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Number: PL-400
Passing Score: 800
Time Limit: 120 min
File Version: 1.0



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PL-400

Microsoft Power Platform Developer (beta)



Testlet 1

Case study

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Background

Bellows Sports is the region’s newest, largest, and most complete sports complex. The company features baseball and soccer fields and two full-size hockey rinks. The complex provides coaching, recreational leagues, a pro shop, and stateof-the art customer and player amenities.

The company is organized into the following divisions:

- Baseball
- Hockey ▪
- Soccer

Bellow Sports runs tournaments several times per year. Each tournament runs six weeks.

Current environment

Requirements

Bellow Sports tracks players and events in Microsoft Excel workbooks and uses email to communicate with players, partners, and prospective customers. The company uses a proprietary cloud-based accounting system.

The company relies on referrals from athletes for new business. Bellows uses a third-party marketing company to gather feedback and referrals from athletes. The third-party marketing company uploads a Microsoft Excel file containing lists of potential customers and players to the FTP site that Bellows Sports maintains.

Tournaments

Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner. When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Registration form

You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
 - Information about upcoming tournaments must be pre-located into the registration form when the registration form loads. ▪
- The form must include a custom button that sends an email confirmation to the player after the player registers. ▪ The button must not be visible until after the form is saved.

Security

The company identifies the following job roles:



Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.

You must grant users the minimum permissions required to perform their job tasks.

Data automation

- Customer name must be added to Dynamics 365 Finance automatically after it is entered.
 - You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.
 - You must implement mechanisms to handle all code-related errors.
 - When a customer record is updated, the system must look up the account number for the customer in the accounting system.
- Referrals must be imported into the system as soon as they are available.

Issues

Apps

- The captions for the New and Save buttons do not render properly on the form.
- Interns can create apps but cannot interact with their own data.

Portal

The query for all registered users must return the data categorized by division. Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```



Solution checker issues

You run solution checker and observe **Plug-in or workflow activity** errors in the following code sets:

Set	Code	Error message
Code set 1	<pre>CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression("account"); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);</pre>	il-specify-column
Code Set 2	<pre>CS201 WebRequest request = WebRequest.Create ("https://www.bellows.com/api/stuff"); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 response = request.GetResponse(); CS205 response.Close();</pre>	il-turn-off-keepalive

Code

The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

UpdateRecord.js (Line numbers are included for reference only.)

```
UR01
UR02 var data =
UR03   {
UR04     "name" : "Updated Account"
          "creditonhold" : true,
          "description" : "This is an account update",
          "revenue" : 10,000,
          "Division" : 2
        }
UR05 . . .
UR06
```

QUESTION 1

DRAG DROP

You need to select connectors for the app.

Which types of connectors should you use? To answer, drag the appropriate connectors to the correct requirements. Each connector 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Create a custom connector

A custom connector is a wrapper around a REST API (Logic Apps also supports SOAP APIs) that allows Logic Apps, Power Automate, or Power Apps to communicate with that REST or SOAP API.

Box 2: Use an AppSource connector

You can only retrieve the Customer, UnifiedActivity, and Segments entities through the Power Apps connector. Other entities are shown because the underlying connector supports them through triggers in Power Automate.

Scenario: Customer information is stored in the Accounts entity.

Box 3: Use a native application function

You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.

Reference: <https://docs.microsoft.com/en-us/connectors/custom-connectors/>

<https://docs.microsoft.com/en-us/dynamics365/customer-insights/audience-insights/export-power-apps>

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Background

Current environment

Adventure Works Cycles wants to replace their paper-based bicycle manufacturing business with an efficient paperless solution. The company has one manufacturing plant in Seattle that produces bicycle parts, assembles bicycles, and distributes finished bicycles to the Pacific Northwest.

Adventure Works Cycles has a retail location that performs bicycle repair and warranty repair work. The company has six maintenance vans that repair bicycles at various events and residences.

Adventure Works Cycles recently deployed Dynamics 365 Finance and Dynamics 365 Manufacturing in a Microsoft-hosted environment for financials and manufacturing. The company plans to leverage the Microsoft Power Platform to migrate all of their distribution and retail workloads to Dynamics 365 Unified Operations.

The customer uses Dynamics 365 Sales. Dynamics 365 Customer Service and Dynamics 365 Field Service.

Retail store information

- Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians.
- Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.
- The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.
- Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.
- Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.
- A canvas app is being developed to capture customer information when customers check in at the retail location. The app has the following features: -
 - Customer selects yes or no if they are on the mailing list.
 - Customer selects the amount of times they have visited the store.
 - Customer selects the type of service needed.
 - The search result returns all last name records that match the search term.



Technology

Requirements

- A plug-in for Dynamics 365 Sales automatically calculated the total billed time from all activities on a particular customer account, including sales representative visits, phone calls, email correspondence, and repair time compared with hours spent.
- A shipping API displays shipping rates and tracking information on sales orders. The contract allows for 3,000 calls per month.
- Ecommerce orders are processed in batch daily by using a manual import of sales orders in Dynamics 365 Finance.
- Microsoft Teams is used for all collaboration.
- All testing and problem diagnostics are performed in a copy of the production environment.
- Customer satisfaction surveys are recorded with Microsoft Forms Pro. Survey replies from customers are sent to a generic mailbox.

Automation

- A text message must be automatically sent to a customer to confirm an appointment and to notify when a technician is on route that includes their location.
- Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.
- A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.
- Submitted customer surveys must generate an email to the correct department. Approval and follow-up must occur within a week.

Reporting

- The warehouse manager's dashboard must contain warehouse counting variance information.
- A warehouse manager needs to quickly view warehouse KPIs by using a mobile device.
- Power BI must be used for reporting across the organization.

User experience

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Issues

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
 - All customer repairs must be tracked in the system no matter where they occur. ▪
- Qualified leads must be collected from local bike fairs.

Internal

- User1 reports receives an intermittent plug-in error when viewing the total bill customer time.
 - User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.
 - User2 reports that sales orders have increased.
 - User5 receives the error message: 'Endpoint unavailable' during a test of the technician dispatch ISV solution. ▪
- The parts department manager who is the approver for the department is currently on sabbatical.

External

- CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.
- Nine customers arrive in the repair area of the retail store, but no texts were sent to scheduled employees.
- Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
- CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.

QUESTION 1 You need to improve warehouse counting efficiency.

What should you create?

- A. a flow that updates the warehouse counts as the worker performs the count
- B. a model-driven app that allows the user to key in inventory counts
- C. A Power BI dashboard that shows the inventory counting variances
- D. a canvas app that scans barcodes to allow a warehouse worker to select inventory counts



Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.

QUESTION 2 You need to replace the bicycle inspection forms.

Which two solutions should you use? Each answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. a flow that maps inspection data to Dynamics 365 Field Service
- B. a logic app that guides the technician through the inspection
- C. a canvas app that guides the technician through the inspection
- D. a model-driven app based on customer service entities

Correct Answer: AD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.

Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.

A: The Dynamics 365 Field Service business application helps organizations deliver onsite service to customer locations. The application combines workflow automation, scheduling algorithms, and mobility to set mobile workers up for success when they're onsite with customers fixing issues.

D: Compared to canvas apps, model-driven apps in PowerApps are based on underlying data — specifically, the data stored in Common Data Service (CDS). All model-driven apps are integrated into CDS. In fact, most Microsoft apps are integrated into CDS because most Microsoft apps, including the entire Dynamics 365 (D365) platform, are model-driven apps.

Incorrect Answers:

B: An Azure Logic App would not be fit for scale. Azure Logic Apps is a cloud service that helps you schedule, automate, and orchestrate tasks, business processes, and workflows when you need to integrate apps, data, systems, and services across enterprises or organizations.

Reference: <https://docs.microsoft.com/en-us/dynamics365/field-service/overview>

<https://global.hitachi-solutions.com/blog/canvas-vs-model-driven-apps>



Question Set 3

QUESTION 1

You are building a custom application in Azure to process resumes for the HR department.

The app must monitor submissions of resumes.

You need to parse the resumes and save contact and skills information into the Common Data Service.

Which mechanism should you use?

- A. Power Automate
- B. Common Data Service plug-in
- C. Web API
- D. Custom workflow activity

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Improve operational efficiency with a unified view of business data by creating flows that use Dataverse (Common Data Service has been renamed to Microsoft Dataverse as of November 2020).

For example, you can use Dataverse within Power Automate in these key ways:

Create a flow to import data, export data, or take action (such as sending a notification) when data changes.

Instead of creating an approval loop through email, create a flow that stores approval state in an entity, and then build a custom app in which users can approve or reject items.

Reference: <https://docs.microsoft.com/en-us/power-automate/common-data-model-intro>



QUESTION 2

DRAG DROP

You are researching integrations with several external systems.

Each integration has different requirements.

You need to determine which data sources to use to meet each requirement.

What should you use? To answer, drag the appropriate data sources to the correct requirements. Each data source may be used once, more than one, 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Virtual entity

Initially, defining a virtual entity is the same as defining a custom entity: you specify the entity, attributes, and relationships for the new virtual entity type. You can use GUIDs as primary keys in the external data source.

Box 2: Virtual entity

Virtual entities enable the integration of data residing in external systems by seamlessly representing that data as entities in Microsoft Dataverse (Common Data Service), without replication of data and often without custom coding. Virtual entities support create, updates and delete of data in the external system.

Box 3: Custom connector

A custom connector is a wrapper around a REST API (Logic Apps also supports SOAP APIs) that allows Logic Apps, Power Automate, or Power Apps to communicate with that REST or SOAP API.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/virtual-entities/get-started-ve>

QUESTION 3

A company manages capital equipment for an electric utility company. The company has a SQL Server database that contains maintenance records for the equipment.

Technicians who service the equipment use the Dynamics 365 Field Service mobile app on tablet devices to view scheduled assignments. Technicians use a canvas app to display the maintenance history for each piece of equipment and update the history.

Managers use a Power BI dashboard that displays Dynamics 365 Field Service and real-time maintenance data.

Due to increasing demand, managers must be able to work in the field as technicians.

You need to design a solution that allows the managers to work from one single screen.

What should you do?

- A. Add the maintenance history app to the Field Service Mobile app.
- B. Add the manager Power BI dashboard to the Field Service mobile app.
- C. Create a new maintenance canvas app from within the Power BI management dashboard.
- D. Add the maintenance history app to the Power BI dashboard.

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Power BI enables data insights and better decision-making, while Power Apps enables everyone to build and use apps that connect to business data. Using the Power Apps visual, you can pass context-aware data to a canvas app, which updates in real time as you make changes to your report. Now, your app users can derive business insights and take actions from right within their Power BI reports and dashboards.

Reference: <https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/powerapps-custom-visual>

QUESTION 4

HOTSPOT

You work for a staffing company that helps employees fill temporary jobs. Available temporary jobs are categorized and listed on a secure area of the company's website.

The company wants to eliminate manual work that relates to job and candidate management. The company plans to invite employers with available jobs and job candidates to view jobs by sending personalized invitations. The company identifies the following requirements:

- Human resources team members from the staffing company must be able to access the jobs listing and post available positions.
- Employers seeking temporary employees must also be able to access the jobs listing and post available positions.
- Approved job candidates must be notified about new positions for which they are qualified.
- Approved job candidate must have an option to accept a job assignment directly from a notification.

You need to perform a gap analysis against the features and capabilities of the Power Platform.

Which features should you implement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Custom self-service portal for both employers and job candidates

If you select an environment that contains customer engagement, you can create the following portals:

- Customer self-service portal: A customer self-service portal enables customers to access self-service knowledge, support resources, view the progress of their cases, and provide feedback.
- Partner portal: A partner portal allows every organization with resellers, distributors, suppliers, or partners to have real-time access to every stage of shared activities.
 - Employee self-service portal: An employee self-service portal creates an efficient and well-informed workforce by streamlining common tasks and empowering every employee with a definitive source of knowledge.

Box 2: Model-driven app with push notifications

Compared to canvas apps, model-driven apps in PowerApps are based on underlying data — specifically, the data stored in Common Data Service (CDS). Box

3: Webform with target set to the job custom entity

Box 4: Configure a value for the Execute Workflow on Redeeming Contact option only.

Execute Workflow on Redeeming Contact: A workflow process to be executed when the invite is redeemed. The workflow will be passed the redeeming contact as the primary entity.

Box 5: Configure the value for the Assigned to Account option only.

