

# Microsoft

## Exam Questions AI-102

Designing and Implementing an Azure AI Solution



**NEW QUESTION 1**

- (Exam Topic 1)

You are planning the product creation project.

You need to recommend a process for analyzing videos.

Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order. (Choose four.)

Actions	Answer Area
Index the video by using the Video Indexer API.	
Upload the video to blob storage.	
Analyze the video by using the Computer Vision API.	
Extract the transcript from Microsoft Stream.	
Send the transcript to the Language Understanding API as an utterance.	
Extract the transcript from the Video Indexer API.	
Translate the transcript by using the Translator API.	
Upload the video to file storage.	

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Scenario: All videos must have transcripts that are associated to the video and included in product descriptions.

Product descriptions, transcripts, and all text must be available in English, Spanish, and Portuguese. Step 1: Upload the video to blob storage

Given a video or audio file, the file is first dropped into a Blob Storage. T Step 2: Index the video by using the Video Indexer API.

When a video is indexed, Video Indexer produces the JSON content that contains details of the specified video insights. The insights include: transcripts, OCRs, faces, topics, blocks, etc.

Step 3: Extract the transcript from the Video Indexer API. Step 4: Translate the transcript by using the Translator API. Reference:

<https://azure.microsoft.com/en-us/blog/get-video-insights-in-even-more-languages/> <https://docs.microsoft.com/en-us/azure/media-services/video-indexer/video-indexer-output-json-v2>

**NEW QUESTION 2**

- (Exam Topic 1)

HOTSPOT

You are developing the shopping on-the-go project.

You are configuring access to the QnA Maker resources.

Which role should you assign to AllUsers and LeadershipTeam? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

AllUsers:	<div style="border: 1px solid black; padding: 5px;"> <div style="background-color: #f0f0f0; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> <span></span> <span>▼</span> </div> <ul style="list-style-type: none"> <li>Cognitive Service User</li> <li>Contributor</li> <li>Owner</li> <li>QnA Maker Editor</li> <li>QnA Maker Read</li> </ul> </div>
LeadershipTeam:	<div style="border: 1px solid black; padding: 5px;"> <div style="background-color: #f0f0f0; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> <span></span> <span>▼</span> </div> <ul style="list-style-type: none"> <li>Cognitive Service User</li> <li>Contributor</li> <li>Owner</li> <li>QnA Maker Editor</li> <li>QnA Maker Read</li> </ul> </div>

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: QnA Maker Editor

Scenario: Provide all employees with the ability to edit Q&As. The QnA Maker Editor (read/write) has the following permissions: Create KB API Update KB API Replace KB API Replace Alterations "Train API" [in new service model v5] Box 2: Contributor

Scenario: Only senior managers must be able to publish updates. Contributor permission: All except ability to add new members to roles

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/reference-role-based-access-control>

**NEW QUESTION 3**

- (Exam Topic 1)

You are developing the smart e-commerce project.

You need to implement autocompletion as part of the Cognitive Search solution.

Which three actions should you perform? Each correct answer presents part of the solution. (Choose three.) NOTE: Each correct selection is worth one point.

- A. Make API queries to the autocomplete endpoint and include suggesterName in the body.
- B. Add a suggester that has the three product name fields as source fields.
- C. Make API queries to the search endpoint and include the product name fields in the searchFields query parameter.
- D. Add a suggester for each of the three product name fields.
- E. Set the searchAnalyzer property for the three product name variants.
- F. Set the analyzer property for the three product name variants.

**Answer:** ABF

**Explanation:**

Scenario: Support autocompletion and autosuggestion based on all product name variants.

A: Call a suggester-enabled query, in the form of a Suggestion request or Autocomplete request, using an API. API usage is illustrated in the following call to the Autocomplete REST API.

POST /indexes/myxboxgames/docs/autocomplete?search&api-version=2020-06-30

```
{
  "search": "minecraf", "suggesterName": "sg"
}
```

B: In Azure Cognitive Search, typeahead or "search-as-you-type" is enabled through a suggester. A suggester provides a list of fields that undergo additional tokenization, generating prefix sequences to support matches on partial terms. For example, a suggester that includes a City field with a value for "Seattle" will have prefix combinations of "sea", "seat", "seatt", and "seattl" to support typeahead.

