Microsoft Copilot Studio

Lab 09: Generative orchestration

Hands-on lab step-by-step

January 2025

UDPP Copilot Studio Workshop

Contents

Microsoft Copilot Studio

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Goals for this lab

After this lab you will be able to: • Understand the basics of generative orchestration • Learn how to generate a consolidated generative orchestration response.	The time to complete this lab is [25] minutes.

Prerequisites

Labs have been designed to be completed with only a Microsoft Copilot Studio trial. You can start most labs without having to complete the previous module but note that some exercises may reference previous labs. To fully experience the features and functionality of the product, it is recommended that you make sure to complete all pre-requisites below before starting this lab.

For this lab you need:

- A computer with internet access.
- Be able to log into the provided Microsoft tenant (some companies enforce users to only connect to their company tenant) or your own enterprise tenant with a Copilot Studio User License (or trial)
- **Complete the "Order Pizza" from the lab "Using topic inputs"**
- **Generative AI should be set to "Generative" (in Settings, Generative AI)**

Generative orchestration

Generative orchestration is a Microsoft Copilot Studio feature that enables agents to seamlessly **select and sequence (chain) multiple topics, actions, and knowledge sources** in response to user queries, without relying on predefined trigger phrases or explicit entities. This approach allows the agents to **generate more natural and contextually relevant interactions** by dynamically determining the most appropriate responses based on the user's input.

Generative orchestration helps improve the **accuracy** and **relevance** of responses by adjusting each step in the process dynamically according to the evolving context or results.

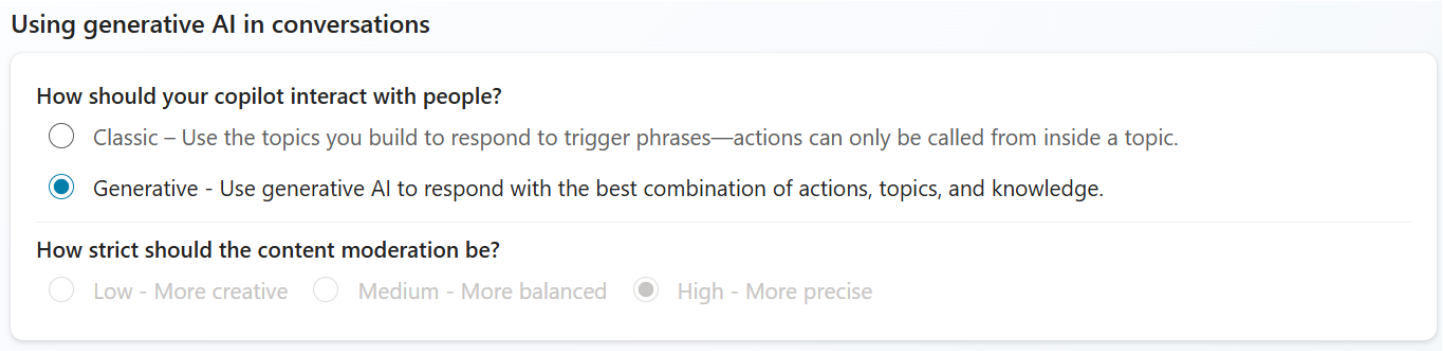
In this lab, we will create a new topic for ordering donuts, similar to the pizza ordering topic from the previous lab.

We will show how generative orchestration can understand and map **multiple intents** expressed by the user in a single utterance, enabling the agent to call (chain) multiple topics and slot fill all the relevant variables in a **single plan.**

Task 1: Enable Generative orchestration in conversations

Here are the steps to configure your Copilot to use **Generative mode** for the orchestration (if needed):

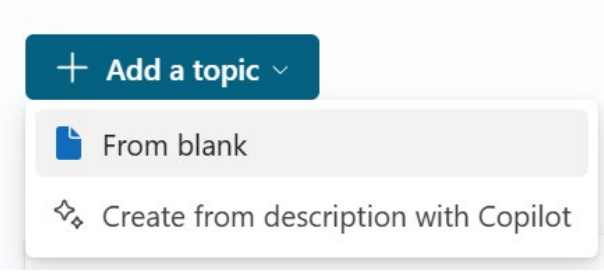
1. Go to **Settings**
2. Select **Generative AI**
3. Select **Generative** for **How should your agent interact with people?**



4. **Save**
5. Close Settings by clicking the **X** in the upper right-hand corner

Task 2: Create Blank Topic

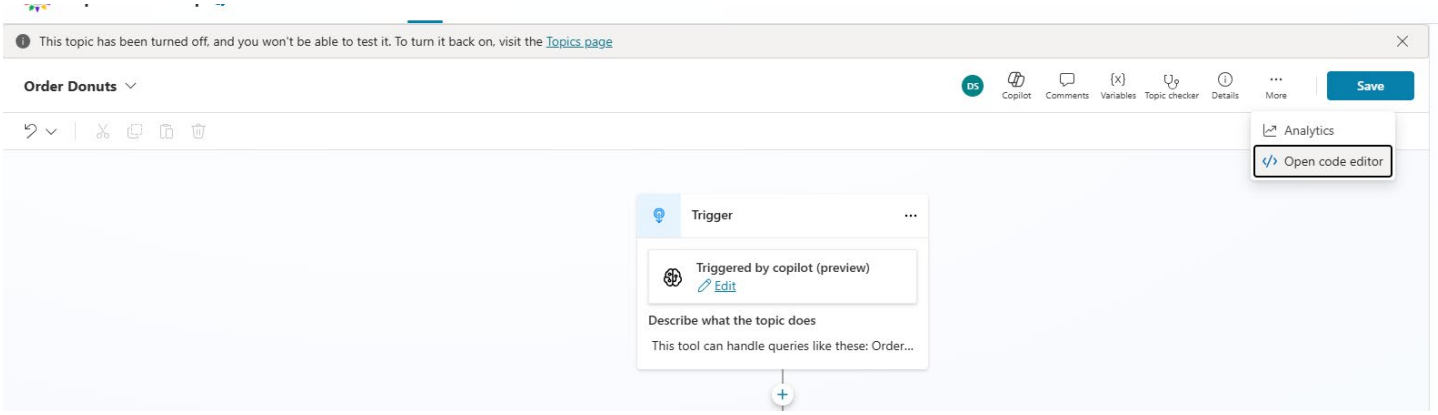
1. Go to **Topics** and select **Add Topic**
2. Select **From blank**



