DocuSign Authentication Overview

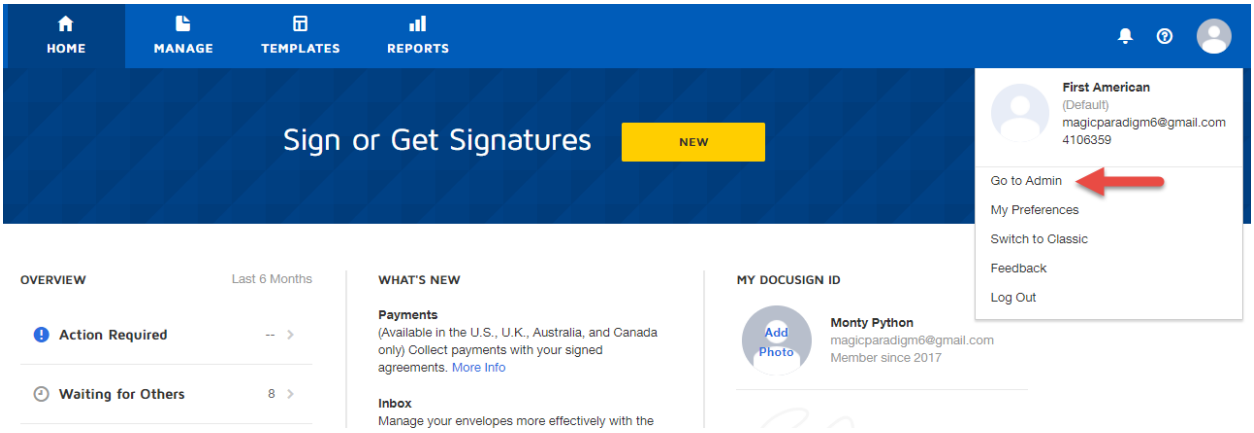
Service Integration

Requests to the DocuSign API must be authenticated. For applications that integrate to DocuSign without the direct involvement of senders, the use of a service integration is recommended. When a service integration is used, a one-time consent by the sender is all that is required. Once the one-time consent is given to the application (integrator key), it may make API calls by impersonating the sender. There are 2 types of consent that could be given to an application using a service integration:

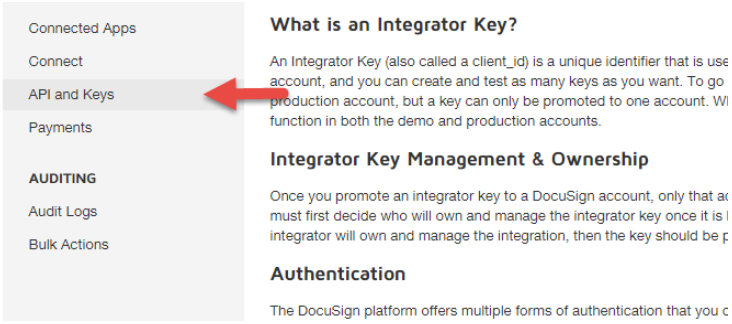
> User consent: An individual user with a DocuSign account can give consent that allows your application to use their account.
>
> Admin consent: A domain administrator can give consent on behalf of *all* the users within the organization's email domain. See the DocuSign Organization Administration guide to learn more about authorizing an application

