PROCESSING TRANSACTIONS WITH

WEB TERMINAL, RECURRING BILLING, AND BATCH FILES

Document Version 4.7

February 2015

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3 GETTING STARTED

The Beanstream Web Terminal, Recurring Billing and Batch Processing tools are designed to require minimal configuration. Merchants can begin using these standard tools to process transactions as soon as their account has gone Live. While a basic Web Terminal will be activated by default for all merchants, Recurring Billing and Batch services are available on request. Contact our support team if you cannot access Recurring Billing and Batch menu items. The Custom Web Terminal module is also a value-added service that must be activated by the support team.

Before you begin using any of these tools we recommend you review the following useful system features:

Email receipts

Email receipts can be sent to the customer automatically if an email address has been included with the transaction. Navigate to ***administration → account settings → email receipts*** in the Beanstream member area to customize your receipt settings.

User rights

Beanstream allows merchants to create an unlimited number of staff user accounts with unique log-in credentials and security permissions. To add, remove or modify staff user accounts, navigate to ***administration → user manager*** in the member area. Make sure that each staff user has the required security permissions to access the web terminal, recurring billing and batch processing services as desired.

Login restrictions

Log-in restrictions allow merchants to limit access to the Beanstream member area by workstation or IP address. To implement this feature, navigate to ***administration → account settings → login restrictions*** in the member area.

Company contact details

Beanstream relies on merchants keeping their company contact details including primary contact email addresses up to date. We use this information to forward important service bulletins and processing reports. Navigate to ***administration → company info*** in the Beanstream member area to customize or update your contact information before you start processing.

Consult our *Quickstart* or *General Administration* guides for details if you require assistance setting up these and other useful Beanstream system administration features.

4 WEB TERMINAL

Beanstream Web Terminal takes manual credit card processing to the next level by allowing your staff to easily process transactions anytime, anywhere. Whether you are looking for a high-volume call centre solution or a secondary payment channel for your e-business, Beanstream Web Terminal can help to streamline your transaction flow and minimize operational costs.

4.1 SYSTEM REQUIREMENTS

To use the system, all you will need is your existing workstations, a connection to the Internet and access to Beanstream's secure member area. Some browser limitations apply:

- The web terminal uses pop-up windows at certain points in the transaction process. Please enable pop-ups in your browser settings when using the system.
- The web terminal officially supports the current and previous versions of Internet Explorer and Firefox. Other browsers may be used if desired, but be aware that you may encounter performance issues.

4.2 ACCESSING THE TERMINAL

The Web Terminal interface is accessible through the Beanstream member area under ***Processing → Web Terminal*** in the left menu. On submission, transactions are immediately logged in the Beanstream system and may be reviewed through various member area reporting tools.

Web Terminal is suitable for processing credit card transactions. As INTERAC Online transactions must be initiated and authorized by the customer, this service is not compatible with Web Terminal.

4.3 PROCESSING WEB TERMINAL TRANSACTIONS

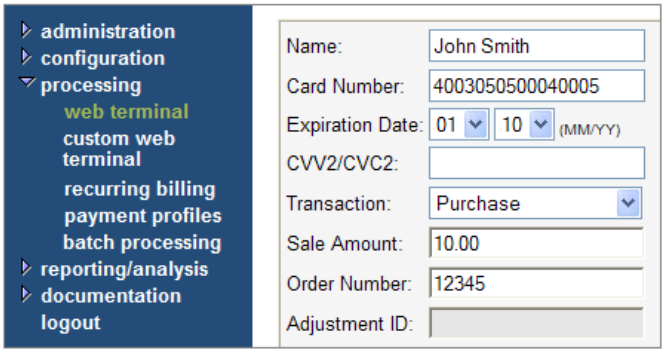
Web Terminal can accept all types of credit card transactions including purchases, pre-authorizations, returns, void purchases, void returns and pre-auth completions. Many merchants will find it easiest to use this service for purchases and pre-authorizations and then process adjustments (returns, voids and pre-auth completions) through our reporting area as described in this guide.

4.3.1 PURCHASES

To process a basic purchase, log into the member area and navigate to ***processing→ web terminal*** in the left menu.

STEP 1: Enter the following:

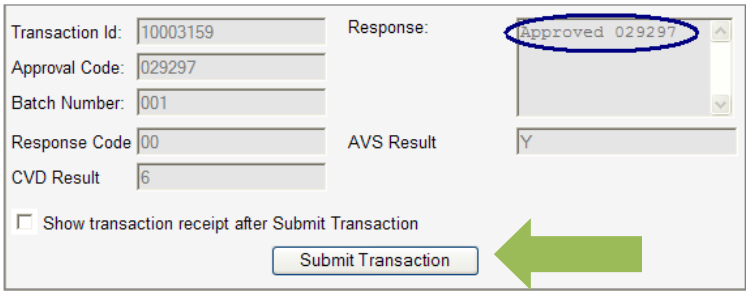
- Customer name
- Credit card number
- Credit card expiry date
- CVD/CVV number (optional)
- Choose Purchase from the Tranaction dropdown menu
- Sale amount
- Order number (enter a unique value up to 30 digits for reference purposes)



Step 2: Choose to enter customer contact details if desired:

- Email address (for sending an email receipt)
- Customer address information
- Customer phone number

Step 3: Click *Submit Transaction.*
Check for an "Approved" Response. If you see "Transaction Declined" in response field, you will to follow up with your customer.



the need

The following additional information will also be displayed on the Web Terminal page when the transaction is completed.

Table 1: Web Terminal display information

Reference Number	Description
Transaction ID	A unique reference number for the transaction. You can use this number to search for transaction details in our reporting area.
Approval Code	The transaction authorization number issued by the bank.

Reference Number	Description
Batch Number	A gateway reference number. This ID is used for internal and customer support purposes.
Response Code	This is a dedicated bank-issued response code for Web Terminal transaction. Review Table 2: Web Terminal response codes for details.
CVD Result	If you entered the 3 digit secure code from the back of the customer's credit card, a CVD response will be returned. CVD responses will typically show "1" for a successful transaction, "2" for a mismatch, or "6" for transactions where a CVD number was not submitted. More response codes can be found in our Reporting Guide.
AVS Result	Address Verification Service is an automatic verification tool set up by the card companies. AVS codes indicate how well a submitted address matches the information on file at the card owner's credit card issuing bank. An "X" or "Y" AVS code indicates an address/ZIP match. "0" or "G" indicates that the AVS has not been performed. You can review detailed AVS comments through our Transaction Report. A complete description of codes can also be found in our Reporting Guide.

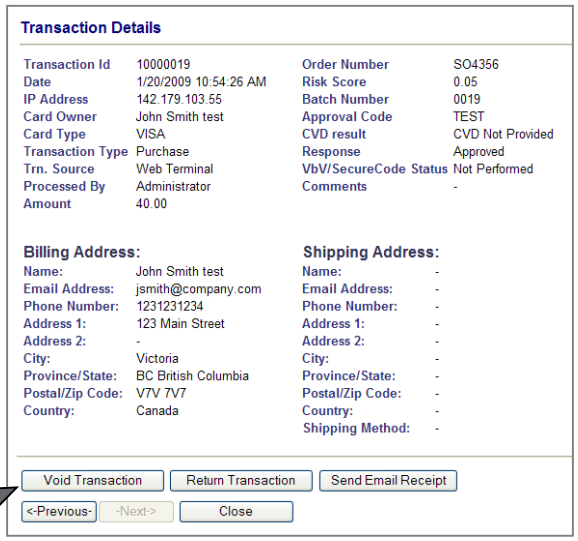
4.3.2 RETURNS, REFUNDS, PARTIAL RETURNS AND VOIDS

You may process any of these adjustment transactions through the Web Terminal in the same way as a purchase. As returns, void purchases and void returns are all adjustments of an original transaction, and you will have to include the transaction identification number for the original purchase in the ***Adjustment ID*** field. As a result, most merchants will find it easiest to process a return or a void directly through the Beanstream reporting area rather than using the Web Terminal.

To process an adjustment through the reporting area, log in to the member area and navigate to ***reporting / analysis*** in the left menu.

Step 1: Locate the original purchase using the "Transaction Report" or the "Transaction Search." The "Transaction Search" lets you search by card owner, billing address, transaction amount and a variety of other details. The "Transaction Report" will display a list of transactions by date.

Step 2: Click on the line item for the purchase you'd like to return, refund or void.



Step 3: Scroll to the bottom of the transaction details page and click on the ***Void*** or ***Return*** button.

What's the difference between a Void and a Return? A ***Void*** can only be done for the full transaction amount and must be completed before the credit card company posts the purchase to the credit card owner's account. Voided transactions will not show up on the customer's statement. A return can be processed at any time for any amount up to the full purchase value. Use the ***Return*** option to process a full or partial refund.

Step 4: If you've chosen to void the transaction, you will be prompted to confirm your request. Click ***Yes*** to finalize the transaction. If you are processing a return, enter the return amount. You can process a full return or enter the dollar amount that you wish to refund.

Step 5: Click ***Process***.

Step 6: When the transaction is complete, a confirmation page will appear. If you wish to send your customer an email receipt for the void or return, click on the ***Send Email Receipt*** button at the bottom of this page.

4.3.3 PRE-AUTHORIZATIONS AND "PRE-AUTH" COMPLETIONS

Pre-authorizations and "pre-auth" completions may be processed through the member area web terminal (see 4.3.3) or through your custom web form or processing interface. Pre-auth completions may also be handled through the transaction report like any other adjustment.

Before Using These Types of Transactions:

Be aware that the Card Associations have established protocols for handling the pre-authorization and pre-auth completion process. Visa pre-authorization transactions must be completed for the full amount within a 72 hour period. Merchants with Beanstream Canada or TD issued merchant accounts may also cancel a pre-authorization by completing a $0 completion or a "Cancel Authorization" transaction within 72 hours. Failure to either complete or cancel a Visa pre-authorization transaction within the specified time may result in additional "Misuse of Authorization" charges on top of the standard pre-authorization and pre-authorization completion per transaction charges and Visa discount rate. Contact your merchant account service provider for additional information. Beanstream merchant account clients will be subject to additional "misuse of authorization" charges for failing to meet the accepted pre-authorization protocol.

Pre-Authorization Transaction Limits

Merchants with Beanstream Canada or TD issued merchant accounts may process pre-authorizations for any value greater than $1. These merchants may also process a $0 "status check" pre-authorization to check the validity of a card without needing to or cancel the pre-authorization. All other merchants may process pre-authorizations for any value greater than $0.50.

To Process a Card Validation through the Online Member Area (Beanstream Canada and TD merchant account holders only)

1. Navigate to *processing → web terminal* in the online member area
2. Enter the card owner name and number
3. Select ***Pre-Authorization*** from the transaction type dropdown menu
4. Enter $0.00 in the amount field
5. Enter an order number if desired and click ***Submit***

Tip: To avoid sending a transaction receipt to your client when you process a card validation, leave the email receipt field blank when submitting the transaction request.

To Complete or Cancel a Pre-Authorization Through The Online Member Area:

Please note: The ***Cancel Authorization*** option is only available for Beanstream Canada or TD Visa merchant account holders at this time.

1. Navigate to the ***reporting/analysis → transaction report*** in the online member area

2. Use the search and sort options at the top of the transaction report to locate the original pre-authorization
3. Click on the line item for the pre-authorization
4. Navigate to the bottom of the page and click ***Pre-Auth Completion*** or ***Cancel Authorization*** as applicable.

Processing Pre-Authorizations and Pre-Authorization Completions by API

Consult our API Integration Guide for more information on processing these types of transactions through a custom API integration.

4.4 WEB TERMINAL REPORTING AND RESPONSES

Web Terminal transaction responses are displayed and recorded in a number of different ways. Most merchants will find that the plain language messages displayed in the "Response" field on the Web Terminal form are enough for a standard transaction.

The Beanstream Reporting module (under ***reporting / analysis*** in the left menu of the member area) includes detailed transaction histories for each item processed through the Web Terminal module. Some merchants will also see additional response codes in a dedicated field on the Web Terminal form. Merchants that wish to receive Web Terminal response notifications by HTTP Post may do so by setting a response notification URL in our Order Settings module.

4.4.1 WEB TERMINAL BANK RESPONSE CODES

Merchants that have TD bank or Beanstream issued Visa/Mastercard merchant accounts will have an extra response code field on their web terminal. The following table includes the bank definitions for the codes that appear in this field. Additional transaction codes and descriptions may appear in Beanstream transaction reports – consult our Reporting Guide for a comprehensive list of response messaging for various Beanstream reports.

The Web Terminal form displays both a coded response and a plain text message for merchants with Visa/MasterCard merchant accounts from TD Bank or Beanstream.

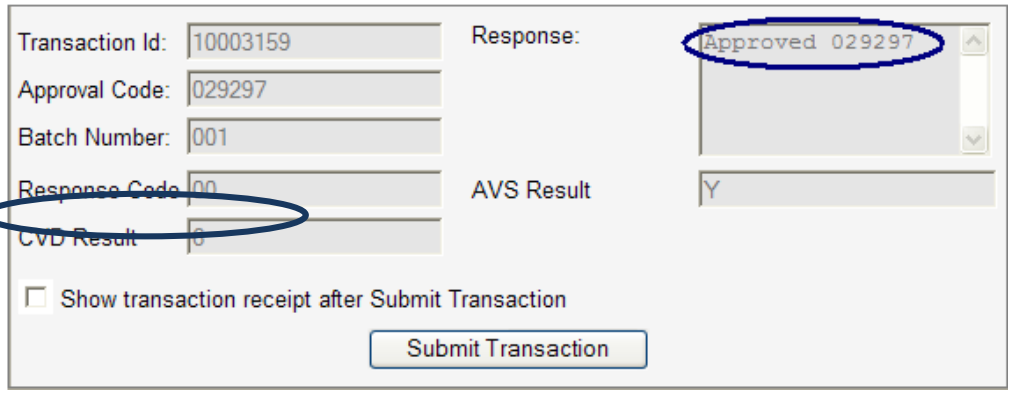


Table 2: Web Terminal response codes

Web Terminal Response Code	Description
00	Approved
05	Do Not Honor
06	Edit Error
12	Invalid Processing Code
13	Invalid Amount
14	Invalid Card Number
19	RFI Error
40	Requested Function Not Supported
51	Non-Sufficient Funds
52/53	Declined – no accounts.
54	Expired Card
56	No card record
57	Transaction not permitted to cardholder
58	Transaction not permitted to terminal
61	Exceeds withdrawal amount limit
62	Restricted Card
63	Security violation. MAC value is incorrect
65	Exceeds withdrawal frequency limit
68	Response received too late - timeout
75	Available number of PIN tries exceeded
77	Invalid capture date
81	Invalid PIN block
82	PIN length error

Web Terminal Response Code	Description
87	PIN key synchronization
88	MAC key synchronization
91	Issuer INC or switch is inoperative
92	Financial institution facility not found for routing
94	Duplicate transmission
96	System Malfunction

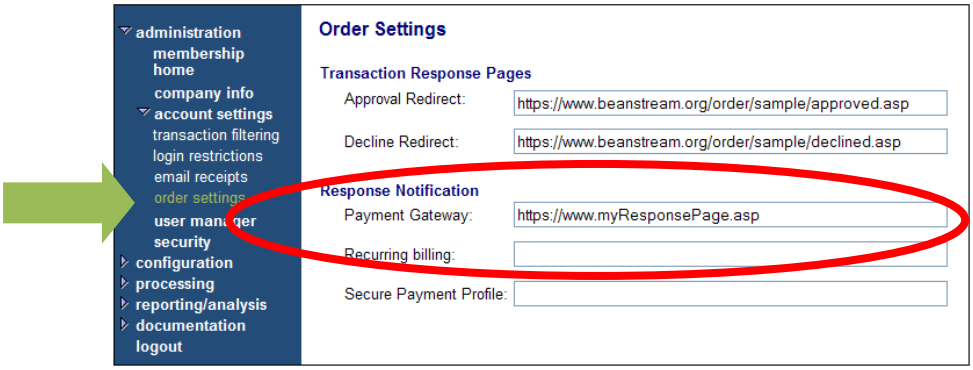
4.4.2 WEB TERMINAL RESPONSE NOTIFICATIONS BY HTTP POST

This feature is designed for merchants that wish to receive an HTTP POST transaction response notification at a specified URL. This allows merchants to capture complete transaction details on their server in order to automatically update internal records or perform other actions necessary for their unique business requirements.

Beanstream will send status and response variables to your designated URL for any transaction processed through the Web Terminal and any transaction voided or refunded through the Transaction Report.

To set the response URL:

1. Go to Administration → Account Settings→ Order Settings.
2. On the "Order Settings" page, use the fields provided to enter the URL for your notification page.
3. Click on Update to save your changes.



The following fields will be returned to the response notification URL upon transaction completion:

Table 3: Web Terminal response notification - URL field names

Field name	Data type	Description
trnId	8 digits	This is a unique 8-digit, Beanstream assigned transaction identification number.
trnAdjId	8 digits	For Return, Void Purchase, Void Return, and Pre-Auth Completion transactions this will contain the trnId of the original Purchase or Pre-Auth.
messageId	3 digits	This ID number references a bank-issued response code – the full description of which is contained in the messageText field . A list of all message IDs can also be found in our Reporting Guide.
messageText	128 characters	The text message associated with the messageId.
authCode	6 alphanumeric characters	If the transaction has been approved, this parameter will contain the authorization code returned from the bank. If the transaction has been declined, the parameter will contain no value. The authorization code is a unique transaction identifier assigned by the bank. The authorization code must be displayed to the card holder when a transaction is complete.
trnAmount	9 digits in the format 0.00	This reflects the total transaction amount processed.
trnDate	20 alphanumeric characters	The date and time that the transaction was processed
trnOrderNumber	10 digits	Any order number submitted with the transaction is returned here.
trnCustomerName	32 alphanumeric characters	Contains the customer name submitted in the transaction request.
trnEmailAddress	64 alphanumeric characters	Contains the email address submitted in the transaction request.
trnPhoneNumber	32 alphanumeric characters	Contains the phone number submitted in the transaction request.
avsProcessed	1 digit	Set to a value of 1 if the issuing bank has successfully processed an AVS check on the transaction. Set to a value of 0 if no AVS check has been performed.

Field name	Data type	Description
avsId	1 characters	This code indicates the level of AVS address match. A text description of this code is returned in the avsMessage field. An “X” or “Y” AVS code in this field indicates an address/ZIP match. “0” or “G” indicates that the AVS has not been performed. Additional codes are described in our Reporting Guide.
avsResult	1 digit	avsResult will equal “1” if AVS has been validated with both a match against address and a match against postal/ZIP code.
avsAddrMatch	1 digit	This field will show “1” if the address submitted in the transaction request matches the consumers address records at the issuing bank. A “0” will appear if the address submitted in the transaction request does not match the customer’s address records or if AVS was not processed for the transaction.
avsPostalMatch	1 digit	Set to a value of 1 if the postal code submitted in the transaction request matches the consumers address records at the issuing bank. Set to a value of 0 if the postal code submitted in the transaction request does not match the customer’s address records or if AVS was not processed for the transaction.
avsMessage	128 alphanumeric characters	This field will contain a text description of the avsId.
cvdId	1 digit	If the 3 or 4 digit CVD (CVV) code from the back of the customer’s credit card was submitted, a CVD response will be returned. CVD responses will typically show “1” for a successful transaction, “2” for a mismatch, or “6” for transactions where a CVD number was not submitted. More response codes can be found in our Reporting Guide.
trnType	1-3 alphanumeric characters	Indicates the type of transaction processed. P=Purchase, R=Return, VP=Void Purchase, VR=Void Return, PA=Pre-Authorization, PAC=Pre-Auth Completion.
paymentMethod	2 alphanumeric characters	The payment method of the transaction. This will always be CC for Web Terminal transactions. In the case of an INTERAC Online return performed through the Transaction Details screen, merchants may see IO for IO for INTERAC Online.

