



Microsoft Copilot Studio

Lab 09: Generative orchestration

Hands-on lab step-by-step

January 2025

UDPP Copilot Studio Workshop

Contents

Microsoft Copilot Studio..... 1

 Goals for this lab..... 1

 Prerequisites..... 1

 Generative orchestration..... 2

 Summary.....20

 Terms of Use21

Microsoft Copilot Studio

This lab is subject to the Terms of Use found at the end of this document.

Goals for this lab

<p>After this lab you will be able to:</p> <ul style="list-style-type: none">• Understand the basics of generative orchestration• Learn how to generate a consolidated generative orchestration response.	<p>The time to complete this lab is [25] minutes.</p>
--	--

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?**

Using generative AI in conversations

How should your copilot interact with people?

- ☐ Classic – Use the topics you build to respond to trigger phrases—actions can only be called from inside a topic.
- ☒ Generative - Use generative AI to respond with the best combination of actions, topics, and knowledge.

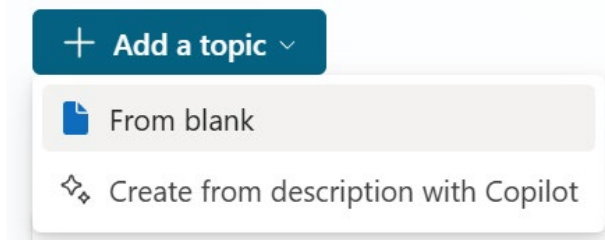
How strict should the content moderation be?

- ☐ Low - More creative ☐ Medium - More balanced ☒ High - More precise

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

Task 2: Create Blank Topic

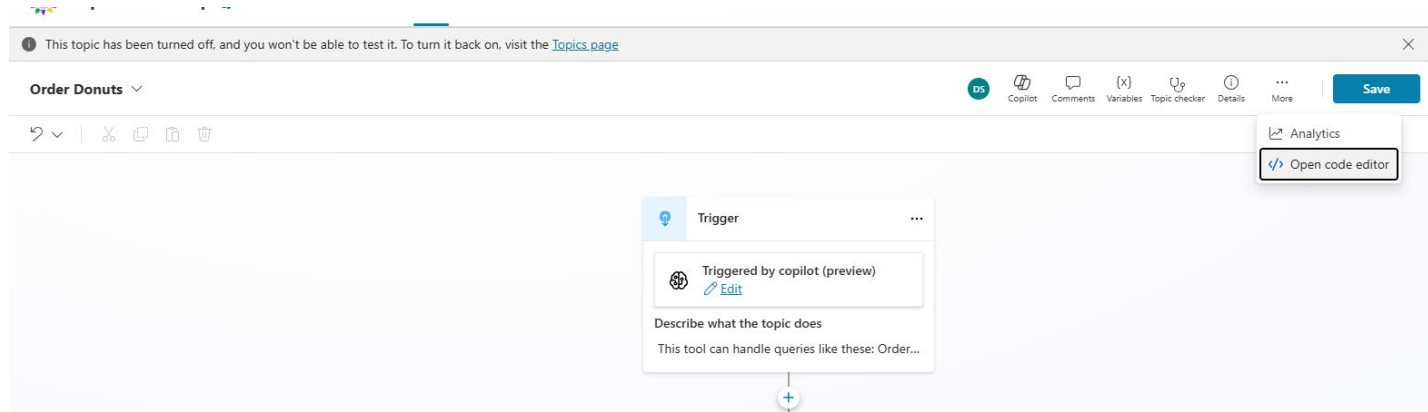
1. Go to **Topics** and select **Add Topic**
2. Select **From blank**



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_SSWeYV
      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}"

