



# Microsoft Power Virtual Agents in a Day

Lab 07: Authentication

Hands-on Lab Step-by-Step

September 2020

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# Power Virtual Agents

## Goals for this lab



After this lesson you will be able to:

- Set up Azure App Registration for authentication
- Configure Power Virtual Agent authentication settings
- Create a Flow in Power Automate to handle authentication requests on the server back end



The time to complete this lab is **[30]** minutes.

## Introduction: Authentication Scenario

By now, you have implemented your Power Virtual Agent and have seen a high impact in reducing the number of cases with generic questions your Customer Support Team is receiving. As a direct result, the business cost around customer support has been directly reduced.

However, your organization has begun rolling out a new customized user experience for each customer, requiring each user to have their own personal profile. The data shows there are an increasing number of cases being escalated to your Customer Support Team pertaining to this personalized experience, which is driving costs back up.

## Solution: Enable Authentication in Power Virtual Agent

Authentication can be enabled in Power Virtual Agents to allow the user to log in for personalized experiences. Power Virtual Agents utilizes OAuth2 Authentication to provide a robust and secure authentication experience directly through the Power Virtual Agent conversation.


In this exercise, you will enable authentication in your Power Virtual Agent bot, create an authentication Flow, and create a dialog utilizing basic authentication.

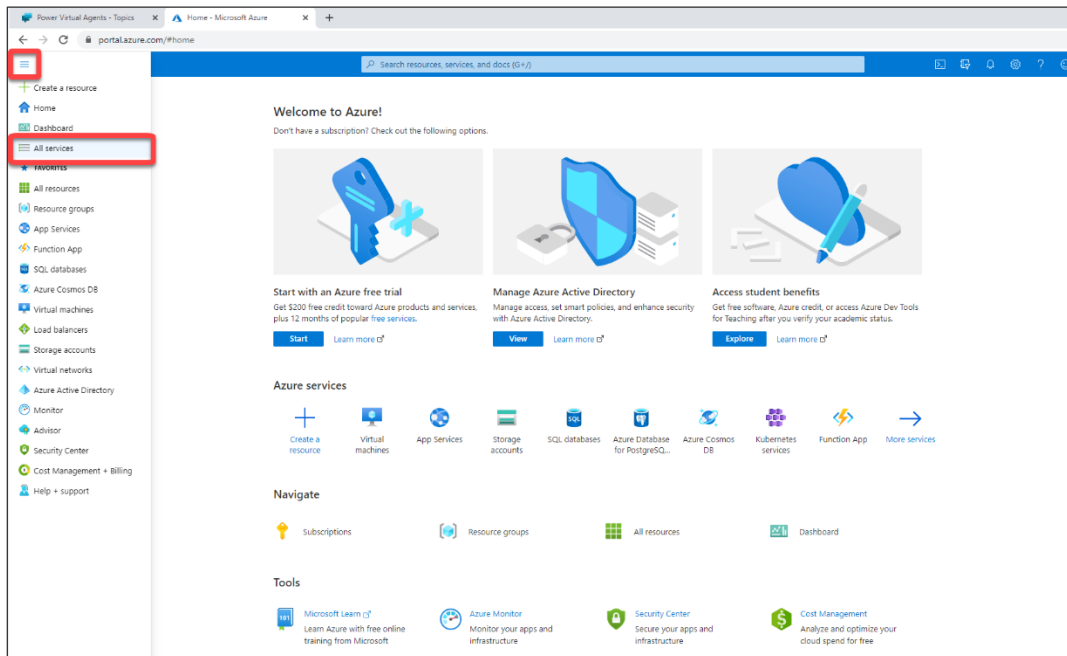
## Before we start...

This lab will be walking through some features that require an active Azure subscription (free tier or higher). If you do not have an active Azure free trial or higher, you may run into permission issues within Task 1. If you observe permission issues during Task 1, check to make sure there is an active Azure subscription, or sign up for a free trial using your tenant account for the purpose of this lab – no charges will occur unless the account is explicitly upgraded at a later time.

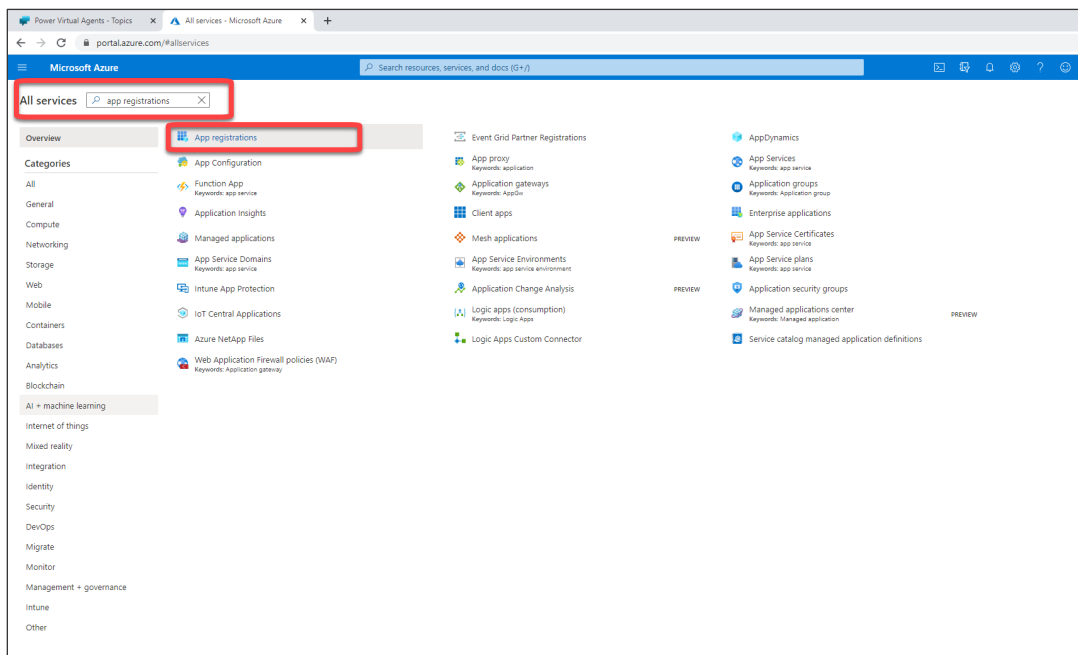
## Task 1: Configure Azure App Registration Authentication settings

Authentication in the Power Virtual Agent uses the OAuth2 authentication through the Azure App Registration service. This task will focus on configuring the relevant settings in the Azure portal.

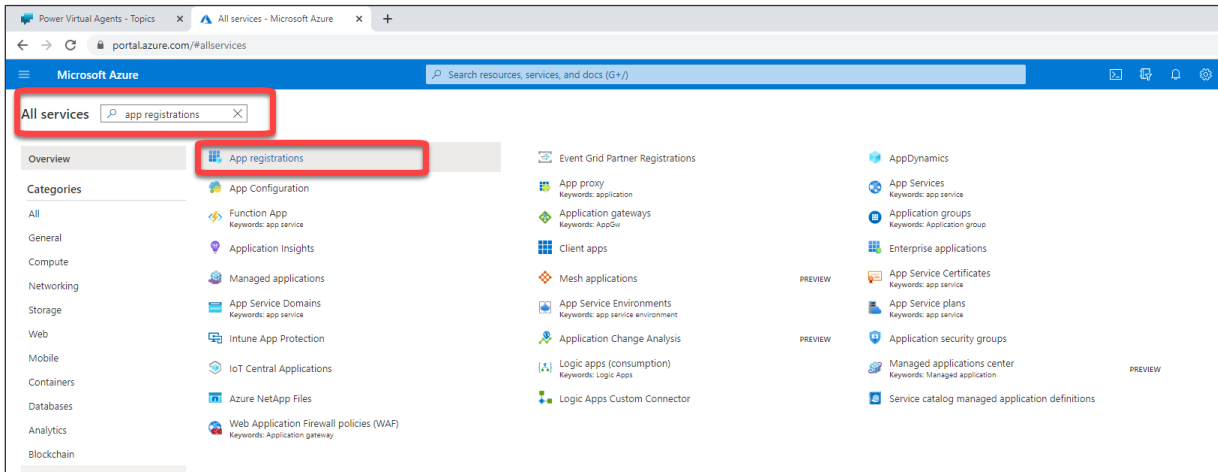
1. Open a new browser tab, navigate to [portal.azure.com](https://portal.azure.com) and sign in with the same credentials you have been using for the previous labs. Select the Menu Icon  in the upper left corner and select **All services**.



2. In the search field, type "app registrations" and select **App registrations**.



### 3. Select **New registration**.



Enter **Power Virtual Agents** as the **Name** for the App Registration, select the **Multi-tenant + Microsoft** account type (3<sup>rd</sup> option), paste **https://token.botframework.com/.auth/web/redirect** into the **Redirect URI** field.

