



# **~~SPHOL209:~~ Extending the Search Experience in SharePoint 2013**

## **Hands-On Lab**

Lab Manual

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## Extending the Search Experience in SharePoint 2013

Estimated time to complete this lab: **35 minutes**

### Lab Objectives

The goal of this HOL is to demonstrate that it's easier than ever to extend and build on the Search user experience. We will modify and add some web parts to the search result page, and demonstrate the use of templates to change the way the results are displayed. In the exercise on templates, you will be introduced to query rules, which enable you to promote specific types of results in a search. After completing this lab, you will be better able to:

- Edit a search results page and modify its appearance by adding and customizing web parts
- Activate query rules, and explore how they define the display attributes of promoted results
- Open and modify a display template and see the results of your changes

### Technologies

- SharePoint 2013 Search

### Audience

- SharePoint Site Administrators and SharePoint IT Professionals

#### Connect to the Lab Environment

If not already logged in, log on to the SharePoint (SP) virtual machine (VM) as Garth Fort, with the credentials **username: CONTOSO\GarthF**, and the password **pass@word1**.

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### Scenario

This lab takes you through an introduction to modifying the search experience in SharePoint 2013. It teaches you how to open and edit a search page, add and configure web parts, and modify a display template to change the appearance of search results.

### Getting Started

#### ~~Connect to the Lab Environment~~

~~Log on to the SharePoint (SP) virtual machine (VM) as Garth Fort, with the credentials **CONTOSO\GarthF**, password **pass@word1**.~~

#### Open the Lab Environment

1. To begin the lab, start Internet Explorer, navigate to the demo home page at **http://intranet.contoso.com/sites/contoso** and log on to SharePoint as Garth Fort with the following credentials:

Username: **CONTOSO\GarthF**

Password: **pass@word1**

2. Warm up Web Apps:
  - a. Start in the demo home page.

- b. In the upper navigation, click the down-arrow next to **Resources** and then click **Document Center**.
- c. Click on a PowerPoint presentation and see it open in a Web App.
- d. Click the **back-arrow** to return to the Document Center.
- e. Repeat steps c and d for Word and Excel documents.

**Note:** if you do not see a specific document type in the top view, in the left navigation click **Documents** and select from that list.

- f. In the upper navigation, click **Home** to return to the demo home page.

## **Exercise 1 – Configuring Results**

Estimated time to complete this exercise: **15 minutes**

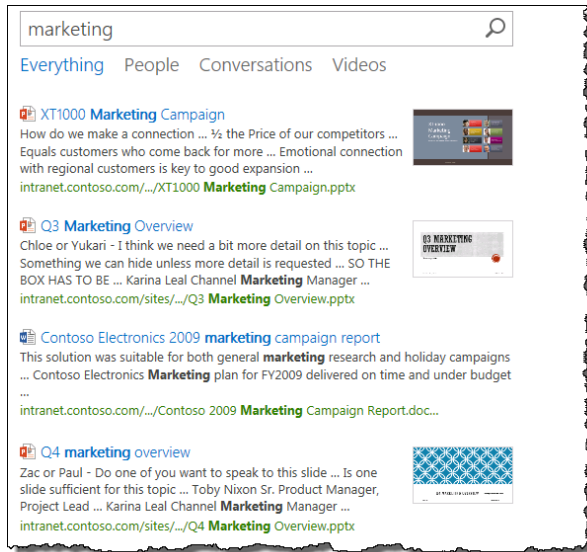
### **Scenario**

The search results page is highly configurable. In this exercise, you will learn how to modify the search results page to enhance its appearance and functionality.

### **Task 1 – Explore the Results Page**

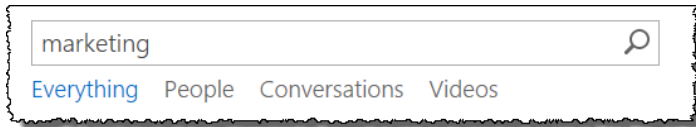
In this task, you will learn to open and explore various parts of the core results page. Throughout this task, search results you obtain may not exactly match the screen shots, but they should be close.

1. From the home page, in the top navigation, click **Search**.
2. In the search page, in the query box, type **marketing** and then click the **search icon**.

