OpenSync
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OpenSync

Introduction

OpenSync User's Guide

OpenSync provides the ability to synchronize multiple QuickBooks company files with multiple external Access, SQL Server, MySQL and Oracle databases. Changes made in QuickBooks are automatically replicated to the external database and changes marked in the database are automatically posted back to QuickBooks. OpenSync always treats QuickBooks as the database of record and will never overwrite updates made in QuickBooks.

OpenSync defines three fundamental concepts to support its operation. These are company files, databases, and tasks. Company files are QuickBooks company files and must be configured within OpenSync. Databases are either Access, SQL Server, MySQL or Oracle databases loaded with the OpenSync schema. A task is the fundamental unit of work. Each task defines a company file, a database, an operation, and scheduling information. OpenSync’s operation is defined by the configured tasks.

Tasks can be run either interactively through the OpenSync configuration program, on a scheduled basis by the OpenSync background processing service, or through the command line utility. The OpenSync service can be configured to run even without having to log on to the machine and can be controlled through the configuration program.

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QuickStart
Operations Guide
Background Service
Command Line Interface
Database Browser
Database Schema
Updating QuickBooks
Troubleshooting
FAQs

Quick Start

This section is designed to jump start your use of OpenSync by walking you through the creation of a task which populates your company data to an external database. The steps involved are:
**Installation Requirements**

**QuickBooks Requirements**
OpenSync relies on the QuickBooks qbXML programming interface (API) to ensure compatibility with all current and future versions of QuickBooks. Because of this, OpenSync must be installed on a machine with the full version of QuickBooks. OpenSync will not operate on servers configured to just host the company file as the QuickBooks API is implemented in the QuickBooks end user application.

OpenSync will work with all versions of QuickBooks greater than 2005 but does not support QuickBooks Simple Start Edition.

OpenSync will NOT work properly with the QuickBooks Sample company files as they manipulate the date internally and the Refresh logic will fail.

**Database Requirements**

**Access Databases** - OpenSync will work with Access 2002 and above. It is not required to have Access installed on the OpenSync machine.

**Microsoft SQL Server** - OpenSync supports MS SQL Server 2000 and above. An ODBC connection is required. SQL Express is also supported.

**MySQL** - OpenSync will run against a MySQL 5.x server running on any platform. You must install the MyODBC connector version 3.5 or later on the machine running OpenSync.

**Oracle** - OpenSync supports Oracle 10.X and above including Oracle Express Edition. The Oracle ODBC driver must be installed on the machine running OpenSync. OpenSync does not support the Microsoft ODBC driver for Oracle.
You can Start OpenSync from either the start menu in Windows or by clicking on the OpenSync Configuration shortcut on your desktop. If you are using a trial copy of the product or have not yet registered the product the registration screen will be displayed as show below.

If you are using the trial version and your trial has not expired, click Cancel to continue. If your trial has expired and you would like to continue to evaluate OpenSync please email your serial number to support@synergration.com for a trial extension code. Otherwise, enter your registration code and click Register. Instructions for obtaining a registration code can be found here.

OpenSync will start and the main screen will be displayed as show below.
The OpenSync screen uses three main areas to control the program operation, the Toolbar, the Treeview, and the Status area. The tree view allows you to select elements within OpenSync to view their status and add or change their configuration. The toolbar enables you to navigate the tree view and select operations based on the active node in the tree view. The status area will change depending on which node is selected in the tree view.

The tree view contains the following predefined nodes:

- **OpenSync** – This is the root or home node and will display the current system status
- **Databases** – Allows you to view and configure database
- **Company Files** – Allows you to view and configure company files
- **Tasks** – Allows you to view and configure tasks
- **Logs** – Allows you to view the system operating logs

---

**Create a Database**

OpenSync will only operate with databases created by it or another Synergration compatible product.

To add a database to OpenSync, either right click on the Databases node and select New as shown below, or select the Databases node and click on New in the toolbar.

OpenSync will then launch the Add Database wizard as shown in the following screens. Please follow the steps as described.
For this tutorial, select Access and click Next.

Select Create New Database and click Next.
Select the location and name of the Access database file you would like to create. You can select any name and location you like.

Finally, assign a name that OpenSync will refer to this database as. For this tutorial you should enter Access Test as the database name.

When you click on save, OpenSync will create the database and add it to the Databases node in the tree view. You can expand the Databases node to see it as shown below.
Now you’re ready to add a company file. Click on the link to the right to proceed.

Add a Company File

To add a company file to OpenSync, either right click on the Company Files node and select New as shown below, or select the Company Files node and click on New in the tool bar.

At this point, OpenSync will prompt you to make sure the company file is opened in QuickBooks and that you are logged in as the Admin user. For this tutorial, it is best to use one of the QuickBooks sample company files. This documentation is based on the QuickBooks Sample Product Based Company. When these conditions have been met, click Ok and QuickBooks will prompt you to enable access to the company file as show below.
On this screen, you should select the option "Yes, always; allow access even if QuickBooks is not running". This will enable OpenSync to execute tasks without having the company file open in QuickBooks. After you respond the the QuickBooks' prompts, the company will be added to OpenSync.

Now you're ready to create a task. Click on the link to the right to proceed.

Add a Task

To add a task to OpenSync, either right click on the Tasks node and select New as show below, or select the Tasks nodes and click on New in the toolbar.
OpenSync will then launch the Add Task wizard as shown in the following screens. The first step is to select the company file and database this task is to use. Select the company file and database you have just configured and click Next.

The next step is to select the operation you wish to perform using the selected company file and database. Leave the default operation set to Populate from QuickBooks, All Tables, and click Next.
Now you need to tell OpenSync how to schedule the task. For this tutorial, leave the task unscheduled.

Finally, you need to assign a name to this task. Enter the name Populate Test and click Save.
The task has now been defined and when you select the task in the tree view, the task status will be displayed as shown below.

At this point, you have configured a database, company file, and a task that operates on them. Now you're ready to run the task. To proceed, click on the link to the right.

Next Step>>
Run a Task

Tasks can be run either interactively or executed by the OpenSync service if they have been scheduled. For this tutorial, we will start the task interactively.

To run the task, either right click on the task node and select Run as shown below, or select the task in the tree view and click run on the tool bar.

At this point, the status area will revert to the main status screen and the progress of the task will be displayed as shown below.
Depending on the size of your company file, this task may run for up to an hour. The running status will continue to be updated as it progresses. You can always click Cancel if you do not want to wait for it to complete.

When your task has completed, you're ready to view the result. Click on the link to the right to proceed.

Next Step>>

See the Results

Viewing task status

To view the status of a task, select the task in the tree view. The task status screen will be displayed as show in figure 3.
The task status screen displays the configured task parameters along with its status. The status fields include:

- **Last Run Date** – Displays the date and time the task was last executed.
- **Last Run Status** – Displays the results of the last execution of the task
- **Next Run** – Displays the date and time the task is scheduled to run next
- **Details** – Displays selected tables or report parameters

**Viewing database status**

To view the database status, select the database in the tree view. The database status is displayed in the status area as shown below.
The database status screen displays configuration parameters along with a table status and the error table.