4.4.3 MORE REPORTING OPTIONS

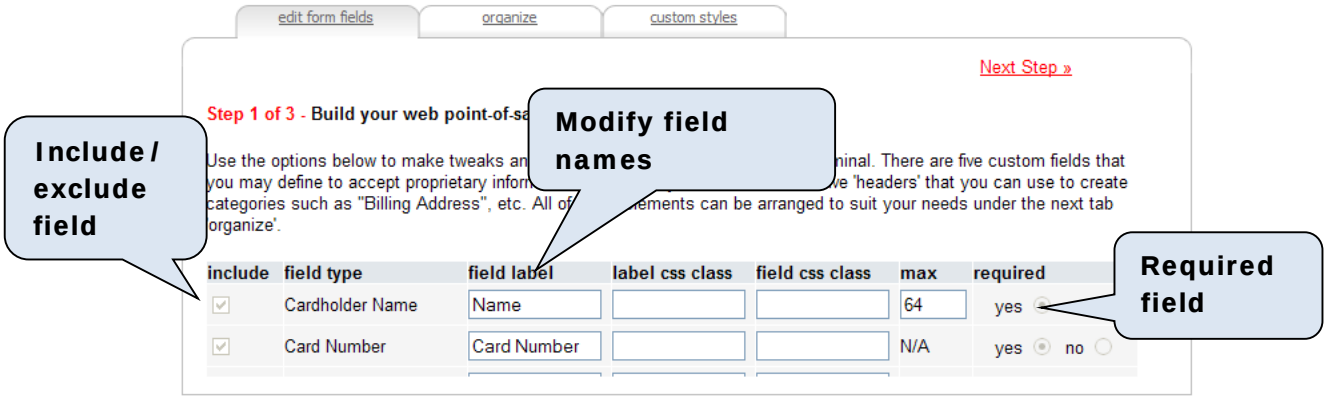
All web terminal transactions are recorded in the Beanstream Transaction Report and other standard reports under reporting/analysis in the member area. Most reports are designed to be intuitive. If you require assistance interpreting these standard reports, consult our Reporting Guide.

4.5 THE CUSTOM WEB TERMINAL

The Custom Web Terminal is available only upon request. If this service has been activated, you will be able to capture custom order information, change the layout of form fields and create custom CSS styling for the Web Terminal interface. Follow the instructions below to set up your custom web terminal.

4.5.1 ADD, REMOVE AND SPECIFY REQUIRED FORM FIELDS

Navigate to ***configuration → terminal configuration*** in the left menu of the Beanstream member area. The terminal configuration page displayed here includes a list of 36 fields. Several of these fields relating to card data and billing are mandatory and cannot be added or removed from the custom terminal. The remaining options can be included or excluded from the Web Terminal form as desired. Merchants also have the option to change the text label for any of the fields.



Refer to the table below for a complete description of the available field options:

Table 4: Custom Web Terminal - available field options

	Form field	Description
Mandatory Fields	Cardholder Name	A cardholder name must be included with all orders. You may change the label that will be displayed on the form or modify the number of characters that may be submitted.

	Form field	Description
	Card Number	Credit card number must be submitted with all orders. The field label may be changed if desired.
	Card Expiry	Card expiry will appear as two dropdown menus that allow the user to select an expiration month and year for the card being processed.
	Transaction Type	Transaction Type is a dropdown menu that allows system users to choose to process purchases, pre-authorizations or adjustments. This field cannot be modified.
	Amount	Sale amount is a text field. Data must be entered in the format 0.00. As the Web Terminal does not total shipping fees and taxes, system users must enter the full transaction amount in this field. This field cannot be modified.
	Order Number	A 1 to 30 digit order number must be specified in this field at the time of processing. This field cannot be removed from the form; however a new label may be assigned.
	Adjustment Id	This field may be used if an adjustment (return, void, pre-auth completion) is processed directly through the Web Terminal form rather than through the Beanstream reporting area. The transaction identification number from the original purchase or pre-auth must be submitted here. This field cannot be removed from the form; however it will not be a required field in most processing situations.

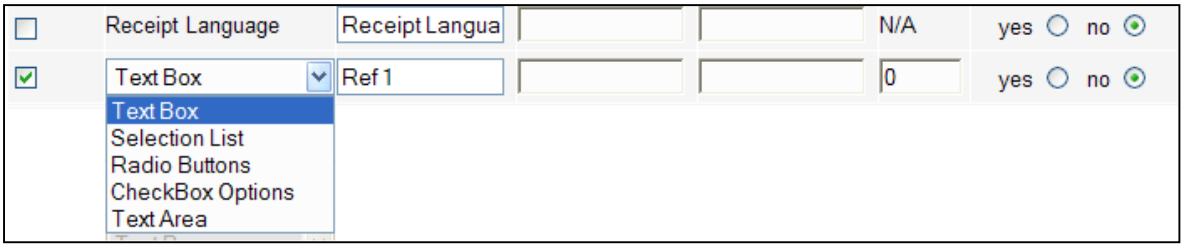
	Form field	Description
Optional Billing Information	Billing Name Billing Address Billing City Billing Province Billing Country Billing Postal Billing Phone Billing Email	Unique customer billing names and addresses may be collected if desired. You may also modify label names and change the maximum number of characters allowed in a field. The Billing Country field lists ISO codes for all countries in a dropdown. The ***Province*** dropdown includes an alphabetized list of all Canadian provinces and US states. A billing email must be collected if the merchant wishes to send automated email receipts to a customer after processing.
Optional Shipping Information	Shipping Name Shipping Address Shipping City Shipping Province Shipping Country Shipping Postal Shipping Phone	Collect a complete second set of contact information for a unique "shipping" contact. Modify label names and specify the maximum number of characters allowed in a field. As with the "billing" fields, the country option includes ISO codes for all countries. The "province" dropdown includes an alphabetized list of all Canadian provinces and US states.
Language	Receipt Language	Choose to send customers English or French email receipts. Orders must be submitted with a "Billing Email" in order for a receipt to be sent.
Unique Form Fields	Add up to five unique reference variables. Each unique variable may contain a maximum 255 characters. For each variable, choose from:	
	Selection Lists	Include a number of items in a dropdown selection list.
	Radio buttons	Have users choose a single item from a list of options using radio buttons.
	Checkboxes	Have users choose multiple items from a list of options using checkboxes.

	Form field	Description
	Text fields	Capture unique order information using text fields. Text will be entered using a single short field.
	Text area	Allow users to enter up to 255 characters using a larger text area with a scroll option.
Custom Text	Plain text	Add hard-coded comments to the form. This text cannot be edited by form users.

4.5.2 ADDING SELECTION LISTS, RADIO BUTTONS AND CHECKBOXES

On the terminal configuration page (under configuration in the left menu of the member area) click on the ***Edit Form Fields*** tab.

Scroll to the bottom of the page. If this is your first time in the area, you will see a number of Text Box options labeled as Ref 1, Ref 2, Ref 3, Ref 4 or Ref 5. Select one of these options.

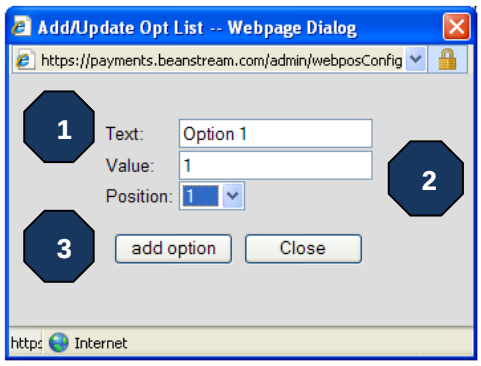


Change the type of field from "Text Box" to the option of your choice using the dropdown list provided. In the following example, we have chosen ***Selection List***. A number of new fields will appear.

To add a new item to the selection list, click on the ***Add*** button. A dialog box will open.

1. Enter the text that you would like to appear on the form
2. Specify a reference value for the selection. This value will be used to identify the selection in all Beanstream reports.

3. Indicate the item's position within the field. In the image shown below, ***Option 1*** would be the first item in the list.

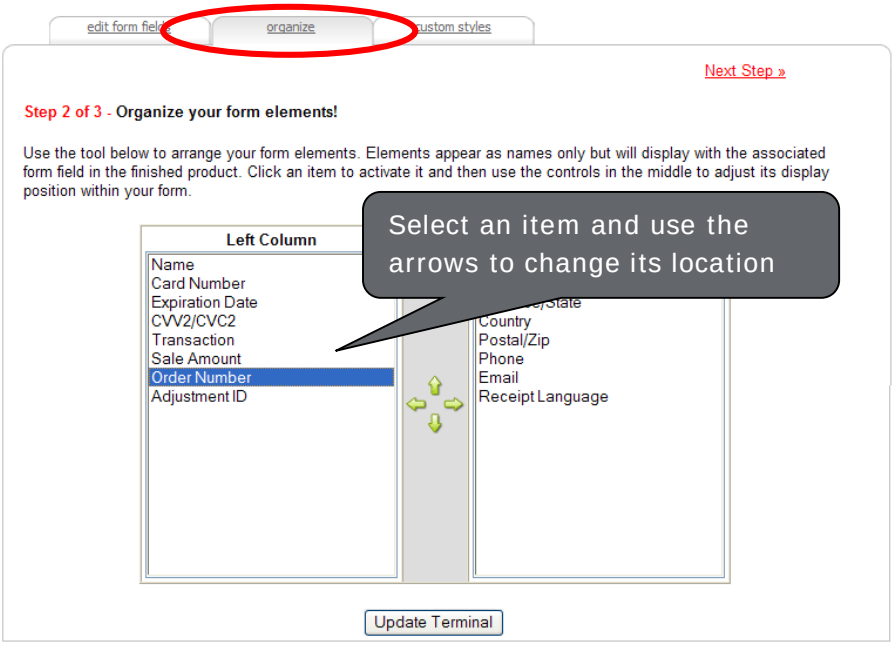


4. Click ***Add Option*** to close the dialog box. When you return to the terminal configuration page, click ***Update*** to save your changes.

4.5.3 ORGANIZE FORM FIELD LAYOUT

Once you have decided on the values to be included in your form, you may customize the layout of your chosen fields. On the terminal configuration page, click on the ***Organize*** tab. A list of all of your chosen fields will appear arranged in the current two-column layout.

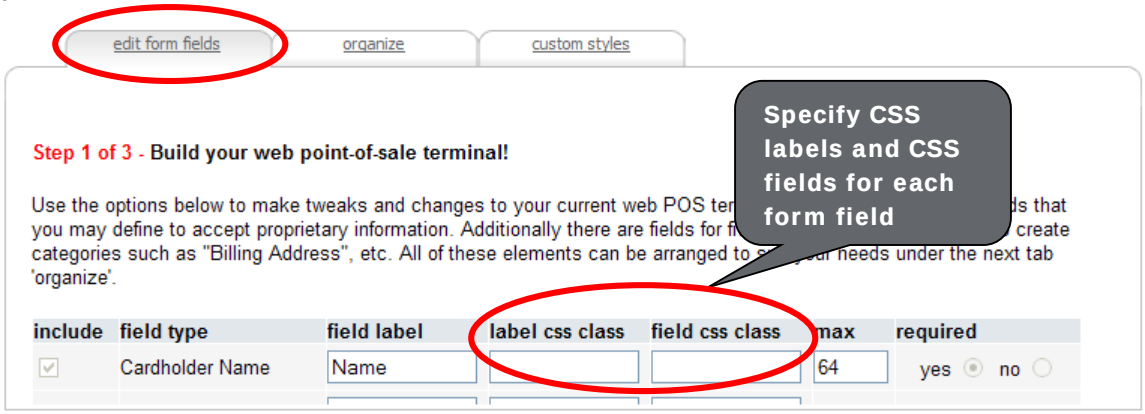
Select a field and use the arrows to move the item up or down the list or to change columns. Click ***Update*** to save your changes.



4.5.4 CSS STYLING

Click on the ***Custom Styles*** tab on the terminal configuration page. You will view the default CSS styling used to format the basic web form table. Modify the existing styling to change the general field layout and display properties of the form.

To add additional CSS classes, return to the ***Edit Forms*** tab. Enter unique CSS labels and fields for as many of the items on the form that you wish to stylize. You can then return to the custom styles tab to make further additions to the CSS stylesheet.



4.6 VIEWING AND TESTING YOUR CUSTOM FORM

After edit and save changes to your custom form, you may view your updates by navigating to ***processing → custom web terminal*** in the left menu of the Beanstream member area. All updates should be reflected on this page.

If your Beanstream account is still in Test mode, you can use the following credit card numbers for testing purposes. These card numbers will not work once your account has been turned live.

You can choose any expiry date in the future to use with these test card numbers.

Some test environments use a Canada Post search. As a result, if a card is used with a fictional address, the test will return as “declined.” We have provided one card of each type (see below) that contains a “real world” address. Tests using these cards will provide an “Approved” message.

Table 5: Test Card Numbers

Card Type	Card Number	Approved or Declined
VISA Use with CVD 123	4030000010001234	Approved
	4003050500040005	Declined
	4504481742333	Approved for transactions less than $100 Declined for transactions greater than $100
	4123450131003312 with VBV Password 12345	Approved where VBV has been implemented and correct password submitted only.
	4012888888881881	Approved Note: this card includes a real-world (as compared to a fictional) address. It will work in tests that reference the Canada Post database, for example. New address: 2659 Douglas Street V8T 4M3
MASTERCARD Use with CVD 123	5100000010001004	Approved
	5100000020002000	Declined
	5555555555554444	Approved Note: this card includes a real-world (as compared to a fictional) address. It will work in tests that reference the Canada Post database, for example. New address: 2659 Douglas Street V8T 4M3
AMEX Use with CVD 1234	371100001000131	Approved
	342400001000180	Declined
	370000000000002	Approved Note: this card includes a real-world (as compared to a fictional) address. It will work in tests that reference the Canada Post database, for example. New address: 2659 Douglas Street V8T 4M3

5 STANDARD RECURRING BILLING

Beanstream's recurring billing module allows you to capture a customer's transaction information a single time and automate future billing according to a regular, recurring schedule. This fully flexible tool is designed so merchants can easily process regularly repeating transactions according to their schedule of choice. Benefits include:

- automated email reports
- detailed transaction histories
- simple account creation
- flexible schedules and options to pro-rate first payments

5.1 OPENING A CUSTOMER ACCOUNT THROUGH THE MEMBER AREA

Beanstream Recurring Billing accounts may be created through our secure online member area or through API integration. The following section outlines how to quickly create a recurring billing account through the member area. Merchants may use a simple online form to create accounts for new clients, or automatically create an account from a previous customer purchase.

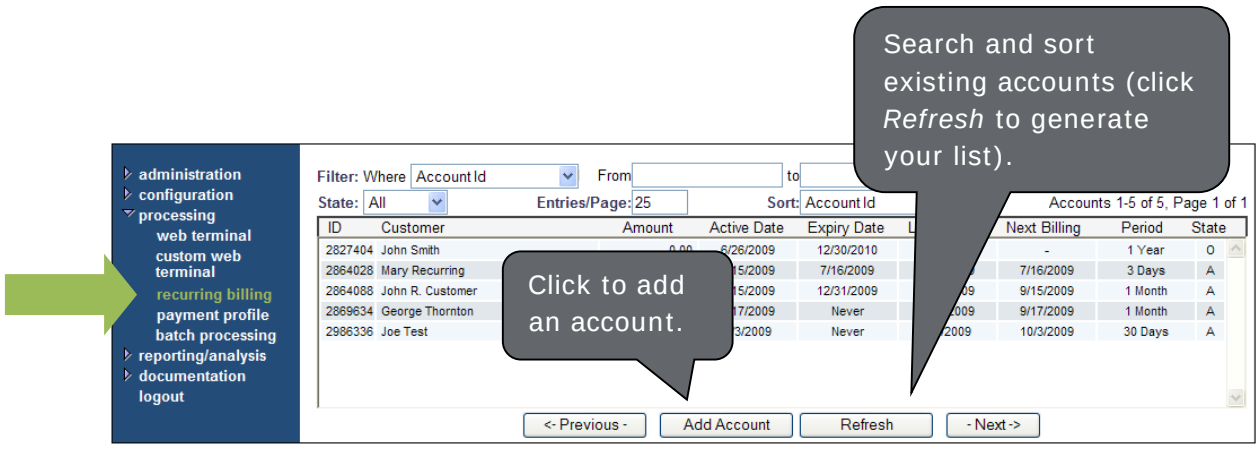
5.1.1 FOR A NEW CLIENT

For clients that have not yet made a purchase through the Beanstream system, merchants will need to collect complete billing and card information and enter these details manually in the Recurring Billing section of the Beanstream member area. At the same time, the merchant can specify billing schedule details and transaction amounts.

In the Beanstream member area, navigate to ***processing → recurring billing*** in the left menu. You will be brought to an account summary screen. If you click on the ***Refresh*** button at the bottom of this page, you will see a list of all recurring billing accounts in your system. You can also use the search and sort filters to narrow your list of accounts or locate a specific customer.

To create a new account, click on the ***Add Account*** button at the bottom of the screen. This will bring up a ***Billing Profile*** page.

Note: the three last columns on this report (Card Number, Last Update, and Reason) enable the Card Update Service (see Section 9).



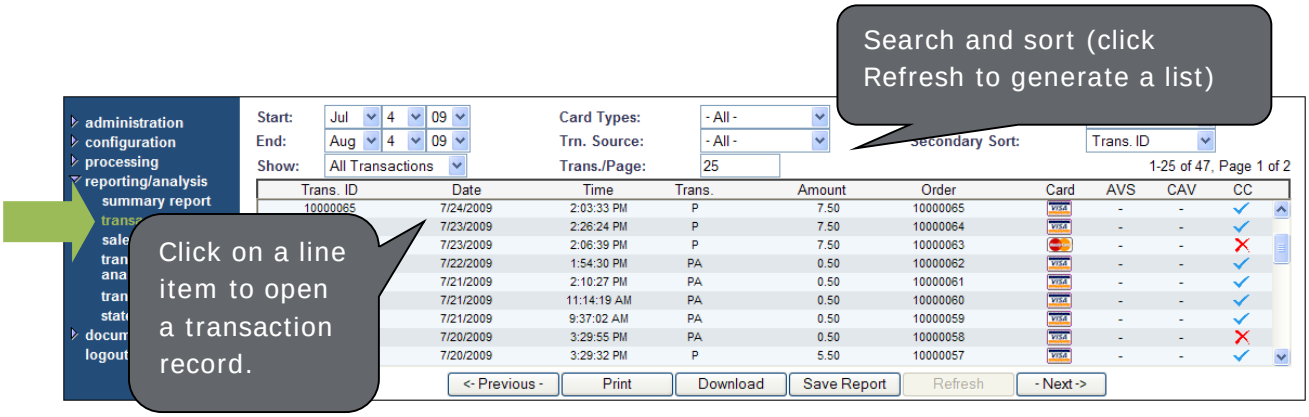
On the *Billing Profile* page, enter name and address information along with card number and expiry date. The *Card Owner* field must contain the customer name exactly as it appears on the customer's credit card. Include an email address to send automated receipts to the customer with every recurring transaction. The *Address 2, Order Number* and *Comments* fields are optional. Continue to Setting billing schedules, prorating first payments.

5.1.2 FOR A CLIENT WHO HAS ALREADY MADE A PURCHASE

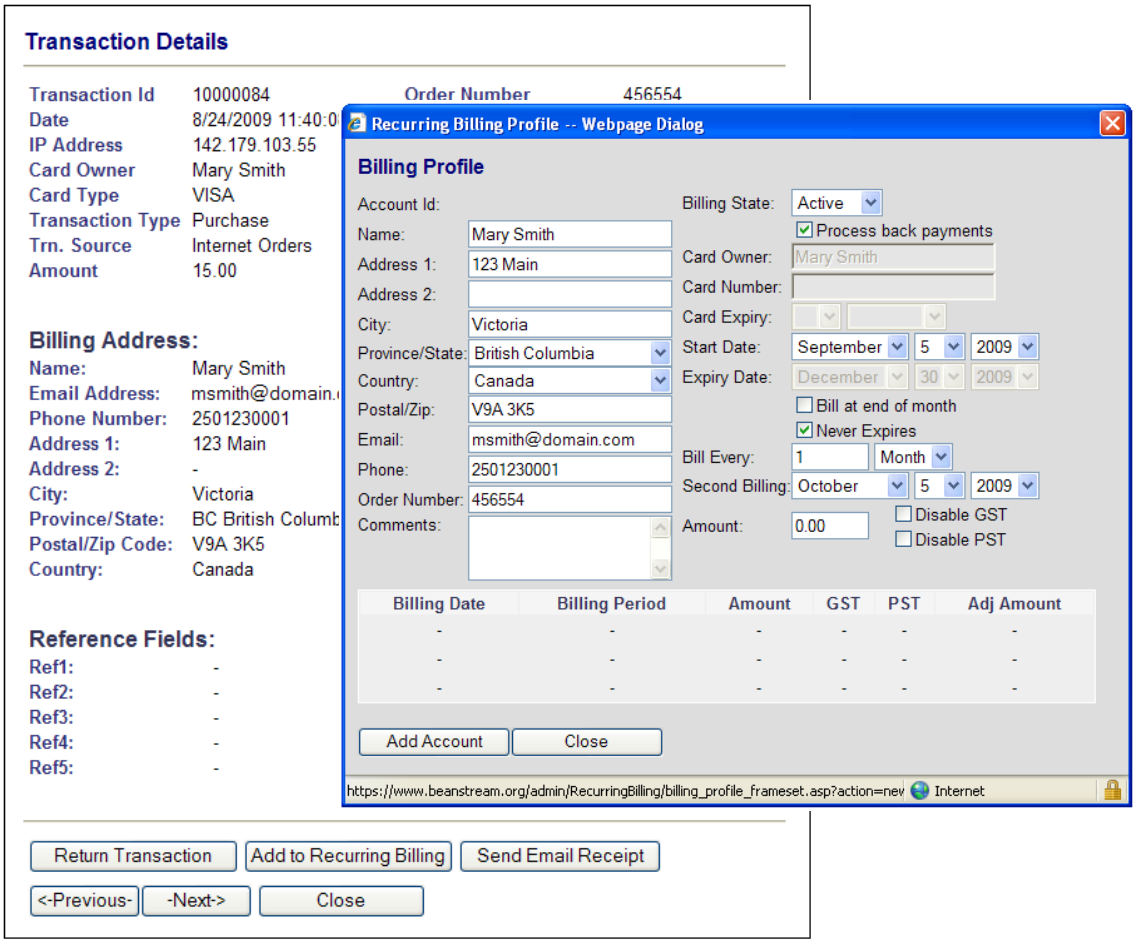
If a client has already made a purchase or had a pre-authorization performed on their credit card, a recurring billing account can be created from an existing Beanstream transaction record. This will prevent you from having to collect billing and card information more than once.