3. Name the topic `Order Donuts`

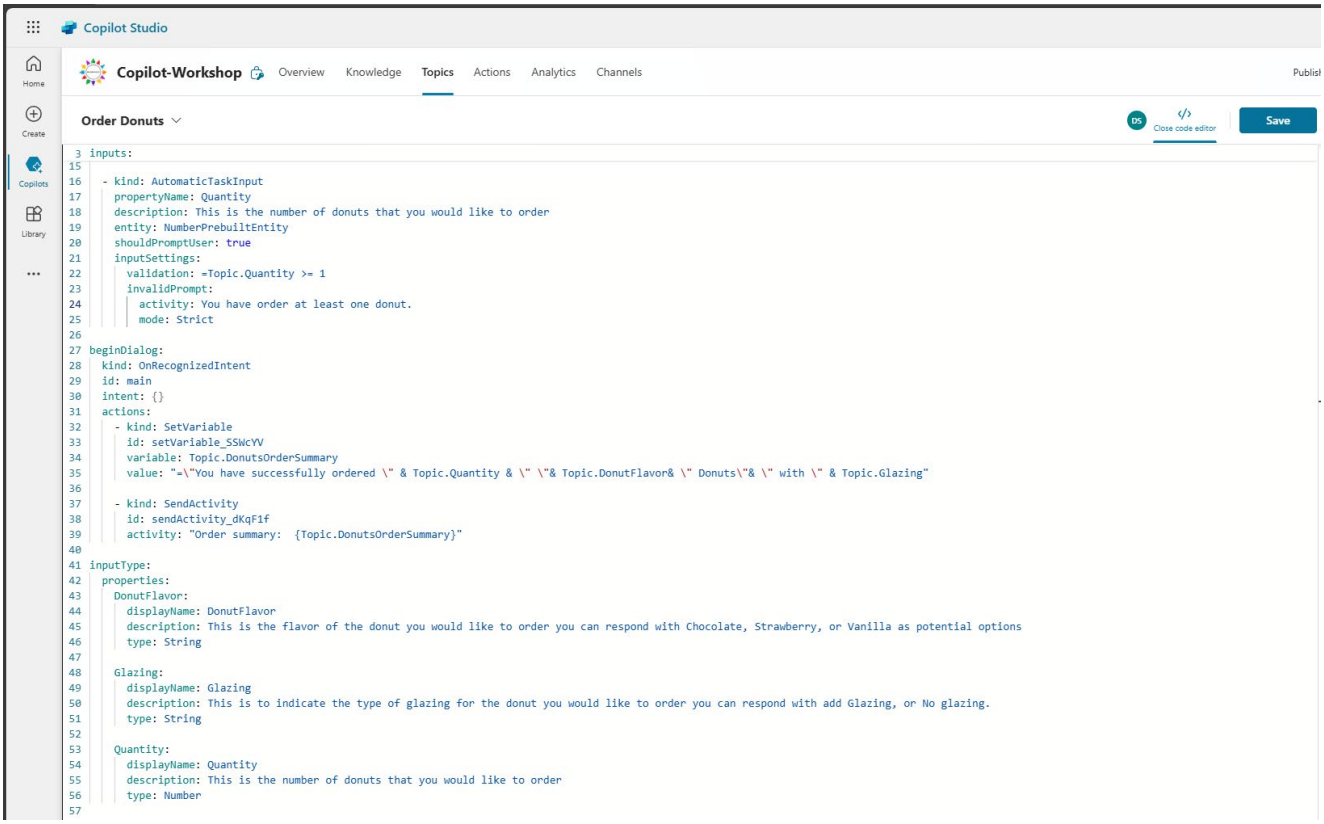
Task 3: Open Code editor

1. Go to **More** and select **</>Open code editor**



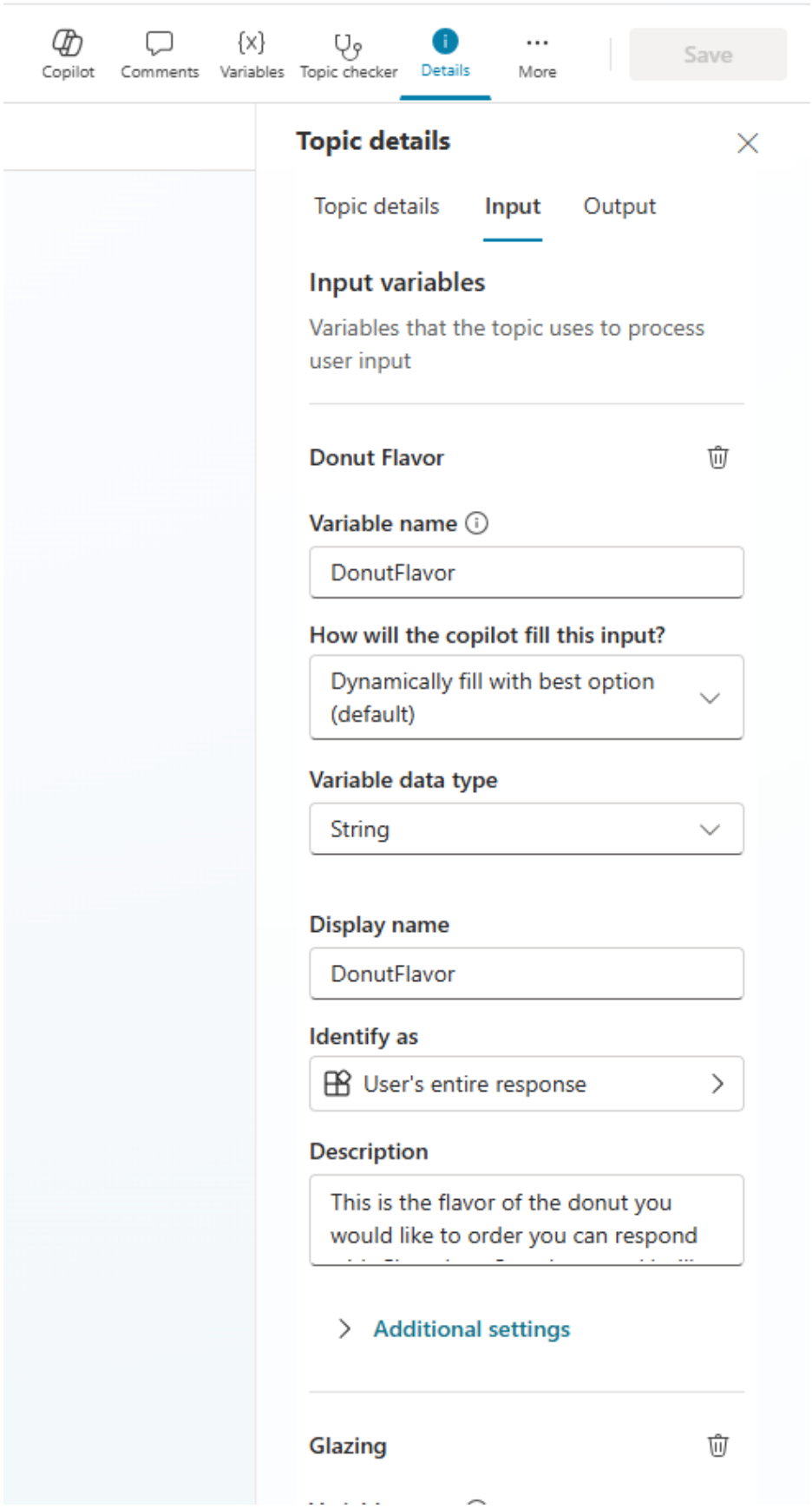
2. Copy and paste the content below into the Code editor window and Click **Save** the topic content

```
kind: AdaptiveDialog
modelDescription: "This tool can handle queries like these: Order Donuts, I would like a donut, Can I get donuts"
inputs:
  - kind: AutomaticTaskInput
    propertyName: DonutFlavor
    description: This is the flavor of the donut you would like to order you can respond with Chocolate, Strawberry,
or Vanilla as potential options
    entity: StringPrebuiltEntity
    shouldPromptUser: true

  - kind: AutomaticTaskInput
    propertyName: Glazing
    description: This is to indicate the type of glazing for the donut you would like to order you can respond with
add Glazing, or No glazing.
    entity: StringPrebuiltEntity
    shouldPromptUser: true

  - kind: AutomaticTaskInput
    propertyName: Quantity
    description: This is the number of donuts that you would like to order
    entity: NumberPrebuiltEntity
    shouldPromptUser: true
    inputSettings:
      validation: =Topic.Quantity >= 1
      invalidPrompt:
        activity: You have order at least one donut.
        mode: Strict

beginDialog:
  kind: OnRecognizedIntent
  id: main
  intent: {}
  actions:
    - kind: SetVariable
      id: setVariable_SSWcYV
      variable: Topic.DonutsOrderSummary
      value: "=\"You have successfully ordered \" & Topic.Quantity & \" \"& Topic.DonutFlavor& \" Donuts\"& \" with
\" & Topic.Glazing"

    - kind: SendActivity
      id: sendActivity_dKqF1f
      activity: "Order summary:  {Topic.DonutsOrderSummary}"

inputType:
  properties:
    DonutFlavor:
      displayName: DonutFlavor
      description: This is the flavor of the donut you would like to order you can respond with Chocolate,
Strawberry, or Vanilla as potential options
      type: String

    Glazing:
      displayName: Glazing
      description: This is to indicate the type of glazing for the donut you would like to order you can respond
with add Glazing, or No glazing.
      type: String

    Quantity:
      displayName: Quantity
      description: This is the number of donuts that you would like to order
      type: Number

outputType:
  properties:
    DonutsOrderSummary:
      displayName: DonutsOrderSummary
      type: String
```

