Técnico+

+Conhecimento +Formação +Futuro

Iniciada	Terça, 3 de Maio de 2022 às 15:53
Estado	Terminada
Terminada	Terça, 3 de Maio de 2022 às 16:18
Tempo gasto	24 minutos 17 segundos
Nota	48,00/50,00
Nota	**96,00** num máximo de 100,00

Pergunta 1

Correta

Nota: 1,00 em 1,00

Consider the Aggregate definition shown in the following image. What attributes will be part of the Output List of the Aggregate?

SOURCES

⊞	Album	🗑	👁
⊞	Song	🗑	👁
⊞	Track	🗑	👁

➕ Add Source

JOINS

⠿ 1 | ⊞ Album | ⊕ Only With | ⊞ Track | 🗑
ƒ Album.Id = Track.AlbumId

⠿ 2 | ⊞ Track | ⊕ Only With | ⊞ Song | 🗑
ƒ Track.SongId = Song.Id

➕ Add Join

Group of Album	Group of Artist	*ƒ* Count of Id	⊞ Album	⊞ Album	⊞ Album	⊞ Song	⊞ Song	
Album	Artist	NumberOfTracks	Name	AlbumArtist	Genre	Name	SongArtist	➕ New attribute

Selecione uma opção:

- ⦿ a.   Only Album, Artist, and NumberOfTracks. ✔   It's correct!
- ○ b.   All the attributes from all the Aggregate Source Entities.
- ○ c.   Name, AlbumArtist and Genre from the Entity Album, and Name and SongArtist from the Entity Song.
- ○ d.   Only the eight Attributes visible in the image.

Aggregates follow the same rules as SQL, as it is a way to configure a database SELECT query. In a SELECT statement, the attributes available in the result, the ones you can add to the SELECT clause, depends if you are using the GROUP BY or Aggregate functions (count, max, etc.), or not. In Aggregates, the same will happen. But there is a visual hint about which attributes are available in the output: Only the blue attributes are available at the output of an Aggregate.

Resposta correta: Only Album, Artist, and NumberOfTracks.

Pergunta 2

Correta

Nota: 1,00 em 1,00

Which of the following is a possible reason for this error to be displayed to the user?

> ❌ The INSERT statement conflicted with the FOREIGN KEY constraint "OSFRK_OSUSR_FOO_TRAINEES_OSUSR_FOO_GENDER_GENDERID". The conflict occurred in database "FGFGS7013", table "dbo.OSUSR_FOO_GENDER", column 'ID'. The statement has been terminated.

Selecione uma opção:

- a. The End-User is trying to add an existing Trainee on the Gender List, without selecting the Trainee name and before the Save Button is clicked. Thus, the Trainee Identifier is sent to the Database as NULL.

- b. The Entity Trainee has a Unique Index with two of its attributes: Trainee Identifier and Gender Identifier. If an End-User tries to Save a duplicate Record of the Trainee with the same Gender, the error will be displayed.

- c. The Entity Trainee has a GenderId attribute, which is a Foreign Key to the Entity Gender. The GenderId attribute is also marked ✔ It's as mandatory on the database. And the End-User is trying to save a Trainee without selecting a valid Gender on the Form. correct!

- d. The Developer defined the GenderId as a Mandatory field on the Gender Dropdown widget, but the End-User forgot to selected one valid Gender when he saved the Trainee Record on the database.

The Mandatory Entity Property indicates whether the attribute is mandatory or optional.

However, this is only a piece of metadata information that doesn't guarantee if a Record with an empty mandatory attribute will be saved or not on the database. The big exception here happens if the mandatory attribute is a mandatory Foreign Key.

In that specific case, the database will look at the value that a user is providing to see if it exists in the related Entity. The problem is when the End-User is NOT providing this value, so the platform assumes 0. But the IDs in Entities by default start at 1, so the database doesn't find a match and raises the error.

Resposta correta: The Entity Trainee has a GenderId attribute, which is a Foreign Key to the Entity Gender. The GenderId attribute is also marked as mandatory on the database. And the End-User is trying to save a Trainee without selecting a valid Gender on the Form.

Pergunta 3

Correta

Nota: 1,00 em 1,00

Fetching data from the database to show on a screen list...

Selecione uma opção:

- a. If done in a Client Action, is synchronous.

- b. If done with an Aggregate on the screen, is asynchronous. ✔ It's correct!

- c. Is always synchronous, and must be done in an Aggregate inside a Data Action.

- d. Is always asynchronous, and must be done with a Data Action.

Screen Aggregates and Data Actions have different ways to fetch data at the level of the screen and are executed asynchronously, multiple aggregates and data actions on the same screen will be executed in parallel, while screen DOM is built. Check the presentation "9.2 - Fetching data on-demand" from the slide deck.

Resposta correta: If done with an Aggregate on the screen, is asynchronous.

Of the following statements about Server Actions, which one is **False**?

Selecione uma opção:

- a. If the Function property is set to Yes, the action cannot be used in an action flow. ✔   It's correct!
- b. If the Function property is set to Yes, the action must return one, and only one output.
- c. If the Function property is set to Yes, the action can be part of an expression.
- d. If the Function property is set to No, the action may or may not have output parameters.

Set the Function property to Yes to define the action as a function. It still works as an action (can be used on action flows), but now it can also be used on expressions. To be used in expressions, a function MUST return a SINGLE value. So, it's mandatory to have one, and only one, Output Parameter, but its data type can be a complex one, like in a regular Server Action.
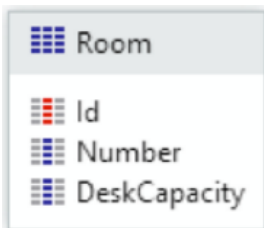
Resposta correta: If the Function property is set to Yes, the action cannot be used in an action flow.

Consider the Room entity below, that represent rooms in a plant. If you wanted to model that a Room can be connected to other Rooms, what would be the best solution?

Selecione uma opção:

- a. Add a new attribute ConnectedRooms, of type List of Room Identifier, to Room.
- b. Create a new entity ConnectedRooms, with two attributes Room1Id and Room2Id, both of type Room Identifier. ✔   It's correct!
- c. You cannot do it, because recursive entities are not allowed.
- d. Add a new attribute RoomId, of type Room Identifier, to Room.

When there is a many-to-many relationship between two entities, meaning one row in entity A can have many matchings in entity B and one row in B can have many matchings in A, we need to add a third entity C and add two Foreign Key in it, one for entity A (data type will be A Identifier) and one for entity B (data type will be B Identifier) so that by querying entity C you can find which rows are connected between A and B.

Resposta correta: Create a new entity ConnectedRooms, with two attributes Room1Id and Room2Id, both of type Room Identifier.

Pergunta 6

Correta

Nota: 1,00 em 1,00

Which of the following **is not** a step to define Pagination in a List widget?

Selecione uma opção:

○ a.   Create MyStartIndex and MyMaxRecords Local Variables with integer data type, on the Screen. Set the default values of these variables.

◉ b.   Define the Aggregate that fetches the data to be requested only on demand.✔   It's correct!

○ c.   In the properties of the Aggregate that fetches the data, set StartIndex to MyStartIndex, and the Max Records to MyMaxRecords.

○ d.   In the properties of the Pagination Widget, select New Client Action to set the handler for the OnNavigate event of the pagination logic.

To add the Navigation pattern to a List widget in a Screen, you must:

1. Create MyStartIndex and MyMaxRecords Local Variables of the Integer Data Type. Set the default values of these variables.
2. In the properties of the Aggregate that fetches your data set StartIndex to MyStartIndex, Max. Records to MyMaxRecords.
3. Drag the Pagination Widget below the Table Widget and set StartIndex to MyStartIndex, MaxRecords to MyMaxRecords. Also, set TotalCount to the Output Parameter .Count of the Aggregate.
4. Still in the Pagination Widget properties, from the Handler drop-down list box, select New Client Action. Action PaginationOnNavigate opens.
5. In the Action PaginationOnNavigate assign the value of the NewStartIndex Input Parameter to MyStartIndex (MyStartIndex = NewStartIndex). Drag a Refresh Data Tool to the Flow and set it to refresh the Aggregate.
6. Go back to the Pagination Widget properties and confirm that the NewStartIndex property is set to NewStartIndex from the Event.
7. Publish the module.

comments:

source from OS Documentation at

https://success.outsystems.com/Documentation/11/Developing_an_Application/Design_UI/Creating_and_editing_tables/Table_pagination_and_sorting

Resposta correta: Define the Aggregate that fetches the data to be requested only on demand.

