

Module 13: Configuring Enterprise Search

Lab A: Configuring Enterprise Search

Exercise 1: Configuring the Search Service Application

► Task 1: Create service accounts for the Search service

1. On NYC-DC1, on the **Start** screen, type **Active Directory Administrative Center**, and then press Enter.
2. In Active Directory Administrative Center, click **Contoso (local)**.
3. In the **Tasks** pane, under **Managed Service Accounts**, click **New**, and then click **User**.
4. In the **Create User** dialog box, in the **Full name** text box, type **SPSearch**.
5. In the **User UPN logon** text box, type **spsearch**.
6. In the **Password** text box, type **Pa\$\$w0rd**.
7. In the **Confirm password** text box, type **Pa\$\$w0rd**.
8. Under **Password options**, select **Other password options**, select **Password never expires**, select **User cannot change password**, and then click **OK**.
9. In the center pane, right-click **Managed Service Accounts**, point to **New**, and then click **User**.
10. In the **Create User** dialog box, in the **Full name** text box, type **SPSearchAdmin**.
11. In the **User UPN logon** text box, type **spsearchadmin**.
12. In the **Password** text box, type **Pa\$\$w0rd**.
13. In the **Confirm password** text box, type **Pa\$\$w0rd**.
14. Under **Password options**, select **Other password options**, select **Password never expires**, select **User cannot change password**, and then click **OK**.
15. In the center pane, right-click **Managed Service Accounts**, point to **New**, and then click **User**.
16. In the **Create User** dialog box, in the **Full name** text box, type **SPSearchQuery**.
17. In the **User UPN logon** text box, type **spsearchquery**.
18. In the **Password** text box, type **Pa\$\$w0rd**.
19. In the **Confirm password** text box, type **Pa\$\$w0rd**.
20. Under **Password options**, select **Other password options**, select **Password never expires**, select **User cannot change password**, and then click **OK**.
21. In the center pane, right-click **Managed Service Accounts**, point to **New**, and then click **User**.
22. In the **Create User** dialog box, in the **Full name** text box, type **SPContentAccess**.
23. In the **User UPN logon** text box, type **spcontentaccess**.
24. In the **Password** text box, type **Pa\$\$w0rd**.
25. In the **Confirm password** text box, type **Pa\$\$w0rd**.
26. Under **Password options**, select **Other password options**, select **Password never expires**, select **User cannot change password**, and then click **OK**.

► Task 2: Register the service accounts as managed accounts

1. Switch to **NYC-SP1**.
2. On the **Start** screen, type **SharePoint 2016 Management Shell**, and then press Enter.
3. At the command prompt, type the following command, and then press Enter:

```
New-SPManagedAccount
```

4. In the **Windows PowerShell credential req...** dialog box, in the **User name** text box, type **CONTOSO\SPSearch**.
5. In the **Password** text box, type **Pa\$\$w0rd**, and then press Enter.
6. At the command prompt, type the following command, and then press Enter:

```
New-SPManagedAccount
```

7. In the **Windows PowerShell credential req...** dialog box, in the **User name** text box, type **CONTOSO\SPSearchAdmin**.
8. In the **Password** text box, type **Pa\$\$w0rd**, and then press Enter.
9. At the command prompt, type the following command, and then press Enter:

```
New-SPManagedAccount
```

10. In the **Windows PowerShell credential req...** dialog box, in the **User name** text box, type **CONTOSO\SPSearchQuery**.
11. In the **Password** text box, type **Pa\$\$w0rd**, and then press Enter.
12. Close the SharePoint 2016 Management Shell window.

► Task 3: Provision a Search Service Application instance

1. On the **Start** screen, type **SharePoint 2016 Central Administration**, and then press Enter.
2. In the SharePoint 2016 Central Administration site, under **Application Management**, click **Manage service applications**.
3. On the ribbon, on the **New** menu, click **Search Service Application**.
4. In the **Create New Search Service Application** dialog box, in the **Service Application name** text box, type **Contoso Search**.
5. In the **Search Service Account** drop-down list, click **CONTOSO\SPSearch**.
6. In the **Application Pool for Search Admin Web Service** section, ensure **Create new application pool** is selected.
7. In the **Application pool name** text box, type **SharePointSearchAdmin**.
8. Under **Select a security account for this application pool**, in the **Configurable** drop-down list, click **CONTOSO\SPSearchAdmin**.
9. In the **Application Pool for Search Query and Site Settings Web Service** section, ensure **Create new application pool** is selected.
10. In the **Application pool name** text box, type **SharePointSearchQuery**.
11. Under **Select a security account for this application pool**, in the **Configurable** drop-down list, click **CONTOSO\SPSearchQuery**.

