# **Microsoft**

# Exam 70-489

# **Developing Microsoft SharePoint Server 2013 Advanced Solutions**

**Verson: Demo** 

[Total Questions: 10]

# Topic break down

Topic	No. of Questions
Topic 1: Trey Research	4
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### **Topic 1, Trey Research**

# **Background**

You develop an intranet portal for Trey Research. End users of the portal are researchers and office staff.

# **Business Requirements**

All end users must be able to customize their profile with relevant information. Researchers must store research papers, upload supporting documents, and search content.

# **Storage**

The portal must use an existing Microsoft SQL Server database to access and store work profile information and research papers.

#### **Data Access**

- The portal must use Business Connectivity Services (BCS) to access data from external systems.
- # Researchers must search content from SharePoint and external systems.
- # Researchers must manage a research topic and related content as a single entity.

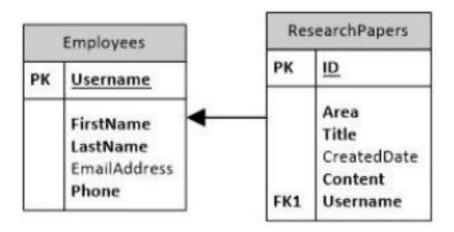
### **User Profile**

- # Employees must be able to customize their profile.
- Administrators must be able to create new profile properties.

# **Technical Requirements**

#### **Data Store**

The data model for the database entities is shown below:



Users must not be allowed to update the Employees. Username and Research Papers. ID fields. The fields uniquely distinguish the corresponding entity.

#### **Access External Data**

You must create an external content type named TreyResearch to access the SQL data source. During development, the data source will be accessible locally.

- Researchers must be able to find all research papers that are written by a particular employee.
- ## A research paper always must be associated with the employee that wrote it.

# **Document Management**

- Researchers must be able to upload research papers and relevant supporting materials into a document set named Research Content.
- # All documents that are uploaded must contain the prefix DOC in the file name.

#### **Environment**

The SQL database will be on a different physical server when the solution is deployed to a production environment. The solution must use the SQL Server user named sqltrey to connect to the database. The BCS service is configured and running in the production environment.

### **Personalize**

- You must use custom profile properties to add a new section to the user profile properties page.
- The solution must use the client-side object model (CSOM) to upload employee profile pictures.
- # Each employee's page must display the value of the DisplayName and Title fields.

#### Search

- The Microsoft Bing API web service must be used to search for research papers. No code must be written.
- The app must use a Content Enrichment web service named AbstractIndexer. The app must use the AbstractIndexer service to index search content.
- The database must use the ResearchPapers.ID field as the foreign key to associate the field with the TreyResearch external content type.

# **Application Structure**

Relevant portions of the solution files are shown below. (Line numbers in the code segments are included for reference only and include a two-character prefix that denotes the specific file to which they belong.)

### App.js

```
AJ01 var context;
AJ02 var web;
AJ03 var user;
AJ04
A.TO 5
AJ06
         $.ajax({
AJ07
            url: listURL,
AJ08
            headers: {
              "accept": "application/json",
AJ09
AJ10
              "X-RequestDigest": $("# REQUESTDIGEST").val()
AJ11
           },
AJ12
            success: this.showItems,
AJ13
            error: this.failMethod
AJ14
         });
AJ15
        }
AJ16
       this.showItems = function (data) {
AJ17
         $("#Container").children().remove();
AJ18
         $.each(data.d.results, function (key, val) {
AJ19
            var item = $("#EmployeeInfoTemplate").clone()
AJ20
            .attr("id", val.BdcIdentity)
A.T21
            .fadeIn("slow");
AJ22
AJ23
AJ24
            item.appendTo("#Container");
AJ25
          1);
AJ26
AJ27
AJ28
        this.failMethod = function (jqXHR, textStatus, errorThrown) {
AJ29
          alert('failed: ' + errorThrown);
AJ30
         }
     }
AJ31
AJ32
      ExecuteOrDelayUntilScriptLoaded(getEmployees, "sp.js");
AJ33 });
AJ34
AJ35 function getEmployees() {
       var grid = new AppLevelECT.Grid
("ColumnContainer", 3, _spPageContextInfo.webServerRelativeUrl);
AJ37
     grid.init();
AJ38 }
```

