



Integration Guide

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Summary

This document is intended to help you integrate DecisionLogic's IAV (Instant Account Verification) service into your existing web-based processes.

The DecisionLogic IAV process can be integrated into your web pages by placing the DecisionLogic service page inside an iframe into your web site source code. The service page is located at <https://widget.decisionlogic.com/Service.aspx>.

The prompts for a user, and capabilities of the DecisionLogic service page, are controlled by a "Profile" associated with each account verification request. DecisionLogic can configure several different Profiles to fulfill varying requirements for you. The Profile settings determine which input fields are required from the borrower (bank account holder); what determines a successful or failed verification attempt; how the results are communicated back to your company; and what happens after the process is complete.

This guide will explain how to install DecisionLogic's service page into your company web site, and how the various configuration settings can be adjusted.

The DecisionLogic API comes in two flavors depending on the level of sophistication of your IT team, and on how deep your company wishes to move into integration.

At the simplest level, you can create requests and put the managed DecisionLogic iframe into a web page. To get report summary information and view report details, you then visit the DecisionLogic web site and login with your company account and view the data there.

At a more advanced level, you can use our SOAP/XML web services and the DecisionLogic web service to create the request, integrate the iframe page, and extract the report seamlessly in real-time right into your custom work flow.

Technology

The DecisionLogic integration uses a simple iframe that is added to a web page in your company web site or intranet portal.

You must create a Request Code prior to invoking the iframe. Call the “CreateRequestCode” web page or the “CreateRequest4” web service method and supply the customer-specific information to retrieve a Request Code; then pass this 6-character string through the iframe “src” attribute when the consumer reaches that stage in the process. (If the Request Code is not a 6-character string it will be a human-readable error message instead: typically something along the lines that the routing number and/or bank are not currently supported.)

After a verification request has been completed by a customer, the data is immediately available on the DecisionLogic web site by logging in to your secure client portal for your company. The same information is available through the SOAP/XML APIs.

Additionally, jQuery and a JavaScript snippet may also be added to your web page to achieve additional borrower interactivity. When the iframe completes the verification process, it may optionally call a JavaScript function on the parent page, or force the parent page to redirect to different locations based on success or failure, or simply display a message.

For IT teams interested in working with SOAP/XML web services the additional search, reporting, user and workflow management features will be useful as you automate the loan decisioning process in real-time.

Account and Transaction analytics for automated decisioning are also available through the SOAP/XML web services.

The service page within the iframe can be customized to have the look and feel of your web site. There is a custom CSS file that can be edited and we can change the text headings and messaging, button names and various other elements on the page.

It is also important to work with your DecisionLogic Account Executive on our best practices and training to learn what works best to increase borrower participation.

Integration Kits and Technical Requirements

DecisionLogic provides two source code starter kits to assist developers: one in C# .NET and the other in PHP. Please ask your DecisionLogic Account Executive for the appropriate kit if you are ready to go into integration.

Prior to integrating DecisionLogic into your web-based environment we ask the following questions, to try and make sure you have everything you need to be successful:

- Do your software developers have access to your web server and web site source code?
- Is your web site built in .NET or PHP? (Not essential, but helps)
- Do you have a developer who is competent with JavaScript, as well as .NET or PHP?
- Do you have a developer who is competent working with SOAP/XML web services?
- Do you have an English-speaking technology team member available between 8am and 4pm Mon-Fri Pacific time?

DecisionLogic Service Page

The DecisionLogic Service Page (iframe) allows the applicant to enter information to be used to identify and capture bank account information from the financial institution.

Certain prompts may or may not be shown depending on the profile used with the request.

In this example below, the Request Code was generated without any applicant information, and the service page is asking for the missing data.

ACCOUNT INFORMATION

Account Number

Routing Number ☒

- OR -

Institution Search ☐

First Name

Last Name

MY NAME
MY ADDRESS
MY CITY, STATE, ZIP

62-8775 51349 4186

DATE

PAY TO THE ORDER OF

YOUR BANK
YOUR BANK ADDRESS
YOUR BANK CITY, STATE ZIPCODE

MEMO

Routing Number Account Number

In this example below, the applicant is using the search option to find their financial institution instead of entering their routing number.

ACCOUNT INFORMATION

Account Number

Routing Number ☒

- OR -

Institution Search ☐

First Name

Last Name

CHOOSE YOUR INSTITUTION...

- ☒ Bank of America (All except WA & ID)
- ☒ Bank of America (WA & ID)
- ☒ Bank of America - HSA, HRA & FSA
- ☒ Bank of America Military
- ☒ Bank of American Fork

Next, after the applicant clicks the Verify button, they are asked for the login credentials for their financial institution. The login text prompts will match whatever prompts the applicant would see on their bank web site. Ideally, the Request Code will be with all the data required so that this screen below is the *first* screen the applicant sees inside the iframe.

SUBMIT FINANCIAL INFORMATION

Bank of America (All except WA & ID)

<http://www.bankofamerica.com>

Online ID

Passcode

☐ I understand that I am disclosing personal financial information to the requesting lender for purposes of loan qualification. I also agree to the service [terms and conditions](#).



SAFE AND SECURE

- ✓ This service uses bank-level security with 128 bit encryption.
- ✓ The information retrieved is "read only". No one can move any money using this service.
- ✓ Your personal account information will be transmitted securely.

After the applicant logs into the bank, they may be presented with *additional* prompts for personal security information if the applicant's financial institution web site normally presents those.

The Profile you use and data supplied to create the Request Code dictates whether the borrower starts with the initial data entry screen (first name, last name, account number, routing number and/or bank search) or whether that page is skipped. If the Request Code was created with this information already, the borrower can start at the bank login page.

For countries outside the USA, instead of using bank search, we display a drop down list of the banks available in that territory. This makes things simpler for the borrower and developer alike.

Please note: there is a web service API call "SearchBanksByCountry" that returns all the banks available for each country. You can use this web method to pre-populate your own drop down list within your loan application process if you wish.

Frequently Asked Questions

Frequently Asked Question 1

Question: What happens if a borrower does not complete the process – how can I tell if they abandoned the iframe so I can contact them for follow up?

Answer: There is a web service API method called SearchReportSummaryAdvanced4 that allows you to make a call and get back a list of all your requests within a date range and matching a specific Status. For example, you could call this method and return a list of requests that were started, but not completed (Status = 1) and created 20 minutes ago, or more. Please see the section below for the method SearchReportSummaryAdvanced4 for more details.

Frequently Asked Question 2

Question: Do you have a way to notify us when the borrower is done?

Answer: Yes. When the borrower has completed the process inside the iframe an email is sent, just like it is when using the DecisionLogic landing pages. We also have the ability to call a notification URL (using a web request) on your own web site with some query string parameters to tell you specifically who has completed a request. This notification URL is entered into your profile and needs to be set-up by your DecisionLogic customer support specialist.

It will look something like this:

`https://www.yourdomain.com/notification.aspx?rc={requestcode}&fn={firstname}&ln={lastname}&an={accountnumber}&rn={routingnumber}&csid={contentserviceid}&s={status}&pg={profileguid}&sug={siteuserguid}&cid={customerid}`

Frequently Asked Question 3

Question: What happens to the borrower when they are done with the iframe?

Answer: You can choose to display a message, or redirect your parent page (that holds the iframe) to a different URL based on success or failure. In the case of failure, the query string will tell you it was an “account” error or a “bank” error. Account errors mean the borrower entered invalid credentials too many times. A Bank error is one where we had difficulty connecting to the bank for one reason or another. As soon as the borrower is redirected after a successful verification, the full report and transactional data is available on the DecisionLogic web site and through the web service APIs.

Testing

DecisionLogic invites you to develop and test using our live production environment. This makes things simpler for all concerned. In order to facilitate testing we have the following test credentials for both US-formatted (dollar) and UK-formatted (pounds) reports:

US Test Credentials

First Name:	M
Last Name:	Draper
Account Number:	56-4325647
Routing Number:	999999963
Bank Username:	clDagTest.Bank4
Bank Password:	bank4

UK Test Credentials

First Name:	M
Last Name:	Draper
Account Number:	56-4325647
Routing Number:	999963
Bank Username:	clDagTest.Bank4
Bank Password:	bank4

Miscellaneous

Service Page Dimensions

The layout of the service page inside the iframe is flexible. To change the dimensions or CSS styling of the service page for your Profile(s), please contact your DecisionLogic Account Executive.

International (CA, GB, AU and NZ)

For international banking we replace the bank search feature in the service page with a drop down list of the banks for that specific region. Our data provider does not currently support “routing numbers” (or their equivalent) outside the USA.

If you are serving customers outside the US, please contact your DecisionLogic Account Executive and we will make sure your Profile(s) have the correct international region selected and then you will see the drop down list on the initial service page form.

International Date Format

To change the international date format of the reports for your Profile(s), please contact your DecisionLogic Account Executive.

Limitations

WordPress: At this time, in order to have a successful WordPress integration, you need to have your own PHP developer(s) and host your own version of WordPress.

LMS (Loan Management Systems): Please speak with your DecisionLogic Account Executive about any LMS software you use and how we may be able to integrate within that environment.

IFRAMES: If you use iframes on your web site already, please note that putting DecisionLogic within an iframe within an iframe on your site restricts several features, notably the behavior of the redirect URLs.

Service Page (iframe) Integration

Integrating the service page (iframe) into your own web page

Place the following iframe HTML tag into the web page where you wish to display the DecisionLogic service page. You can only display the iframe for a valid request code.

```
<iframe id="IFrameHolder" frameborder="0" height="450" width="900"
src="https://widget.decisionlogic.com/Service.aspx?requestCode=_____">
</iframe>
```

Parameters

Replace the blank above with the Request Code. (You may use any id for the iframe.)

Please note: The service page inside the iframe will **not** function until your web page URL is given express permission by the Profile used to create the Request Code. You will need to give your customer service representative at DecisionLogic the URL of the parent page that will host the iframe so that the DecisionLogic integration team can give it security access. You may have one host URL for one iframe per Profile. You may have as many Profiles as you wish.

Using the iframe with JavaScript real-time feedback

If the Profile associated with the account verification request requires the iframe to interact with its parent page, then due to cross-domain restrictions with iframes we use one of two JavaScript mechanisms to facilitate child-to-parent communication.

JavaScript Method 1 (Old)

If you are not using jQuery already, or are comfortable using an older version of jQuery, this first method requires you to include references to jQuery and a DecisionLogic script on the page (or master page) where you place the iframe.

The combination of jQuery and the postMessage plug-in function allow the iframe “child” page to command the “parent” page to redirect, or to call the IAVResultJSON function. The Profile used to create the Request Code determines which event takes place and defines the destinations URLs.