Assign to Account: An account record to be associated as the redeeming contact's parent customer when the invite is redeemed.

Reference:

<https://docs.microsoft.com/en-us/powerapps/maker/portals/portal-templates> <https://global.hitachi->

[solutions.com/blog/canvas-vs-model-driven-apps](https://global.hitachi-solutions.com/blog/canvas-vs-model-driven-apps) <https://docs.microsoft.com/en->

[us/powerapps/maker/portals/configure/invite-contacts#invitation-attributes](https://docs.microsoft.com/en-us/powerapps/maker/portals/configure/invite-contacts#invitation-attributes)



Testlet 1

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Background

Contoso Pharmaceuticals manufactures and sells drugs to retail and wholesale pharmacies, hospitals, and research facilities.

The company plans to implement Dynamics 365 Sales and Dynamics 365 Finance. **Current**

environment

- Contoso maintains a Microsoft Excel workbook that lists all drugs they supply.
- Pharmacies submit order requests through email.
- All information at customer locations is handwritten by customer representatives.
- Contoso uses Cerner, which is a medical industry application that uses a proprietary database.
- Some accounts are referrals from other pharmacies.
- Every pharmacy has its own Dynamics 365 Sales instance.



Requirements

General

Contoso wants to ensure that there is minimal custom code and custom connectors in the system.

Accounts

- Ensure that the names of the pharmacies are synced between the accounting and the customer management systems.
- Account numbers should be entered automatically into the pharmaceutical system that is in a Cerner database and kept in sync.
- When the account is entered into the system, extra fields must appear if the referral customer box is selected. If the box is not selected, the extra fields must not appear.
- A trigger must be created that changes the Priority field to **1** in the Account record 10 days after an Account record is created.
- A field named Priority_Trigger must be created to trigger the Priority field.
- A field named Facility type field must be added in order to select whether a customer is a retail pharmacy, wholesale pharmacy, research facility, or hospital. **Users**

- UserA must be able to create and publish Power Apps apps.
- UserB must be the owner of all the systems and be able to provide permissions and create all new environments.
- UserC must be able to create apps connected to the systems and update the security roles and entities.
- Pharmacy representatives must only be able to run the apps and access their own records.
- Access to the accounting Power Apps app must be restricted to accounting team members.
- End users must have minimum access to the required systems.
- Only supervisors must be able to view phone numbers in the Accounts form.
- Developers must be able to create new apps for all users.
- Sales users must only have access to their own records.

Reporting

Pharmacy orders must be displayed in four graphs as follows:

- Annual revenue over \$100,000
 - Annual revenues under \$100,000
 - Research facilities ▪
- Hospitals

The graphs must be interactive, and users must be able to drill down on any dimension. **Customizations**

- Ensure that notifications are sent to the sales team when a lead is added by using Slack.
 - Ensure that leads have a review stage added to the sales process.
 - Doctors must be manually added to a custom entity named Doctor if the doctor is not listed.
 - Refill dates for customer prescriptions should be automatically determined and a notification should be sent to the customer.
 - Fields for the doctor's name and phone number must be displayed in the customer record.
 - The doctor entered on the customer's record must be validated against doctors that exist in the system.
 - The new solution will be sold to other pharmacies for use. The application must not allow changes to be made.
 - The solution must be error free so that when it is installed in other environments it does not cause issues.
 - A custom mobile app must be created to allow salespeople to add or search by pharmacy name.
 - Pharmacy records must be uniquely identified by pharmacy name, address, contact name, and phone number. ▪
- When a pharmacy is added by using the mobile app, the phone number must be validated to be all digits.

QUESTION 1

HOTSPOT

You need to configure the fields with the appropriate type.

Which type should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Lookup

Fields for the doctor's name and phone number must be displayed in the customer record.

Lookup: A field that allows setting a reference to a single record of a specific type of entity.

Box 2: Calculated

Refill dates for customer prescriptions should be automatically determined and a notification should be sent to the customer.

Calculated field: Contains calculations that use fields from the current entity or related parent entities.

Box 3: Text

Field data type: Single Line of Text:

This field can contain up to 4,000 text characters. You can set the maximum length to be less than this. This field has several format options that will change the presentation of the text. These options are Email, Text, Text Area, URL, Ticker Symbol, and Phone.

Reference: <https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/customize/types-of-fields> **Testlet 2**

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Registration form

You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
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- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
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You run solution checker and observe **Plug-in or workflow activity** errors in the following code sets:

Set	Code	Error message
Code set 1	<pre>CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression("account"); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);</pre>	il-specify-column
Code Set 2	<pre>CS201 WebRequest request = WebRequest.Create ("https://www.bellows.com/api/stuff"); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 response = request.GetResponse(); CS205 response.Close();</pre>	il-turn-off-keepalive



Code

The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

```
UpdateRecord.js (Line numbers are included for reference only.)

UR01
UR02 var data =
UR03 {
UR04     "name" : "Updated Account"
        "credithold" : true,
        "description" : "This is an account update",
        "revenue" : 10,000,
        "Division" : 2
    }
UR05 . . .
UR06
```


QUESTION 1 You need to determine the primary cause of the issue reported by interns when they use the app.

What is the primary cause?

- A. Interns have the System Customizer security role but need the Environment Maker security role.
- B. Interns have the Common Data Service User security role but need the Environment Maker security role.C. Interns have the Environment Maker security role but need the Common Data Service User security role.
- D. Interns have the Environment Maker security role but need the System Customizer security role.
- E. Interns have the Environment Maker security role but need the Delegate security role.

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: Interns can create apps but cannot interact with their own data.

Environment Maker role: Can create new resources associated with an environment, including apps, connections, custom APIs, gateways, and flows using Microsoft Power Automate. However, this role doesn't have any privileges to access data within an environment.

System Customizer role: full permission to customize the environment. However, users with this role can only view records for environment entities that they create.

Reference:

<https://docs.microsoft.com/en-us/power-platform/admin/database-security>

Question Set 3

QUESTION 1

HOTSPOT

You are synchronizing company data from a SQL Server-based .NET application into a Common Data Service (CDS) environment.

The data is entered in both the SQL Server and CDS systems.