# ManageUserProfiles.es

```
MP01 namespace ManageUserProfiles
MPOS
        class ProfileProperties
MP04
MP05
          public static void AddProfileProperty(string name, string displayName,
bool isMultivalued)
MP06
            using (SPSite site = new SPSite("http://treyresearch.com/users"))
MP07
MP08
MP09
              SPServiceContext svcContext = SPServiceContext.GetContext(site);
MP10
MP11
MP12
                ProfilePropertyManager prfPropMgr;
MP13
                ProfileSubtypeManager prfTypeMgr;
MP14
                ProfileSubtypePropertyManager prftypePropMgr;
MP15
                ProfileTypePropertyManager typPropMgr;
MP16
                ProfileSubtypeProperty prfTypeProp;
MP17
                ProfileTypeProperty prfProp;
               ProfileSubtype prfType;
MP18
MP19
                CorePropertyManager corePropMgr;
MP20
                CoreProperty coreProp;
MP21
                prfPropMgr = new UserProfileConfigManager(svcContext)
               .ProfilePropertyManager;
MP22
MP23
              prfTypeProp = prftypePropMgr.Create(prfProp);
MP24
               prfTypeProp.IsUserEditable = true;
              prfTypeProp.DefaultPrivacy = Privacy.Public;
MP25
              prfTypeProp.UserOverridePrivacy = true;
MP26
MP27
               prftypePropMgr.Add(prfTypeProp);
MP28
MP29
             catch (System.Exception e)
MP30
MP31
             throw new Exception ("Error occurred: " + e.ToString());
MP32
            3
MP33
MP34
MP35
       }
MP36 }
MP37
MP38
MP39
MP40 public void UploadPicture(string account, string picURL)
MP41 {
MP42
       try
MP43
MP44
MP45
MP46
      catch (Exception e)
MP47
         throw new Exception ("Error occurred: " + e.ToString());
MP49
MP50 }
MP51
MP52 public UserProfileProperties GetUserProfileProperties(string account)
MP53 {
MP54
      var userprfProps = new UserProfileProperties();
MP55
MP56
      var clientContext = new ClientContext("http://treyresearch.com/users");
```

#### ContentManagement.es

```
CM01 private void CreateDocumentSets()
CM02 {
CM03     using (SPSite site = new SPSite("http://treyresearch.com/sites"))
CM04     {
CM05          using (SPWeb web = site.RootWeb)
CM06          {
CM07
CM08     }
CM09    }
CM10 }
```

# **Question No: 1 HOTSPOT - (Topic 1)**

You need to create the external content type to support the data model.

In the Return Parameter Configuration dialog box, in the properties section, which options should you select? (To answer, select the appropriate setting or settings in the answer area.)

Properties	
Data Source Element:	Username
.NET Type:	System.String
Map to Identifier:	✓
Identifier:	Username
Field:	Username
Display Name:	Username
Foreign Identifier:	(Click to Add)
Required:	
Read-Only:	
Office Property:	Unmapped
Show In Picker:	
Timestamp Field:	

Properties	
Data Source Element:	Username
.NET Type:	System.String
Map to Identifier:	✓
Identifier:	Username
Field:	Username
Display Name:	Username
Foreign Identifier:	(Click to Add)
Required:	
Read-Only:	
Office Property:	Unmapped
Show In Picker:	
Timestamp Field:	

# **Explanation:**

Username
System.String
✓
Username
Username
Username
(Click to Add)
Unmapped

# From scenario:

You must create an external content type named TreyResearch to access the SQL data source. During development, the data source will be accessible locally.

# Question No : 2 - (Topic 1)

You need to generate document identifiers for each new document that is uploaded to the site.

What should you do?

