Genesys Designer Quick Start Guide

Bonus Example

4/25/2025

Contents

Bonus Example

Now it's time to apply all of the knowledge you have learned so far. This example uses **Menu**, **Segmentation**, and **Shared Module** blocks to demonstrate how you can use Genesys Designer to create an application for a pizzeria.

> **Tip**
>
> This example aims to help you demonstrate what you have learned so far. Therefore, it does not provide you with step-by-step instructions for each task. If you think you need extra help, click **[+] Show Tip** to see the steps that you need to do.

Play Greeting

First, let's play a greeting for the caller. Click and drag the **Play Message** block from the **Palette** to the **Application Flow** and drop it in the **Self Service** phase.

Next, let's configure the block to play a greeting. Ensure the **Play Message** block is selected and go to the block properties section to the right of the **Application Flow**. Click **Add Prompt** and configure a TTS prompt that will say "Welcome to Pizza Palace!"

[+] Show Tip

- **Type** - TTS
- **Variable?** - Disabled
- **Value** - Welcome to Pizza Palace!
- **Play as** - text

As we might add several **Play Message** blocks to our application, it is a good practice to rename the block to describe what it does. In this case, let's rename the block to `Play Greeting`.

[+] Show Tip

To rename a block, hover over it and click the pencil icon to display a text

field.

Pizza Size Menu

Now let's ask the caller to specify a pizza size. Add a **Menu** block below the **Play Greeting** block. Rename the block to `Pizza Size Menu`. Ensure the **Pizza Size Menu** block is selected and go to the block properties to configure the block to provide the following functions:

- Play a prompt that asks the caller to choose a size.
- Use **DTMF Options** to input a size:
  - 1 - Small
  - 2 - Medium
  - 3 - Large
- Use **Retry Prompt** to allow two **No Match** events and one **No Input** event. After each event, the caller is asked to "Please try again" and the menu options are repeated.
- Store the outcome of the interaction in two variables: **pizza_size** and **menu_result**.

[+] Show Tip

1. In the **Menu Prompts** tab, click **Add Prompt** and configure the prompt as follows:
   - **Type** - TTS
   - **Variable?** - Disabled
   - **Value** - What size pizza would you like? For Small, press 1. For Medium, press 2. For Large, press 3.
   - **Play as** - text
2. In the **DTMF Options** tab, enable DTMF keys **1**, **2**, and **3** and name them `Small`, `Medium`, and `Large`, respectively.
3. In the **Retry Prompt** tab, enable the **Allow retries** check box and configure the retries as follows:
   - **Number of No Input retries allowed** - 1
   - **Number of No Match retries allowed** - 2
   - **No Input #1** - Click **Add Prompt** and add a TTS prompt with the value of **Please try again**. Enable the **Play original menu prompt after**

this retry prompt check box.

- **After Final No Input** - Skip.
- **No Match #1** - Click **Add Prompt** and add a TTS prompt with the value of **Please try again**. Enable the **Play original menu prompt after this retry prompt** check box.
- **No Match #2** - Click **Add Prompt** and add a TTS prompt with the value of **Please try again**. Enable the **Play original menu prompt after this retry prompt** check box.
- **After Final No Match** - Skip.

4. Click the **Initialize** phase and add the following variables: `pizza_size` and `menu_result`. Do not provide a default value.
5. Click the **Pizza Size Menu** block to and then click the **Results** tab. Configure the tab as follows:
   - **Store user entered digits in this variable** - pizza_size
   - **Store the outcome of the user interaction in this variable** - menu_result

Save and Validate

It is a good idea to save often (although Designer will periodically save a temporary version of your application automatically). Click **Save Flow**.

Designer saves your application, but it also displays a warning icon beside **Validation Status** to indicate that it has found warnings or errors with your application. This is expected, as the application is not yet complete.

Click the warning icon to view the warnings.

The warnings indicate that each of our menu options do not provide a prompt. Let's take a closer look and investigate these warnings. You can click the warning to open the block to which the warning refers. For now, let's look at these blocks in the **Application Flow**.

Click the **Small** block and view its properties. Click the **Play Audio** tab and add a TTS prompt with the value `You chose small`. Add similar prompts to the **Medium** and **Large** blocks.

Next, click **Save Flow**. You have fixed the warnings, and a green check mark is displayed by **Validation Status**.

Testing

Like saving, it's a good idea to regularly test your application to ensure it is working as you intend. Click **Publish**.

In the navigation bar, click **Applications** to return to the applications list. In the **Phone Number(s)** column, click **Manage** and assign a phone number to your application. Finally, click the **Status** slider to enable your application.

That's it—give your application a call and test it to ensure it is working.

Time to Segment

We now have a simple application to determine the pizza size that the customer wants, but what happens next? Let's add an option to let the customer choose toppings for the pizza. Also, just in case the caller was not successful in making a size selection, let's add an option to transfer to a live operator.

So, after the **Pizza Size Menu** blocks, we need to branch into two different paths, depending on whether or not the caller gave a valid response at the menu.

Add a **Segmentation** block after the **Pizza Size Menu** blocks. When done, check to see if the **Segmentation** is indented to the right of **Pizza Size Menu** parent block. What happened? Now is a good time to review layers. Click **[+] Show Tip** below to see how to fix this problem. Or, if you know how to resolve this problem, skip ahead to continue with this example.

[+] Show Tip

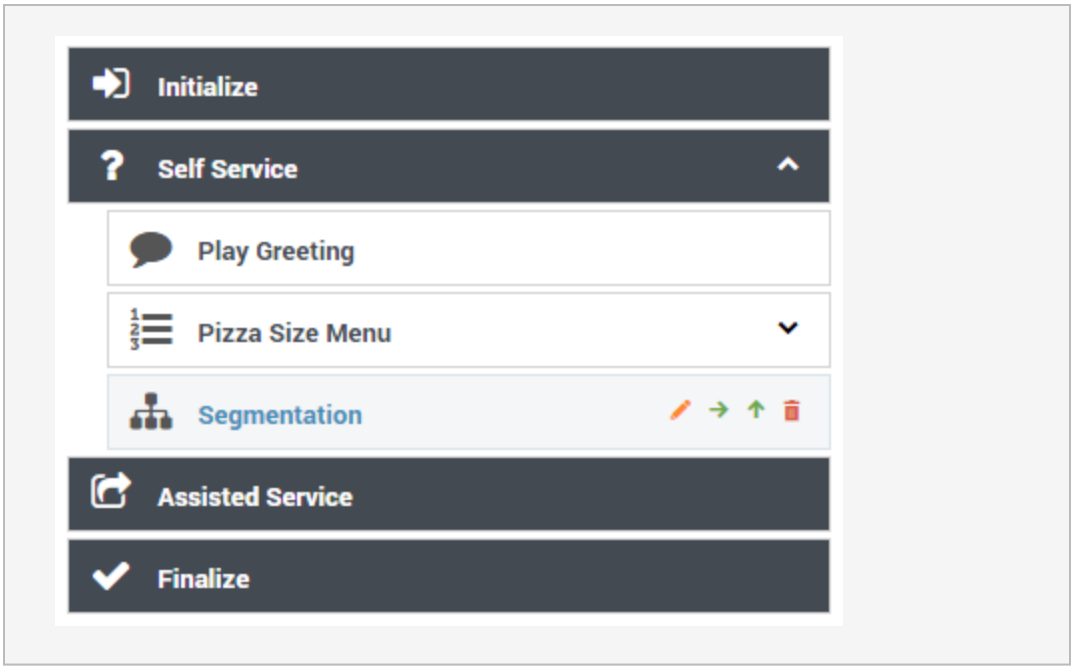
First, look at how the blocks are indented underneath the **Pizza Size Menu** block. The **Application Flow** uses indentation to indicate that these blocks are child blocks of the parent block. In other words, the child blocks are contained within the parent block, and the child blocks are only executed if the parent block is executed.

You can also determine that a block has sub-blocks by looking at the ^ or **v** icons on its right edge. Notice that both the **Pizza Size Menu** block and the **Self Service** blocks have these icons, which means you can show or hide the blocks within.

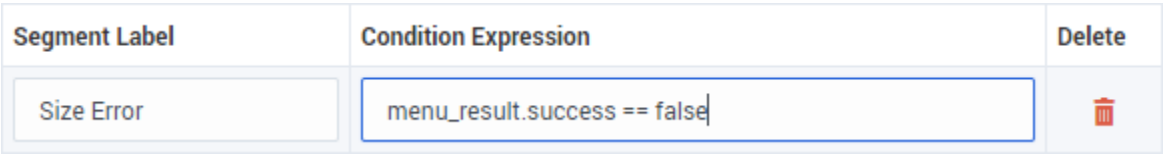
If you move a parent block, its child blocks move with it. If you delete a parent block, its child blocks are also deleted.

However, we do not want the **Segmentation** block to be a child block of the **Pizza Size Menu** block. We have two options to resolve this situation:

- Hover over the **Segmentation** and click the left-arrow icon to move this block up a layer.
- Delete the **Segmentation block** block, then click the ^ icon beside the **Pizza Size Menu** block to hide its child blocks. Now you can add the **Segmentation** block to your application on the same layer as the **Pizza Size Menu** block.

