# Lab: Working with Azure AD B2C Userflows

#### Overview

Azure Active Directory (Azure AD) B2C is a white-label cloud identity service (IDaaS) for your customer facing web & mobile apps. It is highly available, secure and scales to millions of customer identities. Customers can use their social accounts (Facebook, Google, Microsoft account, etc.) or create new credentials to access your apps

## **Objectives**

Learn how to:

- Create a new Azure AD B2C tenant.
- Register your web application and create sign-up, sign-in and password reset experiences using userflows.
- Enable multifactor authentication (MFA) to add extra security.
- Provide a sign-up or sign-in experience in 37 different languages.
- Customize the UI of the sign-up and sign-in screens.

## **Prerequisites**

- Microsoft Azure account
- Internet

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#### Task 1: Create a new Azure AD B2C tenant

Let's start by creating an Azure AD B2C tenant. A "tenant" (also called a "directory") is a container for all your customers, apps, policies, groups and more.

- 1. First, sign in to the Azure portal at <a href="https://portal.azure.com">https://portal.azure.com</a>.
  - a. Enter your Hotmail or Outlook credentials.
- 2. Click the Create a Resource button and search for "b2c"

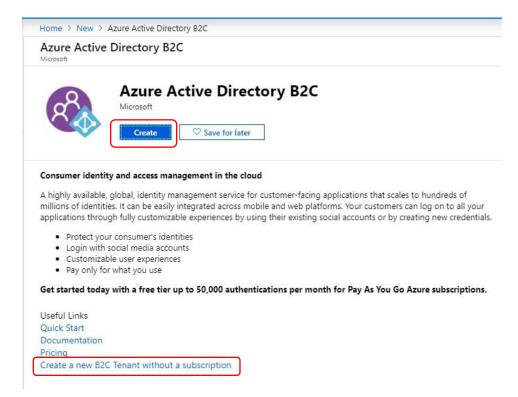


3. From the search results, click Azure Active Directory B2C.

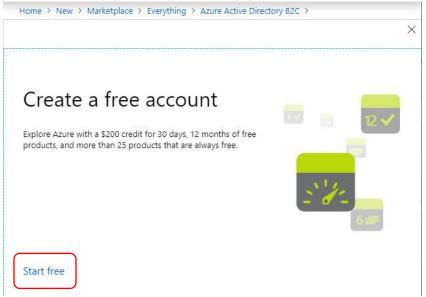
Results



- Next, if you want to test AAD B2C functionality for free (up to 50,000 authentications per month), you will need an Azure account that is not associated to an Enterprise Agreement.
  - a. If you already have such an Azure Account with a subscription, click on **Create** at the next screen and go to step number 5.
  - b. If you prefer to add an Azure Account with a subscription later, click on **Create a new B2C Tenant without a subscription** at the next screen and go to step number 5.



c. Otherwise, if your current Azure account is tied to an Enterprise Agreement or if you don't already have an account, select **Start free.** Then, go to step D in this section.



With your Azure free account, you get all of this—and you won't be charged until you choose to upgrade.



**IMPORTANT** - Note that in order to create your new Azure free account, you are required to provide your credit card information. Azure needs to keep a credit card on file in the event you decide to upgrade or in case you use non-free resources.

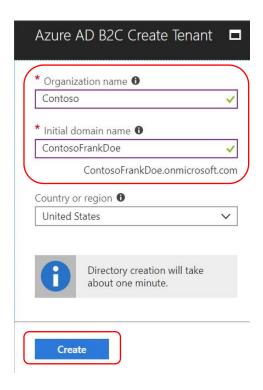
With Azure AD B2C, you account gets 50,000 free authentications per month. However, Azure Multi-Factor Authentication for Azure AD B2C users will be charged at a flat fee of \$0.03 per authentication. Go to <a href="http://aka.ms/aadb2cpricing">http://aka.ms/aadb2cpricing</a> for more details.

To avoid any charges to your credit card:

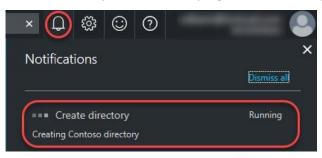
- Don't authenticate more than 50,000 times per month.
- Don't enable MFA in your AAD B2C tenant.
- d. After you have created your new free account, open a new window and go to the Azure portal at <a href="https://portal.azure.com">https://portal.azure.com</a>. Repeat steps 2 and 3.
- 5. Click on the **Create a new Azure AD B2C Tenant** link to create a new directory.