- **A.** Create a derived class that inherits from the abstract class named Microsoft.Office.DocumentManagement.DocumentId and then override all of the abstract methods.
- **B.** Create a derived class that inherits from the abstract class named Microsoft.Office.DocumentManagement.DocumentIdProvider and then override all of the virtual members.
- **C.** Create a derived class that inherits from the Microsoft.Office.DocumentManagement.DocumentIdProvider abstract class and then implement all abstract members.
- **D.** Create a class to implement the Microsoft.Office.DocumentManagement.IDocumentId interface and then override all of the virtual members.

#### **Answer: B**

# Question No: 3 - (Topic 1)

You need to configure the Content Enrichment web service to index content from the AbstractIndexer service.

What should you do?

- A. Set the value of the OutputProperties array to Trigger=True.
- **B.** Set the value of the SendRawData property to false.
- **C.** Configure conditions for the Trigger property.
- **D.** Set the value of the InputProperties property to Trigger=True.

#### Answer: A

# Question No: 4 - (Topic 1)

You need to search for research papers that contain media files.

What should you do? {Each correct answer presents part of the solution. Choose all that apply.)

- **A.** Add an Association operation from the ResearchPapers.ID field to the Windows Media Service.
- B. Use Remote BLOB storage.
- C. Add an Association operation from the ResearchPapers.ID field to the TreyResearch

external content type.

**D.** Create a SQL Server-based external content type.

**Answer: B.D** 

# **Topic 2, Lucerne Publishing**

# **Background**

You are hired by Lucerne Publishing to design and implement a new public-facing Internet site by using SharePoint. Lucerne Publishing also needs an intranet site to host sensitive documents and content.

# **Business Requirements**

#### Internet

- Content owners must be able to:
- Modify content in pages that are published for anonymous site visitors.
- Modify search engine optimization (SEO) properties to optimize visibility of the web site.

#### Intranet

- Each user is encouraged to create their own blog, on which they will publish information about current projects and get feedback from other users in the company.

### **Technical Requirements**

# **Service Applications**

- The Internet and intranet web applications must use the Managed Metadata Service (MMS). Both web applications use a separate MMS service application and do not share term sets.
- The intranet web application uses the User Profile Service Application (UPA).

Users follow, mention, and identify documents and people. Users often discuss news by using hash tags. You must develop an app part that allows the current user to show different top feeds from user profiles.

#### **Hardware**

The hardware that hosts the Internet site must handle thousands of concurrent users.

### **URLs**

The following table lists the URLs that the SharePoint sites will use.

Site	URL
Public-facing Internet site	http://www.lucernepublishing.com
Intranet	http://intranet.lucernepublishing.com
My Sites	http://my.lucernepublishing.com

# **Search Engine Optimization (SEO)**

- ✓ You must publish data from the intranet site to the Internet web site by using cross-site publishing. You must define a catalog, add the data, and publish it to the Internet site.

# **Filtering**

You must enable canonical URL filtering to improve ranking by Internet search engines. The Internet site that must use canonical filtering has the following URL: http://www.lucernepublishing.com/products/pages/products.aspx? productID= <num>&productCategory=<category>

You must define the filters that the site collection administrator uses.

#### Internet

You publish the Internet site for multiple device types, such as mobile phones and tablet devices. The solution uses multiple master pages. Device channels select the master page to display based upon the capabilities of the device that connects to the site.

The following table lists the device channels and master pages that the site uses.

Master page	Device channels	
Phone	Three device channels use the Phone master page, including one called Windows Phone that has an alias named WinPhone.	
Tablet	There are two device channels that use the Tablet master page.	
Default	Any device that is not included in other device channels uses a device channel named Default. The Default channel uses the Default master page.	

You create a Windows Phone app. When users access the site by using a Windows phone, a message must appear on every page of the mobile site. The message must notify users

that they can download the Windows Phone app to their phone. The HTML that contains the message must render only to the Windows phones.

#### Intranet

- # Each department must have its own site collection.
- # Each employee must have Reader permissions to their department site collection.
- # Employees access the intranet site by using a wide variety of devices.