Most integration clients use the redirect mechanism after a customer completes the process, but you can discuss your needs with the integration team at DecisionLogic to see if calling the JavaScript function is useful to you.

In this example below, it is assumed that you have placed jQuery (minimized version 1.6.2 or above) and the DecisionLogic code snippet in a directory called “Scripts” on your web server - relative to the path of the page. The call to “processMessage” references a function in the DecisionLogic postMessage snippet.

Please add this JavaScript to the top of your parent page.

```
<script src="Scripts/jquery-1.6.2.min.js" type="text/javascript"></script>
<script src="Scripts/postMessage.js" type="text/javascript"></script>
<script language="javascript" type="text/javascript">
    $.receiveMessage(
        function (e) {
            processMessage(e.data);
        },
        'https://widget.decisionlogic.com'
    );
    function IAVResultJSON(IAVResult)
    {
        // EXAMPLE USE - PUT YOUR OWN CODE HERE
        var rawJSONString = unescape(IAVResult);
        var iavResultObj = $.parseJSON(rawJSONString);
        var displayString = "";
        for (var key in iavResultObj) {
            if (iavResultObj.hasOwnProperty(key)) {
                displayString += key + " : " + iavResultObj[key] + "\n\r";
            }
        }
        alert(displayString);
    };
</script>
```

Please download the **jQuery** JavaScript from this location:

<http://www.decisionlogic.com/javascript/jquery-1.6.2.min.js>

Please download the **postMessage** JavaScript code from this location:

<http://www.decisionlogic.com/javascript/postMessage.js>

If your Profile is set to redirect the parent page after either a successful or failed IAV, then the postMessage function will receive the appropriate command and redirect the parent page to one of two URLs that you specify. Successful URLs can include a dynamic option that adds the Request Code to the query string. Failed URLs can add the Request Code as well as the Error Code (“account” or “bank”).

Successful redirect URLs may look like this:

<http://www.yourdomain.com/yoursuccesspage.aspx?requestCode=ABCDEF>

Post-failure redirect URLs may look like this:

<http://www.yourdomain.com/yourfailurepage.aspx?errorCode=BANK&requestCode=ABCDEF>

If your profile is set to call the IAVResultJSON function, you will receive a JSON object parameter with multiple properties, described below.

JavaScript Method 2 (New)

Modern versions of jQuery (anything over version 1.8) do not work with the code snippets above. Whether you are using jQuery or not, this second method below uses a simple JavaScript event listener to “hook” into the DecisionLogic “child” page. Effectively you instruct your “parent” page to listen for our “child” page to attempt to message your page. When this happens, the data is parsed and a redirect can occur.

Please add this JavaScript to the top of your parent page.

```
<script type="text/javascript">
    var eventMethod = window.addEventListener ? "addEventListener" : "attachEvent";
    var eventer = window[eventMethod];
    var messageEvent = eventMethod == "attachEvent" ? "onmessage" : "message";

    eventer(messageEvent, function(e) {
        if (e.origin == 'https://widget.decisionlogic.com') {
            processMessage(e.data);
        }
    }, false);

    function processMessage(s) {
        var p = s.split("|");
        if (p.length == 2) {
            if (p[0] == "Redirect") {
                document.location.href = p[1];
            }
            if (p[0] == "JSON") {
                processJSON(p[1]);
            }
        }
    }

    function toArray(obj) {
        var result = [];
        for (var prop in obj) {
            var value = obj[prop];
            if (typeof value === 'object') {
                result.push(toArray(value));
            }
            else {
                result.push(value);
            }
        }
        return result;
    }
}
```

```

function processJSON(jsonString) {
    var json = unescape(jsonString);
    var obj = JSON.parse(json);
    var display = toArray(obj);
    alert(display);
}
</script>

```

If your Profile is set to redirect the parent page after either a successful or failed IAV, then the event listener code will receive the appropriate command and redirect the parent page to one of two URLs that you specify. Successful URLs can include a dynamic option that adds the Request Code to the query string. Failed URLs can add the Request Code as well as the Error Code ("account" or "bank").

Successful redirect URLs may look like this:

<http://www.yourdomain.com/yoursuccesspage.aspx?requestCode=ABCDEF>

Post-failure redirect URLs may look like this:

<http://www.yourdomain.com/yourfailurepage.aspx?errorCode=BANK&requestCode=ABCDEF>

If your profile is set to call the JSON function, you will receive a JSON object parameter with multiple properties, described below.

Utilizing the result object from the JSON function

The **IAVResult** object is defined as:

```

string CustomerIdentifier
string AccountNumberInput
string RoutingNumberInput
string InstitutionName
string FirstNameInput
string LastNameInput
double AmountInput
bool IsLoginValid
int AccountNumberConfidence
bool IsAccountNumberMatch
string AccountNumberFound
int NameConfidence
bool IsNameMatch
string NameFound
bool IsAmountVerified
double CurrentBalanceFound
double AvailableBalanceFound
bool IsVerified
string BankType
double TotalDeposits
double TotalWithdrawals
DateTime TransactionsFromDate
DateTime TransactionsToDate

```

- **CustomerIdentifier** – the customer Id specified for the request.
- **AccountNumberInput** – the account number entered by the applicant.
- **RoutingNumberInput** – the routing number entered by the applicant.
- **InstitutionName** – the name of the financial institution derived from the routing number.
- **FirstNameInput** – the applicant's first name entered by the applicant.
- **LastNameInput** – the applicant's last name entered by the applicant.
- **AmountInput** – the amount the applicant chose to verify (the funds they wanted to prove they had available) - this is only used in the event you are pre-qualifying an ACH transaction.
- **IsLoginValid** – true or false depending on whether the applicant was able to login to their financial institution. This is typically the most important indicator of success.
- **AccountNumberConfidence** – a number from 0 to 4 that represents how accurately we were able to compare the number on the account with the applicant's entries. [4=Exact match, 3=Partial match with mask, 2=Partial match with invalid characters, 1=No account number found, 0=No match].
- **IsAccountNumberMatch** – true or false depending on whether the applicant's account matched the number found on the most likely account retrieved.
- **AccountNumberFound** – after an applicant logs in to their bank we collect all their accounts attached to that login. In some cases there may be multiple accounts. This number is the account number of the account that most closely matches the account number entered by the applicant.
- **NameConfidence** – a number from 0 to 5 that represents how accurately we were able to compare the name on the account with the applicant's entries [5=Exact match, 4=First, Last Found, 3=Last Found, 2=First Found, 1=Account holder name empty, 0=No match].
- **IsNameMatch** – true or false depending on whether the applicant's name matched the name found on the account within the tolerance as set in the profile.
- **NameFound** – the name found on the account that the applicant logged in to.
- **IsAmountVerified** – true or false depending on whether the verification was successful and the available balance meets or exceeds the amount to be verified.
- **CurrentBalanceFound** – the current (posted) bank balance associated with the most closely matching account retrieved from the applicant's entries.
- **AvailableBalanceFound** – the available bank balance associated with the most closely matching account retrieved from the applicant's entries.
- **IsVerified** – true or false depending on whether the applicant successfully logged in and the data returned by the bank passed the minimum criteria for a successful match based on the confidence calculations. This is typically used rarely, as it pertains to pre-ACH authorization requests.
- **BankType** – the type of bank account and financial institution returned.

- **TotalDeposits** – the total of positive amount transactions seen going into the applicant's bank account during the time period retrieved.
- **TotalWithdrawals** – the total of negative amount transactions seen coming out of the applicant's bank account during the time period retrieved.
- **TransactionsFromDate** – the earliest date of transactions retrieved.
- **TransactionsToDate** – the latest date of transactions retrieved.

Creating a Request Code

You can create a Request Code in two ways: using a simple web page; or using the SOAP/XML web service (see the CreateRequest4 web method in the web services section below).

Creating a Request Code using a simple Web Page

To create a Request Code you can call this page:

```
https://www.decisionlogic.com/CreateRequestCode.aspx?serviceKey=__&  
profileGuid=__&siteUserGuid=__&customerId=__&firstName=__&lastName=__&accou  
ntNumber=__&routingNumber=__&contentServiceId=__
```

Parameters

You need to replace the blanks in the query string with your company and applicant-specific data.

All parameters should be URL encoded.

- **serviceKey** – specify your unique client service key. This is provided by your implementation team at DecisionLogic.
- **profileGuid** – specify the globally unique identifier (Guid) of the profile to use when creating the request (required). This value is available through the DecisionLogic web site in your Company admin section.
- **siteUserGuid** – specify the globally unique identifier (Guid) of the site user to use when creating the request (required). This value is available through the DecisionLogic web site in your Account section.
- **customerId** – specify the customer identifier to use when creating the request (optional). This can be any value that you use from your own tracking system. If you do not provide a value, a unique value will be generated automatically.
- **firstName** – specify the first name of the applicant to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed going directly to the login page).
- **lastName** – specify the last name of the applicant to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed going directly to the login page).
- **accountNumber** – specify the account number of the applicant to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed).

- ***routingNumber*** – specify the routing number of the applicant's financial institution to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed then either the routing number or the content service id will be required).
- ***contentServiceId*** – specify the content service id of the applicant's financial institution to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed then either the routing number or the content service id will be required).

Returns

The page will return either an error message (string) or a 6-character (string) Request Code.

SOAP/XML Web Service Information

Many DecisionLogic functions can be accessed through web services (SOAP/XML) APIs. Information on all of the available web service methods can be found on the following pages.

General Information

WSDL

The WSDL to the SOAP/XML web services can be found here:

<http://www.decisionlogic.com/integration.asmx?wsdl>

Service Key

Each client has a unique service key to use when accessing the web service. Your service key can be provided by your integration team at DecisionLogic.

Site Users

Your company users are referred to as “SiteUsers”. New Site User accounts can be created through the DecisionLogic company portal by company users that are in the administrator (Admin) role. You can also create and manage Site Users through the API.

SiteUserGuid

Several calls to the web service require a valid SiteUserGuid. You can retrieve these from the web service using the GetUsers web method or from your Account page on DecisionLogic.com.

ProfileGuid

Some calls to the web service require a ProfileGuid. Profiles are created and provided by your customer support specialist at DecisionLogic. You can retrieve a list of available Profiles through the GetProfiles web method, or from your company admin pages on DecisionLogic.com.

HelloWorld

A simple and useful web method for testing if the web service is available called HelloWorld:

```
string HelloWorld()
```

If invoked correctly it will return:

```
"Hello World"
```

HelloWorld_SSLOnly

A simple and useful web method for testing if the web service is available through SSL connections is called HelloWorld_SSLOnly:

```
string HelloWorld_SSLOnly()
```

If invoked correctly it will return:

```
"Hello World (SSL)"
```

Account Verification Requests

The first step of any account verification request process is to generate a Request Code.

