

jGnash 2.33.x Manual

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Chapter 1. Legal

jGnash 2.33.x Manual

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Chapter 2. Introduction



jGnash is an open source application for personal finances. jGnash enables you to record detailed account and transaction information using proven double entry accounting principles.

You do not have to be an accountant to understand or use jGnash, but jGnash provides options to make new and experienced users feel comfortable using it.

jGnash's mission is personal finance and it is not tailored for use as a business accounting application. jGnash is being used by small businesses and clubs, but if you require business specific features, you may be better served looking for a different solution.

2.1. Features

A brief list of features is below:

- Double Entry Accounting with reconciliation tools.
- Budgeting with multiple scenario options and export to spreadsheet capability.
- Investment Accounts and automatic import of Stocks, Bond, and Funds price history.
- Nestable accounts with automatic rollup of totals and intelligent handling of mixed currencies.
- OFX, QFX, mt940, and QIF import with the ability to pre-process using JavaScript.
- Reminders and automatic transaction entry and notifications.
- Intelligent handling of multiple currencies and exchange rates with automatic online exchange rate updates.
- Printable reports with PDF and spreadsheet export capability.
- XML and relational database file formats
- Operates on most all modern PC operating system (*Java™ 8 is required*).

2.2. Installation

jGnash is not currently distributed with an automatic installation tool. You will be required to perform a couple of manual operations that are easily performed for those with a basic understanding of how

to use a zip file. Also, you must have Java™ 8 or newer installed on your computer.

Java can be downloaded and installed from <http://java.com>. Java installation is a simple matter of downloading the correct version for your operating system and using the automated installer.

If you are using a Linux® based operating system, OpenJDK™ or IcedTea may have been pre-installed. jGnash will run on the latest version of OpenJDK or IcedTea, but you may experience some minor glitches with the appearance of jGnash depending on the version installed and fonts available.

If in doubt, install Java™ 8 or newer and configure your system accordingly.

After Java is installed, you are ready to install jGnash. Simply open the zip file and extract the *jGnash* directory and it's complete contents to a directory of your choice, and do not alter the files or locations. I usually create a directory named "bin" in my home directory and keep the *jGnash* directory in it to better organize my computer. When upgrading between versions of jGnash, do not unzip to the same location and overwrite the existing files. Use a new location or delete the existing files first.

2.3. Starting jGnash

After the *jGnash* directory has been extracted from the zip file, you should see several files in the directory. Of interest at this point are the jar and exe files.

If you are running on a Windows™ based computer, you can simply double click on the *jGnashFx.exe* file to start jGnash. Alternatively, you can also double click on the *bin/jgnash-fx.bat* file as an alternate means for starting the application in a console so that logging messages are visible.

If you are running on a Un*x or BSD based system you can start jGnash from a terminal as shown below using the included Bash script. You can also create your own application launcher using the Bash script in your desktop environment of choice.

```
./jGnashFx
```

jGnash has several advanced features such as running as a portable application or using jGnash as a multi-user home networked application. These advanced features are accessible via the command line. Please see [Command Line Options](#) for more details.

2.4. Running for the First Time

A license acceptance screen will be displayed the first time you start jGnash. jGnash will not run unless the license is accepted. The short of the license agreement is jGnash is a freely available program comprised of other freely available software, and should anything bad happen during use, the authors involved are not libel for any damages. The license also details how jGnash may be distributed and

used.

If the license agreement sounds daunting, take a look at the license agreements of commercially available personal finance applications and you will see similar agreements. Myself and just about every other person making software available for free or purchase tries their best to ensure the software they create works well and as intended. Sometimes bugs do creep in and it does not work quite as planned. The advantage of free software is you generally have direct access to the authors, and you have a much larger voice in helping the application grow and evolve over time.

2.5. Getting Help and Giving Back

The intent of this user guide is to get you off to a good start using jGnash. Despite my best attempts, there are those who need a little bit of extra help or have a special need or circumstance and require the help of others that have already been around the block a few times.