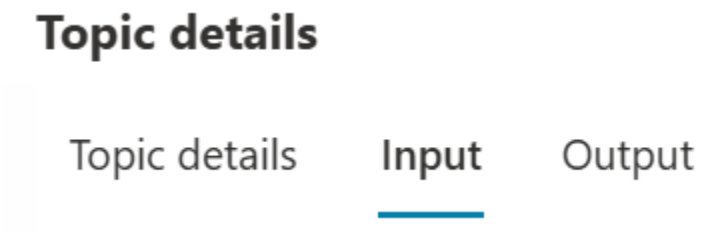


Task 4: Check created topic Inputs and Outputs

1. In the navigation menu, select **Details**



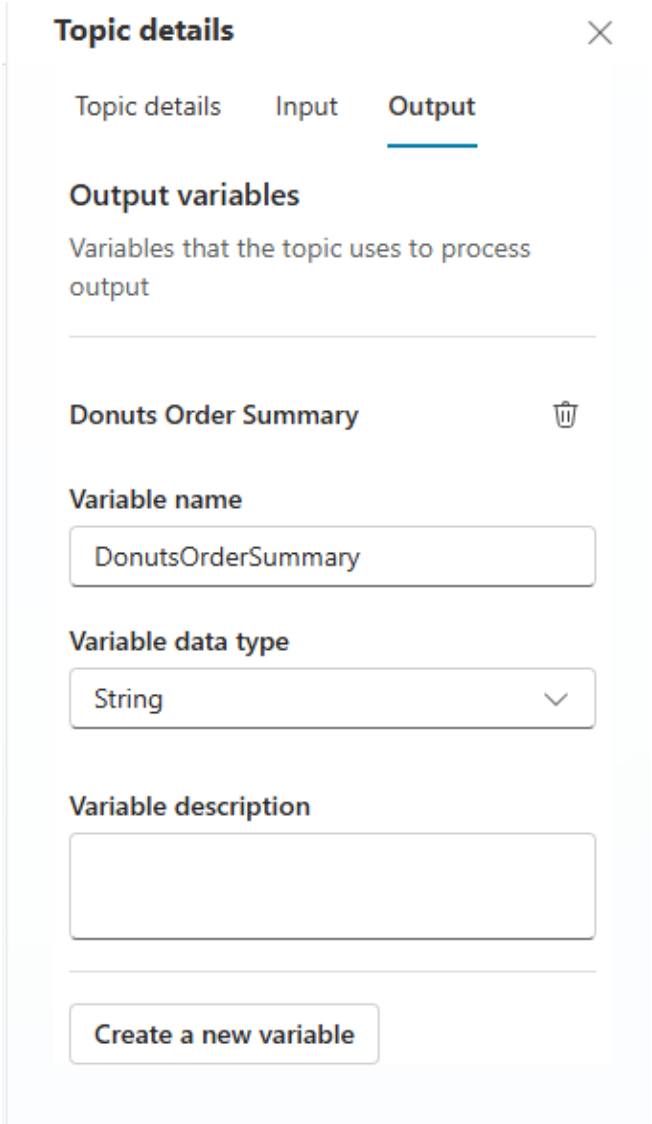
2. Then select **Input**.