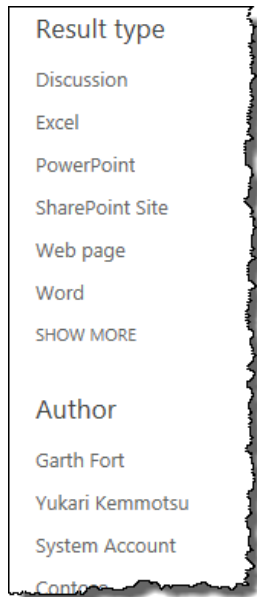


3. Note the main features of the results page:

- a. Scope filters (below the query box) – **Everything, People, Conversations, Videos**



- b. Refiners (at the left of the page) – **Result Type**, **Author**, **SharePoint Content Type** (SPContentType), **Tags**, and several others.



You will learn more about modifying filters and refiners in just a few minutes. At this point, we will use some of the refiners to see how they work.

4. Use some of the refiners to filter the search results:
- In the **Result Type** refiner, click **Word**.
  - In the **Author** refiner, click **Garth Fort**.

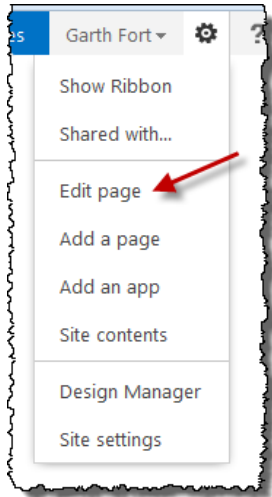
Note that refining is cumulative. Successive refining is one way to quickly drill down to the results you want.

- Click **Everything** in the scope filter to return to the full set of results.

## **Task 2 – Open the Results Page for Editing**

In this task, you will open the search results page and explore the user interface (UI) for editing the page.

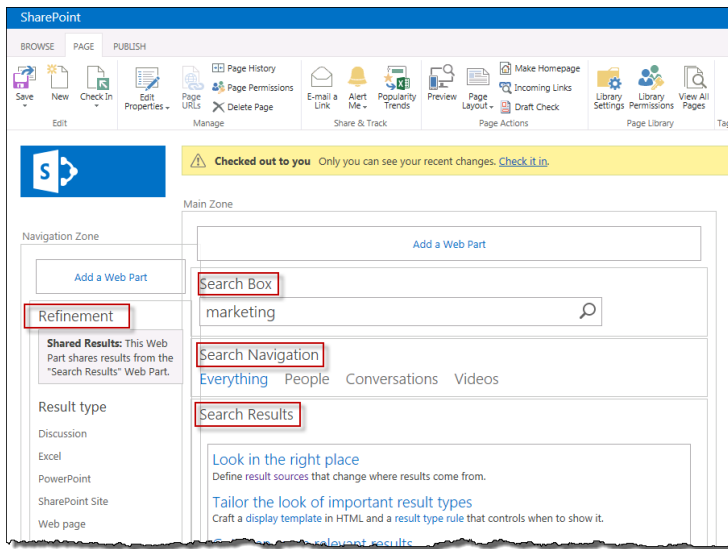
1. Still in the search results page, click **Settings** (the gear icon next to the SharePoint user name), and then click Edit Page.



**Note:** After you open the page for editing, you will see a “Checked out to you” message at the top of the page. Throughout this lab, do **not** click the **Check it in** link; you will later discard the check-out.



2. Explore the different web part zones and the web parts in them:
  - a. **Navigation Zone** – Refinement
  - b. **Main Zone** – Search Box, Search Navigation, Search Results

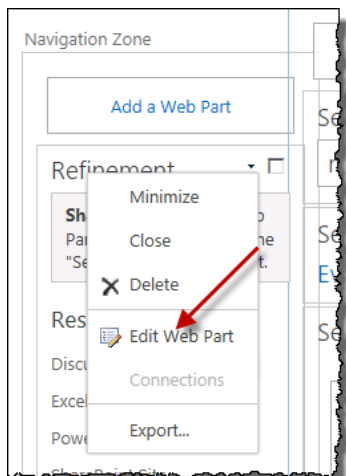


3. Explore the Ribbon at top of the page:
  - a. **Edit group** – Save and check in/check out the page
  - b. **Manage group** – Set Page permissions, delete the page
  - c. **Page Actions** group – you will not be using this in the lab, but take note of them.