# **Custom Development**

- You design an application framework. The framework is used by other developers on the team. The framework must include entry points that are used to log errors and exceptions. You need the entry points.

# **Performance Improvement**

- The SharePoint front-end web servers are load-balanced. Each request within a user session can be processed by different front-end web servers.
- Objects that are cached must always be available, regardless of which front-end web server processes the request.

# Question No : 5 - (Topic 2)

You need to implement connection management for catalog connections.

Which method should you use? (Each correct answer presents part of the solution. Choose all that apply.)

**A.** Public void UpdateCatalogConnection(CatalogConnectionSettingscatalogInfo)

- **B.** Public void OnPublishCatalog(string catalogPath)
- C. Public void DeleteCatalogConnection(string catalogPath)
- **D.** Public void SetCatalogConnection(string catalogPath, boot disconnect)

# Answer: A,C

**Explanation:** From scenario:

You must create a custom tool that site collection administrators use to manage catalog connections.

You must define the API calls to remove (C) or update (A) existing catalog connections.

### **Topic 3, Contoso Ltd**

# Background

Contoso Ltd. is a global real estate company. You are hired to replace the company's existing ASP.NET website at http://www.contoso.com with a new SharePoint 2013 public-facing website. The site will display data about the company and information about residential properties that the individual agents in the company are selling. You have SharePoint Server environments for development, staging, and production.

#### Search

The website has the following requirements:

- Site visitors must be able to search for documents that are located anywhere on the site.
- # When site visitors search for real estate properties, they must see information about a property.
- When a visitor searches for the word Guidelines, a PDF document named Real Estate Guidelines must appear at the top of the search results.

# **Search Engine Optimization**

The company wants to ensure that the website displays prominently in Internet search results when people search for real estate.

The website has the following requirements:

- Internet search engines must properly rank pages so that the more popular pages on the site appear first in the Internet search engine results.
- SharePoint must generate the sitemap.xml and robots.txt files that are used by Internet search engines.

When an Internet search engine crawls the site, the search engine must recognize that the following URLs display information about different agents:

- // http://www.contoso.com/FindAnAgent?agentName=JohnDoe&officeId = Sacramento
- ## http://www.contoso.com/FindAnAgent?agentName=JohnDoe&officeId = Houston

The search engine must recognize that the following URLs display the same information about the same agent:

- ## http://www.contoso.com/FindAnAgent?agentName=JohnDoe&officeId=Sacrament
- ## http://www.contoso.com/FindAnAgent?agentName=JohnDoe&officeId = Sacramento8icerts=true

# Managed Metadata Service (MMS)

The MMS must include three term sets named Offices, Cities, and Features.

# **Offices Term Set**

The Offices term set has the following requirements:

- The Offices term set must be a child of the group named Navigation.
- The Offices term set must be configured to use friendly URLs in the Offices subsite.
- The name for each new office must be added to the Offices term set programmatically.
- The left navigation pane for the Offices page on the website must use the terms in the Offices term set.
- When the company opens a new office, a link for each new office must display in the left navigation pane.

#### Cities Term Set

The Cities term set has the following requirements:

- The Cities term set must contain a list that contains the names of major metropolitan areas.
- Many of the cities that are included in the Offices term set may also appear in the Cities term set, but the term sets may not be identical.
- ## If a term is changed in the Offices term set, it must automatically change in the Cities term set.
- The term Dallas must have a term ID of {b6ell481-3445-413c-9da0-bl5ae5d5cbd4}.

#### **Features Term Set**

You have an Excel file that contains a list of possible features for each property. The Features term set has the following requirements:

- The Features term set must contain the terms that describe details about each property, such as whether the building is a single family house or a condominium.

# **Web Application**

The Internet Information Services (IIS) website contains a folder named

- \_ConfigurationFiles. The web application has the following requirements:

  - # Internet search engines must not index the files in the \_ConfigurationFiles folder.

#### **Site Collections and Content**

The web application includes the following three site collections.