Pergunta 7

Correta

Nota: 1,00 em 1,00

A Block can have...

Selecione uma opção:

◉ a.   any life cycle Event Handlers (like OnInitialize and OnReady) and Screen Actions.✔   It's correct!

○ b.   any life cycle Event Handler and Screen Actions but it can also use its Parent Screen's Actions.

○ c.   any life cycle Event Handler (like OnInitialize and OnRender), but no Screen Actions, as its buttons and links are bound to its Parent Screen's Actions.

○ d.   only Screen Actions, as any initialization it requires must be done on its Parent Screen's Events (like OnInitialize).

Check '9.1 - Screen events' document. There you can see that it's possible to set actions on events in the blocks and all life cycle events are available. Also, there is no restriction to bound screen actions to the widgets inside the block (like buttons), but those screen actions must be defined inside the block, as it has its scope (no direct access to anything outside itself).

Resposta correta: any life cycle Event Handlers (like OnInitialize and OnReady) and Screen Actions.

Pergunta 8

Correta

Nota: 1,00 em 1,00

The Form's Valid property...

Selecione uma opção:

- a.   is automatically set only if the user leaves all its fields blank.
- b.   is automatically set to **False** when a field within the Form fails its validation.✔   It's correct!
- c.   **cannot** be checked before all custom validations are performed.
- d.   must be set explicitly using an Assign node in a Client Action.

The **Form's Valid** property it's Read Only. It is automatically set to FALSE whenever at least one field in the form fails any validation (automatic or custom). As a note, this property is available to be checked at any time, but usually, we use it to check if any validation failed, before performing the action (e.g. save a record), so there is no point (probably) in checking it before the custom validations are performed.

Resposta correta: is automatically set to **False** when a field within the Form fails its validation.

Pergunta 9

Correta

Nota: 1,00 em 1,00

How can you make sure that the end-user Sally, who is a StoreManager, can perform not only her management-specific functions but also everything a regular StoreClerk can do?

Selecione uma opção:

- a.   Also add the StoreClerk role to Sally.✔   It's correct!
- b.   Add an IsStoreClerk boolean attribute to the StoreManager role, and make sure it is set to Yes when you assign the StoreManager role to Sally.
- c.   Make the StoreManager role extends from the StoreClerk role.
- d.   Create a compound role StoreManagerAndClerk that inherits from both the StoreManager role and the StoreClerk role, and assign it to Sally.

Roles are "single elements", meaning that they can't inherit from each other. The way to allow a user to perform multiple actions restrict by different roles is to grant all the required roles to the user.

Resposta correta: Also add the StoreClerk role to Sally.

Pergunta 10

Correta

Nota: 1,00 em 1,00

The DoLogin Action...

Selecione uma opção:

- a.   Is a Server Action that will return a cached value if the application is offline.
- b.   Is called on every screen, at the OnInitialize event.
- c.   Is a Client Action that will be called when the end-user provides a username and password.
- d.   Is a Server Action that will run only when the application is online. ✔   It's correct!

The DoLogin action is a Server Action (it is in the Server Actions\Authentication folder). Being a Server Action, it is available to the application's Client-side (Screens and Client Actions) only if the application is Online. It has two inputs: username and password, and they are used in its flow to log in a user into the platform.

Resposta correta: Is a Server Action that will run only when the application is online.

Pergunta 11

Correta

Nota: 1,00 em 1,00

Based on the image below, what should be the Data Type of the variable associated with the ButtonGroup Widget?

Selecione uma opção:

- a.   The variable should be of data type Text as client-side the values are always text.
- b.   The variable can be of any data type. The platform will convert the option value to the variable data type.
- c.   The variable must be of the same data type of the ButtomGroupItem values: AnswerPosition Identifier. ✔   It's correct!
- d.   The variable must have a Long Integer data type as the default data type of the Id Attribute of a Static Entity is always Long Integer.

Remember, the value you can store in a variable must be compatible with the data type of the variable.

An individual button (ButtonGroupItem) represents an option of a ButtonGroup widget. So, the ButtonGroup will have a variable associated, to store the option selected by the user, when this clicks on one of the ButtonGroupItems.

On a side note, You can use the ButtonGroup to display buttons choices to the user. This pattern is ideal when you have two to four options. To show a larger number of options, consider using the Dropdown UI Pattern.
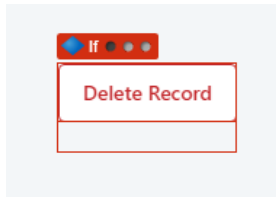
Resposta correta: The variable must be of the same data type of the ButtomGroupItem values: AnswerPosition Identifier.

What logic do you need to implement to only display the Delete button on the browser if a user has the role Admin?

Selecione uma opção:

○ a.   Create a Client Function that checks if the current user has the Admin role. Then call the Client Function on the condition property of the IF Widget.

○ b.   Use an Aggregate to check if the current user has the role, and use its result on the IF conditional.

○ c.   Use the CheckRoleAdmin() inside the condition value of the IF.

● d.   Add a Data Action to the screen to check the role, and use the output result as the condition value of the IF Widget.✔   It's correct!

The CheckRole action returns true when the given user has a specific role. However, it is available in Server-side logic but not in Client-side logic. Therefore, to display a dynamic widget by checking if a user has a role, you need to use a Data Action as a bridge between Server Logic and Client-Side.

comment: https://success.outsystems.com/Documentation/11/Reference/OutSystems_Language/Logic/Built-in_Functions/Roles
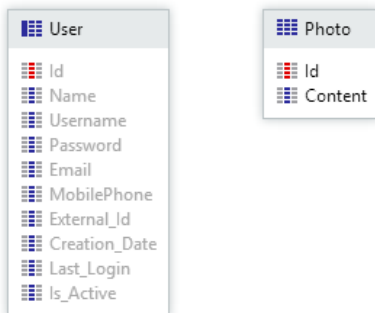
Resposta correta: Add a Data Action to the screen to check the role, and use the output result as the condition value of the IF Widget.

Pergunta 13

Correta

Nota: 1,00 em 1,00

Given the system's User entity and a Photo entity, as depicted in the image below, what is the best way to model that a User may have a unique profile photo?

Selecione uma opção:

- ○ a.   Add to the Photo Entity a UserId attribute, of type User Identifier.
- ○ b.   Add to the User Entity a PhotoId attribute, of type Photo Identifier.
- ○ c.   Create a Profile Entity with attributes PhotoId and UserId, of types Photo Identifier and User Identifier respectively.
- ◉ d.   Change the Photo Entity's Id attribute to be of type User Identifier. ✔   It's correct!

When we want to guarantee that a record in an entity has a relationship with only one other record in another entity, we can change the second entity identifier to be an identifier to the first entity. It will be, at the same time, a primary key to its entity, and a foreign key to the other entity. This way, we guarantee a one-to-one relationship. For example, if you want to ensure that a Author has only one Biography in the Biography entity, you can change the Biography Entity's Id attribute to be of type Author Identifier. The Biography Entity will become an "extension" of the Author entity.

Resposta correta: Change the Photo Entity's Id attribute to be of type User Identifier.

Pergunta 14

Incorreta

Nota: 0,00 em 1,00

Regarding Events, select the correct answer:

Selecione uma opção:

- ○ a.   Events can be triggered from Server Actions.
- ○ b.   Events can be triggered from Screen Client Actions.
- ◉ c.   On a Block Instance, you can configure, as an Event Handler, any Client Action. ✘   The answer is not correct.
- ○ d.   On a Block Instance, an Event must always have its Handler configured.

Block Events are client-side events. There are two ways to trigger an event, both of them from inside the block where the event is defined: You can trigger the event from a Client (screen) action, or you can trigger it directly from a button or a link in the block. Also, events and event inputs have the property Is Mandatory, meaning that both can be set to be optional. When they are optional, there is no need to have a handler or a handler input configured. Check the presentations "9.1 - Screen Events" and "3.1 - Reactive UI Development" from the slide deck.

Resposta correta: Events can be triggered from Screen Client Actions.

Pergunta 15

Correta

Nota: 1,00 em 1,00

How can you create two Entities through one Excel file?

Selecione uma opção:

- a. You can use Bootstrap to create both Entities at the same time, using the name of each Entity as the name of each sheet with ✔ their respective attributes.   It's correct!