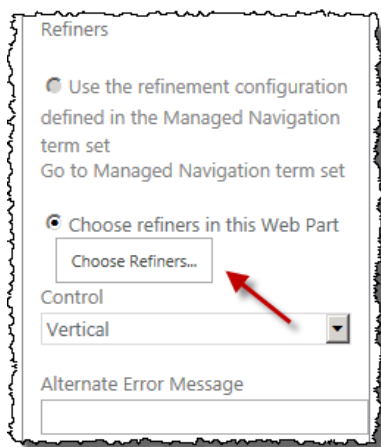
### Task 3 – Modify the Search Refinement Web Part

Having opened the search results page for editing, you will now change the page by making some simple modifications to the **Refinement** web part. As you saw in a previous task, refiners enable you to quickly drill down to the results you need, and can be configured in a number of different ways. In this task, you will modify the appearance and function of the Refinement web part.

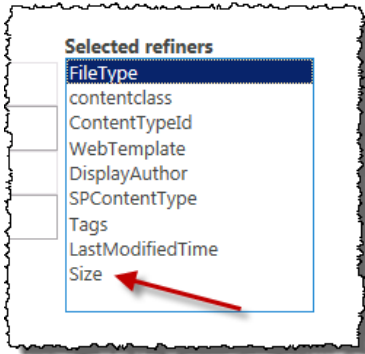
1. Click the **down-arrow** next to the **Refinement** web part and in the drop-down menu, select **Edit Web Part**. The web part will open for editing in the right side of the page.



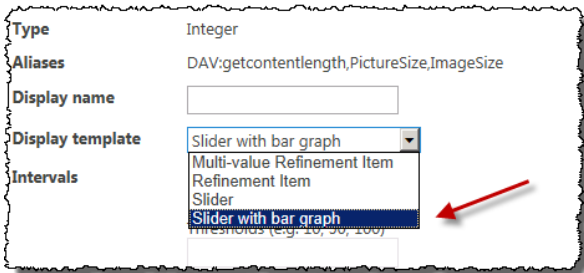
2. In the web part editor at the right side of the page, click the box labeled **Choose Refiners...**



3. In the **Selected Refiners** list at the top right of the window, click **Size**.

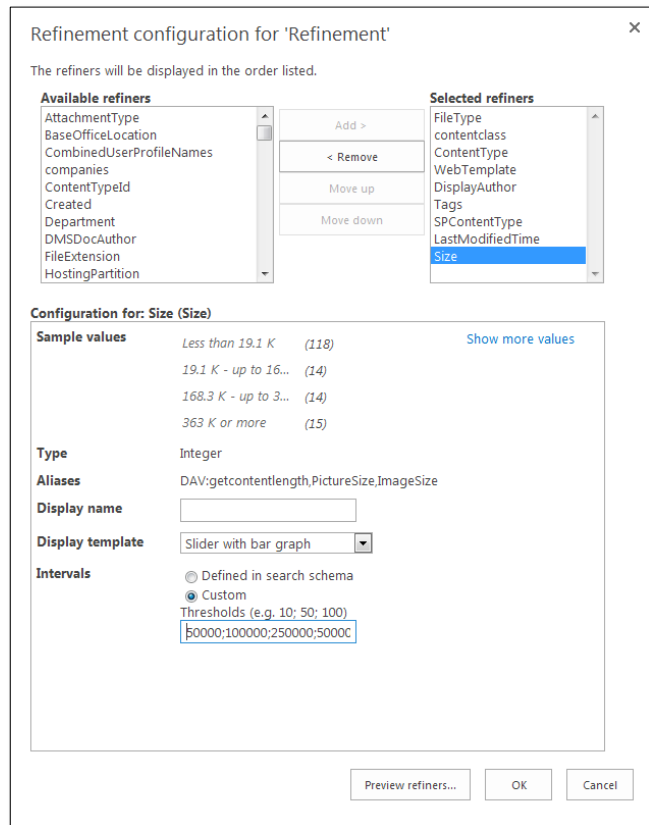


4. In the Configuration for: area at the bottom of the window, in the **Display template** drop-down menu, click the drop-down arrow and then click **Slider with bar graph**.



5. Next to **Intervals**, select **Custom**.

6. In the **Thresholds** box, type **50000;100000;250000;500000**. When you are done setting the web part options, the configuration page should look like the following:



The dialog box is titled "Refinement configuration for 'Refinement'". It contains two main sections: "Available refiners" and "Selected refiners".

**Available refiners:** A list of refiners including AttachmentType, BaseOfficeLocation, CombinedUserProfileNames, companies, ContentTypeId, Created, Department, DMSDocAuthor, FileExtension, and HostingPartition.

**Selected refiners:** A list of selected refiners including FileType, contentclass, ContentType, WebTemplate, DisplayAuthor, Tags, SPContentType, LastModifiedTime, and **Size** (which is highlighted).