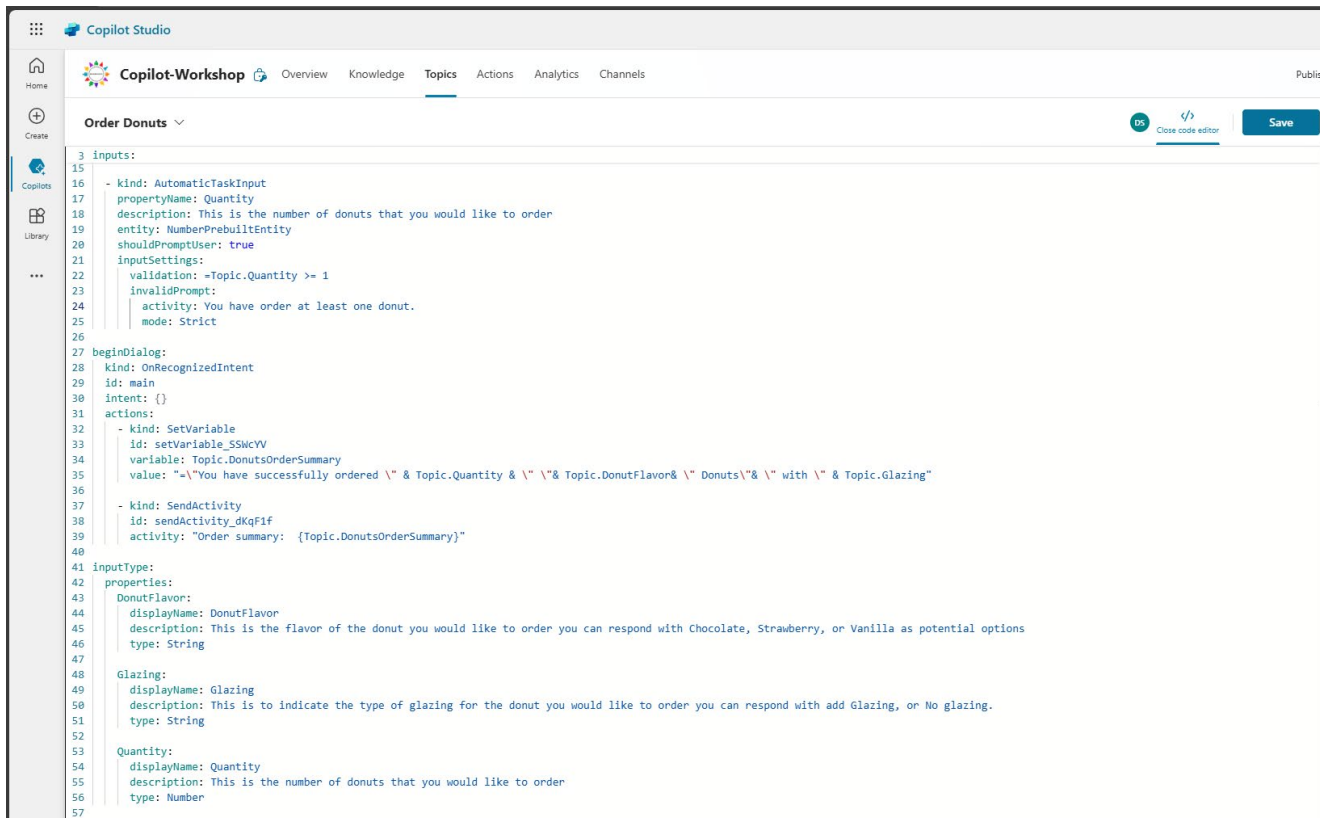
inputType:
  properties:
    DonutFlavor:
      displayName: DonutFlavor
      description: This is the flavor of the donut you would like to order you can respond with Chocolate,
Strawberry, or Vanilla as potential options
      type: String

    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**


 Copilot

 Comments

 Variables

 Topic checker

 Details

 More

Save

Topic details

Topic details

Input

Output

Input variables

Variables that the topic uses to process user input

Donut Flavor

Variable name ⓘ

DonutFlavor

How will the copilot fill this input?

Dynamically fill with best option (default)