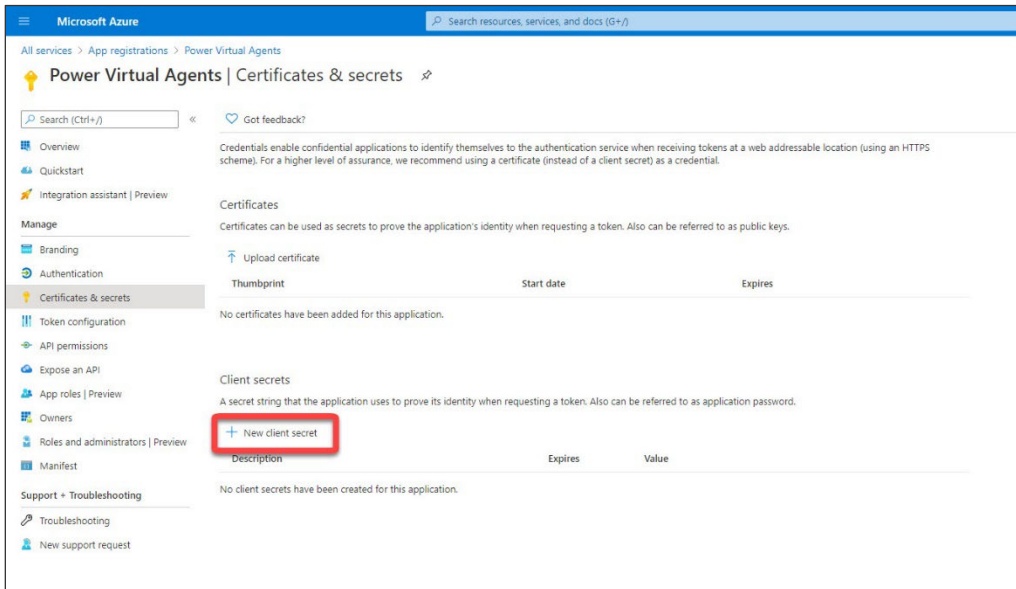
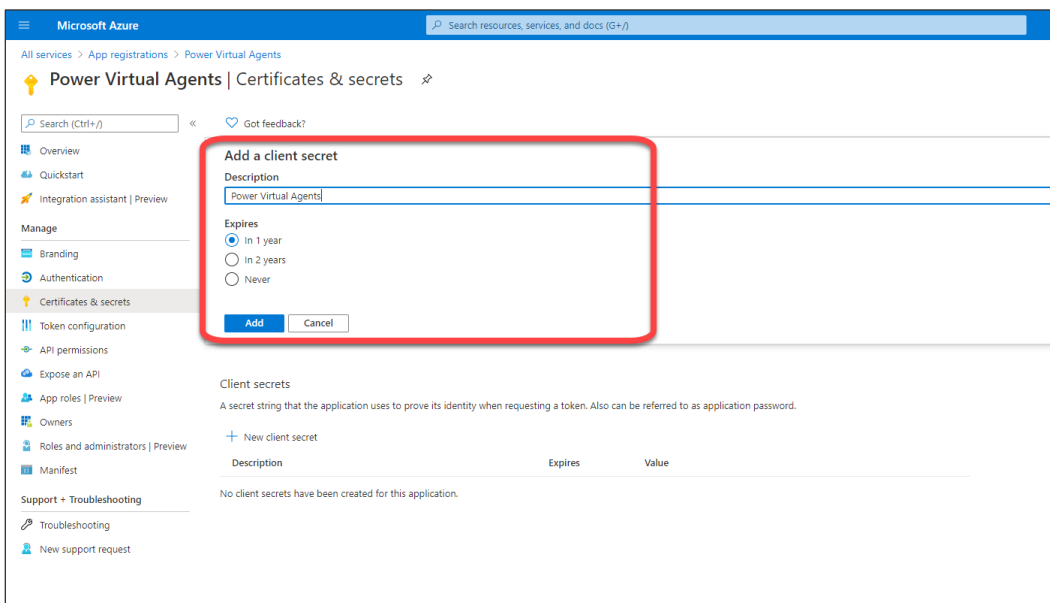
*Note: when you copy/paste the URL, make sure there is no space at the end, otherwise you'll get an error saying invalid URL*

Then click **Register**

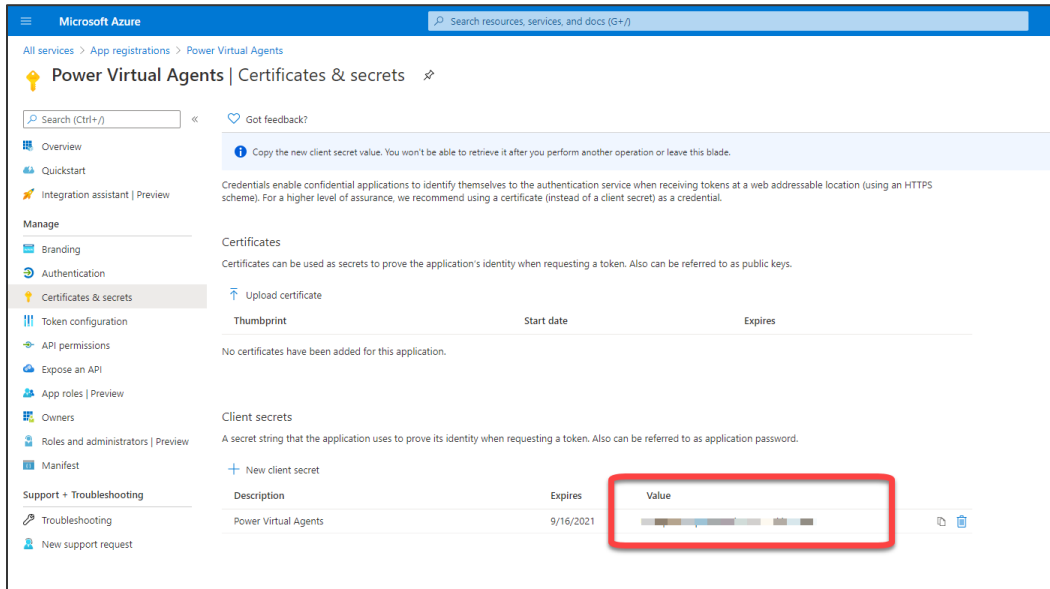
A screenshot of the 'Register an application' form in the Microsoft Azure portal. The form is titled 'Register an application'. The 'Name' field is labeled '\* Name' and has the text 'Power Virtual Agents' entered. Below this, the 'Supported account types' section is titled 'Who can use this application or access this API?'. It has three radio button options: 'Accounts in this organizational directory only (Barhead only - Single tenant)', 'Accounts in any organizational directory (Any Azure AD directory - Multitenant)', and 'Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)'. The third option is selected. Below this is a 'Help me choose...' link. The 'Redirect URI (optional)' section has a dropdown menu set to 'Web' and a text input field containing 'https://token.botframework.com/.auth/web/redirect'. At the bottom, there is a checkbox for 'By proceeding, you agree to the Microsoft Platform Policies' and a 'Register' button.

4. Copy the **Application (client) ID** and keep it for reference later, then select **Certificates & secrets** in the left navigation panel.

The screenshot displays the Microsoft Azure portal interface for the 'Power Virtual Agents' app registration. The left-hand navigation pane is visible, with 'Certificates & secrets' highlighted under the 'Authentication' section. The main content area shows the 'Essentials' tab for the app registration, where the 'Application (client) ID' is highlighted with a red rectangular box. Below this, there are sections for 'Call APIs' and 'Documentation'. The 'Call APIs' section includes a 'View API permissions' button. The 'Documentation' section lists various resources like 'Microsoft identity platform', 'Authentication scenarios', 'Authentication libraries', 'Code samples', 'Microsoft Graph', 'Glossary', and 'Help and Support'. At the bottom, there is a 'Sign in users in 5 minutes' section with a clock icon.

5. Select **New client secret**6. Enter **Power Virtual Agents** as the Description, and click **Add**

## 7. Copy the client secret generated for later reference



Microsoft Azure

Search resources, services, and docs (G+/I)

All services > App registrations > Power Virtual Agents

### Power Virtual Agents | Certificates & secrets

Search (Ctrl+/) << Got feedback?

Copy the new client secret value. You won't be able to retrieve it after you perform another operation or leave this blade.

Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using an HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

#### Certificates

Certificates can be used as secrets to prove the application's identity when requesting a token. Also can be referred to as public keys.

Upload certificate

Thumbprint	Start date	Expires
No certificates have been added for this application.		

#### Client secrets

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

+ New client secret

Description	Expires	Value
Power Virtual Agents	9/16/2021	[Redacted]

## 8. Close the browser tab where you have been working in Azure and return to Power Virtual Agents.



## Task 2: Configure Authentication Settings in Power Virtual Agents

Now that Azure has been configured, the Power Virtual Agents Authentication settings can be populated for the tenant environment.

1. Return to your tab where you were working in Power Virtual Agents, or navigate to [powervirtualagents.microsoft.com](https://powervirtualagents.microsoft.com). Under **Manage**, select **Authentication**.

**Power Virtual Agents | Contoso customer service**

Save Delete Connection

### Authentication

Provides authors with tools to verify a user's identity during a conversation. It gives the bot secure access to user data and allows it to take actions on the user's behalf, giving a more personalized experience. To configure the connection, enter the information provided by your Identity Provider (IdP). Then, test the connection. [Learn more about configuring authentication](#)

If you'd like to use single sign-on (currently limited to Azure Active Directory), be sure to include the Token exchange URL. [Learn more about single sign-on](#)

<b>Connection Name *</b>	<input type="text"/>	<b>Token URL Template *</b>	<input type="text"/>
<b>Service Provider</b>	<input type="text" value="oauth2generic"/>	<b>Token URL Query String Template *</b>	<input type="text"/>
<b>Client ID *</b>	<input type="text"/>	<b>Token Body Template *</b>	<input type="text"/>
<b>Client Secret *</b>	<input type="text"/>	<b>Refresh URL Template *</b>	<input type="text"/>
<b>Token exchange URL (required for SSO)</b>	<input type="text"/>	<b>Scope List delimiter *</b>	<input type="text"/>
<b>Refresh URL Query String Template *</b>	<input type="text"/>	<b>Authorization URL Template *</b>	<input type="text"/>
<b>Refresh Body Template *</b>	<input type="text"/>	<b>Authorization URL Query String Template *</b>	<input type="text"/>
<b>Scopes</b>	<input type="text"/>		