The best place to start is the jGnash user group hosted at <http://groups.google.com/group/jgnash-user> [http://groups.google.com/group/jgnash-user]. The user group contains a well rounded group of individuals who can help answer just about any question. As a courtesy to others, I encourage you to search the group prior to asking a question to see if it's already been answered.

If you have found a bug, or have suggestions for improvement, the group page has links to a bug and feature request tracker that can be used to log and track your requests. The group forum can be used to post a bug or request, but use of the tracker ensures the request is not lost in the mix of discussions.

If you are well versed in use of jGnash and other personal finance applications, you are encouraged to give back a little time and contribute your experience to the group and help others.

Chapter 3. Getting Started

The basic elements of jGnash are Accounts, Currencies, Securites, and Transactions. Every account is assigned one currency and every transaction is associated with at least one account. Investment Accounts and Investment Transactions will be associated with a Security.

jGnash supports various Account types that can be arranged into a flexible hierarchical structure. The Accounts may be arranged by financial institution, by type, or some other structure. It's good practice to organize your Income and Expense Accounts into a logic arrangement that allows you to drill down into a layer of more detail.

The balance of an Account will roll up into it's parent Account within the Accounts view as well as in some reports.

Below is a typical Expense Account arrangement that allows you to differentiate between different type of automotive and food related expenses, but roll them up into more macro level expenses.

- Expense Accounts
 - Automobile
 - Fuel
 - Insurance
 - Service
 - Food
 - Dining Out
 - Groceries

Transactions are used to record daily expenditures as well as income from the sale of personal items, investments, or paychecks.

If you are familiar with other personal finance applications, you may notice that jGnash uses income and expense *accounts* instead of income and expense *categories*. Functionally, there is no difference, other than jGnash allows you see a detailed transaction register of the income and expense accounts as easily as you would look at your bank accounts.

3.1. Editing Environment

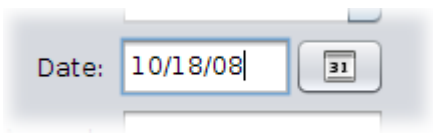
The jGnash editing environment is not much different then in other application with the exception that it provides a few shortcuts to speed up entry of transactions.

jGnash knows and understands just about any known locale and country setting. Depending on your settings, the decimal symbol will change accordingly as well as the displayed format of dates.

3.1.1. Date Fields

The date field is freely editable and jGnash will make the best attempt at interpreting an invalid entry, but the results are indeterminate. Clicking on the button to the right of the field will display a calendar dialog where you can select a date as well.

The field is flexible enough to allow use of multiple keys as the field separators regardless of the current locale. This is done to make entry easier on compact keyboards. The usable field separator characters are defined in the table below.



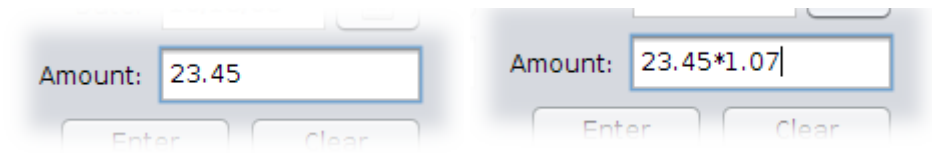
Also, dates can be modified using the keyboard shortcuts defined below.

Table 1. Date Entry Shortcut Keys

Keys / Mouse	Function
+, ↑, Mouse Scroll Up	Increase the date by one day
-, ↓, Mouse Scroll Down	Decrease the date by one day
PgUp, Mouse Thumb Wheel Up	Increase the date by one month
PgDn, Mouse Thumb Wheel Down	Decrease the date by one month
t, T	Change to today's date
,, ., /, \	Valid field separator for all locales

3.1.2. Number Fields

Numerical entry in jGnash is as easy as typing the desired value into the field. Decimal separators are handled according to the configured locale.



You may also enter arithmetic operators and calculate values within the entry field.

The arithmetic operators that may be used are () + - * /.

Traditional arithmetic operator precedence is followed for all calculations.