- b. To use Bootstrap it's necessary to use different files, one for each Entity, where each file name corresponds to one OutSystems Entity name.

- c. You can do that adding the Upload tool to a page of your app, then on the browser, you can import the Entities through the Upload tool wizard.

- d. It is not possible to use Excel files to import entities. It's only possible to create Entities manually in Service Studio or consume External Databases.

You can import data from an Excel file to load data to an entity. This is useful when you are developing and testing your application. This way, you can quickly have your data up and running in the application while developing it. Each Excel sheet has the name of one Entity, and the column headers of each sheet have the names of the Entity Attributes.

Resposta correta: You can use Bootstrap to create both Entities at the same time, using the name of each Entity as the name of each sheet with their respective attributes.

Pergunta 16

Correta

Nota: 1,00 em 1,00

Assume that we have an Order Entity with at least the following attributes: OrderId, Year of the order, Amount, and Tax. How to set up the aggregate if I want to have the total amount of the Orders for each year, taking into account the tax?

Selecione uma opção:

- a. Do a GroupBy on the Year. Create a computed attribute that multiplies the Amount by the tax. Do a Sum on the Computed ✔ It's Attribute. Order by the Sum of the Computed Attribute.   correct!

- b. Do a GroupBy on the Year and do a Sum on the Amount. Create a computed attribute that multiplies the Sum of the Amount by the tax. Order by the Computed Attribute.

- c. Create a computed attribute that multiplies the Amount by the tax. Do a Sum on the Computed Attribute. Do a GroupBy on the Year. Order by the Computed Attribute.

- d. GroupBy the Year, the Amount, and the Tax. Create a computed attribute that multiplies the grouped Amount, by the grouped Tax. Order by the Computed attribute.

The correct sequence of setting up an aggregate it's important. In case that you sum (aggregate function) all records of an aggregate, before you group the information by a specific criterion, the aggregate will return to you only one row with the result of your aggregate function, instead of one row for each line of your criterion. E.g. this is the difference between you count all users that you have your database, as a result, you will have only 1 row with the total, that now you can not split in genders, because you grouped all data no matter the gender. But if you first group the information by genders and then count the number of users that correspond for each gender, you will have a row for each gender with the total of users inside of it. (check the 4.3 - Advanced Aggregates to more details).
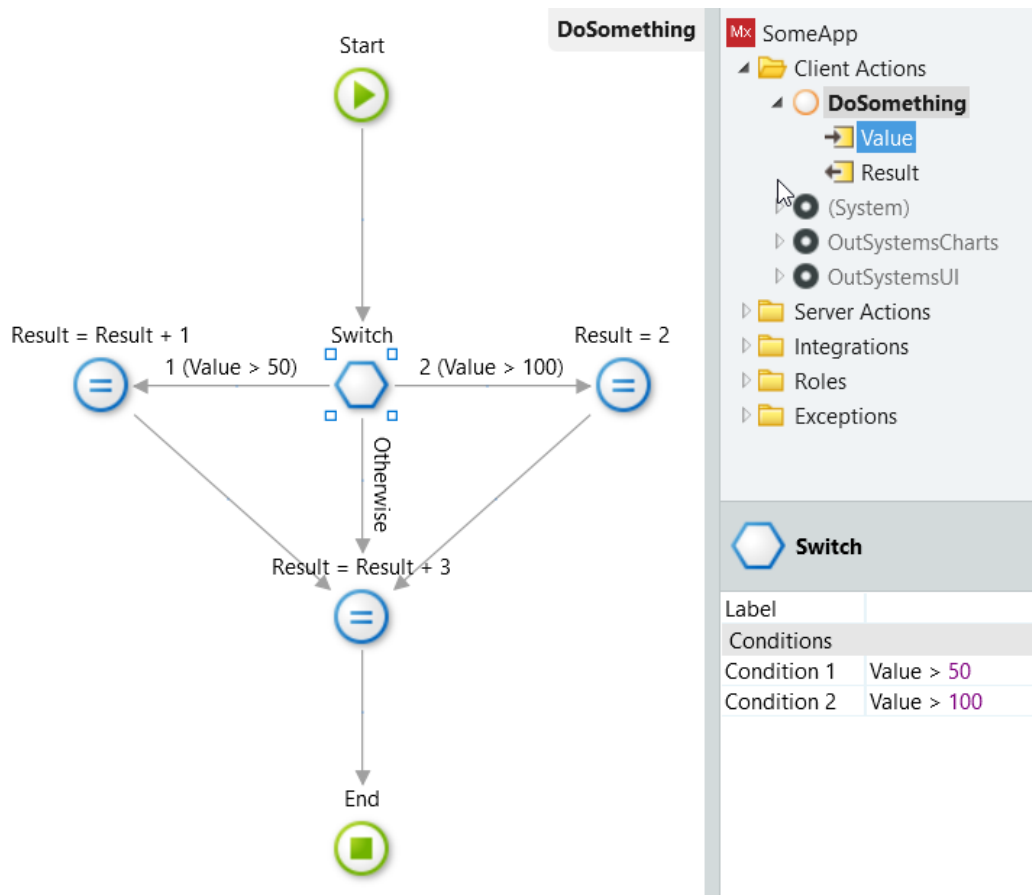
Resposta correta: Do a GroupBy on the Year. Create a computed attribute that multiplies the Amount by the tax. Do a Sum on the Computed Attribute. Order by the Sum of the Computed Attribute.

Based on the image below, if Value is 150 and Result is initialized with 0, what will be the Result?

Selecione uma opção:

- a. The Result will be 3.
- b. The Result will be 1.
- c. The Result will be 4. ✔ It's correct!
- d. The Result will be 2.

We use a Switch when you want to test multiple conditions in a specific order, following only the branch for the first condition that is true. If there is no condition returned as True, the mandatory "Otherwise" branch will be executed.

Resposta correta: The Result will be 4.

Pergunta 18

Correta

Nota: 1,00 em 1,00

Related with Automatic Exceptions, select the **correct** option:

Selecione uma opção:

- ⚪ a.   All exceptions need to be defined manually inside the Actions flow.

- ⚪ b.   Not Is Manager, Is Manager and other User Exceptions are automatic exceptions.

- ⚫ c.   Database, Communication and Security Exceptions are automatically thrown by the platform. ✔   It's correct!

- ⚪ d.   All exceptions are automatically thrown by the platform.

The exceptions raised in your module are handled in a flow starting with an Exception Handler element. In an action, you can have more than one Exception Handler flow, in order to handle different types of exceptions.

An Action flow can have several exception handler flows

- Database Exceptions
- Security Exceptions
- Communication Exceptions
- Custom User Exceptions

The Database, Security, and Communication Exceptions are raised and handled automatically by platform. The logic to handle the User Exceptions needs to be manually defined by the developer.
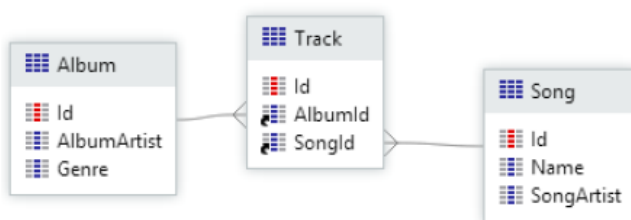
comment:

OS Bootcamp slide 6.2 - Exceptions.

Resposta correta: Database, Communication and Security Exceptions are automatically thrown by the platform.

Pergunta 19

Correta

Nota: 1,00 em 1,00

Given the following model, how can you guarantee that an album does not have any repeated songs?

Selecione uma opção:

- ⚪ a.   On entity Track, set the Is AutoNumber property of the SongId attribute to Yes.

- ⚪ b.   On entity Track, create a new Unique Index for attribute AlbumId.

- ⚪ c.   Set the Allow Duplicates property of the Track entity to No.

- ⚫ d.   On entity Track, create a new Unique Index for attributes AlbumId and SongId. ✔   It's correct!

Indexes on databases can be used to avoid repetitions of specific attributes values or groups of attributes values.If you mark an index as unique, the database will not allow you to create or update records if there is already a row in the table with the same values for the index attributes, together.

Resposta correta: On entity Track, create a new Unique Index for attributes AlbumId and SongId.

Pergunta 20

Correta

Nota: 1,00 em 1,00

Regarding Site Properties, what Data Types are available for them?

Selecione uma opção:

- ○ a.   Entity Identifiers and Basic Data Types except for Binary Data. ✔   It's correct!
- ○ b.   All, but should avoid complex Data Types.
- ○ c.   Only Basic Data Types.
- ○ d.   All Data Types.