CreateRequest

Method

```
string CreateRequest(  
    string serviceKey,  
    string siteUserGuid,  
    string profileGuid,  
    string customerId,  
    string firstName,  
    string lastName,  
    string accountNumber,  
    string routingNumber,  
    int contentServiceId)
```

Parameters

- **serviceKey** – specify your unique client service key(required).
- **siteUserGuid** – specify the globally unique identifier (Guid) of the site user to use when creating the request (required).
- **profileGuid** – specify the globally unique identifier (Guid) of the profile to use when creating the request (required).
- **customerId** – specify the customer identifier to use when creating the request (optional). This can be any value that you use from your own tracking system. If you do not provide a value, a unique value will be generated automatically.
- **firstName** – specify the first name of the applicant to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed going directly to the login page).
- **lastName** – specify the last name of the applicant to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed going directly to the login page).
- **accountNumber** – specify the account number of the applicant to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed).
- **routingNumber** – specify the routing number of the applicant's financial institution to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed then either the routing number or the content service id will be required).

- **contentServiceId** – specify the content service id of the applicant’s financial institution to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed then either the routing number or the content service id will be required).

Returns

The web service will return either an error message (string) or a 6-character (string) Request Code.

CreateRequest4

Method

```
string CreateRequest(  
    string serviceKey,  
    string siteUserGuid,  
    string profileGuid,  
    string customerId,  
    string firstName,  
    string lastName,  
    string accountNumber,  
    string routingNumber,  
    int contentServiceId,  
    string emailAddress)
```

Parameters

- **serviceKey** – specify your unique client service key(required).
- **siteUserGuid** – specify the globally unique identifier (Guid) of the site user to use when creating the request (required).
- **profileGuid** – specify the globally unique identifier (Guid) of the profile to use when creating the request (required).
- **customerId** – specify the customer identifier to use when creating the request (optional). This can be any value that you use from your own tracking system. If you do not provide a value, a unique value will be generated automatically.
- **firstName** – specify the first name of the applicant to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed going directly to the login page).
- **lastName** – specify the last name of the applicant to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed going directly to the login page).
- **accountNumber** – specify the account number of the applicant to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed).

- **routingNumber** – specify the routing number of the applicant’s financial institution to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed then either the routing number or the content service id will be required).
- **contentServiceId** – specify the content service id of the applicant’s financial institution to be used when creating the request (this is optional unless the profile specifies that the pre-login page will be bypassed then either the routing number or the content service id will be required).
- **emailAddress** – specify the email address of the applicant (this is optional and is simply intended as a way to save the information – if provided it does **not** send an email to the email address).

Returns

The web service will return either an error message (string) or a 6-character (string) Request Code.

DeleteRequest

This web method simply deletes a Report by Request Code.

Method

```
string DeleteRequest(string serviceKey, string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key(required).
- **requestCode** – specify the Request to be deleted.

Returns

The web service will return either an error message (string) or an empty string signifying success.

GetProfiles

The GetProfiles web method allows you retrieve information about Profiles your company can use when creating Request Codes. The Profiles are created and configured by DecisionLogic's support team, but the information is useful to companies. The Profile’s globally unique identifier (profileGuid) is often required as an input parameter to other methods.

Method

```
ProfileSummary[] GetProfiles(string serviceKey)
```

Parameters

- **serviceKey** – specify your unique client service key(required).

Returns

- The method returns an array of **ProfileSummary** objects.

The **ProfileSummary** object is defined as:

```
string ProfileGUID
string Name
bool ShowSearch
bool ShowName
int MinAccountConfidence
int MinAccountNumberDigits
int MinNameConfidence
bool ValidateAmount
bool ReturnAccountNumber
bool ReturnHolderName
bool ReturnBalance
bool GatherTransactions
int TransactionDays
int MaxLoginAttempts
bool BypassPrelogin
bool SendParentResults
int ParentFunctionType
string WidgetURL
bool SuccessRedirect
string SuccessURL
string SuccessHTML
bool FailureRedirect
string FailureURL
string FailureHTML
string NotificationURL
string NotifyEmailAddress
```

- **ProfileGuid** – specifies the globally unique identifier (Guid) of the profile to use when creating the request (required). This value is available through the DecisionLogic web site in your Company admin section.
- **Name** – the name of the profile.
- **ShowSearch** – specifies whether the applicant will be allowed to search for banks from when entering information for a request.
- **ShowName** – specifies whether the applicant will be able to enter their name when entering information for a request.

- **MinAccountConfidence** – specifies the minimum account number confidence level that will be used when determining whether the account is deemed “verified”.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was found.

- **MinAccountNumberDigits** – specifies the minimum number of rightmost account number digits that must match. This value is used in conjunction with MinAccountConfidence levels 3 and 4 to determine whether the account is deemed “verified”.
- **MinNameConfidence** – specifies the minimum account holder confidence level that will be used when determining whether the account is deemed “verified”.

5	This is an exact match.
4	The first and last names were both found in the account holder name.
3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **ValidateAmount** – specifies whether available balance found with the account is compared to the amount input by the applicant when determining whether the account is deemed “verified”.
- **ReturnAccountNumber** – specifies whether the account number found is returned with a request.
- **ReturnHolderName** – specifies whether the account holder name is returned with a request.
- **ReturnBalance** – specifies whether the available balance is returned with a request.
- **GatherTransactions** – specifies whether to return account transactions with a request.

- **TransactionDays** – specifies the maximum number of days of transactions to return with a request.
- **MaxLoginAttempts** – specifies the maximum number of account login attempts allowed to the applicant.
- **BypassPrelogin** – specifies whether to bypass the pre-login page and jump straight to the account credentials page for the applicant.
- **SendParentResults** – specifies whether to send the results to the parent page of the widget (see page 12 for more information about using this function).
- **ParentFunctionType** – specifies the type of parent function to call (see page 12 for more information about using this function). This value is 1 when sending the results to the IAVResultJSON function (see page 14 for more information) or 0 when sending results to the IAVResult function (deprecated).
- **WidgetURL** – specifies the URL of the page on which the widget (iframe) can be placed.
- **SuccessRedirect** – specifies whether to redirect to the URL specified in SuccessURL upon a successful verification.
- **SuccessURL** – specifies the destination URL used with success redirect.
- **SuccessHTML** – specifies the HTML to present upon a successful verification.
- **FailureRedirect** – specifies whether to redirect to the URL specified in FailureURL upon a failed verification.
- **FailureURL** – specifies the destination URL used with failure redirect.
- **FailureHTML** – specifies the HTML to present upon a failed verification.
- **NotificationURL** – specifies the URL that will be called at the end of the process.
- **NotifyEmailAddress** – specifies an override Email Address (to the Site User's Email Address) where notifications will be sent.

Bank Information

The banks web service methods allow you to retrieve information about banks in several different ways. There are two search methods that return lists of matching financial institutions based on searching by bank name, or routing number. Both methods return an array of BanksSearchResult objects.

There are two methods that return more detailed bank information in the form of a BankInformation object. One method keys off the ContentServiceId, the other a RoutingNumber.

SearchBanksByBankName

This method returns an array of banks that match the bank name parameter. Both complete and partial matches are returned.

Method

```
BanksSearchResult[] SearchBanksByBankName(  
    string serviceKey,  
    string bankName)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **bankName** – specify a full or partial bank name A partial name will find similar banks.

Returns

The method returns an array of **BanksSearchResult** objects defined as:

```
int ContentServiceId  
string ContentServiceDisplayName  
string HomeURL  
int Reliability
```

- **ContentServiceId** – the internal identifier used to access the content service (financial institution).
- **ContentServiceDisplayName** – the name of the financial institution.
- **HomeURL** – the website URL of the financial institution.
- **Reliability** – the reliability of the data retrieval process for the institution in a range of 0 - 3 (0=Least reliable, 3=Most reliable). These ratings are based on actual DecisionLogic experience and will change over time.

SearchBanksByCountry

This method returns an array of banks that match the country parameter. This method is useful for pre-populating drop down lists. It is primarily intended for use outside the USA.

Method

```
BanksSearchResult[] SearchBanksByCountry(  
    string serviceKey,  
    string countryCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **countryCode** – valid countryCodes are "" (for All), "US" (for USA), "CA" (for Canada), "GB" (for Great Britain), "AU" (for Australia) and "NZ" (for New Zealand).

Returns

The method returns an array of **BanksSearchResult** objects defined as:

```
int ContentServiceId  
string ContentServiceDisplayName  
string HomeURL  
int Reliability
```

- **ContentServiceId** – the internal identifier used to access the content service (financial institution).
- **ContentServiceDisplayName** – the name of the financial institution.
- **HomeURL** – the website URL of the financial institution.
- **Reliability** – the reliability of the data retrieval process for the institution in a range of 0 - 3 (0=Least reliable, 3=Most reliable). These ratings are based on actual DecisionLogic experience and will change over time.

GetBankInformationByContentServiceId

This method returns information about the bank specified by the content service id parameter.

Method

```
BankInformation GetBankInformationByContentServiceId(  
    string serviceKey, int contentServiceId)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **contentServiceId** – specify the content service Id for the bank as return from one of the search methods above (required).

Returns

The **BankInformation** object that is returned is defined as:

```
int ContentServiceId
string BankName
string LogoURL
string HomeUrl
string ContactPhone
string ContactUrl
string MFAType
string[] RoutingNumbers
bool IsACHSupportedSpecified
bool IsACHSupported
```

- **ContentServiceId** – the internal identifier used to access the content service (financial institution).
- **ContentServiceDisplayName** – the name of the financial institution.
- **LogoURL** – the website URL of the financial institution logo on the DecisionLogic web site. You may use this in your own web page.
- **HomeURL** – the website URL of the financial institution.
- **ContactPhone** – the contact phone number for the institution if available.
- **ContactURL** – the website URL for the financial institution contact page if available.
- **MFAType** – the type of multi-factor authentication required by the financial institution. This will be blank or simple login or will have a type like “SECURITY_QUESTION” if the institution provides that.
- **RoutingNumbers** – an array of routing numbers that are associated with the financial institution.
- **IsACHSupportedSpecified** – this value is always false when returned from the *GetBankInformationByContentServiceId* method.
- **IsACHSupported** – this value is always false when returned from the *GetBankInformationByContentServiceId* method and not to be used.

GetBankInformationByRoutingNumber

This method returns information about the bank specified by the routing number parameter.

Method

```
BankInformation GetBankInformationByRoutingNumber(  
    string serviceKey,  
    string routingNumber)
```

Parameters

- ***serviceKey*** – *specify your unique service key (required).*
- ***routingNumber***– *specify the routing number for the bank (required).*

Returns

The **BankInformation** object that is returned is defined above.

Reporting

There are a number of methods that can be used to access completed reports through web services.