Getting your first service integration with user consent to work

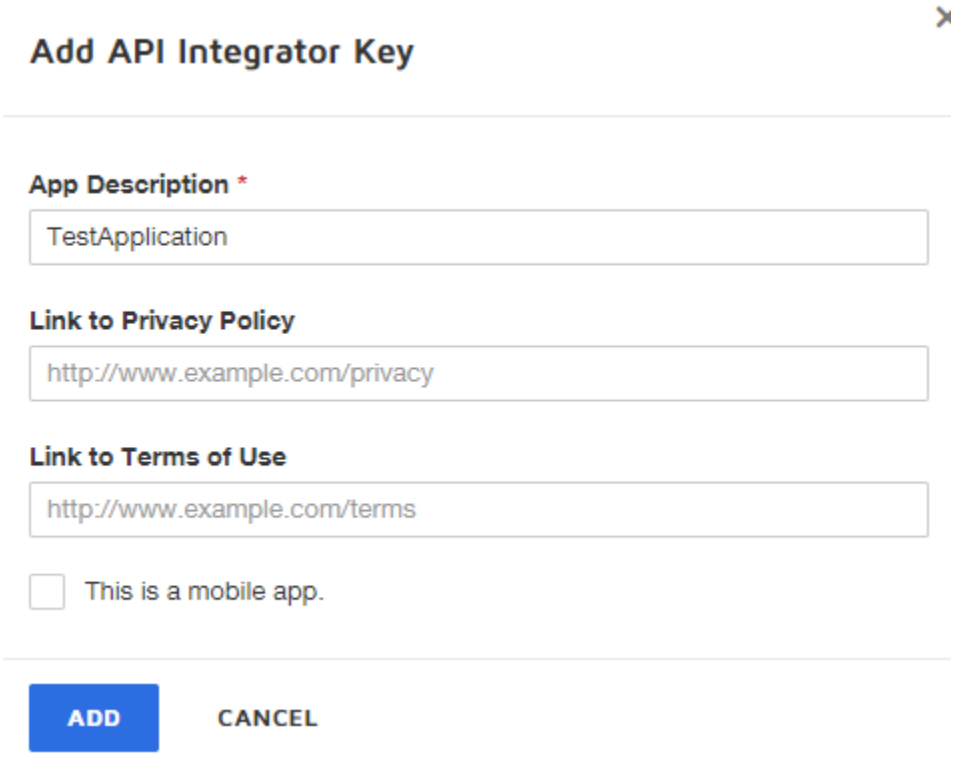
1. Generate an integrator key for your application. The integrator key is used to uniquely identify your application to DocuSign. To generate an integrator, log into the DocuSign Web Application and select ***Go To Admin*** from the top menu on the right-hand side:



Select ***API and Keys*** from the menu at the left hand side of the screen:



Press the button labeled ***ADD INTEGRATOR KEY*** and a pop-up window will be displayed. In the pop-up window, put in a description for your application. The link to privacy policy and terms of use are optional fields that can be populated later.



Add a redirect URL by pressing the ***ADD URI*** button. The redirect URI is the URL that the system will redirect to when you have granted consent.

After the URI has been added, add a secret key by pressing the ***ADD SECRET KEY*** button. For the purposes of the service integration authentication, you will not use the secret key again.

After adding the secret key, create an RSA keypair by pressing the ***ADD RSA KEYPAIR*** button. Be sure to save the private key to notepad or some other place that you can retrieve it again. After creating the RSA keypair, the private key will no longer be shown in the web application. It is important to note that private key begins after the line that reads:

------BEGIN RSA PRIVATE KEY -------

And ends right before the line that reads:

-----END RSA PRIVATE KEY-----

2. Now that you have an integrator key set up, you must consent to giving it the rights to impersonate your sender to make API calls. Consent must be given only once and requires user interaction with DocuSign. Once consent has been given, the service integration does not need any further user interaction to make API calls.