By the rules described on 8.1 - Client variables, they are: "Restricted to Basic Data Types and Entity Identifiers"

Comments:

Resposta correta: Entity Identifiers and Basic Data Types except for Binary Data.

Pergunta 21

Correta

Nota: 1,00 em 1,00

After you create an action in one module to be consumed by other modules, what's required to guarantee that you will not have any issues finding the action when managing the dependencies in the consumer modules?

Selecione uma opção:

- ○ a.   Publish the Producer module with the new Action before opening the Management Dependencies on the Consumer module.
- ○ b.   All the options are valid. ✔   It's correct!
- ○ c.   The new Action must be set as Public on the Producer module before consuming it in other modules.
- ○ d.   If the output of the Action is a Structure that is defined within the same module that the Action, that Structure needs to be Public as well.

To expose an element to other modules, do the following:

1. Set the element's Public property to 'Yes':
2. Publish your module. After publishing your module, the public elements can be reused by other modules in the environment through the Management Dependencies functionality.

If the element Public is an Action, whose Output is based on a Structure, the Structure needs to be defined as Public. If not, you will have an error on the Producer module that disables the Publish possibility, so the Consumer module will not see this new Action on Management Dependencies.

comment: OS Documentation at https://success.outsystems.com/Documentation/11/Developing_an_Application/Reuse_and_Refactor/Expose_and_Reuse_Functionality_Between_Module

Resposta correta: All the options are valid.

Pergunta 22

Correta

Nota: 1,00 em 1,00

Consider the following Aggregate definition. If **there are no Tracks on an Album**, what will the output be?

SOURCES				JOINS			
Album	🗑	👁		⠿1 ▦ Album	⬚ Only With	▦ Track	🗑
Song	🗑	👁		🔤 Album.Id = Track.AlbumId			
Track	🗑	👁		⠿2 ▦ Track	⬚ Only With	▦ Song	🗑
➕ Add Source				🔤 Track.SongId = Song.Id			
				➕ Add Join			

Group of Album Album	Group of Artist Artist	🔤 Count of Id NumberOfTracks	▦ Album Name	▦ Album AlbumArtist	▦ Album Genre	▦ Song Name	▦ Song SongArtist	➕ New attribute

Selecione uma opção:

- a.   A record list with a single item composed by the visible grey-colored attributes. The Song's Name and SongArtist will be empty, though.

- ◉ b.   An empty record list with the first 3 attributes only. ✔   It's correct!

- c.   A record list with a single item composed by all the source entities: Album, Song, and Track. Album information will be returned, Song and Track will be empty.

- d.   A record list with a single item composed with the first 3 attributes. NumberOfTracks will be 0.

Aggregates follow the same rules as SQL, as it is a way to configure a database SELECT query. In a SELECT statement, the attributes available in the result, the ones you can add to the SELECT clause, depends if you are using the GROUP BY or Aggregate functions (count, max, etc.), or not. In Aggregates, the same will happen. But there is a visual hint about which attributes are available in the output: Only the blue attributes are available at the output of an Aggregate.Also, the order of the JOIN clause can discard the records that are being fetched in the case one of the JOINs fails.

Resposta correta: An empty record list with the first 3 attributes only.

Pergunta 23

Correta

Nota: 1,00 em 1,00

When does a Site Property reset to its default value?

Selecione uma opção:

- ◉ a.   It is a global variable that never resets. ✔   It's correct!

- b.   Whenever the User signs in the application.

- c.   Immediately, when the Login Session times out.

- d.   Whenever the User signs out of the application.

A Site property is a global variable that has a constant value, or a value that does not change often and never resets.
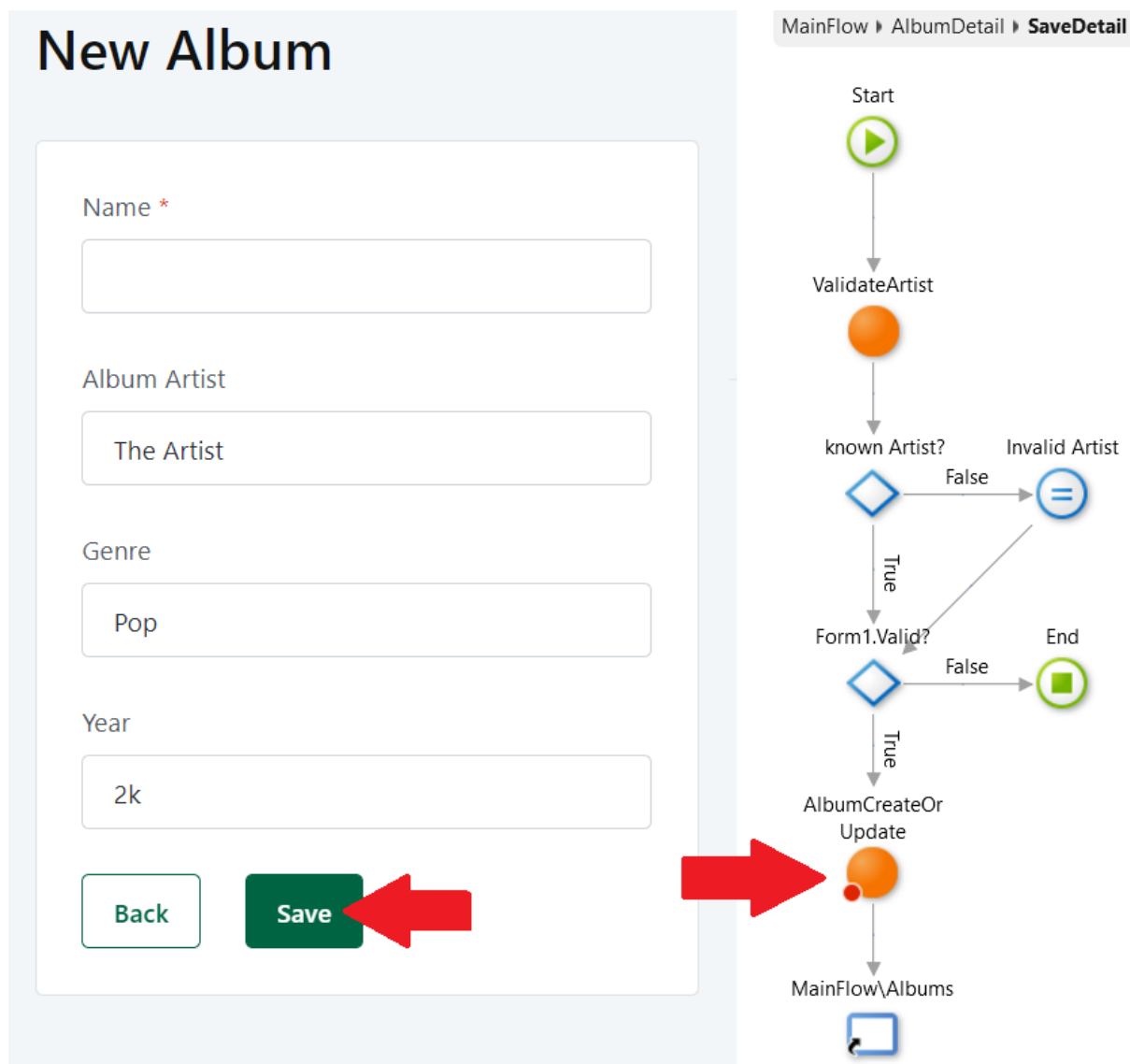
Comments:

Resposta correta: It is a global variable that never resets.

Assume that the album artist "The Artist", typed in the form below, **is unknown** and we have the debugger running with a breakpoint set on the CreateOrUpdateAlbum action. What happens when a user clicks on the Save button which is configured with Built-in Validations?

New Album

Name *

Album Artist

The Artist

Genre

Pop

Year

2k

Back   **Save**

MainFlow ▶ AlbumDetail ▶ **SaveDetail**

Start

ValidateArtist

known Artist?   Invalid Artist
False

True

Form1.Valid?   End
False

True

AlbumCreateOr
Update

MainFlow\Albums

Selecione uma opção:

- a. An exception will be thrown because Year is not a number.

- b. The form will show validation messages for Name, Album Artist and Year. ✔   It's correct!

- c. The debugger will pause execution at the breakpoint.

- d. The form will show validation messages for Name and Year.