Buttons between the lists include "Add >", "< Remove", "Move up", and "Move down".

**Configuration for: Size (Size)**

**Sample values:** Less than 19.1 K (118), 19.1 K - up to 16... (14), 168.3 K - up to 3... (14), 363 K or more (15). A "Show more values" link is present.

**Type:** Integer

**Aliases:** DAV:getcontentlength, PictureSize, ImageSize

**Display name:** (empty text box)

**Display template:** Slider with bar graph (dropdown menu)

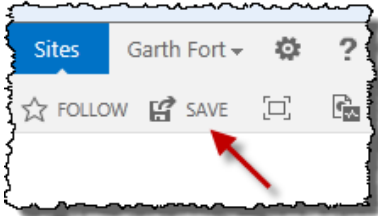
**Intervals:** ☐ Defined in search schema, ☒ Custom

**Thresholds (e.g. 10; 50; 100):** 50000;100000;250000;500000 (text box)

Buttons at the bottom: "Preview refiners...", "OK", and "Cancel".

7. Click **OK** to close the configuration window.
8. In the **Refinement** web part editor at the right of the page, click **OK**.

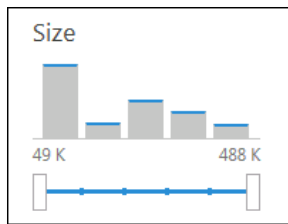
- At the upper right of the page, click **SAVE**.



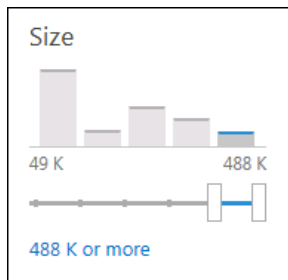
#### Task 4 – See the Modified Web Part

In this task, you will use the modified web part.

- In the search query box, type **marketing campaign** and click the **search icon**.
- At the left side of the page, note the choices that are available under the **Result Type** refiner (about 6 result types should show).
- Scroll down until you can see the **Size** refiner, which is now an interactive slider.



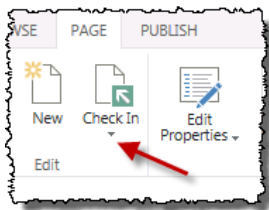
- Slide the left control bar in the **Size** refiner slider to the right to show only the largest result group (488K or more).



- Scroll up if needed so that you can see the **Result Type** refiner.

Note that after using the **Size** refiner, the choices available under the **Result Type** refiner have been reduced – only the result types with larger sizes are available. This again illustrates that refiners are populated dynamically.

6. Restore the **Size** slider to its original position. Note the **Result Types** list also updates to show more choices.
7. We will now restore the search results page to its original configuration.
  - a. At the upper right, next to the user name, click **Settings** (gear icon), and then click **Edit Page**.
  - b. In the ribbon, in the **Edit** group, click the **down-arrow** below **Check In** (do *not* click the **Check In** icon).



- c. Click **Discard Check Out** and then click **OK** in the confirmation dialog box.

In this exercise, you learned to modify the search results page to change its appearance and functionality. Specifically, you learned to modify a refiner web part and changed the way its UI works.

## Exercise 2 – Custom Result Source

Estimated time to complete this exercise: **10 minutes**

### Scenario

In SharePoint 2013 Search, result sources define where a search query looks for results. They can be thought of as “containers” for search results that hold results from specific sources and/or are filtered by specific criteria. For those familiar with SharePoint 2010, result sources replace “search scopes” in previous SharePoint versions. In this exercise, you will create a new result source.

### Task 1 – Set Up a New Result Source for Search Federation

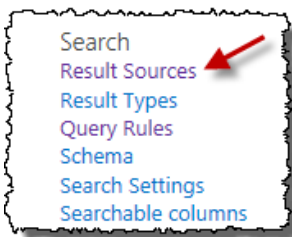
In this task, you will create and configure a special kind of result source for search federation. Search federation enables you to combine results from SharePoint search with a variety of non-SharePoint sources.

Specifically, you will learn how to create a result source for Bing search federation. In order to actually display federated results, you must configure a results page to do so. Those steps will be covered in the next task.

1. In the upper left, click the **SharePoint icon** to open a fresh search page.



2. At the upper right of the page, click **Settings** (gear icon), and from the drop-down menu, click **Site Settings**.
3. Under **Search**, click **Result Sources**.