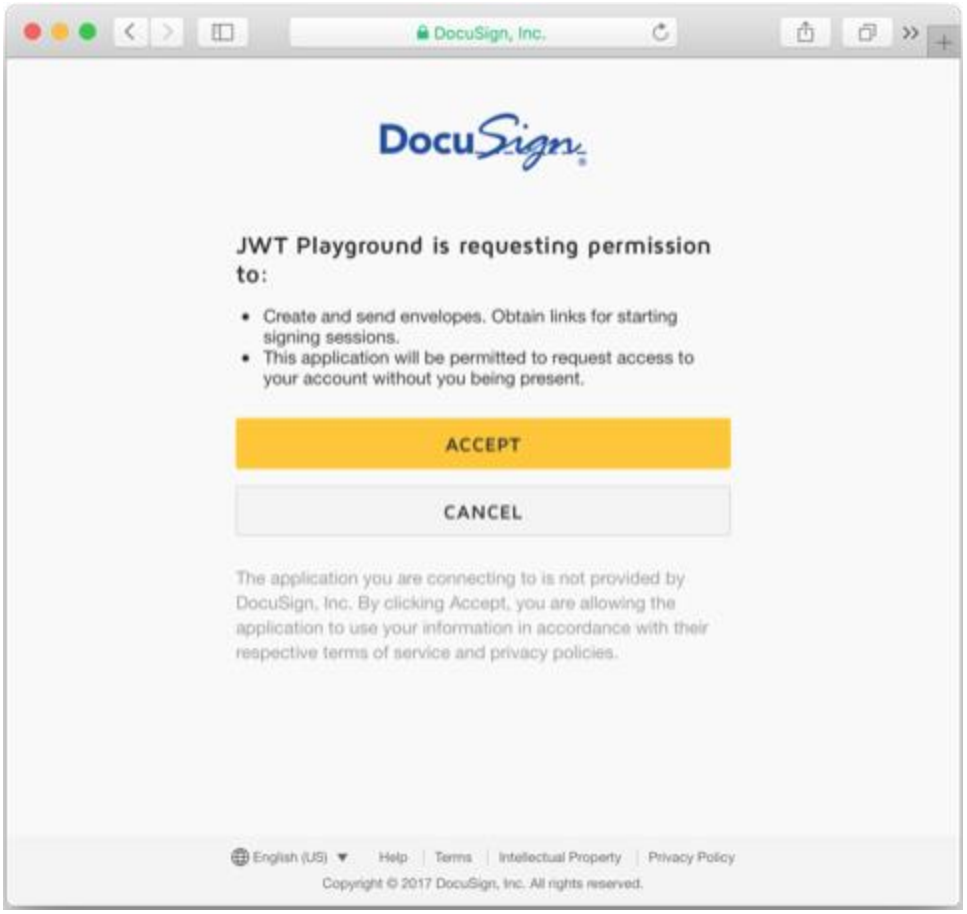
   To grant consent, enter in the following URL in a new browser session or ideally a separate browser from the one you used to log into your DocuSign account:

```
https://account-d.docusign.com/oauth/auth?
response_type=code&scope=signature%20impersonation&client_id=[integrator key]
                    &[redirect URI]
```

Insert your integrator key and redirect URI into the URL e.g., if your integrator key is *1a971ea6-780f-49fd-a622-d23232a01d52* and your redirect URI https://dsdemos.docusign.com/dsportals/finance/ , your URL would be:

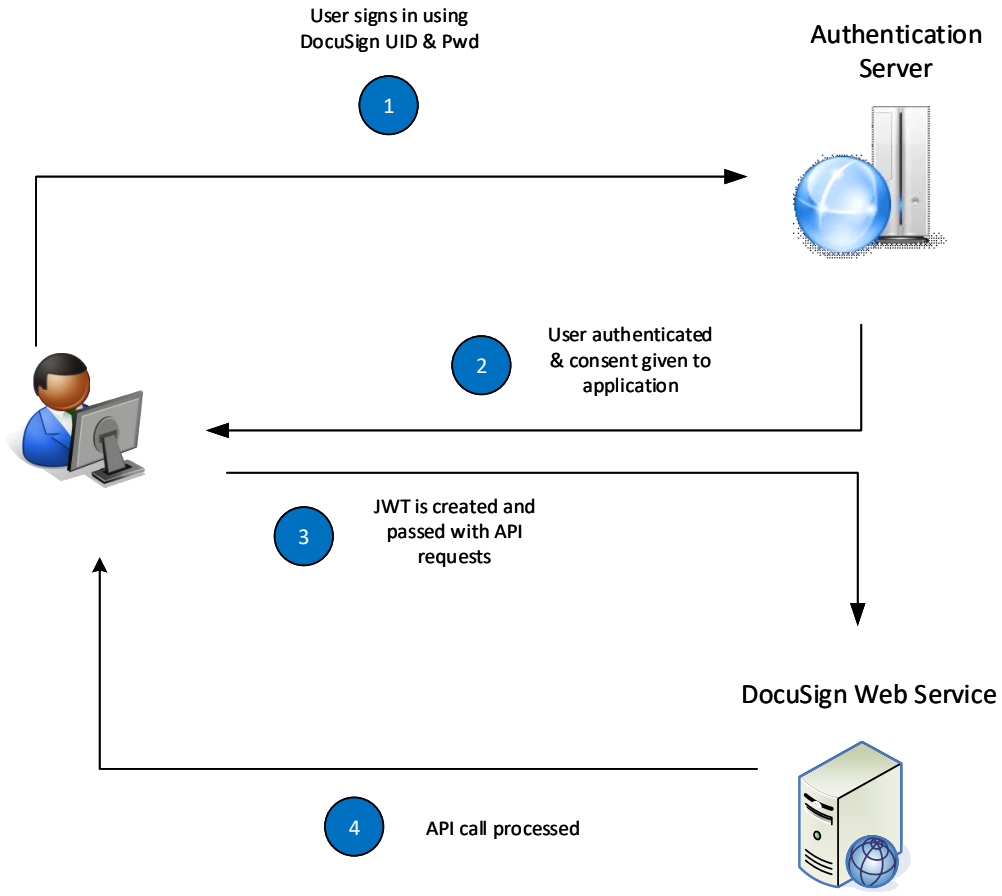
https://account-d.docusign.com/oauth/auth?
response_type=code&scope=signature%20impersonation&client_id=*ee91920b-8a4e-4726-b87b-899aaf5bf060*&redirect_uri=*https://dsdemos.docusign.com/dsportals/finance/*