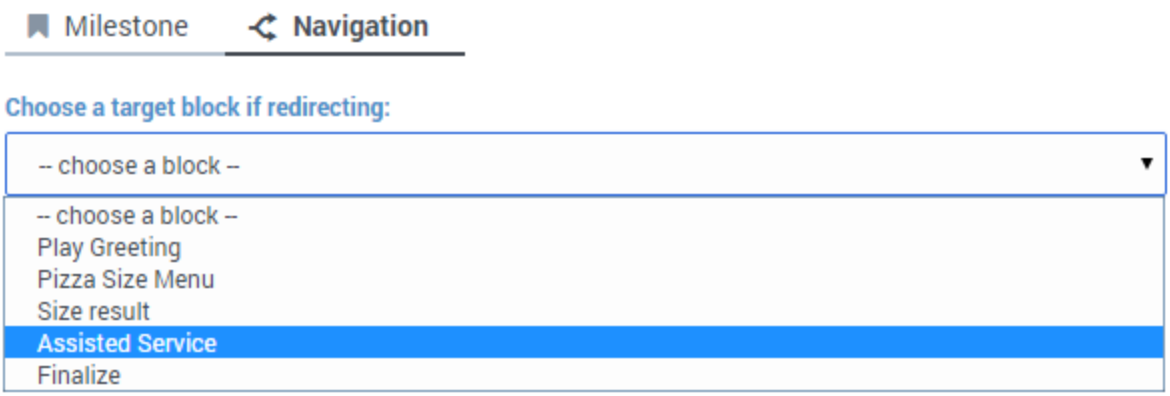


Change the name of the **Segmentation** block to `Size result`. Next, go to the block properties. In the **Conditions** tab, click **Add Condition** to create a branch under this Segmentation block. Change the name of the condition from `Segment` to `Size Error`. For Condition Expression, enter `menu_result.success == false`.

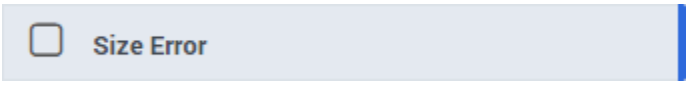


This expression refers to the **menu_result** variable that we used to store the outcome in the **Pizza Size Menu** block. If its success element is false, it means the customer exited the menu due to a no-input or no-match error, and the application did not receive a valid response from the customer. In this case, the expression evaluates to true, and the application executes the **Size Error** block. If the application did receive a valid response from the customer, the application executes the next block after the **Size Result** block and its child blocks (we are adding more blocks to the **Size Result** block a little later).

Click the **Size Error** block in the **Application Flow** to select it and display its properties. Click the **Navigation** tab near the bottom. In the drop-down menu, choose the **Assisted Service** phase. The application now skips directly to the **Assisted Service** phase whenever there is an error result from the **Pizza Size Menu** block.



Did you notice that when you set the **Navigation** property, Designer applied a blue bar to the right edge of the **Size Error** block in the **Application Flow**? This indicates that the block contains a *Go To* command, which means it jumps to a specific location after executing, rather than continuing with the normal top-down execution flow.



Click **Save Flow** to save your work. Designer displays the following validation warning: **Expression may have undefined reference: "success"**.

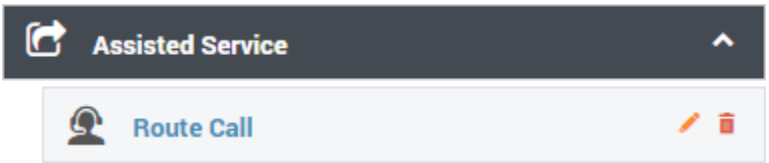
Designer tracks that you have created variables, but it does not track which types of objects are stored in them. As a precaution, it warns you if it detects expressions that reference elements of variables.

It is always important to pay attention to validation warnings. However, some of them (such as this example) can be safely ignored once you have verified that your logic is correct.

Routing to an Agent

If the **Self Service** phase cannot handle the call, the application proceeds to the **Assisted Service** phase and it can transfer the call to an agent.

Drag and drop a **Route Call** block under the **Assisted Service** phase.



The **Route Call** block can provide several types of routing, such as skills-based routing, Agent Group routing, routing by priority ranking, and more. For this example, select **Direct number routing**. You could enter a phone number in the **Number** field, but for this example we will create a User Variable, **routing_number**, to hold the number. The default value of this variable must be a number that you

can use to test the routing function.

[+] Show Tip

1. In the **Application Flow**, select the **Initialize** phase and view its properties.
2. In the **User Variables** tab, click **Add Variable**.
3. In the **Name** field, enter `routing_number`.
4. In the **Default Value** field, enter a test phone number that you can use to test the application.

> **Tip**
> As this is a string, you must include the value in single quotation marks. For example: `'18005555555'`.

Ensure you have selected the **routing_number** variable for the **Direct number routing** option in the **Route Call** block. Next, go to the **Routing Priority** tab and disable the **Use Priority during Routing** check box, as we are not using this feature for this example.

> **Tip**
> You could add more numbers to the **Direct number routing** list by clicking **Add Number**. Then, you could weight them to control the percentage of calls that go to each number.

We are almost done. However, before we route the call, we should play a message to the caller to let them know that we are transferring the call. We do not use the options in the **Play Audio** tab of the **Route Call** block for this function, because those options are used for audio that loops while the caller is being transferred (hold music).

Add a **Play Message** block at the beginning of the **Assisted Service** phase, before the **Route Call** block. Change the block name to `Announce Transfer` and have it play this TTS prompt: "Please hold while we transfer your call."

[+] Show Tip

1. In the **Application Flow**, select the **Announce Transfer** block and view its

properties.

2. Click **Add Prompt** and configure the prompt as follows:
   - **Type** - TTS
   - **Variable?** - Disabled
   - **Value** - Please hold while we transfer your call
   - **Play as** - text

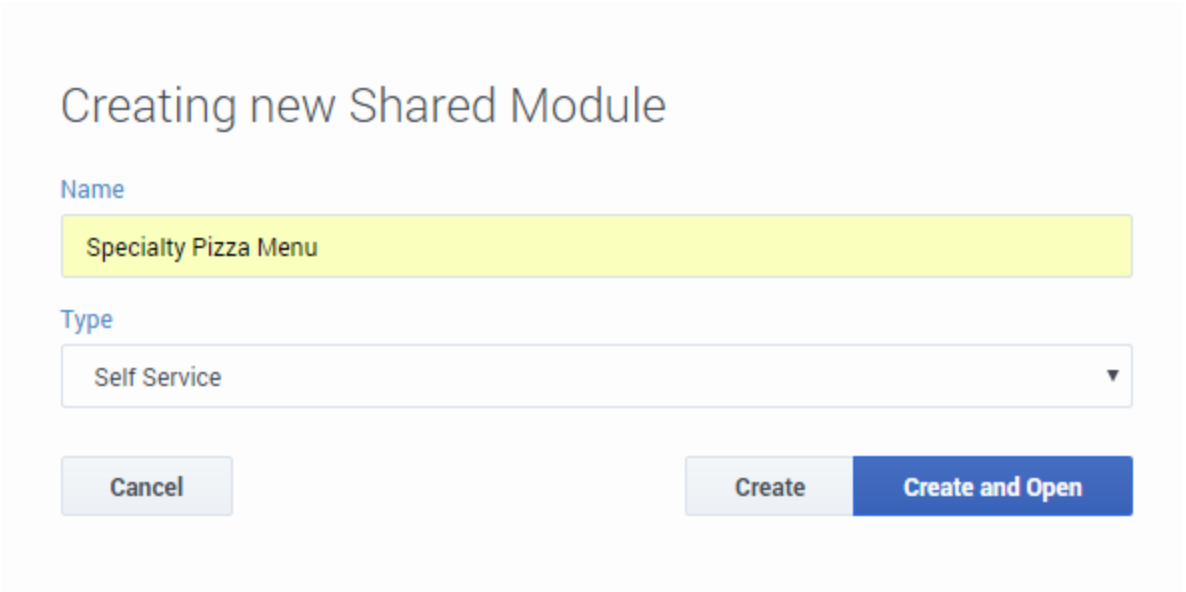
Click **Save Flow** to save your work. Designer displays the following new validation warning: "Prompts should not be empty."

In this case, the warning refers to the **Play Audio** tab of the **Route Call** block. It is not always necessary to enter a prompt for every audio property slot. If you determine that it is best for your application design to leave some of these slots empty, you can safely ignore the resulting warnings.

Adding a Shared Module

Let's add a shared module to offer the caller a menu of specialty pizzas. As you might recall, shared modules are small pieces of applications that you can use in one or more applications.

Click **Shared Modules** in the navigation bar to open the list of shared modules. Next, click **Add Module** and create a module named `Specialty Pizza Menu` and set its type to **Self Service**, since it will use Self Service functionality that we will include in the **Self Service** phase of our application. Click **Create and Open** to create the shared module and open it for editing.



The edit window for shared modules looks similar to the application editing window, except that the **Application Flow** contains only two phases: **Initialize** and **Self Service**. This is because we chose **Self Service** as the type for this shared module; if we selected **Assisted Service**, the **Application Flow** would contain only **Initialize** and **Assisted Service** phases.

You build a shared module in a manner similar to how you build an application:

- Drag blocks from the **Palette** and drop them into the **Application Flow**.
- Edit block properties.
- Rearrange blocks to suit the execution order in the **Application Flow**, which is usually from top to bottom.

Usually, when you call a shared module from within an application, your application passes some input parameters to the shared module. After the shared module finishes executing, the application receives some output parameters. You define these input and output parameters in the **Initialize** phase of your shared module.