To create a recurring billing account from a previous transaction, navigate to ***reporting/analysis → transaction report*** in the left menu of the Beanstream member area. Use the search and sort fields at the top of the *Transaction Report* to locate the original customer purchase or pre-authorization.

When you have located the customer transaction, click on the transaction line item in the report. This will bring up a *Transaction Details* page.



Scroll to the bottom of the Transaction Details screen and click on the ***Add to Recurring Billing*** button. A *Billing Profile* popup window will appear with the majority of the billing details pre-populated. You may update address information, order number and comments if desired. Credit card name, number and expiry date will be read only fields. Do not be concerned if card details are blank. For security purposes, Beanstream will not display stored card data to merchants. Continue to Setting billing schedules, prorating first payments.



5.2 SETTING BILLING SCHEDULES, PRORATING FIRST PAYMENTS

The Billing Profile screen offers a number of options for setting billing schedules. Begin by selecting a *Start Date*. This will be the date that the first charge is processed against the customer account.

By default, the new account will be flagged to never expire. De-select the ***Never Expires*** checkbox if you would like to specify an expiry date for the account. Accounts will be automatically closed on the date that you choose.

Use the ***Bill Every*** dropdowns to select a frequency of billing. Beanstream allows merchants to bill according to any period of days, months or weeks. We also offer a yearly billing option, but be aware that cards are very likely to expire before the recurring billing schedule kicks in if you set your billing frequency to periods of years.

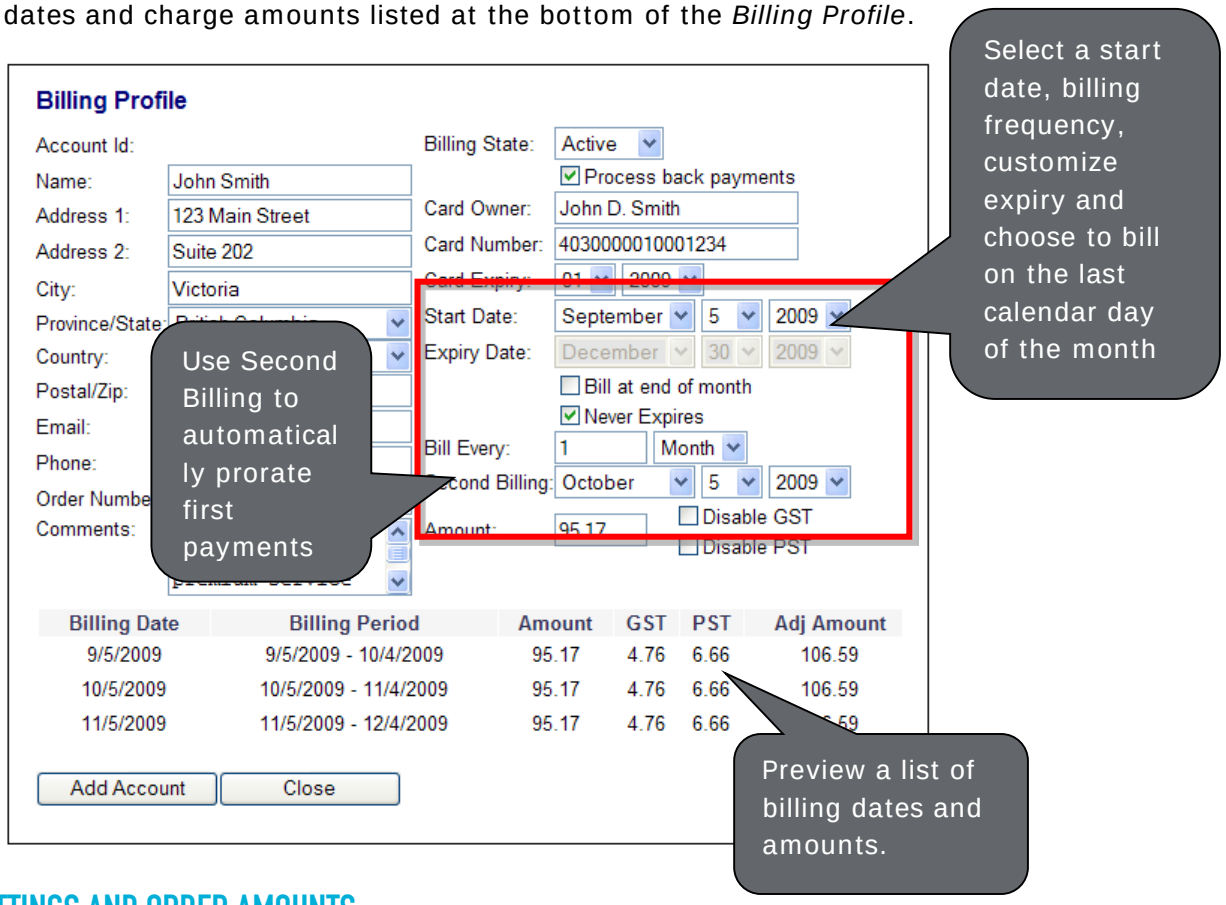
The *Bill at the End of the Month* option is used for merchants that wish to charge customers on the last calendar day of the month whether this is the 30, 31 or 28th. You must choose to ***Bill Every 1 Month*** if you wish to use this option.

Important Note! You must be careful when setting the *Expiry Date*. Recall that our system bills for the month (for example) after the payment. If you take payments on the

1st of the month, and you want to take the final payment on August 1st, then you need to set the expiry date to August 31st. If you want to take the final payment on August 1st, but set the expiry date to August 20th, the system will charge the customer a prorated amount that is *less than the full amount*.

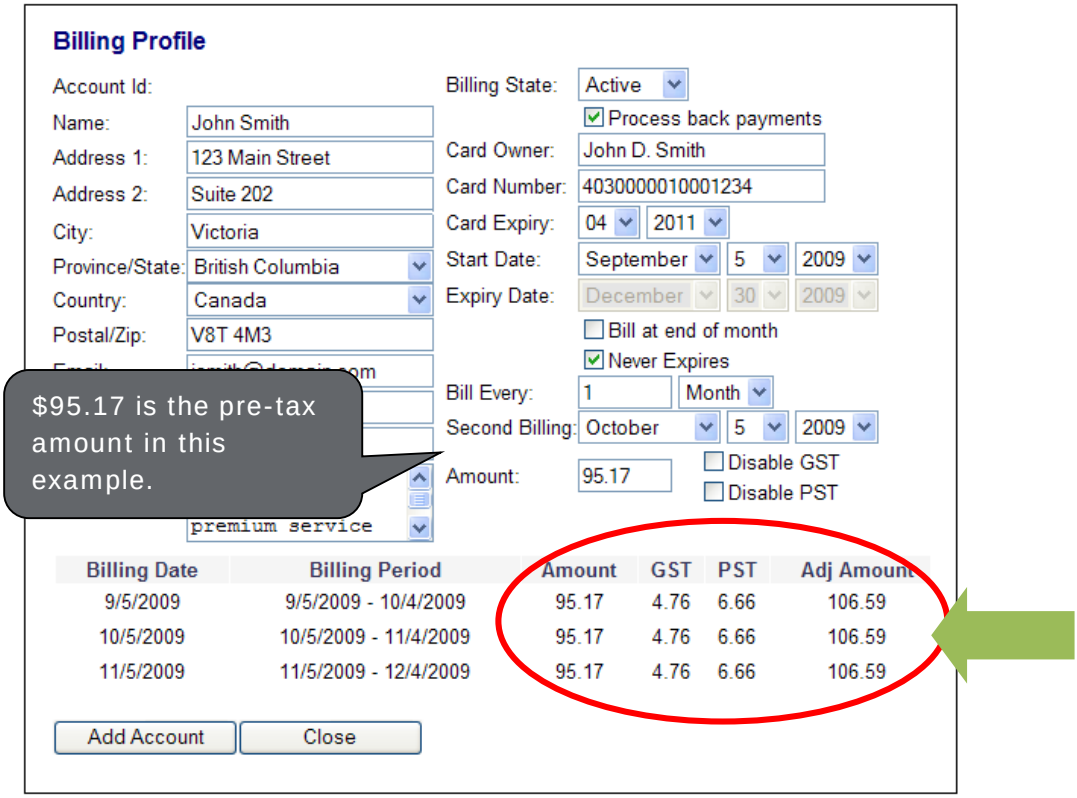
The *Second Billing* fields may be customized if an account is being created in the middle of a standard billing period. By default, this field will be automatically populated to show one full billing period after the selected *Start Date*. By changing this to an earlier date, the first charge to the customer **will be prorated** based on the number of days between the *Start Date* and the *Second Billing Date*. The regular recurring schedule will start only after the second billing date.

Once you have entered a billing schedule, you will immediately see a preview of the first three billing dates and charge amounts listed at the bottom of the *Billing Profile*.



5.3 TAX SETTINGS AND ORDER AMOUNTS

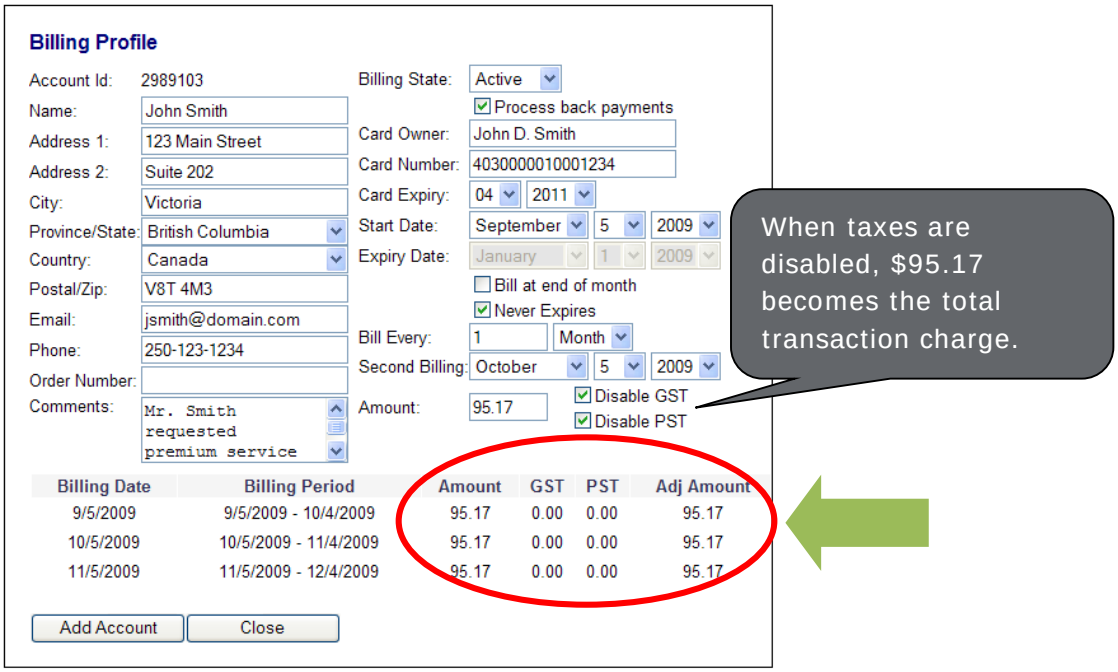
New Recurring Billing accounts set up through the membership area are automatically flagged to process with standard Canadian GST and PST. (Note that this is not the case for new accounts setup via API). Merchants may disable taxes or modify the tax rate.



5.3.1 TO DISABLE TAXES FOR AN INDIVIDUAL CUSTOMER

Tax settings must be disabled individually for each recurring billing account.

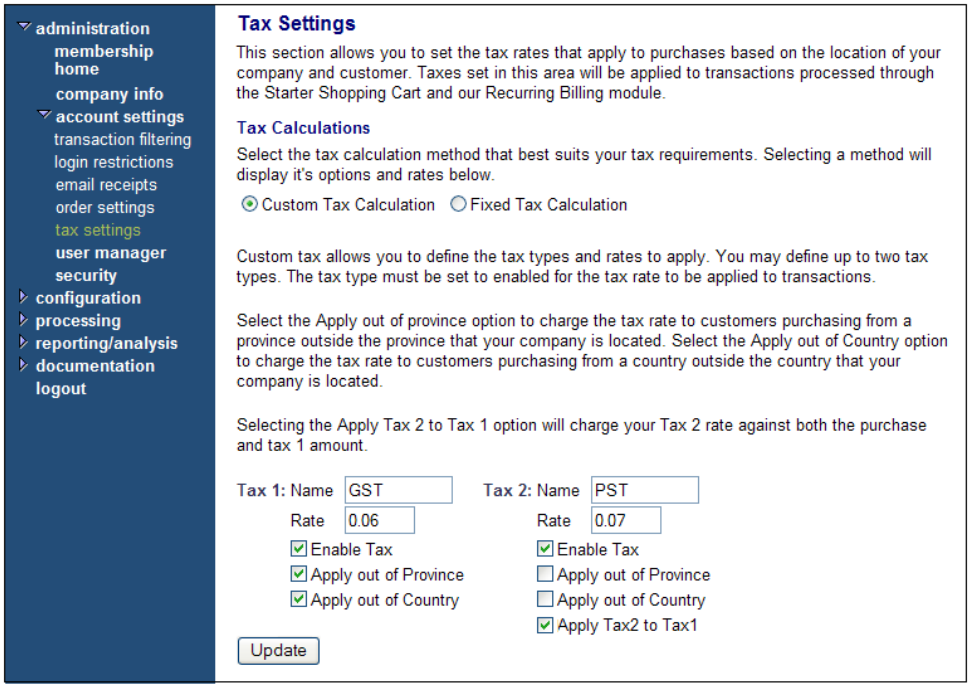
- Navigate to ***processing → recurring billing*** in the left menu of the member area and option the customer's Recurring Billing Profile.
- Select the ***Disable GST*** and/or ***Disable PST*** checkboxes on the customer's *Billing Profile*.



5.3.2 TO CHANGE THE TAX RATE

Merchants using the Beanstream Starter Shopping Cart should be aware that the following modifications will affect both recurring billing transactions and transactions processed through their cart.

1. Navigate to the Beanstream tax module under ***administration → account settings → tax settings*** in the left menu of the member area.
2. A table of fixed calculations will be displayed. These are the default recurring billing tax rates. Change the radio button to ***Custom Tax Calculation***.
3. Change the tax names, rates and geographic settings as desired.
4. Click ***Update*** to save your changes.



The example above shows a custom GST tax rate of 6% to be applied to purchases made from all locations. The custom PST rate will be applied at a rate of 7% only for purchases made within the same province as the merchant. PST will be calculated on the transaction total plus GST.

5.3.3 TO DISABLE TAXES FOR ALL ACCOUNTS

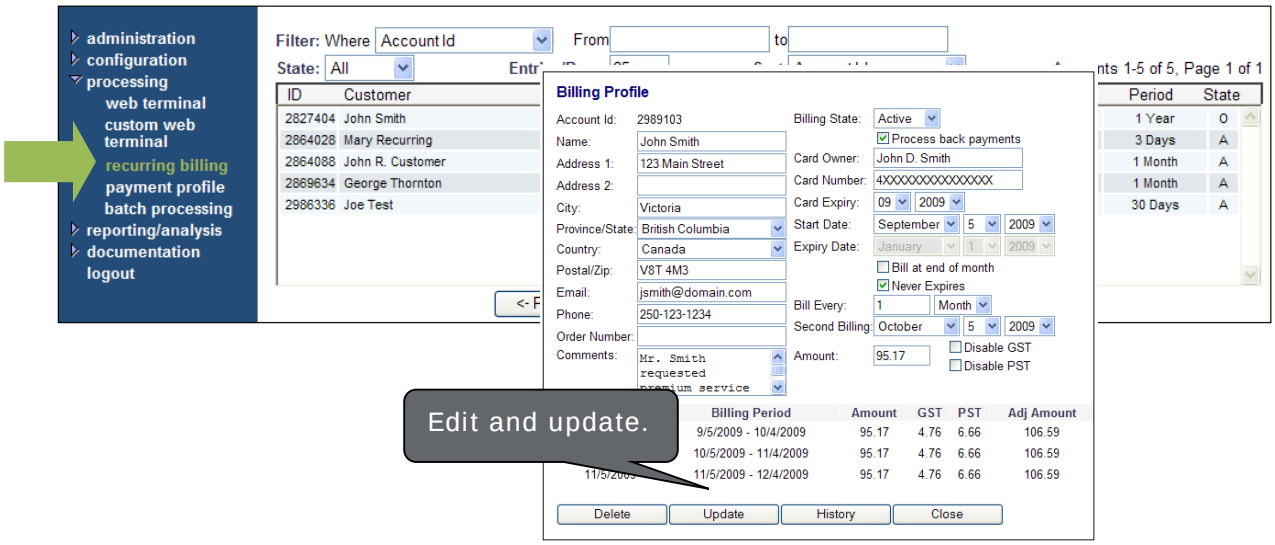
Merchants using the Beanstream Starter Shopping Cart should be aware that the following modifications will affect both recurring billing transactions and transactions processed through their cart.

1. Navigate to the Beanstream tax module under ***administration → account settings → tax settings*** in the left menu of the member area.
2. Select the ***Custom Tax Calculation*** radio button.
3. De-select the ***Enable Tax button*** for Tax 1 and Tax 2 as required.
4. Click ***Update*** to save your changes.

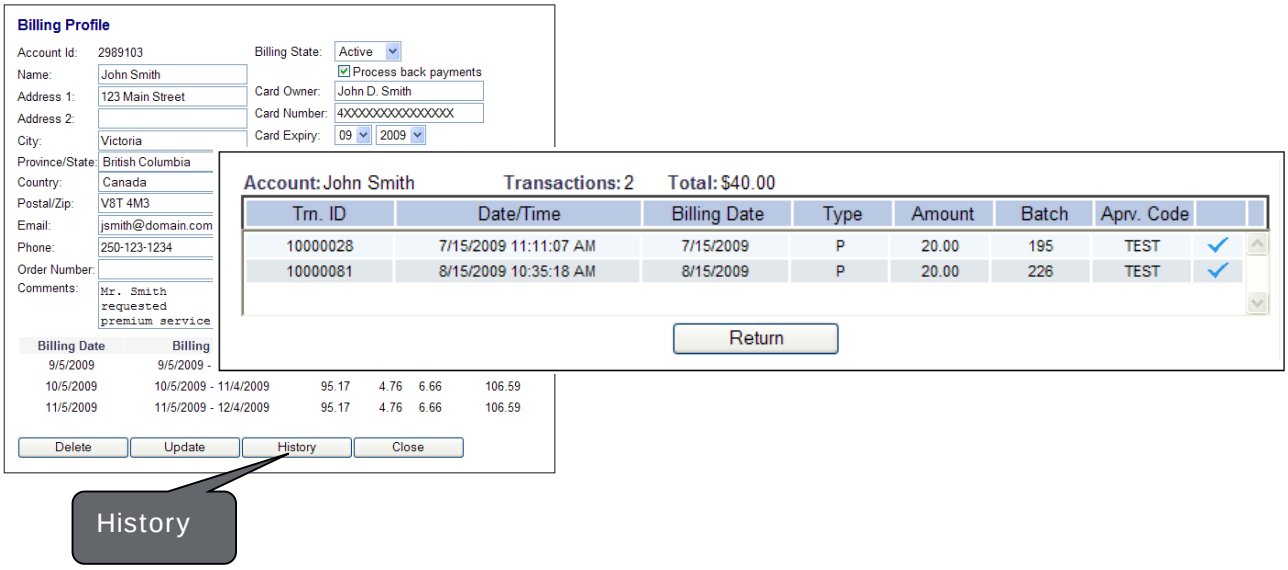
5.4 VIEWING TRANSACTION HISTORIES AND EDITING EXISTING ACCOUNTS

Once an account has been created in the system, all recurring transactions will be stored in the Recurring Billing module under the customer's billing profile. To review transaction histories, navigate to ***processing → recurring billing*** in the left menu of the member area. Use the search and sort fields on the recurring billing page to narrow down the list of accounts and click ***Refresh*** to generate the search results. Click on a line item to access the customer's billing profile.