**Status List**

The status list displays the status for each table in the database. The columns include:

- **Last Updated** – This indicates the last time the table was populated or refreshed.
- **Pending Adds** – This indicates the number of records in the table with the STATUS column set to ADD. These records will be processed the next time an Update task for this table is run. If no value appears in this column then the add operation is not supported for this table.
- **Pending Updates** - This indicates the number of records in the table with the STATUS column set to UPDATE. These records will be processed the next time an Update task for this table is run. If no value appears in this column then the update operation is not supported for this table.
- **Pending Deletes** - This indicates the number of records in the table with the STATUS column set to DELETE. These records will be processed the next time an Update task for this table is run. If no value appears in this column then the delete operation is not supported for this table.

**Registration**

If you are using a trial copy of the product or have not yet registered the product the registration screen will be displayed when you start OpenSync.
If you are using the trial version and your trial has not expired, click Cancel to continue. If your trial has expired and you would like to continue to evaluate OpenSync please email your serial number to support@synergration.com for a trial extension code. Otherwise, enter your registration code and click Register.

In order to obtain a registration code, you can include your serial number when you place to order, or email the following information to support@synergration.com:

- Product name
- Product version
- One of the following:
  - Sales Receipt number (not the web site order number)
  - Name of company the purchased the product
  - Name of person that purchased the product

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**Operations Guide**

This section describes the configuration and interactive operation of OpenSync. These topics include:

Main Status Screen
Comapny Files
Databases
Tasks
Logs
Options

---

**Main Status Screen**
Main Status Screen

The OpenSync screen uses three main areas to control the program operation, the Toolbar, the Treeview, and the Status area as shown.

The tree view allows you to select elements within OpenSync to view their status and add or change their configuration. The toolbar enables you to navigate the tree view and select operations based on the active node in the tree view. The status area will change depending on which node is selected in the tree view.

The tree view contains the following predefined nodes:
- OpenSync: This is the root or home node and will display the current system status
- Databases: Allows you to view and configure databases
- Company Files: Allows you to view and configure company files
- Tasks: Allows you to view and configure tasks
- Logs: Allows you to view the system operating logs

The main status screen will be displayed when the OpenSync node is selected in the tree view. This screen displays the status of the OpenSync service along with the status of any currently executing tasks.

Company Files

Company Files

Company files are simply QuickBooks company files that have been configured for use with OpenSync.

Opensync can be used with multiple company files as long as they are all running the same version of QuickBooks and each is associated with a unique database.
Adding a company file

Adding a company File

To add a company file to OpenSync you must first open the company file in QuickBooks and log in as the Admin user. Next, either right click on the company file node and click new, or select the company file node and click New on the toolbar. OpenSync will prompt you to make sure the company is opened in QuickBooks and that you are logged in as the Admin user. When you click Ok to this prompt, QuickBooks will display the following prompt.

You must select one of the Yes options on this screen in order to allow OpenSync to access the company file. It is recommended that you select the option "Yes, always; allow access even if QuickBooks is not running". This will enable OpenSync to run tasks against the company file even if it is not open in Quickbooks.

If you have multiple users defined you must indicate which user OpenSync will connect to QuickBooks as. OpenSync requires full access to the company file data to operate properly. Because of this, we recommend either selecting the Admin user or creating an OpenSync user with full access to the company file data.

Company file status

Company file status

When a company file node is selected in the tree view, the company file status is displayed as shown.
This screen indicates the name, location, and tasks using this company file.

**Databases**

OpenSync will only operate with databases using the OpenSync Schema. Other Synergration products use this same schema including AccessBooks RealTime and AccessBooks Updater. OpenSync supports Access, Microsoft SQL Server, MySQL, and Oracle databases.

Database types other than Access can be located anywhere as long as an ODBC connection to them can be established by OpenSync. For remote database servers this may require reconfiguration of firewalls to enable access. Consult your database administrator for assistance with this.

This section describes how to create and configure databases for use with OpenSync.

The database schema is described in the Database Schema overview located here.

**Adding a database**

**Adding a Database**
To add a database for use with OpenSync either right click on the databases node and select New, or select the databases node in the tree view and click New on the toolbar. The Add Database wizard will start and walk you through the following screens.

You must first select the type of database you are adding. Information on supported database versions and their requirements can be found in the section on Installation Requirements.

![Add Database Wizard]

If you have previously created a database in OpenSync or are upgrading from either AccessBooks RealTime or AccessBooks Updater select "Add Existing Database". Otherwise select "Create New Database".

![Add Database Wizard]

Based on your database type, one of the following connection parameter screens will display. Enter your parameters according to the type of database you are using.
Access

Add Database

Access Database Location

Please select Access database file.

C:\\test.mdb

Browse

Selections

Access
Create new database

Microsoft SQL Server

Add Database

Connection Parameters

Specify connection string

Server name

Database Name

Use Integrated Security

User ID

Password

Selections

SQL Server
Create new database

MySQL Server
The final step in adding a database is to assign a name that OpenSync will use to refer to it. Each database name must be unique.
Database Status

To view the status of a database within OpenSync select the desired database node in the tree view. The database status screen will be displayed as shown.
The database status screen displays configuration parameters along with a table status and the error table.

**Status List**
The status list displays the status for each table in the database. The columns include:

- **Last Updated** – This indicates the last time the table was populated or refreshed.
- **Pending Adds** – This indicates the number of records in the table with the STATUS column set to ADD. These records will be processed the next time an Update task for this table is run. If no value appears in this column then the add operation is not supported for this table.
- **Pending Updates** - This indicates the number of records in the table with the STATUS column set to UPDATE. These records will be processed the next time an Update task for this table is run. If no value appears in this column then the update operation is not supported for this table.
- **Pending Deletes** - This indicates the number of records in the table with the STATUS column set to DELETE. These records will be processed the next time an Update task for this table is run. If no value appears in this column then the delete operation is not supported for this table.

**Error Table**
The Error Table displays all errors that occur when posting data back to QuickBooks. When this tab is activated buttons to clear the error table and view the details on an error are also activated.

**Browse DB Button**
This button will launch the OpenSync database browser. This utility enables you to view the actual data within the database in the relationships between tables and records. For more information on this utility please consult the section named Database Browser. NOTE: This utility may not function properly with large database.

**Tasks**
Tasks are the basic unit of work defined in OpenSync. Tasks perform operations on a company file and a database.

This section describes task operations, how to configure and run tasks and how to view the status of a task.

**Supported Operations**

**Populate**
Populate will delete all data in the selected table and repopulate it from the company file.

**Refresh**
Refresh queries QuickBooks for all new of modified data since the last populate or refresh operation. New records are added to the database and modified records are deleted and then reinserted into the database.
Update
The update operation is used to move changes made in the external database back to QuickBooks. The status column in each table must be set to either ADD, UPDATE, or DELETE in order for OpenSync to process a record. Not all of these operations are supported for every table. To see the supported operations for each table consult the section on Updating QuickBooks.

