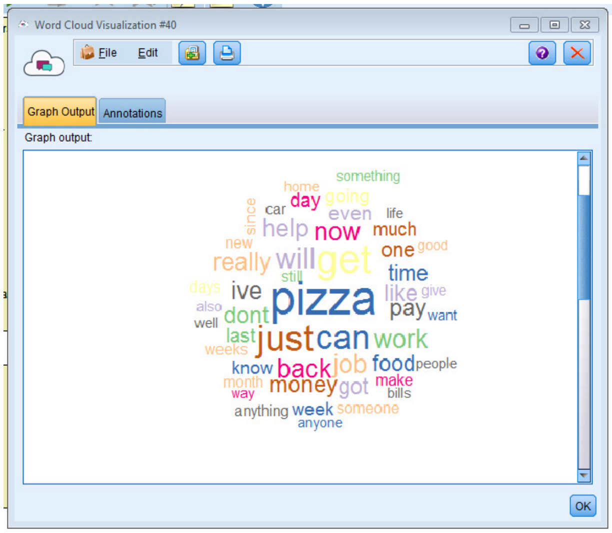
CSS Selector:

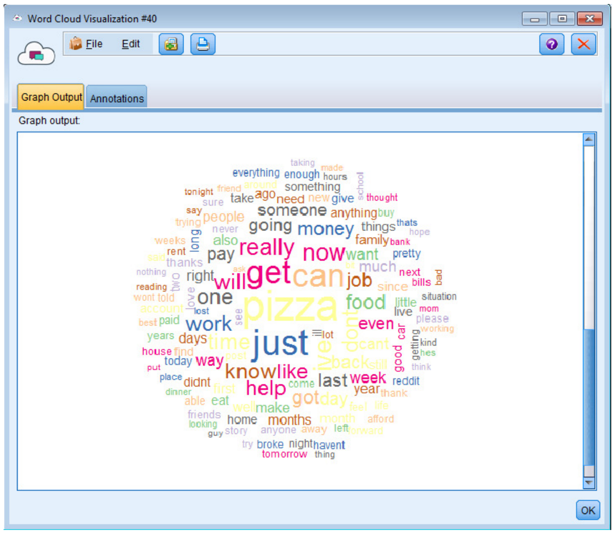
Local Text Source

Browse for a File:

Browse...

You can tweak the display and save options, but you should see a result with something like this:





OP got Pizza

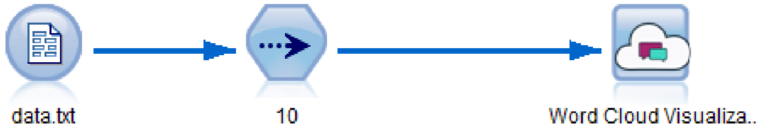
OP didn't get pizza

If you selected to save these word clouds you would see two .png files in the directory specified in the node. You may want to adjust settings like minimum word frequency and color to help fine tune the word clouds.