4. At the top of the sources page, click **New Result Source**.
5. Next to the headings, type information as follows:
  - a. Name: **Federated Results**
  - b. Description: **Leave blank**
  - c. Source Information/Protocol **OpenSearch 1.0/1.1**
  - d. Query Transformation: **{searchTerms}**
  - e. Source URL (for Bing): **Copy and paste, or type in the following:**  
`http://www.bing.com/search?q={?searchterms}&format=rss&Market=en-US`
  - f. Credentials Information: **Anonymous**
6. At the bottom of the page, click **Save**.

## Task 2 – Display Bing Results on the Search Page

Having set up a new result source for Bing results, you will now enable the search results page to display them. There are several ways to do this, for example you can add a web part to the page or create a new query rule to display a block of Bing results. In this task, you will create a simple query rule to promote Bing results.

1. Click the **SharePoint icon** to open a fresh search page.
2. Click **Settings** (gear icon) and in the drop-down menu, click **Site Settings**.
3. Under **Search**, click **Query Rules**.

4. Click the **down-arrow** next to **Select a Result Source...** and then click **Local SharePoint Results**.
5. Click **New Query Rule**.



The next series of steps will configure the query rule.

6. In the query rule configuration page, under **Rule name**, type **Bing Results**.
7. In the **Query Conditions** area, click **Remove Condition**.
8. In the **Actions** area, under **Result Blocks**, click **Add Result Block**.

The next series of steps will configure the result block.

9. In the **Block Title** area, change the title to **Bing Results for "{subjectTerms}"**.
10. Ensure the **Search this Source** box contains **Federated Results**; if it does not; use the drop-down menu to select **Federated Results**.
11. Change the Items drop-down menu to **3**.
12. Expand **Settings**.
13. Select **This block is always shown above core results**.



14. The final Result Block configuration window should look like the following:

use them in the block's title and query. [Learn more.](#)  
(searchboxquery) - the original query from the search box

Block Title  
Title [other languages](#)  
Bing Results for "{subjectTerms}"

Query  
Configure Query  
{subjectTerms} Launch Query Builder  
Search this Source Federated Results Items 3

Settings  
☒ Do not show a "more" link  
☐ "More" link goes to the following URL  
  
☒ This block is always shown above core results  
☐ This block is ranked within core results (may not show)  
Group Display Template Default Group  
Item Display Template Use Result Types

Routing

15. Scroll down if needed, and click **OK**.

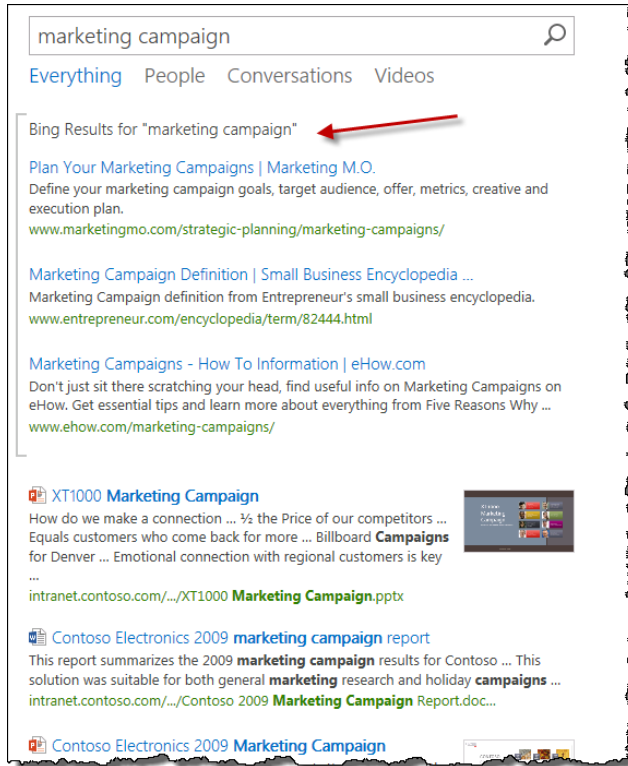
16. Scroll down if needed, and click **Save**.

### Task 3 – View Bing Federated Results

Having set up a query rule to add Bing results to search, you will now see it work.