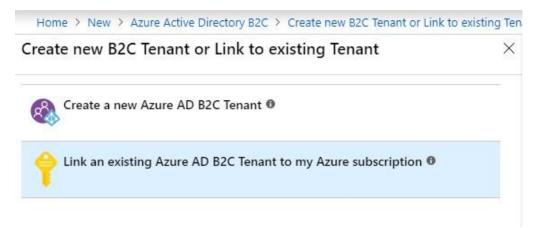
6. Enter an Organization name of "Contoso" and an Initial domain name that's globally unique. For example, you may want to include your name, such as "ContosoFrankDoe". This will be the subdomain of the tenant. Which we also called the tenant name, such as "ContosoFrankDoe.onmicrosoft.com", and will be used to configure the application later. Click Create.



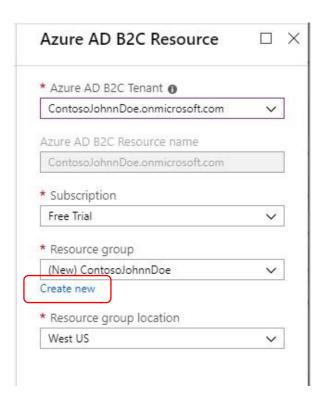
7. It will take a minute or so for the directory to be created. You can track progress using the notifications dropdown in the top right corner of the portal.



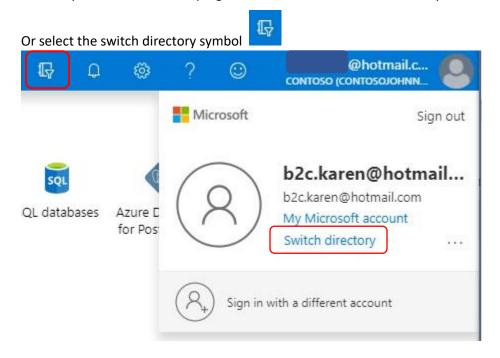
- 8. Once the directory has been created, Refresh your browser to reflect all the changes.
- 9. select Link an existing Azure AD B2 Tenant to my Azure Subscription.



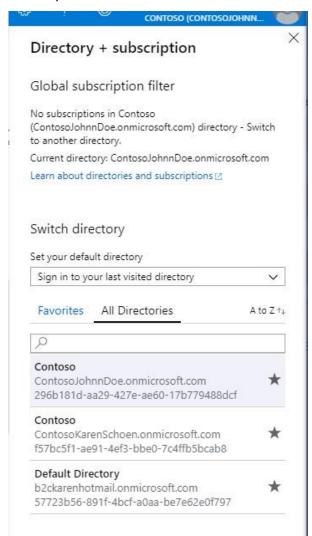
10. From the drop-down menus, select your tenant, **create a new resource group** if you don't already have one, and select the resource group location that you consider is closer to you. Click **create**.



- 11. It will take a minute or so for the resource group to be created. You can track progress using the notifications dropdown in the top right corner of the portal.
- 12. After the resource group is created, Refresh your browser or sign out from the portal and sign in again.
- 13. Click on your name, on the top right corner and select Switch directory.

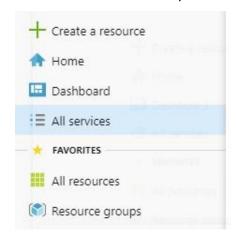


14. You will see your Default Directory and your newly created AAD B2C directory, in this case called Contoso. These two directories are completely independent from each other. Select your AAD B2C directory.



**IMPORTANT**: you need to be in the AAD B2C directory in order to have access to AAD B2C functionality and user directory.

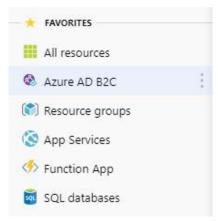
15. To make it easier to access your new AAD B2C tenant, select All services.



16. Enter "b2c" in the search bar. Then, click on the star symbol to add Azure AD B2C to your favorites.



17. Look for **Azure AD B2C** blade under your Favorites menu on the left-hand side of the portal and click on it. For easy access, you can **drag it to the top** of the list.