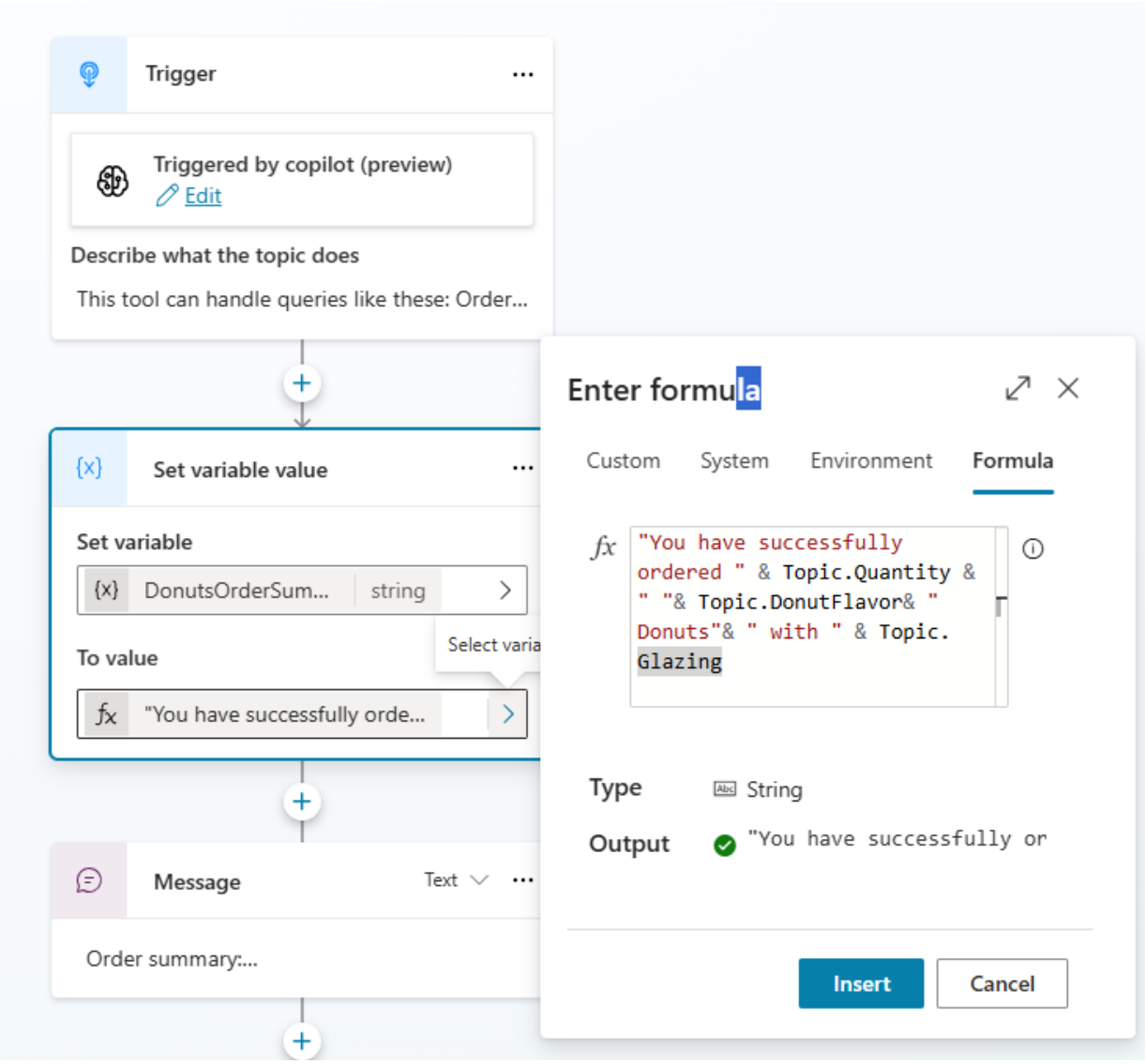
Notice the three input variables and their description
DonutFlavor, Glazing, and Quantity

3. Select **Output**.

Notice the Output variable **DonutsOrderSummary**



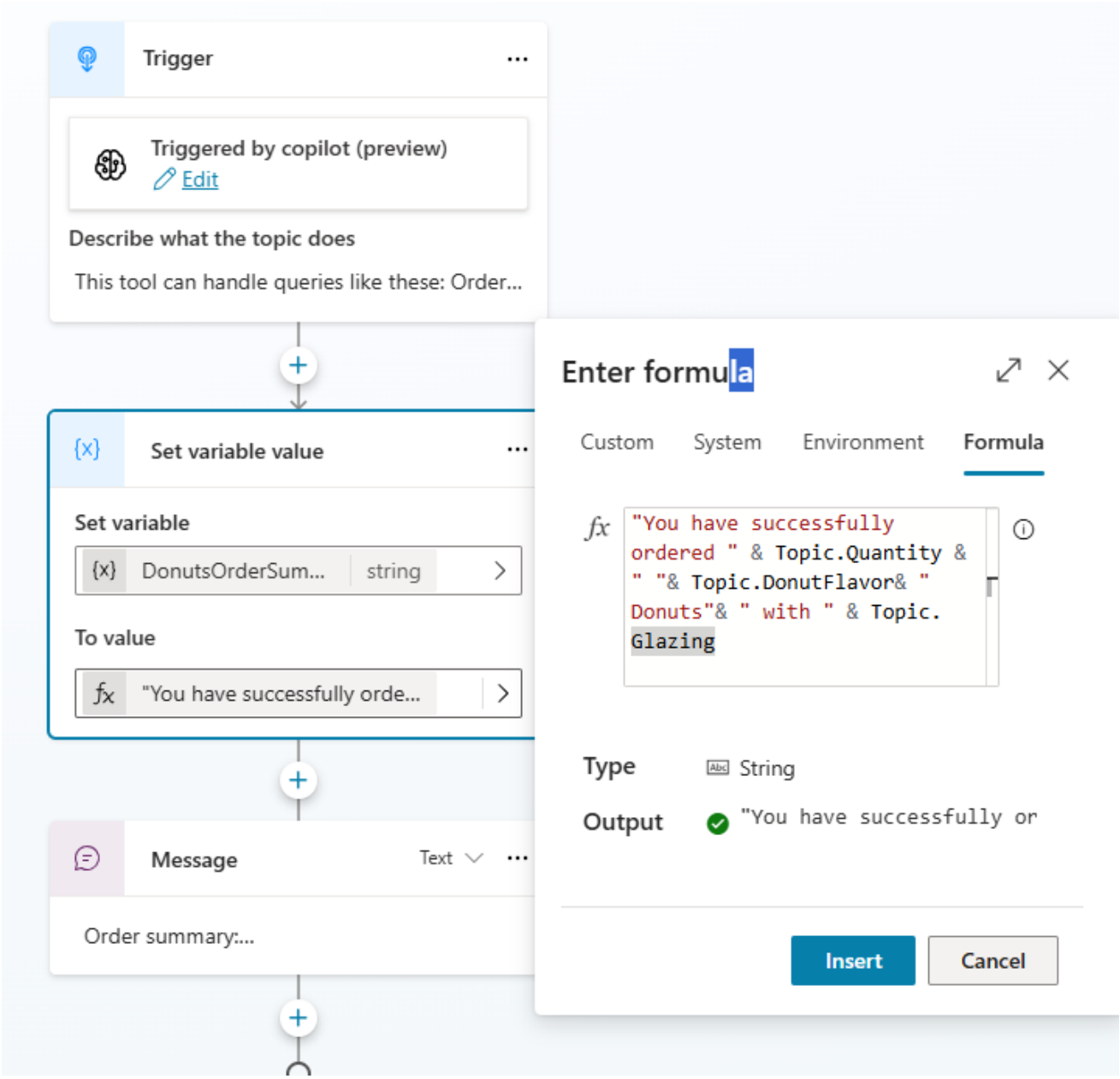
4. Click on the Select variable > under Set variable value node → To Value