#### **Board Member Site Collection**

The Board Member site collection is only accessible to the board members so that they can view private company information.

The Board Member site collection has the following requirements:

- A page within the site collection must display a list of all the board members.
- The website must be located at http://www.contoso.com/sites/board.

# **Internet Site Collection**

Anonymous access is enabled on the Internet site collection. The Internet site collection has the following requirements:

- The URL of the Offices sub-site is http://www.contoso.com/Offices.
- # Each office must have its own page on the site.
- The pages for each office must have the same style and structure.
- ## Each office page must contain a Content Search Web Part that displays a listing of all the properties that are being sold by agents in the office.
- The Content Search Web Part must use a custom display template named
- Real Estate Property to render search results when site visitors search for a property.
- The target page for terms in the Office term set must point to a page named Office.aspx that is in the Pages library of the Offices sub-site.
- The site must contain an About Us section that contains a Content Search Web Part that lists the members of the board of directors for the company.
- ## Each member of the board must have a page that contains biographical information about that board member.
- The list of board members must be available in the Board Member site collection.
- When agents visit the Internet site collection, the agents may add information about each of the real estate properties that they are selling.
- The agents must be able to tag real estate properties according to their features.
- Real estate agents must enter real estate property information into a web form that is used specifically for data collection.

The web form must collect the following information:

- The property address.

- The name of the real estate agent.
- Tags that will further describe the property.

The Agent site collection is in the same web application and is accessible only to agents. The Agent site collection has the following requirements:

- The site collection must include a site that contains instructions for real estate agents that tells them how to add property information to the website.
- The website must be located at http://www.contoso.com/sites/agents.
- A Web Part must use the .NET client-side object model (CS0M) to retrieve all of the terms from only the Features term set.

# **Page Layouts and Web Parts**

# **Page Layouts**

You must create the following page layouts: About Us, Biography With Image, Biography No Image, and Office.

The page layouts have the following requirements:

- The Biography With Image and Biography No Image page layouts must display biographical information about the board of directors.
- The Office page layout must display information for each office and must use the fields that that are defined in the Elements.xml file.

### **Web Parts**

The Agent Web Part has the following requirements:

- The Web Part must display information about an individual agent.
- The Web Part must display information that is based on query string parameters.

The following table lists the query string parameters and the way that each parameter must be used by the Web Part.

Parameter name	Parameter description	Required
The agent's name. When used in conjunction with the officeId parameter, the agentName parameter is used by the Web Part to determine which agent's name to display.		Yes
officeId		
A Boolean that indicates whether or not the agent's certifications should display.		No

# **Application Structure**

Relevant portions of the markup and code for the solution are shown below. (Line numbers

in the code segments are included for reference only and include a two-character prefix that denotes the specific file to which they belong.)

#### Elements.xml

```
EL01 <Field
ID="{dcdfd660-0d71-47b4-89a6-9a6deba6657b}"
Name="SiteColumn1"
DisplayName="Site Column 1"
Type="HTML"
RichText="TRUE"
RichTextMode="FullHTML"
Group="Custom Columns"/>
EL02 <Field
ID="{15468e57-ea01-4077-b074-d323ea98cb94}"
Name="SiteColumn2"
DisplayName="Site Column 2"
Type="Note"
RichText="TRUE"
RichTextMode="FullHTML"
Group="Custom Columns"/>
```

## FeaturesTermSet.es

```
FE01 ClientContext clientContext =
  new ClientContext("http://www.contoso.com");
FE02 TaxonomySession taxonomySession =
  TaxonomySession.GetTaxonomySession(clientContext);
FE03 TermStore termStore =
  taxonomySession.GetDefaultSiteCollectionTermStore();
FE04
FE05 clientContext.ExecuteQuery();
```

# Import.cs

```
IM01 StreamReader reader = File.OpenText("C:\\Import.xls");
IM02 using (SPSite site = new SPSite("http://www.contoso.com"))
IM03 {
    TaxonomySession taxonomySession = new TaxonomySession(site);
IM05    TermStore termStore = taxonomySession.TermStores[0];
IM06    Group group = termStore.Groups[0];
IM07
IM08 }
```

# **Question No: 6 HOTSPOT-(Topic 3)**

You need to configure search results to meet the requirements for the Real Estate Guidelines document.

