Video Transcript

Hello and welcome to this demo on Creating Variables!

In this demo, we’ll learn how to create variables in UiPath Studio and use them to pass information between activities.

Let’s begin with the concept of variables. Variables are storage locations that can hold multiple values of the same data type. We can think of variables as a box containing information that we can access. We can always open this box to check what's inside or put something else inside it. For example, a variable is a box consisting of fruits of the same type. We can open this box and check that it is a box of apples. We can add more apples into this box or remove them and stuff something else into it.

To accurately describe the usage of variables throughout the project, we must assign the variables with meaningful names.

Providing meaningful names is as good as labelling the box based on its content for easy identification.

On this note, let’s learn the ways of creating variables in UiPath Studio.

We encourage you to build along with this video. You’ll find the workflow file after this demo.

Okay! Let’s begin!

There are four main ways we can use to create a new variable in UiPath Studio:

1.From the Variables panel

2. From the body of an Activity by pressing Ctrl + K in an input field that can accept a variable name

3. From the Activity properties panel, also by pressing Ctrl + K in an input field that accepts variables

4. By performing right click in the input field and selecting the create variable option

Alright, we'll first create a workflow that asks for input from the user and saves the answer to a string variable. The Workflow then assigns a value to another string variable and logs a message with the two values.

Let’s start by adding a new Sequence activity.

Since RPA projects can get quite complex and are often collaborative, it’s good practice to give descriptive names to activities and add annotations.

Let’s rename it as “Creating Variables sequence”.

We can create annotations for any activity if we right-click on it, select Annotations, and Add Annotation.

Great, let’s pin the annotation so it will be visible.

Next, let’s add an Input Dialog activity.

This activity displays a dialog box that prompts the user with a label message and an input field. Once the fields are entered, it saves the user’s input to a variable.

We'll update the Display Name  to ”Input User Details” and set the Dialog Title to “User Details”.

Now let’s specify the information we want to obtain from the user in the Input Label field.

Next, the Input type is a drop-down list of Text box and multiple choice. Since we need  input from the user, let’s select the input type as Text Box.

In the Activity Properties panel, we can see that there is a Result output property. This is where we'll specify the variable for which we want to save the user’s input. But, to do this we need to create a variable first.

Let’s check out the main ways to create a new variable in UiPath Studio:

From the Variables panel, by adding a new line,

From the body of an Activity by pressing Ctrl + K in an input field that can accept a variable name,

From the Activity properties panel, also by pressing Ctrl + K in an input field that accepts variables.

Or by right-clicking in the input field and selecting the create variable option.

Let’s use the Variables panel to create a new type of String variable called “UserName”.

First, let’s enter the name of the variable. Best practices recommend using Pascal Case and providing descriptive and meaningful variable names.

Next, let’s choose the Type. We can select one of the types shown in the drop-down menu, but we can also click Browse, and Select a .Net Type from the displayed window. For example, Dictionary.

In our case, we have a String variable, so we'll click cancel and leave it as it is.

The Scope input field determines the containers in which the variable is available.

If there are two variables with the same name, the variable defined in the most inner scope tops the priority list.  The naming best practices of variables recommends not to have the same variable name.

The Default value sets an initial value for the variable when the workflow is started.

Let’s add our variable in the Result field of the “Input User Details Input Dialog” properties. We can use this to store output of the activity.

Now we want to print the value entered by the user.

Several activities enable us to do that in different ways: Message Box, Write Line, or Log Message.

Let’s use a Log Message, set the log level to “Info” and enter the username variable in the Message field.

This activity writes the specified diagnostic message at the selected level, in this case, Info. The messages are displayed in the Output panel and also stored in the log fields for future use.

Let’s save and run the file in debug mode

We’ll enter a value in the Input dialog. So far so good.

Now let’s check the Output panel. Great, we can see the value we’ve entered in the Output panel.

Next, we’ll have a look at: using the Ctrl+K method to create variables, using the Assign activity, how variable scopes work, and concatenating strings.

For this demonstration, let’s create a new sequence inside our sequence and call it “Assign Sequence”.

Now, let’s add an Assign activity to the new sequence and rename it to “Assign Username Status”.

The Assign activity allocates any value we set to a variable or argument. All we need to do is enter the variable in the To field and the value or expression in the Value field.

But before we can assign a value, we need to create the variable. Let’s click the To field of the Assign activity and press Ctrl + K.

Let’s name the variable “Status” and press Enter.

Next, We'll give a value to this variable using the assign activity.

For this example, let’s enter “is logged in” in the value input field. An assign activity always works from right to left.

When we create a variable using this method, the default datatype is String and the Scope is set to the container which includes it, in our case, Assign Sequence.

An interesting fact about Ctrl+K method is, it will declare a variable of the type required in the TO field. For instance, if the required datatype in the field is UIElement, then that’s the datatype it will assign to the newly created variable. If not, the data type is a string as in our case.

Next, we can change the message from the Log Message activity to a concatenation of the strings in the two variables.

The concatenation is obtained by using the VB.Net operators + or “ampersand”.

But it  looks like we’ve run into some trouble.

The scope of the variable status is set to the Assign Sequence, which means that the variable isn’t declared outside this sequence.

To use it, we need to change the scope of the variable from “Assign Sequence” to “Creating Variable Sequence”.

Note that the compilation error has disappeared. Great!

Now that we’ve demonstrated how scopes work, let’s remove the unnecessary Assign Sequence.

Cool! Let’s save and run the file in debug mode again and check the message in the Output panel....

And everything looks good.

Alright, for the final stretch, let’s see the method of right-clicking in an input field and selecting the create variable option.

Let’s right click on the Assign Username status activity. And select the create variable option.

This creates a new variable in the variable panel. Great! And we are familiar with this, we can enter the variable name, type, scope in the variable panel.

Let’s create a variable UserAddress.

For demo purposes, let’s add an assign activity and use this newly created variable in the TO field.

We can use this variable in the activity as per our workflow.

This method is an alternate for the shortcut key Ctrl+K method.

Let’s delete the variable and the assign activity that are not in use, and we are good to go.

But wait! Let’s check what happens if we rename the variable which is in use in our workflow?

Let’s rename the variable UserName to UserAddress

Renaming a variable in the variable panel automatically updates all occurrences in the current file. We see the renamed variable appears in the Value entered field and in the Result of the Properties.

Awesome! Let’s change this back to the original variable name.

A quick recap of the demo. In this video, we learned how to create variables in UiPath studio using the four methods.

1.From the Variables panel

2. From the body of an Activity by pressing Ctrl + K in an input field that can accept a variable name

3. From the Activity properties panel, also by pressing Ctrl + K in an input field that accepts variables

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And we also learned what happens when we rename a variable.

For more practice on this topic, try to explore how different variables are available in the scope field in a workflow.

With this, we conclude our demo on creating variables in UiPath Studio. Thank you for watching. Goodbye!