12. Click **OK**.
13. Verify that the **Create New Search Service Application** dialog box displays the message "The Search Service Application Contoso Search was created successfully," and then click **OK**.
14. On the **Manage Service Applications** page, verify that the **Contoso Search** and the **WSS_UsageApplication** service application, and their corresponding service application proxies are now included in the list of service applications.
15. Verify that the **Search Administration Web Service for Contoso Search** service application is also included in the list of service applications. This service application does not have a corresponding proxy.

► **Task 4: Configure the default content access account**

1. On the **Manage Service Applications** page, click **Contoso Search** (you must click the name in the **Search Service Application** row, and not in the **Search Service Application Proxy** row).
2. On the **Contoso Search: Search Administration** page, in the **Default content access account** row, click **CONTOSO\SPSearch**.
3. In the **Default Content Access Account** dialog box, in the **Account** text box, type **CONTOSO\SPContentAccess**.
4. In the **Password** text box, type **Pa\$\$w0rd**. In the **Confirm Password** text box, type **Pa\$\$w0rd**, and then click **OK**.

Results: After completing this exercise, you should have created three service account in Active Directory Domain Services (AD DS) and registered them in SharePoint as managed accounts. Then, you should have provisioned and configured a new Search Service Application instance in SharePoint 2016.

Exercise 2: Configuring a file share content source

► **Task 1: Create a new content source**

1. On the **Contoso Search: Search Administration** page, on the Quick Launch navigation menu, click **Content Sources**.
2. On the **Contoso Search: Manage Content Sources** page, click **New Content Source**.
3. On the **Contoso Search: Add Content Source** page, in the **Name** text box, type **IT File Share**.
4. In the **Content Source Type** section, select **File Shares**.
5. In the **Start Addresses** section, in the text box, type **\\NYC-DB1\ITShare**.
6. Under **Crawl Settings**, ensure **Crawl the folder and all subfolders of each start address** is selected.
7. In the **Crawl Schedules** section, under **Incremental Crawl**, click **Create schedule**.
8. In the **Manage Schedules** dialog box, in the **Type** section, ensure **Daily** is selected.
9. In the **Settings** section, in the **Starting time** drop-down list, click **3:00 AM**, and then click **OK**.
10. Under **Full Crawl**, click **Create schedule**.
11. In the **Manage Schedules** dialog box, in the **Type** section, select **Weekly**.
12. In the **Settings** section, select **Saturday**.

13. In the **Starting time** drop-down list, click **2:00 AM**, and then click **OK**.
14. On the **Contoso Search: Add Content Source** page, click **OK**.
15. Close Internet Explorer.

► **Task 2: Grant access to the audit logs**

1. Switch to **NYC-DB1**.
2. On the **Start** screen, type **Edit Group Policy**, and then press Enter.
3. In the Local Group Policy Editor window, under **Computer Configuration**, expand **Windows Settings**, expand **Security Settings**, expand **Local Policies**, and then click **User Rights Assignment**.
4. In the list of policies, double-click **Manage auditing and security log**.
5. In the **Manage auditing and security log Properties** dialog box, click **Add User or Group**.
6. Type **CONTOSO\SPContentAccess**, click **Check Names**, and then click **OK**.
7. On the **Manage auditing and security log Properties** dialog box, click **OK**.
8. Close Local Group Policy Editor.

► **Task 3: Configure permissions on the file share**

1. On the **Start** screen, type **File Explorer**, and then press Enter.
2. Browse to the **Allfiles (E:)** drive.
3. Right-click **ITShare**, and then click **Properties**.
4. In the **ITShare Properties** dialog box, on the **Security** tab, click **Edit**.
5. In the **Permissions for ITShare** dialog box, click **Add**.
6. In the **Enter the object names to select** text box, type **CONTOSO\SPContentAccess**, click **Check Names**, and then click **OK**.
7. In the **Permissions for ITShare** dialog box, click **OK**.
8. In the **ITShare Properties** dialog box, click **OK**.