SearchReportSummary

This method returns a list of requests that match the various search criteria specified.

Method

```
RequestSearchResult SearchReportSummary(  
    string serviceKey,  
    string siteUserGuid,  
    string searchTerm,  
    DateTime fromDate,  
    DateTime toDate,  
    double timeZoneOffset,  
    int status,  
    int workflowStatus)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching (required).
- **searchTerm** – specify a search term to find in the requests. This will search the bank name, request code, customer identifier, customer first/last names, customer email address, account number, and routing number (optional).
- **fromDate** – specify the earliest date to search for requests (required).
- **toDate** – specify the latest date to search for requests (required).
- **timeZoneOffset** – specify the hours offset from Coordinated Universal Time (UTC). Requests are recorded with a timestamp in UTC time. For example, Pacific Standard Time is 8 hours offset from UTC (during non-daylight savings) (required).
- **status** – specify the status to use in searching requests(required).

status	description	status code color
99	Any	Return all Requests
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including	Amber #FFBF00

	invalid credentials, account is closed, etc.)	
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **workflowStatus** – specify the workflow process step to filter the requests(required).

0	All
1	New
2	Pending Review
3	Accepted
4	Rejected
5	Escalated

- **errorMessage** – this is a output-only parameter that is returned with error message text if an error was encountered when the method is called.

Returns

The **RequestSearchResult** object that is returned is defined as:

```
string ErrorMessage
SearchResult[] SearchResults
```

- **ErrorMessage** – blank if successful, otherwise a meaningful "friendly" error message.
- **SearchResults** – the array of search results.

The **SearchResult** object that is returned is defined as:

```
string RequestCode
DateTime DateCreated
```

```
string CustomerIdentifier
string ContentServiceDisplayName
string RoutingNumberInput
string AccountNumberInput
string HolderNameInput
```

- **RequestCode** – the request code assigned to the account verification request.
- **DateCreated** – the date and time the request was created in Coordinated Universal Time (UTC).
- **CustomerIdentifier** – the customer identifier that was assigned to the request when it was created.
- **ContentServiceDisplayName** – the name of the content service (financial institution).
- **RoutingNumberInput** – the routing number of the financial institution if entered.
- **AccountNumberInput** – the account number entered for the request.
- **HolderNameInput** – the account holder name entered for the request.

SearchReportSummaryAdvanced

This method returns a list of requests that match the various search criteria specified. Please note: workflowStatus has been renamed to processStatus.

Method

```
RequestSearchResult SearchReportSummaryAdvanced
(
    string serviceKey,
    string siteUserGuid,
    int siteUserGuidMode,
    DateTime fromDateCreated,
    DateTime toDateCreated,
    int dateCreatedMode,
    double timeZoneOffset,
    string customerIdentifier,
    int customerIdentifierMode,
    string holderName,
    int holderNameMode,
    string emailAddress,
    int emailAddressMode,
    string institution,
    int institutionMode,
    string routingNumber,
    int routingNumberMode,
    string accountNumber,
    int accountNumberMode,
    int status,
    int statusMode,
    int processStatus,
    int processStatusMode
)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching.
- **siteUserGuidMode** – specify the search mode for the siteUserGuid parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **fromDateCreated** – specify the earliest date to search for requests.
- **toDateCreated** – specify the latest date to search for requests.
- **dateCreatedMode** – specify the search mode for the DateCreated parameters. Valid search modes are:

-2	Omit (Earlier than)
-1	Omit
0	Ignore
1	Include
2	Include (Later than)

- **timeZoneOffset** – specify the hours offset from Coordinated Universal Time (UTC). Requests are recorded with a timestamp in UTC time. For example, Pacific Standard Time is 8 hours offset from UTC (during non-daylight savings) (required).
- **customerIdentifier** – specify the customer identifier for the request you are searching.
- **customerIdentifierMode** – specify the search mode for the customerIdentifier parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **holderName** – specify the holder name input or found for the request you are searching.
- **holderNameMode** – specify the search mode for the holderName parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **emailAddress** – specify the applicant’s email address for the request you are searching.
- **emailAddressMode** – specify the search mode for the emailAddress parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **institution** – specify the applicant’s banking institution for the request you are searching.
- **institutionMode** – specify the search mode for the institution parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **routingNumber** – specify the applicant’s bank routing number for the request you are searching.
- **routingNumberMode** – specify the search mode for the routingNumber parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore

1	Include (Like)
2	Include (Exact)

- **accountNumber** – specify the applicant’s bank account number for the request you are searching.
- **accountNumberMode** – specify the search mode for the accountNumber parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **status** – specify the status to use in searching requests(required).

status	description	status code color
99	Any	Return all Requests
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **statusMode** – specify the search mode for the status parameter. Valid search modes are:

-2	Omit (Exact)
----	--------------

-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- ***processStatus*** – specify the workflow process step to filter the requests(required).

0	All
1	New
2	Pending Review
3	Accepted
4	Rejected
5	Escalated

- ***processStatusMode*** – specify the search mode for the processStatus parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- ***errorMessage*** – this is a output-only parameter that is returned with error message text if an error was encountered when the method is called.

Returns

The **RequestSearchResult** object that is returned is defined as:

```
string ErrorMessage
SearchResult[] SearchResults
```

- ***ErrorMessage*** – blank if successful, otherwise a meaningful "friendly" error message.
- ***SearchResults*** – the array of search results.

The **SearchResult** object that is returned is defined as:

```
string RequestCode
DateTime DateCreated
```

```
string CustomerIdentifier
string ContentServiceDisplayName
string RoutingNumberInput
string AccountNumberInput
string HolderNameInput
```

- **RequestCode** – the request code assigned to the account verification request.
- **DateCreated** – the date and time the request was created in Coordinated Universal Time (UTC).
- **CustomerIdentifier** – the customer identifier that was assigned to the request when created.
- **ContentServiceDisplayName** – the name of the content service (financial institution).
- **RoutingNumberInput** – the routing number of the financial institution if entered.
- **AccountNumberInput** – the account number entered for the request.
- **HolderNameInput** – the account holder name entered for the request.

SearchReportSummaryAdvanced4

This method returns a list of requests that match the various search criteria specified. Please note: workflowStatus has been renamed to processStatus.

Method

```
RequestSearchResult SearchReportSummaryAdvanced4
(
    serviceKey,
    siteUserGuid,
    siteUserGuidMode,
    profileGuid,
    profileGuidMode,
    fromDateCreated,
    toDateCreated,
    dateCreatedMode,
    timeZoneOffset,
    customerIdentifier,
    customerIdentifierMode,
    holderName,
    holderNameMode,
    emailAddress,
    emailAddressMode,
    institution,
    institutionMode,
    routingNumber,
    routingNumberMode,
    accountNumber,
    accountNumberMode,
    status,
    statusMode,
    processStatus,
    processStatusMode
)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching.
- **siteUserGuidMode** – specify the search mode for the siteUserGuid parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **profileGuid** – specify the globally unique identifier (Guid) for the profile you are searching.
- **profileGuidMode** – specify the search mode for the profileUserGuid parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **fromDateCreated** – specify the earliest date to search for requests.
- **toDateCreated** – specify the latest date to search for requests.
- **dateCreatedMode** – specify the search mode for the DateCreated parameters. Valid search modes are:

-2	Omit (Earlier than)
-1	Omit
0	Ignore
1	Include
2	Include (Later than)

- **timeZoneOffset** – specify the hours offset from Coordinated Universal Time (UTC). Requests are recorded with a timestamp in UTC time. For example, Pacific Standard Time is 8 hours offset from UTC (during non-daylight savings) (required).
- **customerIdentifier** – specify the customer identifier for the request you are searching.
- **customerIdentifierMode** – specify the search mode for the customerIdentifier parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **holderName** – specify the holder name input or found for the request you are searching.
- **holderNameMode** – specify the search mode for the holderName parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **emailAddress** – specify the applicant’s email address for the request you are searching.
- **emailAddressMode** – specify the search mode for the emailAddress parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **institution** – specify the applicant’s banking institution for the request you are searching.
- **institutionMode** – specify the search mode for the institution parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **routingNumber** – specify the applicant’s bank routing number for the request you are searching.
- **routingNumberMode** – specify the search mode for the routingNumber parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **accountNumber** – specify the applicant’s bank account number for the request you are searching.
- **accountNumberMode** – specify the search mode for the accountNumber parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **status** – specify the status to use in searching requests(required).

status	description	status code color
99	Any	Return all Requests
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00

0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **statusMode** – specify the search mode for the status parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

- **processStatus** – specify the workflow process step to filter the requests(required).

0	All
1	New
2	Pending Review
3	Accepted
4	Rejected
5	Escalated

- **processStatusMode** – specify the search mode for the processStatus parameter. Valid search modes are:

-2	Omit (Exact)
-1	Omit (Like)
0	Ignore
1	Include (Like)
2	Include (Exact)

Returns

The **RequestSearchResult** object that is returned is defined as:

```
string ErrorMessage  
SearchResult[] SearchResults
```

- **ErrorMessage** – *blank if successful, otherwise a meaningful "friendly" error message.*
- **SearchResults** – *the array of search results.*

The **SearchResult** object that is returned is defined as:

```
string RequestCode  
DateTime DateCreated  
string CustomerIdentifier  
string ContentServiceDisplayName  
string RoutingNumberInput  
string AccountNumberInput  
string HolderNameInput
```

- **RequestCode** – *the request code assigned to the account verification request.*
- **DateCreated** – *the date and time the request was created in Coordinated Universal Time (UTC).*
- **CustomerIdentifier** – *the customer identifier that was assigned to the request when it was created.*
- **ContentServiceDisplayName** – *the name of the content service (financial institution).*
- **RoutingNumberInput** – *the routing number of the financial institution if entered.*
- **AccountNumberInput** – *the account number entered for the request.*
- **HolderNameInput** – *the account holder name entered for the request.*

Note

Lenders frequently ask how they can tell if a borrower has dropped out of the verification process without finishing it. By calling this web method every 20 minutes, for example, with a date range that is from yesterday until 20 minutes ago, and a Status = 1, you can get back a list of all “Started but not Completed” requests. This might be a report you use to trigger action on the part of your customer service representatives to follow up with the potential borrower.

GetReportDetailFromRequestCode (deprecated)

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

There is a simpler version of this web method called `GetReportDetailFromRequestCode4`, which is the recommend web method at this time.

Method

```
ReportDetail GetReportDetailFromRequestCode(  
    string serviceKey,  
    string siteUserGuid,  
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).