Refresh and Update
This operation will perform a Refresh followed by an Update. This is more efficient than scheduling each of these operations separately. If a record has been updated in QuickBooks and is flagged for processing by OpenSync by having the status column set, the pending update from OpenSync will be lost. OpenSync always treats QuickBooks as the database of record and will never overwrite updates made in QuickBooks.

Refresh Report
This operation is used to dump QuickBooks report data to a database table.

Adding a task

Adding a Task

To add a task to OpneSync either right click on the tasks node and select New, or select the tasks node in the tree view and click New on the toolbar. The Add Task wizzard will start and walk you through the following screens.

The first step is to select the company file and database the task will operate on.

![New Task Wizard](#)

Next you must select the operation to perform. Populate, Refresh, Update, and Refresh and Update operations will display the following parameters. Here you can select whether you want the operation to apply to all tables or only to specific tables.
Refresh Report operations will display the following parameter screen which allows you to specify the report to pull from QuickBooks and the database table name you wish to dump the report data to.

Click on the Select button in order to specify the report desired and to configure it’s parameters. At this point, there will be a delay while OpenSync connects to the specified company file. Once the connection has been established you can select the type of report desired. When a report has been selected the other tabs will be enabled which allow you to specify additional filters and parameters for the report. If you wish
to refresh a report using filters or non-default parameters, you must first memorize the report by setting the parameters and clicking on the Memorize button.

The next step in adding a task is to set the task schedule. If the task is not scheduled it will only be run when it is manually invoked through OpenSync as described in the Running a Task section. Tasks that have been scheduled for operation will be automatically run by the OpenSync Service when it is active. Consult the section about the OpenSync Service for more information about how scheduled tasks are run.
The final step in adding a task is to assign the task a unique name. Once you enter the task name, click on Save to complete the task configuration.

**Editing a task**
**Editing a Task**

In order to change the parameters for a task, select the task in the tree view and click the Edit button as shown.

This will activate the Edit task window which allows you to change the operation, parameters, and scheduling of the task.

---

**Running a task**
Running a Task

Tasks can be run either interactively or executed by the OpenSync service if they have been scheduled. This section describes how to run a task interactively. For more information about tasks run by the OpenSync service please consult the section titled Background Service.

To run the task, either right click on the task node and select Run as show below, or select the task in the tree view and click run on the tool bar.

![Open Sync Configuration](image)

At this point, the status area will revert to the main status screen and the progress of the task will be displayed as shown below. This screen allows you to monitor and cancel the operation of a task run interactively.
Task status

**Task Status**

To view the status of a task, select the task in the tree view. The task status screen will be displayed as show in figure 3.
Task Status

The task status screen displays the configured task parameters along with its status. The status fields include:

- **Last Run Date** – Displays the date and time the task was last executed.
- **Last Run Status** – Displays the results of the last execution of the task.
- **Next Run** – Displays the date and time the task is scheduled to run next.
- **Details** – Displays selected tables or report parameters.

Logs

The CoreobjXDB log file contains information on events that occur when updating the external database from QuickBooks data.

Log entries are classified into one of three types, information, warnings, and errors.

- **Information** - Provides general information regarding operations to the external database.
- **Warnings** - Indicates non-critical failures.
- **Errors** - Indicates critical failures in the database operations.
Details for a specific log entry can be viewed by double clicking on the date stamp for the log entry.

Common warnings and errors

- **ERROR:** Item cannot be found in the collection corresponding to the requested name or ordinal:
  This error indicates that the field from QuickBooks is not defined in the OpenSync database schema. This can occur due to enhancements made by Intuit to the QuickBooks API which have not been added to the OpenSync schema. Generally you can add the indicated column to the indicated table to eliminate this warning.

**OpenSync Log**

The OpenSync log file contains information about the execution of OpenSync tasks. This is particularly useful for monitoring tasks that are scheduled and executed by the OpenSync Service.

Log entries are classified into one of three types, information, warnings, and errors.

- **Information** - Provides general information regarding operations to the external database.
- **Warnings** - Indicates non-critical failures.
- **Errors** - Indicates critical failures that occur during OpenSync operation.

Details for a specific log entry can be viewed by double clicking on the date stamp for the log entry.

Common warnings and errors

- **Could not start QuickBooks.: -2147220472:** This error occurs when a Task cannot establish a connection to the required company file. There are several causes for this error. More information and corrective action is discussed in the section on **Trouble Shooting**.

**QuickBooks Log**

The QuickBooks log contains information on all programmatic requests made to QuickBooks. This is a system wide log file and may contain information pertaining to other applications that integrate with QuickBooks as well as all API requests made by OpenSync.

The CoreobjXDB log file contains information on errors that occur when updating the external database from QuickBooks data.

Log entries are classified into one of three types, information, warnings, and errors.
Information - Provides general information regarding operations to the external database.

Warnings - Indicates non-critical failures.

Errors - Indicates failures that occur during QuickBooks API calls. Unfortunately, QuickBooks does not adequately describe API errors and many of these errors are non-critical or in some cases just due to bugs in QuickBooks. If you have concerns regarding a specific error that appears in the QuickBooks log, please contact support@synergration.com

Details for a specific log entry can be viewed by double clicking on the date stamp for the log entry.

Common warnings and errors

- Attribute ‘iterator’ is not declared for element ...: This is a non-critical error that is caused by OpenSync when it attempts to query a table in blocks and QuickBooks does not support block queries against that table.
- This feature is not enabled or not available in this version of QuickBooks.: This is a non-critical error caused by requests made to QuickBooks by OpenSync which are either not enabled in the current company file or not supported by your version of QuickBooks. Unfortunately, QuickBooks does not allow an application to query the status of all features so OpenSync must make calls which fail in order to determine a particular feature's availability.

Options

Options the control various aspects of OpenSync's operation can be set using the menu item File - Options.

XML Tracing - This feature provides the ability to log all XML requests and Responses between OpenSync and QuickBooks. It can very useful in diagnosing problems. Be aware that by enabling this setting, confidential information may be save in an enencrypted manor on your hard drive. All XML trace files are saved to one of the following folders depending on your operating system.

Windows XP and Server 2003
C:\Documents and Settings\All Users\Application Data\Synergration\OpenSync\Logs

Windows Vista, 7 and Server 2008
C:\Program Data\Synergration\OpenSync\Logs

Trace Refreshes - This setting will record all Refresh operations. The file format is: Refresh TableName.XML

Trace Updates - This setting will record all Update operations. The file format is: Update TableName.XML

Trace Reports - This setting will record all Refresh Report operations. The file format is: Report.XML
**Background Service**

The OpenSync background service is an executable that runs scheduled tasks at the assigned time. It is implemented in the OSRunner.EXE file located in the installation folder. This process can be loaded interactively through the OpenSync configuration program or at system startup using the Windows Task Scheduler. More information regarding these options is discussed in the following sections.

The QuickBooks API is single threaded and as a result, only a single task may be running at any given time. The background service insures that tasks are sequentially executed. Thus, even if you have multiple tasks scheduled to run every minute, OpenSync will insure that one task completes before another is started.

**Starting the service interactively**

The main status screen allows you to start, stop, pause and resume the background service. The service status is always displayed in the status bar at the bottom of the main window. The service must be stopped or paused before running a task interactively. Starting the service from the OpenSync configuration program will cause it to run in the interactive user’s session.