To edit an account, make your changes directly on the customer's billing profile page and click on the Update button at the bottom of the screen.

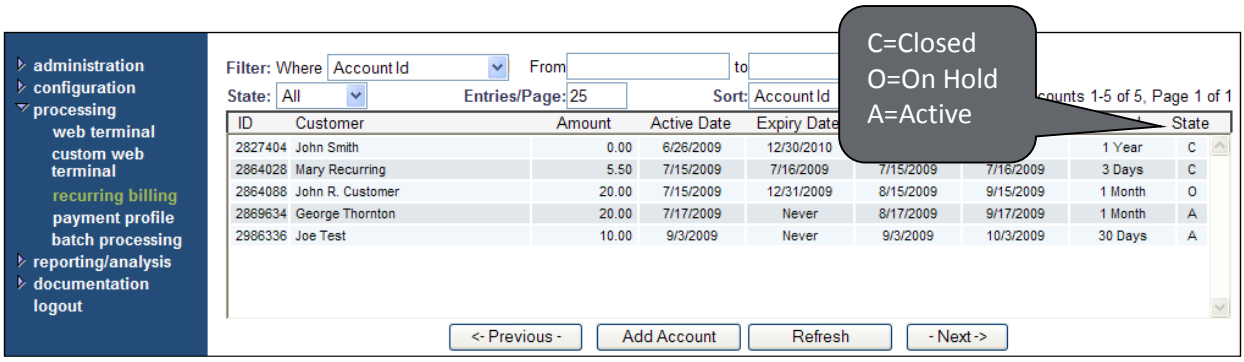


To view detailed account information, click on the ***History*** button at the bottom of this page to review a list of recently processed recurring billing items for the customer. You can drill down a further level to access a Transaction Details screen for individual items. This will allow you to view full order information and transaction results and process returns or other adjustments if required.



5.5 ACTIVE, CLOSED AND DISABLED (ON HOLD) ACCOUNTS

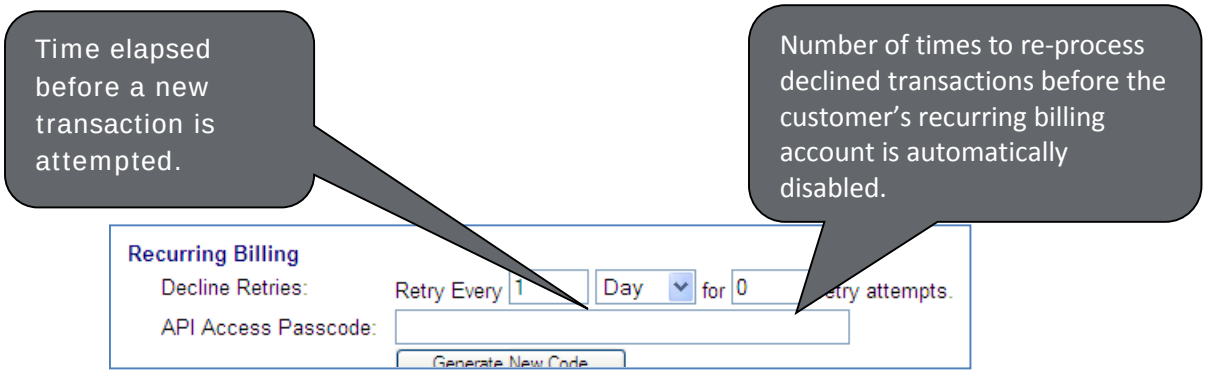
As long as an account is active, recurring charges will continue to be processed. If you have set an expiry date, the account will close automatically on the specified date. Recurring charges will also stop if a transaction is processed against a customer account and declined – in this case, the account will be automatically placed On Hold. This is to prevent merchants from accruing unnecessary declined transaction fees. You may reactivate accounts that are Closed or On Hold at any time. You may also control the number of declines allowed before an account is placed on hold. By default, accounts are disabled after a single transaction.



5.5.1 TO MODIFY THE AUTO-DISABLE FEATURE

1. Navigate to administration → account settings → order settings in the left menu of the member area.

2. Scroll to the middle of the Order Settings page. Using the fields provided, specify how you would like to handle declined transactions.



Entering "0" retry attempts will mean that accounts are automatically disabled after the first declined transaction.

3. Click ***Update*** at the bottom of the *Order Settings* page to save your changes.

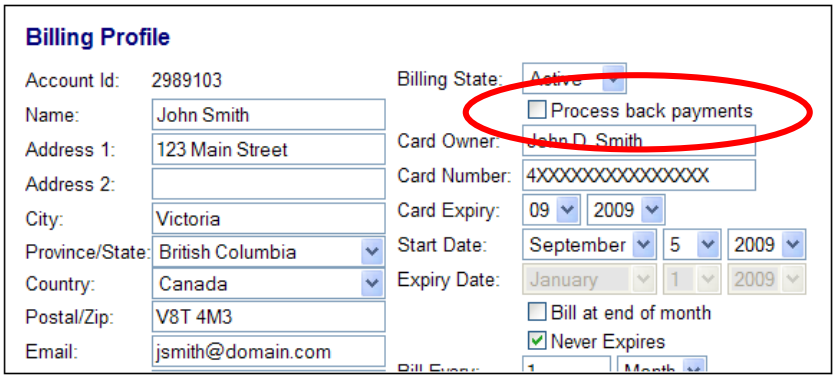
5.5.2 TO DISABLE, CLOSE OR RE-ACTIVATE AN ACCOUNT

1. Navigate to ***processing → recurring billing*** in the left menu of the member area.
2. Locate the account using the search and sort fields provided on the recurring billing page.
3. Click on the line item for the account that you wish to modify. This will open the Billing Profile page.
4. At the top of the *Billing Profile* page, change the *Billing State* to ***Active or Closed*** as required. You may also change an account status to *On Hold*; however we recommend using this option to identify transactions that have been placed on hold by the system automatically due to declined credit cards.
5. If you are re-activating an account and you do not want to charge for missed payments, DESELECT the ***Process back payments*** checkbox on the customer's billing profile.
6. Click ***Update*** to save your changes.

Be sure to verify customer card data and contact details before re-activating an account to keep your risks and transaction fees to a minimum.

5.5.3 BACK PAYMENTS

By default, when you re-activate an account, back payments will be processed to charge customers for any missed recurring billing fees. This could be substantial if the customer account has been on hold or closed for a lengthy period of time. If you do not wish to charge back payments when re-activating an account, de-select the ***Process back payments*** checkbox on the customer's billing profile.



5.6 DELETING ACCOUNTS

By deleting an account you will permanently remove the customer Recurring Billing Profile from the Beanstream system. This action should be performed with caution in order to avoid losing data unnecessarily.

1. Navigate to ***processing → recurring billing*** in the left menu of the member area.
2. Locate the account using the search and sort fields provided on the recurring billing page.
3. Click on the line item for the account that you wish to modify. This will open the *Billing Profile* page.
4. Scroll to the bottom of the page and click on the ***Delete*** button.
5. Click ***OK*** to confirm your request.

6 BULK FILE UPLOAD

For an additional fee, merchants have the ability to access Beanstream's Bulk File Upload service. This service enables merchants to upload mass quantities of Recurring Billing profiles through a single file upload. This is done by compiling the records of the Recurring Billing profiles into a file that is encrypted and transferred to Beanstream through SSH File Transfer Protocol. When the file is successfully transferred, a report is sent from Beanstream to the merchant confirming a successful Bulk File Upload.

Beanstream supports three bulk file formats. The first two formats utilize our own custom batch file format which is designed to accept either tab delimited or fixed length files that can be generated using any popular word processor or spreadsheet application. The third method uses the industry standard .csv (or comma separated values) file format and is designed for high volume applications.

6.1 CREATING A BULK FILE UPLOAD FOR RECURRING BILLING

The following table describes the data that must be included for every transaction in a Recurring Billing upload. Do not skip, re-format or change the order of entries.

Table 6: Recurring billing upload - required data

Line item entry	Required / Optional	Data type	Description
Billing Name	0	Max. 32 alphanumeric characters	The recurring billing account holder name.
Billing Address 1	0	Max. 64 alphanumeric characters	The first line of the customer's recurring billing profile address.
Billing Address 2	0	Max. 64 alphanumeric characters	The second line of the customer's recurring billing profile address.
Billing City	0	Max. 32 alphanumeric characters	The customer city.
Billing Province ID	R	2 characters	The customer's province of location. Use one of the available ISO province codes.
Billing Country ID	R	2 characters	The customer's country of location. Use one of the available ISO country codes.
Billing Postal Code	0	Max. 16 alphanumeric characters	The postal code associated with the customer's recurring billing profile address.

Line item entry	Required / Optional	Data type	Description
Billing Email Address	0	Max. 64 alphanumeric characters	The customer's email address in the format a@b.com.
Billing Phone Number	0	Max. 32 alphanumeric characters	The customer phone number.
Billing Card Owner	0	Max. 32 alphanumeric characters	The name of the credit card owner.
Billing Card Number	R	Max. 19 digits	The customer's credit card number.
Billing Card Expiry	R	4 digits	The customer credit card expiry number in 'MMYY' format.
Billing Start Date	R	10 digits	This is the date of the first charge against the customer's recurring billing account in 'YYYY-MM-DD' format.
Billing Start Period From	0	10 digits	Use this variable if you wish to have the billing date different from the end of the month. This field is empty if the End of Month is true, otherwise use the format 'YYYY-MM-DD.
Billing Never Expires	R	Specify 1 or 0	If setting a value of 1, there is an expiry date that is specified in Billing Account Expiry. If a value of 0, there is no expiry date and the Billing Account Expiry is left blank.
Billing Account Expiry	0	10 digits	The expiry date for the recurring billing account in the format 'YYYY-MM-DD'.
Billing Period	0	Specify D, W, M or Y	Use in conjunction with Billing Increment to indicate frequency of billing. D = days, W=weeks, M = months, Y = years.
Billing Increment	0	Max. 3 numeric characters	Specify the number of periods between billings. If the billing period is D and the billing increment is 7, the customer is billed every seven days.
Billing Amount	R	Max. 8 alphanumeric characters	The amount being billed for the recurring billing. eg. '12.34'
Billing Disable Tax 1	R	Specify 1 or 0	Add or remove primary tax settings for the customer account. If set to 1, then HST/GST will be applied to the profile

Line item entry	Required / Optional	Data type	Description
			based on the customer's province. The tax table decides whether to charge HST/GST depending on where the customer is in comparison to the merchant's province. If the merchant and the customer are in the same province, then HST will be applied. If you are using custom tax calculations then this field will charge tax based on the tax amount specified within the Beanstream account.
Billing Disable Tax 2	R	Specify 1 or 0	Add or remove secondary tax settings for the customer account. This field is only utilized through custom tax calculations. If set to 1, then this field will charge tax based on the tax amount specified within the Beanstream account.
Billing End Month	R	Specify 1 or 0	Flag the account to be billed always on the last day of each calendar month. 1=enabled, 0=disabled
Billing Back Payment	R	Specify 1 or 0	Specify **processBackPayments=1** to process back payments and charge the customer for any missed invoices when an account is re-activated. Specify **processBackPayments=0** to re-activate the account without charging back payments.
Billing Order Number	0	Max. 30 alphanumeric characters	Specify a unique order or customer number for the recurring billing profile. This will override any recurring billing order number already stored in the system.
ref1, ref2, ref3, ref4, ref5	0	Max. 256 alphanumeric characters	The account modification API allows merchants to include data in up to 5 custom reference variables. Information stored in these fields will be returned with each individual recurring billing transaction for the customer's account.

7 RECURRING BILLING VIA API

Most functions of the Beanstream Recurring Billing module may be performed via API as an alternative to using the membership area interface. This service is accessed through two different types of API requests. Creating an account uses the standard Beanstream Process Transaction API while account modification requests are performed through a dedicated Recurring Billing service URL.

7.1 CREATING AN ACCOUNT VIA API

Recurring Billing account creation requests are sent to the Process Transaction API at:

https://www.beanstream.com/scripts/process_transaction.asp

Requests are formatted as a set of field name/value pairs and are submitted through either a form post or a query string. Merchants may integrate using a Server to Server method or a basic HTTP POST. As Server to Server integrations offer the highest degree of security and the greatest flexibility, this is the recommended method of integration. For a complete description of integration options, consult our Process Transaction API Guide.

Recurring Billing transactions occur over the following four basic steps. As Recurring Billing is an automated process, developers need only worry about steps one and two of the process – our system will take care of the rest.

Step 1: Data submission

The customer provides the merchant with billing and payment information and authorizes the merchant to use this information for repeat billing purposes. These billing details are sent to Beanstream via the Process Transaction API. In addition to payment details, the merchant processing script specifies transaction amount, first billing date and expiry date. Additional fields may also be specified to customize the billing schedule.

Step 2: Account creation

Beanstream creates an account in our database. We store billing information along with the specified recurring billing schedule. Stored account data may be accessed via API or through the online membership area.

Step 3: First billing date

When the first billing date arrives, (based on the parameters submitted through the transaction request) the customer credit card is automatically charged according to the agreed upon amount. If the merchant has specified a first billing date outside of their normal schedule, the first charge to the customer may be pro-rated. An email receipt is sent to the customer and a summary notice is sent to the merchant.

Step 4: Second and future billing dates

Beanstream continues to bill the customer card according to the set schedule until the recurring billing account expires or until the account is manually closed. If repeat declines are processed against the same account, the account is automatically placed on hold. Decline limits may be set through the Beanstream Order Settings module.

7.1.1 SECURITY REQUIREMENTS

Recurring Billing account creation requests must be performed with either *Hash validation* or *Username and Password validation*. Prior to sending a request via API, you must activate one of these options through the Beanstream *Order Settings* module. Once you activate an option, you must use your selection with all requests to the Process Transaction API. This means, if you activate *Username and Password* validation, you will need to include username and password variables in all requests to (including standard Credit Card or Interac Online transaction requests):

https://www.beanstream.com/scripts/process_transaction.asp

If you activate *Hash validation*, you must use hash encryption on all Process Transaction API requests.

1. Log in to the Beanstream member area and navigate to ***administration → account settings → order settings*** in the left menu.
2. Scroll down the page and look under the heading *Transaction Validation Options*. At the bottom of this section, choose either ***Use username and password validation against transaction*** or ***Use hash validation against transaction***.
3. If you have selected Username and Password validation, enter a username and password in the fields provided (maximum 16 characters each). If you have selected Hash validation, enter a 32 character hash key and select an algorithm type (MD5 or SHA-1).
4. Click ***Update*** at the bottom of the page to save your changes.

7.1.2 ACCOUNT CREATION INPUT VARIABLES

Recurring Billing transactions may be processed with a variety of gateway options. The following table provides a list of variables specific to recurring billing account creation requests. For a complete description of all Process Transaction variables, refer to our Process Transaction API Guide.

Server to Server Integrations Only Basic HTTP POST Integrations Only

Table 7: Account creation input variables

Variable	Required / Optional	Data type	Description
requestType	R	BACKEND	Enter requestType=BACKEND for the recommended server to server integration method. Note that server to server typically cannot be used when hosting forms in the Beanstream Secure Webspace.
merchant_id	R	9-digits	Beanstream assigns one merchant ID number for each processing currency. Include the 9-digit Beanstream ID number here. Additional accounts may also have been issued for special services. Complete one full integration for each of the merchant IDs issued. **NOTE**: this variable is different from that used for the Process Transaction API (merchantId).
trnOrderNumber	Optional but Recommended	30 alphanumeric characters	Include a unique order reference number if desired. If no number is passed, Beanstream will place the default transaction identification number (trnId) in this field. Order numbers are required for transaction queries. Integrators that wish to use the query function should pass custom values. Custom order numbers will also be used in duplicate transaction error checking.
trnAmount	R	In the format 0.00.	This is the total dollar value of the purchase. This should represent the total of all taxes, shipping charges and other product/service costs as applicable. Maximum 2 decimal places. Maximum 9 digits total.

Variable	Required / Optional	Data type	Description
errorPage	R	URL (encoded). Maximum 128 alphanumeric characters.	Not for use with server to server integrations. If a standard transaction request contains errors in billing or credit card information, the customer's browser will be re-directed to this page. Error messages will prompt the user to correct their data.
approvedPage	O	URL (encoded). Unlimited characters.	Beanstream provides default approved or declined transaction pages. For a seamless transaction flow, design unique pages and specify the approved transaction redirection URL here.
declinedPage	O	URL (encoded). Unlimited characters.	Specify the URL for your custom declined transaction notification page here.
username	R (or HASH)	Max. 16 alphanumeric characters	Include the Transaction Validation username from the Beanstream Order Settings module.
password	R (or HASH)	Max. 16 alphanumeric characters	Include the Transaction Validation password from the Beanstream Order Settings module.
hashValue	R (or Username/Password validation)	Unlimited characters	Append a hash value to the transaction request string. The hashValue is generated by appending the hash key from the Beanstream Order Settings module to the end of the transaction request and applying the designated algorithm (MD5 or SHA-1). Note that you must append the value generated by the algorithm and not the actual hash key when submitting your request.

Variable	Required / Optional	Data type	Description
hashExpiry	O	12 digits	Indicate that a hashed request has an expiration date and time. This value must be passed as the current system time in the Pacific Time zone (08W00). Beanstream will validate that the request has been received earlier than the date and time value stored in this field. If the session has expired, the request will be rejected. Format as YYYYMMDDHHMM. For example, 2:34 PM on June 18 2008 would be submitted as 200806181434.
trnCardOwner	R	Maximum 64 alphanumeric characters	This field must contain the full name of the card holder exactly as it appears on their credit card.
trnCardNumber	R	Maximum 20 digits	Capture the customer's credit card number.
trnExpMonth	R	2 digits	The card expiry year with January as 01 and December as 12.
trnExpYear	R	2 digits	Card expiry years must be entered as a number less than 50 (2011=11). In combination, trnExpYear and trnExpMonth must reflect a date in the future.
trnCardCvd	O	4 digits Amex, 3 digits all other cards	Include the three or four-digit CVD number from the back of the customer's credit card. CVD numbers are not stored in the Beanstream system and will therefore only be used for a first recurring billing transaction if passed.
ordName	R	Max. 64 alphanumeric characters.	Capture the first and last name of the customer placing the order. This may be different from trnCardOwner.

Variable	Required / Optional	Data type	Description
ordEmailAddress	R	Max. 64 alphanumeric characters in the format a@b.com.	The email address specified here will be used for sending automated email receipts.
ordPhoneNumber	R	Max. 32 alphanumeric characters	Collect a customer phone number for order follow-up.
ordAddress1	R	Max. 64 alphanumeric characters	Collect a unique street address for billing purposes.
ordAddress2	O	Max. 64 alphanumeric characters	An optional variable is available for longer addresses.
ordCity	R	Max. 32 alphanumeric characters	The customer's billing city.
ordProvince	R	2 characters	Province and state ID codes in this variable must match one of the available ISO province and state codes.
ordPostalCode	R	16 alphanumeric characters	Indicates the customer's postal code for billing purposes.
ordCountry	R	2 characters	Country codes must match one of the available ISO country codes.
trnRecurring	R	1 or 0	trnRecurring=1 flags a transaction as a recurring item. The default value of this field is 0, indicating that the request is not a recurring transaction.
rbBillingPeriod	R	D, W, M, Y	Use this field in combination with rbBillingIncrement to set billing frequency. Valid values are: D=Days W=Weeks M=Months Y=Years
rbBillingIncrement	R	Numeric. No length restrictions.	Use in combination with rbBillingPeriod to specify the frequency of the billing. Enter a numeric value. Ex: rbBillingPeriod=W and rbBillingIncrement=2, the client will be billed every two weeks.

Variable	Required / Optional	Data type	Description
rbEndMonth	O	1 or 0	Set this variable to 1 to charge a customer on the last day of the month (rbBillingPeriod must be "M"). For example, if your billing period is every three months, this setting will allow you to bill Jan 31, April 30, July 31 and etc.
rbCharge	O	1 or 0	Set rbCharge=0 to delay the first charge until the rbFirstBilling date. If this parameter is not passed, the customer account will be billed the trnAmount on the date of the transaction request.
rbFirstBilling	O	1 or 0	Specify the first billing date in the format MMDDYYYY. Example: November 26, 2006 is 11262006. If no value is passed, the first billing date will default to the date of the transaction request.
rbSecondBilling	O	1 or 0	Use this field in combination with rbFirstBilling to prorate a first payment. The second billing date will mark the start of the regular billing schedule. The first customer payment will be prorated based on the difference between the first and second billing date. All subsequent billing intervals will be counted after this date. This value must be formatted as MMDDYYYY.
rbExpiry	O	8 digits	Set to the date that the recurring billing account will expire. If no value is passed the account will continue charging the customer indefinitely until manually closed in the Beanstream member area. This value must be formatted as MMDDYYYY.