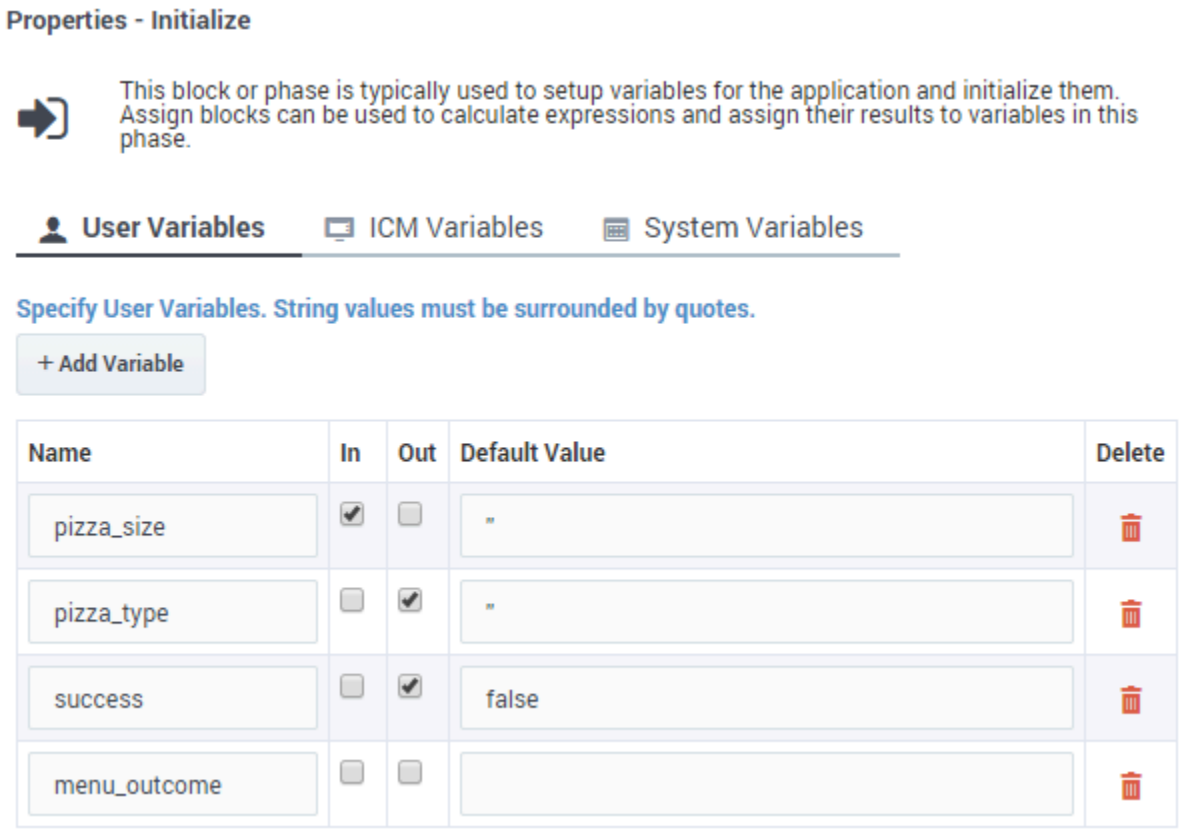
For our **Specialty Pizza Menu** shared module, the application will pass in the size of pizza that the caller selected. Then the module will present a menu of choices (for example: plain cheese, meat lovers, and so on) and will return the selection back to the application. It will also return a flag to indicate whether the caller made a valid choice in the shared module.

Input/Output Parameters

First, let's define our input/output parameters. Select the **Initialize** phase and view its properties. Let's create one input and two output parameters, and one more parameter to store the result of the interaction. In the **User Variables** tab, click **Add Variable** four times to create four variables.

Each variable has two check boxes, **In** and **Out**. This specifies whether the variable is used for input or output.

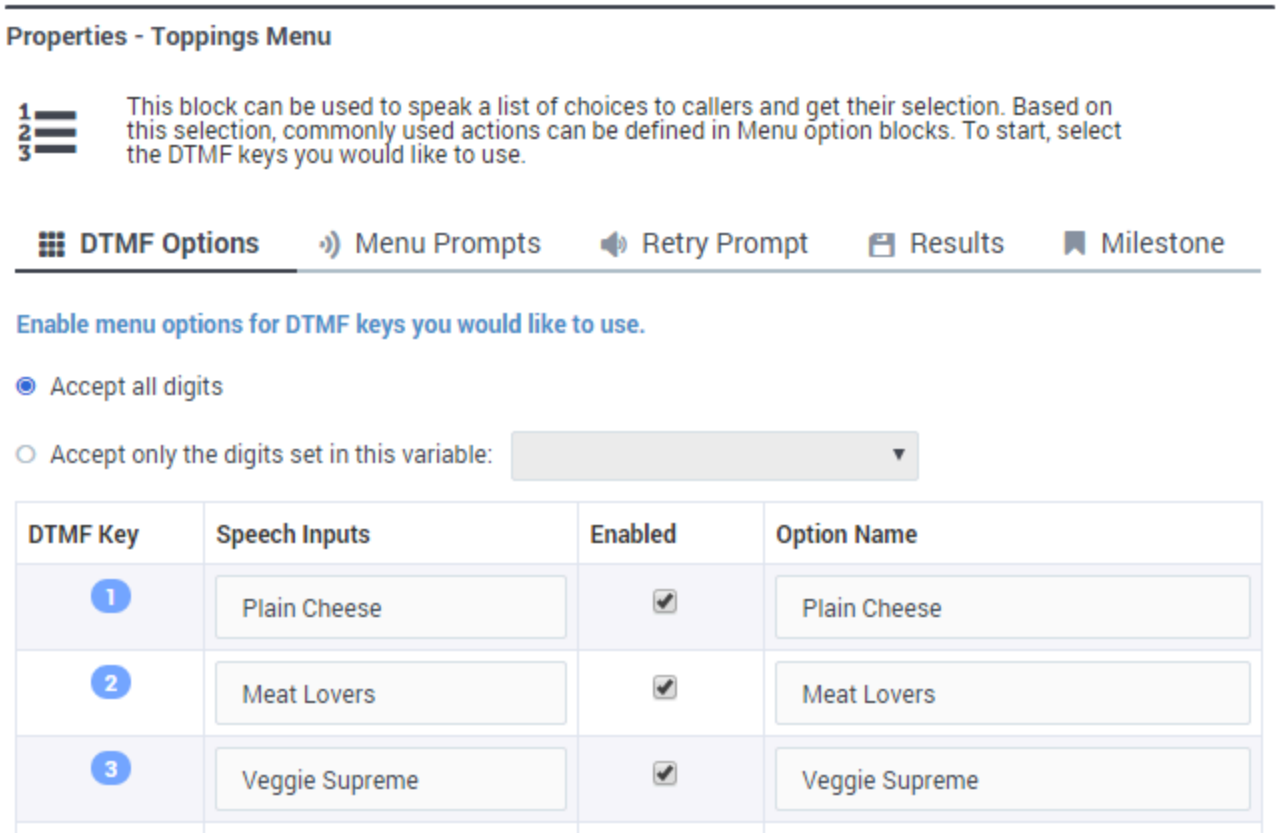
Configure the four variables as shown below:

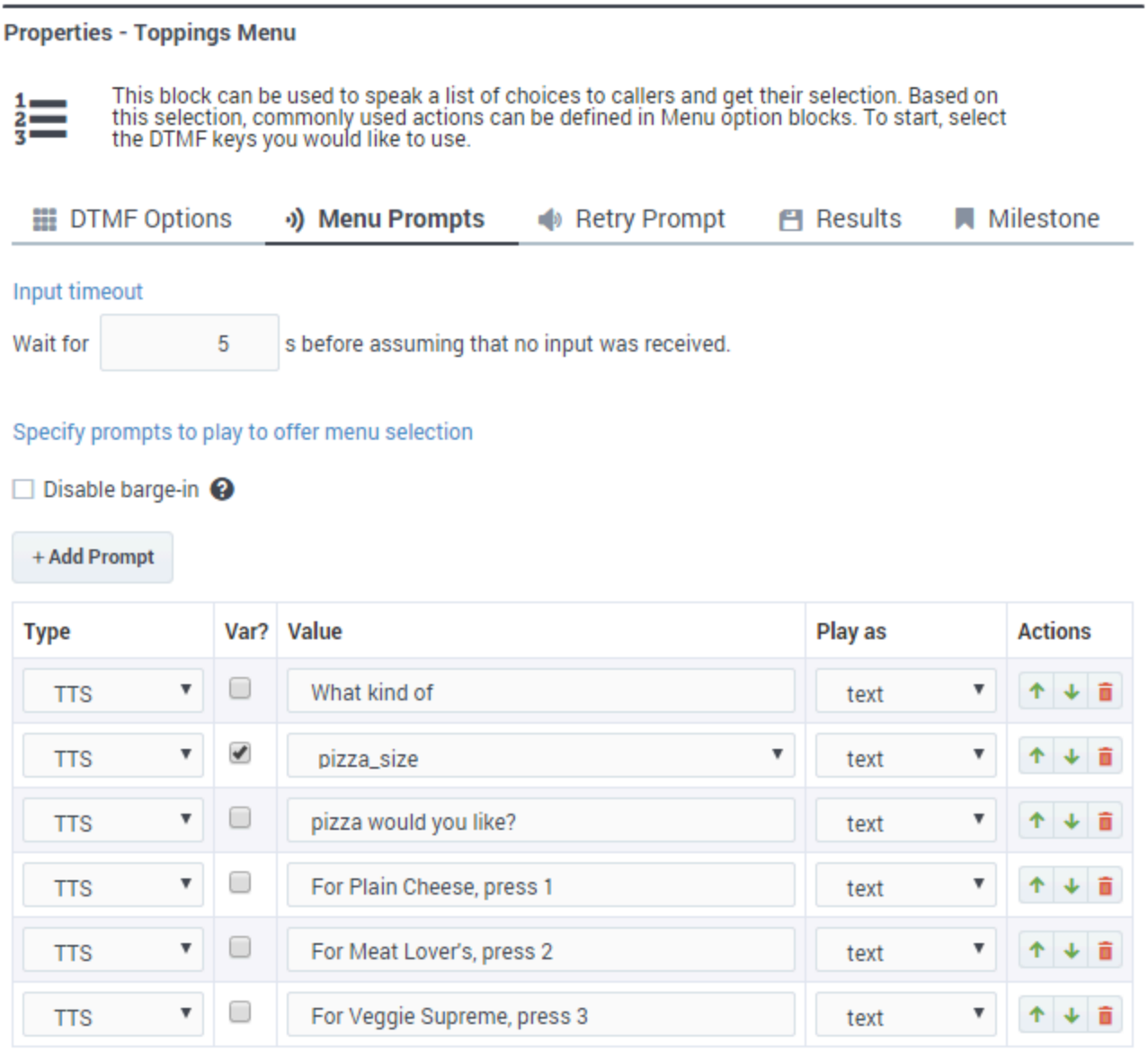


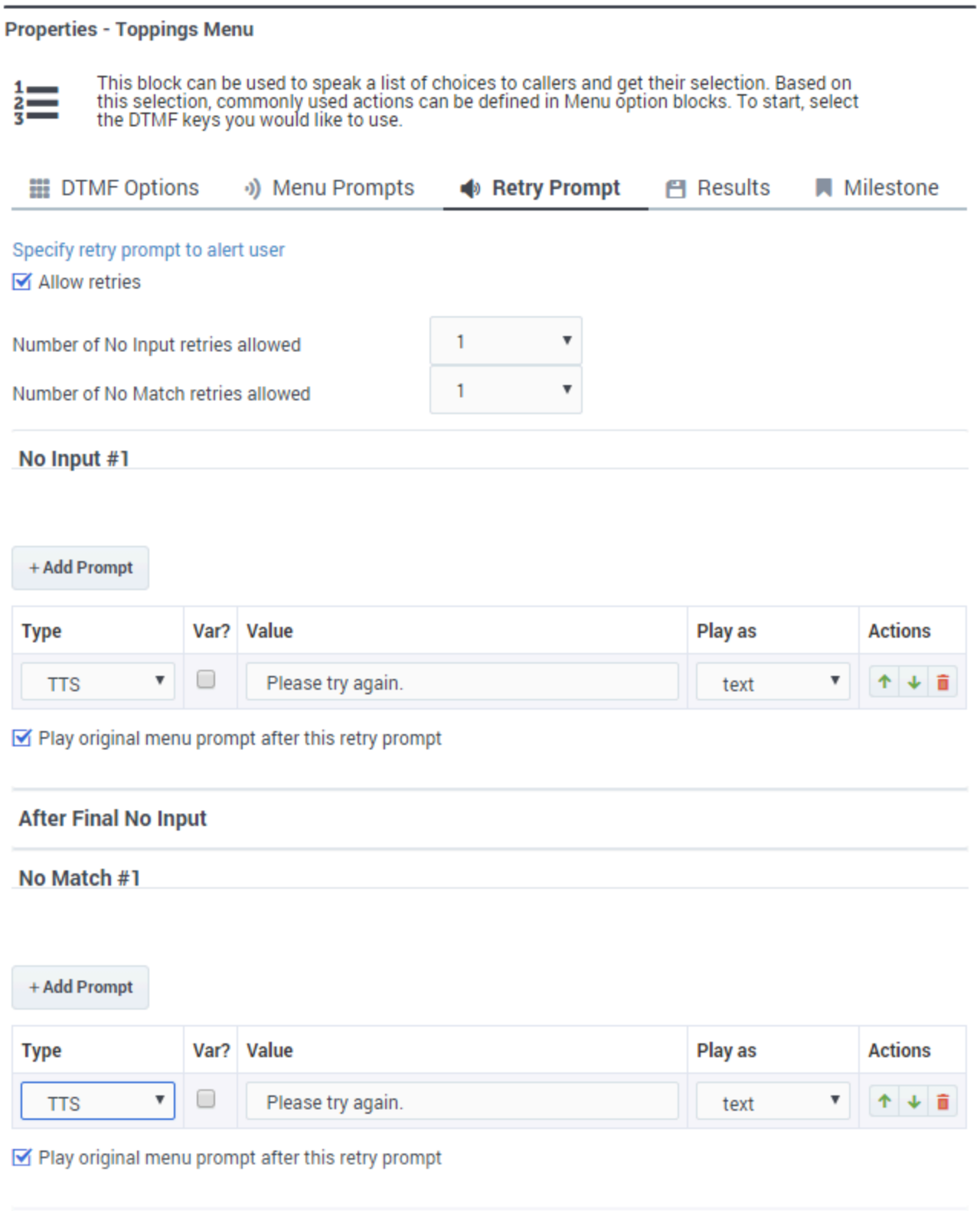
Next, let's create a menu for the shared module to present to the caller.

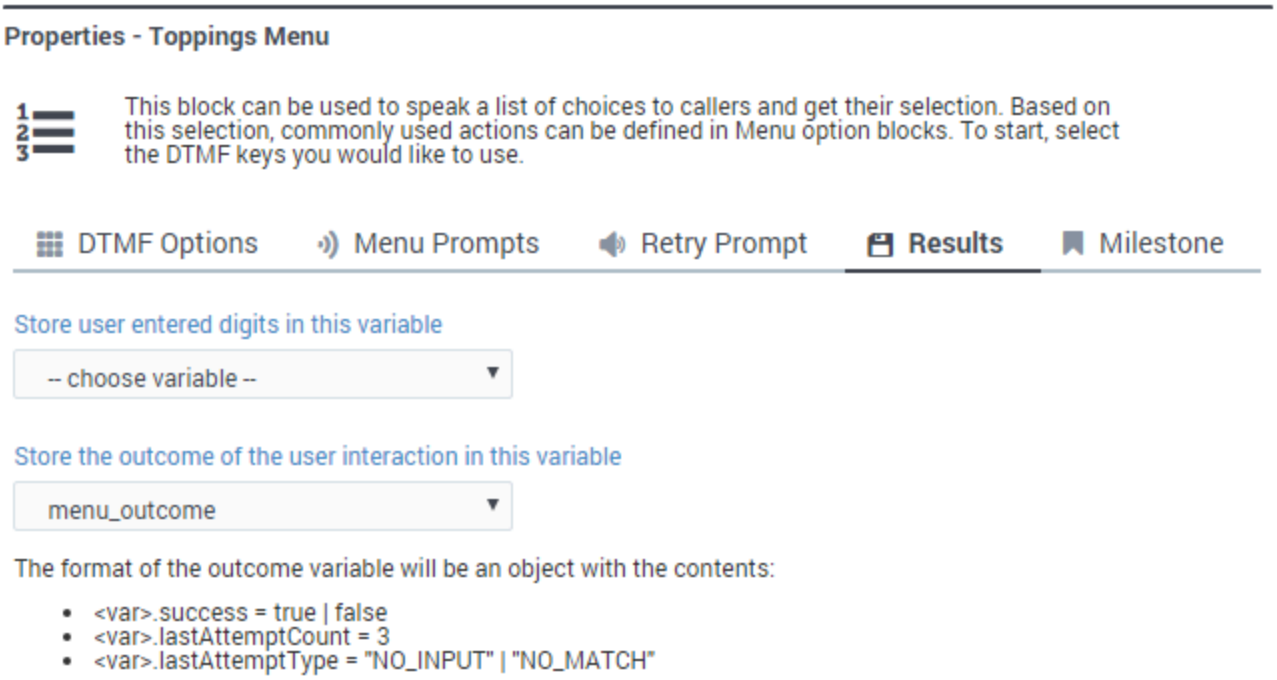
Toppings Menu

Add a **Menu** block to the **Self Service** phase and rename it to `Toppings Menu`. Configure it as shown below:


Properties - Toppings Menu
This block can be used to speak a list of choices to callers and get their selection. Based on this selection, commonly used actions can be defined in Menu option blocks. To start, select the DTMF keys you would like to use.
DTMF Options
Menu Prompts
Retry Prompt
Results
Milestone
Enable menu options for DTMF keys you would like to use.
Accept all digits
Accept only the digits set in this variable:
DTMF Key
Speech Inputs
Enabled
Option Name
1
Plain Cheese
Plain Cheese
2
Meat Lovers
Meat Lovers
3
Veggie Supreme
Veggie Supreme


Properties - Toppings Menu
This block can be used to speak a list of choices to callers and get their selection. Based on this selection, commonly used actions can be defined in Menu option blocks. To start, select the DTMF keys you would like to use.
DTMF Options
Menu Prompts
Retry Prompt
Results
Milestone
Input timeout
Wait for 5 s before assuming that no input was received.
Specify prompts to play to offer menu selection
Disable barge-in
+ Add Prompt
Type
Var?
Value
Play as
Actions
TTS
What kind of
text
TTS
pizza_size
text
TTS
pizza would you like?
text
TTS
For Plain Cheese, press 1
text
TTS
For Meat Lover's, press 2
text
TTS
For Veggie Supreme, press 3
text