The built-in validations will set the input's Valid property to false if the user input has the wrong data type or if the input widget is mandatory and is left empty by the user. Also, in case that a custom validation in the action flow validates if one input value doesn't respect the business rules the form validation will mark this input widget as invalid, as well. So, as resume first, the built-in validations will be performed, and then the custom validations will mark the input that doesn't respect the business rules. And, when there is at least one input invalid, the Form's Valid property will be set to False, and the action execution will stop, and all messages for all invalid inputs will be shown on the form.

Resposta correta: The form will show validation messages for Name, Album Artist and Year.

Regarding Blocks, select the correct answer.

Selecione uma opção:

○ a.   All answers are correct.

◉ b.   Blocks can be instantiated inside other blocks from a different module. ✔   It's correct!

○ c.   When a Block's local variable changes its value, the entire Block is always refreshed.

○ d.   Blocks can read and assign variables from the screens where they are instantiated.

Blocks have their own scope, meaning that a block can't access data from its parent. Also, changing an input parameter value does not automatically refresh the entire block. Still, it triggers the On Parameters Changed block event that you can use to update the block's UI. (check the 7.1 - Blocks document for more details).

Resposta correta: Blocks can be instantiated inside other blocks from a different module.

Consider that Kelly is a user with the Manager role. What will be the Server response when she navigates to the **SecurityUsers** screen via the browser.

Selecione uma opção:

- ○ a. The Server will raise a Security Exception because Kelly doesn't have enough permissions. ✔   It's correct!

- ○ b. The Server will raise a Communication Exception because it is expecting the Kelly Admin roles credentials to return the page.

- ○ c. The Screen will be sent by the server, and the page will be rendered on the browser.

- ○ d. The Server will raise a Database Exception because it can not find the Admin role associated with Kelly.

Security Exceptions can be raised by OutSystems whenever you have authentication or other security mechanisms in your application module, like roles checked or unchecked on a Screen.

Security Exceptions include:

- Invalid Login: The login provided by the end-user is not correct. This exception is raised by the Login and LoginPassword System actions.
- Not Registered: The end-user is not registered and cannot access the current screen without registration. When you create new custom Roles in your module, OutSystems creates specific Role Exceptions under Not Registered Exception:
  - Not – the end-user is accessing a screen without an authorized Role.

Comment:

source on OS Documentation at:

https://success.outsystems.com/Documentation/11/Developing_an_Application/Implement_Application_Logic/Handle_Exceptions#Abort_Activity_Chang

Resposta correta: The Server will raise a Security Exception because Kelly doesn't have enough permissions.

Pergunta 27

Incorreta

Nota: 0,00 em 1,00

Regarding Event Handlers of Block's Instance Events, select the correct option.

Selecione uma opção:

○ a.   If an Event is not Mandatory, it is not necessary to define an Event Handler for this Event on a Block's Instance.

○ b.   An Event Handler may or may not be mandatory, but its Input Parameters are always mandatory if a Handler is set on the Block's Instance.

○ c.   You can set, as an Event Handler, both screen actions as well as general Client Actions not bound to a Screen.

◉ d.   All other options are correct. ✖   The answer is not correct.

Check '7.2 - Block Events' document. Both Events and Events' Input Parameters can have the Is Mandatory property configured to Yes or No, and Service Studio will respect the configuration for both. Regarding Event Handlers, due to scope, only screen actions can be bound to a Block Instance Event.

Resposta correta: If an Event is not Mandatory, it is not necessary to define an Event Handler for this Event on a Block's Instance.

Pergunta 28

Correta

Nota: 1,00 em 1,00

Complete the sentence:

The _____ always happens before data from an Aggregate is rendered.

Selecione uma opção:

◉ a.   After Fetch event. ✔   It's correct!

○ b.   Initialize event.

○ c.   Render event.

○ d.   Ready event.

After data is fetched, the After Fetch event occurs and, since the data returned from the Aggregate or Data Action belongs to the screen or block data and has changed, the Render event also occurs.

comment:

OS documentation at
https://success.outsystems.com/Documentation/11/Developing_an_Application/Implement_Application_Logic/Screen_and_Block_Lifecycle_Events#on-after-fetch

Resposta correta: After Fetch event.

Pergunta 29

Correta

Nota: 1,00 em 1,00

If there is an **AreaChart** on a screen, when will the **OnClick event** be triggered?

Selecione uma opção:

- a. When the end-user clicks on the chart, but the Clickable property of this widget must be set to True. ✔   It's correct!
- b. When the end-user clicks on the chart.
- c. When the end-user clicks on the chart, but it requires an event handler.
- d. When the end-user clicks on the chart, but in the widget's AdvancedFormat property, the UserInteraction attribute must be set to True.

The AreaChat has the Clickable property. This property is optional to be field and of type Boolean. If you set the property value to True, it will allow the user to click on plotted values to execute an On Click action.

Resposta correta: When the end-user clicks on the chart, but the Clickable property of this widget must be set to True.

Pergunta 30

Correta

Nota: 1,00 em 1,00

When, in an Aggregate, you hide some of its columns, what happens?

Selecione uma opção:

- a. The other Team Developers stop having access to that attributes.
- b. Nothing happens at runtime. ✔   It's correct!
- c. The columns will be protected, so they will not be saved on the browser cache.
- d. The hidden attributes will be discarded from the output result of the Query.

The hide columns on Aggregates are usefully just for previewing purposes by Developers. It does not affect the Aggregate's output. The attributes used outside the Aggregate it will determine which columns are fetched or not.

comments:

Source from Reactive bootcamp: 4.3 - Advanced Aggregates

Resposta correta: Nothing happens at runtime.

Consider the entities Book and Publisher, where Book has a non-mandatory reference attribute to Publisher. What type of Join should you use between Book and Publisher in an Aggregate, if you want to return all Books with any (including none) associated information about their Publisher:

Selecione uma opção:

- a. Book Only With Publisher
- b. Publisher With or Without Book
- c. Book With or Without Publisher ✔ It's correct!
- d. Book With Publisher

When adding an Entity to an Aggregate where there is already an Entity set up, and both Entities have a relationship defined through a foreign key, the Service Studio will automatically determine the JOIN condition between them. The JOIN condition selected by the Service Studio is base on the Is Mandatory property of the Foreign Key. If the Foreign Key is mandatory, it will add an Only With (Inner Join) condition. If it is not, it will add a With or Without condition will be added.

Resposta correta: Book With or Without Publisher

What can be inserted in the SourceDataPointList property of a Chart widget?

Charts\LineChart	
Name	
Source Block	Charts\LineChart ▼
SourceDataPointList	▼
Height	▼
LegendPositionId	▼
XAxisFormat	▼
YAxisFormat	▼
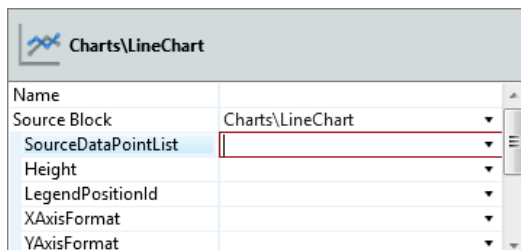
Selecione uma opção:

- a. Any List can be there, and the mapping must always be done.
- b. Only a List that is the output of an Aggregate or a Data action.
- c. A List of any type, but if it's not of type DataPoint List then, the mapping must be done in the property box of the Chart widget. ✔ It's correct!
- d. Any List can be there, but if it comes from a Data action, the mapping must be done.

The SourceDataPointList is a mandatory property of the charts and need to be of DataPoint List type. However, if the source list is not a DataPoint List, you can map the data points through manual definition of the Label and Value properties of the chart data points with the List Attributes. In the end the list of all data points will be plotted on the chart.

Resposta correta: A List of any type, but if it's not of type DataPoint List then, the mapping must be done in the property box of the Chart widget.

Pergunta 33

Correta

Nota: 1,00 em 1,00

When you are debugging your Reactive application, you can place breakpoints on...

Selecione uma opção:

- a.   Data Actions and Aggregates.
- b.   Server and Client Actions.✔   It's correct!
- c.   Screens elements, like widgets and Screens Actions.
- d.   Only in Screen Actions and Client Actions.

On document 5.3 - Debugging Apps, you can read what are breakpoints and where to add then.

Resposta correta: Server and Client Actions.

Pergunta 34

Correta

Nota: 1,00 em 1,00

Having in consideration the entity Employee and Card, what is the data type of both attributes Id?