You should be presented with a DocuSign login screen. Log in the with your DocuSign account credentials and the following screen will be displayed:



Click *ACCEPT* and the screen will redirect to the redirect URI you specified. Your one time consent for the integrator key has been granted and you will not be prompted for your DocuSign credentials again when using this integrator key to make API calls.

3. For an application to use a service integration to authenticate with DocuSign, it requires a JSON Web Token (JWT). The process to perform the service integration follows the workflow shown below:



To create the JWT requires 3 components: a header, payload and signature.

The header will always be:

```
{
      "typ": "JWT",
      "alg": "RS256"
}
```

The payload consists of the following data:

```
{
  "iss": "[integrator key]",
  "sub": "[DocuSign user ID]” (not the account ID),
  "iat": [the issued at time],
  "exp": [the expiration time] (the value will be clipped at IAT + 3600 seconds)
  "aud": "account-d.docusign.com", (the address for the DocuSign auth service)
  "scope": "signature impersonation"
}
```

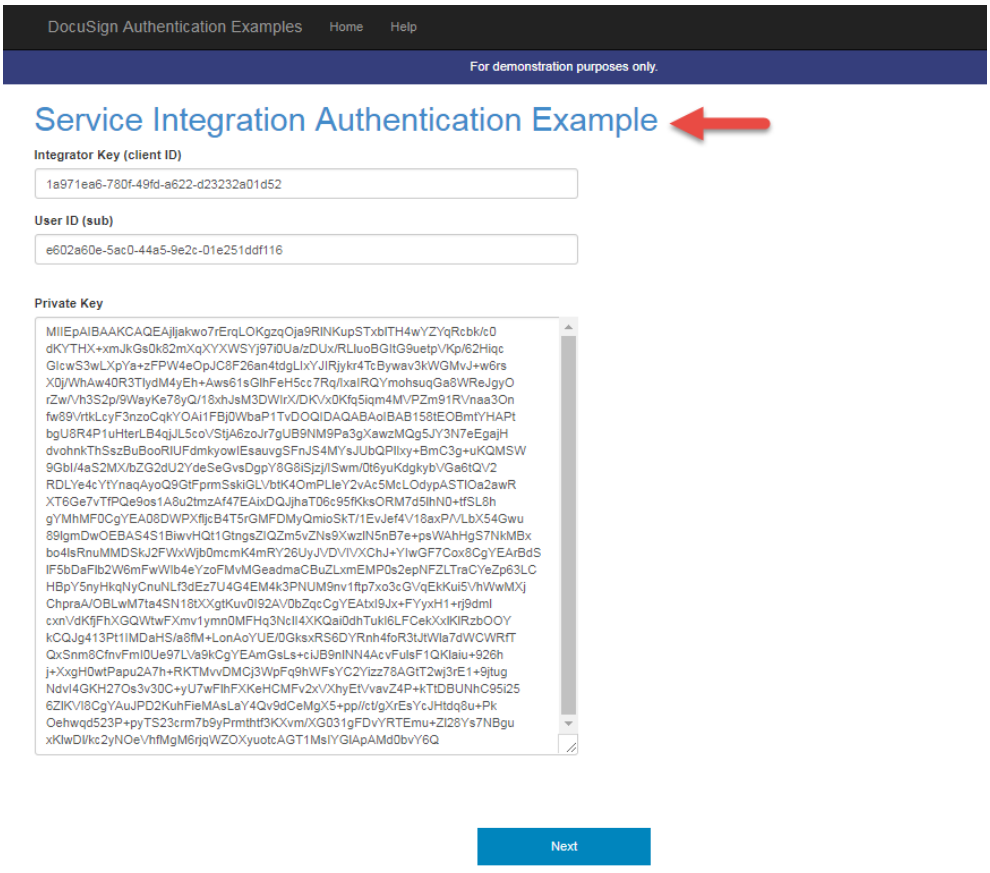
For the signature, the JWT is signed by the RSA private key created earlier and 64-bit encoded.