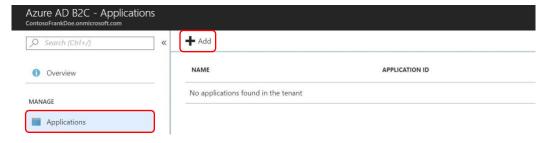


Task 2: Register your web app

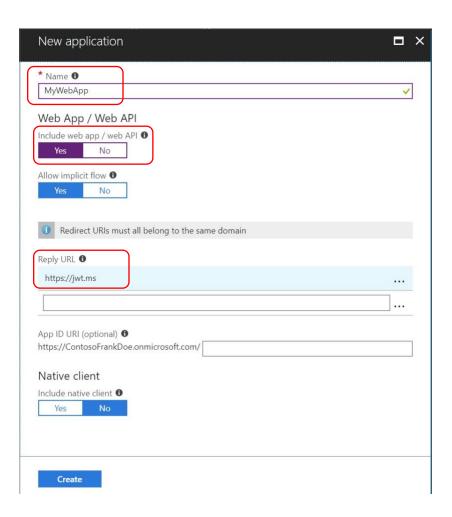
You should now be on the page that lets you configure Azure AD B2C. If you are not, see the instructions in the <a href="mailto:appendix">appendix</a>.

The first thing we will do is register an application. This is necessary for Azure AD B2C to identify which application is making the sign-in request.

1. Select the Applications tab and click Add.



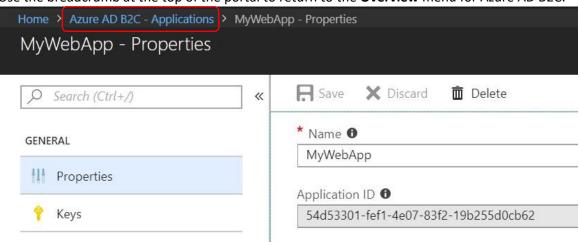
- 2. Enter "MyWebApp" as the Name of the application. Select Yes for Include Web App / Web API.
- 3. Add "https://jwt.ms" as a Reply URL. This is where Azure AD B2C will send tokens back after a successful sign up or sign in. Because we do not have an application built yet, we will use <a href="https://jwt.ms">https://jwt.ms</a> temporarily. This web application simply displays the claims in the minted token.
- 4. Click **Create** to create the application.



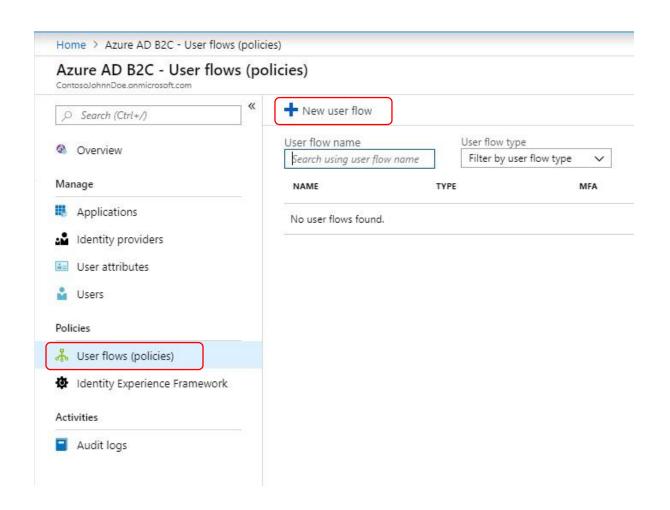
# Task 3: Create your sign-in/sign-up policy

Next, you need to create a sign up or sign in policy. Policies are settings that fully describes customer identity experiences such as sign-up, sign-in, profile edit and password reset. Your app can trigger the appropriate experience by invoking the right policy as part of the authentication request.

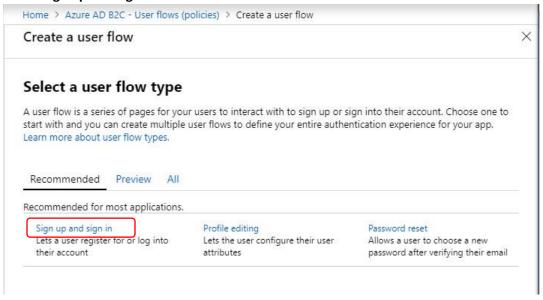
1. Use the breadcrumb at the top of the portal to return to the **Overview** menu for Azure AD B2C.