Selecione uma opção:

- a.   Both attributes are of type Long Integer, but the Card's Id must be defined manually, when a new record is created into the database.
- b.   By default, the Employee's Id represents a primary key of type Long Integer, while the Card's Id represents a foreign Key of type Employee Identifier.   ✔ It's correct!
- c.   The Employee's Id is a Card Identifier, while the Card's Id is a sequential Long Integer.
- d.   By default, the Employee's Id represents a reference attribute of type Integer, while the Card's Id represents a foreign Key of Employee Identifier data type.

The Id of the Employee is an Entity Identifier (primary key), by default the platform define this type of attribute as a Long Integer, auto number and always Mandatory. While the Card's Id is a Reference attribute (foreign key), so it will be the type of Entity Identifier. If you look at the diagram, it is easy to check that the Employee is connected with the Card entity, so the Card's Id is an Employee Identifier.

comments: Source on OS Documentation at:

Resposta correta: By default, the Employee's Id represents a primary key of type Long Integer, while the Card's Id represents a foreign Key of type Employee Identifier.

Pergunta 35

Correta

Nota: 1,00 em 1,00

When is the Render Event triggered?

Selecione uma opção:

- a.   Once, after all the structure of the screen is complete.
- b.   Once, after all the data is on the screen.
- c.   Every time an aggregate's data is ready to be used.
- d.   Every time there's a change in an aggregate that affects the screen. ✔   It's correct!

Every time there is a change in data being used on the screen, the screen will be updated, and so, the Render event will be triggered. You can see more about the screen lifecycle in the presentation "9.2 - Fetching data on-demand" from the slide deck.

Resposta correta: Every time there's a change in an aggregate that affects the screen.

Pergunta 36

Correta

Nota: 1,00 em 1,00

The After Fetch event:

Selecione uma opção:

- a.   Is triggered after an Aggregate finishes fetching data. ✔   It's correct!
- b.   Always happens after a new screen is requested.
- c.   Only happens after a Data Action finishes fetching data.
- d.   Happens after fetching new data through synchronization.

The After Fetch event is triggered right after an Aggregate or Data Action finishes fetching data. Since each Aggregate or Data Action can have its own On After Fetch event handler, you can implement logic to act upon the data retrieved from specific data sources.

Resposta correta: Is triggered after an Aggregate finishes fetching data.

Given the following Aggregate, how would you modify it to return, for each product, the highest quantity purchased in any single order, and the average price of the product?

GetOrderItems   ▦ Sources ①   ▼ Filters   ↓F Sorting   ☑ Test Values

FILTERS

➕ Add Filter

▦ OrderItem OrderId	▦ OrderItem ProductId	▦ OrderItem Price	▦ OrderItem Quantity	✦ Price * Quantity TotalPrice	➕ New Attribute
1	2	120	2	240	
1	1	25	20	500	
1	3	230	4	920	
2	2	120	3	360	
2	4	12	5	60	

Selecione uma opção:

○ a.　Create a new Filter with Max(Quantity) = OrderItem.Quantity, and then group by ProductId and apply the Avg function to Price.

○ b.　Add a new computed attribute called AveragePrice, with its Formula set to Avg(Price, GroupBy: ProductId), and sort the results by Quantity.

○ c.　Group the results by OrderId, apply the Max function to Quantity, and the Avg function to Price.

◉ d.　Group the results by ProductId, and then apply the Max function to Quantity and the Avg function to Price. ✔　It's correct!

The correct sequence of setting up an aggregate it's important. In case that you sum (aggregate function) all records of an aggregate, before you group the information by a specific criterion, the aggregate will return to you only one row with the result of your aggregate function, instead of one row for each line of your criterion. E.g. this is the difference between you count all users that you have your database, as a result, you will have only 1 row with the total, that now you can not split in genders, because you grouped all data no matter the gender. But if you first group the information by genders and then count the number of users that correspond for each gender, you will have a row for each gender with the total of users inside of it. (check the 4.3 - Advanced Aggregates to more details).

Resposta correta: Group the results by ProductId, and then apply the Max function to Quantity and the Avg function to Price.

What could be a possible sequence of events when requesting a screen:

Selecione uma opção:

○ a. Initialize, Destroy (of the old screen), Ready, Render.

○ b. Initialize, Ready, Render, After Fetch, Render, Destroy (of the old screen).

○ c. Initialize, Ready, Destroy (of the old screen), After Fetch, Render.

◉ d. Initialize, Ready, Render, Destroy (of the old screen), After Fetch, Render. ✔   It's correct!

Check the possible lifecycles of a screen on the presentation "9.1 - Screen Events" from the official slide deck.
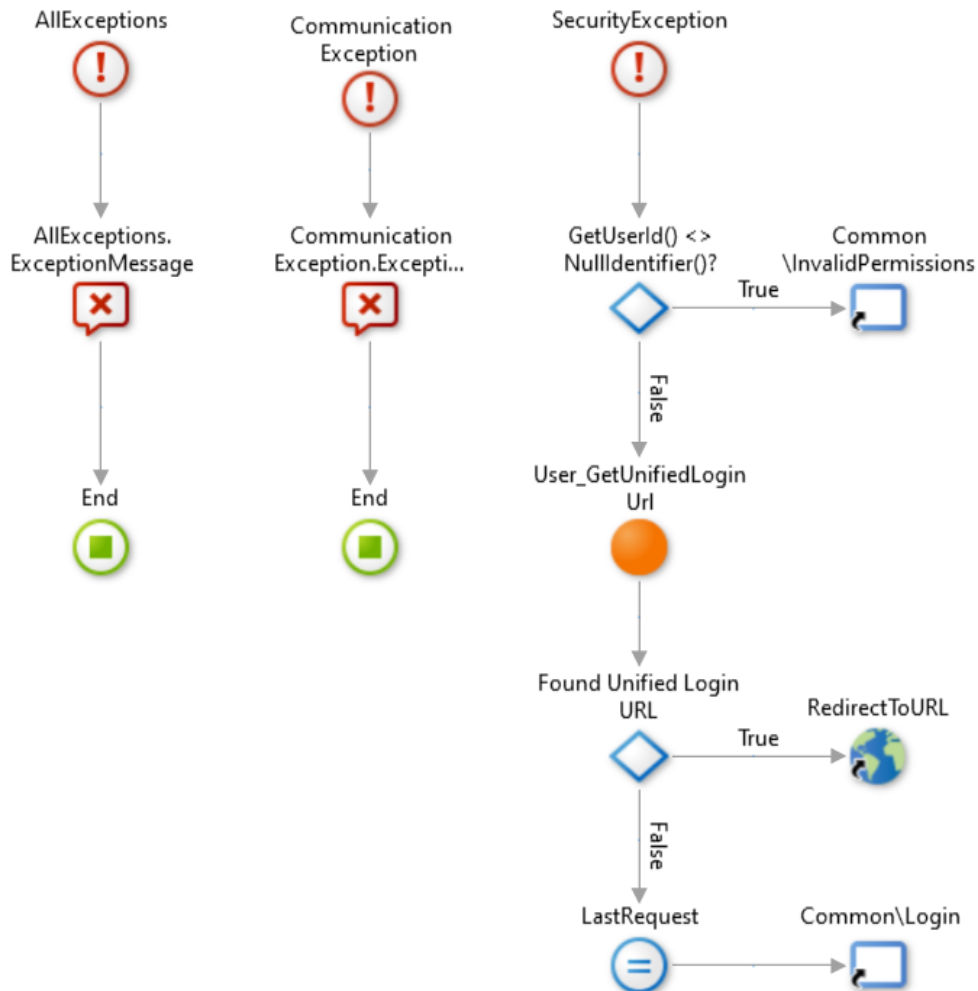
Resposta correta: Initialize, Ready, Render, Destroy (of the old screen), After Fetch, Render.

An End-User logged in to your Reactive application is trying to access a Screen, but the user doesn't have the required role permissions checked on that Screen. What will happen in this situation, taking into consideration the OnException flow image below?

Selecione uma opção:

- a. First, the user will see a generic Exception Message (from AllExceptions). Then, the user needs to click on the button to try the communications between the app and the server, and only if the communication test runs with success, the Security Exception will be performed.

- b. The user will be redirected to the Users Applications here she/he can assign the role to her/his account.

- c. The application will close, and the user account will be blocked.

- d. If the user's Session didn't timeout, the user will be redirected to another screen. ✔ It's correct!