Variable data type

String

Display name

DonutFlavor

Identify as

User's entire response

Description

This is the flavor of the donut you would like to order you can respond

Additional settings

Glazing

2. Then select **Input**.

Topic details

Topic details **Input** Output

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

3. Select **Output**.

Notice the Output variable **DonutsOrderSummary**

Topic details

Topic details

Input

Output

Output variables

Variables that the topic uses to process output

Donuts Order Summary

Variable name

DonutsOrderSummary

Variable data type

String

Variable description

Create a new variable

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

The screenshot shows a workflow in Copilot Studio. The first node is a 'Trigger' node labeled 'Triggered by copilot (preview)' with a description: 'Describe what the topic does. This tool can handle queries like these: Order...'. This is followed by a 'Set variable value' node. In this node, the 'Set variable' field is set to '{x} DonutsOrderSum...' with a type of 'string'. The 'To value' field is set to a formula: 'fx "You have successfully orde...'. A tooltip 'Select variable' points to the 'To value' field. An 'Enter formula' dialog is open, showing the formula: 'fx "You have successfully ordered " & Topic.Quantity & " "& Topic.DonutFlavor& " Donuts"& " with " & Topic.Glazing'. The dialog also shows the 'Type' as 'String' and the 'Output' as 'You have successfully or'. The workflow continues to a 'Message' node labeled 'Message' with a 'Text' output type, containing the text 'Order summary:...'. The workflow ends with a plus sign indicating further steps.

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**

The screenshot displays the UDPP Copilot Studio interface with a workflow and an open formula editor.

Workflow:

- Trigger:** Triggered by copilot (preview). Description: "Describe what the topic does. This tool can handle queries like these: Order...".
- Set variable value:** Set variable {x} DonutsOrderSum... string. To value fx "You have successfully orde...".
- Message:** Text. Order summary:...

Enter formula dialog:

- Tab: Formula
- Formula: `fx "You have successfully ordered " & Topic.Quantity & " " & Topic.DonutFlavor& " Donuts"& " with " & Topic.Glazing`
- Type: String
- Output: "You have successfully or"
- Buttons: Insert, Cancel

Task 5: Test your topic

1. Try to order a donut

I would like to order 5 chocolate donuts with no glazing

I would like to order 5 chocolate donuts with no glazing

Just now

Order summary: You have successfully ordered 5 Chocolate Donuts with No glazing

Just now

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

Test your copilot



3. Turn the Activity map On

Test your copilot



Activity map

✓ On

Off

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

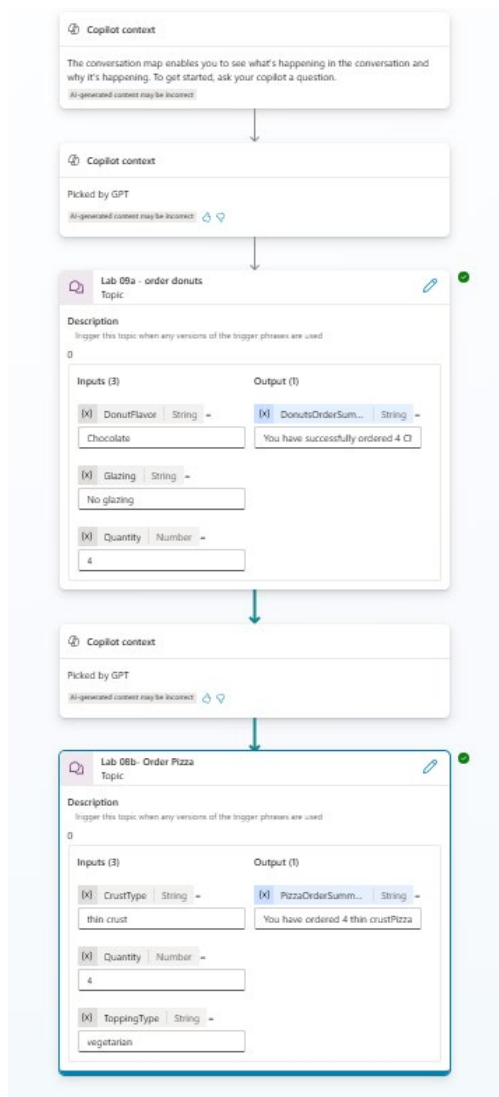
I'd like to order 4 chocolate donuts with no glazing and a similar number of thin crust vegi pizzas

A minute ago

Order summary: You have successfully ordered 4 Chocolate Donuts with No glazing

Order summary: You have successfully ordered 4 Chocolate Donuts with No glazing and 4 thin crust vegetarian pizzas.

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?

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

9 minutes ago

Order summary: You have successfully ordered 4 Chocolate Donuts with No glazing

Order summary: You have successfully ordered 4 Chocolate Donuts with No glazing and 4 thin crust vegetarian pizzas.