Returns

The **ReportDetail** object that is returned is defined as:

```
string EmailAddress  
string InstitutionName  
string AccountName  
string RoutingNumberEntered  
string AccountType  
string AccountNumberEntered  
string AccountNumberFound  
string NameEntered  
string NameFound  
double AmountInput  
double AvailableBalance  
bool IsLoginValid  
DateTime AsOfDate  
DateTime ActivityStartDate  
DateTime ActivityEndDate  
double TotalCredits  
double TotalDebits  
double CurrentBalance  
bool IsActivityAvailable  
TransactionSummary[] TransactionSummaries  
int ProcessedStatus  
bool IsError  
string ErrorMessage  
bool IsStarted  
bool IsCompleted
```

- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.

- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **IsLoginValid** – this value indicated whether the login operation was successful for the credentials the user entered.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.
- **TransactionSummaries** – this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.

The **TransactionSummary** object array that is returned is defined as:

```
DateTime TransactionDate
double Amount
double RunningBalance
string Description
bool IsRefresh
```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.

GetReportDetailFromRequestCode2 (deprecated)

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

There is a simpler version of this web method called GetReportDetailFromRequestCode4, which is the recommend web method at this time.

Method

```
ReportDetail2 GetReportDetailFromRequestCode2(  
    string serviceKey,  
    string siteUserGuid,  
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).

Returns

The **ReportDetail2** object that is returned is defined as:

```
string RequestCode  
string CustomerIdentifier  
string EmailAddress  
string InstitutionName  
string AccountName  
string RoutingNumberEntered  
string AccountType  
string AccountNumberEntered  
string AccountNumberFound  
int AccountNumberConfidence  
string NameEntered  
string NameFound  
int NameConfidence  
double AmountInput  
double AvailableBalance  
double AverageBalance  
double AverageBalanceRecent  
bool IsLoginValid  
bool IsVerified  
DateTime AsOfDate  
DateTime ActivityStartDate  
DateTime ActivityEndDate  
double TotalCredits  
double TotalDebits
```

```

double CurrentBalance
bool IsActivityAvailable
TransactionAnalysisSummary[] TransactionAnalysisSummaries
TransactionSummary2[] TransactionSummaries
int ProcessedStatus
bool IsError
string ErrorMessage
bool IsStarted
bool IsCompleted
string Notes

```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client’s customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was found.

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
4	The first and last names were both found in the account holder name.

3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.
- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.
- **TransactionAnalysisSummaries** –this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** –this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.

- **Notes** – may show additional information about the account including detected account number changes over time.

The **TransactionAnalysisSummary** object array that is returned is defined as:

```
string TypeName
string TypeCode
int TotalCount
double TotalAmount
int RecentCount
double RecentAmount
```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.
- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** - the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary2** object array that is returned is defined as:

```
DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.

- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.

GetReportDetailFromRequestCode3

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

There is a simpler version of this web method called GetReportDetailFromRequestCode4, which is the recommend web method at this time.

Method

```
ReportDetail3 GetReportDetailFromRequestCode3(
    string serviceKey,
    string siteUserGuid,
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).

Returns

The **ReportDetail3** object that is returned is defined as:

```
string RequestCode
string CustomerIdentifier
string EmailAddress
string InstitutionName
string AccountName
string RoutingNumberEntered
string AccountType
string AccountNumberEntered
string AccountNumberFound
int AccountNumberConfidence
string NameEntered
string NameFound
int NameConfidence
double AmountInput
double AvailableBalance
```

```

double AverageBalance
double AverageBalanceRecent
bool IsLoginValid
bool IsVerified
DateTime AsOfDate
DateTime ActivityStartDate
DateTime ActivityEndDate
double TotalCredits
double TotalDebits
double CurrentBalance
bool IsActivityAvailable
TransactionAnalysisSummary3[] TransactionAnalysisSummaries
TransactionSummary3[] TransactionSummaries
int ProcessedStatus
bool IsStarted
bool IsCompleted
string Notes
int Status
string StatusText
string StatusCodeColor
string LastRefreshErrorMessage
bool IsError
string ErrorMessage

```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client’s customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was

	found.
--	--------

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
4	The first and last names were both found in the account holder name.
3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.
- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.

- **TransactionAnalysisSummaries** –this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** –this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.
- **Notes** – may show additional information about the account including detected account number changes over time.
- **Status** – this numeric value indicates the status of the Request. Valid values are:

Code	StatusText (Description)	StatusCodeColor
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **StatusText** – the display name of the Status code (see Status above).
- **StatusCodeColor** – the html color code of the Status (see Status above).
- **LastRefreshErrorMessage** – a friendly message that explains the reason the verification failed.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.

The **TransactionAnalysisSummary3** object array that is returned is defined as:

```
string TypeName
string TypeCode
```

```

int TotalCount
double TotalAmount
int RecentCount
double RecentAmount

```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.
- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** - the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary3** object array that is returned is defined as:

```

DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
string Status

```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.

- **Status** – indicates whether transaction is “pending” or “posted”.

GetReportDetailFromRequestCode4

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

It is a simplified version of GetReportDetailFromRequestCode3 in that it does not require the SiteUserGuid parameter.

Method

```
ReportDetail3 GetReportDetailFromRequestCode4(  
    string serviceKey,  
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).

Returns

The **ReportDetail3** object that is returned is defined as:

```
string RequestCode  
string CustomerIdentifier  
string EmailAddress  
string InstitutionName  
string AccountName  
string RoutingNumberEntered  
string AccountType  
string AccountNumberEntered  
string AccountNumberFound  
int AccountNumberConfidence  
string NameEntered  
string NameFound  
int NameConfidence  
double AmountInput  
double AvailableBalance  
double AverageBalance  
double AverageBalanceRecent  
bool IsLoginValid  
bool IsVerified  
DateTime AsOfDate  
DateTime ActivityStartDate  
DateTime ActivityEndDate  
double TotalCredits  
double TotalDebits  
double CurrentBalance
```



```

bool IsActivityAvailable
TransactionAnalysisSummary3[] TransactionAnalysisSummaries
TransactionSummary3[] TransactionSummaries
int ProcessedStatus
bool IsStarted
bool IsCompleted
string Notes
int Status
string StatusText
string StatusCodeColor
string LastRefreshErrorMessage
bool IsError
string ErrorMessage

```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client’s customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was found.

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
---	-------------------------

4	The first and last names were both found in the account holder name.
3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.
- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.
- **TransactionAnalysisSummaries** – this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** – this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.

- **Notes** – may show additional information about the account
- **Status** – this numeric value indicates the status of the Request. Valid values are:

Code	StatusText (Description)	StatusCodeColor
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **StatusText** – the display name of the Status code (see Status above).
- **StatusCodeColor** – the html color code of the Status (see Status above).
- **LastRefreshErrorMessage** – a friendly message that explains the reason the verification failed.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.

The **TransactionAnalysisSummary3** object array that is returned is defined as:

```
string TypeName
string TypeCode
int TotalCount
double TotalAmount
int RecentCount
double RecentAmount
```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.
- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** - the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary3** object array that is returned is defined as:

```
DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
string Status
```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.
- **Status** – indicates whether transaction is “pending” or “posted”.

GetReportDetailFromRequestCode5

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

It is a modified version of GetReportDetailFromRequestCode4 in that it allows you to filter transactions according to the transaction type (based on the summary analytics).

Method

```
ReportDetail3 GetReportDetailFromRequestCode4(  
    string serviceKey,  
    string requestCode  
    string transactionTypeCodesCSV)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).
- **transactionTypeCodesCSV** – specify the typecodes for the types of transactions to retrieve in the transaction summary array (required). If blank, no transactions will be returned. Only transactions that match the type codes are returned.
- This string should be comma-separated (csv format, e.g. “py,dp,ov”)
- Valid type codes are:

Type Code	Definition
py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit
rv	Reversal

Returns

The **ReportDetail3** object that is returned is defined as:

```
string RequestCode  
string CustomerIdentifier  
string EmailAddress  
string InstitutionName  
string AccountName  
string RoutingNumberEntered  
string AccountType  
string AccountNumberEntered  
string AccountNumberFound  
int AccountNumberConfidence  
string NameEntered  
string NameFound
```

```

int NameConfidence
double AmountInput
double AvailableBalance
double AverageBalance
double AverageBalanceRecent
bool IsLoginValid
bool IsVerified
DateTime AsOfDate
DateTime ActivityStartDate
DateTime ActivityEndDate
double TotalCredits
double TotalDebits
double CurrentBalance
bool IsActivityAvailable
TransactionAnalysisSummary3[] TransactionAnalysisSummaries
TransactionSummary3[] TransactionSummaries
int ProcessedStatus
bool IsStarted
bool IsCompleted
string Notes
int Status
string StatusText
string StatusCodeColor
string LastRefreshErrorMessage
bool IsError
string ErrorMessage

```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client’s customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.

0	An account number was returned but no match was found.
---	--

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
4	The first and last names were both found in the account holder name.
3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.
- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).

- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.
- **TransactionAnalysisSummaries** –this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** –this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.
- **Notes** – may show additional information about the account including detected account number changes over time.
- **Status** – this numeric value indicates the status of the Request. Valid values are:

Code	StatusText (Description)	StatusCodeColor
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **StatusText** – the display name of the Status code (see Status above).
- **StatusCodeColor** – the html color code of the Status (see Status above).
- **LastRefreshErrorMessage** – a friendly message that explains the reason the verification failed.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.

The **TransactionAnalysisSummary3** object array that is returned is defined as:


```

string TypeName
string TypeCode
int TotalCount
double TotalAmount
int RecentCount
double RecentAmount

```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.
- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** - the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary3** object array that is returned is defined as:

```

DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
string Status

```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.

- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.
- **Status** – indicates whether transaction is “pending” or “posted”.

GetReportDetailFromRequestCode6 (NEW)

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

It is a modified version of GetReportDetailFromRequestCode4 in that it now returns the Transaction Category data and a summary of the Expenses, along with an Identifier that can be used to call another API to draw charts. [For chart help see the documentation on “Charts” below.]

Method

```
ReportDetail4 GetReportDetailFromRequestCode6(
    string serviceKey,
    string siteUserGuid,
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the siteUser that “owns” the report (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).

Returns

The **ReportDetail4** object that is returned is defined as:

```
string RequestCode
string CustomerIdentifier
string EmailAddress
string InstitutionName
string AccountName
string RoutingNumberEntered
string AccountType
string AccountNumberEntered
string AccountNumberFound
int AccountNumberConfidence
string NameEntered
string NameFound
int NameConfidence
double AmountInput
double AvailableBalance
double AverageBalance
double AverageBalanceRecent
bool IsLoginValid
```

```

bool IsVerified
DateTime AsOfDate
DateTime ActivityStartDate
DateTime ActivityEndDate
double TotalCredits
double TotalDebits
double CurrentBalance
bool IsActivityAvailable
TransactionAnalysisSummary4[] TransactionAnalysisSummaries
TransactionSummary4[] TransactionSummaries
int ProcessedStatus
bool IsStarted
bool IsCompleted
string Notes
int Status
string StatusText
string StatusCodeColor
string LastRefreshErrorMessage
bool IsError
string ErrorMessage
bool IsACHSupported
AccountExpenses[] AccountExpenses
int ChartsId

```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client’s customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was

	found.
--	--------

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
4	The first and last names were both found in the account holder name.
3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.
- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.