Properties - Toppings Menu
This block can be used to speak a list of choices to callers and get their selection. Based on this selection, commonly used actions can be defined in Menu option blocks. To start, select the DTMF keys you would like to use.
DTMF Options
Menu Prompts
Retry Prompt
Results
Milestone
Specify retry prompt to alert user
Allow retries
Number of No Input retries allowed
1
Number of No Match retries allowed
1
No Input #1
+ Add Prompt
Type
Var?
Value
Play as
Actions
TTS
Please try again.
text
Play original menu prompt after this retry prompt
After Final No Input
No Match #1
+ Add Prompt
Type
Var?
Value
Play as
Actions
TTS
Please try again.
text
Play original menu prompt after this retry prompt

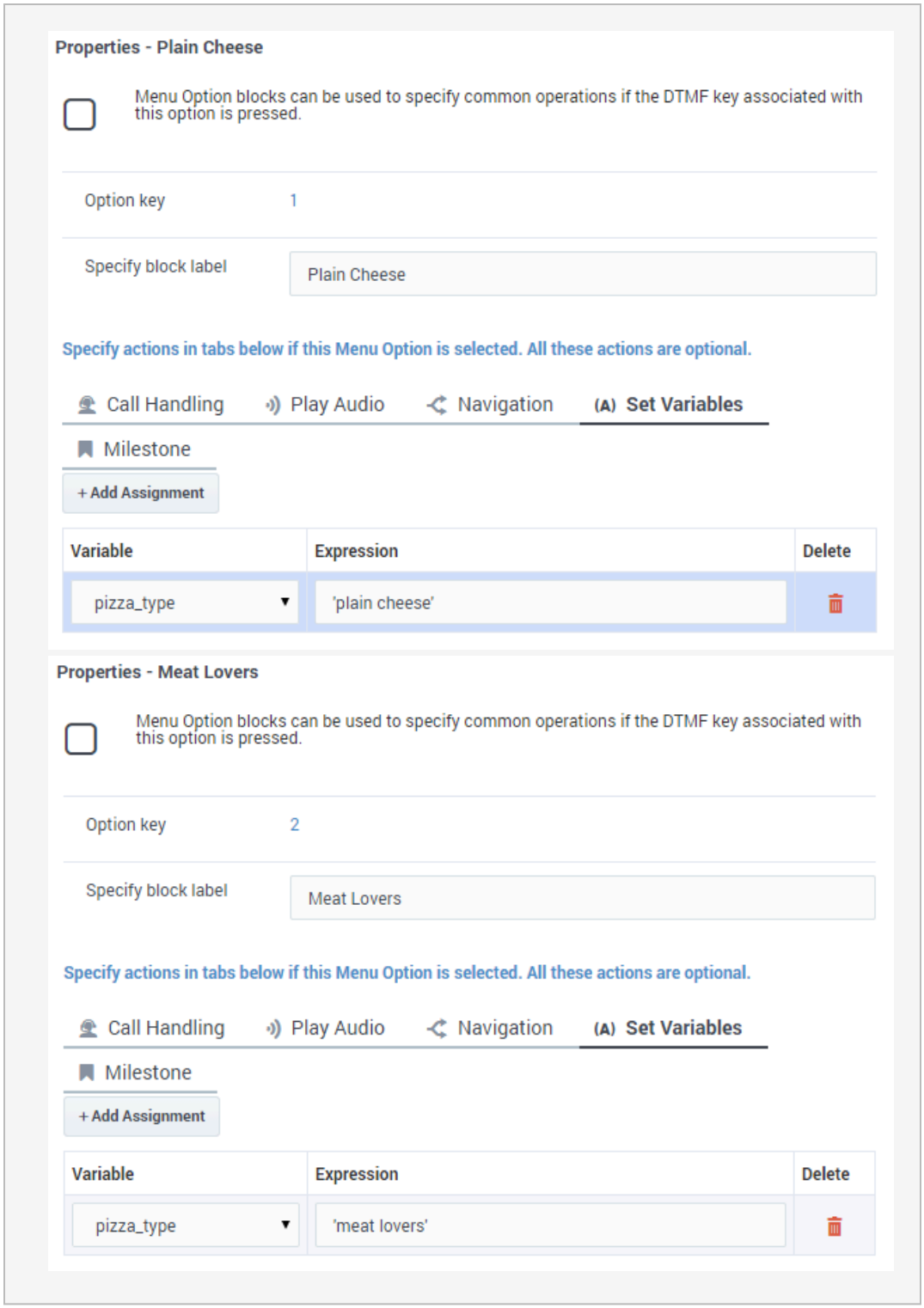


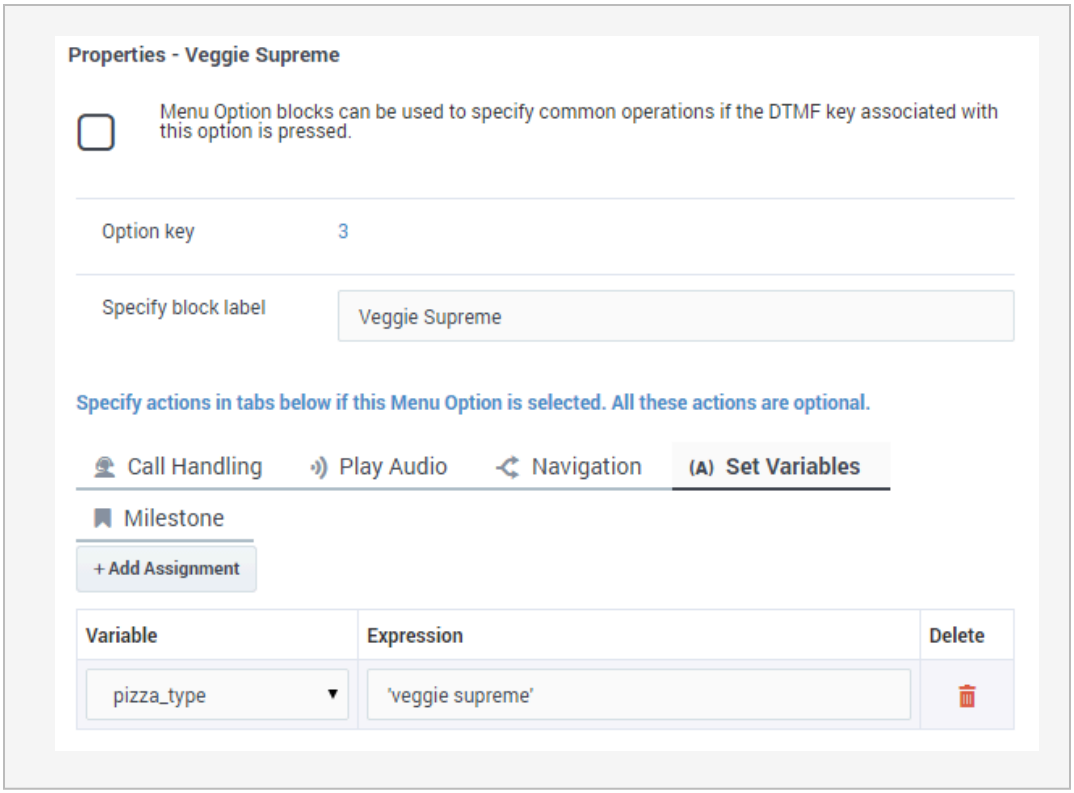
You might have noticed that we did not assign a variable to the **Store user entered digits in this variable** menu, as we do not need to store which key the caller pressed. Instead, we will store a readable string in the **pizza_type** variable that can be passed back to the application.

Click the **Plain Cheese** block and view its properties. Click the **Set Variables** tab, and then click **Add Assignment**. Select the **pizza_type** variable and enter `'plain cheese'` in the **Expression** field. This sets the **pizza_type** variable to the string `'plain cheese'` whenever the caller selects option 1 at this menu.

Repeat the above steps for the **Meat Lovers** and **Veggie Supreme** blocks and and use the strings `'meat lovers'` and `'veggie supreme'`, respectively. If you need help, click **[+] Show Tip** below.

[+] Show Tip


Properties - Plain Cheese
Menu Option blocks can be used to specify common operations if the DTMF key associated with this option is pressed.
Option key
1
Specify block label
Plain Cheese
Specify actions in tabs below if this Menu Option is selected. All these actions are optional.
Call Handling
Play Audio
Navigation
(A) Set Variables
Milestone
+ Add Assignment
Variable
Expression
Delete
pizza_type
'plain cheese'
Properties - Meat Lovers
Menu Option blocks can be used to specify common operations if the DTMF key associated with this option is pressed.
Option key
2
Specify block label
Meat Lovers
Specify actions in tabs below if this Menu Option is selected. All these actions are optional.
Call Handling
Play Audio
Navigation
(A) Set Variables
Milestone
+ Add Assignment
Variable
Expression
Delete
pizza_type
'meat lovers'



Return Block

Next, we need a **Return** block to tell the shared module to exit and return to the application. We can also use the **Return** block to assign values to any output variables that have not been updated.

> ### Tip
> A shared module also returns to the application automatically when it reaches the end of its flow, even if there is no **Return** block.