Test your bot

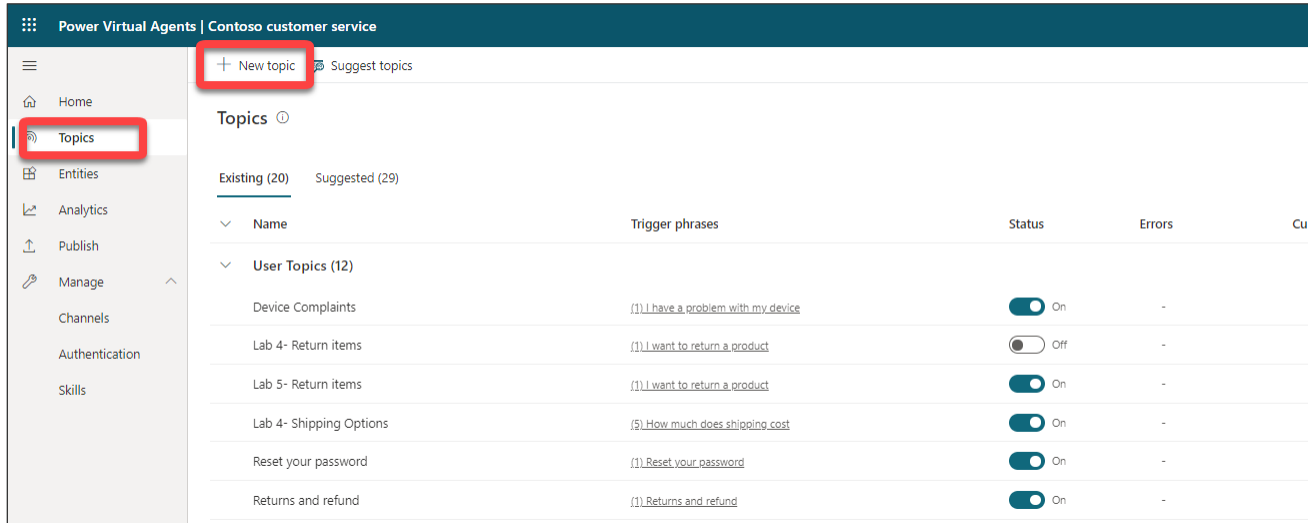
2. Fill in the following fields with their respective values and then select **Save**.

<b>Connection Name</b>	PVA
<b>Token URL Template</b>	https://login.microsoftonline.com/common/oauth2/v2.0/token
<b>Token URL Query String Template</b>	?
<b>Client ID</b>	Your Client ID from earlier
<b>Token Body Template</b>	code={Code}&grant_type=authorization_code&redirect_uri={RedirectUrl}&client_id={ClientId}&client_secret={ClientSecret}
<b>Client Secret</b>	Your Client secret from earlier
<b>Refresh URL Template</b>	https://login.microsoftonline.com/common/oauth2/v2.0/token
<b>Token exchange URL</b>	(Leave this blank)
<b>Scope List delimiter</b>	,
<b>Refresh URL Query String Template</b>	?
<b>Authorization URL Template</b>	https://login.microsoftonline.com/common/oauth2/v2.0/authorize
<b>Refresh Body Template</b>	refresh_token={RefreshToken}&redirect_uri={RedirectUrl}&grant_type=refresh_token&client_id={ClientId}&client_secret={ClientSecret}
<b>Authorization URL Query String Template</b>	?client_id={ClientId}&response_type=code&redirect_uri={RedirectUrl}&scope={Scopes}&state={State}
<b>Scopes</b>	openid profile User.Read

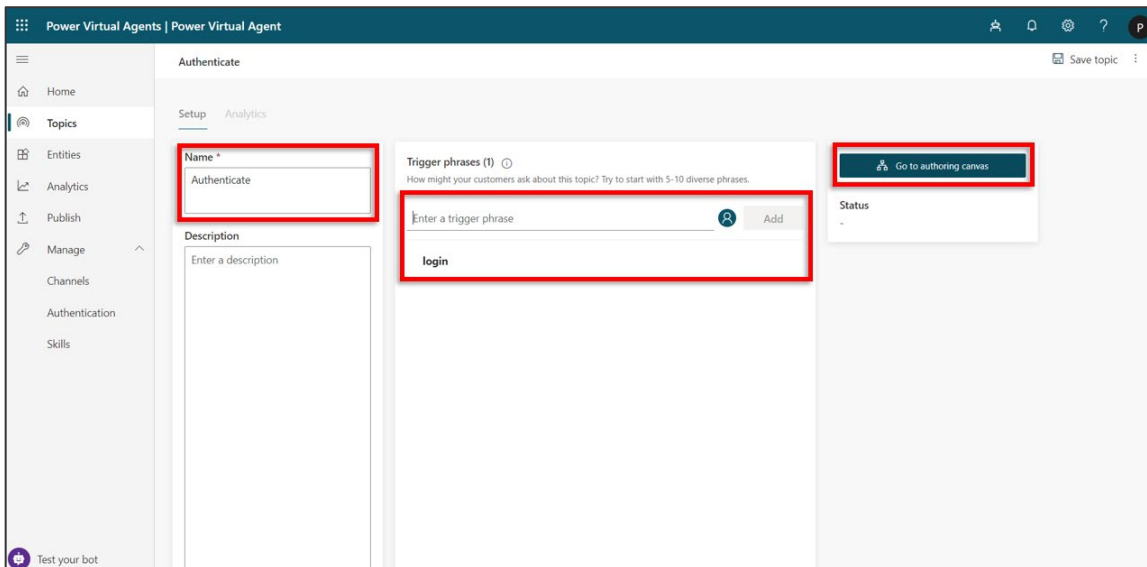
## Task 3: Create Authentication Topic


Now that the authentication has been configured, we will set up a topic to use it

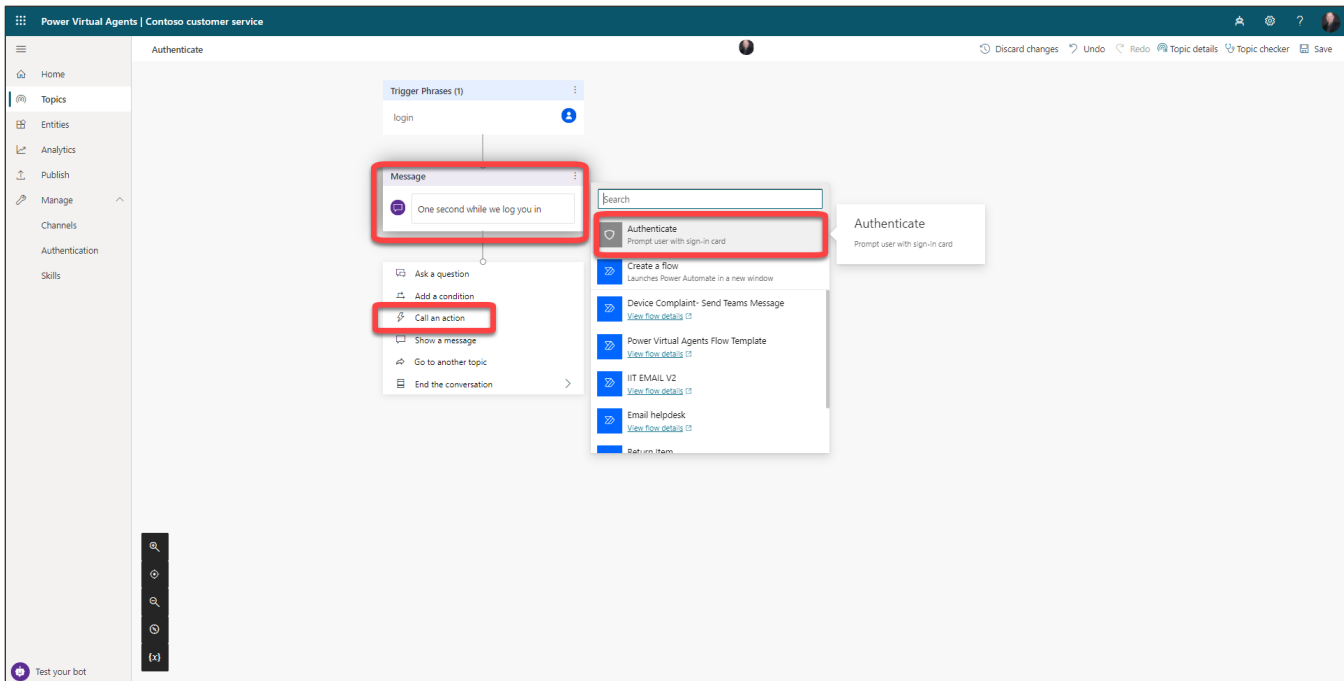
1. Select **Topics** in the left menu and select **New topic**.



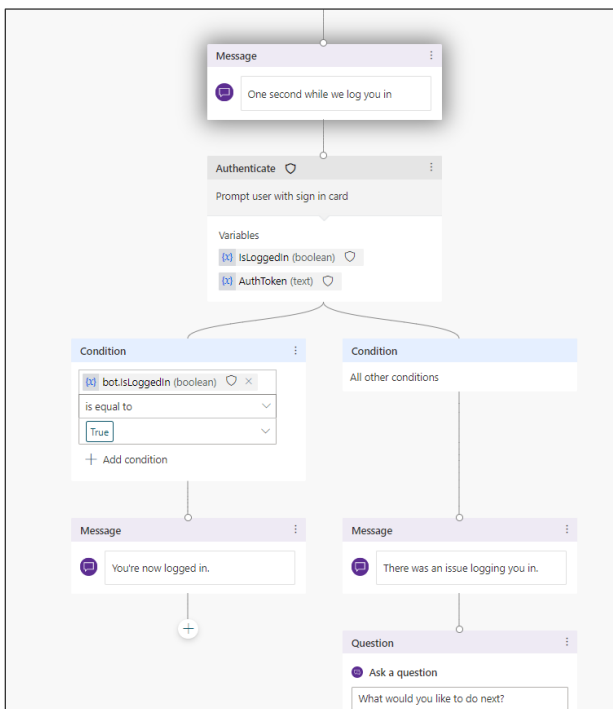
2. Name the topic **"Authenticate"**, add a trigger phrase of **"login"** and select **Go to authoring canvas**.