**Configuring the service to run at system startup**

The QuickBooks API is single threaded and as a result, only a single task may be running at any given time. The background service insures that tasks are sequentially executed. Thus, even if you have multiple tasks scheduled to run every minute, OpenSync will insure that one task completes before another is started.
The OpenSync background service can be configured to run at system startup by using the Windows Scheduling service. When configuring the task, select OSRunner.Exe as the task executable. This file is located in the OpenSync installation folder. If you schedule this task to run at system startup you will need to designate which Windows user the task will run as. This user must have access rights to be able to log on and run QuickBooks interactively. Without these rights, OpenSync tasks will fail with a "Could not start QuickBooks" error.

If OpenSync is scheduled to run at system startup as user A and you then log on to the computer as user B and open QuickBooks, OpenSync tasks may fail due to an authentication error in QuickBooks. We strongly discourage running QuickBooks interactively while the OpenSync service is running.

---

**Command Line Interface**

The OpenSync utility program OSRun.EXE can be used to run a task from the command line and to control the background service. This utility is installed in the installation folder.

### Run a task

```
OSRun TaskName
```

Where `TaskName` is the name of a task which has been configured in OpenSync. Please note that task names are not case sensitive. In order to run a task from the command line the background service must be in either a Paused or Stopped state otherwise an error will occur. OSRun will set the exit code to a non-zero value if the task does not complete successfully. All operations invoked by OSRun will also be logged in the OpenSync log.

### Pause the OpenSync Service

```
OSRun /Pause
```

This command will pause the OpenSync background service. If the background service is currently executing a task, this command will hang until the task execution has completed and the service can be paused.

### Resume The OpenSync Service

```
OSRun /Resume
```

This command will resume the OpenSync background service. An error will occur if the service is not in the Paused state.

---

**Database Browser**

The OpenSync database browser is meant primarily as a tool to understand the database schema. Although it can be used to browse your actual company data, large company files may cause it fail. In this case, we recommend dumping one of the QuickBooks sample company files to an Access database in order to browse the schema and understand the table relationships.
Starting the Browser

The browser can be started from the Windows Start Menu or by clicking the Browse DB button in the database status window as show.

This will open the browser in a separate application window.

Browser Operation

The following screens were generated from a database populated with the QuickBooks Sample Product Based Business company file.
The browser screen consists of a tree view listing all of the database tables on the left, and one or more table grids on the right. When you select a table in the tree view, the topmost grid on the right will display the data from that table. All child tables of the selected table will be displayed in a series of tabs on the bottom section on the right.

Right clicking on any of the table grid displays will activate a popup menu that allows you to configure the displayed columns and navigate to other referenced records.

When you select the customer or vendor table in the tree view, the bottom half of the table display will allow you view transactions posted for that entity.

Database Schema

Database Schema

OpenSync will only operate with databases configured with the OpenSync schema. This schema mirrors the schema used by QuickBooks and is drive directly from the QuickBooks XML schema. Several tools are available to help you understand the schema. These include:

- The topics in this section provide an overview of the schema and characteristics common across all tables.
- The Intuit qbXML specification - Since the database schema is driven directly from the qbXML specification, the Intuit documentation is a great resource for understanding the specific contents of any given field.
Overview

Schema - Overview

The topics in this section are meant to provide an introduction to characteristics of the schema common to all database tables. This includes:

- Table types
- Primary Keys
- Relationships
- Indexes
- Working with Items
- Custom Fields
- Adding Tables and Fields
- Report Tables

Table Types

Schema - Table Types

There are five fundamental table types in the OpenSync schema. These are:

- List Tables
  List tables contain QuickBooks data entities (customers, employees, other names and vendors), items, and other QuickBooks list elements.

- Transaction tables
  Transaction tables contain QuickBooks data for transactions such as invoices, bills, check, etc.

- Child Tables
  Child tables are always related to either a list or transaction table. The table name for child tables always ends with the word "detail". Examples of child tables include: InvoiceLinedetail, and ItemGroupLineDetail.

- System Tables
  System tables include the history and error_table and are used by OpenSync to track the table status and the status of QuickBooks updates respectively.

Primary Keys

Schema - Overview
Although the default schema does not define any primary keys, most tables do contain them. Here are the general rules regarding primary keys.

**List Tables**
ListID is the primary key. The FullName(where used) or Name field is also a unique key for these tables.

**Transaction tables**
TxnID is the primary key.

**Child Tables**
Child tables used in transactions contain a field named TxnLineID which is a primary key. Child tables without this field do not contain a primary key.

**System Tables**
System tables do not include a primary key.

If desired, you can define these fields as primary keys to the database.

---

**Relationships**

**Schema - Relationships**

There are two primary relationship type in the schema.

**Parent Child relationships**
These relationships link a parent table to one or more child tables. They can apply to both list and transaction tables. The format for these relationships is:
- `Parent.ListID -> Child.IDKEY` for list tables
- `Parent.TxnID -> Child.IDKEY` for transaction tables

**Reference relationships**
These relationships link list entries to other list or transaction tables. The format these links use is:
- `TableNameRef_ListID`
- `TableNameRef_FullName`

*TableName* will indicate the table being referenced. For example, the column named `CustomerRef_ListID` refers to the `ListID` field in the customer table.

For related tables that do not contain a FullName column, the `Ref_FullName` column will refer to the `Name` column in the target table.

**Adding Relationships**
Relationships defined within the database schema are not support to referential integrity constraints. You should only define the relationships to be used within your queries.

---

**Indexes**
Schema - Indexes

The OpenSync schema defines indexes on primary keys to improve the system performance. You can create additional indexes as you see fit.

Working with items

Schema - Working with Items

Based on the convoluted manner in which QuickBooks handles items some additional points are worth addressing.

ItemTypes - QuickBooks defines multiple types of items for use in transactions each with its own set of attributes. These include:

- Discount
- FixedAsset
- Group
- Inventory
- InventoryAssembly
- NonInventory
- OtherCharge
- Payment
- SalesTax
- SalesTaxGroup
- Service
- Subtotal

In addition, a base item is defined which contains the ListID, FullName, and Type of every item.