Variable	Required / Optional	Data type	Description
rbApplyTax1	O	1 or 0	Unlike with manually created accounts, taxes will not be applied by default. If set to 1, GST will be applied to all recurring billing payments. If set to a value of 0, no GST will not be added to transaction totals. The default value for this field is 0. If you have opted to use Beanstream's custom tax module, the custom Tax 1 setting will take the place of the default GST settings.
rbApplyTax2	O	1 or 0	If set 1, PST will be applied to all recurring billing payments. If set to a value of 0, PST will not be added to recurring charges. The default value for this field is 0. If you have opted to use Beanstream's custom tax module, the custom Tax 2 setting will take the place of the default PST settings.
ref1, ref2, ref3, ref4, ref5	O	256 characters	Use these reference fields to capture custom order information. Ref1 to ref5 fields will be logged with each order. This data will not appear in the customer's recurring billing account profile.

Sample request

https://www.beanstream.com/scripts/process_transaction.asp?requestType=BACKEND&merchant_Id=1234500000&username=myusername1234&password=mypass1234&trnType=P&paymentMethod=CC&trnCardOwner=Joe+Customer&trnCardNumber=4030000010001234&trnExpMonth=10&trnExpYear=10&ordName=Joe+Customer&ordEmailAddress=joe@mydomain.com&ordAddress1=123+Main+Street&ordAddress2=Suite+202&ordCity=Victoria&ordProvince=BC&ordCountry=CA&ordPostalCode=V8T+4M3&ordPhoneNumber=2504722326&trnAmount=10&**trnRecurring**=1&**rbBillingPeriod**=D&**rbBillingIncrement**=30

Sample response

trnApproved=1&trnId=10002125&messageId=1&messageText=Approved&**rbAccountId**=123456&trnOrderNumber=10002125&authCode=TEST&errorType=N&errorFields=&responseType=T&trnAmount=10&trnDate=8%2F20%2F2009+11%3A04%3A27

+AM&rbAccountId=2955260&avsProcessed=0&avsId=0&avsResult=0&avsAddrMatch=0&avsPostalMatch=0&avsMessage=Address+Verification+not+performed+for+this+transaction%2E&cardType=VI&trnType=P&paymentMethod=CC&ref1=&ref2=&ref3=&ref4=&ref5=

7.1.3 COMMON CUSTOMIZATIONS

Developers may set a wide variety of billing schedules via API. The following table lists the combination of billing variables required for a number of common setups. All standard required variables must be passed in addition to these fields.

Table 8: Required variables for account setup options

Account setup option	Required variables
Basic account, billing immediately	trnRecurring, rbBillingPeriod, rbBillingIncrement
Bill on the last day of month	rbEndMonth (rbBillingPeriod must also be "M" for monthly)
Delay first payment	rbCharge, rbFirstBilling
Prorate a first payment	rbFirstBilling, rbSecondBilling
Set an expiry date	rbExpiry=(desired date), rbNeverExpires=0
Apply Taxes from Beanstream Tax Module	rbApplyTax1, rbApplyTax2

7.2 MODIFYING AN ACCOUNT VIA API

Requests to modify existing recurring billing accounts are sent to: https://www.beanstream.com/scripts/recurring_billing.asp. This API may be used to update account details such as customer billing address, credit card details and billing frequencies. It may also be used to remotely disable or close accounts.

7.2.1 THE RECURRING BILLING API PASSCODE

Before modification requests can be processed, you must generate a unique recurring billing API passcode. Log into the Beanstream member area and navigate to ***administration → account settings → order settings*** in the left menu.

1. Scroll down the order settings page. Under the title *Recurring Billing*, click on the ***Generate New Code*** button.

2. Record this code. You will need to reference this value in the passcode variable in your modification requests.

3. Click ***Update*** at the bottom of the page.

7.2.2 ACCOUNT MODIFICATION INPUT VARIABLES

The following table lists all variables available for modifying existing recurring billing accounts. Remember that you will permanently over-write information in the existing profile by passing these details.

Table 9: Account modification input variables

Variable	Required / Optional	Data type	Description
merchantId	R	9 digits	Beanstream assigns one merchant ID number for each processing currency. Include the 9-digit Beanstream ID number here. Additional accounts may also have been issued for special services. Complete one full integration for each of the merchant IDs issued as required.
serviceVersion	R	Enter 1.0	Specify serviceVersion=1.0. This is the current service version for the recurring billing module.
operationType	R	Enter M or C	The type of operation to be performed on the recurring billing file. M = Modify C = Close Passing operationType=C is a shortcut for closing an account. Using this method, no other account details will be modified if other variables are included in the request string. To close and modify account details at the same time, or to place an account on hold, use operationType=M in combination with rbBillingState.
passcode	R	32 digits	Reference The recurring billing API passcode from the Beanstream member area Order Settings module. Note: this is not the same passcode used for Username/Passcode validation in the Process Transaction API.

Variable	Required / Optional	Data type	Description
rbAccountId	R	Up to 10 digits	Include the ID number for the recurring billing account that is to be modified. This value is auto-generated when an account is created. You can obtain ID numbers from an account creation response string or through the Beanstream member area Recurring Billing page (under processing in the left menu of the merchant's Beanstream account).
Amount	O	Max. 9-digits in the format 0.00.	If you are updating the transaction amount in the file, specify the new amount here. If you do not wish to change this value, do not pass a value in this variable.
rbBillingState	O	Enter A, O, or C	If you wish to re-activate, disable or close an account include one of the following: **O** - Places the account on hold. No future transactions will be process until re-activated. **C** - Closes the account. No future transactions will be processed until re-activated. **A** - Re-activates an account that has been closed or placed on hold.
trnOrderNumber	O	Max. 30 alphanumeric characters	Specify a unique order or customer number for the recurring billing profile. This will override any recurring billing order number already stored in the system.
trnComments	O	Max. 64 alphanumeric characters	Modify the comments section of the customer's recurring billing profile.
ordName	O	Max. 64 alphanumeric characters	Update the recurring billing account holder name (use trnCardOwner to change the name of a card owner).
ordAddress1	O	Max. 64 alphanumeric characters	The first line of the customer's recurring billing profile address.
ordAddress2	O	Max. 64 alphanumeric characters	The second line of the customer's recurring billing profile address.
ordCity	O	Max. 32 alphanumeric characters	The customer's city.

Variable	Required / Optional	Data type	Description
ordProvince	O	2 characters	The customer's province of location. Refer to the ISO province codes.
ordCountry	O	2 characters	The customer's country of location. Refer to the ISO country codes.
ordPostalCode	O	Max. 16 alphanumeric characters	The postal code for the customer's recurring billing profile address.
ordEmailAddress	O	Max. 64 characters	The customer's email address in the format a@b.com
ordPhoneNumber	O	Max. 32 alphanumeric characters	The customer's phone number
trnCardOwner	O	Max. 64 alphanumeric characters	The name of the credit card owner.
trnCardNumber	O	Max. 20 digits	The customer's credit card number.
trnExpMonth	O	2 digits	The credit card expiry month in the format MM (January =01).
trnExpYear	O	2 digits	The credit card expiry year in the format YY. (2008=08)
rbFirstBilling	O	8 digits	This is the date of the first charge against the customer's recurring billing account. Passing a new value in this field will override the data in the Beanstream system even if the existing First Billing date has already passed.
rbSecondBilling	O	8 digits	This is the date of the second charge against the customer's recurring billing account. The second billing date will be automatically updated to reflect one full billing period after the First Billing date. Use this variable if you wish to process the second charge at a date outside of the regular schedule and pro-rate the first payment. All subsequent payments will be scheduled at regular increments after the second billing date.
rbExpiry	O	8 digits	The expiry date for the recurring billing account in the format MMDDYYYY.

Variable	Required / Optional	Data type	Description
rbBillingPeriod	O	Specify D, W, M or Y	Use with rbBillingIncrement to indicate billing frequency. D = days, W=weeks M = months, Y = years.
rbBillingIncrement	O	Numeric. No length restrictions.	Specify the number of periods (rbBillingPeriod) between billings. If the period is D and the increment is 7, the customer is billed every seven days.
rbApplyTax1	O	Specify 1 or 0	Add or remove primary tax settings for the customer account. If set to 1, GST will be applied to all recurring billing payments. If set to a value of 0, no GST will not be added to transaction totals. If you have opted to use Beanstream's custom tax module, the custom Tax 1 setting will take the place of the default GST settings.
rbApplyTax2	O	Specify 1 or 0	Add or remove secondary tax settings for the customer account. If set to 1, GST will be applied to all recurring billing payments. If set to a value of 0, no GST will not be added to transaction totals. If you have opted to use Beanstream's custom tax module, the custom Tax 1 setting will take the place of the default GST settings.
rbBillingEndMonth	O	Specify 1 or 0	Flag the account to be billed always on the last day of each calendar month. 1=enabled, 0=disabled
rbNeverExpires	O	Specify 1 or 0	By default, recurring billing accounts are set to never expire. This "never expires" setting may be modified at any time through the Beanstream member area or via API. Modifications are done separately for each individual recurring billing customer account. Use this variable in conjunction with rbExpiry to set an automatic expiry date by API. 0=the account will expire on the rbExpiry date. 1= the recurring billing account will never expire, billing continuously until manually closed or disabled Passing this value will change the default "expiry date" setting in the customer account. Subsequent modification requests for the customer account will default to the value last passed.

Variable	Required / Optional	Data type	Description
processBackPayments	Recommended	Specify 1 or 0	By default, new recurring billing accounts are flagged to automatically process back payments if the account is disabled and then re-activated. This setting may be modified at any time through the Beanstream member area or via API. This is done separately for each individual recurring billing customer account. When re-activating an account via API, back payments will be processed or ignored according to the value set for the individual customer in the Beanstream member area unless this variable is passed. Specify **processBackPayments=1** to process back payments and charge the customer for any missed invoices when an account is re-activated. Specify **processBackPayments=0** to re-activate the account without charging back payments. Passing this value will change the default "back payments" setting in the customer account. Subsequent modification requests for the customer account will default to the value last passed.
re1, ref2, ref3, ref4, ref5	O	Max. 256 alphanumeric characters	The account modification API allows merchants to include data in up to 5 custom reference variables. Information stored in these fields will be returned with each individual recurring billing transaction for the customer's account.

Sample account modification request string

The following request string would update the recurring billing amount for account number 12334455 to $12.00. The combination of merchant ID number, recurring billing passcode and rbAccount Id together identify the correct merchant and customer account.

https://www.beanstream.com/scripts/recurring_billing.asp?**serviceVersion**=1.0&**operationType**=M&**merchantId**=123456789&**passCode**=01234567890123456789012345678912&**rbAccountId** =12334455&**amount**=12.00

Sample account modification response

The recurring billing modification API returns response messages in XML format. Each response will include the account ID number for the recurring billing account

that was modified and a response code to indicate if the request was approved or declined. A text description of each message code will also be returned.

```
<?xml version="1.1" encoding="ISO-8859-1" ?>
- <response>
 <accountId>12334455</accountId>
 <code>1</code>
 <message>Request successful</message>
 </response>
```

The following table includes a list of all codes and text messages that may appear in a modification response.

Table 10: Permissable codes and text messages - modification responses

Code	Message
1	“Request successful”
2	"Secure connection required."
3	"Service version not supported"
4	"Invalid login credentials"
5	“Invalid operation type”
6	“Invalid amount value”
7	“Invalid recurring billing account id”
8	“Merchant account is closed or disabled"
9	"Invalid XML message"
10	"Unexpected error”
11	“Login failure. Service Lockout.”
12	“Invalid process back payments parameter”
13	“No fields to update in modification request”
14	“Customer address/payment information failed data validation”
15	“Invalid recurring billing account state”

7.2.3 SAMPLE SOAP INTEGRATION

Sample SOAP integration Recurring Billing Modification API request and responses have been provided below. In this case, the merchant has passed a ref1 value. This "custom text" will appear in the ref1 variable for all recurring transactions processed under account 7291. The Web Services Description Language (WSDL) and Web Services Meta Language (WSML) files are located at the following URLs:

http://www.beanstream.com/soap/recurring_billing.wsdl
http://www.beanstream.com/soap/recurring_billing.wsml

Transaction requests are made with a single XML message passed to the SendRequest method. Sample XML messages for requests and responses are shown below.

Sample Request XML Message

```
<recurring_billing>
<merchantId>109040000</merchantId>
<passCode>testing123</passCode>
<serviceVersion>1.0</serviceVersion>
<rbAccountId>7291</rbAccountId>
<operationType>M</operationType>
<ref1>Custom text</ref1>
<amount>2.25</amount>
</recurring_billing>
```

Sample Response XML Message - Approved

```
<response>
 <code>1</code>
 <message>Request successful</message>
</response>
```

Sample Response XML Message - Declined

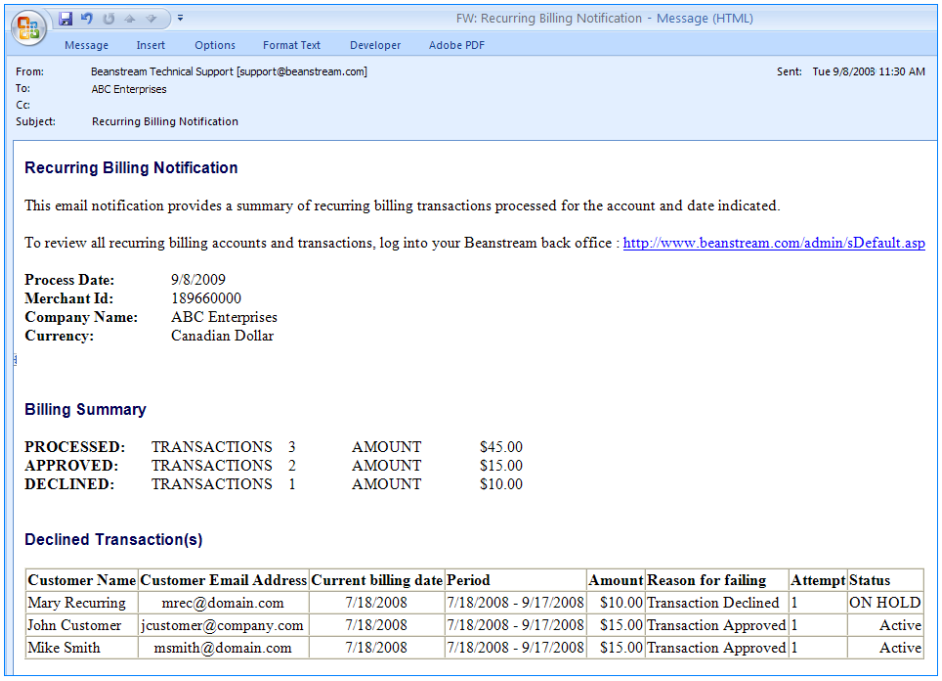
```
<response>
 <code>7</code>
 <message>Invalid recurring billing account id</message>
</response>
```

8 RECURRING BILLING REPORTING AND TRANSACTION RESPONSES

8.1 AUTOMATED EMAIL REPORTS

Merchants receive automated email notifications each time recurring billing items are processed through the Beanstream system. These summary emails contain one line item for each transaction processed on a specific date. Use these email reports to view items that have been approved or declined and review a list of accounts that have been placed on hold.

Emails are sent to the email address specified in the Beanstream *Company Info* module. To update the contact email address, log into the Beanstream member area and navigate to ***administration → company info*** in the left menu. Scroll to the bottom of the *Company Info* page and update the primary contact information or enter a new email address in the fields provided and check off the option for ***Send notifications to this address***. Note that this will affect all Beanstream email notifications and not just recurring billing email reports.



FW: Recurring Billing Notification - Message (HTML)

Message Insert Options Format Text Developer Adobe PDF

From: Beanstream Technical Support [support@beanstream.com] Sent: Tue 9/8/2008 11:30 AM
To: ABC Enterprises
Cc:
Subject: Recurring Billing Notification

Recurring Billing Notification

This email notification provides a summary of recurring billing transactions processed for the account and date indicated.

To review all recurring billing accounts and transactions, log into your Beanstream back office : http://www.beanstream.com/admin/sDefault.asp

Process Date: 9/8/2009
Merchant Id: 189660000
Company Name: ABC Enterprises
Currency: Canadian Dollar

Billing Summary

PROCESSED:	TRANSACTIONS	3	AMOUNT	$45.00
APPROVED:	TRANSACTIONS	2	AMOUNT	$15.00
DECLINED:	TRANSACTIONS	1	AMOUNT	$10.00

Declined Transaction(s)

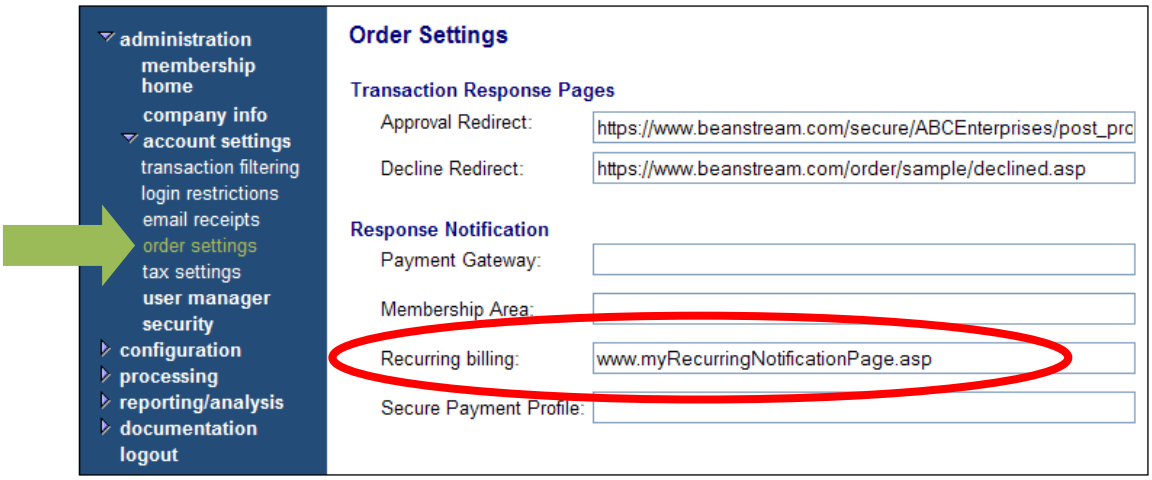
Customer Name	Customer Email Address	Current billing date	Period	Amount	Reason for failing	Attempt	Status
Mary Recurring	mrec@domain.com	7/18/2008	7/18/2008 - 9/17/2008	$10.00	Transaction Declined	1	ON HOLD
John Customer	jcustomer@company.com	7/18/2008	7/18/2008 - 9/17/2008	$15.00	Transaction Approved	1	Active
Mike Smith	msmith@domain.com	7/18/2008	7/18/2008 - 9/17/2008	$15.00	Transaction Approved	1	Active

8.2 NOTIFICATION BY HTTP POST

Merchants that wish to receive HTTP POST notifications for transactions processed through the recurring billing system may do so by designating a recurring billing response notification URL. This allows merchants to capture complete transaction details on their server in order to automatically update internal records or perform other actions necessary for their unique business requirements.

To set the response URL:

1. Go to administration → account Settings→ order settings.
2. On the Order Settings page, use the Recurring Billing Response Notification field provided to enter the URL for your notification page.
3. Click Update to save your changes



The following fields will be returned to the response notification URL on transaction completion:

Table 11: Recurring billing response notification - URL field names

Field Name	Data type (A/N = alphanumeric)	Description
billingId	Max. 10 digits	Each customer account is assigned a unique recurring billing identification number at account creation. The identification number for the customer recurring billing account will be returned here. This value is the same as the value returned in the rbAccountId variable in the account creation response string. This is also the same value as is displayed in the Beanstream member area within each customer profile.