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

This tool can handle queries like these: Order...

Set variable value

Set variable: Select a variable

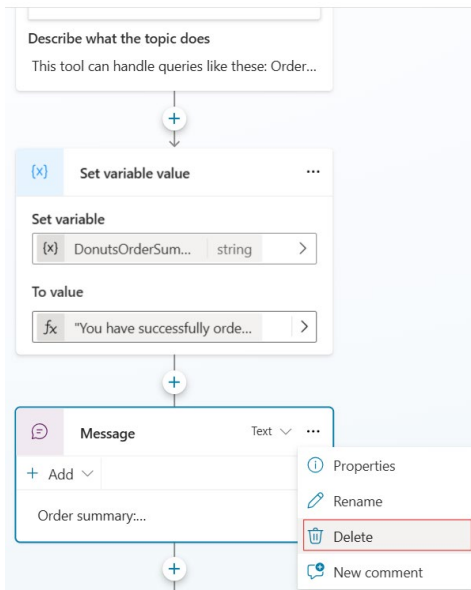
To value: Concatenate("You have ord...")

Message

You have successfully ordered...

Properties, Rename, Delete, New comment

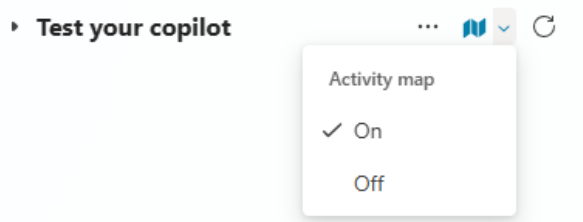
3. Select the **Order Donuts** topic and delete the message node



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



- Turn the Activity map On



- 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

- Notice the consolidated response that Copilot generated this time

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

Just now

You have successfully placed your orders:

- 4 Chocolate Donuts with No glazing.
- 4 Thin Crust Vegetarian Pizzas.

Thank you!

Just now

Task 6: End of conversation

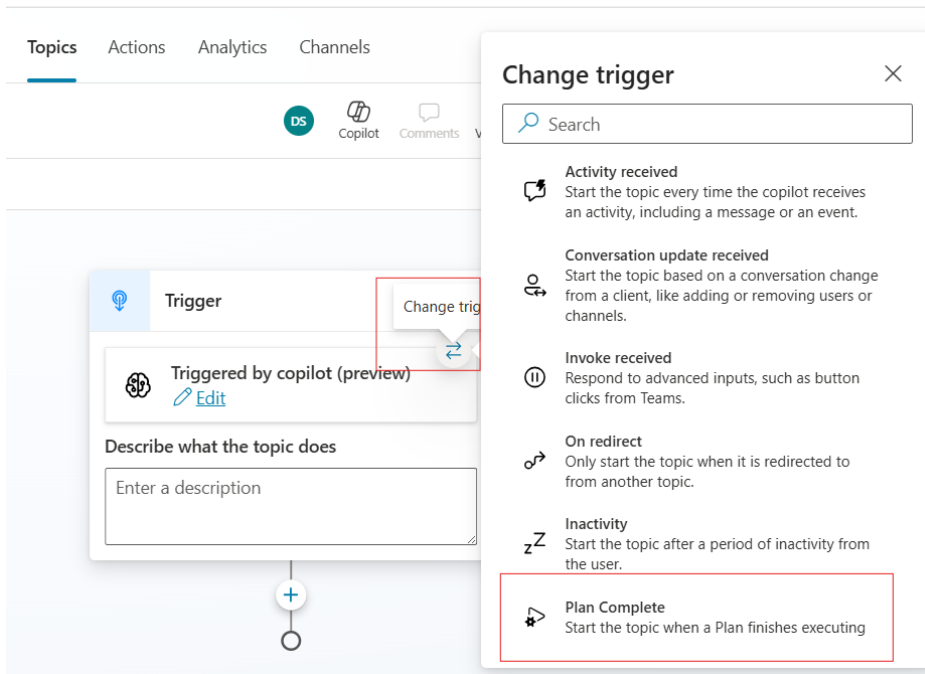
1. Note that no feedback question is asked after the generated answer is posted, which indicates that the End of Conversation topic is not called.
2. Go to **Topics** and select **Add Topic**
3. Select **From blank**