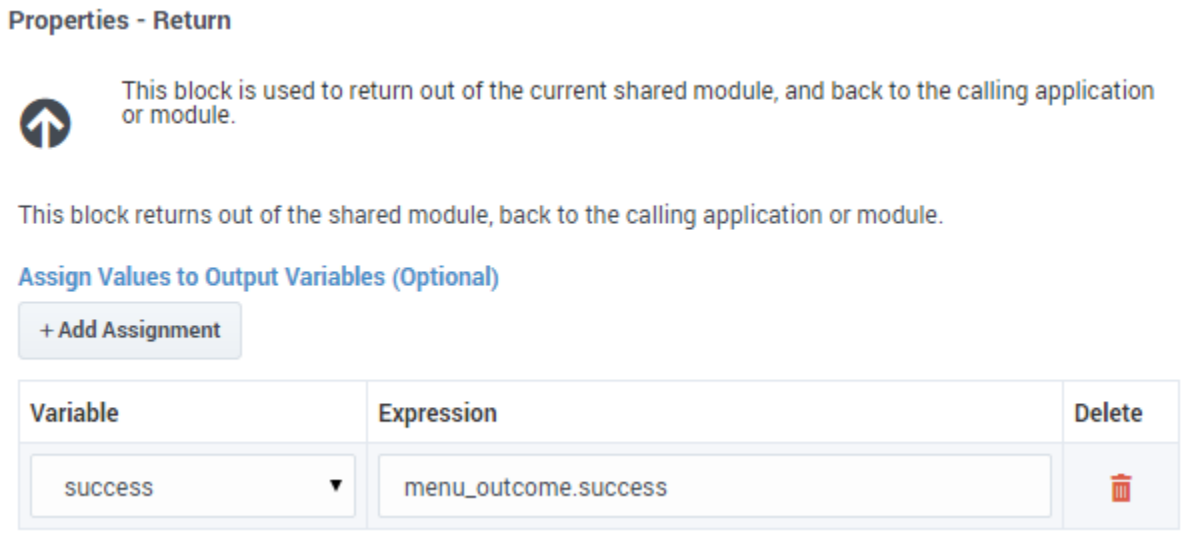
Place a **Return** block at the bottom of the **Application Flow**.

[+] Show Tip

When you add the **Return** block to the **Application Flow**, you might only be able to place the block in an indented position underneath the **Veggie Supreme** block. If so, hover over the block to make its editing icons appear on its right side, then click the green left-arrow icon to move the block to the left. This puts the **Return** block at the same level as the **Toppings**

Menu block, so that it executes after any **Toppings Menu** result.

In the **Return** block's properties, click **Add Assignment** and choose the output variable **success**. Assign it the following expression value: `menu_outcome.success`.



Saving and Versioning

Click **Save Flow** to save your work. Designer will identify validation errors, but you can ignore those for now.

You might also notice another button named **Create Version**. You click **Create Version** when you want to publish the final version of your shared module. If necessary, you can develop and publish several different versions of a shared module, and your various applications could each use different versions, or the same version, as appropriate.

Adding the Shared Module to the Application

Now that you have a shared module, let's put it in your application.

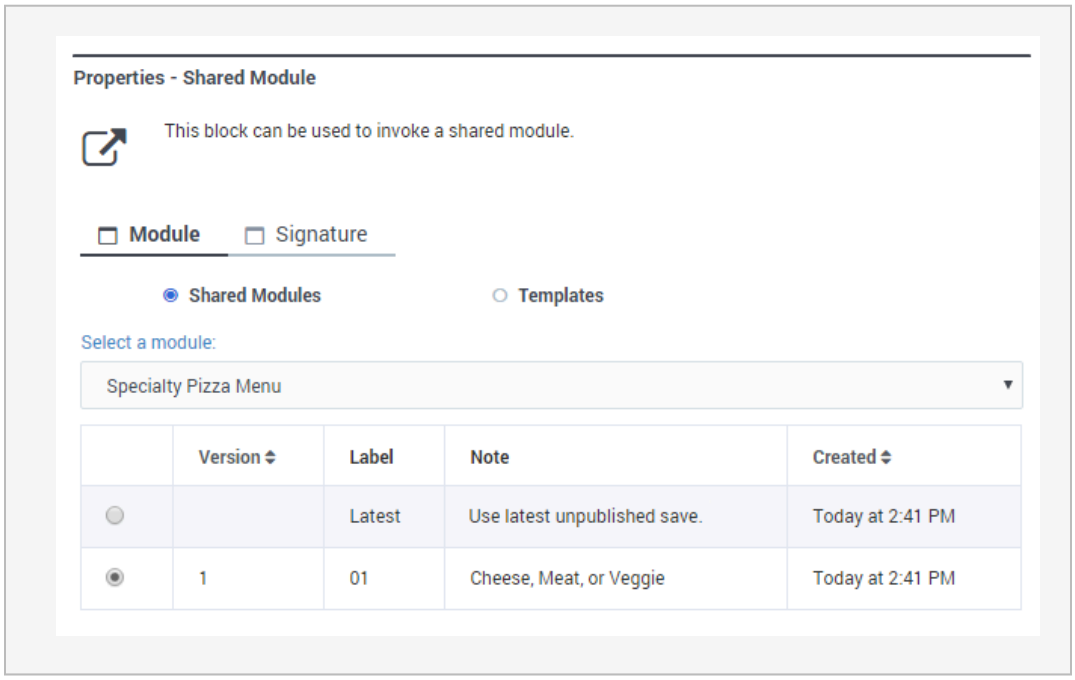
Click **Applications** in the navigation bar and click the name of your application to open it for editing.

Drag the **Shared Module** block onto the **Application Flow** and drop it beneath the **Size Result** block. If it ends up indented under the **Size Error** block, click its left-arrow icon to move it to the left, so it is in line with the **Size Result** block.

Next, view the properties of the **Shared Module** block and use the drop-down menu to select the **Specialty pizza menu** shared module. When you select a shared module, a list of its published versions appears below. Select the version that we created in the previous step (**Cheese, meat, or**

veggie).

[+] Show Tip

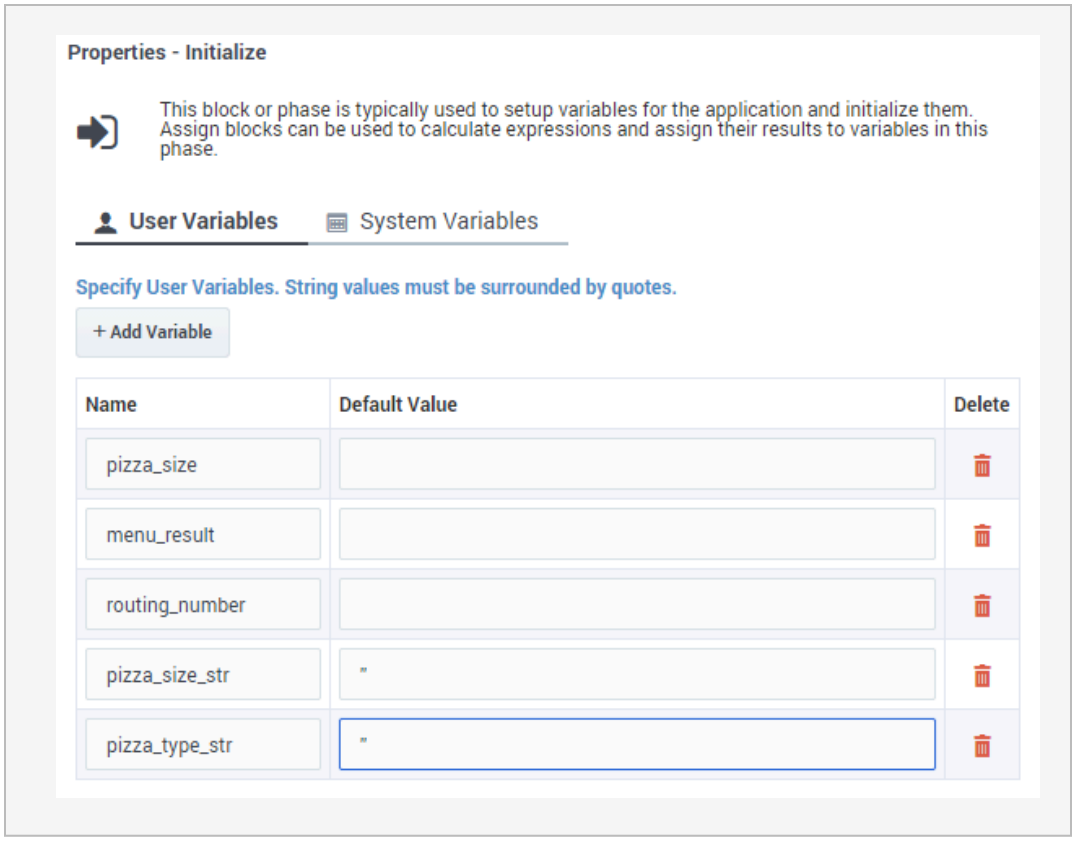


The **Signature** tabs let you set up the parameters of the shared module. As you recall, we designed the shared module to do the following:

- Input
  - **pizza_size** - Holds a string value for pizza size.
- Output
  - **success**- Holds a Boolean value to indicate whether a valid selection was made.
  - **pizza_type** - Holds a string value to describe which type of pizza was selected (if any).

We need to create new variables to hold these values. In the **Application Flow**, click the **Initialize** phase and view its properties. Add two new User Variables: `pizza_size_str`, and `pizza_type_str`. Set both default values to empty strings (`''`). To hold the Boolean return value, we can reuse the **menu_result** variable.