► **Task 4: Run a full crawl**

1. Switch to **NYC-SP1**.
2. On the **Start** screen, type **SharePoint 2016 Central Administration**, and then press Enter.
3. In the SharePoint 2016 Central Administration site, under **Application Management**, click **Manage service applications**.
4. On the **Manage Service Applications** page, click **Contoso Search** (you must click the name in the **Search Service Application** row, and not in the **Search Service Application Proxy** row).
5. On the **Contoso Search: Search Administration** page, on the Quick Launch navigation menu, click **Content Sources**.
6. On the **IT File Share** drop-down menu, click **Start Full Crawl**.
7. In the **Message from webpage** dialog box, click **OK**.



Note: The crawl might take two to three minutes to complete. Click **Refresh** periodically until the **Status** column shows **Idle**.

8. After the crawl completes, on the Quick Launch navigation menu, click **Crawl Log**.
9. On the **Contoso Search: Crawl Log - Content Source** page, verify that the crawl of the **IT File Share** content source completed without errors.

Results: After completing this exercise, you should have configured a content source for a network file share.

Exercise 3: Configuring a local SharePoint content source

► Task 1: Configure the content source

1. On the **Contoso Search: Crawl Log - Content Source** page, on the Quick Launch navigation menu, click **Content Sources**.
2. On the **Contoso Search: Manage Content Sources** page, on the **Local SharePoint sites** drop-down menu, click **Start Full Crawl**.
3. In the **Message from webpage** dialog box, click **OK**.



Note: The crawl might take two to four minutes to complete. Click **Refresh** periodically until the **Current crawl duration** column is empty.

4. On the **Contoso Search: Manage Content Sources** page, click **Local SharePoint sites**.
5. On the **Contoso Search: Edit Content Source** page, under **Crawl Schedules**, select **Enable Continuous Crawls**.
6. Under **Full Crawl**, click **Create schedule**.
7. In the **Manage Schedules** dialog box, in the **Type** section, select **Weekly**.
8. In the **Settings** section, select **Sunday**.
9. In the **Starting time** drop-down list, click **2:00 AM**, and then click **OK**.
10. On the **Contoso Search: Edit Content Source** page, click **OK**.
11. On the **Contoso Search: Manage Content Sources** page, verify that the **Local SharePoint sites** content source displays the status **Crawling Continuous**.



Note: The crawl might take two to three minutes to complete. Click **Refresh** periodically until the **Current crawl duration** column is empty.

12. After the crawl completes, on the Quick Launch navigation menu, click **Crawl Log**.
13. On the **Contoso Search: Crawl Log - Content Source** page, verify that the crawl of the **Local SharePoint sites** content source completed without errors.
14. Close **Internet Explorer**.

Results: After completing this exercise, you should have configured the default content source for local SharePoint sites to use continuous crawl.

Exercise 4: Creating a search center

► Task 1: Create a new managed path

1. On the **Start** screen, type **SharePoint 2016 Central Administration**, and then press Enter.
2. In the SharePoint 2016 Central Administration site, under **Application Management**, click **Manage web applications**.
3. On the **Web Application Management** page, in the list of web applications, select **SharePoint – sharepoint.contoso.com80**.
4. On the ribbon, in the **Manage** group, click **Managed Paths**.
5. In the **Define Managed Paths** dialog box, in the **Path** text box, type **search**.
6. On the **Type** drop-down menu, click **Explicit inclusion**.
7. Click **Add Path**, and then click **OK**.

► Task 2: Create a Search Center site collection

1. On the Quick Launch navigation menu, click **Application Management**.
2. Under **Site Collections**, click **Create site collections**.
3. On the **Create Site Collection** page, under **Web Application**, ensure **http://sharepoint.contoso.com/** is selected.
4. In the **Title** text box, type **Search Center**.
5. In the **Description** text box, type **Search results from across the Contoso enterprise**.
6. Under **URL**, on the drop-down menu, click **/search**.
7. Under **Select a template**, on the **Enterprise** tab, select **Enterprise Search Center**.
8. Under **Primary Site Collection Administrator**, in the **User name** text box, type **CONTOSO\Administrator**, and then click **OK**.
9. On the **Top-Level Site Successfully Created** page, click **OK**.