+ Add a topic ▾

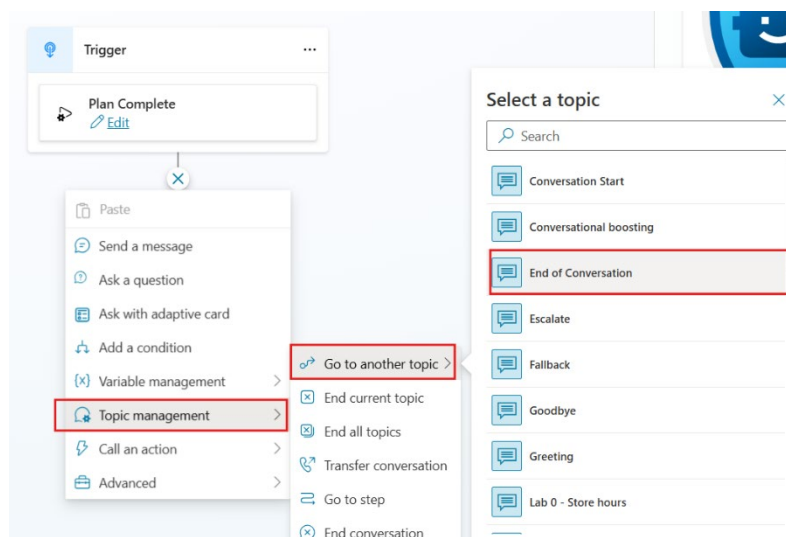
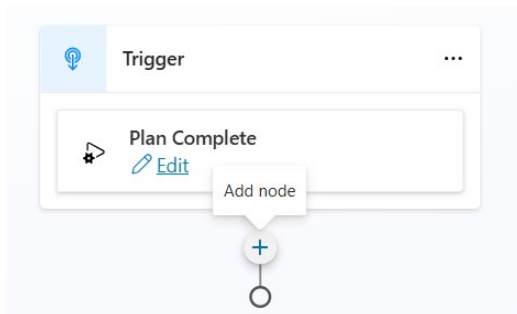
From blank

✦ Create from description with Copilot

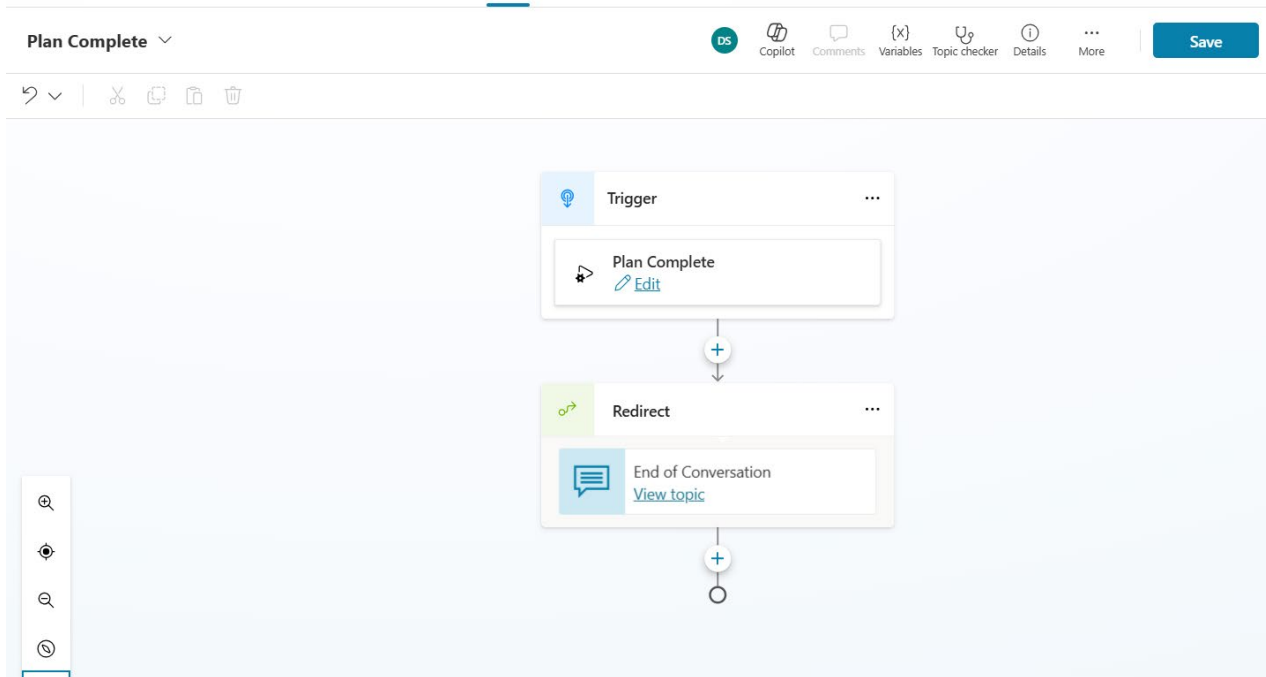
4. Name the topic `Plan Complete`
5. Click on the **"Change trigger"** icon and then scroll down and select **"Plan Complete"**