Most of the attributes of the different item types are straightforward. The tricky ones are NonInventory, OtherCharge, and Service types. These contain different attributes based on the way the item is configured in QuickBooks. For these types of items, the description, pricing, and GL account information will be stored in one of two child tables, either the SalesAndPurchaseDetail or SalesAndPurchaseDetail tables. The standard child relationship formats are used for these relationships in the schema. Examples from the QuickBooks Sample Product Based Business company file of NonInventory items which exhibit these qualities are as follows:

Blueprints contains an entry only in the SalesOrPurchaseDetail table
ItemNonInventory.ListID -> SalesOrPurchaseDetail.IDKEY
Subs:Carpet contains an entry only in the SalesAndPurchaseDetail table
ItemNonInventory.ListID -> SalesAndPurchaseDetail.IDKEY

Custom Fields

Schema - Custom Fields

QuickBooks supports custom fields on both list elements and transactions (as long as they are configured on the template used for the transaction). Working with custom fields can be tricky based on the way that QuickBooks returns them through the API and the fact that they can be changed and renamed at any time.
Custom field definitions are always returned by QuickBooks in alphabetical order by name. Consider the case where you have the following custom fields defined for inventory items in QuickBooks:

Material
Size
Color

QuickBooks will return them in alphabetical order as Color, Material, and Size. They will appear in the ItemInventory table in the following columns:

```
CustomField1 = Color
CustomField2 = Material
CustomField3 = Size
```

If you were then to add a new custom field in QuickBooks named Pattern, the custom field mappings would become:

```
CustomField1 = Color
CustomField2 = Material
CustomField3 = Pattern
CustomField4 = Size
```

Furthermore, if you were then to rename the field Color to Shade, the new custom field mapping would become:

```
CustomField1 = Material
CustomField2 = Pattern
CustomField3 = Shade
CustomField4 = Size
```

If you then ran a refresh task any new or modified records would have a different custom field mapping from records which had previously extracted. For this reason, any time custom field names are modified in QuickBooks, you must repopulate the affected table in order to insure proper mapping of custom fields. This same reasoning applies to transaction tables that use custom fields in their template definitions.

The custom field definitions from QuickBooks are stored in the table named DataExtDef.

---

**Adding Tables and Fields**

**Schema - Adding Tables and Fields**

Adding fields to existing tables is not supported as a populate or refresh operation will delete and data stored in those columns.

We do not recommend adding tables to the database as future versions of QuickBooks may require schema changes and the easiest way to accommodate these is to recreate and repopulate the OpenSync database.

The recommended way to add linked information to the OpenSync tables is to create additional tables in a separate database and then link those tables through either the ListID or TxnID fields. Where it is necessary to update linked data elements when changes are made in QuickBooks we recommend the use of database triggers.
Report Tables

Schema - Report Tables

Report tables store report data extracted from QuickBooks. These tables are created by OpenSync based on the report data returned from QuickBooks. A column in the table will be created for each column in the report. In addition, a column named RowType will always be created and indicates the type of data contained in that row. Valid values are TEXT, DATA, and SUBTOTAL.

Updating QuickBooks

Overview of Updating QuickBooks

OpenSync creates a database which parallels the structure of QuickBooks. In order for OpenSync to process a record back to QuickBooks, the status column must be set to ADD, UPDATE, or DELETE depending on how you want the record handled. Not all of these operations are support for all tables. The best way to determine which operations are supported by your version of OpenSync is to view the database status. The database status displays the pending operations for each table in the database. Columns which contain no values are not supported. For example:
This status display indicates that the only supported operations in this version are:

- **Account** - ADD
- **Bill** - ADD and UPDATE
- **Check** - ADD and UPDATE

When adding a record to QuickBooks very few columns are actually required. Where appropriate, OpenSync will default all values. For example, when adding an Invoice you only need to specify the CustomerRef. All other fields from the customer such as billing address and terms will be.

Records are processed by OpenSync in a very consistent manner. Rules which apply to all tables include:

- **Transaction numbers (Invoice #’s, Sales Order #’s and such in QuickBooks) are mapped to the RefNumber field.**
- **All List Entries in QuickBooks contain a friendly name (i.e. John Doe) and a ListID (i.e. AB43-3500443464). Generally users will populate the FullName field. Note: Any time you are populating such a field you must be sure the item or entity exists in QuickBooks otherwise the process will fail.**
- **All parent/child relationships are maintained using the TxnID or ListID (depending if it is a transaction or list item) and linking that with the IDKEY field in the child table. When adding new records to QuickBooks you are free to populate these values with any random string you so choose. So for example you wish to enter a new invoice. You will insert a random value, say "123" in the TxnID for that record. Then, in the InvoiceLineDetail table, you will enter "123" in the IDKEY field for each line item you create for the invoice.**
- **The Status field serves as a flag, indicating whether or not a record is to be added or updated (if permitted). This field holds 4 relevant values: ADD, UPDATE, DELETE or [Null/Blank]. If status is set to ADD then OpenSync will attempt to add the record to QuickBooks. If it is set to UPDATE then OpenSync will attempt to update the record in QuickBooks. If updating, the official TxnID or ListID must be present for that record which means you will have had to have created the record using OpenSync (as OpenSync will return that value with a successful add) or have used AccessBooks or AccessBooks RealTime to extract those values from QuickBooks. OpenSync cannot look up transactions by RefNumber or Entities by FullName. If the status column is set to DELETE, OpenSync will attempt to delete the record from QuickBooks. If the status field is empty or populated with anything other then ADD, UPDATE, or DELETE the record will be ignored.**
- **If the Ref_ListID is populated for a certain list entry, OpenSync will use that value exclusively and the operation will fail if the ListID is not valid. If the Ref_ListID column is blank of null, the REF_FullName column will be used to evaluate the reference.**
- **The TxnNumber field is an internal number used by QuickBooks.**
The EditSequence field is used by QuickBooks to insure updates made within QB do not get overwritten by updates from OpenSync. Every time a record is updated in QB, the EditSequence field is incremented. If an update is attempted and the EditSequence fields do not match, OpenSync will fail the update with message indicating the EditSequence values do not match. Although not recommended, this behavior can be overridden by setting the EditSequence field to NULL. This will overwrite any data in QB with the data from the database.

QuickBooks is always considered the database of record. If a record is updated in QuickBooks and the same record is marked for updating by OpenSync, the OpenSync update will fail. This logic is implemented using the column named EditSequence. Every time a record is updated in QuickBooks this field is incremented. When OpenSync attempts to update a record in QuickBooks the EditSequence field from the database is compared to that in QuickBooks. If the numbers do not match, the update will fail. Although it is not recommended, you can override this update check by setting the EditSequence column to null in the database.

All errors that occur during an update process are logged in the error_table. This table can be accessed from the Error Table tab in the database status window as shown below.
Fields included are:

- Err_Num - an numeric identifier for the error
- Error_Table - the table the error was detected in
- Error Filed - the field within the table that caused the error
- Error_Desc - a description of the error
- IDKEY - The ListID or TxnID of the record that caused the error

Entities

Processing Entities

Entities in QuickBooks consist of Customers, Employees, Other Names, and Vendors. When adding entities you must be sure to populate the Name field regardless of the entity you are trying to add. If the name already exists in QuickBooks an error will be returned.

Customers

Customer

If you wish to add a "job" or a "sub-level" customer you must add the full name of the parent in the ParentRef_FullName field. For example, if you want to add a job named MyJob under the customer name Synergration, you would place 'MyJob' in the Name field and 'Synergration' in the ParentRef_FullName field. If you would like to add a job to a preexisting job then you include the customer and the parent job in the ParentRef_FullName field seperated by colons. For example if you wanted to add a job named 'Part-A' to the previously created job MyJob, then you would insert 'Part-A' in the Name field and 'Synergration:MyJob' in the ParentRef_FullName field. The same logic applies to Items.

Customers also provide [custom field support](#) and the ability to rename the customer.