3.2. Creating a New File

When you start jGnash for the first time, you will be presented with a very simple screen. At the bottom of the screen, program notifications and memory consumption information are displayed.

Creating a new file is done in 5 steps using the wizard

1. Create a new file using the **File › New** command and follow the prompts in the new file wizard. When given the choice to select the **storage type**, leave it as the default value for now. A default file name and location will be provided that you can change if desired. If the file already exists, you will be warned you are about to overwrite it.
2. After selecting the storage type and file name, you will be asked to choose the default currency. The default currency can be changed at a latter time, and if for some reason your currency of choice is not available, you can create a custom currency and set it as the default after the file is created.
3. Next you can choose the currencies that are available for use. Currencies may be added and removed as needed at a later time if needed.

If needed, custom currencies may be added using the **Currencies › Add/Remove** command. As locales change, default currency availability will change as Java is updated. The typical need for a custom currency is to support legacy accounting information as countries standardize on the Euro.

4. After choosing the available currencies, default accounts can be selected if desired. If you are new to personal finance software, the defaults will be a good starting point. The accounts structure can be easily changed as needed to accommodate your own personal needs.
5. The last step is the Summary page of the wizard. Verify everything is to your liking and click on the Finish button to create your new file.

After the file is created, you are now ready to change, add, or remove accounts as need and begin entering transactions.

Encryption and password protection options do not exist in jGnash with the exception of a clear text password for client/server operation.

Encryption becomes a sticky subject when it involves exporting and distributing software throughout the world. jGnash is designed to support many nationalities, so control of distribution would be become very difficult if encryption was integrated.

If you do have the desire to encrypt your jGnash data, the best choice is to use the encryption capabilities of your operating system or install a freely available third party encryption tool.

3.2.1. File Types

jGnash supports different file types for storing data. File types can be easily changed by using the **File ›**

Save As command and naming the new file with the appropriate file extension.

The current file will be saved in the new format and automatically opened.

Regardless of file type used, jGnash automatically saves the data if changed every 30 seconds to minimize the chance of accidental data loss.



Client/Server

If you are using jGnash in the Client/Server mode, all changes are committed immediately.

3.2.2. H2 and HyperSql Relational Database

An H2 or HyperSql relational database is required when using the client / server functionality of jGnash. jGnash embeds the database server so that no additional configuration or installation of software is required to use a relational database.

The relational database may be used for a single user. If startup and shutdown performance is important to you, then the binary file format described below is a better choice.

The advantage of the relational database outside the requirement for client / server capability is the ability to use several available tools to browse and query your jGnash data. Also, a relational database will be more fault tolerant of system crashes or power outages vs. use of an XML or Binary file.

The disadvantage of the relational database is a bit slower operation and more memory consumption.

If using the H2 Database and operating over a network using Client/Server mode, you have the option of enabling encryption for network communication. This will not encrypt your database file. See the Command line options for specifics.



Database Administrator

The default administrator for a jGnash relational databases is JGNASH and is not configurable at this time.

3.2.3. XML File

XML file format is human readable and easily read by other applications at the expense of a considerably larger file size. Memory usage is less when using the XML file format, but certain operations may take longer. The advantage of the XML file is easier parsing and manipulation of the file using another program external to jGnash. If you have a large amount of data, jGnash will use less system memory when using the XML file format.



Backups

The XML format is also used for saving automatic backups of jGnash files if enabled.

3.2.4. Binary File

The binary file format is the most compact file format and will open and close the quickest. This is the recommended file format if you do not need client / server functionality and you are using a laptop or a workstation with a UPS.

3.3. Accounts

Accounts are what you use to organize how you save and spend your money, and where it comes from. Account structures can be changed to organize the display of information to suit your specific needs.

Typically, you will have a separate jGnash account for each savings, checking, investment account, etc. that you have at a financial institution. Accounts can be organized under "placeholder" accounts to add different levels of organization.