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



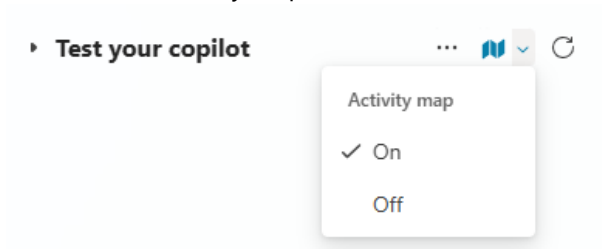
7. Click on **Save** to save the topic



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

The screenshot shows a chat conversation in Copilot Studio. The user's message is: "I'd like to order 4 chocolate donuts with no glazing and a similar number of thin crust vegi pizzas". The assistant's response is: "You have successfully ordered:
• 4 Chocolate Donuts with No glazing
• 4 thin crust Vegetarian Pizzas
Thank you for your order!". Below the response is a feedback question: "Did that answer your question?" with "Yes" and "No" buttons. The feedback question is highlighted with a red box.

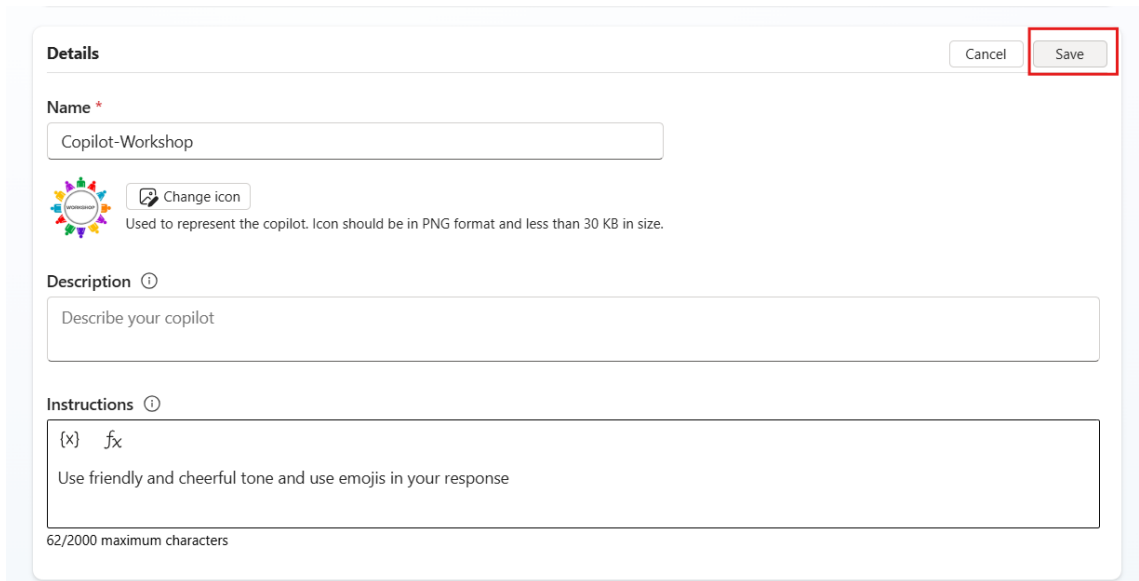
Task 7: Custom Instructions

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

The screenshot shows the Copilot-Workshop Overview tab. The 'Overview' tab is selected. The 'Details' section is visible, showing the name 'Copilot-Workshop', description 'None provided', and instructions 'None provided'. The 'Edit' button is highlighted with a red box.