► Task 3: Test search functionality

1. In the Internet Explorer address bar, type **http://sharepoint.contoso.com/search**, and then press Enter.
2. If you are prompted for credentials, sign in as **CONTOSO\Administrator** with the password **Pa\$\$w0rd**.
3. In the search box, type **How do I connect to a printer**, and then press Enter.
4. Verify that the search returns a link to the **FAQs.docx** file in the file share that you configured.
5. In the search box, type **Password policy**, and then press Enter.
6. Verify that the search returns a link to the **IT Policies and Procedures.docx** file in the file share you configured.
7. In the search box, type **Fabrikam contacts**, and then press Enter.
8. Verify that the search returns a link to the **Customer Contacts** list on the local SharePoint site.
9. Close Internet Explorer.

► **Task 4: Prepare for the next lab**

- When you are finished with the lab, keep all of the virtual machines running. The virtual machines in their current state are required for the next lab.

Results: After completing this exercise, you should have created a search center and tested your content source configuration.

Lab B: Optimizing the search experience

Exercise 1: Configuring a result source and query rule

► Task 1: Configure a result source

1. On NYC-SP1, on the **Start** screen, click **Internet Explorer**.
2. In the Internet Explorer address bar, type **http://sharepoint.contoso.com/search**.
3. If you are prompted for credentials, sign in as **CONTOSO\Administrator** with the password **Pa\$\$w0rd**.
4. On the **Settings** menu, click **Site settings**.
5. On the **Site Settings** page, under **Site Collection Administration**, click **Search Result Sources**.
6. On the **Manage Result Sources** page, click **New Result Source**.
7. On the **Add Result Source** page, in the **Name** text box, type **IT Team Fileshare**.
8. In the **Description** text box, type **Files from the IT team network share**.
9. In the **Query Transform** text box, type (or build) the following query transform:

```
{searchTerms} ContentSource="IT File Share"
```

10. Click **Save**.

► Task 2: Configure a query rule

1. On the **Settings** menu, click **Site settings**.
2. On the **Site Settings** page, under **Site Collection Administration**, click **Search Query Rules**.
3. On the **Site Collection Administration : Manage Query Rules** page, on the **Select a Result Source** drop-down menu, click **IT Team Fileshare**.
4. Click **New Query Rule**.
5. On the **Site Collection Administration : Add Query Rule** page, in the **Rule name** text box, type **IT Policies**.
6. Under **Query Conditions**, on the drop-down menu, click **Advanced Query Text Match**.
7. Under **Query Conditions**, select **Query contains one of these phrases (semi-colon separated)**, and then in the text box, type **policy;password;acceptable use;guidelines;requisitions;hardware;software**.
8. Select the following options:
 - **Entire query matches exactly**
 - **Start of query matches, but not entire query**
 - **End of query matches, but not entire query**
9. Under **Actions**, click **Add Promoted Result**.
10. In the **Add Promoted Result** dialog box, in the **Title** text box, type **IT Policies and Procedures**.
11. In the **URL** text box, type **file://172.16.1.20/ITShare/IT Policies and Procedures.docx**.
12. In the **Description** text box, type **This document provides definitive guidance on all IT policies and procedures at Contoso**.

13. Click **Save**.
14. On the **Site Collection Administration : Add Query Rule** page, click **Save**.

Results: After completing this exercise, you should have created a result source and a query rule.

Exercise 2: Customizing the search experience

► Task 1: Create a new search results page

1. On the **Settings** menu, click **Add a page**.
2. In the **Add a page** dialog box, type **itresults**, and then click **Create**.
3. On the **itresults** page, on the Search Results Web Part, on the drop-down menu, click **Edit Web Part**.
4. On the **Search Results** configuration pane, click **Change query**.
5. In the **Select a query** drop-down list, click **IT Team Fileshare (Site Collection)**, and then click **OK**.
6. On the **Search Results** configuration pane, click **Apply**.
7. On the ribbon, click **Check In**.
8. In the **Check In** dialog box, type **Search Results Web Part query changed to display results from the IT Team Fileshare**, and then click **Continue**.
9. On the **Not published yet** banner at the top of the page, click **Publish it**.