F: Use the default standard Lucene analyzer ("analyzer": null) or a language analyzer (for example, "analyzer": "en.Microsoft") on the field.

Reference:

<https://docs.microsoft.com/en-us/azure/search/index-add-suggesters>

**NEW QUESTION 4**

- (Exam Topic 2)

You train a Custom Vision model used in a mobile app.

You receive 1,000 new images that do not have any associated data.

You need to use the images to retrain the model. The solution must minimize how long it takes to retrain the model.

Which three actions should you perform in the Custom Vision portal? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Actions	Answer Area
Upload the images by category.	
Get suggested tags.	
Upload all the images.	⬅️
Group the images locally into category folders.	➡️
Review the suggestions and confirm the tags.	⬆️
Tag the images manually.	⬇️

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Text Description automatically generated

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/getting-started-build-a-classifie>

### NEW QUESTION 5

- (Exam Topic 2)

You have the following C# method for creating Azure Cognitive Services resources programmatically.

```
static void create_resource(CognitiveServicesManagementClient client, string
resource_name, string kind, string account_tier, string location)
{
    CognitiveServicesAccount parameters =
        new CognitiveServicesAccount(null, null, kind, location, resource_name,
new CognitiveServicesAccountProperties(), new Sku(account_tier));
    var result = client.Accounts.Create(resource_group_name, account_tier,
parameters);
}
```

You need to call the method to create a free Azure resource in the West US Azure region. The resource will be used to generate captions of images automatically. Which code should you use?

- A. create\_resource(client, "res1", "ComputerVision", "F0", "westus")
- B. create\_resource(client, "res1", "CustomVision.Prediction", "F0", "westus")
- C. create\_resource(client, "res1", "ComputerVision", "S0", "westus")
- D. create\_resource(client, "res1", "CustomVision.Prediction", "S0", "westus")

**Answer: B**

#### Explanation:

Many of the Cognitive Services have a free tier you can use to try the service. To use the free tier, use F0 as the SKU for your resource.

There are two tiers of keys for the Custom Vision service. You can sign up for a F0 (free) or S0 (standard) subscription through the Azure portal.

Reference:

<https://docs.microsoft.com/en-us/azure/cognitive-services/cognitive-services-apis-create-account-client-library?> <https://docs.microsoft.com/en-us/azure/cognitive-services/custom-vision-service/limits-and-quotas>

### NEW QUESTION 6

- (Exam Topic 2)

You have a chatbot that was built by using the Microsoft Bot Framework. You need to debug the chatbot endpoint remotely.

Which two tools should you install on a local computer? Each correct answer presents part of the solution. (Choose two.)

NOTE: Each correct selection is worth one point.

- A. Fiddler
- B. Bot Framework Composer
- C. Bot Framework Emulator
- D. Bot Framework CLI
- E. ngrok
- F. nginx

**Answer: CE**

#### Explanation:

Bot Framework Emulator is a desktop application that allows bot developers to test and debug bots, either locally or remotely.

ngrok is a cross-platform application that "allows you to expose a web server running on your local machine to the internet." Essentially, what we'll be doing is using ngrok to forward messages from external channels on the web directly to our local machine to allow debugging, as opposed to the standard messaging endpoint configured in the Azure portal.

Reference:

<https://docs.microsoft.com/en-us/azure/bot-service/bot-service-debug-emulator>

### NEW QUESTION 7

- (Exam Topic 2)

You are building an Azure WebJob that will create knowledge bases from an array of URLs.

You instantiate a QnAMakerClient object that has the relevant API keys and assign the object to a variable named client.

You need to develop a method to create the knowledge bases.

Which two actions should you include in the method? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Create a list of FileDTO objects that represents data from the WebJob.
- B. Call the client
- C. Knowledgebas
- D. CreateAsync method.
- E. Create a list of QnADTO objects that represents data from the WebJob.
- F. Create a CreateKbDTO object.