5. Notice the set variable value in the Formula box

```
"You have successfully ordered" & Topic.Quantity & " "&
Topic.DonutFlavor& " Donuts"& " with" & Topic.Glazing
```

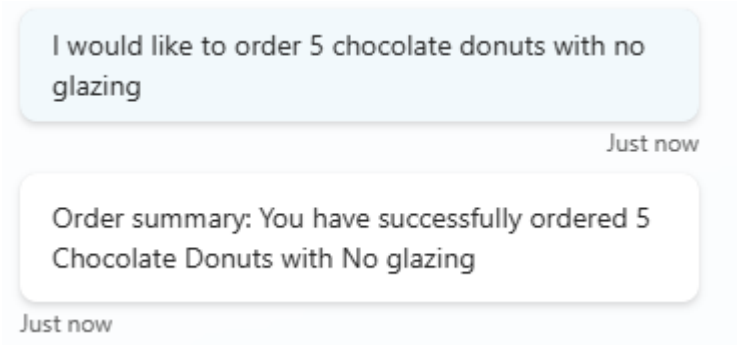
6. Click **Cancel**



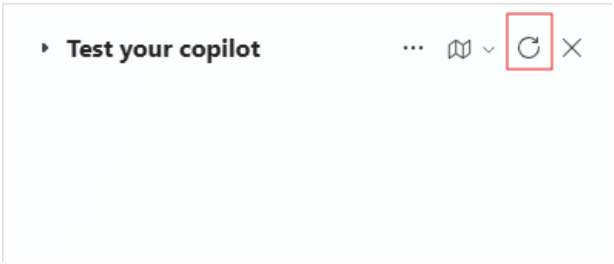
Task 5: Test your topic

1. Try to order a donut

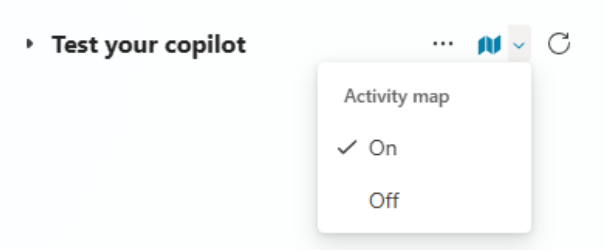
```
I would like to order 5 chocolate donuts with no glazing
```



2. Restart the conversation in the test pane to make sure the variables are reset.



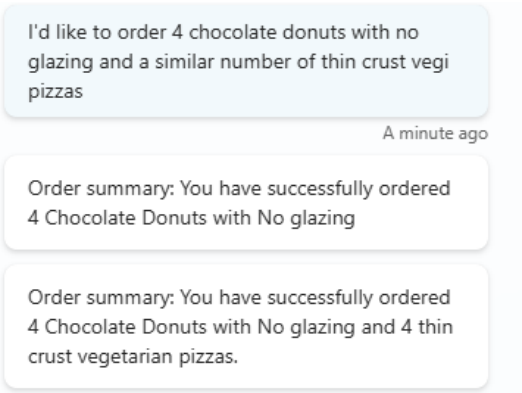
3. Turn the Activity map On



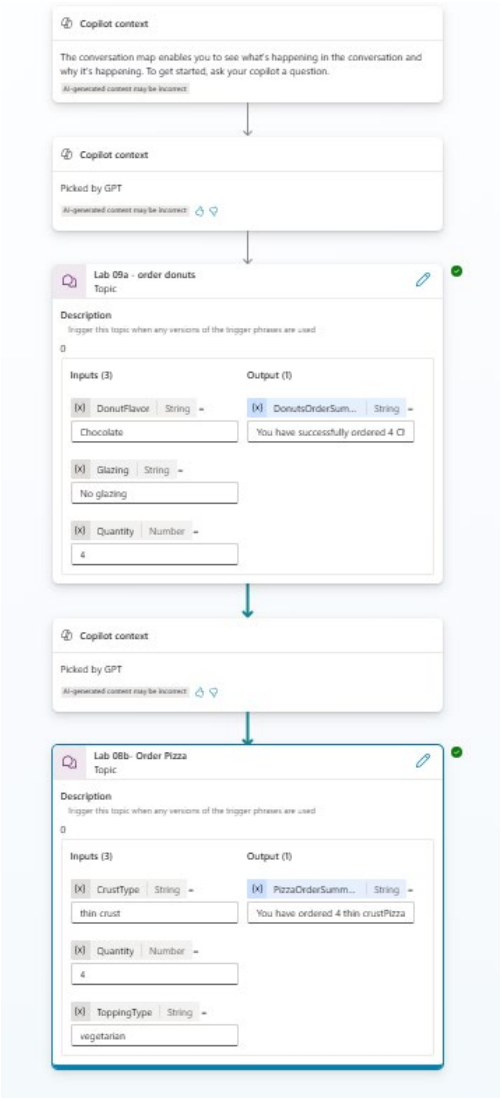
4. Try to order a donuts and pizza at the same time

```
I'd like to order 4 chocolate donuts with no glazing and a similar
number of thin crust vegi pizzas
```

5. Copilot will execute both orders and will respond with two separate summary messages

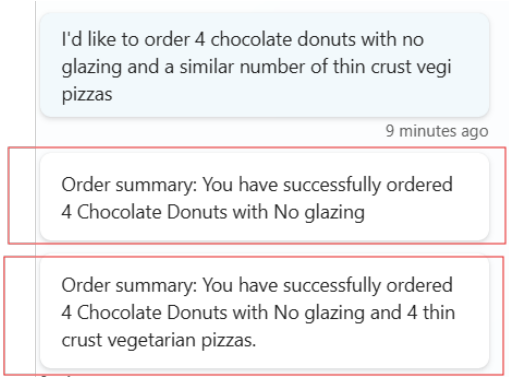


6. Notice in the planner window, the Copilot has recognized the two separate intents and mapped each intent to the corresponding topic and filled in all the input variables seamlessly.