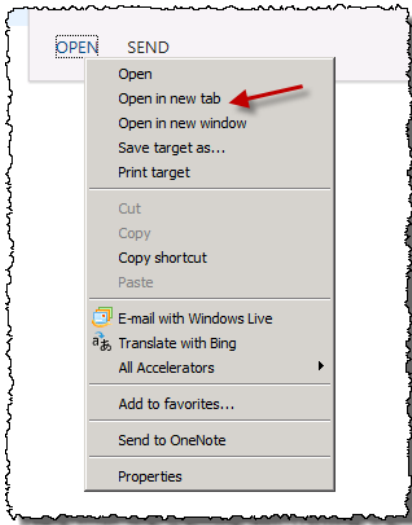
1. At the upper left of the page, right-click the **SharePoint icon** and select **Open link in new tab**.
2. Navigate to the **Search** tab.
3. In the query box, type **marketing campaign** and click the **search icon**.

4. Note that Bing search results have been added to the top of the page, followed by SharePoint search results.



Like SharePoint results, Bing results also have hover panels that enable you to navigate to a location without leaving the search results page.

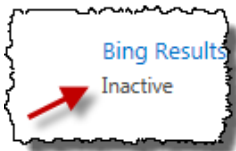
5. **Optional:** Pause on one of the Bing search results and in the hover panel, right-click **OPEN**, and then click **Open in new tab**. Then navigate to the tab.



6. When you are done exploring the Bing result, close the tab.

You will now deactivate the Bing results rule before moving on with the rest of the lab.

7. Navigate back to the **Manage Query Rules** tab.
8. Pause on the **Bing Results** query rule, click the **down-arrow**, and then click **Make Inactive**. You will see "Inactive" below the rule name.



In this exercise, you successfully created and configured a search results source and query rule for Bing federated results, and you saw the rule in action.

## Exercise 3 – Search Display Templates

Estimated time to complete this exercise: **10 minutes**

### Scenario

Search display templates, new in SharePoint 2013, are HTML files that dictate how items result and their corresponding hover panels display metadata, links, and previews. In this exercise, you will learn to open an out-of-the-box display template, compare it with a customized template, and apply the customized template to the results page.

### Task 1 – Explore a Query Rule

The custom display template you will be modifying is associated with a query rule that promotes Word documents of the “Press Release” content type. In this task, you will briefly open and explore the query rule to learn how the template is assigned.

**Note:** You can learn more about query rules in the labs **HOL031 - Introduction to Search in SharePoint 2013** and **HOL034 - Exploring Search Query Rules in SharePoint 2013**.

1. Navigate back to the **Manage Query Rules** page.
2. In the **Select a Result Source...** drop-down menu, make sure **Local SharePoint Results** is selected.
3. Under **Defined for this site**, pause on the rule called **Press Release**, click the down-arrow, and select **View**. The query rule configuration page will open.

The screenshot shows the 'Query Rule' configuration page in SharePoint 2013. The page is titled 'General Information' and 'Context'. Under 'Context', there is a section for 'Query Conditions' with a description: 'Define when a user's search box query makes this rule fire. You can specify multiple conditions of different types, or remove all conditions to fire for any query text. Every query condition becomes false if the query is not a simple keyword query, such as if it has quotes, property filters, parentheses, or special operators.'

The 'Query Conditions' section includes a dropdown menu for 'Advanced Query Text Match' and several radio button options:

- ☐ Query matches this regular expression
- ☒ Query contains one of these phrases (semi-colon separated)  
news;pr;press;release
- ☒ Query contains an entry in this dictionary  
People Names  
The People Name dictionary uses People Search to support fuzzy matching.
- ☐ Entire query matches exactly
- ☒ Start of query matches, but not entire query
- ☒ End of query matches, but not entire query

At the bottom, there are three radio button options for assigning the match:

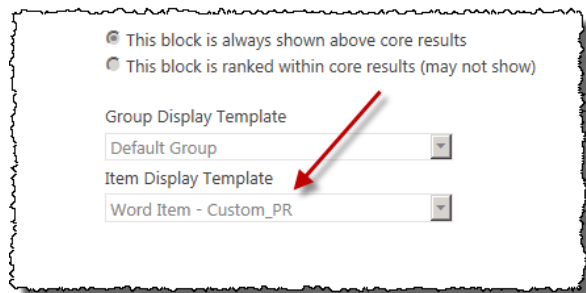
- ☐ Assign the entire query to {subjectTerms}
- ☒ Assign match to {subjectTerms}, unmatched terms to {actionTerms}
- ☐ Assign match to {actionTerms}, unmatched terms to {subjectTerms}

4. Scroll down, and under **Result Blocks**, next to **Press Releases for “subjectTerms”**, click **view**.



5. Expand **Settings**.

The Settings area result block definition defines the display template to be used; in this case, it specifies a custom **Word Item** created specifically for press releases, called **Word Item – Custom\_PR**.