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


Use friendly and cheerful tone and use emojis in your response



Details Cancel Save

Name *

Copilot-Workshop

 Change icon
Used to represent the copilot. Icon should be in PNG format and less than 30 KB in size.

Description ⓘ

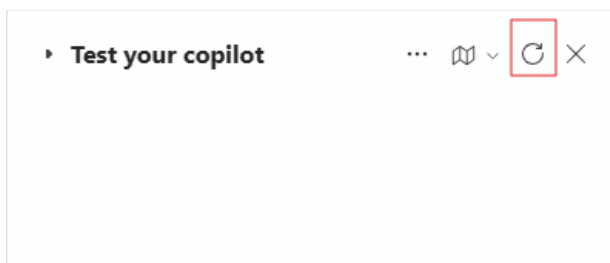
Describe your copilot

Instructions ⓘ

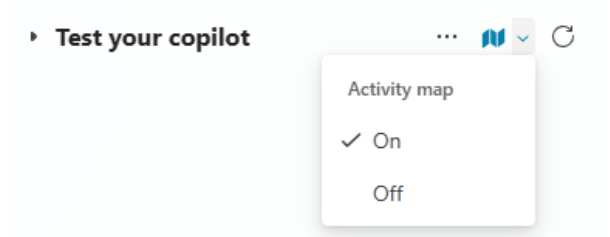
{x} f_x
Use friendly and cheerful tone and use emojis in your response

62/2000 maximum characters

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



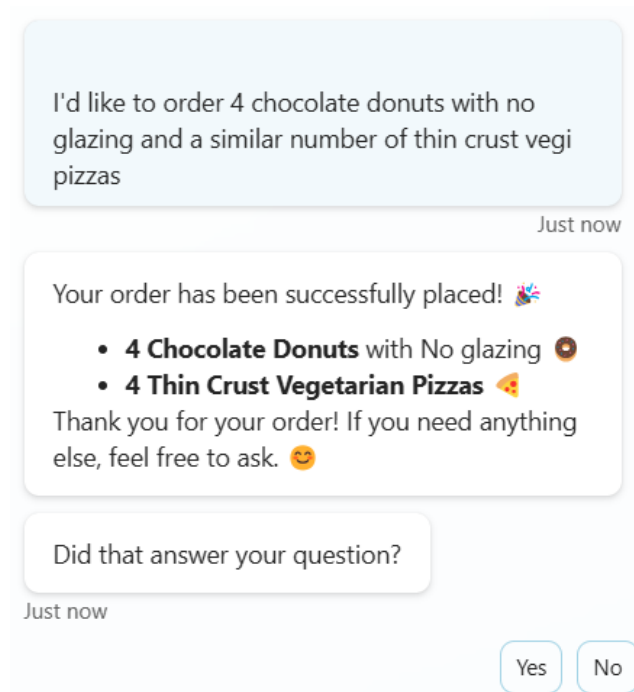
- Turn the Activity map On



- 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

- 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

Terms of Use

By using this document, in whole or in part, you agree to the following terms:

Notice

Information and views expressed in this document, including (without limitation) URL and other Internet Web site references, may change without notice. Examples depicted herein, if any, are provided for illustration only and are fictitious. No real association or connection is intended or should be inferred. This document does not provide you with any legal rights to any intellectual property in any Microsoft product.

Use Limitations

Copying or reproduction, in whole or in part, of this document to any other server or location for further reproduction or redistribution is expressly prohibited. Microsoft provides you with this document for purposes of obtaining your suggestions, comments, input, ideas, or know-how, in any form, ("Feedback") and to provide you with a learning experience. You may use this document only to evaluate its content and provide feedback to Microsoft. You may not use this document for any other purpose. You may not modify, copy, distribute, transmit, display, perform, reproduce, publish, license, create derivative works from, transfer, or sell this document or any portion thereof. You may copy and use this document for your internal, reference purposes only.