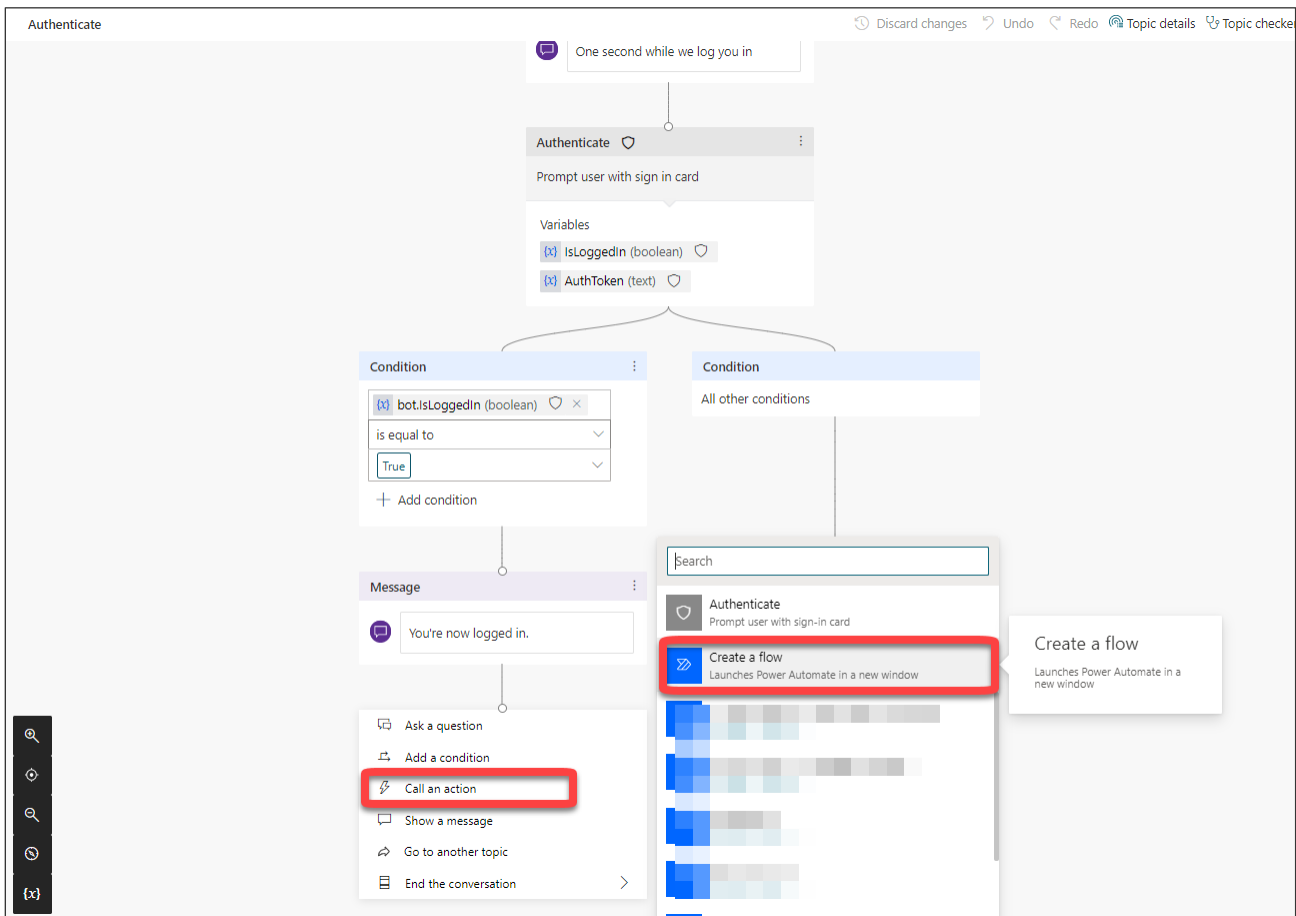
3. In the opening message, type: *One second while we log you in.* Then select the  icon, select **Call an action**, and select **Authenticate**.



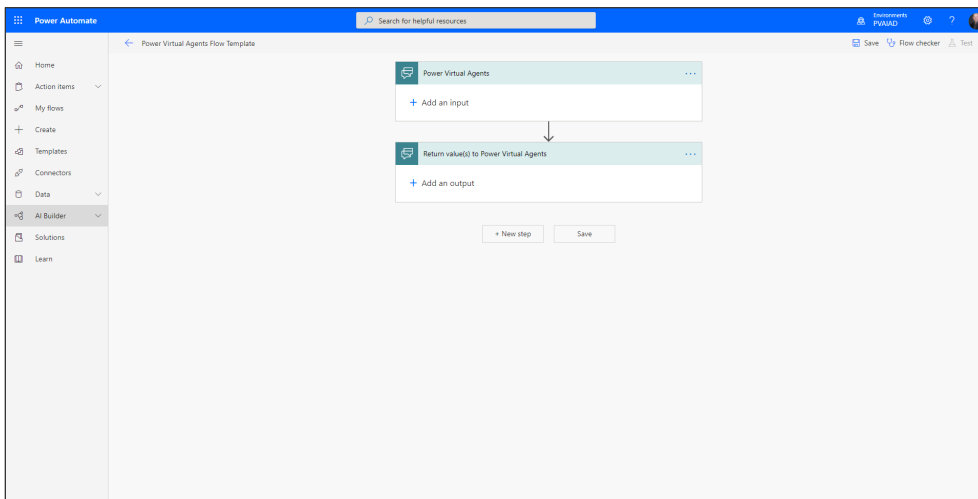
This will automatically set up conditional branching, with messages and variables related to the authentication. There is a variable that will store the authentication token when the user logs in, and a Boolean variable that stores whether or not the user has logged in:



4. Under **You're now logged in**, select the  icon, select **Call an action**, and choose Create a flow.



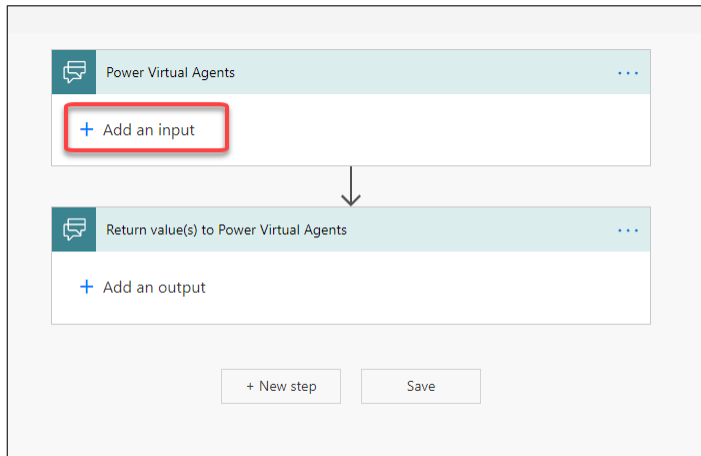
This will open Power Automate in a new tab.



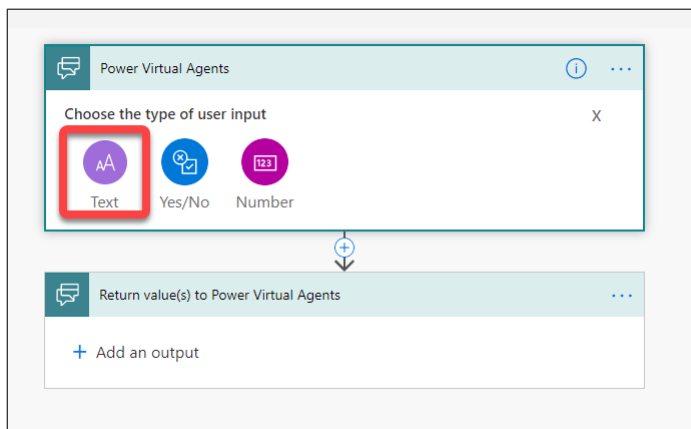
## Task 4: Create a flow to pass the authentication token


When the user has logged in, you can use Power Automate to pass that authentication token to other systems, to allow the bot to act on behalf of the logged in user to retrieve data or take action. In this task, you will create a flow that passes the authentication token from the bot to the Microsoft Graph, to retrieve and return user details.

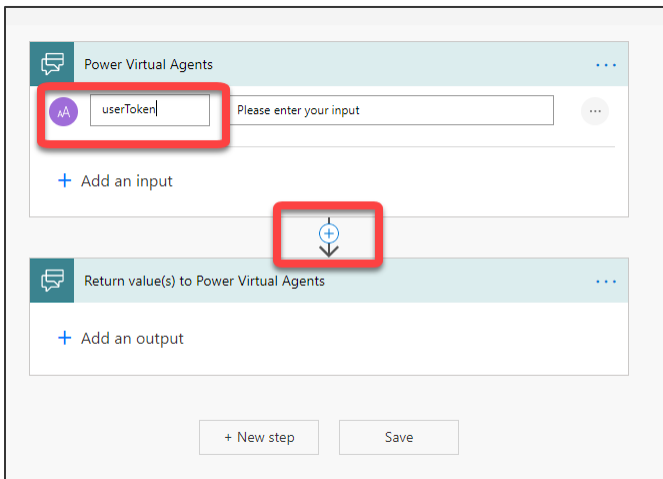
1. Click on **Add an Input** in the first stage of the flow.