The exceptions raised in your module are handled in a flow starting with an Exception Handler element. In an action, you can have more than one Exception Handler flow, in order to handle different types of exceptions.

An exception can be raised by OutSystems or in your logic at any point of your module. For typical UI requests, you can handle the raised exceptions by:

- Adding an Exception Handler element and its logic in your action's flow.
- Or let the On Exception of your module do the work.

The platform checks what is the most specific Exception to call its handler, instead of executing each one of the possible Exceptions that exists in your module.
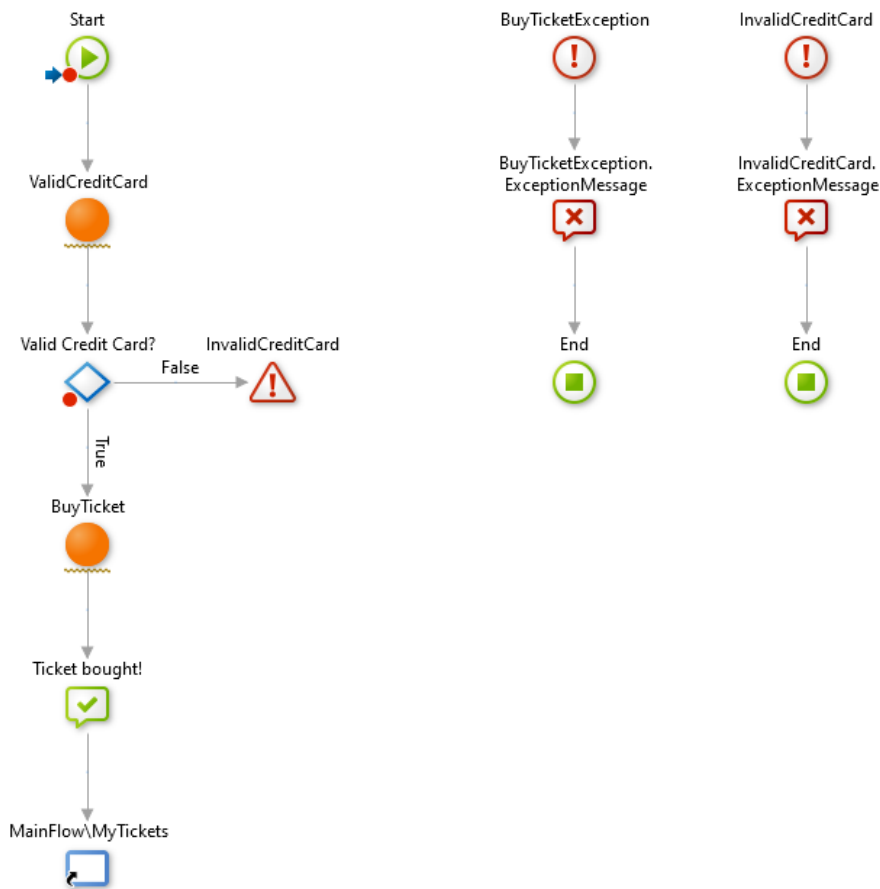
Resposta correta: If the user's Session didn't timeout, the user will be redirected to another screen.

What will happen if the developer chooses one of the debugger options below?

Selecione uma opção:

○ a. If the Developer clicks on **Break On All Exceptions**, the code will jump to the *BuyThicketException* Handler, and after it finished that flow the *InvalidCreditCard* Handler will be executed.

◉ b. If the Developer clicks on **Step Out**, the blue arrow will jump to and stop on the conditional if *Valid Credit card?* ✔   It's correct!

○ c. All other answers are wrong.

○ d. In case the Developer chooses the option of **Continue**, the flow will be executed, until the end, and the user will be redirected to the *MyThickets* screen.

On document 5.3 - Debugging Apps, you can read more detail about the debugging process, and also the meaning of each on of the debug icons.

Resposta correta: If the Developer clicks on **Step Out**, the blue arrow will jump to and stop on the conditional if *Valid Credit card?*

Pergunta 41

Correta

Nota: 1,00 em 1,00

When a Client Action bound to a screen calls a Server Action:

Selecione uma opção:

- a.   It is not possible to execute Server Actions from Client Actions bound to a screen.
- b.   The Server Action is executed Asynchronously.
- c.   Depending on the type of Server Action, it is executed Synchronously or Asynchronously.
- d.   The Server Action is executed Synchronously. ✔   It's correct!

A Server Action called by a Screen Action (or any Client Action), is executed **Synchronously**. The Client-Side Action waits for the Server Action to finish before resuming its execution.

Resposta correta: The Server Action is executed Synchronously.

Pergunta 42

Correta

Nota: 1,00 em 1,00

Regarding Blocks, select the correct answer.

Selecione uma opção:

- a.   Cannot be instantiated inside other blocks.
- b.   Can react to changes in input parameters. ✔   It's correct!
- c.   Can be refreshed explicitly.
- d.   Can have output parameters.

Remember that blocks can have inputs, and you can use the On Parameters Changed event to react to changes in the inputs. (Check the 7.2 - Block Events document for more details).
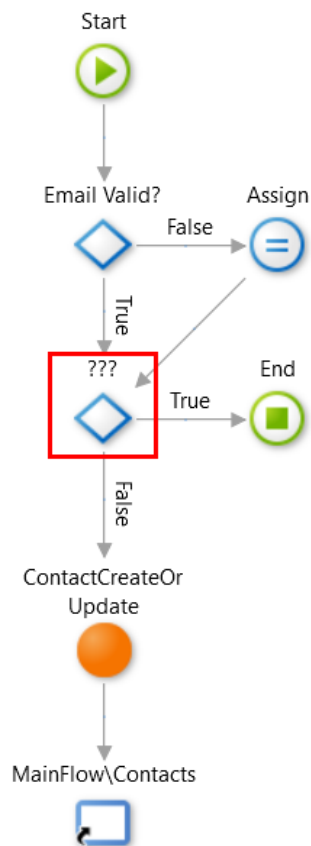
Resposta correta: Can react to changes in input parameters.

Consider the following Screen Action flow, which includes custom validations on data submitted from the ContactForm. What should be the condition for the highlighted IF statement?

Selecione uma opção:

○ a.   EmailAddressValidate(ContactForm.Record.Contact.Email) = False or ContactForm.Valid = False

◉ b.   ContactForm.Valid = False✔   It's correct!

○ c.   ContactForm.Valid = True

○ d.   EmailAddressValidate(ContactForm.Record.Contact.Email) = True

Before we send the record to the Database we want to validate if the form is or not valid. If the form's valid property isn't valid, the execution of the flow should be ended. However the form validation can be done in the negative (Form.Valid = False) using that condition the IF branches need to be set TRUE to **form not valid**, and FALSE to form valid to order the execution of the correct path.

Resposta correta: ContactForm.Valid = False

Pergunta 44

Correta

Nota: 1,00 em 1,00

Of the following statements about Static Entities, select the correct one.

Selecione uma opção:

- a. Records of a Static entity can be inserted at runtime using the Create Entity Action.

- b. Static Entities are stored in the database. Its records are defined inside Service Studio and have a name.✔ It's correct!

- c. By default, a Static Entity is created with four attributes and we cannot change them, we can only add/modify/delete records.

- d. We must specify the Id value of each record of a Static Entity because the Identifier of a Static Entity cannot be Autonumber.

Static entities are stored in the database, but they are Read Only, and their records are defined in Service Studio in design time (the user can't change them in runtime). When you create a static entity, it comes with a default set of attributes, but you can change them, delete or add new ones. One of the default attributes is the Id (long integer, Autonumber).

comments: Source on OS Documentation at:

https://success.outsystems.com/Documentation/11/Developing_an_Application/Use_Data/Bootstrap_an_Entity_Using_an_Excel_File

Resposta correta: Static Entities are stored in the database. Its records are defined inside Service Studio and have a name.

Pergunta 45

Correta

Nota: 1,00 em 1,00

Using the Debugger, what is one of the possible solutions if you want to analyze an exception flow in your code when it raises on browser?

Selecione uma opção:

- a. Add a breakpoint on the Raise Exception node present in your code flow, before you start the Debugger process. Then on browser execute the procedure that will raise that exception. After the code stops, inspect the Exception flow on Service Studio.

- b. All options are valid.✔ It's correct!

- c. Add a breakpoint on the Start Node of your Screen Action responsible for executing the code that will raise that specific exception, before you start the Debugger. Then test your app on browser, once your code stops working go to the Service Studio and inspect your code flow until reach the Exception flow.