You have a program that includes the following code:

```
var account = new Entity("account", "accountnumber", "C0-555");
account["name"] = "Contoso";
account["creditlimit"] = new Money(100000);
var request = new UpsertRequest() { Target = account };
var response = (UpsertResponse)_serviceProxy.Execute(request);
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: No.

An alternate key is needed, not a new field for the record identifier.

Box 2: Yes

The specified key attributes are not a defined key for the account entity.

Name: EntityKeyNotDefined

Message: The specified key attributes are not a defined key for the {0} entity

Box 3: Yes

One way to create an entity is by using the UpsertRequest class. An upsert will create a new entity when there is no existing record that has the unique identifiers included in the entity passed with the request. Box

4: No

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/org-service/web-service-error-codes>

<https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/org-service/entity-operations-update-delete#use-upsert>

QUESTION 2

DRAG DROP

A company is creating a new system based on the Common Data Service (CDS).

You need to select the CDS features that meet the company's requirements.

Which features should you select? To answer, drag the appropriate features to the correct requirements. Each feature 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Referential

Active/ Cascade Active one-to-many entity relationship: Perform the action on all active referencing entity records associated with the referenced entity record.

Box 2: Cascade User Owner

Cascade User Owned: Perform the action on all referencing entity records owned by the same user as the referenced entity record.

Box 3: Referential Restrict Delete

Restrict: Prevent the Referenced entity record from being deleted when referencing entities exist.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/configure-entity-relationship-cascading-behavior>

QUESTION 3

DRAG DROP

A company implements Dynamics 365 Sales.

Only sales managers must be able to perform the approval to move high value sales on in the opportunity qualification process. A new field must be created to capture the approval.

You need to create and secure the new field.

Which three 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Step 1: Enable field security in the Approval field.

1. Enable field security on one or more fields for a given entity.
2. Associate one more existing security profiles, or create one or more new security profiles to grant the appropriate access to specific users or teams (step 2 and step 3 below).

Step 2: Create a new field security profile.

Create a new field security profile for the sales manager.

Step 3: Set the field permissions...security profile

Step 2 and step 3, example:

Configure the security profiles.

1. Create the field security profile for sales managers.
2. Go to Settings > Security.
3. Click Field Security Profiles.
4. Click New, enter a name, such as Sales Manager access contact mobile phone, and click Save.
5. Click Users, click Add, select the users that you want to grant read access to the mobile phone number on the contact form, and then click Add.
6. Click Field Permissions, click mobilephone, click Edit, select Yes next to Allow Read, and then click OK.

Reference:

<https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/admin/field-level-security>

QUESTION 4

HOTSPOT

A company delivers packages to businesses and consumers. A custom entity named Package captures the package details.

You need to add the following sets of fields to the entity and leverage the built-in operations of the platform:

- A set of fields to represent the package length, width, depth, and weight. The maximum value for any dimension is 100 centimeters.
- A set of fields for time-sensitive attributes to calculate the efficiency of a delivery based on when the delivery is entered in the system and the existing custom fields: Pickup time and Delivery time.

Which constructs should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: DIFFINMINUTES(Created on, Delivery Time)

DIFFINMINUTES (date and time, date and time) returns the difference in minutes between two Date and Time columns. Box

2: Duration

Reference: <https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/define-calculated-fields>

QUESTION 5

A financial services company uses the Common Data Service (CDS) to develop solutions. The company uses development and production instances.

You need to move solutions from the development instance to the production instance.

What are two possible ways to achieve this goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. In the development instance, make changes to the solutions that are deployed in the production instance, export the solutions as managed solutions, and import the managed solutions into the production instance.
- B. In the development instance, highlight the solution you want to make changes to, select **Clone a Patch**, make changes, export the solution, and import the solution into the production instance.
- C. Export all managed solutions from the development instance and import the solutions into the production instance.
- D. In the production instance, import solutions with the same version number or higher when updating solutions.

Correct Answer: AB

Section: [none]

Explanation

Explanation/Reference:

Explanation:

A: When you import a managed solution, all component changes will be brought into the environment in a published state.

B: You can apply patches to either managed or unmanaged solutions and include only changes to entities and related entity assets. Patches do not contain any non-customized system components or relationships that it depends upon because these components already exist in the deployed-to organization. At some point in your development cycle, you can roll up all the patches into a new solution version to replace the original solution that the patches were created from.

Reference: <https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/import-update-export-solutions>

<https://docs.microsoft.com/en-us/power-platform/alm/create-patches-simplify-solution-updates>

Testlet 1

Case study

This is a case study. **Case studies are not timed separately. You can use as much exam time as you would like to complete each case.** However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Background

Contoso Pharmaceuticals manufactures and sells drugs to retail and wholesale pharmacies, hospitals, and research facilities.

The company plans to implement Dynamics 365 Sales and Dynamics 365 Finance. **Current**

environment

- Contoso maintains a Microsoft Excel workbook that lists all drugs they supply.
- Pharmacies submit order requests through email.
- All information at customer locations is handwritten by customer representatives.
- Contoso uses Cerner, which is a medical industry application that uses a proprietary database.
- Some accounts are referrals from other pharmacies.
- Every pharmacy has its own Dynamics 365 Sales instance.

Requirements

General

Contoso wants to ensure that there is minimal custom code and custom connectors in the system.

Accounts

- Ensure that the names of the pharmacies are synced between the accounting and the customer management systems.
- Account numbers should be entered automatically into the pharmaceutical system that is in a Cerner database and kept in sync.
- When the account is entered into the system, extra fields must appear if the referral customer box is selected. If the box is not selected, the extra fields must not appear. ▪ A trigger must be created that changes the Priority field to 1 in the Account record 10 days after an Account record is created.
- A field named Priority_Trigger must be created to trigger the Priority field.
- A field named Facility type field must be added in order to select whether a customer is a retail pharmacy, wholesale pharmacy, research facility, or hospital. **Users**

- UserA must be able to create and publish Power Apps apps.
 - UserB must be the owner of all the systems and be able to provide permissions and create all new environments.
 - UserC must be able to create apps connected to the systems and update the security roles and entities.
 - Pharmacy representatives must only be able to run the apps and access their own records.
 - Access to the accounting Power Apps app must be restricted to accounting team members.
 - End users must have minimum access to the required systems.
 - Only supervisors must be able to view phone numbers in the Accounts form.
 - Developers must be able to create new apps for all users. ▪
- Sales users must only have access to their own records.

Reporting

Pharmacy orders must be displayed in four graphs as follows:

- Annual revenue over \$100,000
 - Annual revenues under \$100,000
 - Research facilities ▪
- Hospitals

The graphs must be interactive, and users must be able to drill down on any dimension.

Customizations

- Ensure that notifications are sent to the sales team when a lead is added by using Slack.
 - Ensure that leads have a review stage added to the sales process.
 - Doctors must be manually added to a custom entity named Doctor if the doctor is not listed.
 - Refill dates for customer prescriptions should be automatically determined and a notification should be sent to the customer.
 - Fields for the doctor's name and phone number must be displayed in the customer record.
 - The doctor entered on the customer's record must be validated against doctors that exist in the system.
 - The new solution will be sold to other pharmacies for use. The application must not allow changes to be made.
 - The solution must be error free so that when it is installed in other environments it does not cause issues.
 - A custom mobile app must be created to allow salespeople to add or search by pharmacy name.
 - Pharmacy records must be uniquely identified by pharmacy name, address, contact name, and phone number. ▪
- When a pharmacy is added by using the mobile app, the phone number must be validated to be all digits.

QUESTION 1 You need to ensure that users can create the required charts.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Create a quick view form to show the Accounts entity.
- B. Configure filter fields in the Annual revenue field.
- C. Add the Facility field to the account form.
- D. Delete the Annual revenue field from the account form.
- E. Create a view with annual revenue sorted lowest value to highest value.

Correct Answer: BC

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Pharmacy orders must be displayed in four graphs as follows:

- Annual revenue over \$100,000
- Annual revenues under \$100,000
- Research facilities
- Hospitals

The graphs must be interactive, and users must be able to drill down on any dimension.

Testlet 2

Case study

This is a case study. **Case studies are not timed separately. You can use as much exam time as you would like to complete each case.** However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

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Background

Current environment

Adventure Works Cycles wants to replace their paper-based bicycle manufacturing business with an efficient paperless solution. The company has one manufacturing plant in Seattle that produces bicycle parts, assembles bicycles, and distributes finished bicycles to the Pacific Northwest.

Adventure Works Cycles has a retail location that performs bicycle repair and warranty repair work. The company has six maintenance vans that repair bicycles at various events and residences.

Adventure Works Cycles recently deployed Dynamics 365 Finance and Dynamics 365 Manufacturing in a Microsoft-hosted environment for financials and manufacturing. The company plans to leverage the Microsoft Power Platform to migrate all of their distribution and retail workloads to Dynamics 365 Unified Operations.

The customer uses Dynamics 365 Sales. Dynamics 365 Customer Service and Dynamics 365 Field Service.

Retail store information

- Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians.
- Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.
- The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.
- Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.
- Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.
- A canvas app is being developed to capture customer information when customers check in at the retail location. The app has the following features: -
 - Customer selects yes or no if they are on the mailing list.
 - Customer selects the amount of times they have visited the store.
 - Customer selects the type of service needed.
 - The search result returns all last name records that match the search term.

Technology

Requirements

- A plug-in for Dynamics 365 Sales automatically calculated the total billed time from all activities on a particular customer account, including sales representative visits, phone calls, email correspondence, and repair time compared with hours spent.
- A shipping API displays shipping rates and tracking information on sales orders. The contract allows for 3,000 calls per month.
- Ecommerce orders are processed in batch daily by using a manual import of sales orders in Dynamics 365 Finance.
- Microsoft Teams is used for all collaboration.
- All testing and problem diagnostics are performed in a copy of the production environment.
- Customer satisfaction surveys are recorded with Microsoft Forms Pro. Survey replies from customers are sent to a generic mailbox.

Automation

- A text message must be automatically sent to a customer to confirm an appointment and to notify when a technician is on route that includes their location.
- Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.
- A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.
- Submitted customer surveys must generate an email to the correct department. Approval and follow-up must occur within a week.

Reporting

- The warehouse manager's dashboard must contain warehouse counting variance information.
- A warehouse manager needs to quickly view warehouse KPIs by using a mobile device.
- Power BI must be used for reporting across the organization.

User experience

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Issues

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.



Internal

- User1 reports receives an intermittent plug-in error when viewing the total bill customer time.
- User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.
- User2 reports that sales orders have increased.
- User5 receives the error message: 'Endpoint unavailable' during a test of the technician dispatch ISV solution.
- The parts department manager who is the approver for the department is currently on sabbatical.

External

- CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.
- Nine customers arrive in the repair area of the retail store, but no texts were sent to scheduled employees.
- Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
- CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.

QUESTION 1 You need to resolve CustomerB's issues with the check-in application.

Which two options can you use? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. LookUp to Filter
- B. Filter to LookUp
- C. Search to LookUpD. LookUp to Search

Correct Answer: AD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.

The Filter function finds records in a table that satisfy a formula. Use Filter to find a set of records that match one or more criteria and to discard those that don't.

The LookUp function finds the first record in a table that satisfies a formula. Use LookUp to find a single record that matches one or more criteria.

The Search function finds records in a table that contain a string in one of their columns.

Reference:

<https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/functions/function-filter-lookup>



Question Set 3**QUESTION 1**
HOTSPOT

A company uses SharePoint for its intranet and other functions. The company has also implemented model-driven apps.

SharePoint users must be able to create contact records in the Common Data Service (CDS), without having to navigate to the model-driven apps.

You need to create a link in SharePoint to open the CDS contact from displaying data from SharePoint.

How should you complete the URL? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: main.aspx
Example, to open the Active Contacts view.
`https://myorg.crm.dynamics.com/main.aspx?etn=contact&pagetype=entitylist&viewid={00000000-0000-0000-00AA-000010001004}`

Box 2: etn
Etn: The logical name of the entity. Important: Do not use the etc (entity type code) parameter that contains an integer code for the entity. This integer code varies for custom entities in different organizations.

Box 3: Extraqs
Extraqs: Optional for forms. This parameter contains encoded parameters within this parameter.
When you open a new form by using the URL address, you can include arguments in the extraqs parameter to set field values

Note: You must encode the parameters passed in the extraqs parameter. To encode the parameters, use `encodeURIComponent`. To use special characters like "=" or "&" in the parameter values, you must double encode (e.g. to set name to A=B&C, it would be `extraqs=name%3DA%253DB%2526C`).

Box 4: entitylist
Pagetype: The type of page. There are two possible values:
- entityrecord
Displays an entity record form.
- entitylist
Displays an entity view.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/open-forms-views-dialogs-reports-url>
<https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/set-field-values-using-parameters-passed-form>

QUESTION 2 A company uses a model-driven app to record details of laboratory test.

You are asked to create a custom component that makes it easier to capture multiple values from lab test results on mobile devices.

You need to create the interface for the dataset in case the mobile devices lose connection to the network.

Which method should you use?

- A. SaveData
- B. updateView

C. init
D. getClient

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Use LoadData and SaveData for basic data storage while offline.

Note:

When building mobile apps, one of the most common scenarios app makers face is how to enable their users be productive in situations where there is limited or no connectivity at all. This has been one of the most requested features for PowerApps to allow running apps while being disconnected and to provide some support for offline data caching. In this release of PowerApps, we are delivering the first set of improvements for app makers to achieve that by enabling: 1.

Launching the PowerApps mobile player app offline

2. Running apps while being offline
3. Determine when your app is online or offline or in a metered connection by using the Connection signal object.
4. Leverage existing formulas such as LoadData and SaveData for basic data storage while offline.

Reference: <https://powerapps.microsoft.com/sv-se/blog/build-offline-apps-with-new-powerapps-capabilities/>

QUESTION 3 A bank uses a Common Data Service solution to manage clients.

Bank representatives perform client credit checks while the client is present. Credit checks may take up to five minutes to complete.

Bank policy dictates that the bank representative's app must stay blocked until credit checks are complete.

You need to display a model-driven app while credit checks run to ask the bank representative and client to wait for the credit check to complete.

Which function should you use?

- A. `Xrm.Navigation.openWebResource("prefix.myPoliteMessage.html")`
- B. `Xrm.Navigation.openAlertDialog(myPoliteMessage)`
- C. `Xrm.Utility.openWebResource("prefix_myPoliteMessage.html")`
- D. `Xrm.Utility.showProgressIndicator(myPoliteMessage)`

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation: showProgressIndicator displays a progress dialog with the specified message.

Any subsequent call to this method will update the displayed message in the existing progress dialog with the message specified in the latest method call.

The progress dialog blocks the UI until it is closed using the closeProgressIndicator method. So, you must use this method with caution.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/xrm-utility/showprogressindicator>

QUESTION 4

DRAG DROP

You are creating a model-driven app.

Users need to see only the entities in the app navigation that are relevant to their role and their method of accessing the app.

You need to restrict entities on the sub-areas in the SiteMap.

Which properties should you use? To answer, drag the appropriate properties to the correct requirements. Each property 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Privileges

Privileges: This defines whether a subarea is displayed based on privileges available in any security roles that are assigned to the user.

Box 2: SKU

SKUs: Select the versions of Dynamics 365 that display this subarea.

Box 3: Client

Client: Select the type of client that displays this subarea.

Incorrect Answers:

Offline Availability: Select this check box to make this subarea available to users when they are offline in Dynamics 365 for Outlook.

Reference: <https://docs.microsoft.com/en-us/powerapps/maker/model-driven-apps/create-site-map-app>

QUESTION 5

HOTSPOT

You are troubleshooting Power Apps solutions.

You need to determine the cause for the identified issues.

What is the root cause for each issue? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

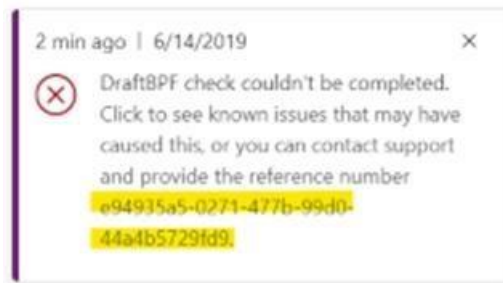
Explanation:

Box 1: A canvas app in the first solution has errors.

Failures that occur during background processing of the analysis will fail with 'Couldn't be completed' status and return an error message in the Power Apps portal as well as send email notification to the requestor.

Solutions					
Display name		Created ↓	Version	Managed externally?	Solution check
Draft BPF	...	6/14/2019	1.0.0.0	🔒	Couldn't be completed

Selecting the portal notification will link to this page of common issues for further troubleshooting. If one of the provided common issues does not resolve the problem, a reference number is also returned. Provide this reference number to Microsoft Support for further investigation.



Box 2: The code uses the following rule: web-use-strict-mode web-use-strict-mode is able to throw a SyntaxError before the script is executing.

Example:

The reason is JavaScript lets you compare different variable types but this can have unexpected results, so by using the strict === it compares the same type and won't have unexpected results

this gets a warning entity.field == "Line1"

Incorrect Answers:

web-avoid-eval: The eval() function evaluates JavaScript code represented as a string.

web-avoid-modals: Avoid using modal dialogs. web-remove-debug-script: Avoid including debug script in non-development environments.

Reference: <https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/common-issues-resolutions-solution-checker>

QUESTION 6 You create a Power Apps app that integrates with Dynamics 365 Customer Service.

You update the app and run solution checker on the original solution. You receive an error stating solution checker cannot export the solution.

You need to determine the primary cause for the issue.

What is the primary cause?

- A. The original solution is locked because there is a dependent patch.
- B. The solution was not exported before running solution checker.
- C. The environment is an Administrator mode.
- D. Solution checker cannot check default solutions.

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Solution checker fails to export patched solutions.

If a solution has had a patch applied, Solution Checker will fail to export the solution for analysis. When a solution has had a patch applied, the original solution becomes locked and it can't be changed or exported as long as there are dependent patches that exist in the organization that identify the solution as the parent solution.

To resolve this issue, clone the solution so that all patches related to the solution are rolled into the newly created solution. This unlocks the solution and allows the solution to be exported from the system.

Reference: <https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/common-issues-resolutions-solution-checker#solution-checker-fails-to-export-solutions-with-model-driven-app-components>

QUESTION 7

HOTSPOT

You are creating a model-driven app to track the time that employees spend on individual projects.

You need to configure the app according to the company's requirements.

Which components should you configure? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: View

Box 2: Quick Create

With quick create forms, your app can have a streamlined data entry experience with full support for logic defined by form scripts and business rules.

By default only these system tables have quick create forms: account, campaign response, 1case, competitor, contact, lead, opportunity.

Incorrect Answers:

Quick View

A quick view form can be added to another form as a quick view control. It provides a template to view information about a related table row within a form for another table row. This means your app users do not need to navigate to a different row to see the information needed to do their work.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/customize-entity-views>

<https://docs.microsoft.com/en-us/powerapps/maker/model-driven-apps/create-edit-quick-create-forms>

QUESTION 8 You fix a bug in the code of your application, which is currently on version 10.0.2.1.

You need to publish an updated version of the solution.

Which version identifier should you use?

- A. 10.0.3.1
- B. 10.0.2.2
- C. 10.1.0.2
- D. 11.0.0

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The version number are <major>.<minor>.<build>.<revision>.

When we create patches in Dynamics 365, the system will automatically increment the build version (you can overwrite the chosen number when you create the patch). For example, if our solution starts at 1.0.0.0, we export it to become 1.0.0.1. We then create a patch, and the version of the patch is 1.0.1.1. If we export it now, it might become 1.0.1.2. In all cases, the build or version number has been incremented. Patches require the build or version number to increment, but not the major or minor version.

Reference: <https://carldesouza.com/how-solution-version-numbers-work-in-the-microsoft-power-platform/>

QUESTION 9

HOTSPOT

Fabrikam, Inc, has two divisions as shown in the Business Unit exhibit. (Click the **Business Unit** tab.)



Business Units

View: Active Business Unit

New

Run Workflow...

Start Dialog

More Actions

☐

Name ↑

Main Phone

Website

Parent Business

Fabrikam

Fabrikam Property Management

Fabrikam

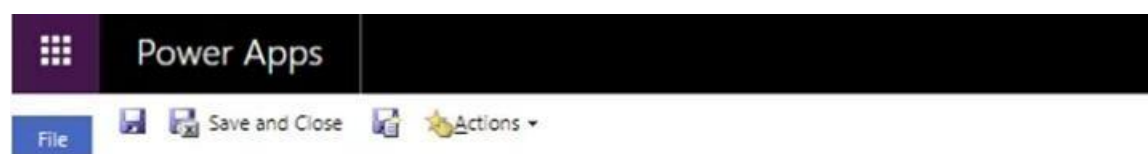
Fabrikam Residences

Fabrikam

1 – 4 of 4 (0 selected) | All A B C D E F G H I J K L M N O P Q R S T U V W X Y Z | Page 1

- Fabrikam Residences rents units short term to clients.
 - Fabrikam Property Management deals with the maintenance of the units and manages the contractors who perform the maintenance. ▪
- Clients and contractors are both stored in the Contact entity.

The manager of the Property Management business unit is a member of a Fabrikam business unit, which has the root security role as shown in the Security Role exhibit. (Click the **Security Role** tab.)



Security Role: Common Data Service User

Details | Core Records | Service | Business Management | Customization | Missing Entities

Role Name*

When role is assigned to a team
 Team member gets all team privileges by default.
 Team members can inherit team privileges directly based on access level. [Learn More.](#)

Member's privilege inheritance

Power Apps

File | Save and Close | Actions

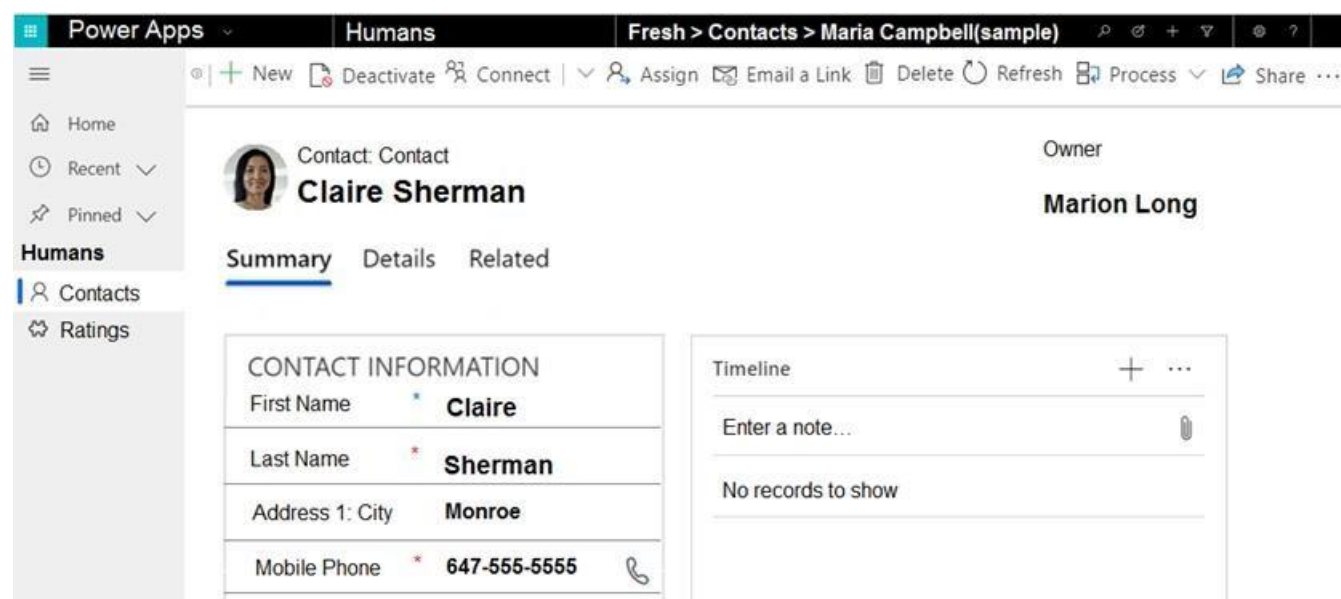
Security Role Common Data Service User

Details | Core Records | Business Management | Customization | Missing Entities | Business Process Flows | Custom Entities

Entity	Create	Read	Write	Delete	Append	Append To	Assign	Share
Account	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟡
ACViewManager	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟡
Action Card	🟡	🟡	🟡	🟡	🟡	🟢	🟡	🟡
Action Card User Settings	🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟡
Activity	🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟢
Advanced Similarity Rule	🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟡
Announcement	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟡
Application File	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟡
Azure Service Connection	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟡
Connection	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟢
Connection Role	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟡
Contact	🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟡
Customer Relationship	🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟢
Data Import	🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟢
Data Map	🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟢
Data Performance Dashboard	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟢
Document Location	🟡	🟡	🟡	🟡	🟡	🟡	🟡	🟡
Document Suggestions	🟢	🟢	🟢	🟡	🟢	🟢	🟢	🟢
Duplicate Detection Rule	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟡
Email Signature	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟡
Email Template	🟡	🟢	🟡	🟡	🟡	🟡	🟡	🟡
Feedback	🟢	🟡	🟡	🟡	🟡	🟡	🟡	🟡



The manager cannot see the contact record shown in the Contact exhibit. (Click the **Contact** tab.)



You need to ensure that the manager can view contact records owned by someone in the Residences business unit.

For each of the following statements, select Yes if the statement achieves the goal. Otherwise, select No.

Hot Area:

Answer Area

Statement	Yes	No
Modify the security inheritance.	<input type="radio"/>	<input type="radio"/>
Move the manager to the root Fabrikam business unit.	<input type="radio"/>	<input type="radio"/>
Expand the Read permission of the security role to be Business Unit level.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statement	Yes	No
Modify the security inheritance.	<input checked="" type="radio"/>	<input type="radio"/>
Move the manager to the root Fabrikam business unit.	<input type="radio"/>	<input checked="" type="radio"/>
Expand the Read permission of the security role to be Business Unit level.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]

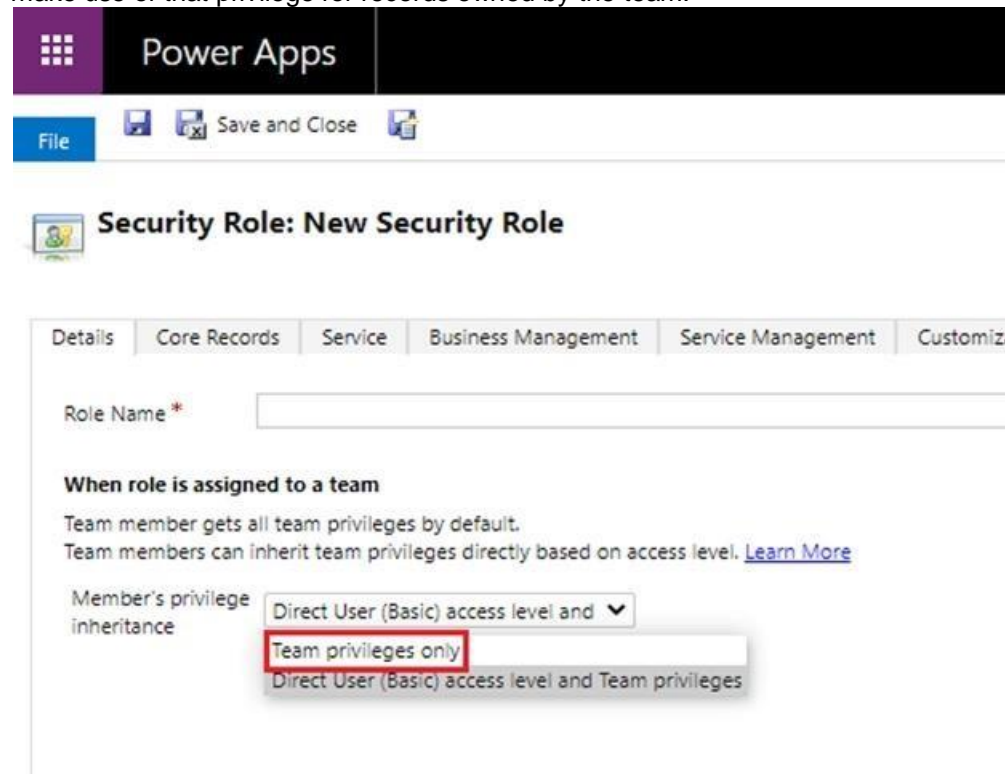
Explanation

Explanation/Reference:

Explanation:

Box 1: Yes
 Change it to Direct User/Basic access level and Team privileges. This creates a security role with team member's privilege inheritance.

Note: For roles assigned to teams with Basic-level access user privilege, the role's inheritance configuration also comes into play. If the team has the Member's privilege inheritance set to Team privileges only, then the user will only be able make use of that privilege for records owned by the team.”



Box 2: No
 The manager of the Property Management business unit is already a member of a Fabrikam business unit, which has the root security role Box

3: Yes

Reference:
<https://docs.microsoft.com/en-us/power-platform/admin/security-roles-privileges>

QUESTION 10 HOTSPOT

A company has a development environment and a production environment. The production environment has several third-party managed and unmanaged solutions that made changes to the Contact main form.

You create a new solution in the development environment. You add the Contact entity and the Contact main form to the solution. You create a custom field on the Contact entity.

What happens when you perform these actions and import the solution into the production environment? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: The field is appended to the end of the existing section.

When you add new elements to a form that is to be merged, we recommend that you include your new elements within new container elements (tabs or sections). Additions to any container will be appended to the end of the container. For example, fields added to a section will be positioned at the end of the section.

Box 2: The field is added in a new section.

Box 3: The field is inserted in the middle of the existing section

Reference:

[https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/developers-guide/gg309329\(v=crm.8\)](https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/developers-guide/gg309329(v=crm.8))

QUESTION 11

An organization uses Dynamics 365 Sales. The organization has accounting and customer service departments.

You must restrict users in customer service from being able to change the value of the balance field on the Contact records. The accounting team must be the only team able to edit this field.

You need to create the appropriate solution without any customizations.

What should you do first?

- A. Enable field security for the balance field and grant the customer service team read and update permissions.
- B. Create a customer service form and role and make the balance field read-only.
- C. Enable field security for the balance field and grant the accounting team read permissions.
- D. Enable field security for the balance field and grant the customer service team read permissions.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Improve user's productivity with the new forms in the Customer Service Hub. The form type of the new forms is Main.

The Main forms come with an improved user experience optimized for agent productivity, helping to maintain context while working on related records. Main forms provide the primary interface where the agents can view and interact with their data in Microsoft Dynamics 365 Customer Service.

Reference:

<https://docs.microsoft.com/en-us/dynamics365/customer-service/create-design-forms-customer-service-hub>

QUESTION 12

HOTSPOT

You are developing a model-driven app for the purchasing department of an organization. You provision a new test environment and a security role. You select users to test the apps and assign the users to a security group named TestSG.

If the tests succeed, a manager will perform additional testing in the production environment and then publish the app for the organization's purchasing department.

You need to ensure that the test and production environments are configured correctly.

What should you do? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Set the test environment security group to TestSG and assign test users the app security role.

PowerApps apps use role-based security for sharing. The fundamental concept in role-based security is that a security role contains privileges that define a set of actions that can be performed within the app. All app users must be assigned to one or more predefined or custom roles.

Box 2: Assign the manager the app security role.

Box 3: Set the production environment security group to TestSG Box

4: Add all users in the department to the TestSG security group.

Reference:

<https://docs.microsoft.com/en-us/powerapps/maker/model-driven-apps/share-model-driven-app>

QUESTION 13

A travel company plans to track the address of places their clients visit in an entity named Destination. Client information is captured as contact records. Client records include links to the places that clients visit.

The company must be able to link multiple rating records to the new address record.

You find a custom Rating entity that is incomplete.

You need to expand the Rating entity to include contact, address, and rating information in one place.

Which three actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Create a 1:N relationship between the Contact system entity and the Address system entity named Destination.
- B. Create a mapping for the Contact – Rating relationship.
- C. Create a 1:N relationship between the Address system entity and the Rating entity.
- D. Create a 1:N relationship between the Contact system entity and the Rating entity.
- E. Create a mapping for the Destination – Rating relationship.
- F. Create a 1:N relationship between the Destination entity and the Rating entity.



Correct Answer: ACE

Section: [none]

Explanation

Explanation/Reference:

Reference:

<https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/map-entity-fields>

QUESTION 14

HOTSPOT

A company uses Dynamics 365 Sales and the Microsoft Online Services portal.

The multi-select OptionSet field data type is not supported in the portal.

You need to copy the selected field value to the text field.

How should you configure the Organization service request? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Yes

If you are creating an attribute editor you will need to retrieve entity data that has been saved but not published. For other scenarios you will want to only retrieve published metadata.

- Set this value to true to include unpublished changes, as it would look if you called publish.
- Set this value to false to include only the currently published changes, ignoring the changes that haven't yet been published.

Box 2: AttributeMetadata

AttributeMetadata class is returned in the RetrieveAttributeResponse.

Reference:

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.xrm.sdk.messages.retrieveattributerequest.retrieveasifpublished?view=dynamics-general-ce-9> <https://docs.microsoft.com/en-us/dotnet/api/microsoft.xrm.sdk.metadata.attributemetadata?view=dynamics-general-ce-9>



Testlet 1

Case study

This is a case study. **Case studies are not timed separately. You can use as much exam time as you would like to complete each case.** However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Background

Contoso Pharmaceuticals manufactures and sells drugs to retail and wholesale pharmacies, hospitals, and research facilities.

The company plans to implement Dynamics 365 Sales and Dynamics 365 Finance. **Current**

environment

- Contoso maintains a Microsoft Excel workbook that lists all drugs they supply.
- Pharmacies submit order requests through email.
- All information at customer locations is handwritten by customer representatives.
- Contoso uses Cerner, which is a medical industry application that uses a proprietary database.
- Some accounts are referrals from other pharmacies.
- Every pharmacy has its own Dynamics 365 Sales instance.



Requirements

General

Contoso wants to ensure that there is minimal custom code and custom connectors in the system.

Accounts

- Ensure that the names of the pharmacies are synced between the accounting and the customer management systems.
- Account numbers should be entered automatically into the pharmaceutical system that is in a Cerner database and kept in sync.
- When the account is entered into the system, extra fields must appear if the referral customer box is selected. If the box is not selected, the extra fields must not appear.
- A trigger must be created that changes the Priority field to **1** in the Account record 10 days after an Account record is created.
- A field named Priority_Trigger must be created to trigger the Priority field.
- A field named Facility type field must be added in order to select whether a customer is a retail pharmacy, wholesale pharmacy, research facility, or hospital. **Users**

- UserA must be able to create and publish Power Apps apps.
- UserB must be the owner of all the systems and be able to provide permissions and create all new environments.
- UserC must be able to create apps connected to the systems and update the security roles and entities.
- Pharmacy representatives must only be able to run the apps and access their own records.
- Access to the accounting Power Apps app must be restricted to accounting team members.
- End users must have minimum access to the required systems.
- Only supervisors must be able to view phone numbers in the Accounts form.
- Developers must be able to create new apps for all users.
- Sales users must only have access to their own records.

Reporting

Pharmacy orders must be displayed in four graphs as follows:

- Annual revenue over \$100,000
 - Annual revenues under \$100,000
 - Research facilities
- Hospitals

The graphs must be interactive, and users must be able to drill down on any dimension. **Customizations**

- Ensure that notifications are sent to the sales team when a lead is added by using Slack.
 - Ensure that leads have a review stage added to the sales process.
 - Doctors must be manually added to a custom entity named Doctor if the doctor is not listed.
 - Refill dates for customer prescriptions should be automatically determined and a notification should be sent to the customer.
 - Fields for the doctor's name and phone number must be displayed in the customer record.
 - The doctor entered on the customer's record must be validated against doctors that exist in the system.
 - The new solution will be sold to other pharmacies for use. The application must not allow changes to be made.
 - The solution must be error free so that when it is installed in other environments it does not cause issues.
 - A custom mobile app must be created to allow salespeople to add or search by pharmacy name.
 - Pharmacy records must be uniquely identified by pharmacy name, address, contact name, and phone number.
- When a pharmacy is added by using the mobile app, the phone number must be validated to be all digits.

QUESTION 1

DRAG DROP

You need to select a process to create each function.

Which process should you use? To answer, drag the appropriate processes to the correct functions. Each process 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Power Automate

Ensure that notifications are sent to the sales team when a lead is added by using Slack

Power Automate is a service that helps you create automated workflows between your favorite apps and services to synchronize files, get notifications, collect data, and more.

Box 2: Business rule

A trigger must be created that changes the Priority field to 1 in the Account record 10 days after an account record is created. A field named Priority_Trigger must be created to trigger the Priority field.

Business rules provide a simple interface to implement and maintain fast-changing and commonly used rules.

Box 3: Business process flow

Ensure that leads have a review stage added to the sales process.

Use business process flows to define a set of steps for people to follow to take them to a desired outcome. These steps provide a visual indicator that tells people where they are in the business process.

Reference: <https://docs.microsoft.com/en-us/power-automate/> <https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/customize/create-business-rules-recommendations-apply-logic-form> <https://docs.microsoft.com/en-us/power-automate/business-process-flows-overview>

Testlet 2

Case study

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Background

Bellows Sports is the region's newest, largest, and most complete sports complex. The company features baseball and soccer fields and two full-size hockey rinks. The complex provides coaching, recreational leagues, a pro shop, and state-of-the-art customer and player amenities.

The company is organized into the following divisions:

- Baseball
- Hockey ▪
- Soccer

Bellow Sports runs tournaments several times per year. Each tournament runs six weeks.

Current environment

Requirements

Bellow Sports tracks players and events in Microsoft Excel workbooks and uses email to communicate with players, partners, and prospective customers. The company uses a proprietary cloud-based accounting system.

The company relies on referrals from athletes for new business. Bellows uses a third-party marketing company to gather feedback and referrals from athletes. The third-party marketing company uploads a Microsoft Excel file containing lists of potential customers and players to the FTP site that Bellows Sports maintains.

Tournaments

Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner. When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Registration form

You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
 - Information about upcoming tournaments must be pre-located into the registration form when the registration form loads. ▪
- The form must include a custom button that sends an email confirmation to the player after the player registers. ▪ The button must not be visible until after the form is saved.

Security

The company identifies the following job roles:



Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.

You must grant users the minimum permissions required to perform their job tasks.

Data automation

- Customer name must be added to Dynamics 365 Finance automatically after it is entered.
- You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.
- You must implement mechanisms to handle all code-related errors.
- When a customer record is updated, the system must look up the account number for the customer in the accounting system.
- Referrals must be imported into the system as soon as they are available.

Issues

Apps

- The captions for the New and Save buttons do not render properly on the form.
- Interns can create apps but cannot interact with their own data.

Portal

The query for all registered users must return the data categorized by division. Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```



Solution checker issues

You run solution checker and observe **Plug-in or workflow activity** errors in the following code sets:

Set	Code	Error message
Code set 1	CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression("account"); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);	il-specify- column
Code Set 2	CS201 WebRequest request = WebRequest.Create ("https://www.bellows.com/api/stuff"); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 response = request.GetResponse(); CS205 response.Close();	il-turn-off- keepalive

Code

The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

UpdateRecord.js (Line numbers are included for reference only.)