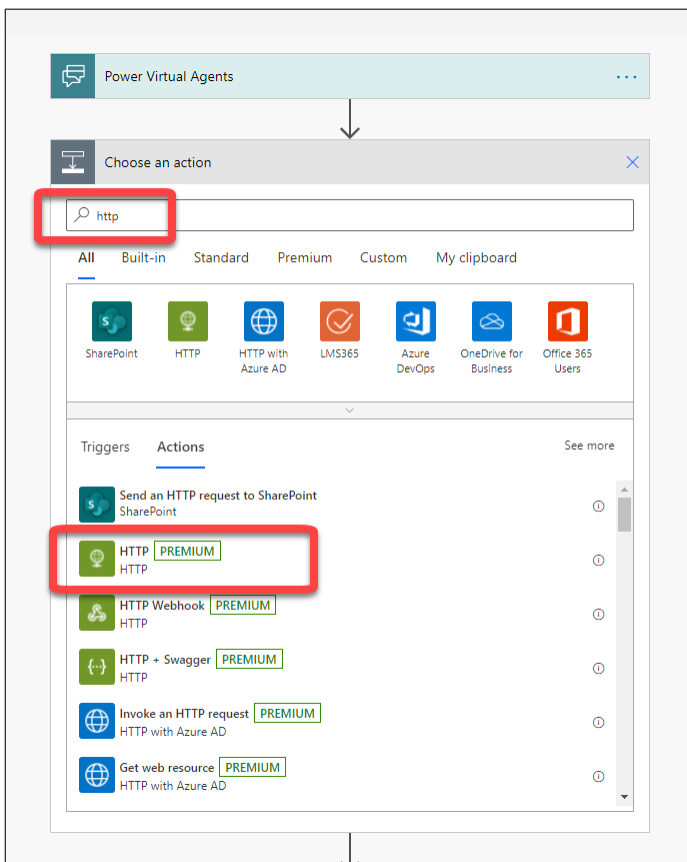
2. Select Text



3. Name your input **userToken** then hover over the arrow between the two stages to reveal a  icon and click on that and select **Add an action**.



4. Search for HTTP and select the HTTP connector. We are going to use the HTTP connector to pass the authentication token from the logged in user to the Microsoft Graph API.

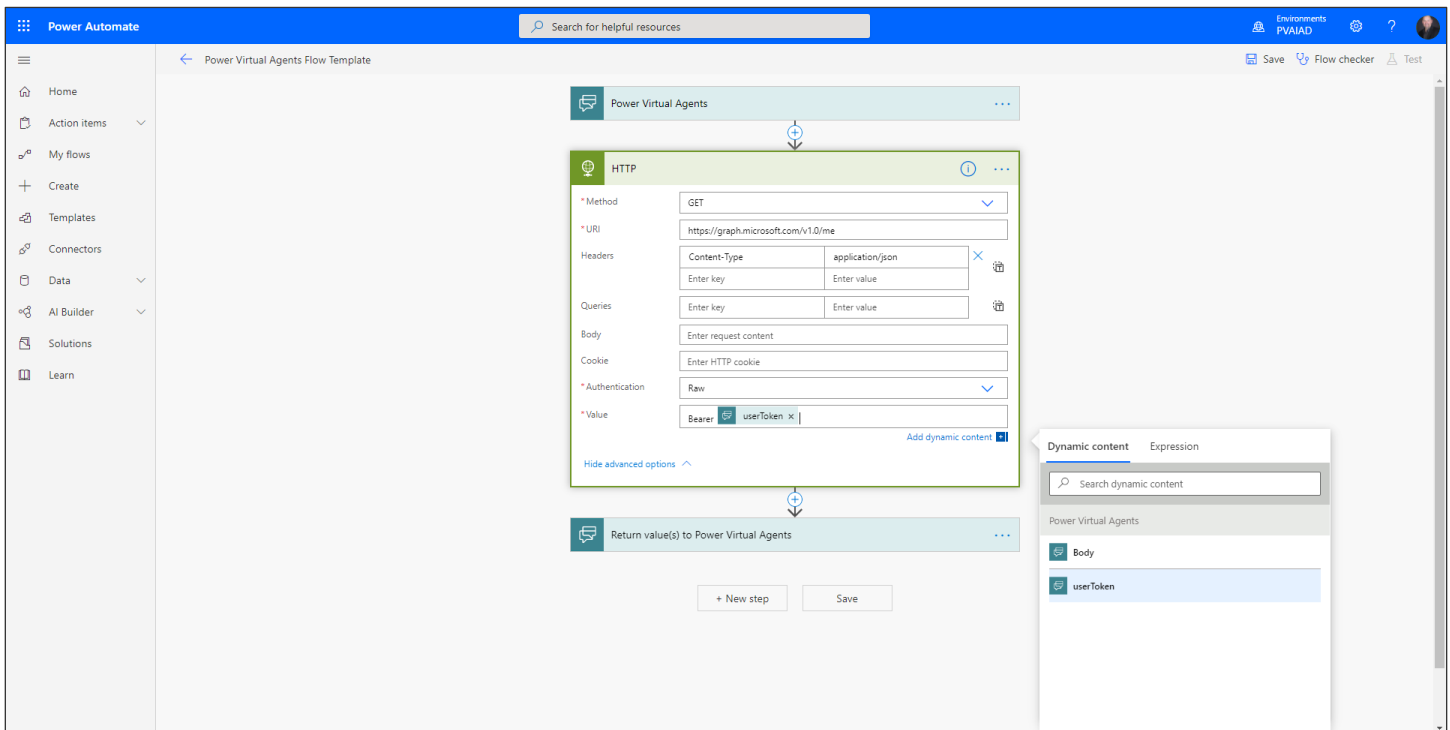


## 5. Fill in the details for this connector

- Method: **GET** (select from dropdown)
- URI: **https://graph.microsoft.com/v1.0/me**
- Headers (as shown in the screenshot below):
  - **Content-Type**
  - **application/json**

Click show advanced options to show and fill in the remaining fields:

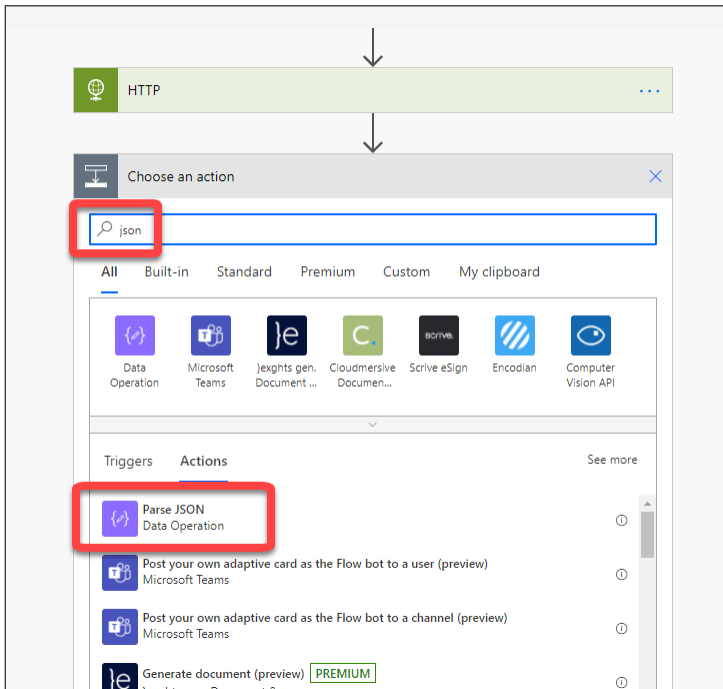
- Authentication: **Raw** (select from dropdown)
- To enter the Value field, type **Bearer** then leave a space, then select **userToken** from the Dynamic content. Bearer userToken x (This is the authentication token that has been passed through from your chatbot when the user logged in)



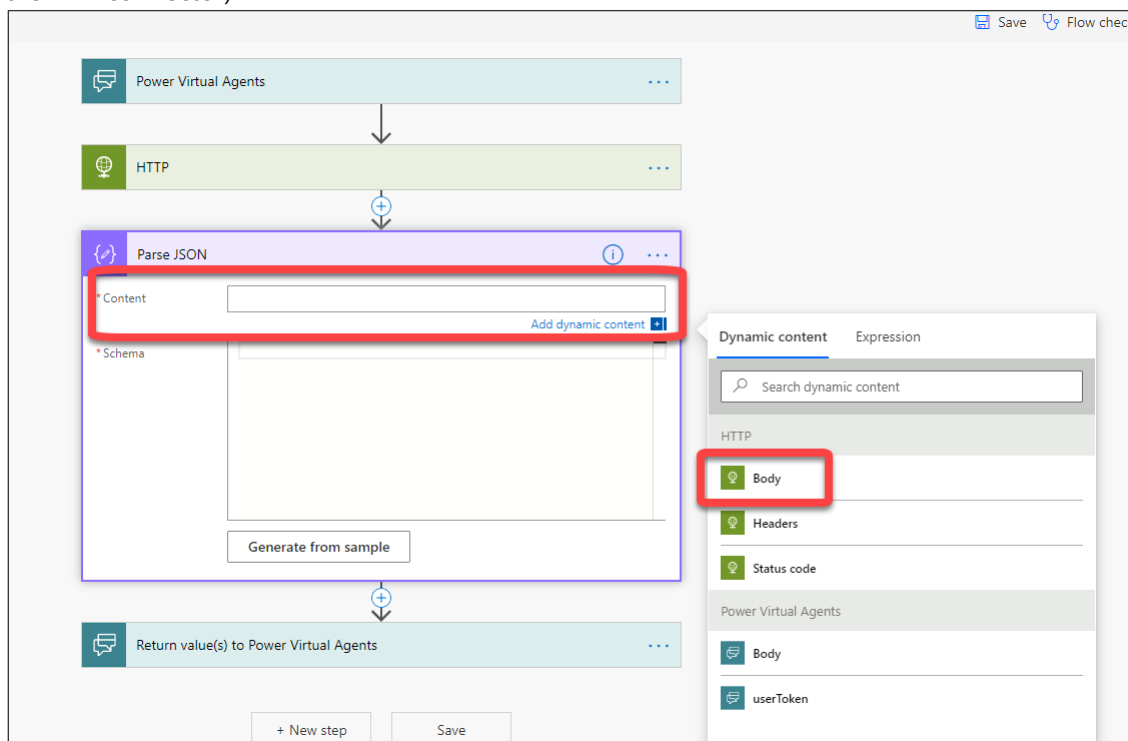


Now we need to take the data that comes back from the Microsoft Graph API and turn it into a format that can be returned to the chatbot and displayed to the user. For this we will use the parse JSON action.