2. Select the **User flows (policies)** tab and click **New user flow**.



#### Select Sign up and sign in.



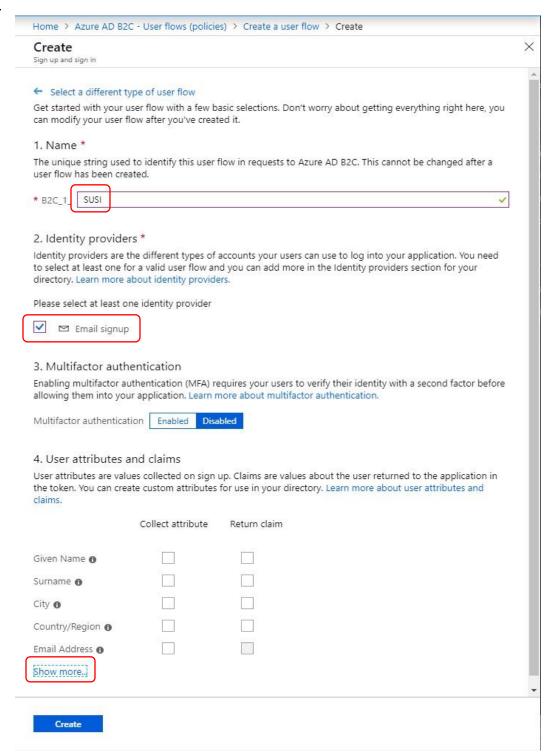
In step number 1, enter **"SUSI"** as the **Name** for the Sign-Up or Sign-In (SUSI) policy. (Once created, your policy name will be automatically prefixed with "B2C\_1\_" to become "B2C\_1\_SUSI)

In step number 2, from the **Identity providers** check **Email signup**. This will allow users to sign up (or sign in) using an email address and password. No other identity providers have been configured yet.

In step number 3, You can ignore **Multifactor authentication** for now.

In step number 4, click on **Show more...** 

4.



From **collect attributes**, check **City**, **Country/Region**, **Display Name**, **and Postal Code**. This represents the data that will be collected from the user when the user is going through the sign up process.

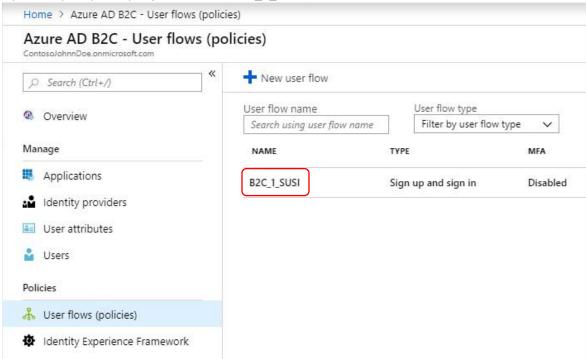
6. Then, from the **return claim** check **Display Name**, **Postal Code**, **User is new, and User's Object ID** and click **OK**. This represents the data about the user that will be returned to the application in the token as claims. Click **Create**.

Create		
4. User attributes and claims		
User attributes are values collected on the application in the token. You can cr		
	Collect attribute	Return claim
City •	<b>✓</b>	
Country/Region 6	<b>✓</b>	
Display Name 🚯	<b>✓</b>	~
Email Address 6		
Email Addresses •		
Given Name 🐧		
Identity Provider 📵		
Job Title 🗿		
Postal Code <b>6</b>	<b>✓</b>	~
State/Province •		
Street Address •		
Surname 📵		
User is new 👩		~
User's Object ID 👩		✓

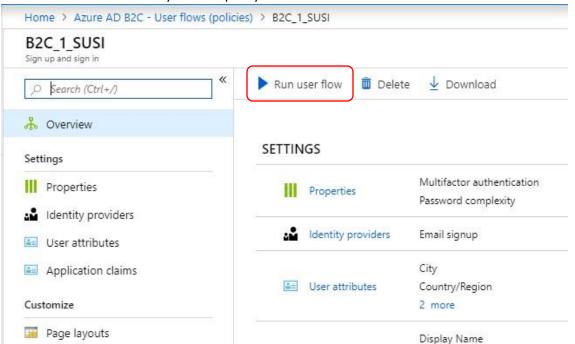
## Task 4: Try out the newly created user experience

Now that you have created a sign-up or sign-in policy, you can run the policy to see what the user experience will be like when a user is redirected to Azure AD B2C from the application.

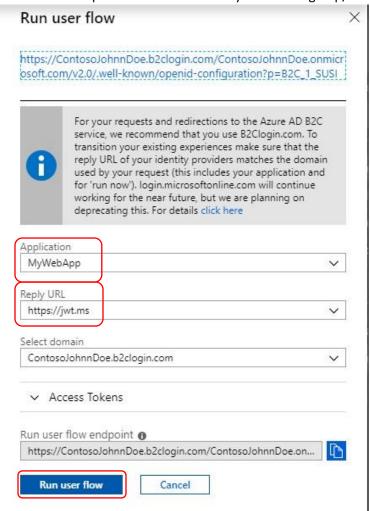
1. Open the policy that you just created (B2C\_1\_SUSI).