Field Name	Data type (A/N = alphanumeric)	Description
trnApproved	Max. 4 digits	Indicates if the transaction was approved or declined. 1=Approved, 0=Declined.
trnId	8 digits	This 8-digit ID number is assigned by Beanstream and is used to identify the individual credit card transaction in our system.
messageId	3 digits	Each item will include a response code to indicate whether the transaction was approved or declined and why. A text description of the code is returned in the messageText field.
messageText	Max. 128 A/N	This is the text description of the response code returned in the messageId field.
authCode	6 A/N	The authorization code is the unique transaction identifier assigned by the bank. If a transaction is declined, the parameter will contain no value.
accountName	Max. 32 A/N	The customer name as it appears in the recurring billing profile.
emailAddress	Max. 64 A/N	The email address from the customer account.
billingAmount	13 digits	The amount charged for the recurring transaction.
billingDate	8 digits	The billing date in the format MMDDYYYY.
billingPeriod	1 digit	In combination with billingIncrement, this field indicates the frequency of billing. D =days, W=weeks, M = months, Y = years
billingIncrement	2 digits	Indicates the amount by which the billing period is incremented to create the recurring billing schedule. If the billing period is D and the billing increment is 7, the customer is billed every seven days.
periodFrom	10 digits	The start date of the recurring transaction period.
periodTo	10 digits	The end date of the recurring transaction period.
ref1, ref2, ref3, ref4, ref5	Max. 256 A/N	If any of the ref1 to ref5 custom reference fields have been specified using an API account creation or modification request, the data from these values will be returned unmodified. In any other scenario, these values will be returned blank.

8.3 MORE REPORTING OPTIONS

All recurring items are recorded in the Beanstream Transaction Report and other standard reports under reporting/analysis in the member area. Most reports are designed to be intuitive. If you require assistance interpreting these standard reports, consult our Reporting Guide.

9 CARD UPDATE SERVICE

9.1 USING CARD UPDATE SERVICE WITH RECURRING BILLING

For a small fee, merchants can enroll in Beanstream's Card Update Service. This service reduces customer follow-up. Also, it reduces manual updates due to lost, stolen or expired cards. As a result, merchants can simplify processing and minimize operational costs.

Here's how it works in three simple steps:

- On the first Monday of every month, Beanstream checks all profiles in your database to preemptively catch expired cards before the next billing period.
- When the billing date arrives, Beanstream sends the customer payment data from our secure subscription billing vault to the card networks and transactions are processed automatically.
- If a transaction declines, the item is sent to Beanstream's Card Update Service module where card number and expiry date are verified and updated if required.

Three new columns have been added to the existing Payment Profiles. These columns enable the card update service:

- Card Number: the card number is masked i.e. last four digits appear
- Last Updated: date last updated per Card Update Service
- Reason: the Response Codes –
    - UPDATE: match made, update data provided for *account number change*
    - EXPIRY: match made, update data provided for *expiration date change*
    - CONTAC: match made, account closed for *contact cardholder*

10 BATCH PROCESSING

Batch processing enables merchants to process multiple credit card or direct payments (EBP/ACH) transactions by submitting a single file to Beanstream for processing. Unlike other services offered by Beanstream, Batch Processing is technically an "offline process" as transactions are not processed immediately after data is received in our system. Our batch services allow merchants to prepare a file in advance and schedule their billings for a later date (the "processing date"). Once midnight on the scheduled processing date arrives, credit card transactions within a batch file are completed immediately. Bank payments (EBP & ACH transactions) will take three business days to complete as it typically takes this long for banks to exchange their records with one another and update their systems accordingly.

Beanstream supports two different batch processing formats. The first is our own custom batch file format which is designed to accept simple delimited files that can be generated using any popular word processor or spreadsheet application. The second method uses the industry standard .csv file format and is designed for high volume applications or 3rd party billing products that have integrated support for .csv file generation and deployment.

FIRST TIME DIRECT PAYMENT or ACH USER?

Remember to start the file upload process several days before you wish to credit funds to an account. Bank payments take ***three full business days to process***.

10.1 CREATING A TRANSACTION FILE

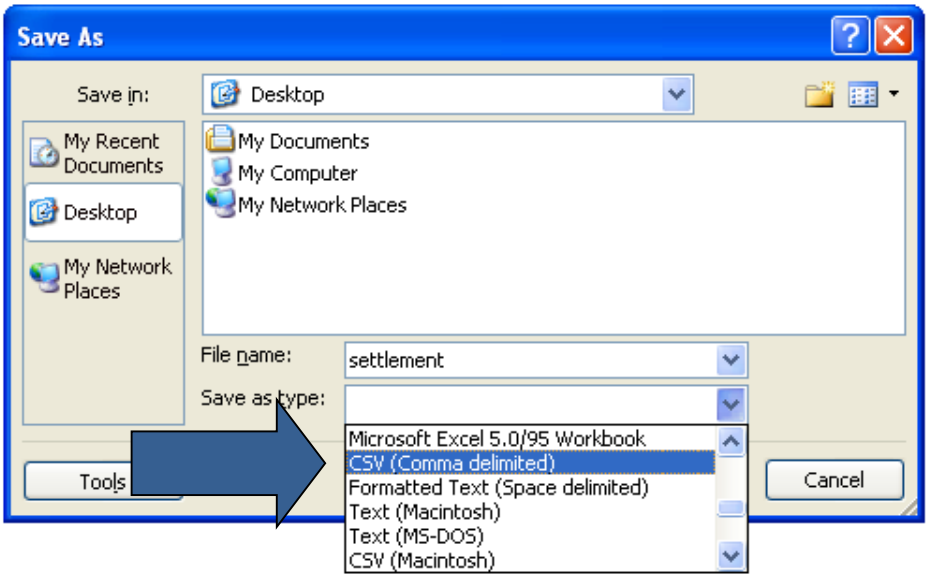
Batch files are created in a simple .csv format. You can use any common spreadsheet program like Excel to make the file. You can also use a standard text program like Notepad if you prefer. Review the following sections for details.

10.1.1 STARTING THE FILE

Before compiling your data, you will need to create and save a file in a .csv format. Note that the save process may vary depending on your software program and system setup. The following instructions are based on a Windows system and are provided as guidelines.

Typical spreadsheet setup

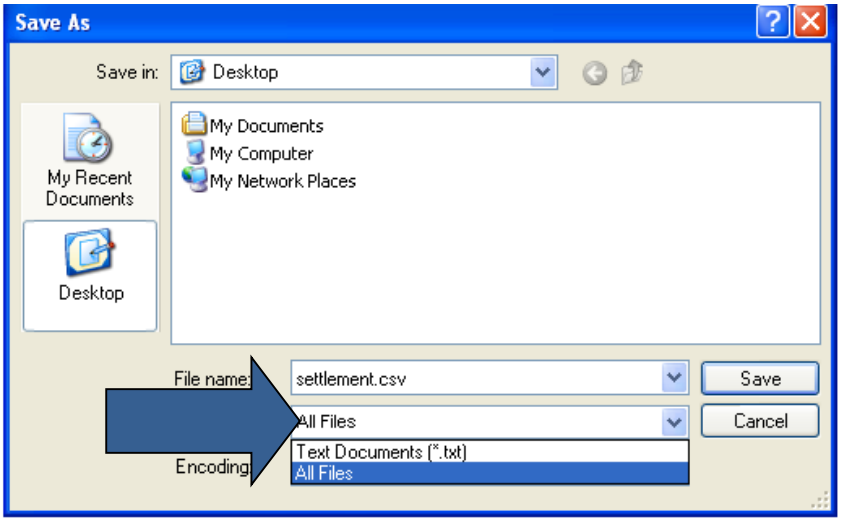
1. Open the spreadsheet program of your choice.
2. Go to ***File → Save As*** in the top menu.
3. In the *Save As* popup window, enter a name for your file.
4. In the *Save as Type* field, choose ***CSV*** *(Comma delimited)* from the list of options.



5. If you are presented with a warning message just click ***OK*** or ***Continue***. Programs such as Excel may warn you that you are changing file formats. This won't cause a problem with your file.

Typical text file setup

1. Open the text program of your choice.
2. In the top menu, go to ***File → Save As***.
3. In the *Save As* popup window, enter a file name with a .csv extension.
4. Change the *Save As Type* field to ***All Files.***



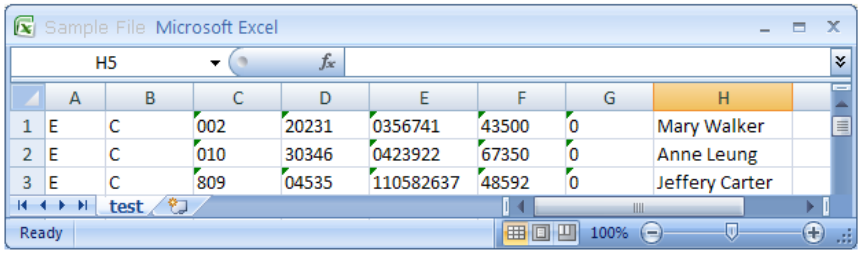
10.1.2 CANADIAN DIRECT DEBIT/DIRECT PAYMENT EBP FILE DATA

For Canadian direct debit/direct payment transactions, you will enter 8 pieces of information in each line of the file. Do not include the customer code. If you are using a text based program like Notepad, follow each piece of transaction data with a comma.

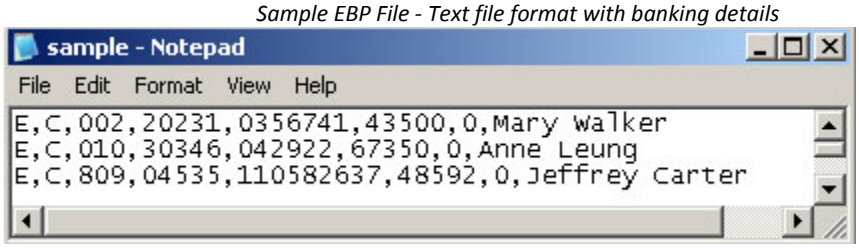
For Canadian transactions using customer codes or secure payment profile enter 6 pieces of information in each line of the file. Include the customer code. Leave commas in lieu of transit number, account number, and account code. For Excel files include blank spaces. For text based programs like Notepad, follow each piece of transaction data with a comma.

- All banking information/customer code is mandatory.
- Do not mix customer codes and banking information, otherwise transactions with banking information will not be processed.
- Customer profile must be in active status.

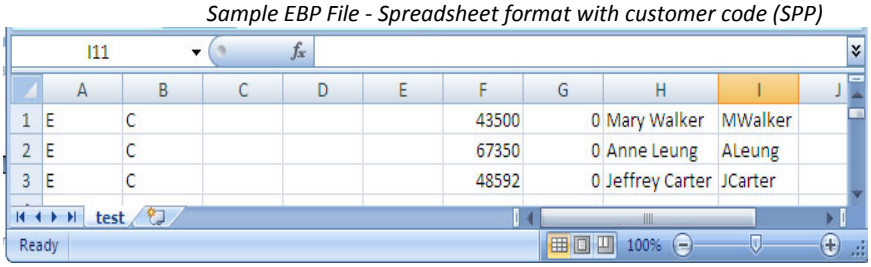
Sample EBP File - Spreadsheet format with banking details



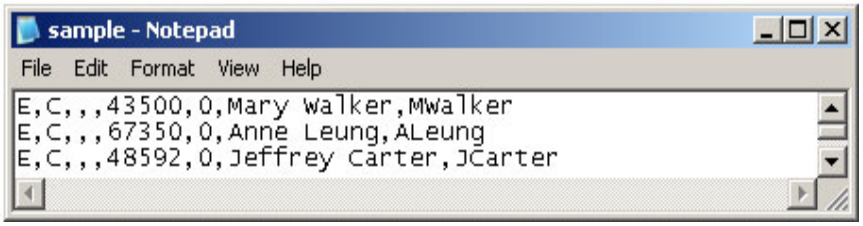
Sample EBP File - Text file format with banking details



Sample EBP File - Spreadsheet format with customer code (SPP)



Sample EBP File - Text file format with customer code (SPP)

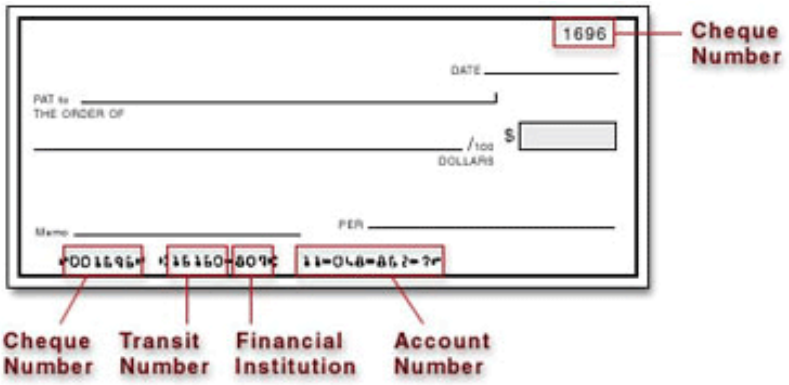


The following table describes the data requirements. Do not skip, re-format or change the order of entries.

Table 12: Canadian direct debit/direct payment – EBP file data

Line item entry	Description
E	This designates the type of batch file. In this case, "E" stands for electronic bank payment.
C or D	This indicates the type of bank payment being processed. "C" stands for credit. You will be crediting a recipient bank account. "D" stands for debit. You will be debiting an outside bank account and depositing the funds into your own account.
3 digit bank number	Enter the three digit bank number from the individual's cheque. Refer to the image below for details.
5 digit transit number	Enter the five digit transit number from the individual's cheque. Refer to the image below for details.
5-15 digit account number	Enter the number bank account number as it appears on the recipient's void cheque.
Transaction amount in pennies	Enter the total transaction amount in pennies. Do not include a decimal point. A transaction of $125 would appear as 12500.
Optional reference number	You have the option to create an internal reference number of up to 19 digits. If you do not want to enter a reference number, enter a 0 in this column.
Recipient Name	Enter the full name of the person you are paying.
Customer Code	Enter the 32 character customer code located in the payment profile.

Carefully review all bank account information. Incorrect transit or account numbers will result in file rejects. The transit number is a five digit number. It will be the second group of numbers found at the bottom of the void cheque. A three digit bank/financial institution number follows the transit number. The bank account number is last group of numbers at the bottom of the cheque. Account numbers vary in length from five to 15 digits. Do not enter the cheque number anywhere in the file as this will cause the transaction to be rejected. Refer to the image below to see a typical Canadian cheque format.



Re-save your file in .csv format when complete.

10.1.3 UNITED STATES DIRECT DEBIT/DIRECT PAYMENT ACH FILE DATA

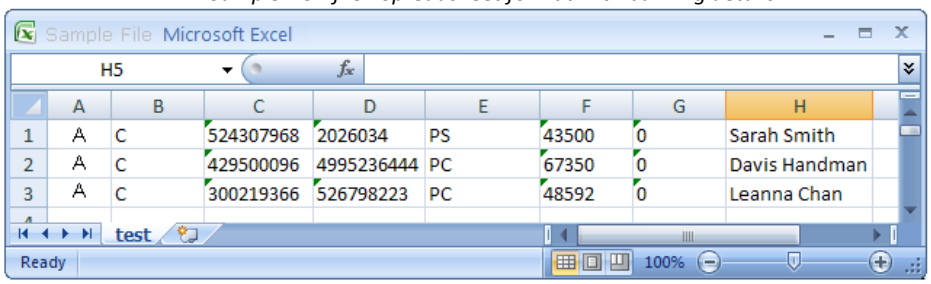
For US transactions, you will enter 8 different pieces of information for each line in the file. Do not include the customer code. Please note that Beanstream does not support cross border transactions. Both the merchant and the merchant's client must have bank accounts in the US in order to process ACH files. If you are using a text based program like Notepad, follow each piece of transaction data with a comma.

For US transactions using customer codes or secure payment profiles, you will enter 6 pieces of information in each line of the file. Include the customer code. Leave commas in lieu of transit number, account number and account code. For excel files include blank spaces. For text based programs like Notepad, follow each piece of transaction data with a comma.

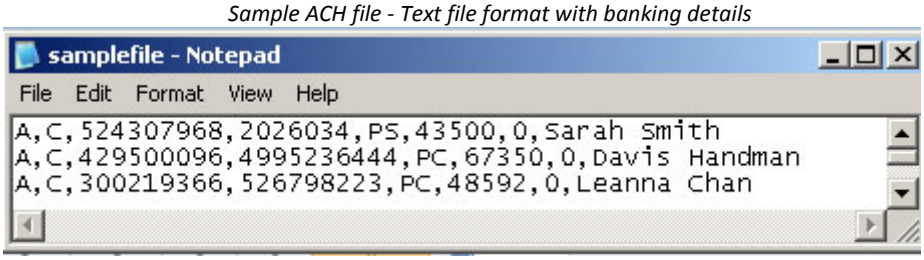
Please Note:

- All banking information/customer code is mandatory.
- Do not mix customer codes and banking information, otherwise transactions with banking information will not be processed.
- Customer profile must be in active status.

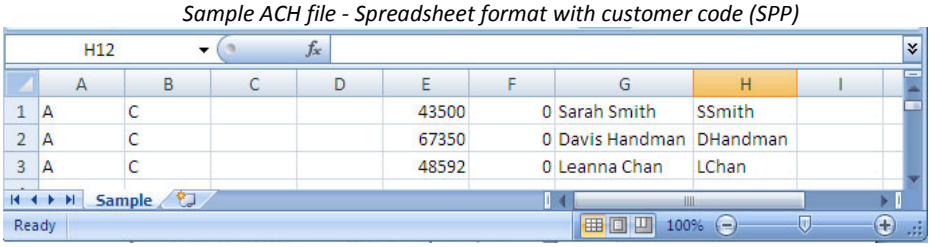
Sample ACH file - Spreadsheet format with banking details



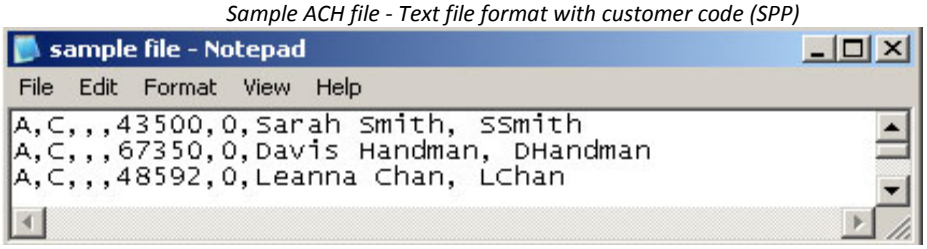
Sample ACH file - Text file format with banking details



Sample ACH file - Spreadsheet format with customer code (SPP)



Sample ACH file - Text file format with customer code (SPP)



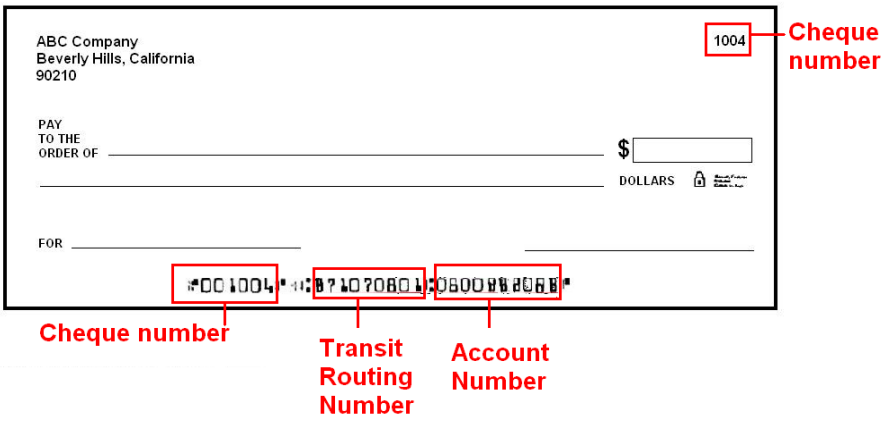
The following table describes the data requirements. Do not skip, re-format or change the order of entries.

Table 13: U.S. direct debit / payment - ACH file data

Field Name	Description
A	This designates the type of transaction record. In this case, enter “A” for Automated Clearing House.
C or D	This indicates the type of bank payment being processed. “C” stands for credit. You will be crediting recipient bank accounts. “D” stands for debit. You will be debiting an outside bank account and depositing funds into your own account.

Field Name	Description
9 digit transit number	Enter the nine digit transit number from the individual's check. Refer to the image below for details.
5-15 digit account number	Enter the number individual's bank account number as it appears on their void check.
Account Code	You will need to enter a two letter code to designate the type of bank account that will be credited. Enter one of the following: PC = Personal Checking PS = Personal Savings CC = Corporate Checking CS = Corporate Savings
Transaction amount in pennies	Enter the total transaction amount in pennies. Do not include a decimal point. A transaction of $125 would appear as 12500.
Optional reference number	You have the option to create an internal reference number of up to 19 digits. If you do not want to enter a reference number, enter a 0 in this column.
Recipient Name	Enter the full name of the person you are paying.
Customer Code	Enter the 32 character customer code from the payment profile.

Carefully review all bank account information. Incorrect transit or account numbers will result in file rejects. On a US check, the transit number is a nine digit number. It will be the second group of numbers found at the bottom of the void check. The bank account number is the last group of numbers at the bottom of the check. US bank account numbers vary in length from five to 15 digits. Do not enter the check number anywhere in the form. This will cause the transaction to be rejected. Refer to the image below for a typical US check



format.