6. Click on the  icon and select **Add an action**. Search for **json** and select the **Parse JSON** action.

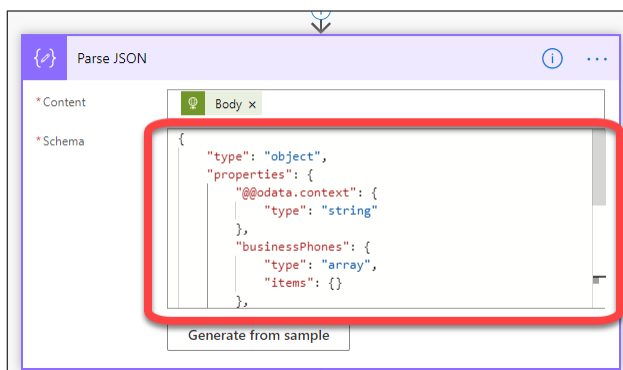


7. If you were building this with an API you were familiar with, you would generate the relevant JSON schema for that API and the data you want to work with. For this lab, we have prepared this for you. Click on the **Content** field and choose **Body** from the Dynamic content (make sure you choose Body from the HTTP Connector, as shown, not from the PVA connector)



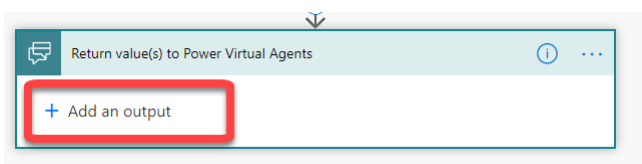
8. Now paste the following into the **Schema** field.

```
{
  "type": "object",
  "properties": {
    "@odata.context": {
      "type": "string"
    },
    "businessPhones": {
      "type": "array",
      "items": {}
    },
    "displayName": {},
    "givenName": {},
    "jobTitle": {},
    "mail": {},
    "mobilePhone": {},
    "officeLocation": {},
    "preferredLanguage": {},
    "surname": {},
    "userPrincipalName": {},
    "id": {}
  }
}
```

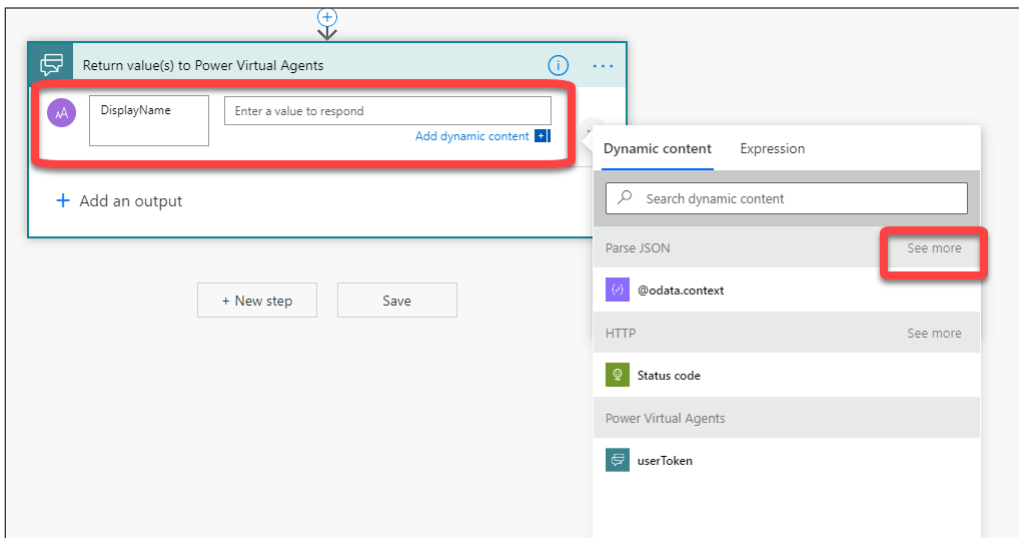


You will now select the data from the output of this step, to return to the chatbot and display to the logged in user

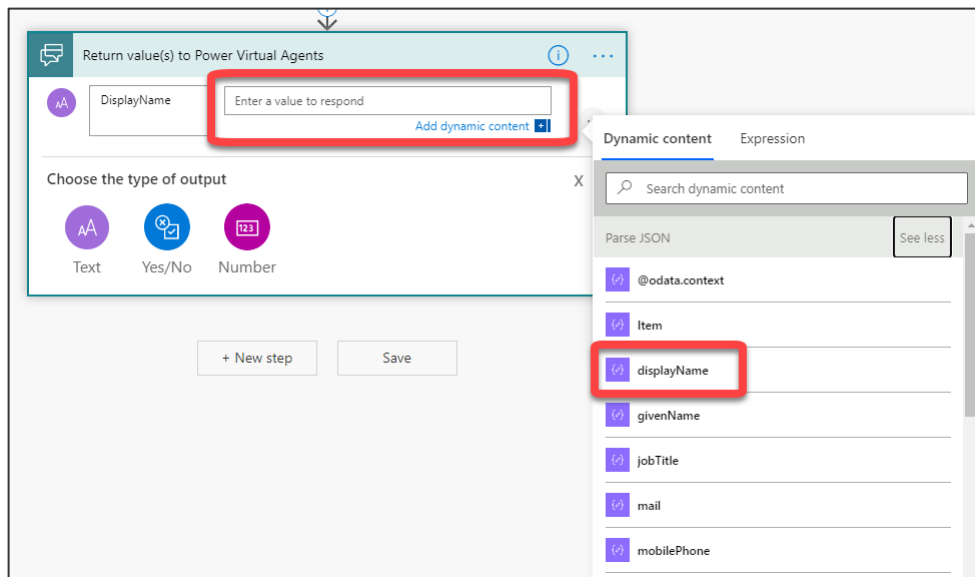
9. Click on the **Return value(s) to Power Virtual Agents** action to open it up, and click on **Add an output**



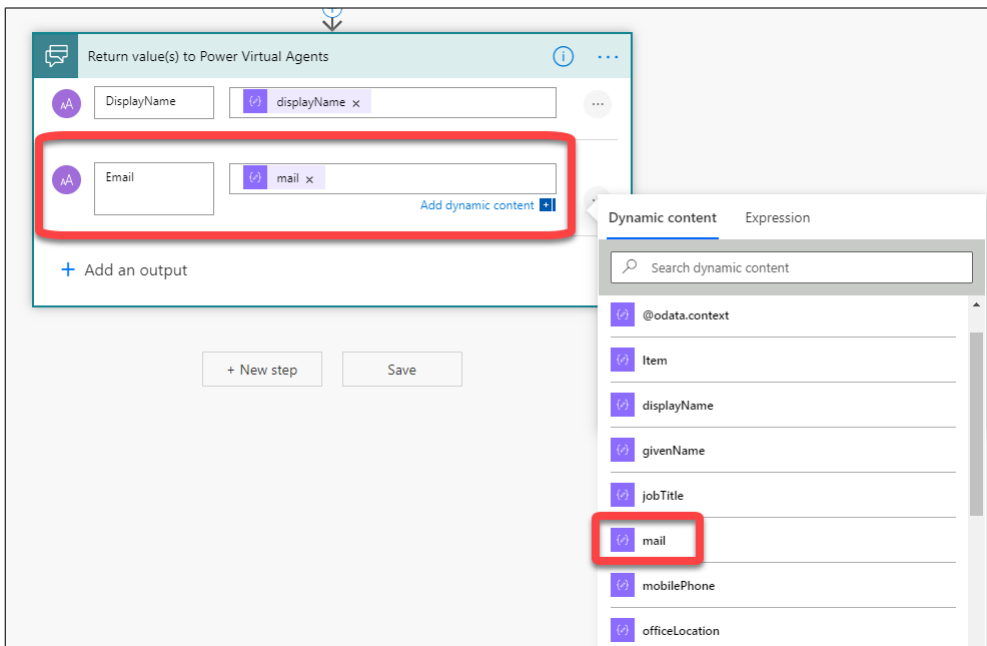
10. Select **Text**, and enter **DisplayName** in the Enter Title box. Then in the value, you will select from the Parse JSON output in the Dynamic content. If you can't see a full list of values from the JSON connector, click **See more**