2. You will see an overview of your new policy. Click **Run user flow** to test it.



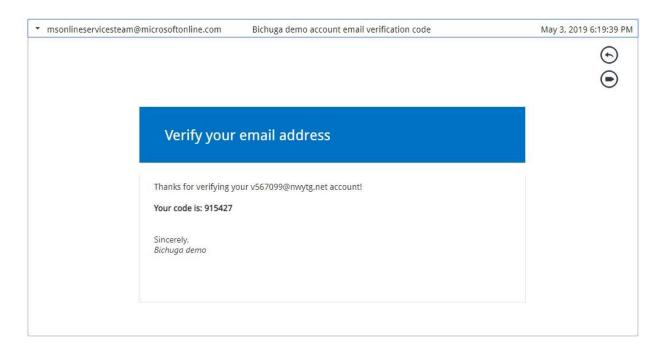
3. If not already selected by default, use the "MyWebApp" application with the reply URL set to <a href="https://jwt.ms">https://jwt.ms</a> (the Reply URL that you registered when creating that application). Click on Run user flow. This will open a new tab and take you to the sign up/in experience that you just created.



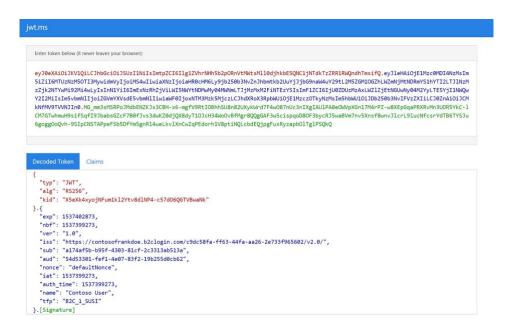
**Note:** The request made by clicking on "Run user flow" has information that indicates to Azure AD B2C that the application "MyWebApp" wishes to let users sign into Azure AD B2C using the policy "B2C\_1\_SUSI", and that when the user successfully signs into Azure AD B2C, the resulting token should be sent to <a href="https://jwt.ms">https://jwt.ms</a>. This is similar to the web request that will be made by our web application, except the Reply URL in that request will have the token be sent back to the web app.

4. In order to test your newly created user experience, you will need a real email address and access to its inbox. To make this task easier, you can use a temporary email service that creates a short-term email/inbox for you. For example, <a href="https://lominutemail.com/10MinuteMail/index.html">https://lominutemail.com/10MinuteMail/index.html</a>





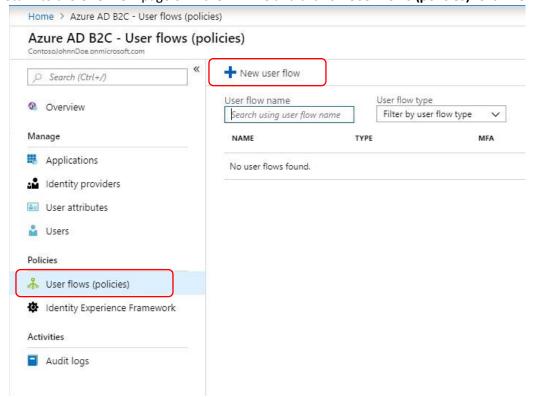
5. Go ahead and sign up! Once you've signed up, you will be redirected to <a href="https://jwt.ms">https://jwt.ms</a>. This site will decode the Azure AD B2C token for you and show you the claims that are in the token.



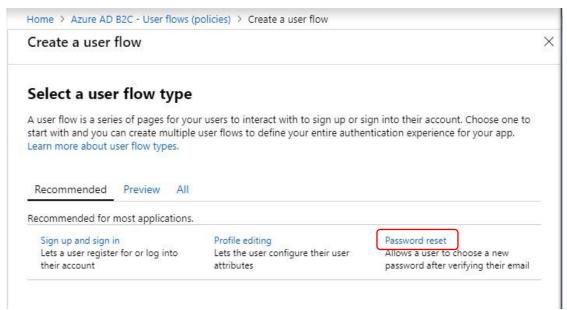
## Task 5: Create your password reset policy

Like the sign-up or sign-in policy that you created, you will need to create a password reset policy as well to give your users the ability to reset their passwords.