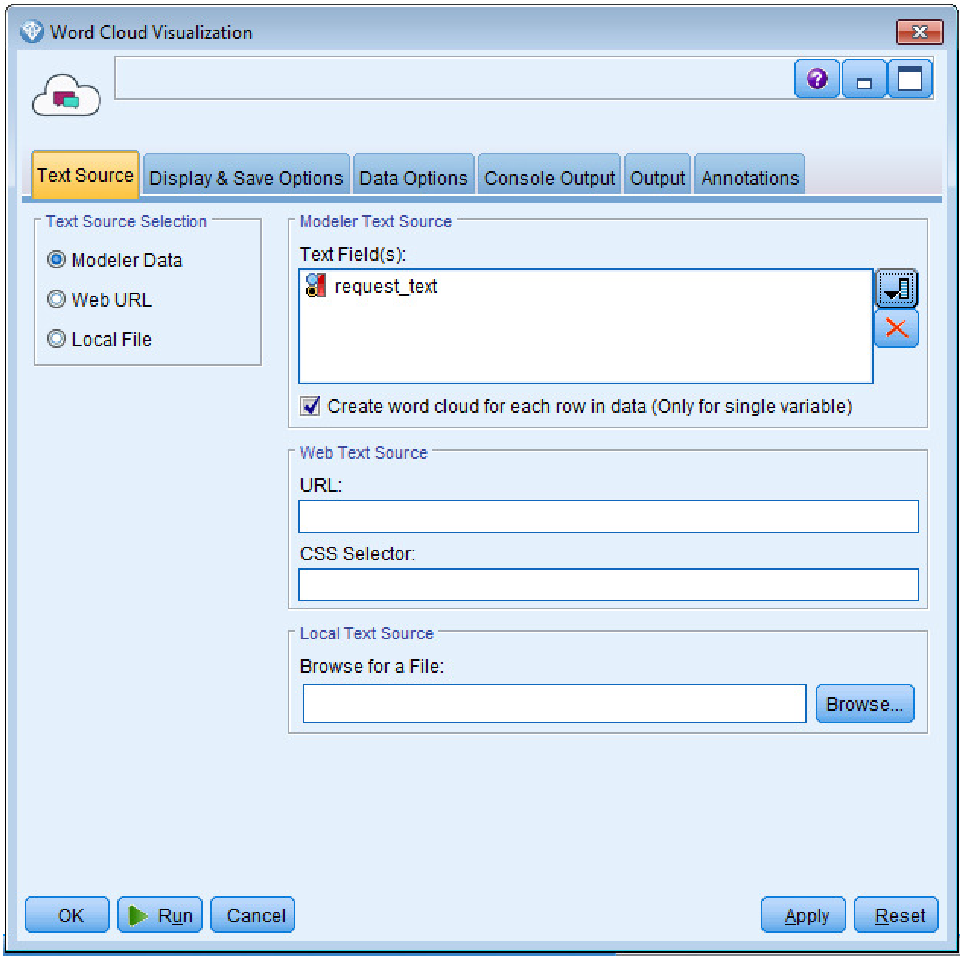
Modeler Data – Creating Word Clouds by Row

For this example we will use the same dataset, but rather than comparing word clouds between columns, we will generate a separate cloud for each row. As you may imagine, this is only practical when each row has adequate text to generate a word cloud.

For this example we do not need to do any preprocessing. We will just sample the data to create 10 word clouds.



In the Word Cloud Visuazliation node, under Text Source Selection, Modeler Data should be selected. Select the field request_text in the Text field selector. This time, we also want to check the box to Create word cloud for each row. The interface should look like the screen shot below.