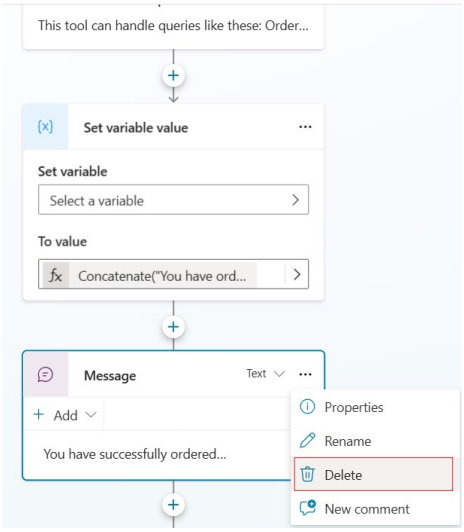
7. 

Task 6: Fine tune and consolidate the generated answer

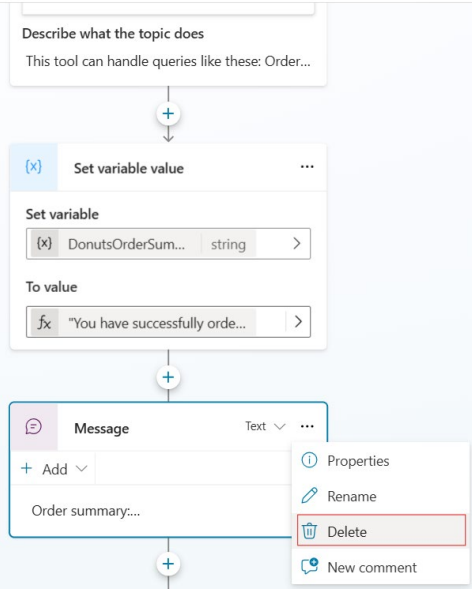
1. As we noticed, Copilot has generated two separate answers each based on the message node in the Order Donut and Order Pizza topics. But what do we need to do to generate a consolidated answer?



2. Select the **Order Pizza** topic and delete the message node

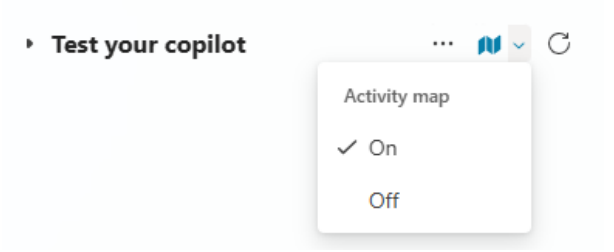


3. Select the **Order Donuts** topic and delete the message node



4. Restart the conversation in the test pane to make sure the variables are reset.

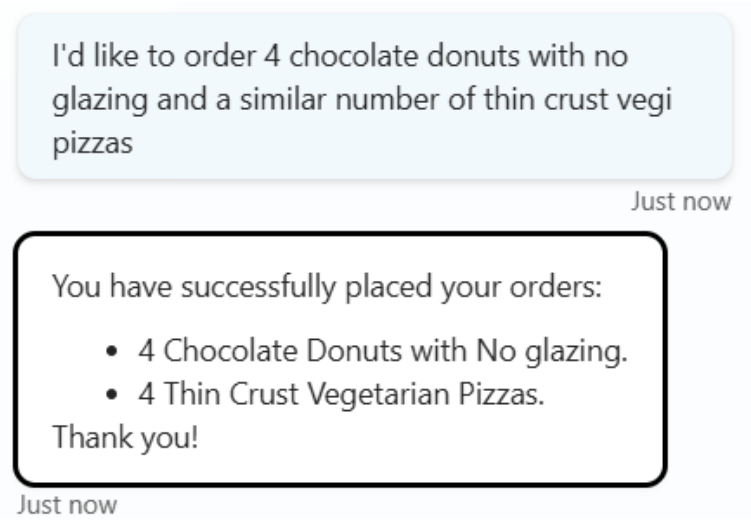
5. Turn the Activity map On



6. Try to order a donuts and pizza at the same time

```
I'd like to order 4 chocolate donuts with no glazing and a similar
number of thin crust vegi pizzas
```

7. Notice the consolidated response that Copilot generated this time

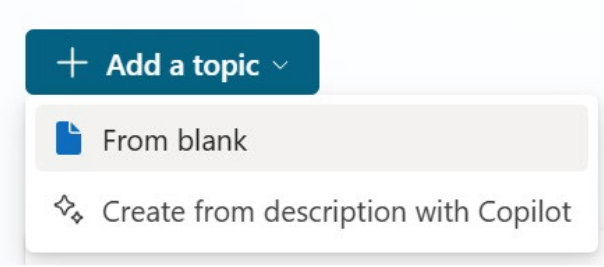


Task 6: End of conversation

1. Note that no feedback question is asked after the generated answer is posted, which indicates that the End of Conversation topic is not called.

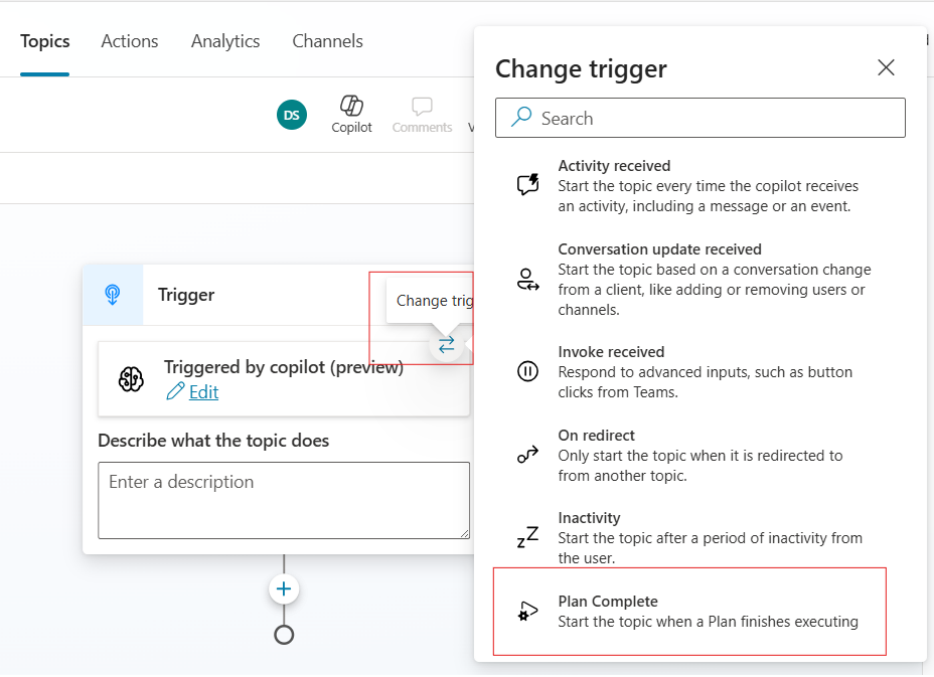
2. Go to **Topics** and select **Add Topic**