```
UR01
UR02 var data =
UR03     {
UR04         "name" : "Updated Account"
            "creditonhold" : true,
            "description" : "This is an account update",
            "revenue" : 10,000,
            "Division" : 2
        }
UR05 . . .
UR06
```

QUESTION 1

You need to handle errors in UpdateRecord.js.

Which code segment should you add at line UR06?

A. `catch(error) { alert("Caught error: " + error.message); }`
B. `Exception exception = Server.GetLastError() ; if(exception != null) { }`
C. `catch(exception e) { console.writeline(e); }`
D. `function (error) { console.log(error.message); }`

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The catch statement lets you handle the error.

Syntax: `catch(err) {`

 Block of code to handle errors

`}`

Reference:

https://www.w3schools.com/js/js_errors.asp

Question Set 3

QUESTION 1

You have a Common Data Service entity and a model-driven app. The model-driven app integrates with an external system.

You plan to run business logic each time the model-driven app creates a record. Running business logic must not negatively affect model-driven app users.

You need to implement the business logic.

What should you use?

- A. Synchronous plug-in registered in the PreOperation stage
- B. Synchronous workflow
- C. Asynchronous plug-in registered in the PostOperation stage

Correct Answer: C

Section: [none]

Explanation



Explanation/Reference:

Explanation:

The asynchronous service executes long-running operations independent of the main Microsoft Dataverse core operation. This results in improved overall system performance and improved scalability.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/asynchronous-service>

QUESTION 2

HOTSPOT

A company is preparing to go live with their Dynamics 365Sales solution, but first they need to migrate data from a legacy system. The company is migrating accounts in batches of 1,000.

When the data is saved to Dynamics 365 Sales, the IDs for the new accounts must be output to a log file.

You have the following code:

```
1. ExecuteMultipleRequest request = new ExecuteMultipleRequest()
2. {
3.     Settings = new ExecuteMultipleSettings()
4.     {
5.         ContinueOnError = true,
6.         ReturnResponses = false
7.     },
8.     Requests = new OrganizationRequestCollection()
9. };
10. GetAccountData(request.Requests);
11. ExecuteMultipleResponse responseWithResults = (ExecuteMultipleResponse)
    crmSvc.Execute(request);
12. foreach (var responseItem in responseWithResults.Responses)
13. {
14.     . . .
15. }
```



For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Hot Area:

Answer Area

Statement	Yes	No
The developer is able to get access to the newly-created accounts IDs.	<input type="radio"/>	<input type="radio"/>
If an error occurs, the developer can get access to the request that caused the fault.	<input type="radio"/>	<input type="radio"/>
If there are errors in the requests, the request will raise an exception at the first error and stop processing.	<input type="radio"/>	<input type="radio"/>
If there are ten errors in the 1,000 CreateRequest requests, ten responses will be returned from the platform.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statement	Yes	No
The developer is able to get access to the newly-created accounts IDs.	<input type="radio"/>	<input checked="" type="radio"/>
If an error occurs, the developer can get access to the request that caused the fault.	<input checked="" type="radio"/>	<input type="radio"/>
If there are errors in the requests, the request will raise an exception at the first error and stop processing.	<input type="radio"/>	<input checked="" type="radio"/>
If there are ten errors in the 1,000 CreateRequest requests, ten responses will be returned from the platform.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: No

Box 2: Yes

ContinueOnError: When true, continue processing the next request in the collection even if a fault has been returned from processing the current request in the collection. When false, do not continue processing the next request.

ReturnResponses: When true, return responses from each message request processed. When false, do not return responses.

When false, the Responses collection will not be empty if errors are returned. If errors are returned, there will be one response item in the collection for each processed request that returned a fault and Fault will be set to the actual fault that occurred.

Box 3: No

Box 4: Yes

For example, in a request collection that contains six requests where the third and fifth request return faults, the following table indicates what the Responses collection would contain.

ContinueOnError=true, ReturnResponses=false: 2 response items: 2 have Fault set to a value.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/org-service/execute-multiple-requests>

QUESTION 3

DRAG DROP

You are creating a business process flow for an organization's Request for Quote process.

You need to ensure that the business process flow meets the company's requirements.

Which components should you use? To answer, drag the appropriate components to the correct requirements. Each component may be used once, more than once, or not at all. You may need to drag the split bar between panes to scroll to view content. Select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Step

Each step represents a field where data can be entered.

Stages tell you where you are in the process, while steps are action items that lead to a desired outcome.

Box 2: Branching condition

You can enhance a business process flow with branching. If you have the create permissions on business process flows, you'll be able create business process flow with multiple branches by using the If-Else logic.

Box 3: Stage

Each stage contains a group of steps.

Incorrect Answers:

You can use custom controls to add rich visualizations (such as sliders, radial knobs, the LinkedIn control, and more) to business process flows steps and deliver engaging experiences to those who use your business process.

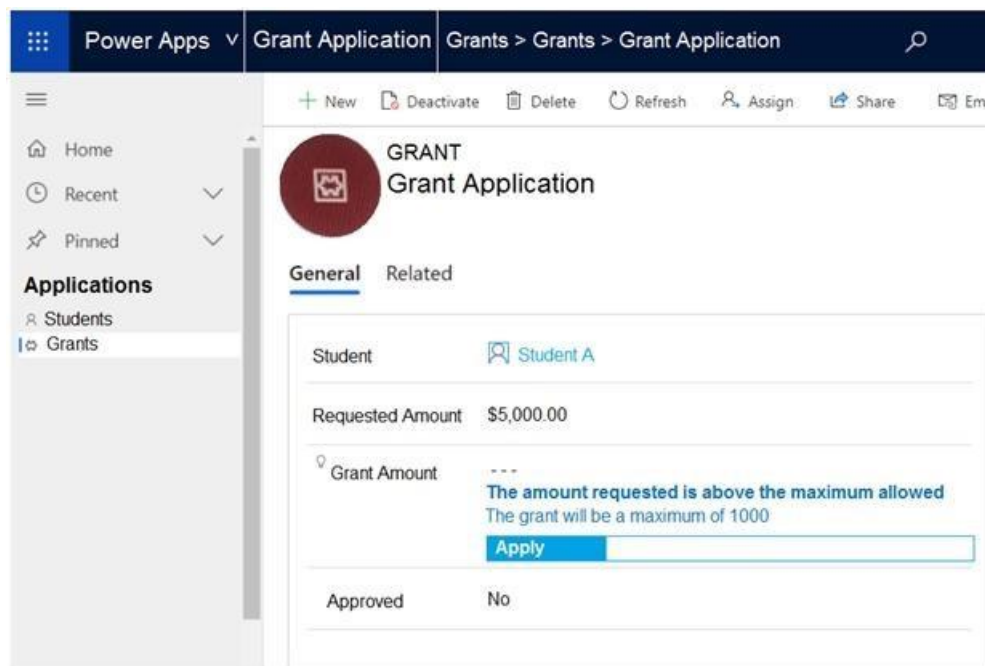
Reference: <https://docs.microsoft.com/en-us/power-automate/business-process-flows-overview> <https://docs.microsoft.com/en-us/power-automate/enhance-business-process-flows-branching>

QUESTION 4

HOTSPOT

A university manages grant applications using a model-driven app.

Users report that the message on the Grant Application screen is outdated. The screen shows the following:



The screenshot shows the 'Grant Application' screen in Power Apps. The 'General' tab is selected. The form contains the following fields and values:

- Student:** Student A
- Requested Amount:** \$5,000.00
- Grant Amount:** A message indicates that the requested amount is above the maximum allowed, and the grant will be a maximum of 1000. An 'Apply' button is visible below the message.
- Approved:** No



Use the drop-down menus to select the answer choice that answers each question based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Reference: <https://www.loganconsulting.com/blog/how-use-power-automate-trigger-workflows-microsoft-dynamics-crm/>

QUESTION 5

A manufacturing company uses a Common Data Service (CDS) environment to manage their parts inventory across two warehouses modeled as business units and named WH1 and WH2.

Data from the two warehouses is processed separately for each part that has its inventory quantities updates. The company must automate this process, pushing inventory updates from orders submitted to the warehouses.

You need to build the automation using Power Automate flows against the CDS database. You must achieve this goal by using the least amount of administrative effort.

Which flow or flows should you recommend?

- A. Two automated flows with scope Business Unit, with triggers on Create/Update/Delete on orders.
- B. Two automated flows with scope Business Unit, with triggers on Create/Update/Delete and each flow filtering updates from each business unit.
- C. Two scheduled flows, each querying and updating the parts included in orders from each business unit.
- D. One scheduled flow, querying the parts included in orders in both business units.
- E. One automated flow, querying the orders in both business units.
- F. Two scheduled flows, each querying the orders from each business unit.
- G. Two automated flows with scope Organization, with triggers on Create/Update/Delete and filters on WH1 and WH2.
- H. Two automated flow with scope Business Unit, with triggers on Create/Update/Delete on orders and filters on WH1 and WH2.

Correct Answer: H

Section: [none]

Explanation

Explanation/Reference:

Explanation:

With the Common Data Service connector, you can create Power Automate flows that are initiated by create and update events within Dataverse. Additionally, you can perform create, update, retrieve, and delete actions on records within Dataverse.

You can use scopes to determine if your flow runs if you create a new record, if a new record is created by a user within your business unit, or if a new record is created by any user in your organization.

Reference: <https://docs.microsoft.com/en-us/power-automate/connection-cds>

QUESTION 6 An organization implements Dynamics 365 Sales.

You need to trigger a business rule when the main form is saved.

What should you do?

- A. Write a business rule to trigger on a change of ModifiedOn field.
- B. Set the scope of the business rule to one specific form where business rule triggers.
- C. Set the scope of the business rule to **All Forms**.
- D. Set the scope of the business rule to **Entity**.

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Set scope of business rule to "Entity" instead of "All Form". This will trigger it on server side.

Reference: [https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/developers-guide/dn481574\(v=crm.8\)](https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/developers-guide/dn481574(v=crm.8))

QUESTION 7

A company implements Dynamics 365 Sales.

An email notification must be sent automatically to the sales manager when a business process completes.

You need to ensure that emails are sent.

What should you create on the process completed trigger?

- A. a workflow
- B. an action step
- C. a data step
- D. a Power Automate flow step

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

When you include a workflow that you want to trigger on Stage Exit of a stage in your business process flow, and that stage is the last stage in the flow, the designer gives the impression that the workflow will be triggered when that stage is completed.

Reference: <https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/customize/business-process-flows-overview>

Testlet 1

Case study

This is a case study. **Case studies are not timed separately. You can use as much exam time as you would like to complete each case.** However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Background

Bellows Sports is the region's newest, largest, and most complete sports complex. The company features baseball and soccer fields and two full-size hockey rinks. The complex provides coaching, recreational leagues, a pro shop, and state-of-the-art customer and player amenities.

The company is organized into the following divisions:

- Baseball
- Hockey ▪
- Soccer

Bellow Sports runs tournaments several times per year. Each tournament runs six weeks.

Current environment**Requirements**

Bellow Sports tracks players and events in Microsoft Excel workbooks and uses email to communicate with players, partners, and prospective customers. The company uses a proprietary cloud-based accounting system.

The company relies on referrals from athletes for new business. Bellows uses a third-party marketing company to gather feedback and referrals from athletes. The third-party marketing company uploads a Microsoft Excel file containing lists of potential customers and players to the FTP site that Bellows Sports maintains.

Tournaments

Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner. When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Registration form

You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
- Information about upcoming tournaments must be pre-located into the registration form when the registration form loads.
- The form must include a custom button that sends an email confirmation to the player after the player registers.
- The button must not be visible until after the form is saved.

Security

The company identifies the following job roles:

Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.



You must grant users the minimum permissions required to perform their job tasks.

Data automation

- Customer name must be added to Dynamics 365 Finance automatically after it is entered.
- You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.
- You must implement mechanisms to handle all code-related errors.
- When a customer record is updated, the system must look up the account number for the customer in the accounting system.
- Referrals must be imported into the system as soon as they are available.

Issues

Apps

- The captions for the New and Save buttons do not render properly on the form.
- Interns can create apps but cannot interact with their own data.

Portal

The query for all registered users must return the data categorized by division. Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```

Solution checker issues

You run solution checker and observe **Plug-in or workflow activity** errors in the following code sets:

Set	Code	Error message
Code set 1	CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression("account"); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);	il-specify- column
Code Set 2	CS201 WebRequest request = WebRequest.Create ("https://www.bellows.com/api/stuff"); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 response = request.GetResponse(); CS205 response.Close();	il-turn-off- keepalive

Code

The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

UpdateRecord.js (Line numbers are included for reference only.)