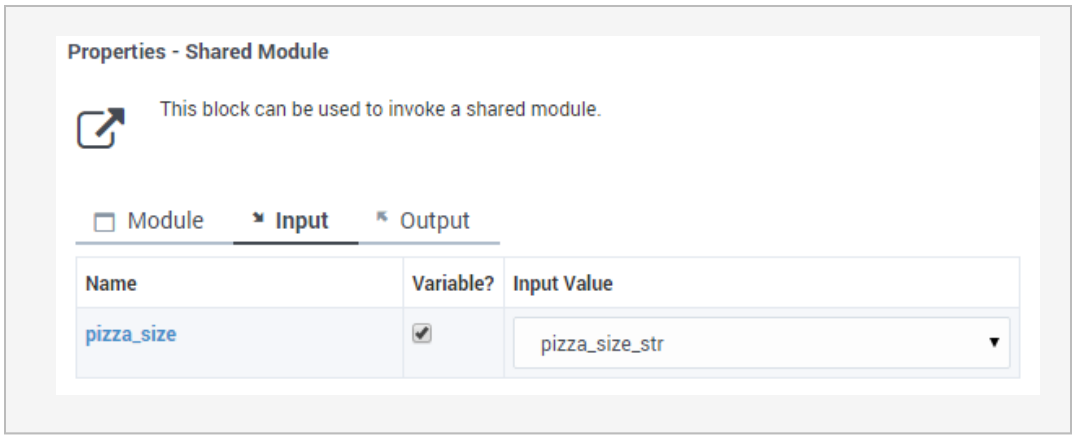
[+] Show Tip

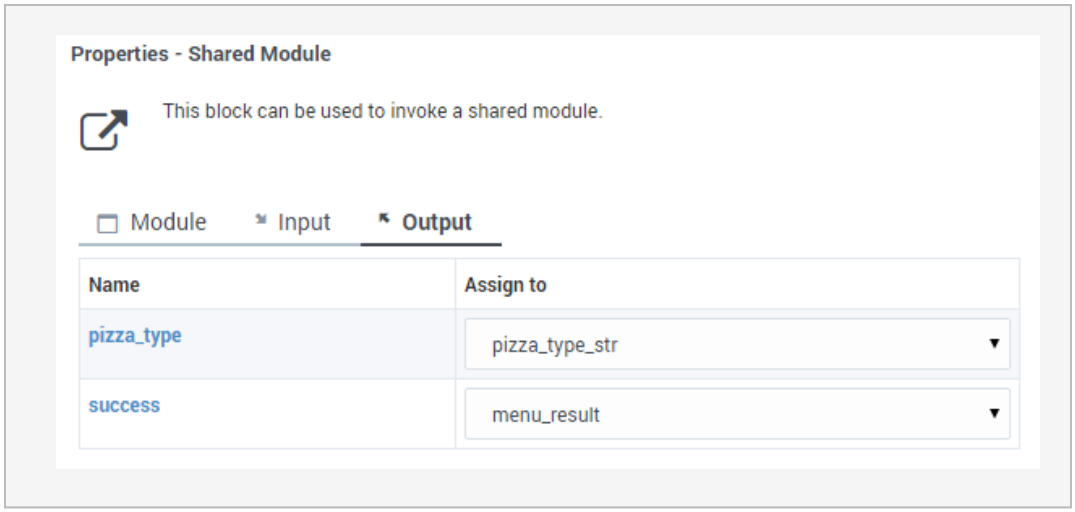


Select the **Shared Module' *and click its* Signature** tab. Select **Input Parameters** and set the default value of the **pizza_size** input parameter to the variable **pizza_size_str**.

Next, select **Output Parameters** and assign the **pizza_type** output to the **pizza_type_str** variable, and assign the **success** output to the **menu_result** variable.

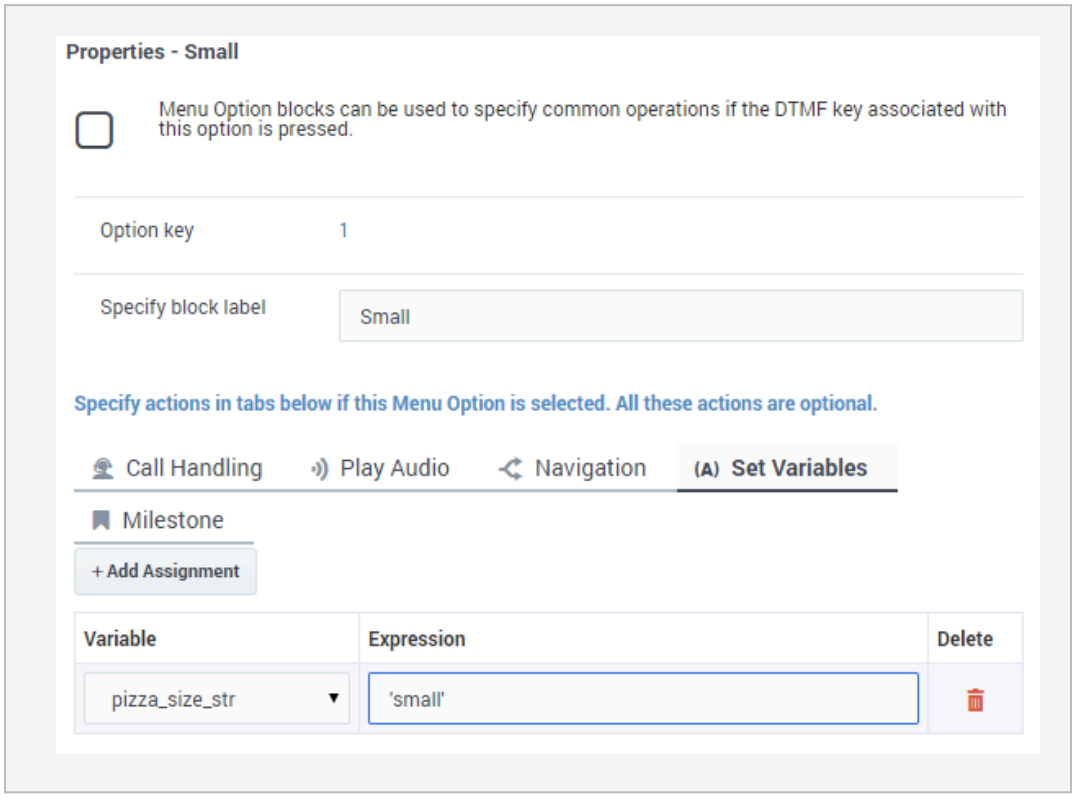
[+] Show Tip

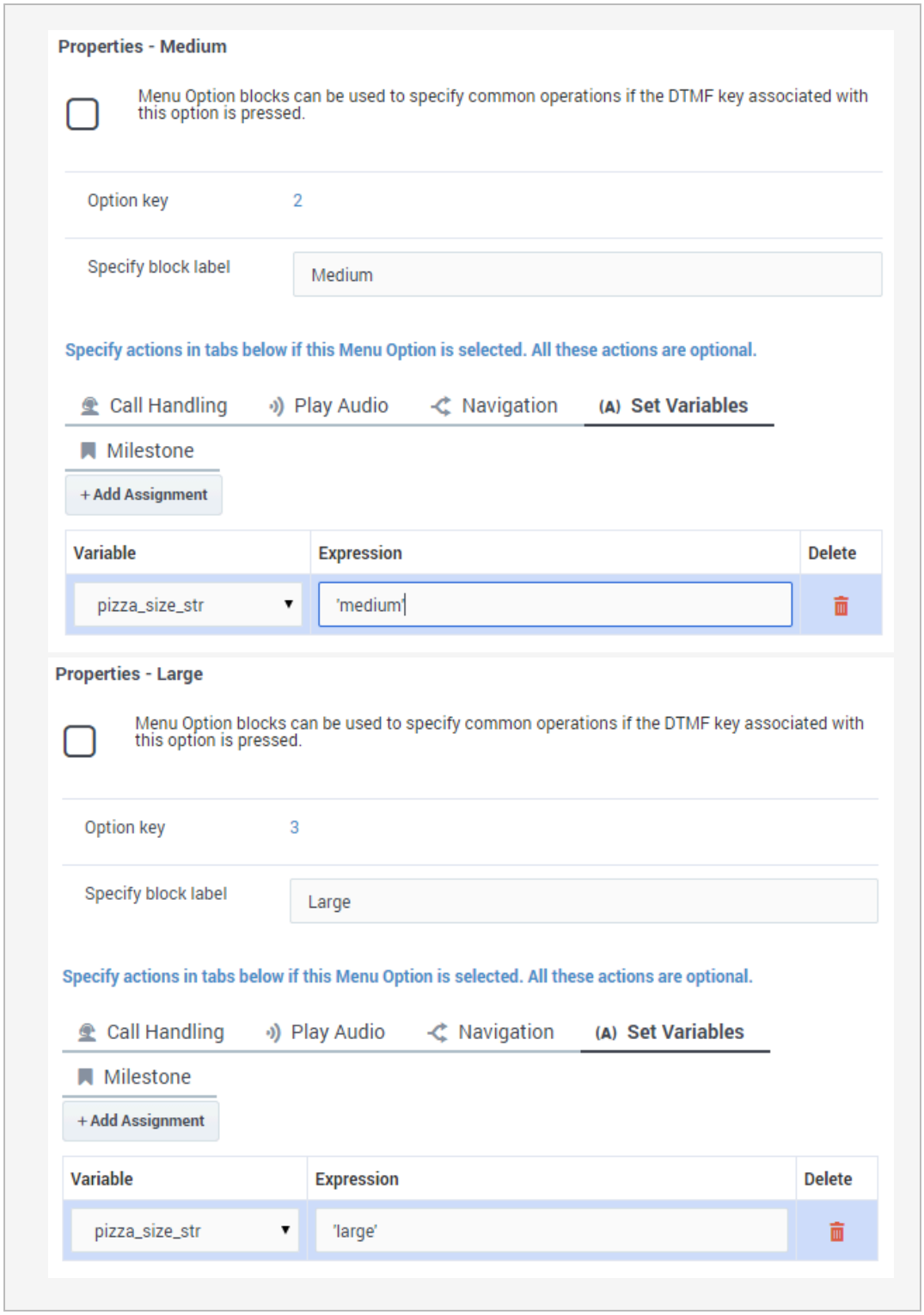




Next, we need to assign the proper string values to the **pizza_size_str** variable. For each **Small**, **Medium**, and **Large** block, click the **Set Variables** tab and assign the **pizza_size_str** variable to the value `small`, `medium`, or `large`, respectively.