1. Return to the Overview page of Azure AD B2C and click on User flows (policies). Click New user flow.

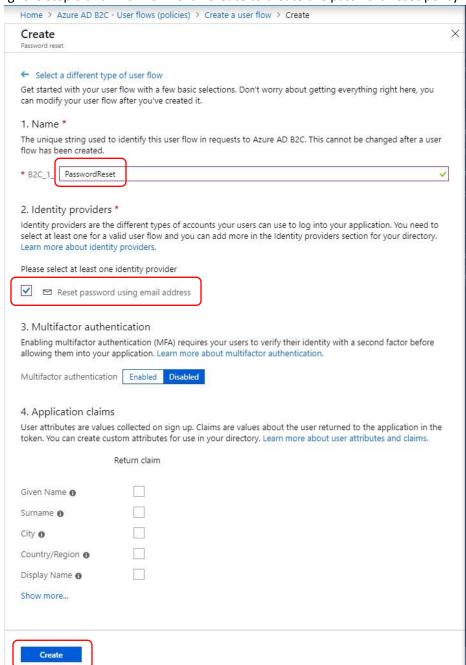


2. Select Password reset.



- In step number 1, enter "PasswordReset" as the Name for the password reset policy. (Once created, your policy name will be automatically prefixed with "B2C\_1\_" to become "B2C\_1\_PasswordReset)
- 4. In step number 2, from the **Identity providers** tab check **Reset password using email address**.

5. Ignore step 3 and 4 for now. Click **Create** to create the password reset policy.



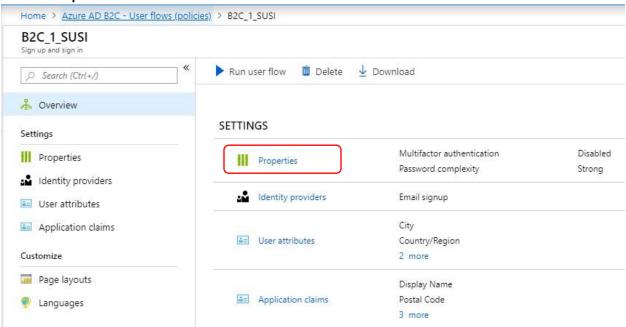
6. Test out the new policy by repeating <u>Task 4</u> (use the newly recreated password reset policy instead of the sign-up or sign-in policy).

Now that you have a basic setup, let's work on customizing the user experience a bit more. The next set of tasks will show you how to enable multifactor authentication (MFA), display experiences in multiple languages, and add your own branding. Although the following set of tasks are independent from each other, we recommend going in order.

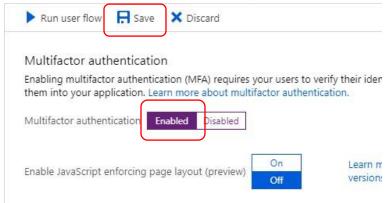
## Task 6: Enable multifactor authentication (MFA)

Suppose your new application displays sensitive information to your users, such as their account balance. You need additional security and so let's enable MFA.

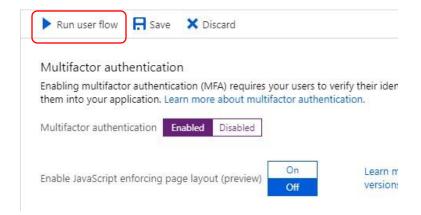
- 1. Open the sign-up or sign-in policy that you created (e.g. B2C\_1\_SUSI)
- 2. Click on Properties.



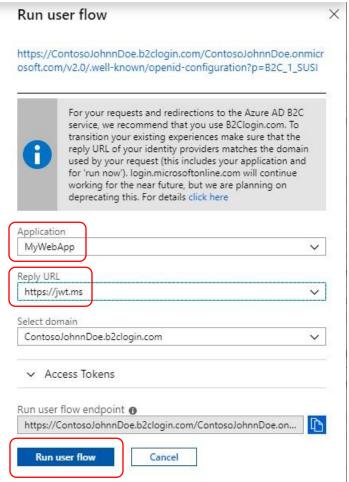
3. On the Multifactor authentication section, switch it to **Enabled** and click **Save**.



4. Try out the new settings by clicking on **Run user flow** and going through a sign in or sign up experience.



Ensure that the **reply URL** is set to <a href="https://jwt.ms">https://jwt.ms</a>. Click on **Run user flow**.

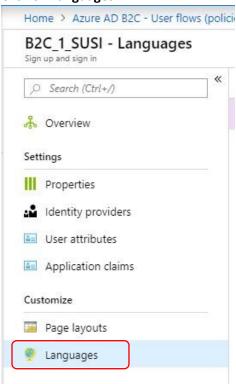


# Task 7: Provide sign-in experiences in 37 different languages

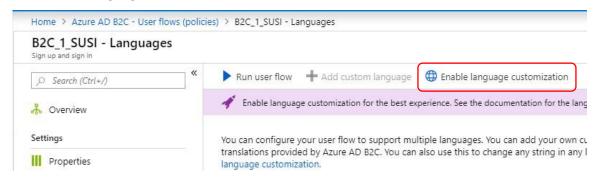
Suppose your new application will have users around the world, some who may not use English as the primary language. Azure AD B2C provides sign-in experiences that can be localized up to 36 different

languages. This task will show you how you can modify the sign-in request to show the experience in Spanish and French.