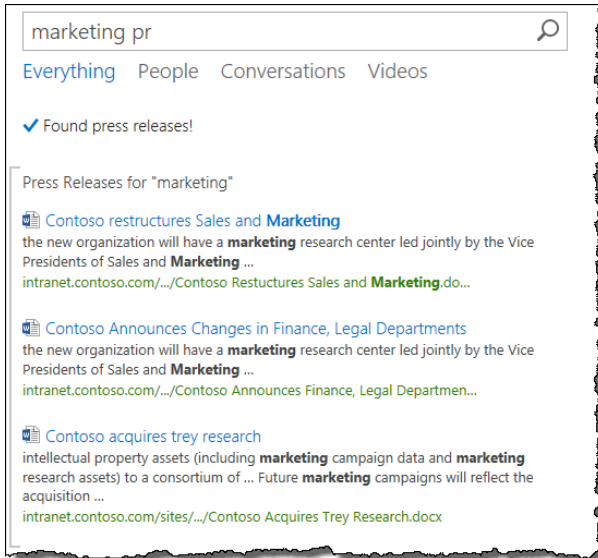
6. Close the **View Result Block** window.  
7. Scroll down if needed, and click **OK** to close the **View Query Rule** page.

## Task 2 – Show the Custom Hover Panel

You will now conduct a search that triggers the query rule and view the custom hover panel in action.

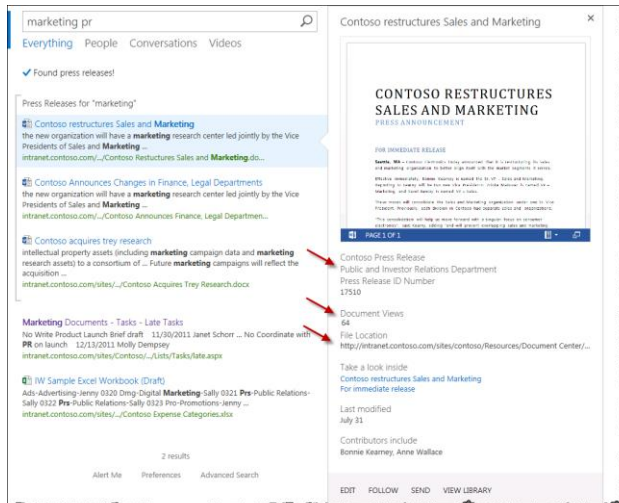
1. At the upper left of the page, right-click the **SharePoint icon** and select **Open link in new tab**.
2. Navigate to the **Search** tab.
3. In the query box, type **marketing pr** and click the **search icon**.

4. Notice the **Found press releases!** message and the result block **Press Releases for "marketing"**.



5. Pause on the top result and notice the custom content in the hover panel.

**Note:** the documents and hover panel you see may not exactly match the screen shot.

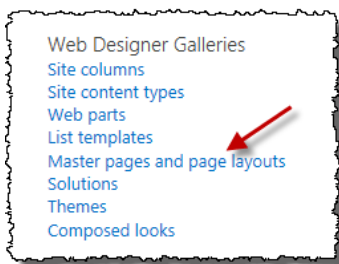


6. In the hover panel, explore the following **custom items**:
  - a. **Contoso Press Release** title and **Public and Investor Relations Department** designators
  - b. **Press release ID number**
  - c. Number of **Document Views** for the press release (may be blank if the document has not been viewed previously).
  - d. **File Location** of the press release
7. At the upper left, click the **SharePoint icon** to refresh the search page.

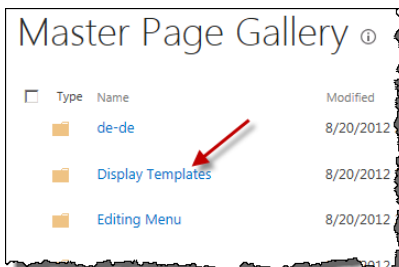
### Task 3 – Download a Custom Display Template

In this task, you will download a copy of the custom display template HTML file for press releases.

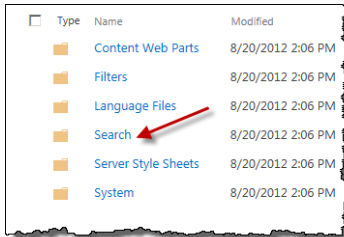
1. At the upper right of the page, click **Settings** (gear icon), and from the drop-down menu, click **Site Settings**.
2. Under **Web Designer Galleries**, click **Master Pages and page layouts**.