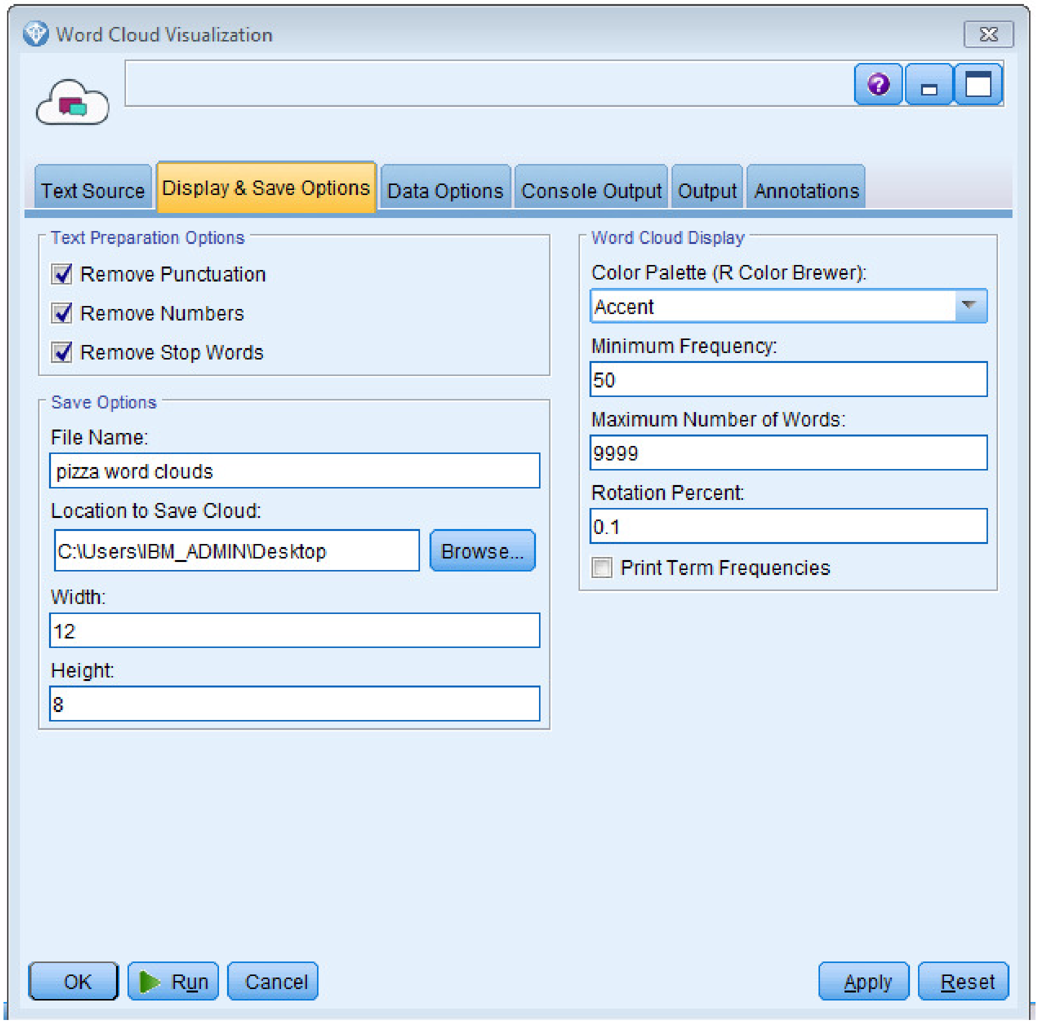
Text Source Selection
● Modeler Data
○ Web URL
○ Local File

Modeler Text Source
Text Field(s):
request_text
☑ Create word cloud for each row in data (Only for single variable)

Web Text Source
URL:
CSS Selector:

Local Text Source
Browse for a File:

This time let's also take a look at saving the word clouds. I'll be saving all 10 word clouds in my desktop. This can be done by using the following set up on the Display & Save Options tab.