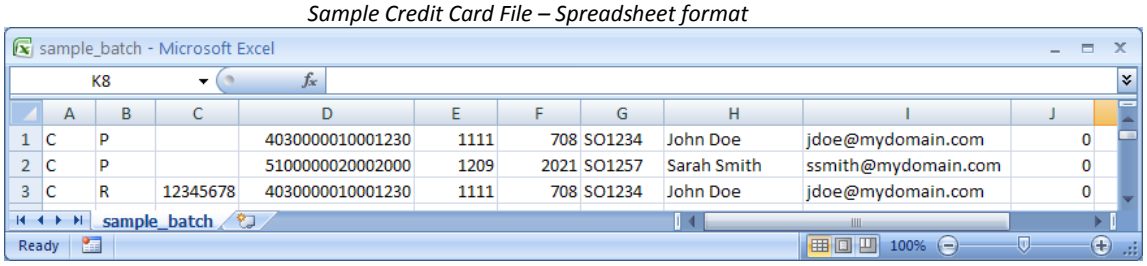
Re-save your file in .csv format when complete.

10.1.4 CREDIT CARD FILE DATA (ALL LOCATIONS)

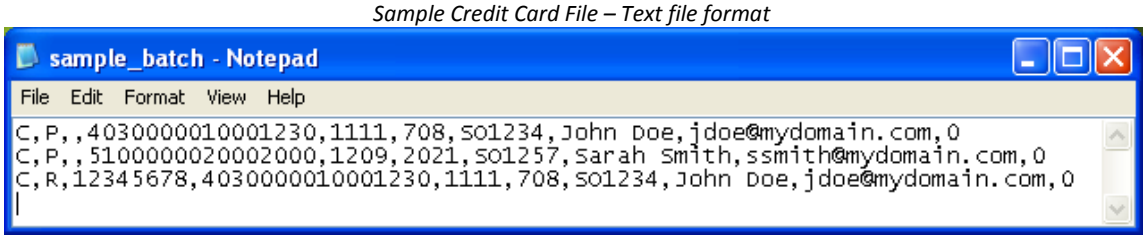
Credit card transaction file formats will not vary by location. However, if you have separate US and Canadian dollar Beanstream processing accounts, don't mix Canadian and US dollar transactions in the same file. You need to upload files to the correct member account to process in the correct currency without conversion.

Each credit card payment should have its own line in your file. If you are using a spreadsheet, you will setup your file with 10 columns. Those using Beanstream's Dynamic Transaction Descriptor service will require 11 columns. Those using Batch Processing in combination with Beanstream's Secure Payment Profiles service will require 12 columns. If you are using a text based program like Notepad, follow each piece of transaction data with a comma.

Sample Credit Card File – Spreadsheet format



Sample Credit Card File – Text file format



The following table describes the data requirements. Do not skip, re-format or change the order of entries. Refer to the sample files on the previous page for assistance.

Table 14: Credit card file data requirements (all locations)

Field Name	Description
Record Type	This designates the type of transaction record. In this case, enter "C" for Credit Card.

Field Name	Description
Transaction Type	Beanstream's Credit Card Batch service works with all six available transaction types. Specify the type of transaction to be performed. P – Purchase R – Return PA – Pre-authorization PAC – Pre auth completion VP – Void Purchase VR – Void Return
Adjustment Id	For P or PA transactions (see above) leave this field blank. Adjustment ID is used only for R, PAC, VP and VR type transactions (see above). These are adjustments to items that are already stored in our system. Reference the 8-digit Beanstream transaction ID number from the original purchase or pre-authorization transaction.
Card Number	Enter the customer credit card number. You may include up to 20 digits in this field. If an Adjustment ID is included, this field is optional. See "Adjustment ID" section for more information.
Card Expiry	Include the expiry date of the credit card. This value must be four digits in the format MMYY. For example, an expiry date of November 4 would be 1104. If an Adjustment ID is included, this field is optional. See "Adjustment ID" section for more information.
Amount	Enter the transaction amount to charge to the card in pennies. Do not include a decimal place. For example, $1,345.62 would be 134562. Up to 9-digits are allowed in this field.
Reference	Include an internal reference number of up to 30 characters if required. This is an optional but recommended field. If a reference number is submitted, the Beanstream processing engine will perform a duplicate transaction check. If more than one transaction is attempted with the same reference number, credit card number, and amount within a 24-hour period, the transaction will be declined as a duplicate. If you choose not to include this information, do not skip the field, just leave this entry blank.
Card Owner	Include the name of the card owner exactly as it appears on the customer's card. Max. 32 characters.
Email Address	Enter the email address of the card owner card owner. This field is optional. If you choose not to include this information, do not skip the field, just leave this entry blank. Max. 64 characters.
Recurring	If set to 1, this field indicates to your financial institution that the transaction is a recurring transaction. A value of 0 indicates that the transaction is not a recurring transaction. This is a flag for the bank to indicate that you do regular

Field Name	Description
	business with the customer– it will not create a Beanstream recurring billing account.
DBA (Value added credit card service)	If you have subscribed to Dynamic DBA service for credit card processing, you may pass additional information which will be included on your customer's credit card statements. Create each batch line item using the standard format. After the last field, enter a comma followed by any alphanumeric data up to 25 characters. Do not include special characters – only standard letters and numbers will appear on the customer's statement.
Profile Code (customerCode)	If you are using Beanstream's Secure Payment Profile service, merchants may replace confidential credit card billing information with the secure customer code stored in the payment profiles module. Include the customer code or token in the last column of your file. Leave all of: card number, expiry date, card owner and email address blank. A sample line item using the customer code value would be: C,P,,,,1000,,,,,02nMl0tU3td09GMw9h1rP2

10.2 ADJUSTMENT ID AND RETURNS, VOID PURCHASES, VOID RETURNS, OR PAC TRANSACTIONS

By default, a refund, void or PAC transaction can only be processed if an Adjustment ID is included. This 8 digit number references the original transaction. If an Adjustment ID is included, then the card number and card expiry are optional. If you would like to process the return using a different card, enter the new card number and expiry.

10.3 UPLOADING YOUR BATCH FILES THROUGH THE MEMBER AREA

In the left menu of the online Beanstream member area, select ***Processing → Batch Processing***. If you have previously uploaded files, you will see a table listing all of the batch files that have been successfully uploaded. Click on the ***Browse*** button and locate your new batch file.

10.3.1 SELECTING AN EBP OR ACH PROCESSING DATE

It takes three full business days for EBP or ACH transactions to be credited to the recipient account. Choose a processing date that is three full business days before the day you wish to complete payment. You can set your file to begin transferring up to 30 days date in the future. You can also set your EBP or ACH files to start processing on the current day as long as it is before the 11 am Pacific (2 pm Eastern) deadline.

Once you have browsed for your file and selected a processing date, click ***Upload*** to import the file into the Beanstream system.

: Choosing an EBP or ACH Processing Date

A sample file was uploaded well in advance on Friday, December 19. The Process Date was set for Monday, December 29. It takes three full business days to process the bank transaction. In a normal situation, three full business days later would be January 1. In this case, however, January 1 is the New Years' Day holiday. Funds will be received in the recipient account on January 2.

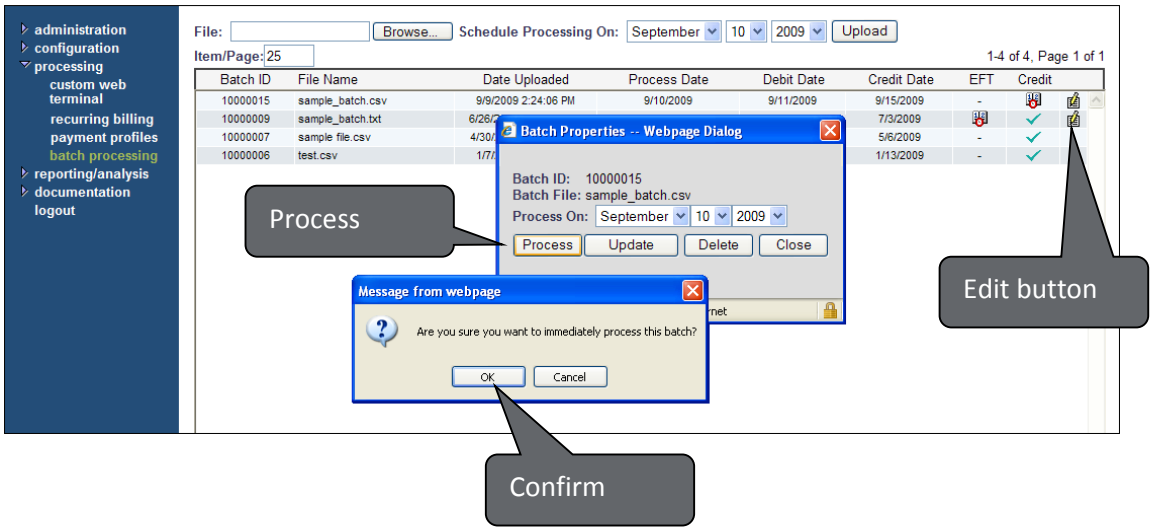
S	M	T	W	T	F	S
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31		2	3
4	5	6	7	8	9	10

10.3.2 CREDIT CARD PROCESSING DATES – SELECTING CURRENT AND FUTURE DATES

Credit card batch files are automatically run early in the morning Pacific Standard Time. As a result, the default processing date for credit card batch files will be the following business day. You may leave this default processing date, or you may schedule your file for any other date up to 30 days in the future. Once you have browsed for your file and selected a processing date, click ***Upload*** to import the file into the Beanstream system. If you need to process your credit card file immediately, you may do so AFTER uploading the file with the default processing date.

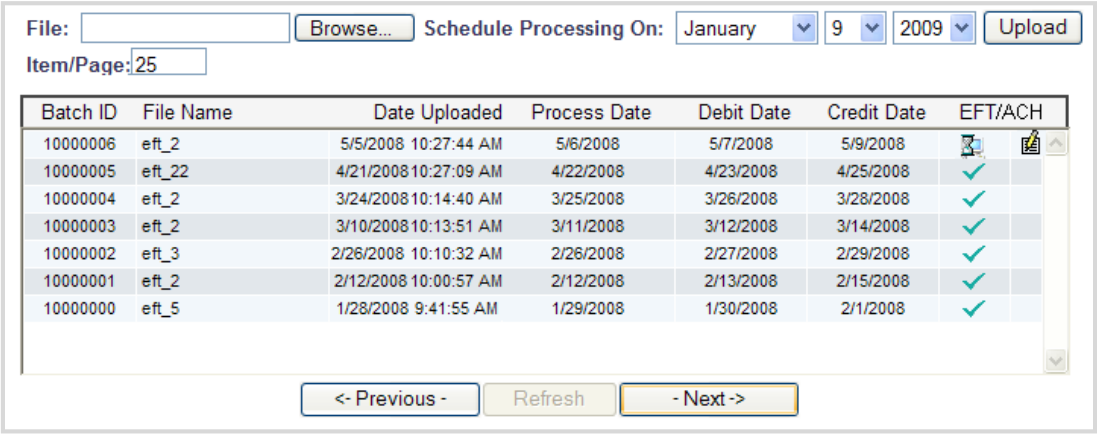
To process a credit card file immediately, upload the file and click on the ***Refresh*** button at the bottom of the batch processing screen. Click on the line item for your new file. Click on the ***edit*** button ( ) to open a *Batch Properties* pop-up window. Click on the ***Process*** button on the pop-up window and confirm that you are ready to process all items in the file. Processing will be done in real time as soon as you click ***OK***, so be sure you are ready to process and are confident in your file contents before confirming your request.

Processing credit card files on the upload date



10.4 CHECKING FOR ERRORS: FILE LEVEL

When you have successfully uploaded a file to the system, it will be listed on the batch processing page (under ***processing → batch processing*** in the left menu).



This *Batch Processing* page includes a number of important pieces of information that you should review after uploading a file. Refer to the table below for details.

Table 15: Batch processing page information

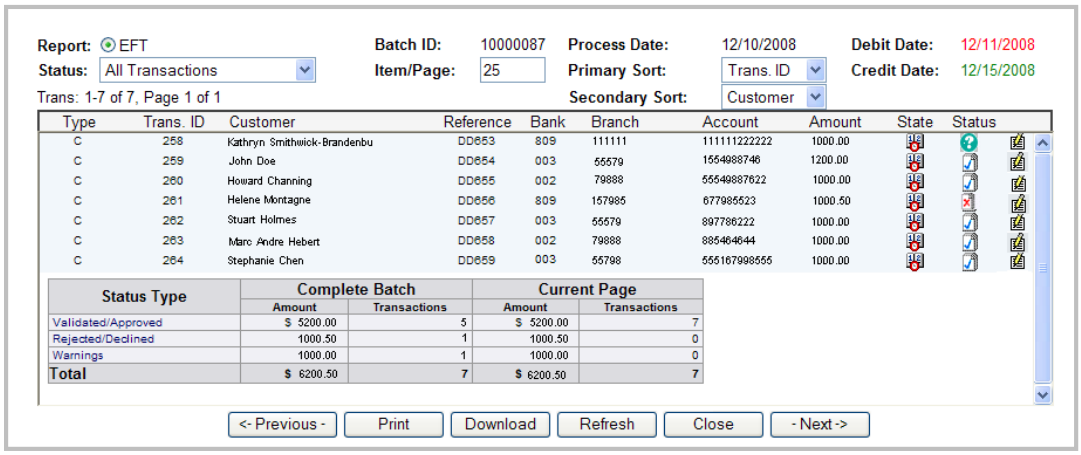
Column header	Description
Batch ID	This is an internal reference number used to identify individual batch files. If you need assistance from our support team regarding a specific file, reference this number.
File Name	This is the name of the batch file that you created offline and uploaded to the system.
Date Uploaded	This column indicates the date that you first created and uploaded your batch file.
Process Date	For EBP and ACH transactions, this is the date that your file will be sent to the banking network for processing. This must be **three business days before** the date you wish to credit a recipient account. You can manually change processing dates provided it is before the designated cut-off time. Please remember that weekends and bank holidays do not count as business days. Your member account home page includes a complete list of bank holidays.
Debit Date	For EBP and ACH transactions, this is the date that bank account will be debited from the "paying" account. If you are processing a "D" type or Bank Debit transaction, funds will be withdrawn from your client's account on this date. If you are processing a "C" type or Bank Credit transaction, we'll be withdrawing funds from your business bank account on this date.

Column header	Description
Credit Date	Appears for EBP and ACH transactions only. If you are processing a "D" type or Bank Debit transaction, you'll see funds deposited into your business bank account on this date. If you are processing a "C" type or Bank Credit transaction, your clients will receive funds on this date.
EBP/ACH	This column indicates the status of your batch file. For Canadian EBP clients, this column will show EFT. For US ACH clients, this column will be labeled as ACH. If you have successfully uploaded the file, you will see an icon. If a different image appears, check the file processing state (see Table 16: Individual transactions - data error types).
Credit	If your file contains credit card transactions, you should see an icon to indicate that your file is scheduled to process or a icon to indicate that processing was successful. If a different image appears, check the file processing state (see Table 16: Individual transactions - data error types).
Edit Icon	By clicking on this icon, you can delete a scheduled file before it begins to process or change the processing date.

If everything on this table looks correct, you will still need to drill down to the next level to check for errors at the individual transaction level. Continue with the following section for details.

10.5 CHECKING FOR ERRORS: INDIVIDUAL TRANSACTIONS

Click on a batch file listed in the table on the main batch processing page (under ***processing → batch processing)*** in the left menu. A new report will appear, showing a list of all the transaction data contained within the file.



Sample Online Transaction Details Report (US clients will not see the "Bank" column).In the example shown above there were seven line items for a total of $6200.50. Two transactions have been flagged with errors.

This page will identify any data errors that occurred for individual transactions within the batch file. Refer to the following table for details.

Table 16: Individual transactions - data error types

Column header	Description
Type	This column will always show “C” to indicate that you are crediting a recipient bank account.
Trans. ID	This is a unique identifier for each of the line items in a batch file. You may be asked to reference this id if you have customer support questions about your file.
Customer	The Customer column displays the name of the recipient as entered in your batch file.
Reference	The reference ID is used internally by your bank payment service provider.
Branch	The recipient’s five digit branch identification number as it has been uploaded to the system.
Account	The recipient’s bank account number as it has been uploaded to the system.
Amount	The deposit amount associated with the line item. This is the amount that will be paid out to the recipient.
State	This column indicates the status of the individual line item. There are four possible file states: importing, scheduled, in process and complete. There are five possible file entries: validated, approved, declined, warning and error. If you are reviewing a newly uploaded file you should see an  icon.
Status	Refer to this column to see if a transaction has been flagged or declined. There are five possible file entries: validated, approved, declined, warning and error. Hover your mouse over each of the icons in this column. If you see the  icon there are no transaction errors. If any other icon appears in this column, check for status errors.

If you see an error or need to make changes to a line item in the batch file, it is recommended that you delete the entire batch file and upload a new version. You must delete and upload new files before the cut-off time of 11 am PST (2 pm EST) on the processing date.

10.5.1 BATCH PROCESSING STATES

Batch files are assigned a unique state at each stage of processing. Icons indicating the state of a batch file can be seen on the main batch processing page. States are also assigned to each individual item contained in the file. To see the state of an individual transaction within a file, click on a line item from the list of files on the main batch processing page.

Table 17: Batch processing states

State	Icon	Description
Importing	N/A	The file is being generated and filtered for errors.
Review Required		Where Dual Authorization has been enabled. The file must be reviewed and a request for authorization sent.
Authorization Required		Where Dual Authorization has been enabled. The file requires final sign off from an "Authorizer" prior to being scheduled.
Scheduled		The file has been verified, no errors have occurred and it has been approved to begin processing on the scheduled date.
In Process		The file has been submitted to the banking networks for processing.
Complete		The credit date has arrived and the file has been processed by the banks. If you see this icon on the *Uploaded Files List*, you can drill down to the *Transaction Details* level to see if there have been any processing errors in the file.

10.5.2 ERRORS, DECLINES AND WARNINGS: VIEWING TRANSACTION STATUS

Each of the transaction items in an uploaded file is reviewed and assigned a transaction status at various stages of the file transfer process. For maximum control over your files, be sure to review transaction status both after you upload a file and after a file is due to have credited the recipient accounts. Transaction status can be viewed by going to the main batch processing page (under ***processing → batch processing*** in the left menu) and clicking on a batch file name.

Table 18: Batch processing transaction statuses

Status	Icon	Description
Validated/Approved		No errors were detected for this line item. This line item was approved for processing.

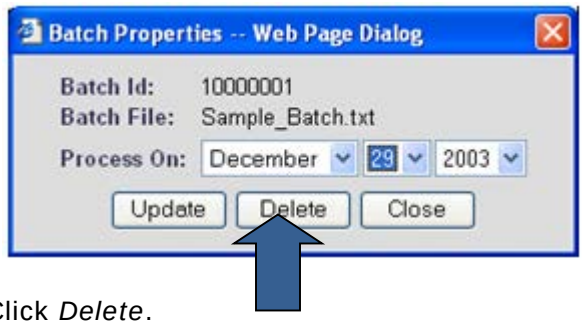
Status	Icon	Description
Warning		This icon will appear to warn you that you should review the transaction information. Transactions with this status will still be processed. You can hover your mouse over any warning icon that appears in your status list to see a list of all applicable warning messages. Warning messages include: Customer name truncated to 32 characters Duplicate transaction matching branch, transit and account
Declined/ Error		The transaction was declined. Transactions with an error message will be returned to the employer. Funds will not be credited to the recipient. Place your mouse over any error icon that appears in your status list. A list of all applicable error messages will appear including one or more of: Invalid branch number Invalid transit number Invalid account number Invalid transaction amount Reference number too long Invalid due date Due date out of valid date range Customer name missing Zero, negative or non-numeric amount Invalid bank and/or branch number Payee/drawee name empty (or is a “space”) Invalid payment code

10.6 MAKING CHANGES TO A BATCH FILE

If you have to make changes to a transaction, we recommend that you delete the entire batch file and upload a new version. If the content of the file is correct but the pay date is not, you may modify the processing date through the online interface.

10.6.1 TO DELETE A FILE

1. Log into your online account
2. Go to ***processing → batch processing*** in the left menu
3. Refer to the list of uploaded files. The most recent file is at the top of the list.
4. If it is not past the 11 am PST (2 pm EST) cutoff time on the processing date, there will be an  edit icon at the far right of your screen beside the line details. Click on this icon. The following *Batch Properties* dialog box will appear.