- d. Add a breakpoint directly on Screen Action responsible for executing the code that will raise that specific exception, before you start the Debugger. Then test your app on browser, once the code stops, go through your code flow inside Service Studio, until you reach the Exception flow.

On document 5.3 - Debugging Apps, you can read what are breakpoints and where to add then when you want to inspect your code.

Resposta correta: All options are valid.

Consider the following form where the Save button is bound to the Save action shown on the image. Knowing that the Save button does **not have** Built-in Validation, what happens when the end-user presses the Save button? Please consider that ISBN is of input type Text, bounded to an entity attribute of data type Text.

Selecione uma opção:

- a. The book is not created and the user will be redirected to an internal error Screen.

- b. The book is created with an automatically generated ISBN, different from empty text, and the user is redirected to the BookList screen.

- c. The book is created and the user is redirected to the BookList screen, but the ISBN value stored in the record will be an empty ✔ text. It's correct!

- d. The book is not created and the ISBN field will have a validation message indicating that it is a required field.

As the built-in validations are not enabled, no verification regarding empty mandatory fields or invalid datatypes will be performed. So, the fact of a mandatory input being empty doesn't set this input's valid property to FALSE. If an action bound to the Save button that does not have Custom Validations and does not validate if the Form is valid as well the form it would be valid anyway and the record will be saved on the database, because to the database, the Is Mandatory property of an Entity Attribute is not relevant. So in a case of an empty text attribute, even it is a mandatory one, the platform will send an empty string as the value of that field, because this is the default value for a text data type, and the record will be created successfully.

Resposta correta: The book is created and the user is redirected to the BookList screen, but the ISBN value stored in the record will be an empty text.

Pergunta 47

Correta

Nota: 1,00 em 1,00

In which of the following situations do you need to refresh the dependencies of a consumer module:

Selecione uma opção:

- a. When the element is no longer set as Public on the producer module.
- b. When the element was deleted from the producer module.
- c. When the producer module does not exist in the OutSystems environment you are connected to.
- d. In all of these situations. ✔   It's correct!

You need to refresh the dependencies of a consumer module in the following situations:

- The element was deleted from the producer module.
- The element is no longer set as Public.
- The producer module does not exist in the OutSystems environment you are connected to.
- You do not have permission to reuse the exposed element.

comment:

OS Documentation at

https://success.outsystems.com/Documentation/11/Developing_an_Application/Reuse_and_Refactor/Handle_Changes_in_Exposed_Functionality
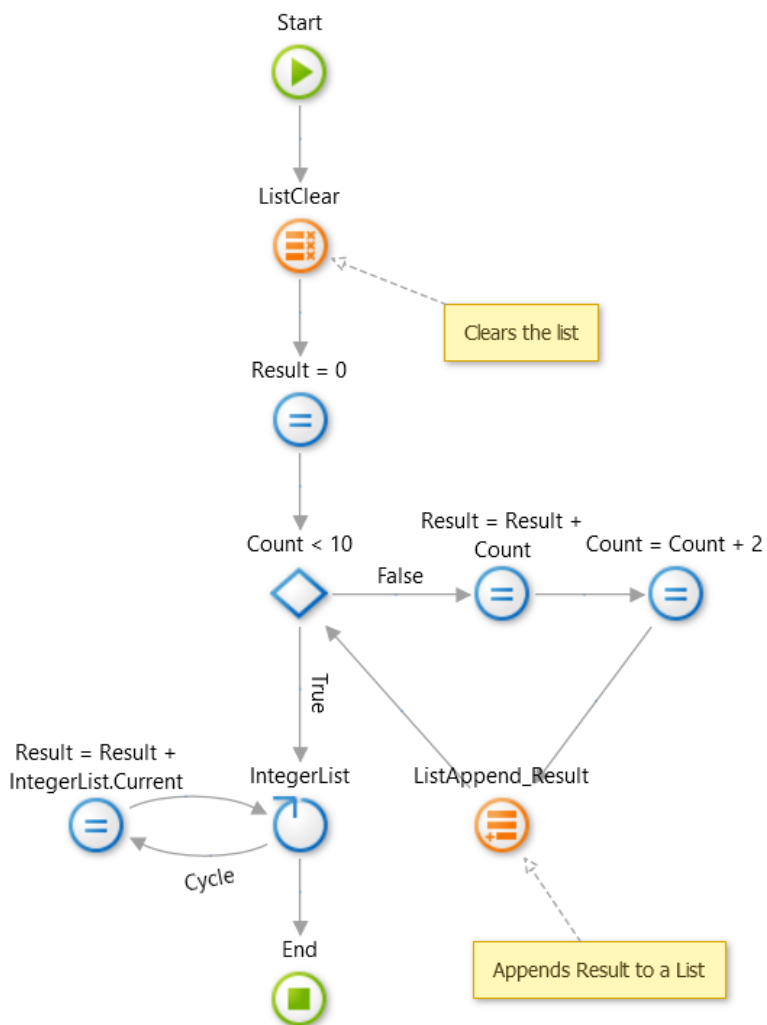
Resposta correta: In all of these situations.

Based on the image below, if Count starts in 5, what will be the value returned by the action through the Result Output Parameter?

Start

ListClear

Clears the list

Result = 0

Count < 10

Result = Result + Count

Count = Count + 2

False

True

Result = Result + IntegerList.Current

IntegerList

ListAppend_Result

Cycle

End

Appends Result to a List

Selecione uma opção:

a. 59

b. 0 (zero) ✔   It's correct!

c. 21

d. The application will timeout due to an infinite looping.

At the beginning of the action flow, the list is cleared and Result is set to zero. As the count variable starts in 5, the IF condition is true, and execution follows the true connector. As the list is empty, the ForEach will not execute any iteration, and the action terminates without changing the Result variable that ends with the value 0 (zero).

Resposta correta: 0 (zero)

Considering that a Movies List has an aggregate as its source, and the Cinemas List is bound to a Data Action instead, which of these lists will the Screen display to the End-User first?

Selecione uma opção:

○ a. By default, aggregates and data actions are both requested at the same time. However, it's not possible to know which of the ✔ It's queries will be returned first. correct!

○ b. The one defined with 'Fetch Data on Demand' will be the first to have the List rendered on the screen.

○ c. Data Actions are fetched and returned before Aggregates.

○ d. Aggregates are always fetched and returned first.

Aggregates and Data Actions start executing when the Screen is initializing, and the process is done asynchronously and in parallel, so it is not possible to know what query will be available first.

By default, all queries are created with the fetched property set to 'At start', but Aggregates or Data Actions with Fetch property set to 'Only on demand' do not run when the screen is initializing and needs to be triggered programmatically.

comment:

OS bootcamp slides: 9.2 - Fetching Data On Demand.

Resposta correta: By default, aggregates and data actions are both requested at the same time. However, it's not possible to know which of the queries will be returned first.

Pergunta 50

Correta

Nota: 1,00 em 1,00

In a screen, you need to show some information that is stored in an Entity. But you only want to show it when the user requests it explicitly by clicking a link on the screen. In this scenario, choose the right option.

Selecione uma opção:

○ a.   For this scenario, it is not possible to use an Aggregate. Use a Data Action with an Input Parameter of type Boolean, that will be used to identify when to return the data. Call the action passing true to it when the user requests the data.

○ b.   Use the System.IsPageLoad() action on the Aggregate's On After Fetch event to identify if the page is loading and remove the data in case it returns True. Later, use a Server Action with a Data Refresh to fetch the data when the user requests it.

○ c.   Aggregates and Data Actions run asynchronously immediately after the Screen initialization happens, so use a Local Variable to store the information and use a Server Action to fetch the data when the user requests it.

◉ d.   Set the Fetch property of the Aggregate to 'Only on demand' to avoid executing the Aggregate after the page is initialized and ✔ It's use a Data Refresh node to execute the Aggregate when the information is required.   correct!

Aggregates have the **Fetch property**, where you can choose between **At Start** or **Only On Demand**. The first is the default option and is used when you need the data right away when the page is requested. If you don't need the data right away and want to implement logic to fetch the data when it is required after the page is requested, you can set the aggregate's Fetch property to Only On Demand. In this case, you need to refresh the aggregate in the logic to execute it.

Resposta correta: Set the Fetch property of the Aggregate to 'Only on demand' to avoid executing the Aggregate after the page is initialized and use a Data Refresh node to execute the Aggregate when the information is required.

Ir para...