Text Preparation Options

☑ Remove Punctuation

☑ Remove Numbers

☑ Remove Stop Words

Save Options

File Name: pizza word clouds

Location to Save Cloud: C:\Users\IBM_ADMIN\Desktop

Width: 12

Height: 8

Word Cloud Display

Color Palette (R Color Brewer): Accent

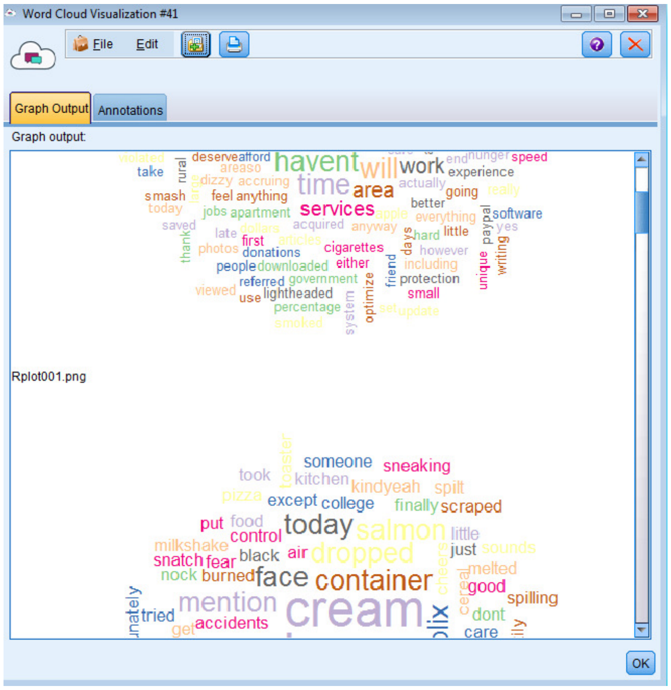
Minimum Frequency: 50

Maximum Number of Words: 9999

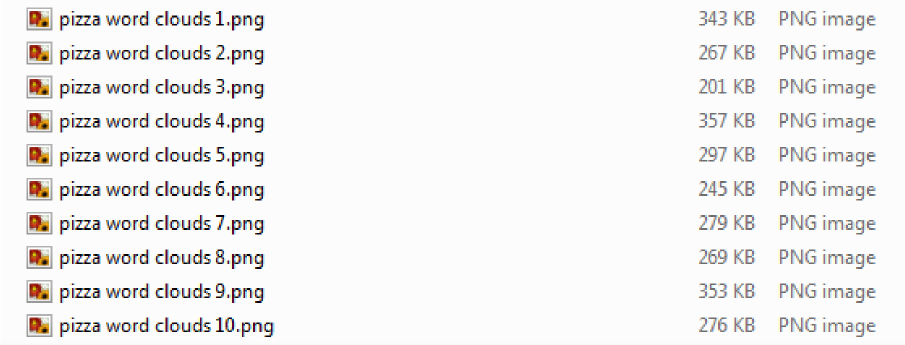
Rotation Percent: 0.1

☐ Print Term Frequencies

Output



Output in Modeler



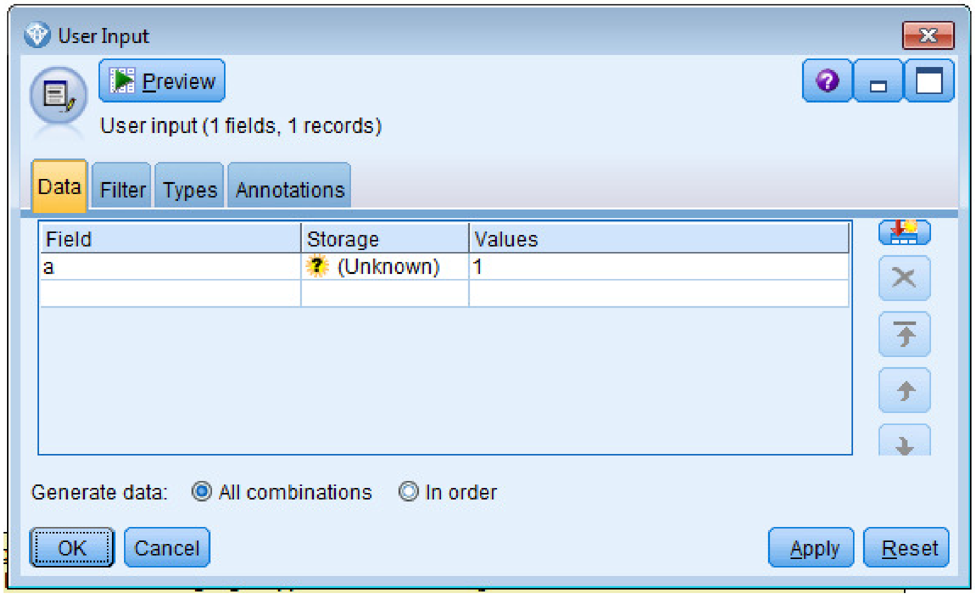
pizza word clouds 1.png	343 KB	PNG image
pizza word clouds 2.png	267 KB	PNG image
pizza word clouds 3.png	201 KB	PNG image
pizza word clouds 4.png	357 KB	PNG image
pizza word clouds 5.png	297 KB	PNG image
pizza word clouds 6.png	245 KB	PNG image
pizza word clouds 7.png	279 KB	PNG image
pizza word clouds 8.png	269 KB	PNG image
pizza word clouds 9.png	353 KB	PNG image
pizza word clouds 10.png	276 KB	PNG image

PNG output files

Web Data

As a final example to show another nice feature of this extension, let's make a word cloud for text from a web page.