```

UR01
UR02 var data =
UR03     {
UR04         "name" : "Updated Account"
            "credithold" : true,
            "description" : "This is an account update",
            "revenue" : 10,000,
            "Division" : 2
UR05     }
UR06

```



QUESTION 1

DRAG DROP

You need to address the user interface issues.

What should you do? To answer, drag the appropriate actions to the correct issues. Each action 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Add &ribbondebug=true to the end of the application URL.

Scenario: The captions for the New and Save buttons do not render properly on the form.

You can use the an in-app tool called the Command Checker to inspect the ribbon component definitions to help us determine why the button is not rendered correctly.

To enable the Command Checker, you must append a parameter &ribbondebug=true to your D365 application URL. For example: <https://yourorgname.crm.dynamics.com/main.aspx?appid=9ab590fc-d25e-ea11-a81d000d3ac2b3e6&ribbondebug=true>

Box 2: Use the Ribbon Workbench

Adding Buttons to Ribbons

1. Download and install Ribbon Workbench.
2. Select a suitable ICON for your button.
3. Create a solution.
4. Edit the button in Ribbon Workbench.
5. Publish and test.

Reference:

<https://support.microsoft.com/en-us/help/4552163/ribbon-troubleshooting-guide>

<https://neilparkhurst.com/2015/10/19/adding-buttons-to-ribbons/>

QUESTION 2 You need to add the script for the registration form event handling.

Which code segment should you use?

- A. `formContext.data.entity.addOnSave(myFunction)`
- B. `formContext.data.addOnLoad(myFunction)`
- C. `formContext.data.removeOnLoad(myFunction)`
- D. `addOnPreProcessStatusChange`
- E. `formContext.data.isValid()`

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: Information about upcoming tournaments must be pre-located into the registration form when the registration form loads. `addOnLoad` adds event handlers to the Subgrid OnLoad event event.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/grids/gridcontrol/addonload>

Question Set 2

QUESTION 1

HOTSPOT

A company has a model-driven app.

A custom button on a form calls a JavaScript function that validates form data fields and creates a web basket. The JavaScript function then displays a message to the user.

Users are located in the United States, which uses ISO Code 1033, and France, which uses ISO Code 1036.

Users in France report that the message displays in English.

You need to modify the RibbonDiffXml file to ensure that messages appear in the user's language.

How should you complete the CommandDefinition node? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: CrmParameter

In addition to data values, you can retrieve client context information by using <CrmParameter>. You can use the following options as the value for the CrmParameter element: OrgName, OrgLcid, and UserLcid.

Box 2: UserLcid userLCID is the language code of the current user.

Note: A locale is a set of user preference information related to the user's language. The locale determines how dates, times, currencies, and numbers are formatted, how items are alphabetically sorted, and how strings are compared. The locale identifier (LCID) is a 32-bit value that uniquely defines a locale.

Reference: <https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/developer/customize-dev/pass-dynamics-365-data-page-parameter-ribbon-actions>

QUESTION 2

HOTSPOT

A company has a model-driven app that captures applications from prospective students.

You are asked to create a new re-usable custom component using the Power Apps component framework (PCF).

The custom component must allow entry of a date of birth and validate that the applicant is not a minor.

You create the class AuditDatePicker in the TypeScript file Index.ts and the style sheet DatePicker.css.

You need to define the component to be available only for relevant fields and its properties when used in a form.

How should you complete the manifest? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: AuditDatePicker

Constructor: Constructor of the code component.

Box 2: DateandTime.DateOnly

Box 3: bound usage: Has two properties, bound and input. Bound properties are bound only to the value of the field. Input properties are either bound to a field or allow a static value.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/component-framework/manifest-schema-reference/manifest>

<https://docs.microsoft.com/en-us/powerapps/developer/component-framework/manifest-schema-reference/manifest>

QUESTION 3

DRAG DROP

An organization has a Dynamics 365 Sales environment.

You need to create a Power Apps component.

Which three 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Step 1: Run `pac pcf init --namespace ..`

This is the first command which creates basic folder structure of PCF control project. Run the following command to create the control. The format of the control is:

`pac pcf init --namespace <specify your namespace here> --name <put component name here> --template <component type>`

Step 2: Run the `npm install` command

Install Dependencies

Once 'init' sets up the basic folder, as a next step install all the PCF control dependencies using 'npm install' command. Example:

```
C:\source\PCF\HelloWorld>npm install
npm WARN deprecated opn@6.0.0: The package has been renamed to `open`
npm WARN pcf-project@1.0.0 No repository field.
npm WARN pcf-project@1.0.0 No license field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@1.2.9 (node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@1.2.9: wanted {"os":"darwin","arch":"any"} (current: {"os":"win32","arch":"x64"})

added 653 packages from 497 contributors and audited 10328 packages in 19.295s
found 0 vulnerabilities
```

Now at this point, there is nothing we have actually created. However, the solution created contains sample PCF control code.

Step 3: Run the following `npm run build` command

Build PCF Component.

Once you implement the PCF component, build the code for any syntax errors. Syntax:

`npm run build`




```
> pcf-scripts build

[17:54:6] [build] Initializing...
[17:54:6] [build] Validating manifest...
[17:54:6] [build] Validating control...
[17:54:6] [build] Generating manifest types...
[17:54:6] [build] Compiling and bundling control...
[Webpack stats]:
Hash: 7836f673449072fa8d61
Version: webpack 4.28.4
Time: 1153ms
Built at: 10/02/2019 5:54:08 PM
    Asset      Size  Chunks             Chunk Names
bundle.js  6.34 KiB       0  [emitted]  main
Entrypoint main = bundle.js
[./HelloWorld/index.ts] 2.34 KiB {main} [built]
[17:54:8] [build] Generating build outputs...
[17:54:8] [build] Succeeded
```

Reference: <https://rajeevpentyala.com/2020/03/21/power-apps-component-framework-pcf-demystify/>
<https://carldesouza.com/creating-a-custom-component-using-the-powerapps-component-framework/>

QUESTION 4 A company is creating a Power Apps portal to collaborate with vendors.

You need to implement custom functionality in the portal by using JavaScript code.

Which two portal entities can you use? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Web pages
- B. Web resources
- C. Webforms
- D. Entity lists



Correct Answer: CD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

C: The Web Form Step record contains a field named Custom JavaScript that can be used to store JavaScript code to allow you to extend or modify the form's visual display or function.

D: You can add custom Javascripts to Entity lists.

Reference: <https://docs.microsoft.com/en-us/powerapps/maker/portals/configure/add-custom-javascript>

<https://docs.microsoft.com/en-us/powerapps/maker/portals/configure/entity-lists#add-custom-javascript>

QUESTION 5

HOTSPOT

You need to develop a set of Web API's for a company.

What should you implement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Functions most functions and services that are stateless and do not have side effects.

Box 2: Actions
Actions can have side effects.

Box 3: Complex types

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/webapi/use-web-api-actions>

QUESTION 6 You are developing an app that uses Common Data Service.

You must integrate Common Data Service with a new web application. You must allow the new web application to display data from Common Data Service.

You build a single-page web application using the Web API.

You need to authenticate your app using OAuth.

What should you use?

- A. Windows Communication Foundation (WCF)
- B. Cross-Origin Resource Sharing (CORS)
- C. Microsoft Authentication Library (MSAL)
- D. Kerberos authentication
- E. Active Directory Authentication Library (ADAL)



Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

OAuth requires an identity provider for authentication. For Dataverse the identity provider is Azure Active Directory (AAD). To authenticate with AAD using a Microsoft work or school account, use the Azure Active Directory Authentication Libraries (ADAL).

Reference:

<https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/authenticate-oauth>

Question Set 1

QUESTION 1

DRAG DROP

A company uses Dynamics 365 Sales.

Sales commission must be calculated when an order is placed. You create an Azure Function to perform the calculation. The Azure Function has an HTTP trigger.

You need to configure the Plug-in Registration tool to send data to the Azure Function when an order is placed. You open the Plug-in Registration tool and connect to Dynamics 365 Sales.

Which three 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

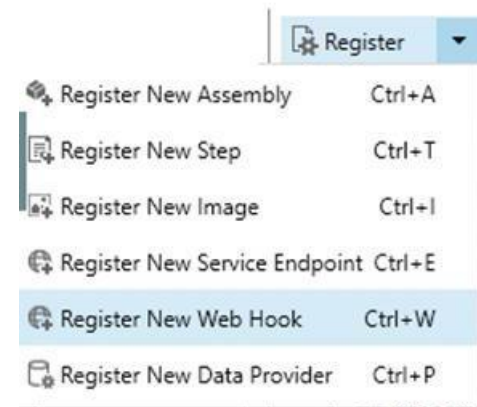
Explanation/Reference:

Explanation:

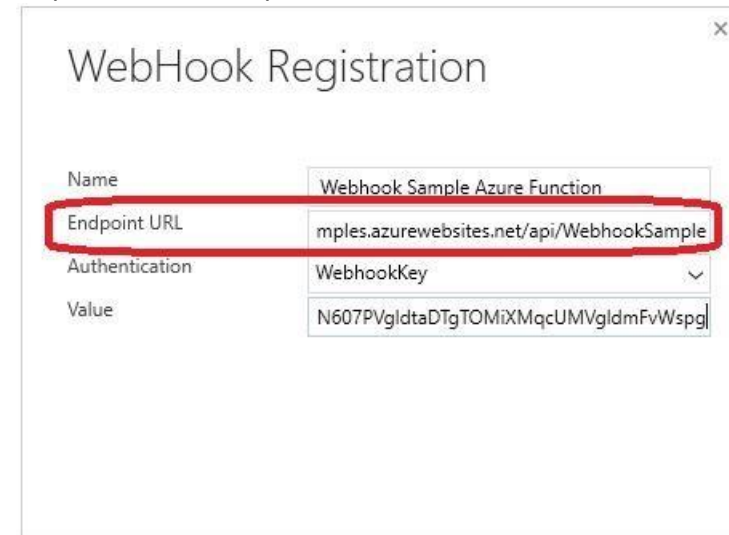
Step 1: Select Register New Web Hook.

Configure Dynamics 365 Sales to Call Your Webhook in Azure Functions

1. Open the Plug-in Registration Tool and connect to your organization.
2. Select Register->Register New Web Hook



Step 2: Enter the endpoint URL




Step 3: Register a New Step for Create of SalesOrder.

Register a new webhook, and then tie that webhook to an event in Dynamics 365 Sales. Select your newly registered webhook, right-click it, and then choose "Register New Step." Note

that the webhook here is set to execute whenever a change to an account record is detected within Dynamics 365 Sales.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/tutorial-write-plugin-in>

QUESTION 2 A company needs to illustrate the relationships of the entities in Dynamics 365 Sales.

You need to select the appropriate tool to show this graphic.

Which tool should you select?

- A. Metadata diagram
- B. Sales Insights

- C. Power Automate
- D. Security model

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Visual representation of metadata can be useful, especially when you are trying to describe the relationship between entities in the system. You can use the Metadata Diagram sample code provided for Dynamics 365 Customer Engagement (on-premises) to generate the entity relationship diagrams.

You can create a diagram that shows a relationship for just one entity, or a complex diagram that includes dozens of related entities, including custom and system entities.

Reference: <https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/developer/use-metadata-generate-entity-diagrams>

QUESTION 3

A company uses five different shipping companies to deliver products to customers. Each shipping company has a separate service that quotes delivery fees for destination addresses.

You need to design a custom connector that retrieves the shipping fees from all the shipping companies by using their APIs.

Which three elements should you define for the custom connector? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Authentication model
- B. Address parameter
- C. OpenAPI definition
- D. Fee parameter
- E. Fee reference

Correct Answer: ABC

Section: [none]

Explanation

Explanation/Reference:

Explanation:

C: You can create a custom connector using a OpenAPI definition file or a URL to OpenAPI definition.

B: On the Security page you get to choose how to authenticate to the API.



Connector Name
Trefle

1. General
2. Security
3. Definition
4. Test

Create connector
Cancel

Security

Choose the authentication type and fill in the required fields to set the security for your custom connector. [Learn more](#)

Authentication type

Choose what authentication is implemented by your API *

API Key

Edit

API Key

Users will be required to provide the API Key when creating a connection

Parameter label *

API Key

Parameter name *

API-nyckel

Parameter location *

Header

Edit

General
Definition

A: If you were to create a Custom Connector from scratch, then you would have to study the API you have chosen and type in the URL manually here.

Request
+ Import from sample

Verb *

The verb describes the operations available on a single path.

GET

URL *

This is the request URL.

https://trefle.io/api/plants/{id}

Path

Path is used together with Path Templating, where the parameter value is actually part of the operation's URL.

* id ...

Query

Query parameters are appended to the URL. For example, in /items?id=####, the query parameter is id.

* token ...

Headers

These are custom headers that are part of the request.

Body

The body is the payload that's appended to the HTTP request. There can only be one body parameter.



Reference: <https://carinaclaesson.com/2019/09/06/setting-up-a-custom-connector-from-an-openapi-file-and-utilizing-it-in-powerapps-and-flow/>

QUESTION 4

You are creating a Power Apps app that retrieves customer information from Azure Active Directory when you use the app to look up a customer record.

You create an Azure Function by using JSON code to retrieve the customer information.

You need to make the application work.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Create a Power Automate flow to import data.
- B. Create a custom connector that uses the Azure Function API.
- C. Copy your JSON code to the app.
- D. Create a custom connector that uses the JSON code.
- E. Create an API definition for the Azure Function.

Correct Answer: BE

Section: [none]

Explanation

Explanation/Reference:

Explanation:

E: Before exporting an API, you must describe the API using an OpenAPI definition.

B: This OpenAPI definition contains information about what operations are available in an API and how the request and response data for the API should be structured. PowerApps and Microsoft Flow can create custom connectors for any OpenAPI 2.0 definition.

Reference: <https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/azure-functions/app-service-export-api-to-powerapps-and-flow.md>

QUESTION 5

HOTSPOT

A manufacturing company takes online orders.

The company requires automatic validation of order changes. Requirements are as follows:

- If validation is successful, the order is submitted.
- If exceptions are encountered, a message must be shown to the customer.

You need to set up and deploy a plug-in that encapsulates the rules.

Which options should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: PreValidation

PreValidation: For the initial operation, this stage will occur before the main system operation.

This provides an opportunity to include logic to cancel the operation before the database transaction.

Box 2: Synchronous

Ideally, you should only cancel operations using synchronous plug-ins registered in the PreValidation stage.

Box 3: Pre Image

Box 4: throw ..

When you throw an InvalidPluginExecutionException exception within a synchronous plug-in an error dialog with your message will be displayed to the user.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/event-framework>

<https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/handle-exceptions>

QUESTION 6

You are creating an integration that uses an Azure function to create records in the Common Data Service when leads are submitted from your company website.

You create and configure a Common Data Service application user.

You do not have administrator access to the Common Data Service environment you are using for access to Azure Active Directory. Company policy dictates that service accounts must be used for integrations, and integrations must not be granted privileges beyond what is needed.

You need to recommend actions that an administrator should perform to configure access for the Azure Function.



Which three actions should you perform? Each correct selection presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Create an application registration in Azure Active Directory.
- B. Assign the system administrator security role to the application user.
- C. Assign the Power Platform administrator role to the application user in Azure Active Directory.
- D. Create a new security role with the minimum required permissions and assign to the application user.
- E. Grant the application delegated permissions to the Dynamics CRM API in Azure Active Directory.
- F. Deploy Azure B2B guest permissions to the application user.

Correct Answer: ADE

Section: [none]

Explanation

Explanation/Reference:

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/walkthrough-register-app-azure-active-directory>

QUESTION 7

HOTSPOT

You work for a multinational company that has Azure and Common Data Service environment in the United States (UTC-7) and Japan (UTC+9).

You create Azure Functions for each location to update key data.

You need to configure the functions to run at 4:00 AM on weekdays at each location.

Which schedule formats should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: 0 0 4 * * 1-5

Azure Functions uses the NCronTab library to interpret NCRONTAB expressions.

An NCRONTAB expression is similar to a CRON expression except that it includes an additional sixth field at the beginning to use for time precision in seconds: {second}

{minute} {hour} {day} {month} {day-of-week}

NCRONTAB time zones

The numbers in a CRON expression refer to a time and date, not a time span. For example, a 5 in the hour field refers to 5:00 AM, not every 5 hours.

The default time zone used with the CRON expressions is Coordinated Universal Time (UTC).

To have your CRON expression based on another time zone, create an app setting for your function app named WEBSITE_TIME_ZONE.

1-5 is weekdays

Box 2: 0 0 4 * * 1-5

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-timer?>

Testlet 1

Case study

This is a case study. **Case studies are not timed separately. You can use as much exam time as you would like to complete each case.** However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question.

Background

Current environment

Adventure Works Cycles wants to replace their paper-based bicycle manufacturing business with an efficient paperless solution. The company has one manufacturing plant in Seattle that produces bicycle parts, assembles bicycles, and distributes finished bicycles to the Pacific Northwest.

Adventure Works Cycles has a retail location that performs bicycle repair and warranty repair work. The company has six maintenance vans that repair bicycles at various events and residences.

Adventure Works Cycles recently deployed Dynamics 365 Finance and Dynamics 365 Manufacturing in a Microsoft-hosted environment for financials and manufacturing. The company plans to leverage the Microsoft Power Platform to migrate all of their distribution and retail workloads to Dynamics 365 Unified Operations.

The customer uses Dynamics 365 Sales. Dynamics 365 Customer Service and Dynamics 365 Field Service.

Retail store information

- Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians.
- Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.
- The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.
- Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.
- Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.
- A canvas app is being developed to capture customer information when customers check in at the retail location. The app has the following features: -
 - Customer selects yes or no if they are on the mailing list.
 - Customer selects the amount of times they have visited the store.
 - Customer selects the type of service needed.
 - The search result returns all last name records that match the search term.

Technology

Requirements

- A plug-in for Dynamics 365 Sales automatically calculated the total billed time from all activities on a particular customer account, including sales representative visits, phone calls, email correspondence, and repair time compared with hours spent.
- A shipping API displays shipping rates and tracking information on sales orders. The contract allows for 3,000 calls per month.
- Ecommerce orders are processed in batch daily by using a manual import of sales orders in Dynamics 365 Finance.
- Microsoft Teams is used for all collaboration.
- All testing and problem diagnostics are performed in a copy of the production environment.
- Customer satisfaction surveys are recorded with Microsoft Forms Pro. Survey replies from customers are sent to a generic mailbox.

Automation

- A text message must be automatically sent to a customer to confirm an appointment and to notify when a technician is on route that includes their location.
- Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.
- A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.
- Submitted customer surveys must generate an email to the correct department. Approval and follow-up must occur within a week.

Reporting

- The warehouse manager's dashboard must contain warehouse counting variance information.
 - A warehouse manager needs to quickly view warehouse KPIs by using a mobile device. ▪
- Power BI must be used for reporting across the organization.

User experience

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
 - All customer repairs must be tracked in the system no matter where they occur. ▪
- Qualified leads must be collected from local bike fairs.

Issues

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
 - All customer repairs must be tracked in the system no matter where they occur. ▪
- Qualified leads must be collected from local bike fairs.

Internal

- User1 reports receives an intermittent plug-in error when viewing the total bill customer time.
 - User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.
 - User2 reports that sales orders have increased.
 - User5 receives the error message: 'Endpoint unavailable' during a test of the technician dispatch ISV solution. ▪
- The parts department manager who is the approver for the department is currently on sabbatical.

External

- CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.
- Nine customers arrive in the repair area of the retail store, but no texts were sent to scheduled employees.
- Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
- CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.

QUESTION 1 You need to identify the execution mode that is being used for the ISV solution reported by User5.

Which type of execution mode is in use?

- A. asynchronous
- B. atomicity
- C. transfer
- D. synchronous

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

User5 receives the error message: 'Endpoint unavailable' during a test of the technician dispatch ISV solution.

When you choose to use a synchronous execution mode any failure will be reported back to the user of the application with an Endpoint unavailable error dialog informing the user that the webhook service endpoint may be configured incorrectly or is not available.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/use-webhooks> **Question Set 2**

QUESTION 1

HOTSPOT

A company must copy customer account data changes from a Common Data Service (CDS) instance into an external system.

Azure Storage Queues are used to pass the changes from CDS to the external system.

You have the following code. (Line numbers are included for reference only.)