**Answer: AC**

#### Explanation:

Reference:

<https://docs.microsoft.com/en-us/rest/api/cognitiveservices-qnamaker/qnamaker4.0/knowledgebase/create>

### NEW QUESTION 8

- (Exam Topic 2)

You use the Custom Vision service to build a classifier. After training is complete, you need to evaluate the classifier.

Which two metrics are available for review? Each correct answer presents a complete solution. (Choose two.) NOTE: Each correct selection is worth one point.

- A. recall
- B. F-score
- C. weighted accuracy
- D. precision
- E. area under the curve (AUC)

**Answer:** AD

**Explanation:**

Custom Vision provides three metrics regarding the performance of your model: precision, recall, and AP. Reference: <https://www.tallan.com/blog/2020/05/19/azure-custom-vision/>

**NEW QUESTION 9**

- (Exam Topic 2)

You have a Video Indexer service that is used to provide a search interface over company videos on your company's website. You need to be able to search for videos based on who is present in the video. What should you do?

- A. Create a person model and associate the model to the videos.
- B. Create person objects and provide face images for each object.
- C. Invite the entire staff of the company to Video Indexer.
- D. Edit the faces in the videos.
- E. Upload names to a language model.

**Answer:** A

**Explanation:**

Video Indexer supports multiple Person models per account. Once a model is created, you can use it by providing the model ID of a specific Person model when uploading/indexing or reindexing a video. Training a new face for a video updates the specific custom model that the video was associated with.

Note: Video Indexer supports face detection and celebrity recognition for video content. The celebrity recognition feature covers about one million faces based on commonly requested data source such as IMDB, Wikipedia, and top LinkedIn influencers. Faces that aren't recognized by the celebrity recognition feature are detected but left unnamed. Once you label a face with a name, the face and name get added to your account's Person model. Video Indexer will then recognize this face in your future videos and past videos.

Reference:

<https://docs.microsoft.com/en-us/azure/media-services/video-indexer/customize-person-model-with-api>

**NEW QUESTION 10**

- (Exam Topic 2)

You are building a bot on a local computer by using the Microsoft Bot Framework. The bot will use an existing Language Understanding model. You need to translate the Language Understanding model locally by using the Bot Framework CLI. What should you do first?

- A. From the Language Understanding portal, clone the model.
- B. Export the model as an .lu file.
- C. Create a new Speech service.
- D. Create a new Language Understanding service.

**Answer:** B

**Explanation:**

You might want to manage the translation and localization for the language understanding content for your bot independently.

Translate command in the @microsoft/bf-lu library takes advantage of the Microsoft text translation API to automatically machine translate .lu files to one or more than 60+ languages supported by the Microsoft text translation cognitive service.

What is translated?

An .lu file and optionally translate Comments in the lu file LU reference link texts

List of .lu files under a specific path. Reference:

<https://github.com/microsoft/botframework-cli/blob/main/packages/luis/docs/translate-command.md>

**NEW QUESTION 10**

- (Exam Topic 2)

You are developing a webpage that will use the Video Indexer service to display videos of internal company meetings.

You embed the Player widget and the Cognitive Insights widget into the page. You need to configure the widgets to meet the following requirements:

- Ensure that users can search for keywords.
- Display the names and faces of people in the video.
- Show captions in the video in English (United States).

How should you complete the URL for each widget? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Values	Answer Area
<input type="text" value="en-US"/>	<b>Cognitive Insights Widget</b> https://www.videoindexer.ai/embed/insights/<accountId>/<videoId>/?widgets= <input type="text" value="Value"/> controls= <input type="text" value="Value"/>
<input type="text" value="false"/>	
<input type="text" value="people,keywords"/>	
<input type="text" value="people,search"/>	
<input type="text" value="search"/>	
<input type="text" value="true"/>	
	<b>Player Widget</b> https://www.videoindexer.ai/embed/player/<accountId>/<videoId>/? showcaptions= <input type="text" value="Value"/> captions= <input type="text" value="Value"/>

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Graphical user interface, text, application, Word, email Description automatically generated

**NEW QUESTION 12**

- (Exam Topic 2)

