



# Assets

Recommendations and helpful tips for building your assets solution!

This guide outlines best practices and suggestions for building a user-friendly assets solution which maximizes conversion and allows you to more accurately underwrite your users to make better informed lending decisions. We've broken it down into key considerations for a front-end and back-end implementation below.

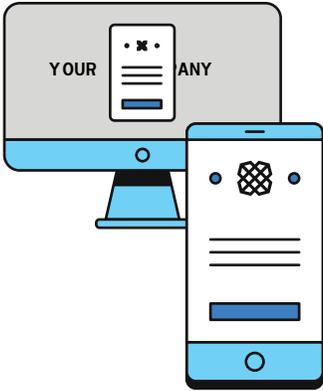
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### Back-end implementation

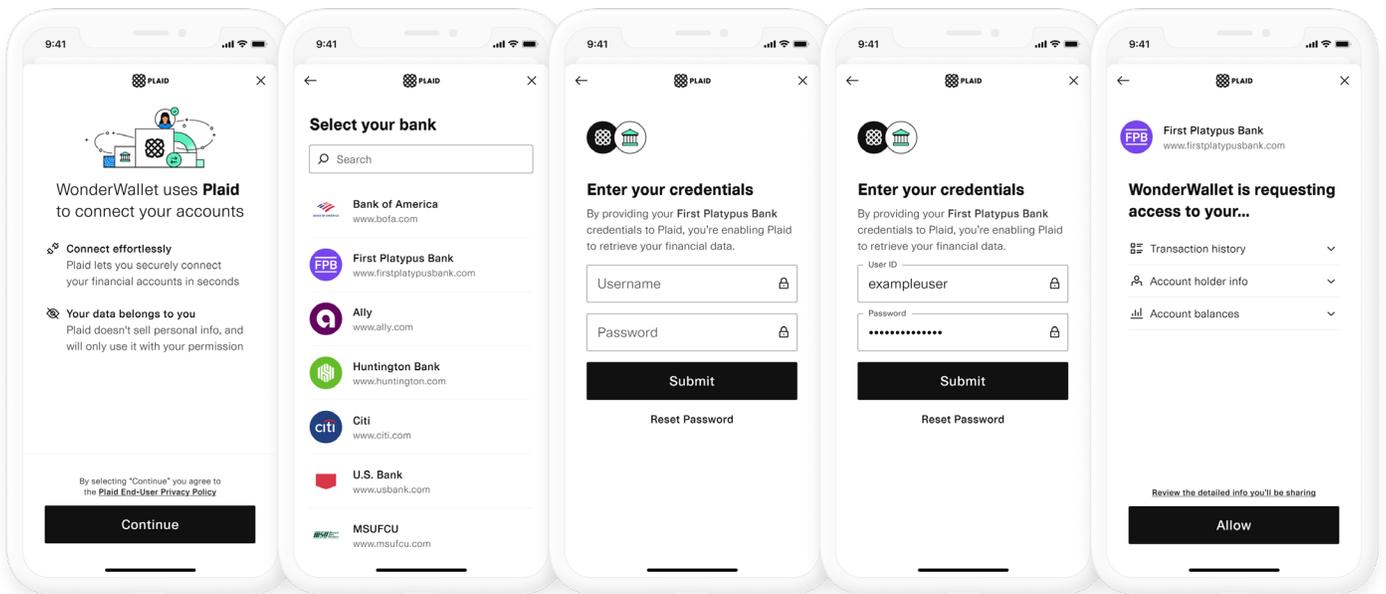
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## Front-end implementation

CREATE A FIRST-CLASS USER EXPERIENCE

Plaid Link is the client-side component that your users will interact with in order to link their accounts to Plaid and allow you to access their accounts via the Plaid API. Plaid Link will handle credential validation, multi-factor authentication, and error handling for each institution that we support. Additionally, consider the following implementation best practices to create a healthy and stable integration.



The last pane shown in the image above is the "Assets connected pane." This is where we receive user permission for Assets data.

## Choose which products to initialize

Determining which products you should initialize Link with when creating the Link token will vary based on your use case. Plaid will dynamically control institution coverage, i.e. what institutions your users can see and select in Link, based on the initialized products. Let's break it down by each product you may consider initializing with:

**Assets: Asset reports are created on a per-user basis and include a snapshot of information about a user's identity, transaction history, account balances, and more.**

**WHEN SHOULD I INITIALIZE WITH ASSETS?**

You should always initialize with Assets as this is at the core of your use case. Assets cannot be added to an Item after Link, unless you plan to implement Assets in upgrade mode. If you try to call `/asset_report/create` without initializing with Assets, you will receive a `PRODUCT_NOT_ENABLED` error.

