



RPA Specialization

Course 2: Data Manipulation in RPA

Practice Exercise-Lists

Lists

Build a workflow using the **Concat** and **Join** method that merges two lists containing the city names of the UK and Spain, sorts it, capitalizes the first letter of each item, and displays it in a message box.

- Create a list containing three cities of the UK in Uppercase
- Create another list containing three cities of Spain in Lowercase
- Merge both the lists together
- Sort the final list in alphabetical order from A to Z
- Capitalize only the first letter of all the items in the final list
- Display the final list in a message box in string format

Process Overview

- START
- Create two List variables called **SpainCities** and **UKCities**
- For **SpainCities**, instantiate and populate the List from the Variables Panel, using the expression: **new List (of String) from {"madrid", "valencia", "barcelona"}**
- For **UKCities**, instantiate the List from the Variables Panel using the expression: **new List (of String) from {"MANCHESTER", "BRISTOL", "GLASGOW"}**
- Merge the two List variables in a newly created List variable using **Enumerable.Concat** method inside an **Assign** activity
- Use the expression: **Enumerable.Concat(SpainCities.AsEnumerable, UKCities.AsEnumerable).ToList**
 - **.AsEnumerable** converts the two Lists to Enumerable data type
 - **.ToList** converts the outcome to List
- Use an **Invoke Method** activity to sort the elements in the outcome List by specifying 'Sort' in the 'MethodName' field
- Use a **For Each** activity to iterate through each element in the **AllCities** variable and convert them to **ProperCase** using the **StrConv** method. Use the expression: **StrConv(item, VbStrConv.ProperCase)**
- Add the converted items to a newly created List variable **AllCitiesProperCase** using an **Add to Collection** activity

- Use a **Message Box** activity to display the converted values using the **String.Join** method. Use the expression: **String.Join(",",AllCitiesProperCase)**
- STOP

Step-by-Step Process

- Step 1:** Open Studio.
- Step 2:** Create a new process and name it as “Lists”
- Step 3:** Drag a **Sequence** activity from the Activities panel and drop it in the Designer panel.
- Step 4:** Name the **Sequence** activity as “Sequence – ‘List Demo’”
- Step 5:** Right-click on the **Sequence** activity container and select *Annotations* from the context menu.
- Step 6:** Enter the annotation “Prints an ordered list containing the city names from two initial lists of city names.”
- Step 7:** Create three variables through the Variables panel as shown below:

Name	Variable type	Scope	Default
SpainCities	List<String>	Sequence - List Demo	new List (of String) from {“madrid”, “valencia”, “barcelona”}
UKCities	List<String>	Sequence - List Demo	new List (of String) from {“MANCHESTER”, “BRISTOL”, “GLASGOW”}
AllCities	List<String>	Sequence - List Demo	
AllCitiesProperCase	List<String>	Sequence - List Demo	new List(of String)

Step 8: Drag and drop an **Assign** activity and name it as “Assign – Merge”, Add an annotation: “Merging Lists”. Enter the values as shown below:

To	Value
AllCities	Enumerable.Concat(SpainCities.AsEnumerable ,UKCities.AsEnumerable).ToList

Step 9: Drag and drop an **Invoke Method** activity, add an annotation: “To sort the list.” and enter values as shown below:

TargetType	(null)
TargetObject	AllCities
MethodName	Sort

Step 10: Drag and drop a **For Each** activity and name it as “For Each City”. Add an annotation: “Iterates through each item in the list”.

Step 11: In the first box of the **For Each** activity enter “item” and in the second box enter the variable **AllCities**

Step 12: In the properties panel of the **For Each** activity, Change the **Type Argument** to ‘String’.

Step 13: In the Body section, drag and drop an **Assign** activity and name it as “Assign ProperCase”. Add an annotation: “Assigning Proper Case”

Step 14: In the **Assign** activity, enter values as shown below:

To	Value
Item	StrConv(item, VbStrConv.ProperCase)

Step 15: Drag and drop an **Add to Collection** activity below the **Assign** activity. Add an annotation: “Adding AllCitiesProperCase to collection”.

Step 16: In the properties panel of the **Add to Collection** activity enter values as shown below:

Collection	TypeArgument
AllCitiesProperCase	String
Item	Item

Step 17: Drag and drop a **Message Box** activity and name it as “Message Box – AllCitiesProperCase”

Step 18: In the text area of the **Message Box** activity, enter the expression:
String.Join(", ",AllCitiesProperCase)

Step 19: Save and Run the workflow.