3. Click **Display Templates**.



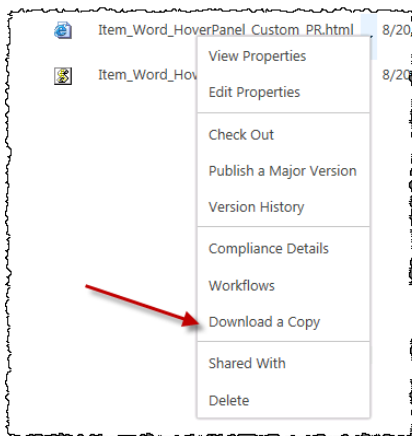
4. Click **Search**.



5. Scroll down to the bottom of the **Display Templates** page.
6. Using the navigation arrows at the bottom of the page, advance to the last page (items 91-98).



7. Pause on the item named **Item\_Word\_HoverPanel\_Custom\_PR.html** (**Note:** make sure you pause on the .html file, **not** the .js file).
8. Click the **down-arrow**, and in the context menu, click **Download a Copy**.

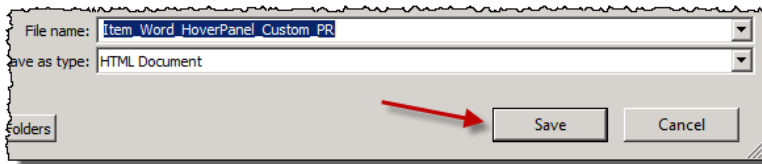




9. In the **Save dialog pull-down menu** at the bottom of the screen, click **Save as**.



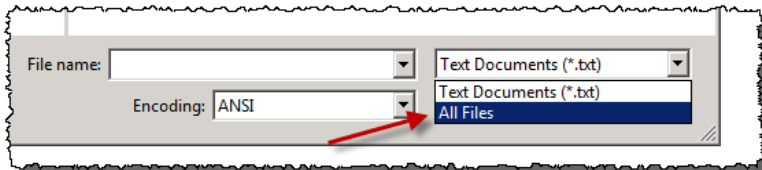
10. Navigate to the desktop and click **Save**.



#### Task 4 – Explore a Custom Display Template

In this task, you will open and explore the custom display template HTML file for press releases, and see how it is configured.

1. From the **Start** menu, start **Notepad**.
2. In Notepad, Click **File**, and then click **Open...**
3. Navigate to the desktop.
4. In the file type pull-down menu, click **All files**.



5. Double click **Item\_Word\_HoverPanel\_Custom\_PR**.

6. Locate the following section of code (if needed, click **Edit** and **Find...**, and then search for **Contoso Press**).

**Note:** yellow highlighted sections show the items of interest.

```
<div class="ms-srch-hover-subTitle">
<h3 class="ms-soften">Contoso Press Release</h3>
<h3 class="ms-soften">Public and Investor Relations Department</h3>

<h3 class="ms-soften">Press Release ID Number</h3>
<div class="ms-srch-hover-text ms-srch-ellipsis">_#= $htmlEncode(ctx.CurrentItem.DocId)
=#_ </div><br>

<h3 class="ms-soften">Document Views</h3>
<div class="ms-srch-hover-text ms-srch-ellipsis">_#=
$htmlEncode(ctx.CurrentItem.ViewsLifeTime) =#_ </div><br>

<h3 class="ms-soften">File Location</h3>
<div class="ms-srch-hover-text ms-srch-ellipsis">_#= $htmlEncode(ctx.CurrentItem.Path)
=#_ </div><br>
```

The above section of code adds the items you saw in the custom hover panel: a new subtitle, Press Release ID number, Views Count, and File location. This is a simple example of how a hover panel can be customized to display metadata that is not displayed in the standard Word hover panel.

7. Close Notepad.
8. Minimize Internet Explorer.
9. Delete the **Item\_Word\_HoverPanel\_Custom\_PR** file from the desktop.

By completing this exercise, you have completed a survey of how search items are selected and displayed using query rules, result sources, and display templates. You learned how the query rule result block definition assigns the display template. You then opened and explore a display template HTML file and locate the customization code.

## Summary

In this hands-on lab, you were introduced to some of the new and extended features of the SharePoint 2013 Search user experience, and you learned how to customize that experience. You took a tour of the results page, and learned how to configure web parts to display search results. You also learned how query rules use result sources and result types to define how results are displayed. You then learned display templates are assigned within a query rule, and explored the HTML file for a custom template.