[+] Show Tip



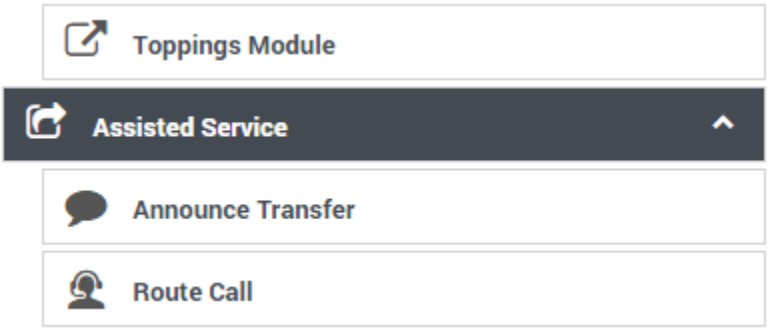


Finally, change the **Shared Module** block name to something more descriptive, such as `Toppings`

`Module`.

Handling the Result

Our application is taking shape. Next, we need to consider what happens when the caller returns from the **Toppings Module**.



Let's look at the **Application Flow**. After the caller exits the **Toppings Module** block, he will enter the **Assisted Service** phase and be unnecessarily transferred to an agent, even if he made a successful order selection in the **Self Service** phase.

We need to add the following functions:

- If the **Toppings Module** returns an error, the caller is directed to the **Assisted Service** phase so they can speak to an agent.
- If the **Toppings Module** returns a valid result, the order is considered complete and we play a wrap-up message to the caller and end the call.

To accomplish this, add a **Segmentation** block below the **Toppings Module** block. Change the name of this **Segmentation** block to **Toppings Result**.

In the **Toppings Result** block properties, add two conditions:

- **Toppings error** - `menu_result == false` (This condition executes if the caller did not give a valid response in the shared module.)
- **Order complete** - `true`

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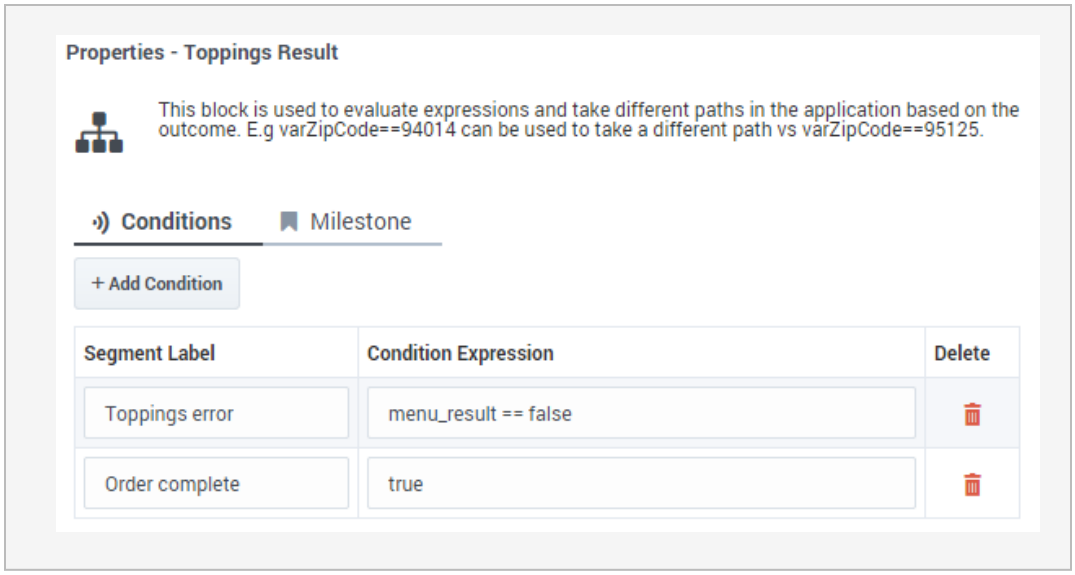
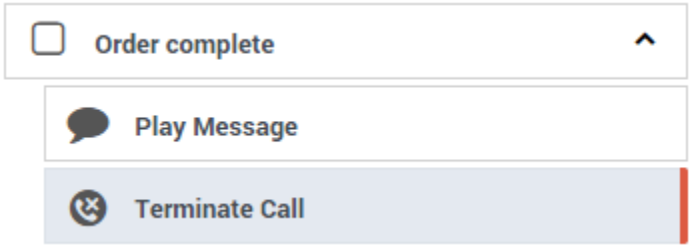


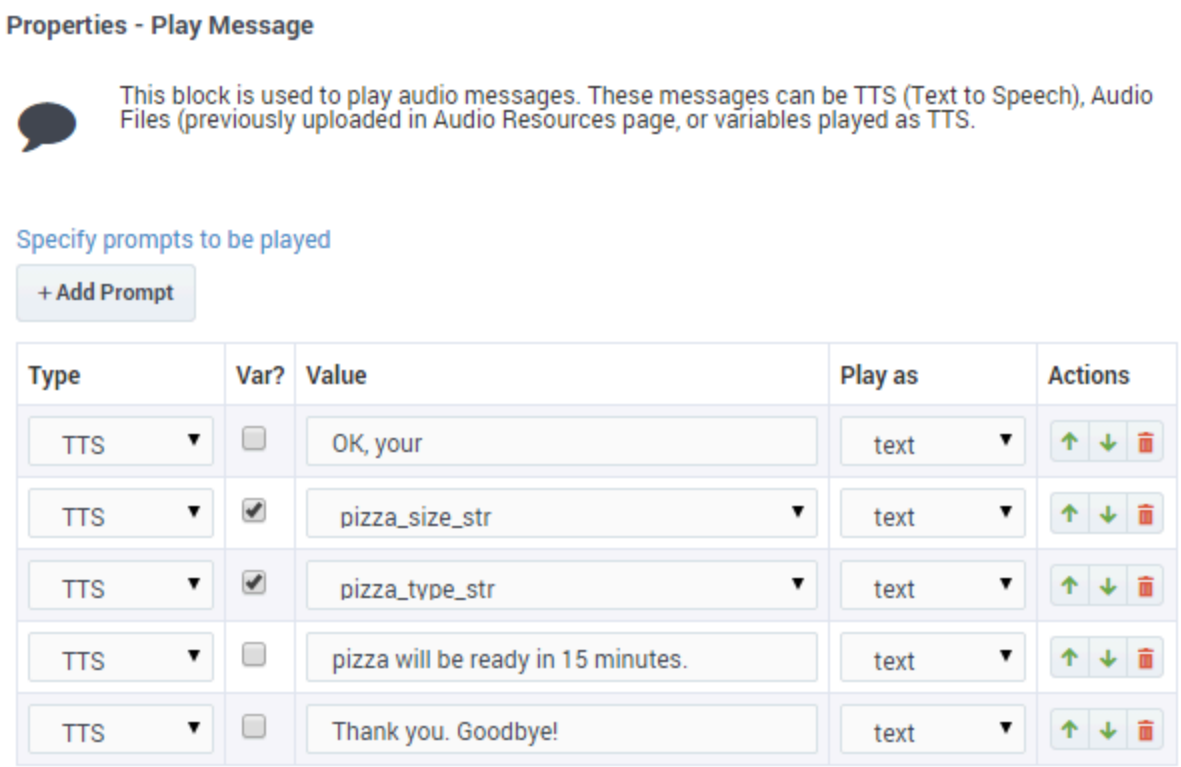
When a **Segmentation** block is executed, its conditions are evaluated in order from the top. The first condition that is satisfied is executed, and no further conditions are evaluated. In our **Toppings Result** block, if the first condition evaluates to true, **Toppings error** is executed. Otherwise, the next condition is evaluated. In our case, we want the last condition to execute whenever it is reached, so we set the expression to `true`.

In the **Toppings Error** block, click the **Navigation** tab and set the target block to **Assisted Service**. This transfers the call to an agent.

In the **Order complete** block, we want to play a message and then end the call. Place a **Play Message** block under the **Order complete** block so that it is indented inside that block. Next, place a **Terminate Call** block under the **Play Message** block so that it is lined up at the same indentation level as the **Play Message** block. Since these two blocks are indented blocks (child blocks) underneath the **Order complete** block (parent block), they execute in top-down order only if the **Order complete** block executes.



Configure the **Play Message** block as shown below:



The **Terminate Call** block has no property settings - it signals the application to jump to the **Finalize** phase. You might notice that the **Terminate Call** block has a red bar on its right edge, to indicate that it causes the call to end, bypassing any blocks that might be below it.

Click **Publish** and call your application to test it.

Applying What You Have Learned

You now have a solid foundation for understanding how to use Genesys Designer to build and deploy voice applications.

Refer to the Designer Help to learn more about blocks, Shared Modules, Audio Resources, and more.