Update: 02/20/2024

The purpose of this document is to provide advisors with the steps required to reestablish connectivity for accounts that have been migrated from web connections to open banking API connections. The screenshots used in this document leverage a fictional financial institution and third-party application to demonstrate the account linking experience. Some financial institutions' workflows may differ but will follow the same general process.

As a reminder, with open banking APIs the aggregator is not required to store the account holder's login credentials in order to collect their account data. Rather, the account holder authenticates once directly to their financial institution to authorize them to issue a token credential to the aggregator. This secure token is used to aggregate the users' account data until the user revokes consent, providing a higher level of security for the account holder, the advisor, and the financial institution. This also means that aggregation connection will not "break" when user credentials are changed, or the financial institution modifies its website. With these changes, we can all anticipate less aggregation downtime.

In the following example, TechFirst Investments represents the financial institution and Smart Financial represents the thirdparty app using ByAllAccounts.

Please also view the FAQs at the end of this document for additional information, including approved advisor use of open banking API connections.

Account Migration Steps

Below is an image of TechFirst Investment accounts connected successfully to the TechFirst Investment website connection, prior to the migration to the TechFirst Investments open banking API.

Home	Accounts	Credentials	Clients	Institutions	Financial Data					
All Accounts	Out-of-date		Clients	Institutions						
I Account	Create A	ccounts 🔻	Edit Account	Aggregate	Refresh Tabl	le More	Actions 🔻 Exp	ort Table		
Clear Selectio	n <u>0 out-of-c</u>	ate accounts								
Clear Selectio	n <u>0 out-of-c</u>	ate accounts ▲ Client		Name		Number	Last Aggregated	3	Alarm	Market Value
	n <u>0 out-of-c</u>			Name Search		Number Search	Last Aggregated	1	Alarm	Market Value
Institution Search	n <u>0 out-of-c</u>	Client Search	Client Name		-		55 5		Alarm	Market Value \$10,832.81
Institution Search TechFirst I		Client Search Example C	Client Name Client Name	Search	rokerage	Search	Search	:30 EDT	Alarm	
Institution Search TechFirst 1 TechFirst 1	investments	Client Search Example C Example C		Search Individual B	rokerage ecking	Search X-7997	Search 2022-11-25 10	:30 EDT :30 EDT	Alarm	\$10,832.81

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When a migration executes, you should expect to see the name of the Institution change to our new open banking API connection, and you should also expect to see both the Credential and Accounts display alarms indicating *"missing credential info."* These can be seen in the images below. You will be provided advanced notice before migrations take place.

Accounts:

Home	Accounts C	redentials	Clients	Institutions	Financial Data				
All Account	s Out-of-date A	Accounts							
ll Accou	Create Ac	counts 🔻	Edit Account	Aggregate	Refresh Table	e More	Actions Export Table	e	
Clear Sele	ction <u>3 out-of-da</u>	te accounts							
Clear Sele		<u>te accounts</u> ▲ Client		Name	N	Number	Last Aggregated	Alarm	Market Value
				Name Search		Number Search	Last Aggregated Search	Alarm	Market Value
Institut		 Client 	lient Name		S				Market Value \$10,832.81
Institut Search TechFir	on	Client Search		Search	rokerage	Search	Search		
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Credentials:

All Credentials		als Needing E ate Credentia						
l Credenti	als Crea	ate Credentia						
l Credenti	als Crea	ate Credentia						
			Edit Credential Add	d Accounts Aggre	gate Refresh Table	More Actions V		
Clear Selection	1 crede	ntials needing	edits					
Institution			Client		Nickname		# of Accounts	Alarm
Search			Search		Search			
TechFirst In	vestments		Example Client Name		Investor Checking		4	A.

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In order to resume the aggregation of these accounts, or authorize any new accounts for aggregation, you must complete the open banking authorization.

It is important to initiate the authorization process as outlined below, as upon our initial aggregation from the open banking connection, we will map the existing accounts (previously aggregating via the web connect), which retains all account identification and history. We will also discover any newly authorized accounts. **These two operations will only happen if you initiate this process via the Add Account operation detailed below**.