You are developing a method that uses the Computer Vision client library. The method will perform optical character recognition (OCR) in images. The method has the following code.

```
public static async Task ReadFileUrl(ComputerVisionClient client, string urlFile)
{
    const int numberOfCharsInOperationId = 36;

    var txtHeaders = await client.ReadAsync(urlFile, language: "en");

    string opLocation = txtHeaders.OperationLocation;
    string operationId = opLocation.Substring(opLocation.Length -
        numberOfCharsInOperationId);

    ReadOperationResult results;

    results = await client.GetReadResultAsync(Guid.Parse(operationId));

    var textUrlFileResults = results.AnalyzeResult.ReadResults;
    foreach (ReadResult page in textUrlFileResults)
    {
        foreach (Line line in page.Lines)
        {
            Console.WriteLine(line.Text);
        }
    }
}
```

During testing, you discover that the call to the GetReadResultAsync method occurs before the read operation is complete. You need to prevent the GetReadResultAsync method from proceeding until the read operation is complete. Which two actions should you perform? Each correct answer presents part of the solution. (Choose two.) NOTE: Each correct selection is worth one point.

- A. Remove the Guid.Parse(operationId) parameter.
- B. Add code to verify the results.Status value.
- C. Add code to verify the status of the txtHeaders.Status value.
- D. Wrap the call to GetReadResultAsync within a loop that contains a delay.

**Answer:** BD

**Explanation:**

Example code : do

```
{
    results = await client.GetReadResultAsync(Guid.Parse(operationId));
}
while ((results.Status == OperationStatusCodes.Running || results.Status == OperationStatusCodes.NotStarted)); Reference:
https://github.com/Azure-Samples/cognitive-services-quickstart-code/blob/master/dotnet/ComputerVision/Comp
```

**NEW QUESTION 17**

- (Exam Topic 2)

You are building a chatbot by using the Microsoft Bot Framework SDK.

You use an object named UserProfile to store user profile information and an object named ConversationData to store information related to a conversation.

You create the following state accessors to store both objects in state.

```
var userStateAccessors = _userState.CreateProperty<UserProfile>(nameof(UserProfile)); var conversationStateAccessors =
_conversationState.CreateProperty<ConversationData>(nameof(ConversationData));
```

The state storage mechanism is set to Memory Storage.  
 For each of the following statements, select Yes if the statement is true. Otherwise, select No.  
 NOTE: Each correct selection is worth one point.

**Answer Area**

Statements	Yes	No
The code will create and maintain the <code>UserProfile</code> object in the underlying storage layer.	<input type="checkbox"/>	<input type="checkbox"/>
The code will create and maintain the <code>ConversationData</code> object in the underlying storage layer.	<input type="checkbox"/>	<input type="checkbox"/>
The <code>UserProfile</code> and <code>ConversationData</code> objects will persist when the Bot Framework runtime terminates.	<input type="checkbox"/>	<input type="checkbox"/>

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: Yes  
 You create property accessors using the `CreateProperty` method that provides a handle to the `BotState` object. Each state property accessor allows you to get or set the value of the associated state property.  
 Box 2: Yes  
 Box 3: No  
 Before you exit the turn handler, you use the state management objects' `SaveChangesAsync()` method to write all state changes back to storage.  
 Reference:  
<https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-howto-v4-state>

**NEW QUESTION 21**

- (Exam Topic 2)  
 You have a Computer Vision resource named `contoso1` that is hosted in the West US Azure region.  
 You need to use `contoso1` to make a different size of a product photo by using the smart cropping feature. How should you complete the API URL? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

```
curl -H "Ocp-Apim-Subscription-Key: xxx" /
-o "sample.png" -H "Content-Type: application/json" /
/visual/v3.1/
?width=100&height=100&smartCropping=true" /
-d "{\"url\":\"https://upload.litwareinc.org/litware/bicycle.jpg\"}"
```

https://api.projectoxford.ai

https://contoso1.cognitiveservices.azure.com

https://westus.api.cognitive.microsoft.com

areaOfInterest

detect

generateThumbnail

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Graphical user interface, text, application, Word Description automatically generated  
 Reference:  
<https://westus.dev.cognitive.microsoft.com/docs/services/computer-vision-v3-2/operations/56f91f2e778daf14a4> <https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/concept-generating-thumbnails#exam>