```
01 string token = null;
02 token = ProcessAccountChanges(_service, token, changeQueue, deleteQueue);
03 ...
04 token = ProcessAccountChanges(_service, token, changeQueue, deleteQueue);
05 ...
06 private static string ProcessAccountChanges(IOrganizationService orgservice,
string token, CloudQueue changeQueue, CloudQueue deleteQueue)
07 {
08     var request = new RetrieveEntityChangeRequest();
09     request.EntityName = "account";
10     request.Columns = new ColumnSet("name", "accountnumber", "creditlimit",
"ownerid");
11     request.DataVersion = token;
12     RetrieveEntityChangeResponse response = (RetrieveEntityChangeResponse)
orgservice.Execute(request);
13     token = response.EntityChanges.DataToken;
14     foreach (var change in response.EntityChanges.Changes)
15     {
16         if (change.Type == ChangeType.NewOrUpdated)
17         {
18             var changedItem = (NewOrUpdatedItem) change;
19             Entity newOrChangedEntity = (Entity) changedItem.NewOrUpdatedEntity;
20             CloudQueueMessage changemessage = new CloudQueueMessage
(newOrChangedEntity.Id.ToString());
21             changeQueue.AddMessage(changemessage);
22         }
23         else if (change.Type == ChangeType.RemoveOrDeleted)
24         {
25             var deleteditem = (RemoveOrDeletedItem) change;
26             EntityReference deletedEntityReference = deleteditem.RemovedItem;
27             CloudQueueMessage deletemessage = new CloudQueueMessage
(deletedEntityReference.Id.ToString());
28             deleteQueue.AddMesaage(deletemessage);
29         }
30     }
31     return token;
32 }
```



For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statement	Yes	No
The first call to ProcessAccountChanges at line 2 adds changes made to account records to the storage queues.	<input type="radio"/>	<input type="radio"/>
The second call to ProcessAccountChanges at line 4 adds changes made to account records to the storage queues.	<input type="radio"/>	<input type="radio"/>
The messages in changeQueue specify whether the accounts are new or updated.	<input type="radio"/>	<input type="radio"/>
A message is added to deleteQueue if an account is created and subsequently deleted at line 3.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statement	Yes	No
The first call to ProcessAccountChanges at line 2 adds changes made to account records to the storage queues.	<input checked="" type="radio"/>	<input type="radio"/>
The second call to ProcessAccountChanges at line 4 adds changes made to account records to the storage queues.	<input checked="" type="radio"/>	<input type="radio"/>
The messages in changeQueue specify whether the accounts are new or updated.	<input type="radio"/>	<input checked="" type="radio"/>
A message is added to deleteQueue if an account is created and subsequently deleted at line 3.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Yes

Box 2: Yes

Box 3: No
Either new/updated or removed/deleted.

Box 4: Yes

QUESTION 2

HOTSPOT

A company updates their client contact information periodically. The contact entity has alternate keys defined.

You have the following code. (Line numbers are included for reference only.)


```

1. Entity contact = new Entity()
2. {
3.     LogicalName = "contact",
4.     KeyAttributes =
5.     {
6.         {"lastname", "Smith"},
7.         {"clientnumber", "abc123"}
8.     }
9. },
10 contact["lastname"] = "Doe";
11. UpsertRequest updcontact = new UpsertRequest ();
12. {
13.     Target = contact;
14. }
15. UpsertResponse response = ( UpsertResponse )service.Execute(updcontact);

```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statement	Yes	No
If the last name is an alternate key and there are no contacts with the last name Smith, the stored value of the last name is Smith.	<input type="radio"/>	<input type="radio"/>
If the client number is an alternate key and the client number exists, the stored value of the last name is Smith.	<input type="radio"/>	<input type="radio"/>
If the last name is an alternate key and there are people who have the last name Smith, the stored value of the last name is Smith.	<input type="radio"/>	<input type="radio"/>
If the client number is an alternate key and the client number does not exist, the stored value of the last name is Smith.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statement	Yes	No
If the last name is an alternate key and there are no contacts with the last name Smith, the stored value of the last name is Smith.	<input type="radio"/>	<input checked="" type="radio"/>
If the client number is an alternate key and the client number exists, the stored value of the last name is Smith.	<input checked="" type="radio"/>	<input type="radio"/>
If the last name is an alternate key and there are people who have the last name Smith, the stored value of the last name is Smith.	<input type="radio"/>	<input checked="" type="radio"/>
If the client number is an alternate key and the client number does not exist, the stored value of the last name is Smith.	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]
Explanation

Explanation/Reference:

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/use-alternate-key-create-record>

QUESTION 3 HOTSPOT

A company is building a new model-driven app.

The app must integrate with a number of on-premises and cloud solutions. No VPNs are in place.

You need to determine the method for each integration.

Which methods should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:

Explanation:

Box 1: Webhook

With Dataverse, you can send data about events that occur on the service to a web app by using webhooks. A webhook is a lightweight HTTP pattern for connecting web APIs and services with a publish-and-subscribe model. Webhook senders notify receivers about events by making requests to receiver endpoints with some information about the events.

Webhooks enable developers and ISVs to integrate Dataverse data with their own custom code hosted on external services.

Box 2: Azure Service Bus

Service Bus provides a secure and reliable communication channel between Dataverse runtime data and external, cloud-based line-of-business apps. This capability is especially useful in keeping disparate Dataverse systems or other Dataverse servers synchronized with business data changes.

Box 3: Azure Event hub

Azure Event Hubs is a big data streaming platform and event ingestion service. It can receive and process millions of events per second. Data sent to an event hub can be transformed and stored by using any real-time analytics provider or batching/storage adapters.

Note: The most popular approaches in Dataverse involve webhooks, Azure messaging (Service Bus, Event Hubs), Azure Logic Apps, or Power Automate.

Reference: <https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/why-cds-any-type-app>

QUESTION 4

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than once correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are designing a one-way integration from the Common Data Service to another system.

You must use an Azure Function to update the other system. The integration must send only newly created records to the other system. The solution must support scenarios where a component of the integration is unavailable for more than a few seconds to avoid data loss.

You need to design the integration solution.

Solution: Register a webhook in the Common Data Service that connects to the Azure Function. Register a step on the webhook which runs synchronously on the record's Create message and in the post-operation stage.

Does the solution meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Instead use asynchronous communication.



QUESTION 5

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than once correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are designing a one-way integration from the Common Data Service to another system.

You must use an Azure Function to update the other system. The integration must send only newly created records to the other system. The solution must support scenarios where a component of the integration is unavailable for more than a few seconds to avoid data loss.

You need to design the integration solution.

Solution: Register a service endpoint in the Common Data Service that connects to an Azure Service Bus queue.

Register a step at the endpoint which runs asynchronously on the record's Create message and in the post-operation stage.

Configure the Azure Function to process records as they are added to the queue.

Does the solution meet the goal?

- A. Yes
- B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Microsoft Dataverse supports integration with Azure.

For the Dataverse and Azure connection to work, there must be at least one solution in an Azure Service Bus solution account, where the solution contains one or more service endpoints. For a queue endpoint contract, a listener doesn't have to be actively listening.

Reference: <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/azure-integration>

QUESTION 6

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are designing a one-way integration from the Common Data Service to another system.

You must use an Azure Function to update the other system. The integration must send only newly created records to the other system. The solution must support scenarios where a component of the integration is unavailable for more than a few seconds to avoid data loss.

You need to design the integration solution.

Solution: Configure the Azure Function with a timer trigger that runs every five minutes. The function will query the Common Data Service and process records created in the last five minutes.

Does the solution meet the goal?

A. Yes

B. No



Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Instead use Azure Service Bus queue solution with asynchronous communication.

Reference:

<https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/azure-integration>