**HOW DOES THIS IMPACT COVERAGE?**

Our Assets product covers the most amount of financial institution accounts out of all of our products. For the most amount of coverage, you should initialize with just Assets.

**Auth: Allows you to pull account and routing numbers which can be used for loan payoff.**

**WHEN SHOULD I INITIALIZE WITH AUTH?**

If you need Auth information immediately after the user connects their bank account to transfer funds, you should initialize with Auth as well. However, if you don't use Auth information immediately, you should initialize with Assets only and call Auth when you need to (i.e. after the user has been approved for a loan).

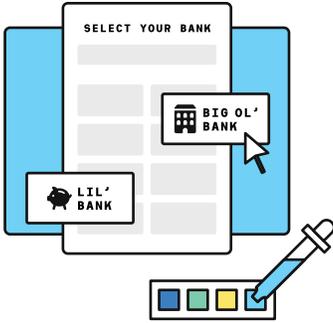
**HOW DOES THIS IMPACT COVERAGE?**

Not all institutions supported through Assets also support Auth. Thus, adding Auth as an initialized product will reduce the coverage of Assets. We recommend not initializing with Auth if you don't need the returned data right away or if you have another way for the user to transfer funds outside of Plaid's Auth product.

## Filter for a specific account type

Assets supports all account types. However, you can further limit the accounts shown in Link by using `account_filters` to specify the account subtypes to be shown.

Are you only interested in evaluating a user's financial health with only depository accounts? You can indicate that in the account filter. This filtering applies to both the "Account Select" view (if enabled) and the "Institution Select" view. Institutions that do not support the selected subtypes will be omitted from Link.



## Customize Link in dashboard

Plaid enables you to customize certain visual aspects of your app's interactions with Link via the [customization](#) pane in the dashboard. For the lending use case, consider customizing Link in the following ways:

### Customize the 'Consent' screen.

Select whether to feature a combination of your branding and Plaid's or just Plaid's. Also, review how your name is displayed on the screen.

### Enable 'Select Account' screen.

This allows you to understand which account your user prefers to use for lending decisioning. We recommend configuring the "Account Select" pane to the "Enabled for multiple accounts," or "Enabled for all accounts" view behavior.

### Adjust background color and CTA.

Do this where possible to align with your branding.

## Ensure OAuth coverage

In order to ensure secure, stable, and consistent API access in the financial ecosystem, more and more financial institutions are moving to an [OAuth flow](#). In order to access all OAuth institutions, there are a few steps you must consider to make sure your users can leverage OAuth:

- 1 Complete your [Application profile](#) in the dashboard. This is used in the OAuth flow.
- 2 Configure your [redirect URI](#) and add it to the developer Dashboard. Your redirect URI must be HTTPS. If you are using Link on iOS, you will need to configure an [Apple App Association file](#) and if you are using Android you'll need to define an Android package name.
- 3 Provide your redirect URI in the `/link/token/create` call. This will tell Plaid where to return control back to your application after a user completes the bank's OAuth flow.
- 4 Re-launch Link. Make sure to [persist the user state](#) and re-launch Link using the same Link token with the provided received redirect URI.

## Utilize callbacks

Callbacks provide a way for us to let you know what happens in Link. We provide [onSuccess](#), [onExit](#), and [onEvent](#) callbacks. We highly recommend listening to all of these callbacks. Here are a couple ways you can use them for your lending use case:

- Capture metadata from callbacks to aid in debugging and triaging issues.
- Build an onExit flow for users if they exit Link before successfully connecting. This can create a better user experience and help conversion.

## Additional notes

### Leverage Plaid SDKs

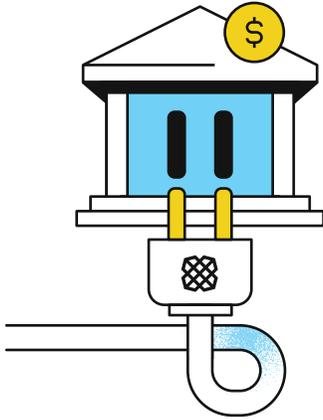
The [Plaid Link SDK](#) is a quick way to integrate your app with Link with updated features pushed regularly. We have SDK support for iOS, Android, and React Native integrations.

### Follow our Link best practices

Our [Link best practices guide](#) contains a very helpful checklist for confirming your integration follows our guidelines.

### Prepare for Item deduplication

To avoid user confusion and prevent double-billing, make sure you have logic in place to check that you're not [linking the same Item twice](#).