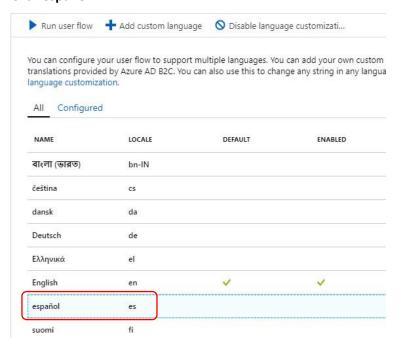
- 1. Open the sign-up or sign-in policy that you created (e.g. B2C\_1\_SUSI)
- 2. Click on Languages.



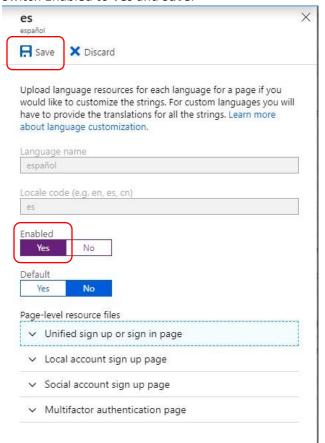
3. Click Enable language customization.



#### 4. Click español.



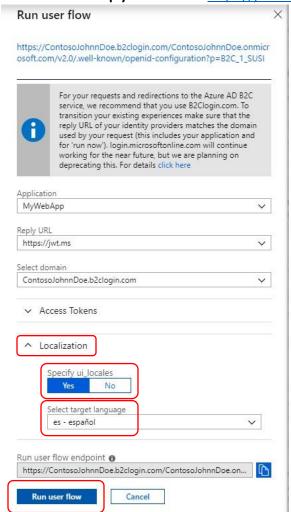
5. Switch Enabled to Yes and Save.



6. Now try your new language. Select **Run user flow**.

7. Click **Localization** and switch Specify ui\_locales to **Yes** and select **es – español** from the dropdown menu.

Ensure that the **reply URL** is set to <a href="https://jwt.ms">https://jwt.ms</a>. Click on **Run user flow**.

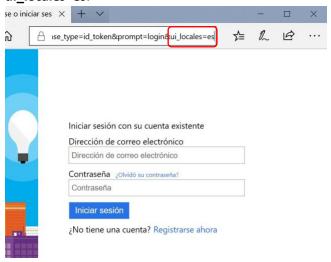


A new tab will open, and you should now see the sign-up and sign-in experiences in Spanish.

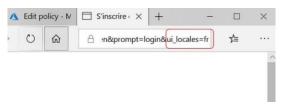


Nice! Now let's change the experience to French.

8. In the URL of the sign in page that just opened, scroll to the end and find the parameter **ui locales=es**.



9. Change the parameter to **ui\_locales=fr** and hit enter to load the new URL.



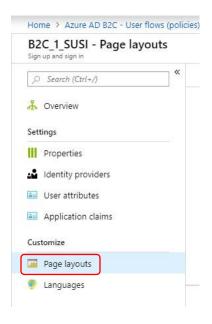
You should now see the sign-up and sign-in experiences in French.

The ui\_locales parameter controls which language the sign in experience renders in. To try out any one of the other 36 different languages, just enter the corresponding code. You can find the full list of codes in the **Supported Languages** section <u>here</u>.

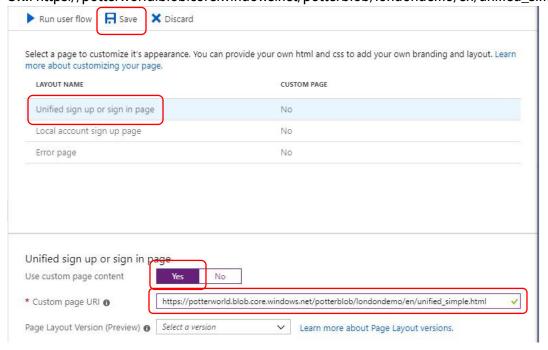
# Task 8: Add branding to your sign-in experience

As the developer for a customer-facing application, you want to ensure that your sign in experience doesn't look different than the rest of your application. Specifically, it needs to maintain your brand. In this task, you will customize your sign-in experience to add a branded template. 1. Open the sign-up or sign-in policy that you created (e.g. B2C\_1\_SUSI)