3. Select **From blank**

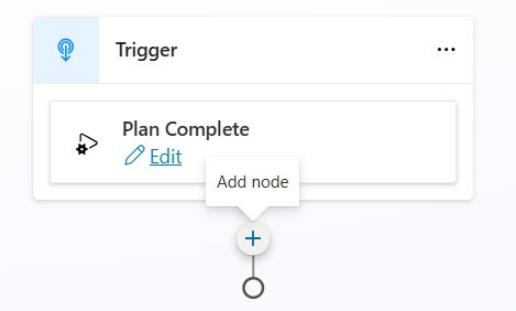


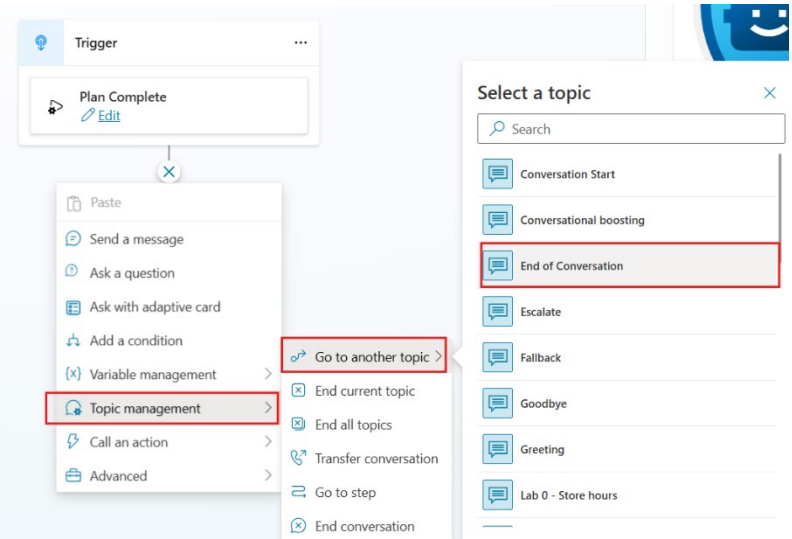
4. Name the topic `Plan Complete`

5. Click on the **"Change trigger**" icon and then scroll down and select **"Plan Complete"**

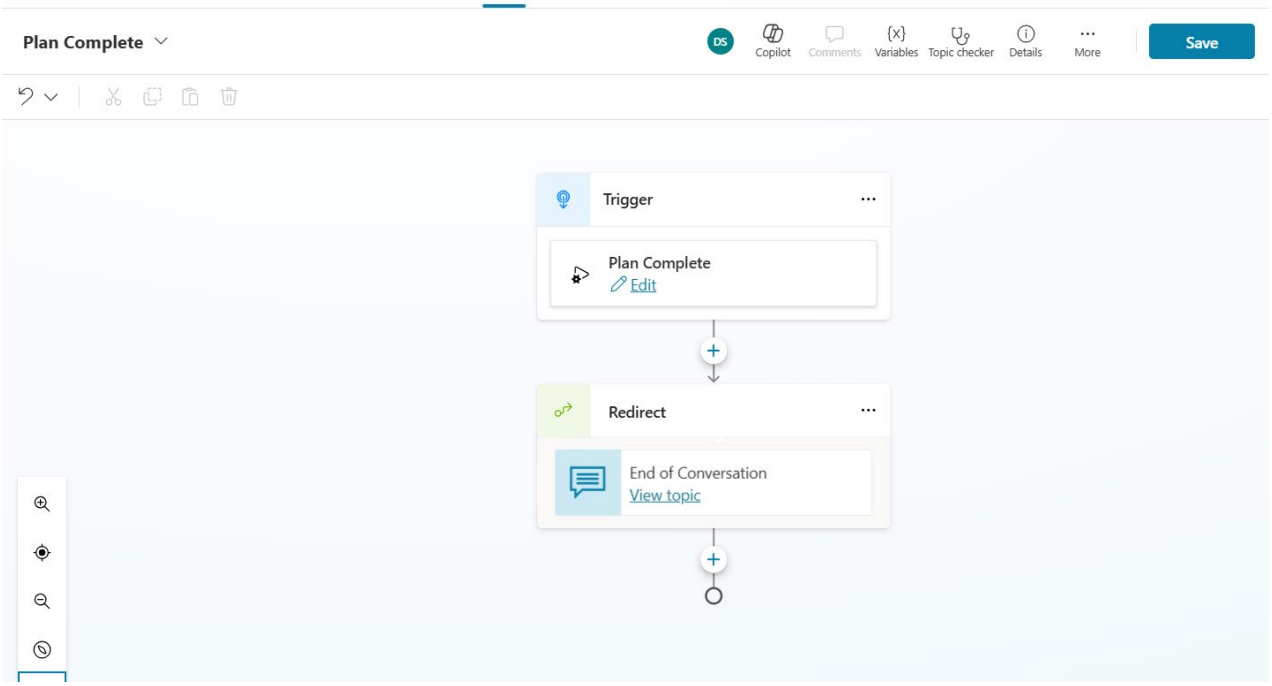


6. Click on the **"Add new node +"** icon and then select "Topic management" → "Go to another topic" → "End of Conversation"