For this example, we really only need the Word Cloud Visualization node, but R nodes can't be data sources for now in Modeler. To trick the system, add a user input node to the stream with dummy data as shown below:

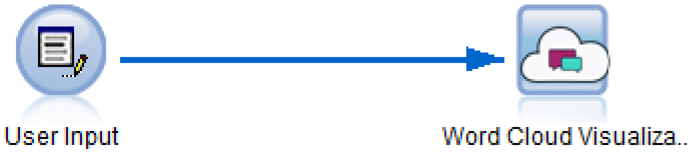


User input (1 fields, 1 records)

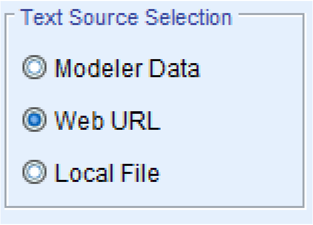
Field	Storage	Values
a	(Unknown)	1

Generate data: ● All combinations ○ In order

Now connect the word cloud node to this to create the stream below:



With this stream set up, we need to first change the Text Source Selection to be Web Url



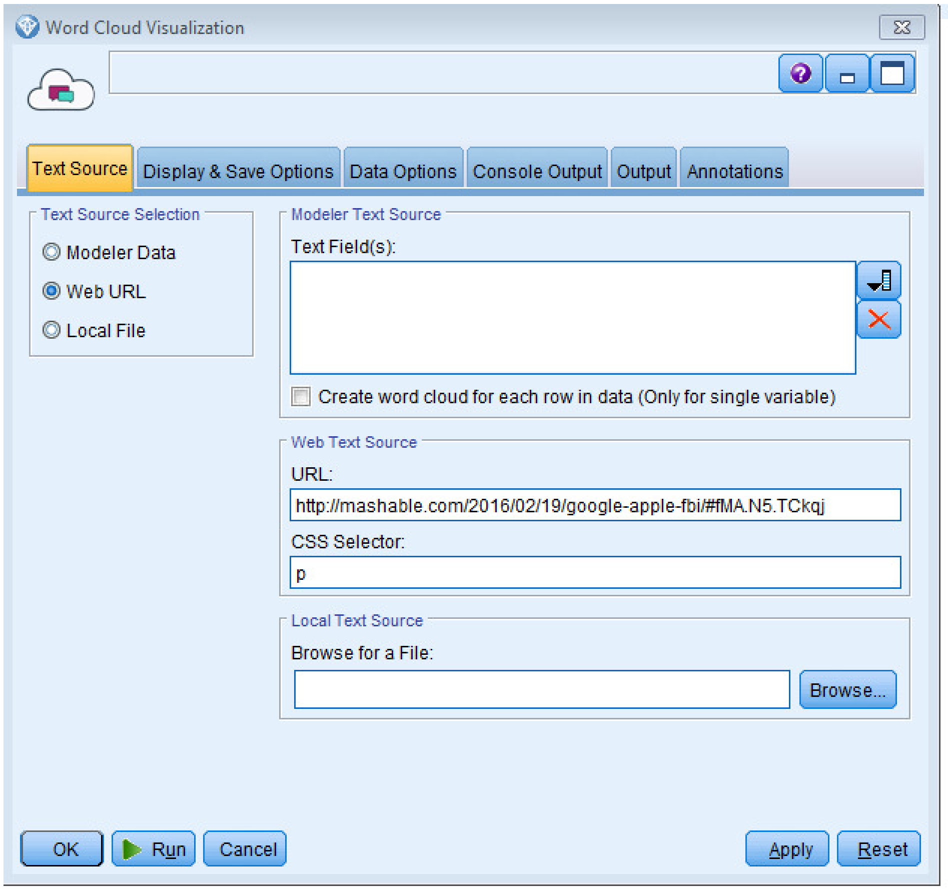
Text Source Selection

○ Modeler Data

● Web URL

○ Local File

Next we need to add the URL we want to make a word cloud for and enter the CSS selector we want text from. For this example we are using a Mashable article. This is a nice example because all the text is in the CSS selector p. The first tab of the node now should be completed to look like this:



Word Cloud Visualization

Text Source Selection
○ Modeler Data
● Web URL
○ Local File

Modeler Text Source
Text Field(s):
□ Create word cloud for each row in data (Only for single variable)

Web Text Source
URL: http://mashable.com/2016/02/19/google-apple-fbi/#fMA.N5.TCkqj
CSS Selector: p

Local Text Source
Browse for a File:

Running this will open the web page, select the text based on the CSS Selector and combine it into a word cloud. The output will be a single word cloud that can be saved or manipulated just as in the previous examples.