**NEW QUESTION 23**

- (Exam Topic 2)  
 You are developing a method for an application that uses the Translator API.  
 The method will receive the content of a webpage, and then translate the content into Greek (el). The result will also contain a transliteration that uses the Roman alphabet.  
 You need to create the URI for the call to the Translator API. You have the following URI. <https://api.cognitive.microsofttranslator.com/translate?api-version=3.0>  
 Which three additional query parameters should you include in the URI? Each correct answer presents part of the solution. (Choose three.)  
 NOTE: Each correct selection is worth one point.

- A. toScript=Cyrl
- B. from=el
- C. textType=html

- D. to=el
- E. textType=plain
- F. toScript=Latn

**Answer:** CDF

**Explanation:**

C: textType is an optional parameter. It defines whether the text being translated is plain text or HTML text (used for web pages).  
 D: to is a required parameter. It specifies the language of the output text. The target language must be one of the supported languages included in the translation scope.  
 F: toScript is an optional parameter. It specifies the script of the translated text. We use Latin (Roman alphabet) script.  
 Reference:  
<https://docs.microsoft.com/en-us/azure/cognitive-services/translator/reference/v3-0-translate>

**NEW QUESTION 27**

- (Exam Topic 2)

You have 100 chatbots that each has its own Language Understanding model. Frequently, you must add the same phrases to each model. You need to programmatically update the Language Understanding models to include the new phrases. How should you complete the code? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.  
 NOTE: Each correct selection is worth one point.

Values	Answer Area
AddPhraseListAsync	var phraselistId = await client.Features. <input type="text"/>
Phraselist	(appId, versionId, new <input type="text"/>
PhraselistCreateObject	{
Phrases	EnabledForAllModels = false,
SavePhraselistAsync	IsExchangeable = true,
UploadPhraselistAsync	Name = "PL1",
	Phrases = "item1,item2,item3,item4,item5"
	});

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: AddPhraseListAsync  
 Example: Add phraselist feature  
 var phraselistId = await client.Features.AddPhraseListAsync(appId, versionId, new PhraselistCreateObject  
 {  
 EnabledForAllModels = false, IsExchangeable = true,  
 Name = "QuantityPhraselist", Phrases = "few,more,extra"  
 });  
 Box 2: PhraselistCreateObject Reference:  
<https://docs.microsoft.com/en-us/azure/cognitive-services/luis/client-libraries-rest-api>

**NEW QUESTION 28**

- (Exam Topic 2)

You are developing a photo application that will find photos of a person based on a sample image by using the Face API. You need to create a POST request to find the photos. How should you complete the request? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.  
 NOTE: Each correct selection is worth one point.

Values	Answer Area
detect	POST {Endpoint}/face/v1.0/ <input type="text"/>
findsimilars	Request Body
group	{
identify	"faceId": "c5c24a82-6845-4031-9d5d-978df9175426",
matchFace	"largeFaceListId": "sample_list",
matchPerson	"largeFaceListId": "sample_list",
verify	"maxNumOfCandidatesReturned": 10,
	"mode": " <input style="width: 100px;" type="text"/> "
	}

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: detect

Face - Detect With Url: Detect human faces in an image, return face rectangles, and optionally with faceIds, landmarks, and attributes.

POST {Endpoint}/face/v1.0/detect Box 2: matchPerson

Find similar has two working modes, "matchPerson" and "matchFace". "matchPerson" is the default mode that it tries to find faces of the same person as possible by using internal same-person thresholds. It is useful to find a known person's other photos. Note that an empty list will be returned if no faces pass the internal thresholds.

"matchFace" mode ignores same-person thresholds and returns ranked similar faces anyway, even the similarity is low. It can be used in the cases like searching celebrity-looking faces.

Reference:

<https://docs.microsoft.com/en-us/rest/api/faceapi/face/detectwithurl> <https://docs.microsoft.com/en-us/rest/api/faceapi/face/findsimilar>

**NEW QUESTION 30**

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