Feedback

If you give Microsoft any Feedback about this document or the subject matter herein (including, without limitation, any technology, features, functionality, and/or concepts), you give to Microsoft, without charge, the right to use, share, and freely commercialize Feedback in any way and for any purpose. You also give third parties, without charge, the right to use, or interface with, any Microsoft products or services that include the Feedback. You represent and warrant that you own or otherwise control all rights to such Feedback and that no such Feedback is subject to any third-party rights.

DISCLAIMERS

CERTAIN SOFTWARE, TECHNOLOGY, PRODUCTS, FEATURES, AND FUNCTIONALITY (COLLECTIVELY "CONCEPTS"), INCLUDING POTENTIAL NEW CONCEPTS, REFERENCED IN THIS DOCUMENT ARE IN A SIMULATED ENVIRONMENT WITHOUT COMPLEX SET-UP OR INSTALLATION AND ARE INTENDED FOR FEEDBACK AND TRAINING PURPOSES ONLY. THE CONCEPTS REPRESENTED IN THIS DOCUMENT MAY NOT REPRESENT FULL FEATURE CONCEPTS AND MAY NOT WORK THE WAY A FINAL VERSION MAY WORK. MICROSOFT ALSO MAY NOT RELEASE A FINAL VERSION OF SUCH CONCEPTS. YOUR EXPERIENCE WITH USING SUCH CONCEPTS IN A PHYSICAL ENVIRONMENT MAY ALSO BE DIFFERENT.

THIS DOCUMENT, AND THE CONCEPTS AND TRAINING PROVIDED HEREIN, IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING (WITHOUT LIMITATION) THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NONINFRINGEMENT. MICROSOFT DOES NOT MAKE ANY ASSURANCES OR REPRESENTATIONS WITH REGARD TO THE ACCURACY OF THE RESULTS, THE OUTPUT THAT DERIVES FROM USE OF THIS DOCUMENT OR THE CONCEPTS, OR THE SUITABILITY OF THE CONCEPTS OR INFORMATION CONTAINED IN THIS DOCUMENT FOR ANY PURPOSE.

MICROSOFT COPILOT STUDIO (1) IS NOT INTENDED OR MADE AVAILABLE AS A MEDICAL DEVICE FOR THE DIAGNOSIS OF DISEASE OR OTHER CONDITIONS, OR IN THE CURE, MITIGATION, TREATMENT OR PREVENTION OF DISEASE, OR OTHERWISE TO BE USED AS A COMPONENT OF ANY CLINICAL OFFERING OR PRODUCT, AND NO LICENSE OR RIGHT IS GRANTED TO USE MICROSOFT COPILOT STUDIO FOR SUCH PURPOSES, (2) IS NOT DESIGNED OR

INTENDED TO BE A SUBSTITUTE FOR PROFESSIONAL MEDICAL ADVICE, DIAGNOSIS, TREATMENT, OR JUDGMENT AND SHOULD NOT BE USED AS A SUBSTITUTE FOR, OR TO REPLACE, PROFESSIONAL MEDICAL ADVICE, DIAGNOSIS, TREATMENT, OR JUDGMENT, AND (3) SHOULD NOT BE USED FOR EMERGENCIES AND DOES NOT SUPPORT EMERGENCY CALLS. ANY CHATBOT YOU CREATE USING MICROSOFT COPILOT STUDIO IS YOUR OWN PRODUCT OR SERVICE, SEPARATE AND APART FROM MICROSOFT COPILOT STUDIO. YOU ARE SOLELY RESPONSIBLE FOR THE DESIGN, DEVELOPMENT, AND IMPLEMENTATION OF YOUR CHATBOT (INCLUDING INCORPORATION OF IT INTO ANY PRODUCT OR SERVICE INTENDED FOR MEDICAL OR CLINICAL USE) AND FOR EXPLICITLY PROVIDING END USERS WITH APPROPRIATE WARNINGS AND DISCLAIMERS PERTAINING TO USE OF YOUR CHATBOT. YOU ARE SOLELY RESPONSIBLE FOR ANY PERSONAL INJURY OR DEATH THAT MAY OCCUR AS A RESULT OF YOUR CHATBOT OR YOUR USE OF MICROSOFT COPILOT STUDIO IN CONNECTION WITH YOUR CHATBOT, INCLUDING (WITHOUT LIMITATION) ANY SUCH INJURIES TO END USERS.