On the Site Settings page in the top level site of the site collection, which link should you select? (To answer, select the appropriate link in the answer area.)

Search	Site Collection Administration
Result Sources	Recycle bin
Result Types	Search Result Sources
Query Rules	Search Result Types
Schema	Search Query Rules
Search Settings	Search Schema
Searchable columns	Search Settings
Search and offline availability	Search Configuration Import
Configuration Import	Search Configuration Export
Configuration Export	Site collection features

#### **Answer:**

Search	Site Collection Administration
Result Sources	Recycle bin
Result Types	Search Result Sources
Query Rules	Search Result Types
Schema	Search Query Rules
Search Settings	Search Schema
Searchable columns	Search Settings
Search and offline availability	Search Configuration Import
Configuration Import	Search Configuration Export
Configuration Export	Site collection features

# Question No : 7 - (Topic 3)

You need to include the details of each property as managed metadata.

Which code segment should you add at line IM07?

```
DA bool allTermsAdded = false;
    string errorMessage = string.Empty;
    ImportManager manager = termStore.GetImportManager();
    manager.ImportTermSet(group, reader, out allTermsAdded, out errorMessage);

OB. bool allTermsAdded = false;
    string errorMessage = string.Empty;
    ImportManager manager = taxonomySession.GetImportManager();
    manager.ImportTermSet(group, reader, out allTermsAdded, out errorMessage);

OC. TermSet termSet = group.TermSets["Features"];
    ImportManager manager = taxonomySession.GetImportManager();
    manager.ImportTermSet(termSet, reader);

OD. TermSet termSet = group.TermSets["Features"];
    ImportManager manager = termStore.GetImportManager();
    manager.ImportTermSet(termSet, reader);
```

- A. Option A
- B. Option B
- C. Option C
- **D.** Option D

Answer: D

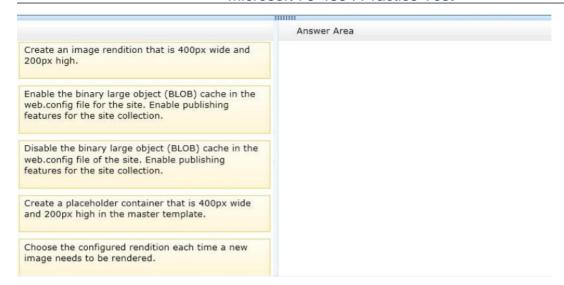
# **Topic 5, Mix Questions**

# Question No: 8 DRAG DROP - (Topic 5)

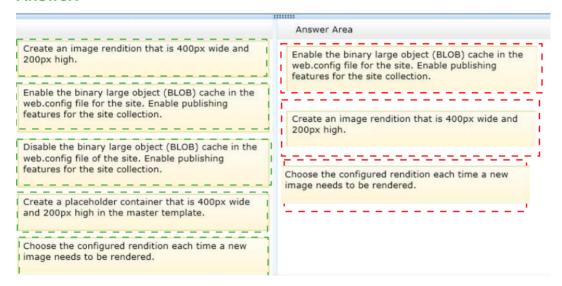
You develop a SharePoint site by using the Team Site template. Users share large images by using the team site.

You need to configure the SharePoint site so that images render at a maximum size of 400px wide and 200px high.

Which three actions should you perform in sequence? (To answer, move the appropriate actions from the list of actions to the answer).



#### **Answer:**



### **Explanation:** Box 1:

Enable the binary large object (BLOB) cache in the web.config file for the site. Enable publishing features for the site collection.

### Box 2:

Create an image rendition that is 400px wide and 200px high.

#### Box 3:

Choose the configured rendition each time a new image needs to be rendered.