Step 1: Navigate to the Credentials Tab and select the Migrated Credential.

Step 2: Once one (1) migrated credential is selected, click Add Accounts.

Search Search Search	Home	Accounts	Credentials	Clients	Institutions	Financial Data			
Institution Client Nickname # of Accounts Ala Search Sea	All Crede	ntials Credenti	als Needing E	dits					
Search Search Search							More Actions	•	
	Institu	ution		Client		Nickname		# of Accounts	Alarm
	Institu					Search			
TechFirst Investments Example Client Name TechFirst Investments Client Login 4		:h		Search		Search			

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Step 3: After selecting **Add Accounts**, a window to the financial institution's login page will be displayed. You must login to the financial institution in order to accept terms and conditions and complete authorization:

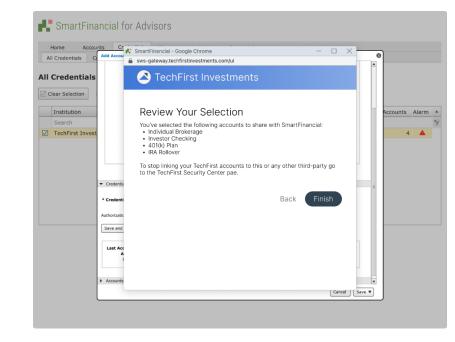
SmartFinancial for A	Advisors
All Credentials C	ogin - Google Chrome X ws-gateway.techfirstinvestments.com/ui TechFirst Investments
Search	Log In
 Credenti Credenti 	Password
Authorizatic Save and Last Act	Forgot Your Password? Log In
Accounts	See V

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Step 4: Once you have logged in, the financial institution will present **Account Sharing Consent Terms** that must be accepted prior to authorizing aggregator access to your data. Once these are accepted, you will be presented with a list of accounts. Select the **Accounts** you wish to aggregate:

Home Accounts All Credentials C	smartFinancial - Google Chrome - X
All Credentials	sws-gateway.dechnistinvestments.com/u TechFirst Investments
Clear Selection	
Institution Search	Instruction and Informed Consent to Allow Third-Party Access to Your Account Information.
TechFirst Invest	This Terms and Conditions Agreement [Kaptement] is a legal agreement between you [User' or "You"] and TechFirst Investments (TechFirst) "We'; or "Us"], a follows company. By accessing and using the TechFirst Investments working the "Webuh" and any associated services or materials, you agree to be located by the terms and conditions audiment in this Agreement. Type on large or botte burns, placed contral our services.
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* Cred	1.2 Eigibility: To use our services, you must be at least 18 years old and capable of forming a legally binding
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Save	21 Sanitor Affand: TachEirt Investmente neurides aslina investment information and related context. Including
Last	I agree to the terms used conditions outperformed in the Terms and Conditions Agreement. By doing so, I will be added to the term of the terms and conditions agreement. By doing so, I will be added to the terms and conditions agreement. By doing so, I will be added to the terms and conditions added to the terms added to terms added t
Acco	Back Next
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Home Accounts All Credentials C Add Acc	K SmartFinancial - Google Chrome A SmartFinancial - Google Chrome Sws-gateway techfirstinvestments.com/ui Sws-gateway techfirst Investments
Home Accounts All Credentials C Add Acc All Credentials	SmartFinancial - Google Chrome Sws-gateway techfirstinvestments.com/ui Sws-gateway techfirst Investments Select Your Accounts
Home Accounts All Credentials C Add Acc All Credentials Clear Selection Institution	K SmartFinancial - Google Chrome A SmartFinancial - Google Chrome Sws-gateway techfirstinvestments.com/ui Sws-gateway techfirst Investments
Home Accounts All Credentials C Add Acc All Credentials C Clear Selection Institution Search	Select Your Accounts Select your TechFirst Investments account to link to SmartFinancial. You
Home Accounts All Credentials All Credentials Clear Selection Institution Search	SmartFinancial - Google Chrome Sws-gateway techfirstinvestments.com/ui Sws-gateway techfirst Investments Select Your Accounts Select Your TechFirst Investments account to link to SmartFinancial. You can select to link both current accounts and any new accounts you open.
Home Accounts All Credentials All Credentials Clear Selection Institution Search	SmartFinancial - Google Chrome sws-gateway.techfirstinvestments.com/ui Sws-gateway.techfirst Investments.com/ui Comparison of the system of
Home Accounts	Select Your Accounts Select Your BeckFirst Investments account to link to SmartFinancial. You can select to link both current accounts and any new accounts you open. Individual Brokerage x-7997 Investor Checking x-3241 A 401(k) Plan x-0912 IDA Pollover x-7007
Home Accounts All Credentials Clear Selection Institution Search TechFirst Invest	Select Your Accounts Select Your Accounts Select Your Accounts Select Your TechFirst Investments.com/ui Select Your TechFirst Investments account to link to SmartFinancial. You can select to link both current accounts and any new accounts you open. Individual Brokerage x-7997 Investor Checking x-3241 A 401(k) Plan x-0912 IRA Rollover x-7007
Home Accounts All Credentials Clear Selection Institution Search TechFirst Invest	SmartFinancial - Google Chrome sws-gateway.techfirstinvestments.com/ui Sws-gateway.techfirst Investments Communication Select Your Accounts Select Your Accounts Select Your TechFirst Investments account to link to SmartFinancial. You can select to link both current accounts and any new accounts you open. Individual Brokerage x-7997 Investor Checking x-3241 A 401(k) Plan x-0912 IRA Rollover x-7007
Home Accounts All Credentials Clear Selection Institution Search TechFirst Invest	Select Your Accounts Select Your Accounts Select your TechFirst Investments account to link to SmartFinancial. You can select to link both current accounts and any new accounts you open. Individual Brokerage x-7997 Investor Checking x-3241 401(k) Plan x-0912 IRA Rollover x-7007 Back Next
Home Accounts All Credentials C Add Acc All Credentials C Clear Selection Institution Search TechFirst Invest Crede Crede Save and	Select Your Accounts Select Your Accounts Select your TechFirst Investments account to link to SmartFinancial. You can select to link both current accounts and any new accounts you open. Individual Brokerage x-7997 Investor Checking x-3241 401(k) Plan x-0912 IRA Rollover x-7007 Back Next
Home Accounts All Credentials C Add Acc All Credentials C Clear Selection Institution Search TechFirst Invest Crede Crede Save and	SmartFinancial - Google Chrome sws-gateway techfirst Investments.com/ui Select Your Accounts Select Your Accounts Select Your TechFirst Investments account to link to SmartFinancial. You can select to link both current accounts and any new accounts you open. Individual Brokerage x-7997 Investor Checking x-3241 A 401(k) Plan x-0912 IRA Rollover x-7007 Back Next
Home Accounts All Credentials Clear Selection Institution Search TechFirst Invest Crede Authorsz Save at Last J	Select Your Accounts Select Your Accounts Select Your Accounts Select Your accounts to link to SmartFinancial. You can select to link both current accounts and any new accounts you open. Individual Brokerage x-7997 Investor Checking x-3241 A 401(k) Plan x-0912 IRA Rollover x-7007 Back Next

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Step 5: Review & Finish the selection:

Completing this authorization process will take you back to AccountView, where authentication to the financial institution will complete. Once the authorization process has completed, you will be presented with a message indicating if any new accounts were discovered. If you have chosen to authorize more accounts for aggregation (in addition to those that were already aggregating through the web connection), you will see those accounts listed here. Otherwise, you will receive a message indicating "no new accounts discovered for this credential."

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SmartFina	ncial for Advisors
Home Accou All Credentials C	Add Accounts
All Credentials	Accounts Alarm A
	Credential TechFirst Investments Name to distinguish this credential from other credentials in the system.
	Save and Authorize Successfully logged into the site. Last Access Attempt: 2022-11-25 10:51 EDT Access Status: Access Status: Successfull Status Detail: No new accounts discovered for this credential. Image: Comparison of the status o
	Accounts using this credential Cancel Save and Close and Aggregate

Step 6: From the Add Accounts box, select **Save and Aggregate**:

Step 7: You may then return to the **Accounts Tab**, and **View the Accounts** (plus any newly authorized accounts) successfully aggregating from the new Open Banking connection:

Home	Accounts C	redentials Clients	Institutions Financi	al Data			
All Accoun	ts Out-of-date A	ccounts					
II Accou	Create Ac	Edit Ac	count Aggregate Refr	esh Table More	Export Table		
Clear Sele	out-of-da	te accounts					
Clear Sele		Le accounts	Name	Number	Last Aggregated	Alarm	Market Value
	ion		Name Search	Number Search	Last Aggregated	Alarm	Market Value
Search	ion	 Client 	Search	Search		Alarm	Market Value \$10,832.81
Institut Search TechFi	ion	Client Search	Search ame Individual Brokerag	Search	Search	Alarm	
Institut Search TechFi TechFi	ion rst Investments	Client Search Example Client N	Search ame Individual Brokerag ame Investor Checking	Search ge X-7997	Search 2022-11-25 10:30 EDT	Alarm	\$10,832.81

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Frequently Asked Questions

Q: I take possession of my client's credentials today, and aggregate accounts on their behalf within AccountView – will I still be able to do this?

A: No. Financial institutions require that you delete client credentials related to an account that is accessed by that institution's API. If you use client credentials in a manner inconsistent with a financial institution's requirements, the financial institution may revoke your access to the data and the client may breach its agreement with the financial institution. However, there may be limited circumstances where advisor users may directly leverage open banking APIs to access their client's data, such as when they have their own login with limited and/or full power of attorney (LPOA and FPOA) access for the accounts. These connections will be available in both our AccountView (advisor aggregation interface) as well as the Consumer UI (Investor aggregation interface) aggregation applications to support these allowed use cases.

Q: How long will I be allowed to use the website connection?

A: Once you enable access to open banking connections, accounts that are currently accessed through the web connection will be migrated to the open banking API, and the web connection will be removed. Financial institutions that offer these open banking APIs strongly encourage that aggregators discontinue website aggregation within a defined period, usually 120 days from the API becoming available. Most of these financial institutions have committed to blocking website aggregation in the future.

Q: When open banking APIs are enabled, what will happen to accounts that are aggregating via the website connection today?

A: When accounts are migrated from the website connection to the open banking connection, the accounts will fail with a login error, and users will be required to repair the connection. This will take them through the authentication workflow detailed in the appendix. Once complete, the ByAllAccounts service will automatically map the old accounts to the accounts collected from the new open banking API, retaining account history and internal identifiers.

Q: Will there be any changes to the data we currently collect via the web connection?

A: We do not expect any major disruptions in breadth or quality of aggregated data. In fact, open banking APIs provide access to additional data that we may use in the future to expand our aggregation capabilities. Each new open banking API undergoes a thorough review process by our data QA and engineering team, and we are prepared to alert our customers of any data gaps in advance of migration.

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Q: Why are advisors required to delete client credentials from their possession?

A: Major financial institutions require that aggregators and financial service providers purge client credentials as a condition to the financial institution continuing to provide access to customer account information via open banking API access. We have agreed to these requirements and are required to pass these requirements to our downstream users. Morningstar and its downstream partners will help facilitate a more secure data aggregation ecosystem by purging any credentials that may be held by various third parties.

Q: I have managing discretion over my client's accounts. How does open banking impact this scenario?

A: If you have direct managing discretion over your client's accounts and you are the registered advisor at the institution for the accounts, you may not need to use the open banking APIs because you will most likely be using institutional access to collect the data directly from the institution using advisor issued credentials. A direct feed would never require leveraging client credentials.

Q: Are advisors required to pass-down any terms to their clients in order to utilize these new open banking connections?

A: You are not required to pass down contractual obligations to clients. You will be required, however, to make certain disclosures to clients about how you collect and use client data and how the client can control their data.

ByAllAccounts incorporates click through Terms of Use (TOU) in its user interface. These TOU satisfy the previously described disclosure requirements relating to ByAllAccounts' aggregation services. You are solely responsible for providing required disclosures that relate to any collection and use of client data beyond that described in ByAllAccounts TOU. Similarly, you are solely responsible for obtaining clients' consent to collect and use client data.