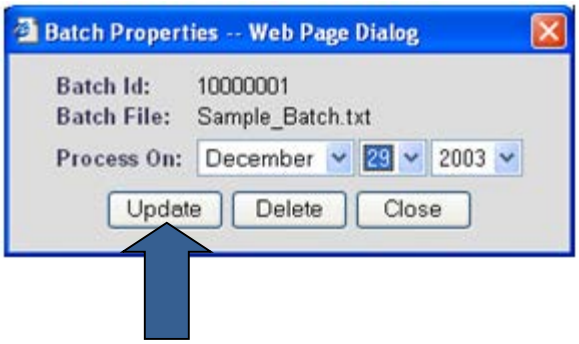


5. Click *Delete*.

10.6.2 TO CHANGE THE FILE PROCESSING DATE

You will be able to change a file processing date as long as a file has not already started processing. Once a file has begun processing, the item cannot be modified.

1. Go to ***processing→batch processing*** in the left menu of the online administration area.
2. Click on the icon for the file that you wish to modify.
3. On the *Batch Properties* dialog box, modify the "Process On" date. The new processing date must by three full business days before the date you wish to have funds deposited to the recipient bank accounts. Be sure to choose a business day and not a weekend or bank holiday.



4. Click ***Upload***.

If there is no icon visible or if you are unable to change the processing date, the allowable edit period has passed. For EBP & ACH transactions the cut-off time is 11 am PST (2 pm EST) on business days. In emergency situations, please call the Beanstream Support line at 1-888-472-0811. Depending on your file, it may be possible for us to alter dates for you. This is not always possible depending on the timing of your batch. A $25 service fee may apply.

10.7 IMPLEMENTING DUAL AUTHORIZATION

Dual Authorization allows you to set two tiers of access rights to the payment file transfer system. Standard users are able to prepare and load payment files to the system. Management users or "Authorizers" are able to review the file and complete final sign off before authorizing file transmission.

To implement Dual Authorization:

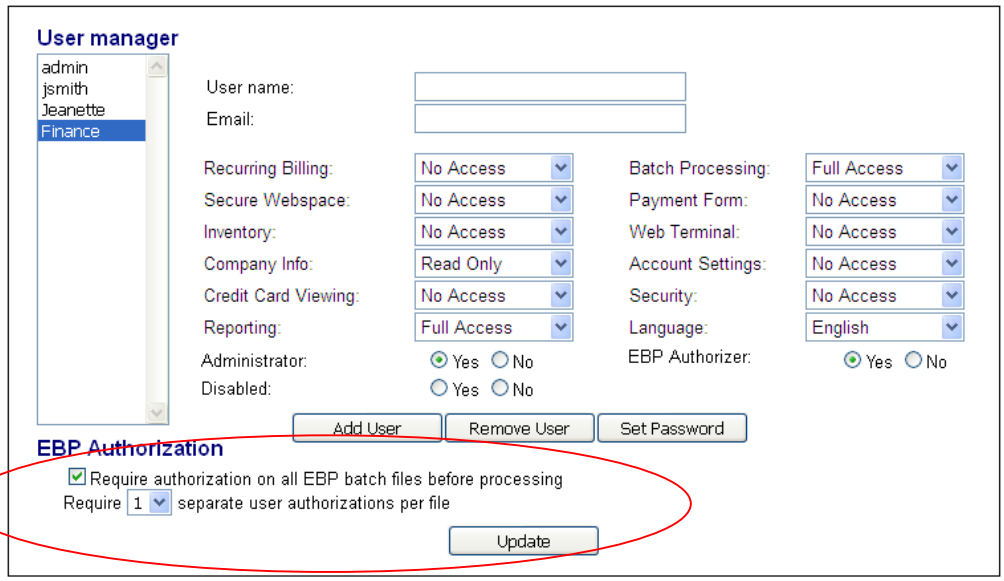
1. Log into the online member area at:

   https://www.beanstream.com/admin/sDefault.asp

2. Navigate to ***administration > user manager*** in the left menu.

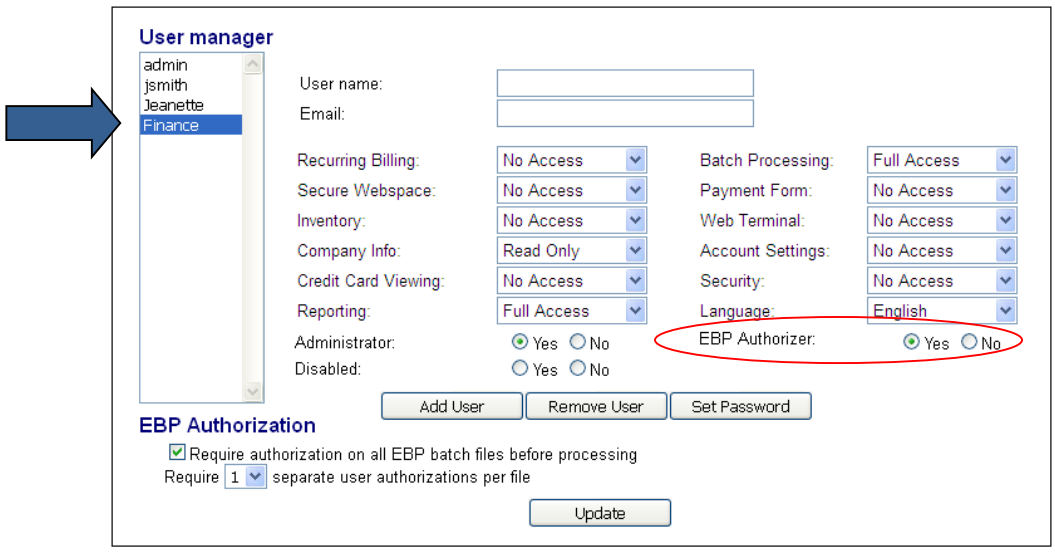
3. Activate ***Require authorization on all EBP batch files before processing.***

4. Specify the number of authorizations required per file. This is the number of individual users that must sign off on a file before processing is initiated. You may require up to 3 separate user authorizations per file.



- If this is your first time in the interface, you will see a single admin user. You may create an unlimited number of additional accounts using the ***Add User*** button

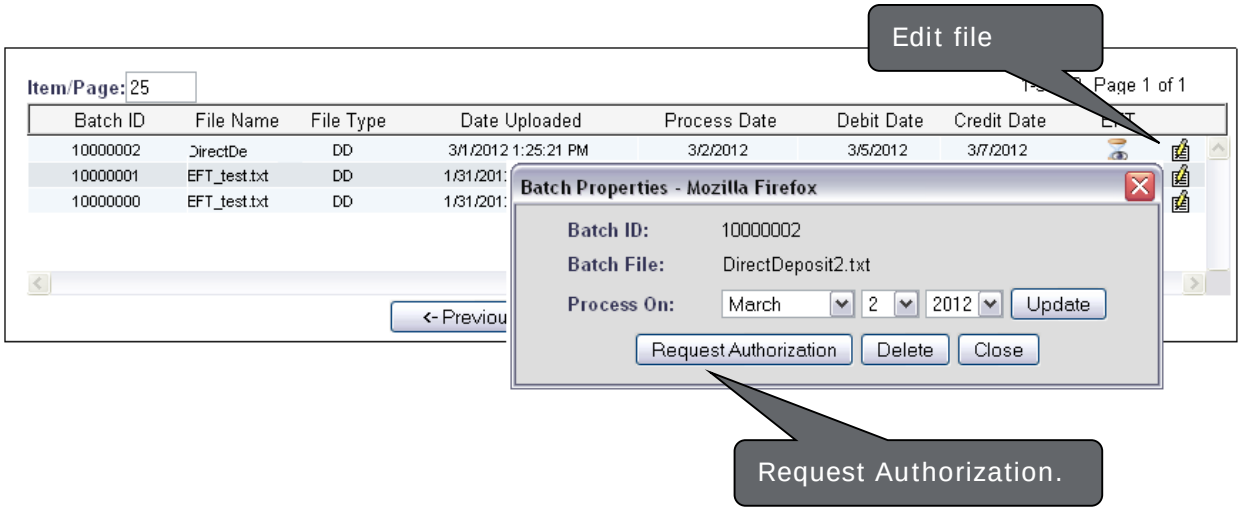
- To set one or more users as a file "Authorizer", select the name from the user list, and change the EBP Authorizer setting to ***Yes***.



Any user account with Authorizer permissions may approve a file to count towards the number of required authorizations. If you have more Authorizers than the number required in your settings, the system will count the first users to access and authorize the file up to the limit indicated in your settings.

10.7.1 AUTHORIZATION STEP 1: STANDARD USERS

1. Once a file has been uploaded, click on the edit icon for your uploaded file
2. In the popup window, click on Request Authorization.
3. An email will be sent requesting all Authorizers to login and finalize the file scheduling process



10.7.2 AUTHORIZATION STEP 2: FILE AUTHORIZERS

1. After receiving the Request for Authorization system email, log into the online member area as an Authorized user
2. Navigate to processing > employee direct deposit or processing>customer pad/vendor dd in the left menu
3. Click on the edit  icon for your uploaded file
4. In the popup window, click Authorize

Once all required authorizations have been completed a system email confirmation will be sent to authorized users.

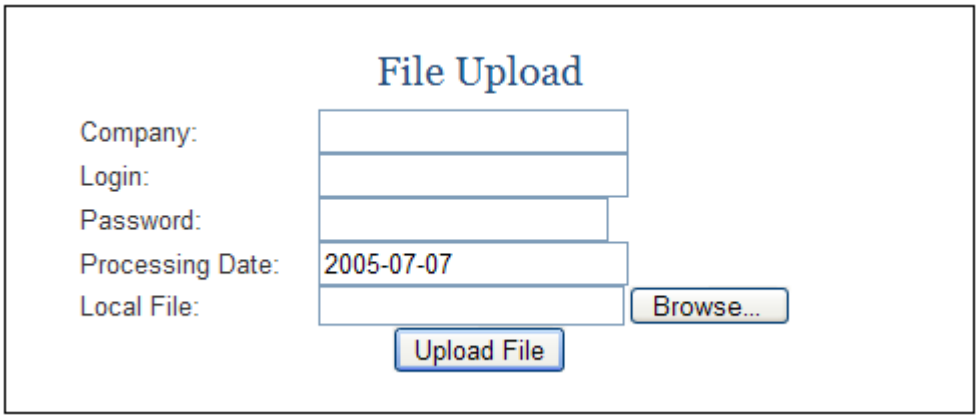
11 UPLOADING BATCH FILES VIA API

The Batch Processing API provides the merchant with the ability to integrate the Beanstream Batch Processing Service directly into their application without the need to manually log into their Beanstream account. This is ideal for integrators that wish to use the Beanstream batch system as part of their standalone software system.

The Batch Processing API accepts multipart/form-data HTTPS requests for the submission of Batch Files to a Beanstream Membership account. The API must be accessed securely using a Secure Socket Layer HTTPS request.

The API requires that both POST and GET data is passed in the request. The batch file contents must be passed in the POST data of the request using multipart/form-data as the encoding type. Additional parameters for authentication, scheduling dates, and service versions must be passed as GET data within the query string of the URL.

The Batch Processing API service URL is
https://www.beanstream.com/scripts/batch_upload.asp



Sample interface

11.1 REQUEST PARAMETERS

The following request parameters must be passed as query string variables to the Batch Processing API in order for a successful file upload. These parameters must be passed using a "multipart/form-data" encoding type, along with the posted batch file contents.

Table 19: Batch processing - API request parameters

Name	Required/ Optional	Type	Description
serviceVersion	R	Specify 1.1	The current version of the batch processing API is 1.1.
loginCompany	R	Alphanumeric	Include the unique company log-in name associated with the merchant's Beanstream account. This is a case sensitive value
passCode	O (Recommended)	Alphanumeric	You can set this passcode in the online member area. See Section 6.3 of the Reporting Guide. **Note**: use either this variable OR loginUser/loginPass.
loginUser	O	Minimum 6 alphanumeric characters	Include the user login name. This value must match a staff member account user name as stored in the Beanstream member area. This is a case sensitive value. **Note**: Beanstream logins expire/renew every 90 days.
loginPass	O	Minimum 6 alphanumeric characters	Include the password associated with the staff login name. This is a case sensitive field. At least two numbers must be included in each password for security purposes. **Note**: Beanstream passwords expire/renew every 90 days.
processDate	R	Alphanumeric	Indicates the date the batch file should start processing. Date must be formatted as YYYYMMDD. Review Selecting an EBP or ACH processing date or Credit card processing dates – selecting current and future dates for details on this parameter.

Name	Required/ Optional	Type	Description
processNow	R	Numeric (1 or 0)	For credit card transactions only. Used to bypass the processDate parameter in order to have Beanstream process all transactions immediately upon receipt of a credit card file. 1 = Process immediately. Any value passed in the processDate field will be ignored. 0 = Beanstream will process all transactions on the indicated processing date.

Sample HTML interface 1

The following sample form uses basic html with service version and log-in credentials pre-populated.

```
<html>
<head>
        <title>Batch Processing Upload API Interface</title>
</head>

<body>

<form method="post" ENCTYPE="multipart/form-data"
action="https://www.beanstream.com/scripts/batch_upload.asp?serviceVersion=1%2E1&loginCompan
y=TestCompany&loginUser=Batchuser&loginPass=83247462&processDate=20030524">

<input type="file" name="batchFile">
<input type="submit" value="Upload File">

</form>

</body>
</html>
```

Sample HTML interface 2

A more advanced form allows the user to enter their own log-in credentials.

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">

<html>
<head>
	<title><% = titleText %></title>
<link rel="stylesheet" type="text/css" href="../style.css" />
<script language="JavaScript">
	function ConstructAction() {
		document.frmUpload.action =
"https://www.beanstream.com/scripts/batch_upload.asp?serviceVersion=" +
document.frmUpload.serviceVersion.value + "&loginCompany=" +
document.frmUpload.loginCompany.value + "&loginUser=" + document.frmUpload.loginUser.value +
"&loginPass=" + document.frmUpload.loginPass.value + "&processDate=" +
document.frmUpload.processDate.value
	}
</script>
</head>
<body bgcolor="#FFFFFF">
<%
call cardHead
call cardTop
%>
<form method="post" ENCTYPE="multipart/form-data" onSubmit="ConstructAction()" id="frmUpload"
name="frmUpload">
<table align="center" width="640" border="0" cellspacing="0" cellpadding="2">
	<tr><td width="95" rowspan="6"> </td><td>Service Version:</td><td><input type="text"
name="serviceVersion" value="1.1"></td></tr>
	<tr><td>Company:</td><td><input type="text" name="loginCompany" value=""></td></tr>
	<tr><td>Login:</td><td><input type="text" name="loginUser" value=""></td></tr>
	<tr><td>Password:</td><td><input type="password" name="loginPass"></td></tr>
	<tr><td>Processing Date:</td><td><input type="text" name="processDate"
value="20090630"></td></tr>
	<tr><td>Local File:</td><td><input type="file" name="fileName" ></td></tr>

	<tr><td colspan="3" align="center"><input type=submit value="Upload File"></td></tr>
	</form>

</table>

</body>
</html>
```

11.2 BATCH PROCESSING API RESPONSES

The Batch Processing API will respond with an XML formatted message containing a response code, a text description of the response code and a batch ID number. The eight digit batch ID number may be used as a reference to look-up the item in the Beanstream system. If the batch failed to upload, no ID number will be issued.

Sample response

```
<?xml version="1.1" encoding="ISO-8859-1"?>
<response>
<code>1</code>
        <message>File successfully received.</message>
        <batch_id>10000071</batch_id>
</response>
```

The API response messages will only indicate if a file has been successfully received by the Beanstream system. Use the batch processing report in the Beanstream membership area to review the status of individual items in the file. Even if a batch file is successfully received, data errors within the file may prevent items from processing successfully. To view the batch report, navigate to ***processing → batch processing***.

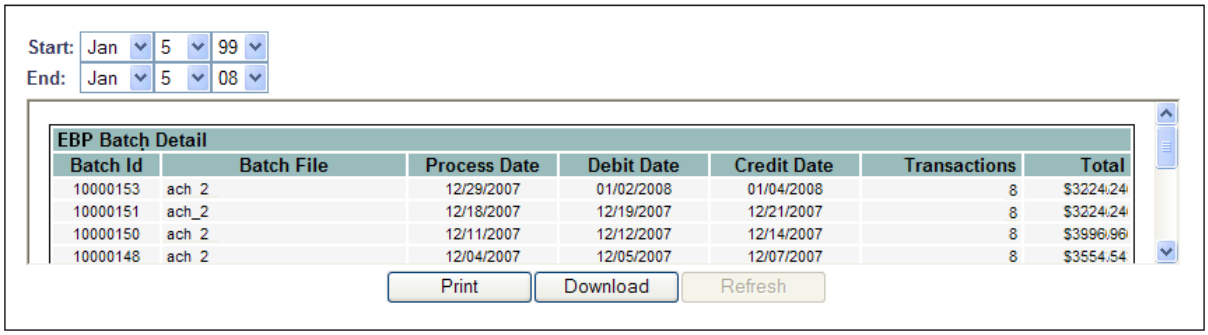
Table 20: Batch processing - API response codes

Code	Definition
1	File successfully received.
2	Secure connection required.
3	Service version not supported.
4	Invalid login credentials.
5	Insufficient user permissions.
6	Batch Processing service not enabled.
7	Invalid processing date.
8	Service is busy importing another file. Try again later.
9	File greater than maximum allowable size.
10	Unexpected error.
11	No batch file received in request.
12	Merchant account status cannot be Disabled or Closed for operation.
13	Upload rejected. File name is limited to 32 characters in length, including file type extension.

12 BATCH REPORTING

12.1 THE EBP/ACH BATCH REPORTING

The EBP/ACH Batch Report is a dedicated report for Beanstream's Direct Payment & ACH batch services. It is designed to provide a simple summary of completed files. Use this report to quickly review processing, debit and credit dates. You can also view the number of transactions included in each transaction file and see the total dollar value for each batch file. Use the *Start* and *End* fields to select the period of time to be covered by the report and click ***Refresh*** to generate a list of items. You can view a basic summary online, or click on the ***Download*** button to view additional information on returned items.



Sample online EBP & ACH Batch report covering the period from January 5, 1999 to January 5, 2008.

Refer to the following table for a description of each field.

Table 21: EBP / ACH batch reporting fields

Online column name	Download field name	Description
EBP batch detail		
Batch Id	N/A	A reference number used to identify individual batch files.
Batch File	N/A	An internal a reference number used for customer support purposes.
Process Date	N/A	This is the date that the file was sent to the banking network for processing.
Debit Date	N/A	The date that your business bank account was debited for the full batch file amount.

Online column name	Download field name	Description
Credit Date	N/A	The date that deposits were credited to the recipient bank account.
Transactions	N/A	The total number of individual transaction items in the file.
Total	N/A	The total dollar value of the batch file.
EBP returned item detail		
Batch Id	N/A	A reference number used to identify individual batch files.
Batch File	N/A	An internal a reference number used for customer support purposes.
Process Date	N/A	This is the date that the file was sent to the banking network for processing.
Debit Date	N/A	The date that your business bank account was debited for the full batch file amount.
Credit Date	N/A	The date that deposits were credited to the recipient bank account.
Transactions	N/A	The total number of individual transaction items in the file.
Total	N/A	The total dollar value of the batch file.

Table 22: EBP & ACH response messages

ID	Message	ID	Message
1	Invalid bank number	24	Transaction Canceled
2	Invalid branch number	25	Cannot Trace
3	Invalid account number	26	Incorrect Payor/Payee Name
4	Invalid transaction amount	27	Payor/Payee Deceased

ID	Message	ID	Message
5	Reference number too long	28	Invalid transit routing number
6	Invalid due date	29	Invalid Account Type
7	Due date out of valid date range	18	Transaction rejected by Bank
8	Customer name truncated to 32 characters	31	No Checking Privileges
9	Customer name missing	33	Edit Reject
10	Duplicate transaction matching bank account	30	Transaction type not permitted
11	Zero, negative or non-numeric amount	35	Reserved Return Code
12	Invalid bank and/or branch number	36	Payment Recalled
13	Payee/drawee name cannot be spaces	38	Not in accordance with agreement – Personal
14	Invalid payment code	39	Agreement revoked – Personal
15	Invalid transaction type	40	No pre-notification – Personal
16	Account Closed	41	Not in accordance with agreement – Business
17	NSF – Debit declined due to insufficient funds.	42	Agreement revoked – Business
19	Invalid bank, branch, or account number	43	No pre-notification – Business
20	Refused by payor	44	Customer Initiated Return Credit Only
21	Funds not cleared	45	Currency/Account Mismatch
22	Account Frozen	46	No Debit Allowed
23	Payment Stopped	47	Interbank – Returned Item

12.2 MORE REPORTING OPTIONS

Credit card batch items are recorded in the Beanstream Transaction Report and other standard reports under *reporting/analysis* in the member area. Most reports are designed to be intuitive. If you require assistance interpreting these standard reports, consult our Reporting guide.