- **TransactionAnalysisSummaries** –this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** –this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.
- **Notes** – may show additional information about the account including detected account number changes over time.
- **Status** – this numeric value indicates the status of the Request. Valid values are:

Code	StatusText (Description)	StatusCodeColor
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **StatusText** – the display name of the Status code (see Status above).
- **StatusCodeColor** – the html color code of the Status (see Status above).
- **LastRefreshErrorMessage** – a friendly message that explains the reason the verification failed.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.
- **IsACHSupported** – defines whether the specified account is expected to be valid for ACH credits and debits.
- **AccountExpenses** – an array of AccountExpense objects (see below).

- **ChartsId** – the unique identifier that can be used to call the Charts API to return any one of four Chart Types (see “Charts” documentation below).

The **TransactionAnalysisSummary4** object array that is returned is defined as:

```
string TypeName
string TypeCode
int TotalCount
double TotalAmount
int RecentCount
double RecentAmount
```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.
- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** - the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary4** object array that is returned is defined as:

```
DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
string Status
string Category
```

- **TransactionDate** – the date of the transaction.

- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.
- **Status** – indicates whether transaction is “pending” or “posted”.
- **Category** – the transaction income or expense category (e.g. Utilities, Groceries, etc.).

The **AccountExpense** object array that is returned is defined as:

```
string Category
decimal Amount
double Percent
```

- **Category** – the name of the category (e.g. Utilities, Groceries, etc.).
- **Amount** – the total amount of transactions in that expense category.
- **Percent** – the percentage of the total amount of transactions in the expense category compared to the total of all expenses found.

GetReportDetailFromRequestCode7 (NEW)

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

It is a modified version of GetReportDetailFromRequestCode6 in that it now returns the Transaction Category data and a summary of the Expenses, along with an Identifier that can be used to call another API to draw charts but does not require the siteUserGuid to be provided. [For chart help see the documentation on “Charts” below.]

Method

```
ReportDetail4 GetReportDetailFromRequestCode6(
    string serviceKey,
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).

Returns

The **ReportDetail4** object that is returned is defined as:

```
string RequestCode
string CustomerIdentifier
string EmailAddress
string InstitutionName
string AccountName
string RoutingNumberEntered
string AccountType
string AccountNumberEntered
string AccountNumberFound
int AccountNumberConfidence
string NameEntered
string NameFound
int NameConfidence
double AmountInput
double AvailableBalance
double AverageBalance
double AverageBalanceRecent
bool IsLoginValid
bool IsVerified
DateTime AsOfDate
DateTime ActivityStartDate
DateTime ActivityEndDate
double TotalCredits
double TotalDebits
double CurrentBalance
bool IsActivityAvailable
TransactionAnalysisSummary4[] TransactionAnalysisSummaries
TransactionSummary4[] TransactionSummaries
int ProcessedStatus
bool IsStarted
bool IsCompleted
string Notes
int Status
string StatusText
string StatusCodeColor
string LastRefreshErrorMessage
bool IsError
string ErrorMessage
bool IsACHSupported
AccountExpenses[] AccountExpenses
int ChartsId
```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client's customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.

- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was found.

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
4	The first and last names were both found in the account holder name.
3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.

- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.
- **TransactionAnalysisSummaries** –this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** –this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.
- **Notes** – may show additional information about the account including detected account number changes over time.
- **Status** – this numeric value indicates the status of the Request. Valid values are:

Code	StatusText (Description)	StatusCodeColor
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to	Light Green #44AA44

	meet the profile's verification standard)	
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **StatusText** – the display name of the Status code (see Status above).
- **StatusCodeColor** – the html color code of the Status (see Status above).
- **LastRefreshErrorMessage** – a friendly message that explains the reason the verification failed.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.
- **IsACHSupported** – defines whether the specified account is expected to be valid for ACH credits and debits.
- **AccountExpenses** – an array of AccountExpense objects (see below).
- **ChartsId** – the unique identifier that can be used to call the Charts API to return any one of four Chart Types (see “Charts” documentation below).

The **TransactionAnalysisSummary4** object array that is returned is defined as:

```
string TypeName
string TypeCode
int TotalCount
double TotalAmount
int RecentCount
double RecentAmount
```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.

- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** – the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary4** object array that is returned is defined as:

```
DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
string Status
string Category
```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.
- **Status** – indicates whether transaction is “pending” or “posted”.
- **Category** – the transaction income or expense category (e.g. Utilities, Groceries, etc.).

The **AccountExpense** object array that is returned is defined as:

```
string Category
decimal Amount
double Percent
```

- **Category** – the name of the category (e.g. Utilities, Groceries, etc.).
- **Amount** – the total amount of transactions in that expense category.
- **Percent** – the percentage of the total amount of transactions in the expense category compared to the total of all expenses found.

GetMultipleReportDetailsFromRequestCode

This method returns detailed information about the account verification request. If the request is complete and successful, information about all the accounts associated with the user's banking credentials and their corresponding transactions can be returned.

If multiple accounts are available and returned, the first in the array will be the "primary" account.

Method

```
ReportDetail3[] GetMultipleReportDetailsFromRequestCode(  
    string serviceKey,  
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).

Returns

The **ReportDetail3[]** object that is returned is an array of **ReportDetail3** objects.

The **ReportDetail3** object that is returned is defined as:

```
string RequestCode  
string CustomerIdentifier  
string EmailAddress  
string InstitutionName  
string AccountName  
string RoutingNumberEntered  
string AccountType  
string AccountNumberEntered  
string AccountNumberFound  
int AccountNumberConfidence  
string NameEntered  
string NameFound  
int NameConfidence  
double AmountInput  
double AvailableBalance  
double AverageBalance  
double AverageBalanceRecent  
bool IsLoginValid  
bool IsVerified  
DateTime AsOfDate  
DateTime ActivityStartDate  
DateTime ActivityEndDate  
double TotalCredits  
double TotalDebits  
double CurrentBalance  
bool IsActivityAvailable
```

```

TransactionAnalysisSummary3[] TransactionAnalysisSummaries
TransactionSummary3[] TransactionSummaries
int ProcessedStatus
bool IsStarted
bool IsCompleted
string Notes
int Status
string StatusText
string StatusCodeColor
string LastRefreshErrorMessage
bool IsError
string ErrorMessage

```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client’s customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was found.

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
4	The first and last names were both found in the

	account holder name.
3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.
- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.
- **TransactionAnalysisSummaries** –this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** –this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.
- **Notes** – may show additional information about the account

- **Status** – this numeric value indicates the status of the Request. Valid values are:

Code	StatusText (Description)	StatusCodeColor
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **StatusText** – the display name of the Status code (see Status above).
- **StatusCodeColor** – the html color code of the Status (see Status above).
- **LastRefreshErrorMessage** – a friendly message that explains the reason the verification failed.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.

The **TransactionAnalysisSummary3** object array that is returned is defined as:

```
string TypeName
string TypeCode
int TotalCount
double TotalAmount
int RecentCount
double RecentAmount
```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
----	---------

ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.
- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** – the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary3** object array that is returned is defined as:

```

DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
string Status

```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.
- **Status** – indicates whether transaction is “pending” or “posted”.

GetMultipleReportDetailsFromRequestCode6 (NEW)

This method returns detailed information about the account verification request. If the request is complete and successful, information about all the accounts associated with the user’s banking credentials and their corresponding transactions can be returned.

It is a modified version of `GetMultipleReportDetailsFromRequestCode` in that it now returns the Transaction Category data and a summary of the Expenses, along with an Identifier that can be used to call another API to draw charts. [For chart help see the documentation on “Charts” below.]

If multiple accounts are available and returned, the first in the array will be the “primary” account.

Method

```
ReportDetail4[] GetMultipleReportDetailsFromRequestCode6(  
    string serviceKey,  
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).

Returns

The **ReportDetail4** object that is returned is defined as:

```
string RequestCode  
string CustomerIdentifier  
string EmailAddress  
string InstitutionName  
string AccountName  
string RoutingNumberEntered  
string AccountType  
string AccountNumberEntered  
string AccountNumberFound  
int AccountNumberConfidence  
string NameEntered  
string NameFound  
int NameConfidence  
double AmountInput  
double AvailableBalance  
double AverageBalance  
double AverageBalanceRecent  
bool IsLoginValid  
bool IsVerified  
DateTime AsOfDate  
DateTime ActivityStartDate  
DateTime ActivityEndDate  
double TotalCredits  
double TotalDebits  
double CurrentBalance  
bool IsActivityAvailable  
TransactionAnalysisSummary4[] TransactionAnalysisSummaries  
TransactionSummary4[] TransactionSummaries  
int ProcessedStatus  
bool IsStarted  
bool IsCompleted  
string Notes
```

```

int Status
string StatusText
string StatusCodeColor
string LastRefreshErrorMessage
bool IsError
string ErrorMessage
bool IsACHSupported
AccountExpenses[] AccountExpenses
int ChartsId

```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client’s customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was found.

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
4	The first and last names were both found in the account holder name.

3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.
- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.
- **TransactionAnalysisSummaries** –this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** –this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.
- **Notes** – may show additional information about the account including detected account number changes over time.

- **Status** – this numeric value indicates the status of the Request. Valid values are:

Code	StatusText (Description)	StatusCodeColor
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **StatusText** – the display name of the Status code (see Status above).
- **StatusCodeColor** – the html color code of the Status (see Status above).
- **LastRefreshErrorMessage** – a friendly message that explains the reason the verification failed.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.
- **IsACHSupported** – defines whether the specified account is expected to be valid for ACH credits and debits.
- **AccountExpenses** – an array of AccountExpense objects (see below).
- **ChartsId** – the unique identifier that can be used to call the Charts API to return any one of four Chart Types (see “Charts” documentation below).

The **TransactionAnalysisSummary4** object array that is returned is defined as:

```

string TypeName
string TypeCode
int TotalCount
double TotalAmount
int RecentCount
double RecentAmount

```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.
- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** – the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary4** object array that is returned is defined as:

```
DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
string Status
string Category
```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.
- **Status** – indicates whether transaction is “pending” or “posted”.
- **Category** – the transaction income or expense category (e.g. Utilities, Groceries, etc.).

The **AccountExpense** object array that is returned is defined as:

```
string Category
decimal Amount
double Percent
```

- **Category** – the name of the category (e.g. Utilities, Groceries, etc.).
- **Amount** – the total amount of transactions in that expense category.
- **Percent** – the percentage of the total amount of transactions in the expense category compared to the total of all expenses found.

GetMultipleReportDetailsFromCustomerIdentifier6 (NEW)

This method returns detailed information about the account verification request. If the request is complete and successful, information about all the accounts associated with the user's banking credentials and their corresponding transactions can be returned.

It is a modified version of GetMultipleReportDetailsFromCustomerIdentifier in that it now returns the Transaction Category data and a summary of the Expenses, along with an Identifier that can be used to call another API to draw charts. [For chart help see the documentation on "Charts" below.]

If multiple accounts are available and returned, the first in the array will be the "primary" account.

Method

```
ReportDetail4[] GetMultipleReportDetailsFromCustomerIdentifier6(
    string serviceKey,
    string customerIdentifier)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **customerIdentifier** – specify the customer identifier that uniquely identifies the request to retrieve (required).