Supported Fields

- Customer Table
  - AccountNumber
  - AltContact
  - AltPhone
  - BillAddress Fields
  - CompanyName
  - Contact
  - CreditCardAddress (QB 2003 or greater)
  - CreditCardNumber (QB 2003 or greater)
  - ExpirationMonth (QB 2003 or greater)
  - ExpirationYear (QB 2003 or greater)
  - NameOnCard (QB 2003 or greater)
  - CreditCardPostal (QB 2003 or greater)
  - Email
  - Fax
  - FirstName
  - IsActive
  - JobDesc
  - JobEndDate
  - JobProjectedEndDate
  - JobStartDate
  - ListID (Required)
Employees

Employee

Employees also provide custom field support.

Employees cannot be renamed.

Supported Fields

- Employee Table
  - AccountNumber
  - AltPhone
  - EmployeeAddress Fields
  - BirthDate
  - Email
  - FirstName
  - LastName
  - ListID (Required)
  - MiddleName
  - Name (Required)
  - First Time Add Only Fields
    - HiredDate
    - ReleasedDate
    - SSN

Other Names

Other Names

Supported Fields

Other Names cannot be renamed.

- OtherName Table
  - AccountNumber
  - AltPhone
  - AltContact
  - CompanyName
  - Contact
  - Fax
- Phone
- Contact
- OtherNameAddress Fields
- Email
- FirstName
- LastName
- ListID *(Required)*
- MiddleName
- Name *(Required)*

Vendors

Vendor

Vendors also now provide custom field support and the ability to rename the vendor.

Supported Fields

- Vendor Table
  - AccountNumber
  - AltContact
  - AltPhone
  - VendorAddress Fields
  - CompanyName
  - Contact
  - Email
  - Fax
  - FirstName
  - ListID *(Required)*
  - LastName
  - MiddleName
  - Name *(Required)*
  - Notes
  - Phone
  - ResaleNumber
  - Salutation
  - First Time Add Only
  - Terms ListID or FullName

Items

Processing Items

The following item types are currently supported by OpenSync:

- Discount Items
- Inventory Items
- Non-Inventory Items
- Other Charge Items
- Service Items

When you select to process items in OpenSync all five of these tables will be queried and any data set to be added or modified will be processed.

Non-Inventory, Other Charge, and Service items link to the SalesAndPurchaseDetail and SalesOrPurchaseDetail table. You will have to choose which level of detail applies to the item you are trying to create and populate that table accordingly.
Note: While functionality exists to update certain item information you must be running QuickBooks 2004 in order to update Other Charge and Discount items.

Discount Items

Discount Items also now provide custom field support.

Supported Fields

- ItemDiscount Table
  - Account ListID or FullName (Required)
  - SalesTaxCode ListID or FullName
  - ListID (Required)
  - Name (Required)
  - ParentRef FullName or ListID

First Time Add Only
  - Amount
  - AmountIsPercent
  - Description

Inventory Items

Inventory Items also now provide custom field support.

Supported Fields

- ItemInventory Table
  - AssetAccount ListID or FullName (Required)
  - CogsAccount ListID or FullName (Required)
  - PurchaseCost
  - PurchaseDescription
  - ReorderPoint
  - SalesDescription
  - SalesPrice
  - SalesTaxCode ListID or FullName
  - PrefVendor ListID or FullName
  - ListID (Required)
  - Name (Required)
  - ParentRef FullName or ListID

First Time Add Only
  - Income Account ListID or FullName (Required)

Non-Inventory Items

Non-Inventory Items also now provide custom field support.
**Supported Fields**

- **ItemNonInventory Table**
  - Name (Required)
  - ParentRef FullName or ListID
  - ListID (Required)
  - SalesTaxCode ListID or FullName (Required)

- **SalesAndPurchaseDetail Table**
  - PurchaseCost
  - PurchaseDescription
  - PrefVendor ListID or FullName
  
First Time Add Only
  - ExpenseAccount ListID or FullName (Required)
  - IncomeAccount ListID or FullName (Required)

- **SalesOrPurchaseDetail Table**
  - Amount
  - AmountIsPercent
  - Description
  
First Time Add Only
  - Account ListID or FullName (Required)

---

**Other Charge Items**

**Supported Fields**

- **ItemOtherCharge Table**
  - Name (Required)
  - ParentRef FullName or ListID
  - ListID (Required)
  - SalesTaxCode ListID or FullName (Required)

- **SalesAndPurchaseDetail Table**
  - PurchaseCost
  - PurchaseDescription
  - PrefVendor ListID or FullName

First Time Add Only
  - ExpenseAccount ListID or FullName (Required)
  - IncomeAccount ListID or FullName (Required)

- **SalesOrPurchaseDetail Table**
  - Amount
  - AmountIsPercent
  - Description

First Time Add Only
  - Account ListID or FullName (Required)

---

**Service Items**

**Supported Fields**

Service Items also provide [custom field support](#).
Supported Fields

- ItemService Table
  - Name **(Required)**
  - ParentRef *FullName or ListID*
  - ListID **(Required)**
  - SalesTaxCode *ListID or FullName **(Required)***
- SalesAndPurchaseDetail Table
  - PurchaseCost
  - PurchaseDescription
  - PrefVendor *ListID or FullName*
  - SalesTaxCode *ListID or FullName **(Required)***

First Time Add Only

- ExpenseAccount *ListID or FullName **(Required)***
- IncomeAccount *ListID or FullName **(Required)***

-SalesOrPurchaseDetail Table
  - Account *ListID or FullName **(Required)***

First Time Add Only

- Account *ListID or FullName **(Required)***

Other Lists

Other list items include elements which QuickBooks uses when adding entities and transactions. These include:

- Accounts
- Class codes
- Payment methods
- Price levels

Accounts

Supported Fields

- Account Table
  - Name **(Required)**
  - Parent
  - BankNumber
  - AccountNumber
  - AccountType **(Required)**
  - IsActive
  - Description

Transactions
Processing Transactions

This section covers the transactions supported for Updating by OpenSync.

Bill Payments

Bill Payment

The Bill Payment transaction provides you two options depending on the payment method, namely: BillPaymentCheck and BillPaymentCreditCard. Since payments are naturally applied to previous transactions you will have to pull the TxnID of the transaction(s) you would like to apply the payment to from the AppliedToTxn table.

Supported Fields

- BillPaymentCheck/CreditCard Table

  - APAccount ListID or FullName
  - TxnID (Required) □ Links to IDKEY from AppliedToTxn table
  - IsToBePrinted (0 □ False : 1 □ True)
  - Memo
  - PayeeEntity ListID or FullName (Required)
  - RefNumber
  - TxnDate
  - BankAccount ListID or FullName - Check Table (Required)
  - CreditCardAccount ListID or FullName - Credit Card Table (Required)

- AppliedToTxn Table

  You should only have to populate the IDKEY field as all the fields in this table are transactions which already exist in QuickBooks.

  - Amount
  - TxnID
  - DiscountAccount ListID or FullName
  - DiscountAmount
  - RefNumber
  - TxnDate
  - IDKEY (Required) □ Links to TxnID from BillPaymentCheck or CreditCard table.