#### Note:

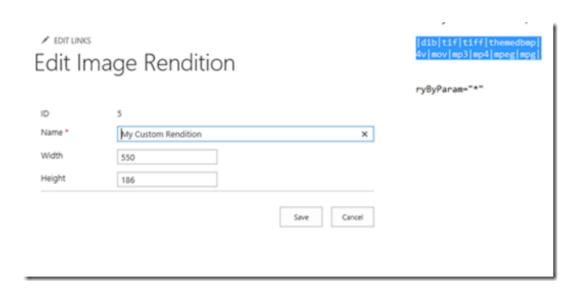
\* (step 1) When using Image Rendition you will have to enable BLOBCache to improve performance. To enable BLOBCache:

Open Web.config file for the web application

Locate BLOBCache line and set enabled = "true"

Set the folder path to another folder or keep the default c:\BlobCache\14 folder.

\* (step 2)



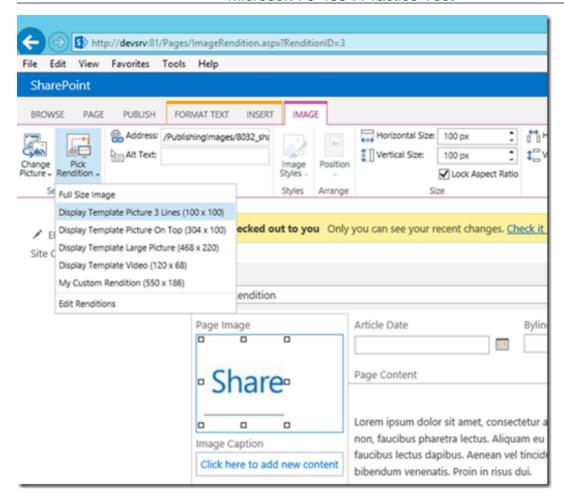
# (step 3)

Edit the page and add an image to on the left

Select the image on the left

On the top bar, click on Image, Click on Pick Rendition.

Choose the required setting to show the image.



# Question No: 9 - (Topic 5)

You create a site collection for Contoso, Ltd. by using the Community Site template. My Sites are configured. Users access the community site and view newsfeeds by clicking the Newsfeed link on the community site. You create a custom Web Part that displays the latest newsfeed posts for the user that is logged in.

The Web Part must use Representational State Transfer (REST) to retrieve items from the Newsfeed.

You need to define the correct uniform resource locator (URL) to access items.

Which URL should you use?

- A. http://my.contoso.com/\_api/search
- B. http://my.contoso.com/\_api/SP.UserProfiles.PeopleManager
- C. http://community.contoso.com/\_api/web/lists/microfeed
- D. http://my.contoso.com/api/social.feed/my/Feed

#### **Answer: D**

**Explanation:** The my resource represents the current user. When used inline in the endpoint URI, it sets the context of the request to the current user. For example, http://contoso.com/\_api/social.feed/my/news gets the newsfeed for the current user.

Reference: Social feed REST API reference for SharePoint 2013

# **Question No: 10 HOTSPOT - (Topic 5)**

You create a SharePoint app that displays a list of documents for a company that sells insurance policies. The documents have been crawled by the Search service.

You create managed properties named Underwriter and Bonded.

You must locate the documents that meet the following criteria:

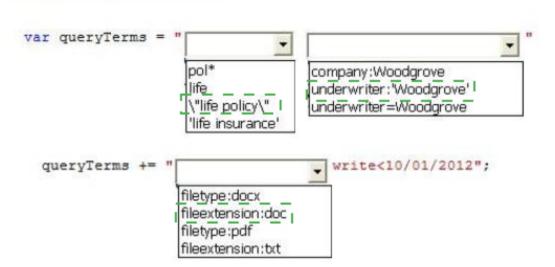
- Created by using Microsoft Word 2002
- Contains the exact phrase "life policy"
- Were underwritten by Woodgrove

You need to design a search query that locates the required documents.

How should you complete the relevant code? (To answer, select the appropriate code segment from each drop-down list in the answer area.)

### **Answer:**

function executeQuery() {



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