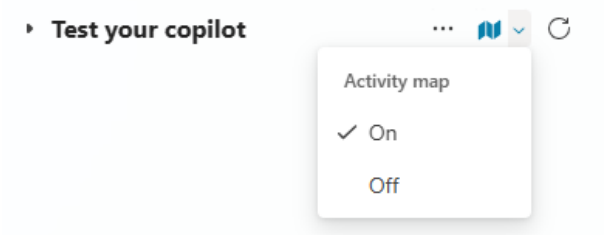


7. Click on **Save** to save the topic



8. Restart the conversation in the test pane to make sure the variables are reset.

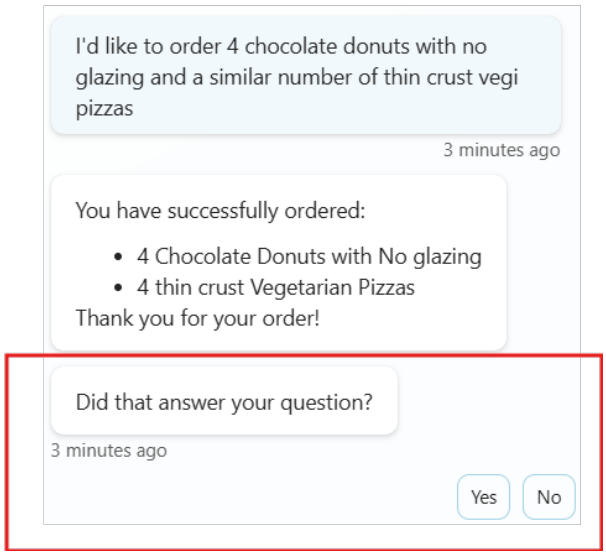
9. Turn the Activity map On



10. Try to order a donuts and pizza at the same time

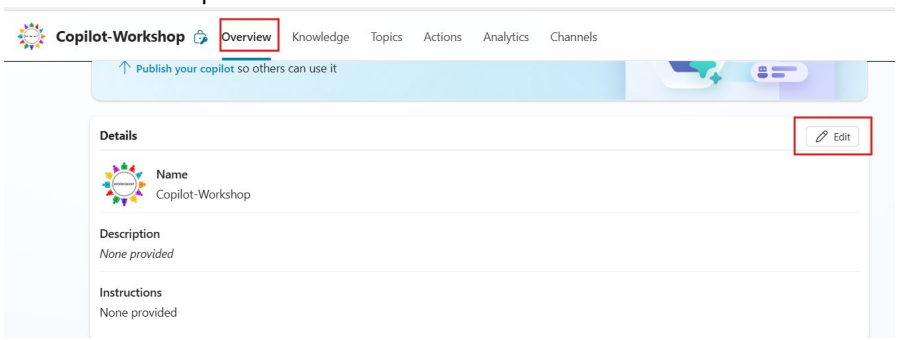
```
I'd like to order 4 chocolate donuts with no glazing and a similar
number of thin crust vegi pizzas
```

11. Note the generated feedback question



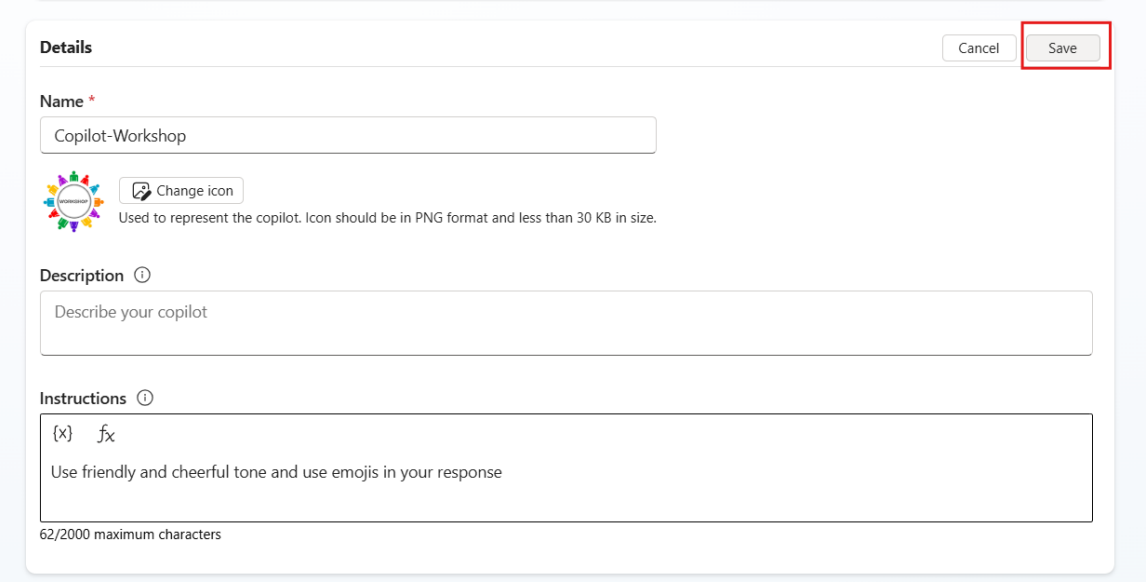
Task 7: Custom Instructions

1. Go to the Copilot "**Overview**" tab and click on "**Edit**"

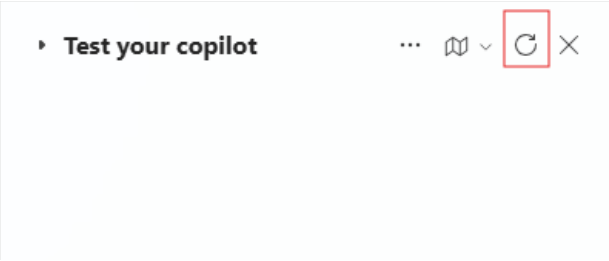


2. Type the following text and click on "**Save**"

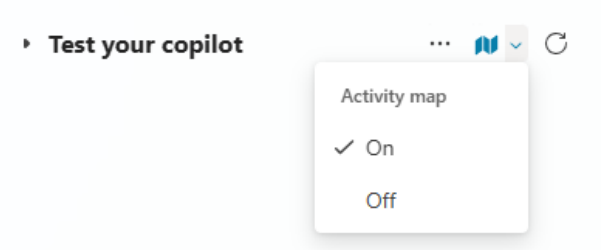
```
Use friendly and cheerful tone and use emojis in your response
```



3. Restart the conversation in the test pane to make sure the variables are reset.



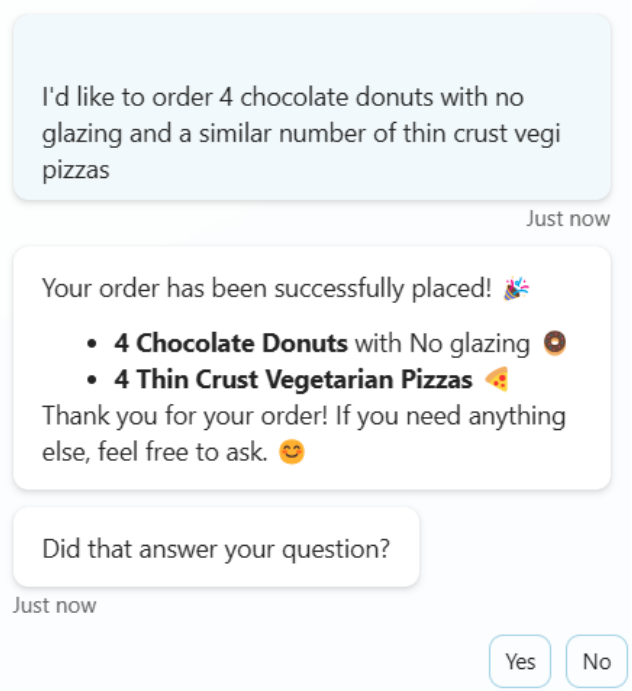
4. Turn the Activity map On



5. Try to order a donut and pizza at the same time

```
I'd like to order 4 chocolate donuts with no glazing and a similar
number of thin crust vegi pizzas
```

6. Check the Copilot response!



Summary

Thank you for completing the lab 'Generative orchestration'. You have successfully:

- Created Topic Inputs
- Collected Inputs into variables and used them in a response
- Generated a unified response from multiple actions

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