Bills

Bill

If you are updating you will need to have the QuickBooks assigned TxnID listed for the selected record. To post a bill you will need to include at least one item line or expense line and so you will insert a random number into the TxnID field in the Bill table and insert the same number into either the TxnItemLineDetail table and/or the TxnExpenseLineDetail tables in the IDKEY field.

Supported Fields

- Bill Table

  - APAccount ListID or FullName
  - DueDate
Checks

To post a check you will need to include at least one item line or expense line and so you will insert a random number into the TxnID field in the Check table and insert the same number into either the TxnItemLineDetail table and/or the TxnExpenseLineDetail tables in the IDKEY field.

Supported Fields

- Check Table
  - Account ListID or FullName
  - Amount
  - Address Fields
  - Memo
  - RefNumber
  - PayeeEntity ListID or FullName (Required)
  - TxnDate
  - TxnID (Required) - Links to IDKEY in TxnItemLineDetail or TxnExpenseLineDetail
  - IsToBePrinted
- TxnItemLineDetail
  - Amount
  - Class ListID or FullName
  - Cost
  - Customer ListID or FullName
  - Description
  - Item ListID or FullName
  - Quantity
  - IDKEY (Required) - Links to TxnID from Check table
- TxnExpenseLineDetail
  - Account ListID or FullName
  - Amount
  - Class ListID or FullName
  - Cost
  - Customer ListID or FullName
  - IDKEY - Links to TxnID from Check table
Credit Card Charges/Credits

Credit Card Charges / Credits

To post a credit card charge or credit you will need to include at least one item line or expense line and so you will insert a random number into the TxnID field in the CreditCard Charge/Credit table and insert the same number into either the TxnItemLineDetail table and/or the TxnExpenseLineDetail tables in the IDKEY field.

Supported Fields

- CreditCardCharge / CreditCardCredit Table
  - Account ListID or FullName
  - Memo
  - RefNumber
  - PayeeEntity ListID or FullName (Required)
  - TxnDate
  - TxnID (Required) - Links to IDKEY in TxnItemLineDetail or TxnExpenseLineDetail
  - TxnItemLineDetail
    - Amount
    - Class ListID or FullName
    - Cost
    - Customer ListID or FullName
    - Description
    - Item ListID or FullName
    - Quantity
    - IDKEY (Required) - Links to TxnID from CreditCardCharge / Credit table
    - TxnExpenseLineDetail
  - Account ListID or FullName
  - Amount
  - Class ListID or FullName
  - Cost
  - Customer ListID or FullName
  - IDKEY (Required) - Links to TxnID from CreditCardCharge / Credit table
- CreditMemo Table
  - ARAccount ListID or FullName
  - BillTo Address
  - Class ListID or FullName
  - Customer ListID or FullName (Required)
  - DueDate
  - FOB
  - IsPendingIsToBePrinted
  - Memo
  - PONumber
  - RefNumber
  - SalesRep ListID or FullName
  - SalesTaxCode ListID or FullName
  - SalesTaxItem ListID or FullName
  - ShipDate
  - ShipMethod ListID or FullName
  - ShipTo Address
  - Terms ListID or FullName
  - TxnDate
  - TxnID (Required) □ Links to the IDKEY field in the CreditMemoLineDetail table.

- CreditMemoLineDetail Table
  - Amount
  - Class ListID or FullName
  - Rate
  - RatePercent (0 □ False : 1 □ True)
  - Item ListID or FullName (Required)
  - Description
  - Quantity
  - SalesTaxCode ListID or FullName
  - IDKEY (Required) □ Links to the TxnID field in the CreditMemo table

---

**Deposits**

**Deposit**

To post a deposit you will need to include at least one deposit line item. These lines are held in the DepositLineDetail table. Like other child/parent relationships in the ABU database structure you will link the value in the Deposit:TxnID field to the DepositLineDetail:IDKEY field.

**Supported Fields**

- Deposit Table
  - TxnDate
  - TxnID (Required) □ Links to the IDKEY field in the DepositLineDetail table.
  - Memo
  - DepositToAccount (Required)

- DepositLineDetail Table
  - Account ListID or FullName (Required)
  - Amount (Required)
  - CheckNumber
  - Class ListID or FullName
  - IDKEY (Required) □ Links to the TxnID field in the Deposit table.
**Estimates**

**Estimate**

**Supported Fields**

- Estimate Table

  - BillAddress Fields
  - Class ListID or FullName
  - Customer ListID or FullName *(Required)*
  - CustomerMessage
  - DueDate
  - FOB
  - Memo
  - PONumber
  - RefNumber
  - SalesRep
  - SalesTaxCode ListID or FullName
  - SalesTaxItem ListID or FullName
  - Terms
  - TxnDate
  - TxnID *(Required)* □ Links with IDKEY in EstimateLineDetail table

- EstimateLineDetail Table

  - Class ListID or FullName
  - Rate
  - CostIsPercent *(Rate Is Percent)*
  - IDKEY *(Required)* □ Links with TxnID in Estimate table
  - Item *(Required)*
  - Desc
  - Quantity
  - SalesTaxCode ListID or FullName

**Inventory Adjustments**

**Inventory Adjustment**

**Note:** you must be in single user mode in order to initiate an inventory adjustment.

**Supported Fields**

- InventoryAdjustment Table

  - Account ListID or FullName
  - Class ListID or FullName
  - Customer ListID or FullName
  - Memo
  - RefNumber
  - TxnDate
  - TxnID *(Required)* □ Links with IDKEY in InventoryAdjustmentLineDetail

- InventoryAdjustmentLineDetail Table

  - Item ListID or FullName *(Required)*
- QuantityDifference *(Required)*

**Invoices**

**Invoice**

**Supported Fields**

- Invoice Table
  - ARAccount ListID or FullName *(Required)*
  - BillAddress Fields
  - Class *ListID or Fullname*
  - Customer *ListID or Fullname *(Required)*
  - CustomerMessage
  - DueDate
  - FOB
  - Memo
  - IsPending
  - IsToBePrinted
  - PONumber
  - RefNumber
  - SalesRep
  - SalesTaxCode *ListID or Fullname*
  - SalesTaxItem *ListID or Fullname*
  - ShipAddress Fields
  - Terms
  - TxnDate
  - TxnID *(Required)* | Links with IDKEY in InvoiceLineDetail table

- InvoiceLineDetail Table
  - Class ListID or Fullname
  - Rate
  - RatePercent
  - IDKEY *(Required)* | Links with TxnID in Invoice table
  - Item *ListID or Fullname *(Required)*
  - Desc
  - Quantity
  - SalesTaxCode *ListID or Fullname*

**Journal Entries**

**Journal Entry**

**Supported Fields**

- JournalEntry Table
  - TxnID *(Required)* | Links to IDKEY in the JournalEntry (C/D) LineDetail table.
  - Memo
  - RefNumber

- Journal Credit/Debit LineDetail Table
  - Account *ListID or Fullname *(Required)*
  - Amount *(Required)*
  - Class *ListID or Fullname*
  - Entity *ListID or Fullname*
- IDKEY (Required) □ Links to TxnID in the JournalEntry table.
- Memo