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## Back-end implementation

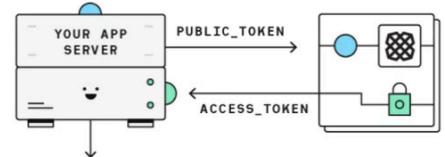
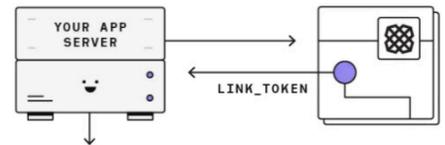
EFFECTIVELY LEVERAGE PLAID DATA

### Handle Plaid tokens

Plaid uses several tokens to securely communicate over API and execute the data exchanges. The following diagram shows the basic token exchange structure:

**The Plaid flow** begins when your user wants to connect their bank account to your app.

- 1 Make a request to create a link\_token and pass the temporary token to your app's client.
- 2 Use the link\_token to open Link for your user. In the onSuccess callback, send the temporary public\_token to your app's server.
- 3 Make a request to exchange the public\_token for a permanent access\_token and item\_id for the new Item.
- 4 Store the access\_token and use it to make product requests for your user's Item.



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Please note that a client\_id and secret are required for all API requests.

## **/asset\_report/create** **Create an Asset Report**

Make a call to the /asset\_report/create endpoint.

### REQUIRED FIELD(S)

- Array of access\_tokens (one for each Item to be included in the Asset Report)
- Number of days\_requested, which determines the duration of transaction history to be included

### FIELDS REQUIRED FOR THE FANNIE MAE DAY 1 CERTAINTY™ PROGRAM (USER OBJECT):

These fields are all otherwise optional

- First\_name, Last\_name, Ssn

### RESPONSE FIELD(S):

- Asset\_report\_token and asset\_report\_id
- Save in a secure datastore, as they're used to access the Asset Report data and identify webhooks

## **/asset\_report/get** **Retrieving Asset Report data**

Make a call to the /asset\_report/get endpoint for a JSON response, use /asset\_report/PDF/get if you wish to use the PDF format. Make this call after you have received the PRODUCT\_READY webhook notification.

### REQUIRED FIELD(S):

- Asset\_report\_token returned in the /asset\_report/create response

### OPTIONAL FIELD(S):

- Include\_insights
  - An Asset Report with insights provides transaction category, location, and merchant information in addition to the transaction strings provided in a standard Asset Report. Set include\_insights to true if you would like to retrieve Asset Reports with insights.

## **/asset\_report/refresh**

### **Updating an Asset Report**

In order to "refresh" an Asset Report you created previously, you can use the `/asset_report/refresh` endpoint to create a new Asset Report based on the old one, but with the most recent data available.

#### **REQUIRED FIELD(S):**

- `Asset_report_token`

#### **OPTIONAL FIELD(S):**

- All other fields are optional, the new Asset Report will use the same parameters you submitted with your original `/asset_report/create` request, but the original `days_requested` value and the values of any parameters in the options object can be overridden with new values
- Submit an empty string ("") for any previously-populated fields you would like set as empty

### **Specify which accounts to exclude from the Asset Report**

After the initial Asset Report has been created:

- 1 Send the `asset_report_token` along with a list of `account_ids` to exclude to the `/asset_report/filter` endpoint
- 2 This will create a new Asset Report with the accounts specified removed
- 3 Plaid will send you a webhook once generation of the filtered Asset Report has completed

## **Establish webhooks**

Plaid uses webhooks to send programmatic updates about your user's Items. Webhooks are configured via the `webhook` parameter of `/link/token/create` when adding an Item. The URL must be in the standard format of `http(s)://(www.)domain.com/`. For your use case, here are a couple things we recommend you use webhooks for:

- Listen for when the Item has entered an error state. This can be used as an indication to put the user through Link in update mode to return the Item to a healthy state.
- The creation of a new Asset Report takes some time and is not available immediately after calling `/asset_report/create`. When the Asset Report is ready to be retrieved, Plaid will fire a PRODUCT\_READY webhook. If you try to call `/asset_report/get` before receiving the PRODUCT\_READY webhook, you will receive a PRODUCT\_NOT\_READY error. The Asset Report creation process fails for any reason, Plaid will fire an ERROR webhook.
- When a user adds a new account you will receive a NEW\_ACCOUNTS\_AVAILABLE webhook. A user can select or deselect accounts through Link when you implement Account select v2 in update mode.

## Leverage Plaid data

On the server side, our product endpoints will provide the key data needed to make lending decisions.

### Assets

A detailed Asset Report that outlines a user's financial picture including their financial institutions, account types, balances, transaction history, and any potential warnings that may be generated if identity information cannot be returned. This data is used to determine whether a user has enough assets to qualify for a loan and for cashflow underwriting.

Optionally, you can also request user information such as name, contact information, and social security number which is required for the Fannie Mae Day 1 Certainty™ program.

### Auth

Display the account name, mask, and institution name to the user to visually confirm they have connected the correct account. Refer to the 'numbers' section of the Auth response to retrieve the account and routing numbers.

Note: The wire number will be provided if it is received from the financial institution.