► Task 2: Add a new tab to the search results

1. On the **Settings** menu, click **Site settings**.
2. On the **Site Settings** page, under **Search**, click **Search Settings**.
3. On the **Site Settings : Search Settings** page, in the **Configure Search Navigation** section, click **Add Link**.
4. In the **Navigation Link** dialog box, in the **Title** text box, type **IT**.
5. In the **URL** text box, delete any existing text, and then type **/search/pages/itresults.aspx**.
6. In the **Description** text box, type **Search results from the IT team**, and then click **OK**.
7. On the **Search Settings** page, click **OK**.

► Task 3: Verify that searches behave as expected

1. At the top of the **Site Settings** page, click **Search Center**.
2. On the **Search** page, type **Request new hardware**, and then press Enter.
3. Under the search box, click **IT**.
4. Verify that the page displays the **IT Policies and Procedures** item as a promoted result.

Results: After completing this exercise, you should have created and configured a search results page and customized the search navigation settings.

Exercise 3: Creating and deploying a Thesaurus

► Task 1: Examine why a thesaurus is necessary

1. On the **Search Center** page, click on **Everything**, and then in the search box, type **Painkillers**, and then press Enter. Notice that the search returns no results.
2. In the search box, type **Analgesics**, and then press Enter. Notice that the search returns a datasheet.
3. In the search box, type **Emergency aid**, and then press Enter. Notice that the search returns no results.
4. In the search box, type **First aid**, and then press Enter. Notice that the search returns a datasheet.
5. In the search box, type **Indigestion remedy**, and then press Enter. Notice that the search returns no results.
6. In the search box, type **Digestive health**, and then press Enter. Notice that the search returns a datasheet.
7. Close **Internet Explorer**.

► Task 2: Create a .csv file in Excel

1. On the desktop, click **File Explorer**.
2. In the File Explorer window, browse to **E:\Labfiles\Mod13\Starter**, right-click **ContosoThesaurus.csv**, point to **Open with**, and then click **Notepad**.
3. Immediately after the line that reads **Key,Synonym,Language**, on a new line, add the following text:

```
Painkiller,Analgesic
```

4. Add the following text, using a new line for each comma-separated pair of values:

```
Analgesic,Painkiller
First aid,Emergency care
First aid,Emergency treatment
First aid,Emergency assistance
Emergency care,First aid
Emergency treatment,First aid
Emergency assistance,First aid
Indigestion,digestive health
Digestive health,indigestion
Indigestion remedy,Digestive health
Digestive health,Indigestion remedy
```

5. Save the file and close Notepad.

► Task 3: Import the thesaurus

1. On the **Start** screen, type **SharePoint 2016 Management Shell**, and then press Enter.
2. At the command prompt, type the following command, and then press Enter:

```
$search = Get-SPEnterpriseSearchServiceApplication
```

3. At the command prompt, type the following command, and then press Enter:

```
Import-SPEnterpriseSearchThesaurus -SearchApplication $search -Filename "\\NYC-SP1\Starter\ContosoThesaurus.csv"
```

4. Close the SharePoint 2016 Management Shell.

► Task 4: Test the thesaurus

1. On the **Start** screen, type **Internet Explorer**, and then press Enter.
2. In the Internet Explorer address bar, type **sharepoint.contoso.com/search**, and then press Enter.
3. In the **Windows Security** dialog box, in the **User name** text box type **CONTOSO\Administrator**, in the **Password** text box type **Pa\$\$w0rd**, and then click **OK**.
4. In the search box, type **Painkiller**, and then press Enter. Notice that the search returns a datasheet that matches the term **Analgescic**.
5. In the search box, type **Emergency assistance**, and then press Enter. Notice that the search returns a datasheet that matches the term **First aid**.
6. In the search box, type **Indigestion remedy**, and then press Enter. Notice that the search returns a datasheet that matches the term **Digestive health**.
7. Close Internet Explorer.

Results: After completing this exercise, you should have created, imported and tested a thesaurus.