Purchase Orders

Purchase Order

Supported Fields

-PurchaseOrder Table

- ShipAddress Fields
- Class ListID or FullName
- Vendor ListID or FullName (Required)
- CustomerMessage
- DueDate
- ExpectedDate
- FOB
- IsToBePrinted
- Memo
- RefNumber
- SalesRep
- ShipMethod ListID or FullName
- ShipToEntity ListID or FullName
- Terms
- TxnDate
- TxnID (Required) □ Links with IDKEY in PurchaseOrderLineDetail table

-PurchaseOrderLineDetail Table

- Class ListID or FullName
- Rate
- Customer ListID or FullName
- IDKEY (Required) □ Links with TxnID in PurchaseOrder table
- Item ListID or FullName (Required)
- Desc
- Quantity
- ServiceDate

Receive Payments

Receive Payment

Note: If you wish to apply your receive payment to a specific transaction you will have to have the TxnID of the transaction you wish to apply the payment to. This can be achieved one of two ways:

- By initially creating the transaction using ABU (as opposed to using the QuickBooks user interface).
- By using OpenSync or AccessBooks RealTime to extract your transaction data and their corresponding TxnID's.

The alternative is to apply the receive payment to the oldest unpaid transactions for that customer. This does not require the extraction of the specific transaction ID’s and can be performed by entering "APPLYALL" in the EditSequence field.
Supported Fields

- ReceivePayment Table

- ARAccount ListID or FullName
- Customer ListID or FullName (Required)
- DepositToAccount ListID or FullName
- TxnID (Required) □ Links to IDKEY from AppliedToTxn table
- Memo
- PaymentMethod ListID or FullName
- RefNumber
- TxnDate
- TotalAmount

- AppliedToTxn Table

You should only have to populate the IDKEY field as all the fields in this table are transactions which already exist in QuickBooks.

- Amount
- TxnID
- DiscountAccount ListID or FullName
- DiscountAmount
- RefNumber
- TxnDate
- IDKEY (Required) □ Links to TxnID from BillPaymentCheck or CreditCard table.

Sales Orders

Sales Order

You will need QuickBooks 2004 or greater to update an existing Sales Order and/or 2003 (with updates) in order to add a new one. You need at least one line item in order to create a SalesOrder or any other line item based transaction.

Supported Fields

-SalesOrder Table

- BillAddress Fields
- Class ListID or FullName
- Customer ListID or FullName (Required)
- CustomerMessage
- DueDate
- FOB
- Memo
- IsToBePrinted
- PONumber
- RefNumber
- SalesRep
- SalesTaxCode ListID or FullName
- SalesTaxItem ListID or FullName
- ShipAddress Fields
- Terms
- TxnDate
- TxnID (Required) □ Links with IDKEY in SalesOrderLineDetail table
### Sales Receipt

You must have QuickBooks 2004 or greater in order to update existing Sales Receipts. First Time Add Only fields are properties which can only be assigned when adding a new record. They cannot be updated.

#### Supported Fields

- **SalesReceipt Table**
  - BillAddress Fields
    - Class *ListID or FullName*
    - DepositToAccount *ListID or FullName*
    - FOB
    - Memo
    - SalesRep
  - ShipAddress Fields
    - TxnID *(Required)* □ Links with IDKEY in SalesReceiptLineDetail table
  - First Time Add Only
    - Customer *ListID or FullName *(Required)*
    - CheckNumber
    - DueDate
    - IsPending
    - IsToBePrinted
    - RefNumber
    - SalesTaxCode *ListID or FullName*
    - SalesTaxItem *ListID or FullName*
    - ShipDate
    - TxnDate

- **SalesReceiptLineDetail Table**
  - Class *ListID or FullName*
  - Rate
  - RatePercent
  - IDKEY *(Required)* □ Links with TxnID in Invoice table
  - Item *ListID or FullName *(Required)*
  - Desc
  - Quantity
  - SalesTaxCode *ListID or FullName*
**Statement Charges**

**Statement Charge**

You must have QuickBooks 2004 or greater in order to update existing Statement Charges.

**Supported Fields**

- StatementCharge Table
  - Amount
  - ARAccount *ListID or FullName*
  - BilledDate
  - Class *ListID or FullName*
  - Customer *ListID or FullName* *(Required)*
  - Desc
  - DueDate
  - Item *ListID or FullName* *(Required)*
  - Quantity
  - Rate
  - RefNumber
  - TxnDate

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**Time Trackings**

**Time Tracking**

**Supported Fields**

- TimeTracking Table
  - Class *ListID or FullName*
  - Customer *ListID or FullName*
  - Duration (In QB Format PT [Hours] H [Minutes] M Ex. **PT8H15M** □ ? Hrs 15 Min □)
  - Entity *ListID or FullName*
  - IsBillable
  - ItemService *ListID or FullName*
  - Notes
  - PayrollItemWage *ListID or FullName*
  - Rate
  - TxnDate

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**Vendor Credits**

**Vendor Credit**

To post a vendor credit you will need to include at least one item line or expense line and so you will insert a random number into the TxnID field in the VendorCredit table and insert the same number into either the TxnItemLineDetail table and/or the TxnExpenseLineDetail tables in the IDKEY field.

**Supported Fields**

- Check Table
  - Memo
  - RefNumber
- Vendor *ListID or FullName (Required)*
- TxnDate
- TxnID *(Required)* - Links to IDKEY in TxnItemLineDetail or TxnExpenseLineDetail

- TxnItemLineDetail
  - Amount
  - Class *ListID or FullName*
  - Cost
  - Customer *ListID or FullName*
  - Description
  - Item *ListID or FullName*
  - Quantity
  - IDKEY - Links to TxnID from VendorCredit table

- TxnExpenseLineDetail
  - Account *ListID or FullName*
  - Amount
  - Class *ListID or FullName*
  - Cost
  - Customer *ListID or FullName*
  - IDKEY - Links to TxnID from VendorCredit table

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**Trouble Shooting**

**Trouble Shooting**

For troubleshooting assistance you can use the Send Log Files feature from the Help menu in OpenSync. This feature requires that a MAPI compatible email client be installed in the machine where OpenSync is running.

You can also contact support@synergration for other inquiries or problems.

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**FAQs**

**Frequently Asked Questions**

**Q.** I am running an Update task but no data gets posted to QuickBooks and no errors are reported. What's the problem?

**A.** You either have not set the Status column on the database to ADD, UPDATE, or DELETE, or the table you are attempting to update is not supported by your version of OpenSync. Consult the section titled Updating QuickBooks for more information.

**Q.** I don’t see all of the tables listed in the refresh table list. How can I refresh the invoice line detail table?
A. Child tables cannot be individually selected in OpenSync. They are automatically selected when the parent table is selected.

Q. I don’t see any price or account information for items of type other charge, service, or non-inventory. Where can I find that information?
A. Please consult the section titled Working With Items.

Q. Where are the line items for Bills, Checks, and Vendor credit stored?
A. All accounts payable transactions share common child tables. The are the TxnItemLineDetail and TxnExpenseLineDetail tables.