Returns

The **ReportDetail4** object that is returned is defined as:

```
string RequestCode
string CustomerIdentifier
string EmailAddress
string InstitutionName
string AccountName
```

```

string RoutingNumberEntered
string AccountType
string AccountNumberEntered
string AccountNumberFound
int AccountNumberConfidence
string NameEntered
string NameFound
int NameConfidence
double AmountInput
double AvailableBalance
double AverageBalance
double AverageBalanceRecent
bool IsLoginValid
bool IsVerified
DateTime AsOfDate
DateTime ActivityStartDate
DateTime ActivityEndDate
double TotalCredits
double TotalDebits
double CurrentBalance
bool IsActivityAvailable
TransactionAnalysisSummary4[] TransactionAnalysisSummaries
TransactionSummary4[] TransactionSummaries
int ProcessedStatus
bool IsStarted
bool IsCompleted
string Notes
int Status
string StatusText
string StatusCodeColor
string LastRefreshErrorMessage
bool IsError
string ErrorMessage
bool IsACHSupported
AccountExpenses[] AccountExpenses
int ChartsId

```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client’s customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
---	--------------------------------

3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was found.

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
4	The first and last names were both found in the account holder name.
3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.
- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.

- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.
- **TransactionAnalysisSummaries** –this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** –this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.
- **Notes** – may show additional information about the account including detected account number changes over time.
- **Status** – this numeric value indicates the status of the Request. Valid values are:

Code	StatusText (Description)	StatusCodeColor
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **StatusText** – the display name of the Status code (see Status above).

- **StatusColor** – the html color code of the Status (see Status above).
- **LastRefreshErrorMessage** – a friendly message that explains the reason the verification failed.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.
- **IsACHSupported** – defines whether the specified account is expected to be valid for ACH credits and debits.
- **AccountExpenses** – an array of AccountExpense objects (see below).
- **ChartsId** – the unique identifier that can be used to call the Charts API to return any one of four Chart Types (see “Charts” documentation below).

The **TransactionAnalysisSummary4** object array that is returned is defined as:

```
string TypeName
string TypeCode
int TotalCount
double TotalAmount
int RecentCount
double RecentAmount
```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.
- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** - the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary4** object array that is returned is defined as:

```
DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
string Status
string Category
```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.
- **Status** – indicates whether transaction is “pending” or “posted”.
- **Category** – the transaction income or expense category (e.g. Utilities, Groceries, etc.).

The **AccountExpense** object array that is returned is defined as:

```
string Category
decimal Amount
double Percent
```

- **Category** – the name of the category (e.g. Utilities, Groceries, etc.).
- **Amount** – the total amount of transactions in that expense category.
- **Percent** – the percentage of the total amount of transactions in the expense category compared to the total of all expenses found.

GetReportDetailFromCustomerIdentifier2

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

Method

```
ReportDetail2 GetReportDetailFromCustomerIdentifier2(
    string serviceKey,
    string siteUserGuid,
    string customerIdentifier)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching (required).
- **customerIdentifier** – specify the customer identifier that identifies the request to retrieve (required).

Returns

The **ReportDetail2** object defined above.

GetReportDetailFromCustomerIdentifier3

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

Method

```
ReportDetail3 GetReportDetailFromCustomerIdentifier3(  
    string serviceKey,  
    string siteUserGuid,  
    string customerIdentifier)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching (required).
- **customerIdentifier** – specify the customer identifier that identifies the request to retrieve (required).

Returns

The **ReportDetail3** object defined above.

GetReportDetailFromCustomerIdentifier6 (NEW)

This method returns detailed information about the account verification request. If the request is complete and successful, information about the account and the transactions can be returned.

It is a modified version of GetReportDetailFromCustomerIdentifier3 in that it now returns the Transaction Category data and a summary of the Expenses, along with an Identifier that can be used to call another API to draw charts. [For chart help see the documentation on “Charts” below.]

Method

```
ReportDetail4 GetReportDetailFromCustomerIdentifier6(  
    string serviceKey,  
    string siteUserGuid,  
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the siteUser that “owns” the report (required).
- **requestCode** – specify the request code that identifies the request to retrieve (required).

Returns

The **ReportDetail4** object that is returned is defined as:

```
string RequestCode  
string CustomerIdentifier  
string EmailAddress  
string InstitutionName  
string AccountName  
string RoutingNumberEntered  
string AccountType  
string AccountNumberEntered  
string AccountNumberFound  
int AccountNumberConfidence  
string NameEntered  
string NameFound  
int NameConfidence  
double AmountInput  
double AvailableBalance  
double AverageBalance  
double AverageBalanceRecent  
bool IsLoginValid  
bool IsVerified  
DateTime AsOfDate  
DateTime ActivityStartDate  
DateTime ActivityEndDate  
double TotalCredits  
double TotalDebits  
double CurrentBalance  
bool IsActivityAvailable  
TransactionAnalysisSummary4[] TransactionAnalysisSummaries  
TransactionSummary4[] TransactionSummaries  
int ProcessedStatus  
bool IsStarted  
bool IsCompleted  
string Notes
```

```

int Status
string StatusText
string StatusCodeColor
string LastRefreshErrorMessage
bool IsError
string ErrorMessage
bool IsACHSupported
AccountExpenses[] AccountExpenses
int ChartsId

```

- **RequestCode** – the code that identifies this request.
- **CustomerIdentifier** – the client provided customer identifier, typically a key to data within the client’s customer tracking system.
- **EmailAddress** – the email address of the account verification request applicant.
- **InstitutionName** – the name of the financial institution.
- **AccountName** – the name of the account at the financial institution if found.
- **RoutingNumberEntered** – the name of the routing number used in the request.
- **AccountType** – the type of the account if found.
- **AccountNumberEntered** – the account number entered for the request.
- **AccountNumberFound** – the account number found at the financial institution if complete.
- **AccountNumberConfidence** – the confidence level of the account number found if complete.

4	All digits are an exact match.
3	Partial match was found where digits not hidden or masked match exactly.
2	Partial match was found with only the last digits matching.
1	An empty account number was returned from the online account so a matching determination could not be made.
0	An account number was returned but no match was found.

- **NameEntered** – the account holder name entered for the request.
- **NameFound** – the account holder name found to be associated with the account if complete.
- **NameConfidence** – the confidence level of the account holder name found if complete.

5	This is an exact match.
4	The first and last names were both found in the account holder name.

3	The last name was found in the account holder name.
2	The first name was found in the account holder name.
1	An empty account holder name was returned from the online account so a matching determination could not be made.
0	An account holder name was returned but there was no first or last name match.

- **AmountInput** – the amount to be verified as an available balance.
- **AvailableBalance** – the available balance found for the account if the request was completed.
- **AverageBalance** – the average balance calculated from all found transactions if the request was completed.
- **AverageBalanceRecent** – the average balance calculated from the last month of transactions if the request was completed.
- **IsLoginValid** – this value indicates whether the login operation was successful for the credentials the user entered.
- **IsVerified** – this value indicates whether the account was deemed “verified” by meeting all of the requirements specified in the profile. The requirements include a valid login to the bank account, account number and name confidence levels that meet or exceed the minimum levels specified, and an available balance that is equal or greater than the amount input.
- **AsOfDate** – the date as of when the account balance is accurate.
- **ActivityStartDate** – the earliest date for when transactions are returned.
- **ActivityEndDate** – the latest date for when transactions are returned.
- **TotalCredits** – the total of all returned credit transactions.
- **TotalDebits** – the total of all returned debit transactions.
- **CurrentBalance** – the current balance in the account (may be different from the available balance).
- **IsActivityAvailable** – this value indicates whether transaction activity has been returned.
- **TransactionAnalysisSummaries** –this is an array of transaction analysis summaries as detailed below.
- **TransactionSummaries** –this is an array of transaction summaries as detailed below.
- **ProcessedStatus** – the current process status for the request.
- **IsStarted** – indicates whether the applicant started the request process.
- **IsCompleted** – indicates whether the applicant completed the request process.
- **Notes** – may show additional information about the account including detected account number changes over time.

- **Status** – this numeric value indicates the status of the Request. Valid values are:

Code	StatusText (Description)	StatusCodeColor
-2	Bank Error (Requests that failed while attempting to get data from the bank)	Red #CC3333
-1	Account Error (Requests that failed because of an account error, including invalid credentials, account is closed, etc.)	Amber #FFBF00
0	Not Started (Requests that have been created but never started)	Light Gray #D0D0D0
1	Started, Not Completed (Requests that have been started by the end user but not completed)	Dark Gray #A0A0A0
2	Login, Not Verified (Requests that were completed where the end user was able to login to their bank account, but failed to meet the profile's verification standard)	Light Green #44AA44
3	Login, Verified (Requests that were completed where the end user was able to login to their bank account, and met the profile's verification standard)	Dark Green #228822

- **StatusText** – the display name of the Status code (see Status above).
- **StatusCodeColor** – the html color code of the Status (see Status above).
- **LastRefreshErrorMessage** – a friendly message that explains the reason the verification failed.
- **IsError** – the value indicates whether an error occurred during the operation.
- **ErrorMessage** – the message indicating the type of error that occurred during the operation.
- **IsACHSupported** – defines whether the specified account is expected to be valid for ACH credits and debits.
- **AccountExpenses** – an array of AccountExpense objects (see below).
- **ChartsId** – the unique identifier that can be used to call the Charts API to return any one of four Chart Types (see “Charts” documentation below).

The **TransactionAnalysisSummary4** object array that is returned is defined as:

```

string TypeName
string TypeCode
int TotalCount
double TotalAmount
int RecentCount
double RecentAmount

```

- **TypeName** – the name of the type category.
- **TypeCode** – the code used the flag the matching transactions for the type with the transaction summary array.

py	Payroll
ld	Loan Debit
lc	Loan Credit
ov	Overdraft
ad	ACH Debit
ac	ACH Credit
dp	Deposit

- **TotalCount** – the number of transactions in the transaction summary array that match the type.
- **TotalAmount** – the sum of the transaction amounts of all the transactions in the transaction summary array that match the type.
- **RecentCount** – the number of transactions for the last month in the transaction summary array that match the type.
- **RecentAmount** – the number of transactions for the last month of all the transactions in the transaction summary array that match the type.

The **TransactionSummary4** object array that is returned is defined as:

```
DateTime TransactionDate
double Amount
double RunningBalance
string Description
string TypeCodes
bool IsRefresh
string Status
string Category
```

- **TransactionDate** – the date of the transaction.
- **Amount** – the amount of the transaction.
- **RunningBalance** – the calculated running balance.
- **Description** – the transaction description returned by the financial institution.
- **TypeCodes** – the type codes that apply to this transaction separated by commas.
- **IsRefresh** – indicates whether transaction was added to list as part of a refresh operation.
- **Status** – indicates whether transaction is “pending” or “posted”.
- **Category** – the transaction income or expense category (e.g. Utilities, Groceries, etc.).

The **AccountExpense** object array that is returned is defined as:

```
string Category
decimal Amount
double Percent
```

- **Category** – the name of the category (e.g. Utilities, Groceries, etc.).
- **Amount** – the total amount of transactions in that expense category.
- **Percent** – the percentage of the total amount of transactions in the expense category compared to the total of all expenses found.

InstantRefresh

This method allows you to refresh an instant account verification report, if your company has been set-up for instant refresh. Since not all companies have access to this feature, it is recommended that you discuss the implications of using this web method with your customer support specialist or integration team member.

Method

```
string InstantRefresh(
    string serviceKey,
    string siteUserGuid,
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching (required).
- **requestCode** – specify the request to be refreshed (required).

Returns

The method returns either an empty string if successful, or an HTML formatted error message.

SendRequestBySMS

This method allows you to send a formatted SMS Text message to a phone number, with a link to the mobile-friendly DecisionLogic landing page associated with the Request Code's Profile.

Method

```
string InstantRefresh(  
    string serviceKey,  
    string toPhone,  
    string requestCode)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user you are searching (required).
- **requestCode** – specify the request (required).

Returns

The method returns either an empty string if successful, or an HTML formatted error message.

Workflow Management

The method in this section allows you to change the workflow (process) status of an account verification request.

UpdateRequestWorkflowStatus

This method is used to update the ProcessStatus associated with the account verification request. Please note: WorkflowStatus has been renamed to ProcessStatus in newer API calls.

Method

```
string UpdateRequestWorkflowStatus(  
    string serviceKey,  
    string siteUserGuid,  
    string requestCode,  
    int workflowStatus)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user the created the request (required).
- **requestCode** – specify the request code that identifies the request to update (required).
- **workflowStatus** – specify the new workflow (process) status value for the request (required).

Returns

If an error occurs during the operation, an error message is returned.

User Management

These methods allow you retrieve lists of site users and update information about users.

GetUsers

This method is used to retrieve an array of the site users for your company.

Method

```
SiteUserSummary[] GetUsers(string serviceKey)
```

Parameters

- **serviceKey** – specify your unique client service key (required).

Returns

The **SiteUserSummary** object array that is returned is defined as:

```
string SiteUserGuid  
string Username  
string EmailAddress  
string FirstName  
string LastName  
string Address  
string City  
string State  
string PostalCode  
string Country  
double Latitude  
double Longitude  
string Phone  
int Status  
DateTime DateCreated  
DateTime DateModified
```

- **SiteUserGuid** – the globally unique identifier (Guid) associated with the site user.
- **Username** – the username of the site user.
- **EmailAddress** – the email address of the site user.
- **FirstName** – the first name of the site user.
- **LastName** – the last name of the site user.
- **Address** – the street address of the site user.
- **City** – the city of the site user.

- **State** – the state of the site user.
- **PostalCode** – the postal or zip code of the site user.
- **Country** – the country name of the site user.
- **Phone** – the phone number of the site user.
- **Status** – the status of the site user.

1	Pending
2	Active
3	Suspended
4	Terminated

- **DateCreated** – the date and time the site user was created in coordinated universal time (UTC).
- **DateModified** – the date and time the site user was last modified in coordinated universal time (UTC).

UpdateUser

This method is allows you to update information for your company site users.

Method

```
string UpdateUser(
    string serviceKey,
    string siteUserGuid,
    bool updatePassword,
    string password,
    bool updateEmailAddress,
    string emailAddress,
    bool updateFirstName,
    string firstName,
    bool updateLastName,
    string lastName,
    bool updateAddress,
    string address,
    bool updateCity,
    string city,
    bool updateState,
    string state,
    bool updatePostalCode,
    string postalCode,
    bool updatePhone,
    string phone,
    bool updateStatus,
    int status,
    bool isDeleted)
```

Parameters

- **serviceKey** – specify your unique client service key(required).
- **siteUserGuid** – specify the globally universal identifier (Guid) for the site user you wish to update (required).
- **updatePassword** – specify true if you wish to update the password for the site user.
- **password** – specify the new password for the site user.
- **updateEmailAddress** – specify true if you wish to update the email address for the site user.
- **emailAddress** – specify the new email address for the site user.
- **updateFirstName** – specify true if you wish to update the first name for the site user.
- **firstName** – specify the new first name for the site user.
- **updateLastName** – specify true if you wish to update the last name for the site user.
- **lastName** – specify the new last name for the site user.
- **updateAddress** – specify true if you wish to update the street address for the site user.
- **address** – specify the new street address for the site user.
- **updateCity** – specify true if you wish to update the city for the site user.
- **city** – specify the new city for the site user.
- **updateState** – specify true if you wish to update the state for the site user.
- **state** – specify the new state for the site user.
- **updatePostalCode** – specify true if you wish to update the postal code for the site user.
- **postalCode** – specify the new postal code for the site user.
- **updatePhone** – specify true if you wish to update the phone number for the site user.
- **phone** – specify the new phone number for the site user.
- **updateStatus** – specify true if you wish to update the status for the site user.
- **status** – specify the new status for the site user.

1	Pending
2	Active
3	Suspended
4	Terminated

Returns

The value will be an empty string if the operation completed normally. A message will be returned if an error occurred.

AddUser

This method is allows you to update information for your company site users.

Method

```
AddUserSummary AddUser(  
    string serviceKey,  
    string username,  
    string password,  
    string emailAddress,  
    string firstName,  
    string lastName,  
    string address,  
    string city,  
    string state,  
    string postalCode,  
    string phone,  
    string role,  
    string status)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **username** – specify the new user's username (required).
- **password** – specify the new user's password (required).
- **emailAddress** – specify the new user's email address (required).
- **firstName** – specify the new user's first name (required).
- **lastName** – specify the new user's last name (required).
- **address** – specify the new user's street address (optional).
- **city** – specify the new user's city (optional).
- **state** – specify the new user's state (optional).
- **postalCode** – specify the new user's postal code (optional).
- **phone** – specify the new user's phone number (optional).
- **role** – specify the new user's role (required).

Representative
Manager
Administrator

- **status** – specify the new user's status (required).

1	Pending
2	Active
3	Suspended
4	Terminated

Returns

The **AddUserSummary** object array that is returned is defined as:

```
string Identifier
bool IsError
string ErrorMessage
```

- **Identifier** – the globally unique identifier (Guid) associated with the new site user.
- **IsError** – true if there is an error, false otherwise.
- **ErrorMessage** – if there is an error, this value will be an html formatted friendly message.

ReAssignRequestUser

This method is allows you to re-assign ownership of a request from one SiteUser to another.

Method

```
string ReAssignRequestUser(
    string serviceKey,
    string currentSiteUserGuid,
    string requestCode,
    string newSiteUserGuid)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **currentSiteUserGuid** – specify the current SiteUser that owns the request (required).
- **requestCode** – specify the request to change (required).
- **newSiteUserGuid** – specify the SiteUser to become the new owner of this request (required).

Returns

The web method returns an empty string if successful, or an html formatted friendly error message.

Transactions

The method in this section allows you to search and retrieve all the bank transactions associated with a specific request.

SearchTransactions

This method is used to retrieve an array of Transactions for a given Request Id.

Method

```
BankTransaction[] SearchTransactions(  
    string serviceKey,  
    string siteUserGuid,  
    string requestCode,  
    string searchTerm,  
    double amountMin,  
    double amountMax,  
    bool isAmountAbsValue)
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **siteUserGuid** – specify the globally unique identifier (Guid) for the site user the created the request (required).
- **requestCode** – specify the request code that identifies the request (required).
- **searchTerm** – text to be found within the transaction description (optional).
- **amountMin** – transaction amount minimum (see below).
- **amountMax** – transaction amount maximum. If BOTH the amountMin and amountMax are set to 0, they are ignored and any transaction will be returned regardless of amount.
- **isAmountAbsValue** – specify as true to ignore the sign of the transaction amount when using amountMin and amountMax. If set to false, then the sign of amountMin and amountMax are treated as important.

Returns

The **BankTransaction** object array that is returned is defined as:

```
double Amount  
datetime Date  
string Description  
datetime DateCreated  
datetime DateModified
```

- **Amount** – value of the transaction.
- **Date** – transaction posted date.
- **Description** – transaction description provided by the financial institution.
- **DateCreated** – date that DecisionLogic acquired the transaction through our Yodlee interface.
- **DateModified** – date that DecisionLogic last updated the transaction if relevant.

Charts

The method in this section allows you to retrieve the four Charts associated with a specific account for a specific request. The input parameter "ChartId" is obtained by calling one of the Get methods that returns a ReportDetail4 object or object array (above).

Charts.aspx

Page

```
https://www.decisionlogic.com/Charts.aspx?serviceKey=____&requestCode=____&chartID=____&chartType=____
```

Parameters

- **serviceKey** – specify your unique client service key (required).
- **requestCode** – specify the request code that identifies the request (required).
- **chartId** – the value of the ChartId as returned from one of the ReportDetail4 objects or object arrays (unique to an account for a request) (required).
- **chartType** – 1, 2, 3 or 4: defines which chart is returned (see below).

Returns

The **Charts.aspx** page returns html for a chart, for example:

```

```

Chart Types

The four **chart types** are:

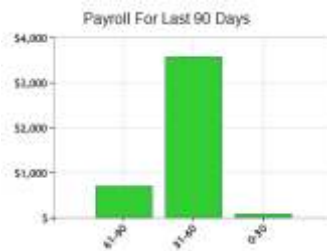
1. **Account Balance For Last 90 Days**



2. Cash Flow For Last 90 Days



3. Payroll For Last 90 Days



4. Loan Activity For Last 90 Days