Exercise 4: Configuring entity extractors and refiners

► Task 1: Add entries to custom entity extraction dictionary

1. On the desktop, click **File Explorer**.
2. In the File Explorer window, browse to **E:\Labfiles\Mod13\Starter**, right-click **ContosoBrandEntities.csv**, point to **Open with**, and then click **Notepad**.
3. Immediately after the line that reads **Key,Display form**, on a new line, add the following text:

```
Contoso Pharm,Contoso Pharmaceuticals
```

4. Add the following text, using a new line for each comma-separated pair of values:

```
Contoso Pharma,Contoso Pharmaceuticals
ContosoPharm,Contoso Pharmaceuticals
Contoso Consumer Pharmaceuticals,Contoso Pharmaceuticals
Contoso R&D,Contoso Research
Contoso R & D,Contoso Research
Contoso R and D,Contoso Research
Contoso Laboratories,Contoso Research
```

5. Save the file and close **Notepad**.

► Task 2: Deploy a custom entity extraction dictionary

1. On the **Start** screen, type **SharePoint 2016 Management Shell**, and then press Enter.
2. At the command prompt, type the following command, and then press Enter:

```
$search = Get-SPEnterpriseSearchServiceApplication
```

3. At the command prompt, type the following command, and then press Enter:

```
Import-SPEnterpriseSearchCustomExtractionDictionary -SearchApplication $search -  
Filename \\NYC-SP1\Starter\ContosoBrandEntities.csv -DictionaryName  
Microsoft.UserDictionaries.EntityExtraction.Custom.Word.2
```

4. Close SharePoint 2016 Management Shell.

► Task 3: Configure a managed property for custom entity extraction

1. On the **Start** screen, type **SharePoint 2016 Central Administration**, and then press Enter.
2. Under **Application Management**, click **Manage service applications**.
3. On the list of service applications, select **Contoso Search**, and then on the ribbon, click **Manage**.
4. On the Quick Launch navigation menu, under **Queries and Results**, click **Search Schema**.
5. In the **Filter** text box, type **body**, and then press Enter.
6. In the list of managed properties, click **body**.
7. On the **Contoso Search: Edit Managed Property – body** page, under **Custom entity extraction**, select **Word Extraction – Custom2**, and then click **OK**.
8. On the Quick Launch navigation menu, under **Crawling**, click **Content Sources**.
9. On the **Local SharePoint sites** drop-down menu, click **Start Full Crawl**.
10. In the **Message from webpage** dialog box, click **OK**.
11. Click **Refresh** periodically until the **Status** column shows **Idle**.



Note: The search crawl might take a few minutes to complete.

12. Close **SharePoint 2016 Central Administration**.

► Task 4: Configure a refiner in the Web Part

1. On the **Start** screen, type **Internet Explorer**, and then press Enter.
2. In the Internet Explorer address bar, type **sharepoint.contoso.com/search**, and then press Enter.
3. In the **Windows Security** dialog box, in the **User name** text box, type **CONTOSO\Administrator**, in the **Password** text box, type **Pa\$\$w0rd**, and then click **OK**.
4. In the search box, type any text, and then press Enter.



Note: It does not matter what search text you type; this step is intended solely to take you to the search results page.

5. On the results page, on the **Settings** menu, click **Edit page**.
6. On the **Refinement** web part drop-down menu, click **Edit Web Part**.

7. In the **Properties for Search Refinement** pane, click **Choose Refiners**.
8. In the **Available refiners** list box, click **WordCustomRefiner2**, and then click **Add**.
9. In the **Selected refiners** list box, click **WordCustomRefiner2**.
10. In the **Configuration for: WordCustomRefiner2** pane, in the **Display name** text box, type **Contoso Division**, and then click **OK**.
11. In the **Properties for Search Refinement** pane, click **Apply**.
12. On the ribbon, click **Check In**.
13. In the **Check In** dialog box, type a comment, and then click **Continue**.
14. On the **Recent draft not published** banner, click **Publish this draft**.
15. In the search box, type **ContentType:Invoice**, and then press Enter.
16. Verify that the **Contoso Division** refiner appears on the left side of the page.
17. Under **Contoso Division**, click **Contoso Research**.
18. Verify that the search results page displays a filtered list, and then click the title of one of the search results.
19. In the **Microsoft Office** dialog box, when asked if you want to open the file, click **Yes**.
20. In the **Windows Security** dialog box, in the **User name** text box, type **CONTOSO\Administrator**, in the **Password** text box, type **Pa\$\$w0rd**, and then click **OK**.
21. When the document opens, verify that the invoice is addressed to one of the terms that you mapped to **Contoso Research** in the custom entity extraction dictionary.
22. Close Word.
23. On the search results page, under **Contoso Division**, click **All**, and then click **Contoso Pharmaceuticals**.
24. Verify that the search results page displays a filtered list, and then click the title of one of the search results.
25. In the **Microsoft Office** dialog box, when asked if you want to open the file, click **Yes**.
26. In the **Windows Security** dialog box, in the **User name** text box, type **CONTOSO\Administrator**, in the **Password** text box, type **Pa\$\$w0rd**, and then click **OK**.
27. When the document opens, verify that the invoice is addressed to one of the terms you mapped to **Contoso Pharmaceuticals** in the custom entity extraction dictionary.
28. Close Word, and then close Internet Explorer.