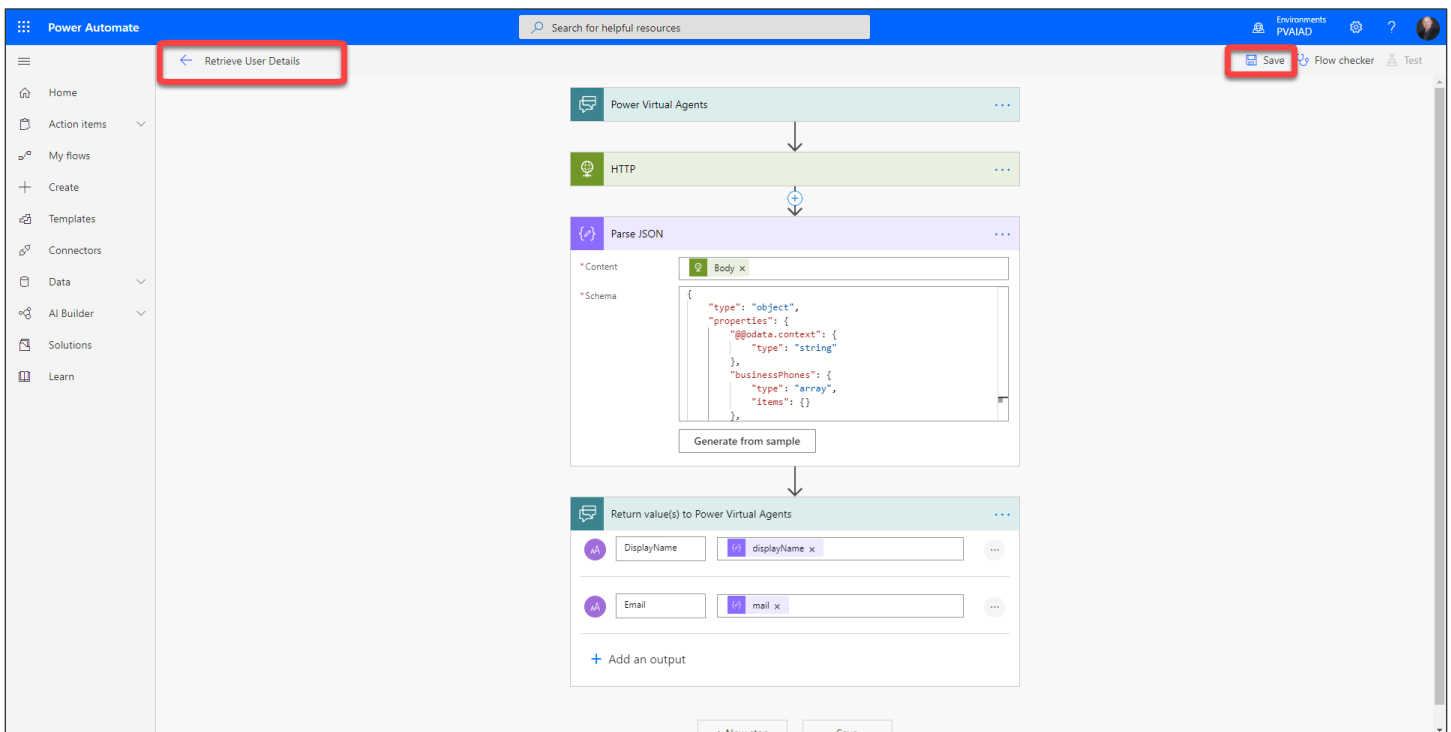
11. . In the value field, Choose **displayName** from the DynamicContent



12. Now add another Text input and repeat these steps, creating the display name **Email** and choose **mail** from the Dynamic content.




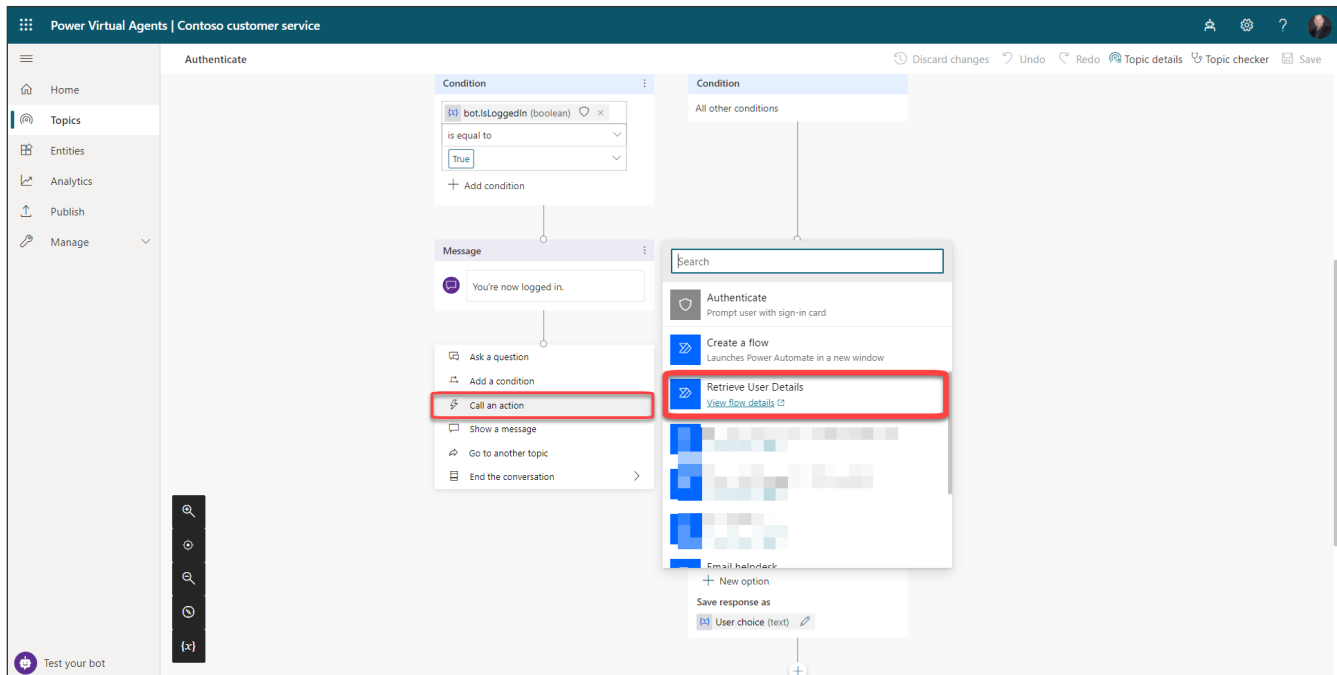
13. Scroll back up to the top and rename your flow to **Retrieve User Details** and then **Save** it. You can now close the Power Automate browser tab and return to Power Virtual Agents



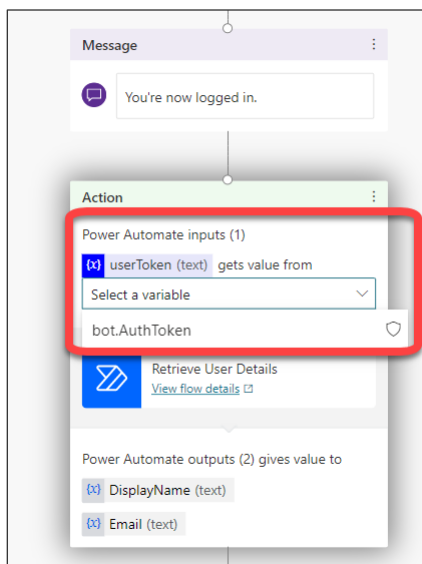
## Task 5: Add your flow into your conversation topic


1. Return to your tab where you were working in Power Virtual Agents, or navigate to [powervirtualagents.microsoft.com](https://powervirtualagents.microsoft.com).

Click on the  icon under the **You're now logged in** message, select **Call an action**, and then select the flow you just created.



2. The flow is added to the authoring canvas. In the dropdown menu, select **bot.AuthToken** to link the Power Virtual Agents variable to the Power Automate input

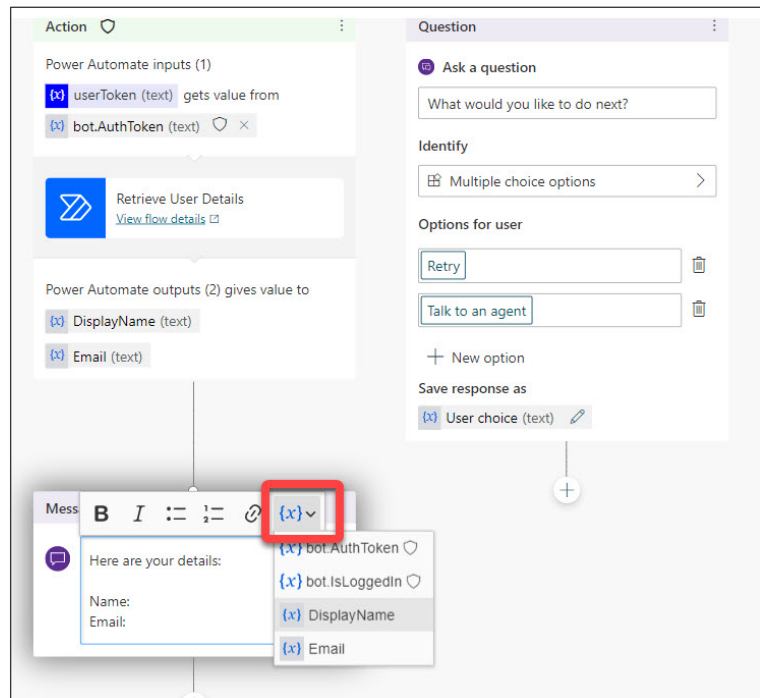


3. Underneath this step, select the  icon, select **Show a message**, paste in the following text, and replace the "<>>" with the dynamic variables **displayName** and **email**:

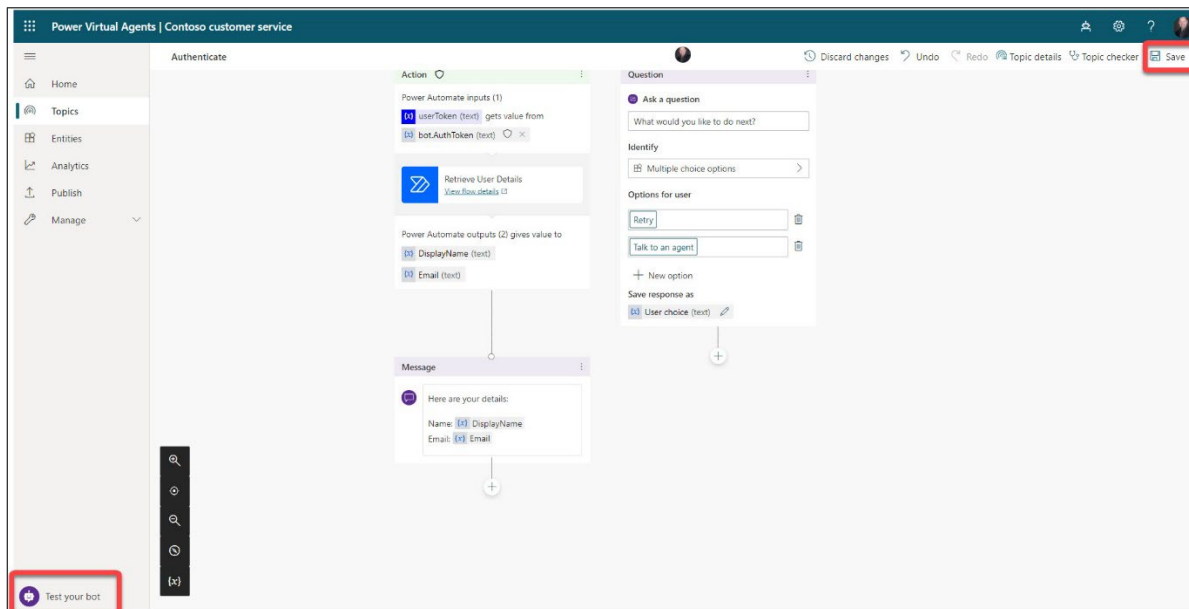
Here are your details:

Name: <>> ,

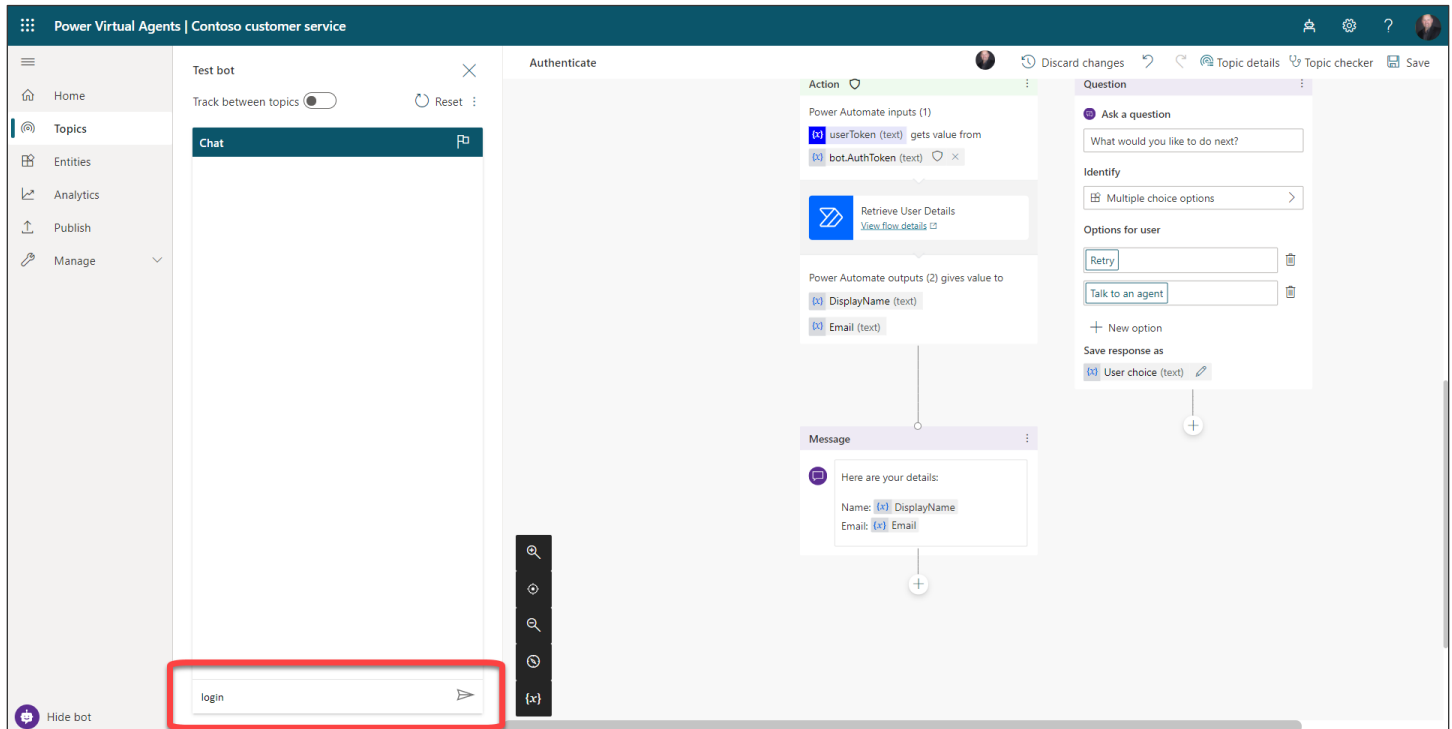
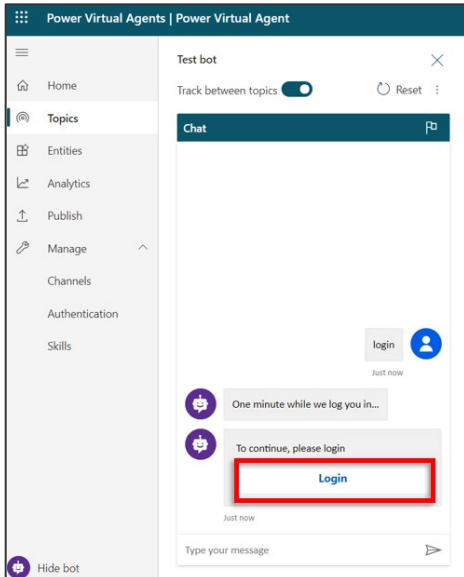
Email: <>>



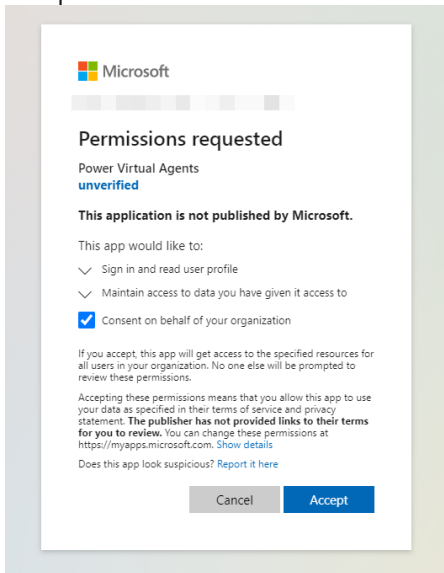
4. Select **Save** in the upper right corner, and select **Test your bot** in the lower left corner.



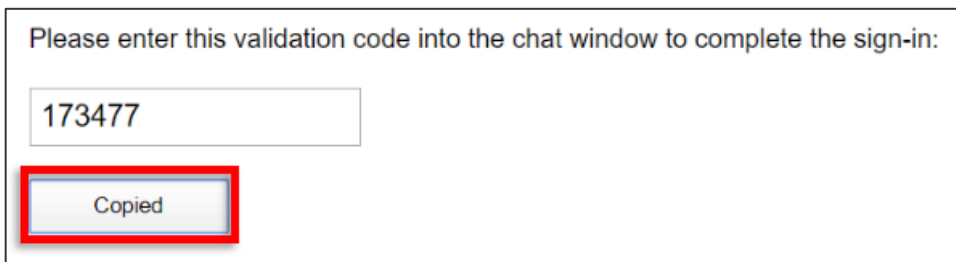
## 5. Type login in the chatbot test pane

6. Select **Login**. A new tab will open to authenticate your session.

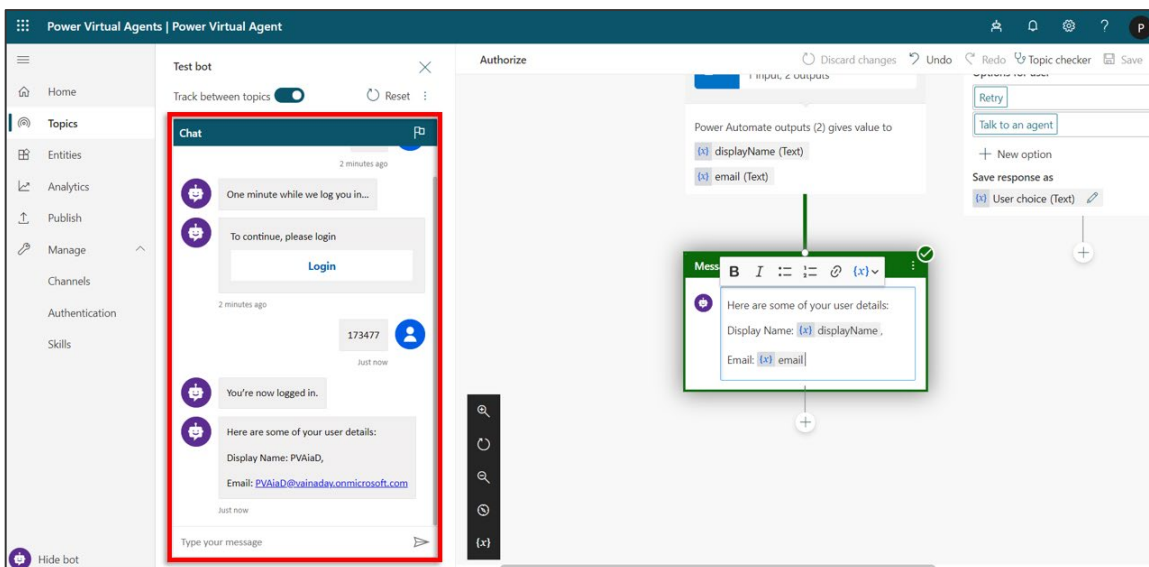
7. Enter the credentials that you have been using for the lab. You may be prompted to accept permissions – click the accept button



8. You will be presented with a validation code. Copy the code and paste it back into the chat session



9. You will see a message stating "You're now logged in", followed by some of your user details presented within the chat session as a result of your flow.



Congratulations, you have just completed setting up authentication from your virtual agent!



## Lab survey

We would appreciate your feedback on Power Virtual Agents and on this hands-on-lab, such as the quality of documentation and the usefulness of the learning experience.

Please use the survey at <https://aka.ms/PVAiaDSurvey> to share your feedback.

You may provide feedback for each module as you complete it or at the end once you've completed all the modules.

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