2. Click on Page layouts.

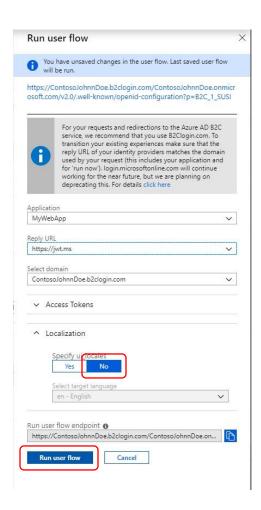


If not already selected, select Unified sign-up or sign-in page.
Switch "Use custom page content" to Yes. Then, enter the following URL for the Custom page
URI. https://potterworld.blob.core.windows.net/potterblob/londondemo/en/unified\_simple.html

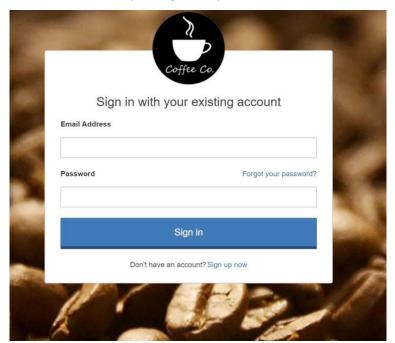


4. Save your policy and click on Run now.

**Note:** Since the provided template has English strings hardcoded into the HTML, we recommend switching off **Localization**.



You should now see your sign-in experience branded.



#### How UI customization works

Azure AD B2C brands the sign-in experiences by taking your HTML and CSS files (this is the link that you provided) and injecting the sign-in elements into a pre-specified location (an empty <div id="api"></div> element somewhere in the <body>). You can inspect the source code of the URL above to find the <div> element. Azure AD B2C pulls the HTML and CSS files from the link, inserts the necessary fields (such as the email and password fields), and presents the final UI to the user.

## **Lab Summary**

Congratulations on completing this lab! You've learned how to use Azure AD B2C to add rich, secure & scalable customer sign-up & sign-in experiences to your web app.

### **Additional Tasks**

- Add a Facebook identity provider
- Add an Azure AD identity provider <a href="https://docs.microsoft.com/en-us/azure/active-directory-b2c/tutorial-add-identity-providers">https://docs.microsoft.com/en-us/azure/active-directory-b2c/tutorial-add-identity-providers</a>
- Customize the complexity of the password

#### Resources

If you are interested in learning more about Azure AD B2C, you can refer to the following resources:

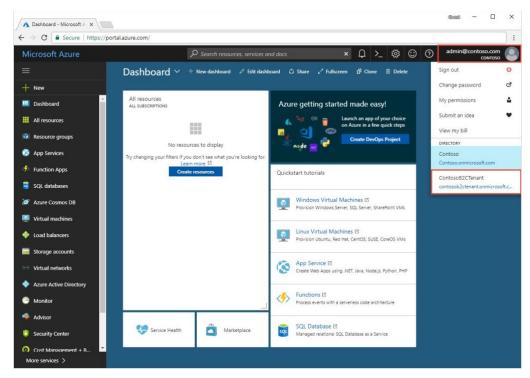
**Documentation**: <a href="http://aka.ms/aadb2c">http://aka.ms/aadb2c</a>

Samples: http://aka.ms/aadb2csamples

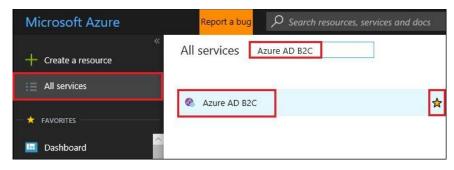
# **Appendix**

Navigating to the Azure AD B2C settings

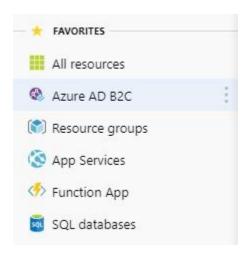
Select the Azure AD B2C directory in the top-right corner of the portal.



If Azure AD B2C isn't in the services list, expand **All services** in the navigation bar at the top-left side of the portal. Search for **Azure AD B2C** and select **Azure AD B2C** in the result list. You can also select the **star icon** to add Azure AD B2C it your favorite services list.



If you have already added AAD B2C to your favorite services list, then click on the Azure AD B2C blade on the left side menu, under favorites.



You can also access the blade by entering **Azure AD B2C** in **Search** resources at the top of the portal. In the results list, select **Azure AD B2C** to access the Azure AD B2C settings blade.