Results: After completing this exercise, you should have configured entity extractors and refiners.

Exercise 5: Managing query spelling correction

► Task 1: Test spelling correction limitation

1. On the **Start** screen, type **Internet Explorer**, and then press Enter.
2. In the Internet Explorer address bar, type **sharepoint.contoso.com/search**, and then press Enter.
3. In the **Windows Security** dialog box, in the **User name** text box, type **CONTOSO\Administrator**, in the Password text box, type **Pa\$\$w0rd**, and then click **OK**.
4. In the search box, type **Analgesacs** (a deliberate misspelling of *analgesics*), and then press Enter. Verify that the search returns no results.
5. In the search box, type **Acetamophen** (a deliberate misspelling of *acetaminophen*), and then press Enter. Verify that the search returns no results.
6. Close **Internet Explorer**.

► Task 2: Add terms to the spelling dictionary

1. On the **Start** screen, type **SharePoint 2016 Central Administration**, and then press Enter.
2. Under **Application Management**, click **Manage service applications**.
3. In the list of service applications, click **Contoso Search**, and then on the ribbon, click **Manage**.
4. On the Quick Launch navigation menu, under **Queries and Results**, click **Search Dictionaries**.
5. On the **Term Store Management Tool** page, in the navigation pane, expand **Search Dictionaries**.
6. On the **Query Spelling Inclusions** drop-down menu, click **Create Term**.
7. Type **Analgesic**, and then press Enter.
8. Type **Acetaminophen**, and then press Enter.
9. Click the site logo to return to the SharePoint 2016 Central Administration site.

► Task 3: Force SharePoint to update custom dictionaries immediately

1. On the SharePoint 2016 Central Administration site, click **Monitoring**.
2. Under **Timer Jobs**, click **Review job definitions**.
3. On the **Job Definitions** page, click **Search Custom Dictionaries Update**.
4. On the **Edit Timer Job** page, click **Run Now**.
5. Close **Internet Explorer**.

► Task 4: Test the spelling dictionary updates

1. On the **Start** screen, type **Internet Explorer**, and then press Enter.
2. In the Internet Explorer address bar, type **sharepoint.contoso.com/search**, and then press Enter.
3. In the **Windows Security** dialog box, in the **User name** text box, type **CONTOSO\Administrator**, in the Password text box, type **Pa\$\$w0rd**, and then click **OK**.
4. In the search box, type **Analgesacs** (a deliberate misspelling of *analgesics*), and then press Enter.
5. Verify that the search results page displays the message **Did you mean Analgesic?**
6. Click **Analgesic**, and verify that the search results page returns a datasheet.
7. In the search box, type **Acetamophen** (a deliberate misspelling of *acetaminophen*), and then press Enter.

8. Verify that the search results page displays the message **Did you mean Acetaminophen?**
9. Click **Acetaminophen**, and verify that the search results page returns a datasheet.
10. Close Internet Explorer.

Results: After completing this exercise, you should know the limitations of spelling correction and should have updated and tested a custom spelling dictionary.

► **Task 5: Prepare for the next module**

1. On the host computer, start **Hyper-V Manager**.
2. In the **Virtual Machines** list, right-click **20339-1A-NYC-SP1-F**, and then click **Revert**.
3. In the **Revert Virtual Machine** dialog box, click **Revert**.
4. Repeat steps 2 and 3 for **20339-1A-NYC-DB1-F** and **20339-1A-NYC-DC1-F**.