To create the JWT, it is recommended that a JWT toolkit be utilized. To see a fully working example written in C# and .NET, please refer to the reference application.

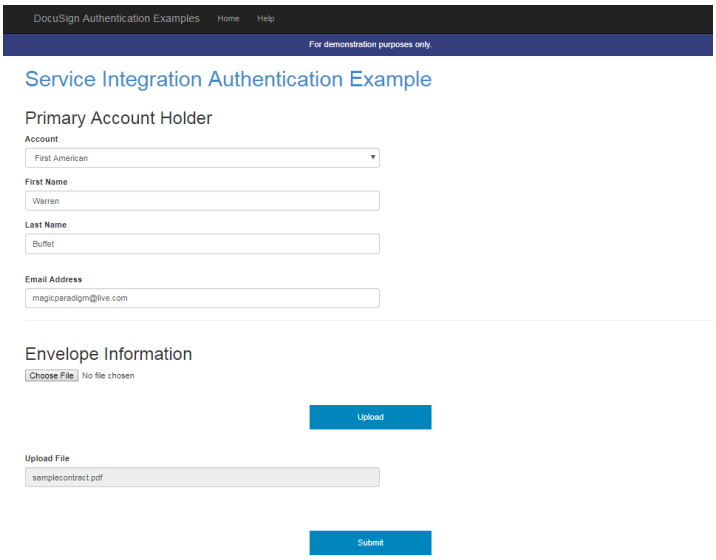
Utilizing the reference application

The *ServiceIntegration* application allows users to interactively test out their integrator keys with a service integration. To use the application, follow these steps:

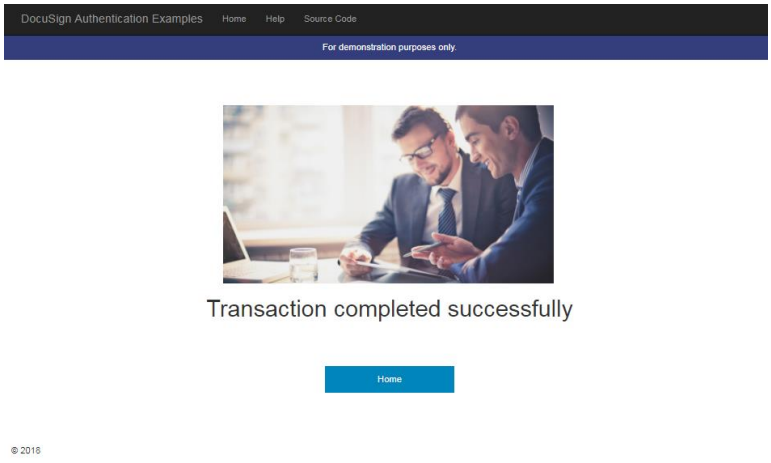
1. Follow step 1 above to generate an integrator key for your application
2. Follow step 2 above to grant consent for your application to make API calls using your identity
3. Now that you have an integrator key, private key and DocuSign user ID, you can use the *ServiceIntegration* application to test your integrator key:
    a. Enter in the values for your integrator key, DocuSign user ID and private key. Press *Next* to continue



b. The JWT that is created will be used to create an envelope with a certified delivery recipient. From the *Accounts* dropdown list, select the account from the envelope should be sent. Enter in the recipient name and email address. Lastly, upload a PDF that you want to send as part of the envelope by browse to a file and selecting *Upload*. When you are finished entering all the data, click *Submit* to continue:



c. Once you see the confirmation screen, check the email account to which you sent the envelope:



To access the source code for the reference application, click the *Source Code* link on the top menu