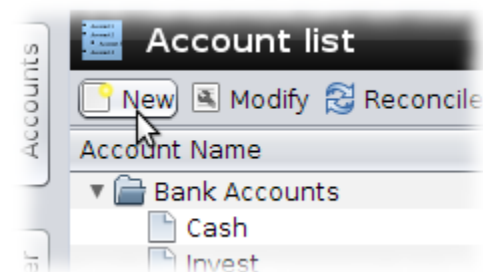
For example, if you would like to see a summary of your accounts by financial institution, you can create a placeholder account that represents a single financial institution and group your savings and checking accounts from that particular institution.

Maybe you want to see all savings accounts grouped together and checking accounts grouped together. It's just a matter of creating placeholder accounts for checking and savings and placing the respective accounts under them.

The account structure can be easily changed at any time with the exception of removing accounts after they have transaction in them. Transactions must be manually deleted from an account before you can remove it.

3.3.1. Creating Accounts

A new account is created by clicking on the **[New]** button in the account list view.



A new dialog box will be displayed that allows you to create a new account to suit your particular needs.

New Account

Account Information

Name:

Description:

Account Number:

Account Code:

Bank ID:

Currency:

Securities:

Account Type:

Account Options: ☐ Locked ☐ Hide Account
☐ Placeholder ☐ Exclude From Budgets

Parent Account

Notes

Account Information

Name

The name for the account. The name will be used to identify the account when creating transactions. Account names do not have to be unique, but may not be left blank.

Description

A description for the account. This field may be left blank if desired.

Account Number

The Account Number field is generally used for storing the account number provided by your financial institution. This field may be left blank if desired.

Account Code (General Ledger Code)

The Account Code field will default to a value of 0 and must be a numerical value. This value will

also control the displayed order of accounts within the same branch. If the account code is left as a value of zero, sort order will be deferred to an alphanumeric sort against the account names. Best practice is to either use an assigned Account Code for all accounts within the same branch or leave the code as a value of 0 for all accounts. Otherwise, sort order may appear to be random.

Bank ID

This is the identification number of the financial institution and is generally used as an identifier when importing OFX files. This field may be left blank if desired.

Currency

The currency for the account. Account currencies cannot be changed if the account contains transactions.

Securities

This button will display a dialog that allows you to add and remove the available Securities for the account. This applies only to Investment accounts.

Account Type

Account Type determines what the account can be used for and the type of transactions that can be created. An Account's type may be changed after it is created to another type only if it is similar in function. For example, an Investment Account can be change to a Mutual Fund account and vice-versa, buy they may not be changed into Bank or Credit accounts.

Account Options

Locked

If selected, the account will be locked and further changes will be prevented. This is useful to lock accounts that have been closed while retaining your historical data.

Placeholder

If selected, child accounts may be placed under this account and the account will not accept transactions. This is useful for organizing accounts into a hierarchical structure.

Hide Account

If selected, the account is hidden from view if the hide account filter is enabled.

Exclude From Budgets

If selected, the account is hidden from view of the budgeting tool.

Parent Account

Clicking on this button will display a dialog that lets you select the account this account resides under. If you want the account to be placed at the top most level, then choose the Root account as the parent. Parent accounts may be changed as needed to suit your needs.

Notes

Room for extra information about the account if desired.

At any later time, the **[Modify]** button may be used to change an existing account. If the account contains transactions, certain options may not be changed.

jGnash does not have a place to specify an opening balance in keeping with correct practices for double entry accounting.

However, it is still possible to set an opening balance:



To add an opening balance, create a transaction with an appropriate deposit or withdrawal against an Equity Account of your choice. Most people will choose or create an "Opening Balance" account.

This follows well known accounting practices.

If you are not concerned about correct accounting practices, you can create an Adjustment Transaction instead.

3.4. Account Types

jGnash allows use of several account types to make organization easier. The account type chosen can have a significant impact on how reports are generated and displayed, and the types of transactions you can create.

3.4.1. Asset

Asset accounts are intended to be used to track the value of durable items such as houses, cars, boats, collections, etc. Value of items can be adjusted over time against Income accounts to show gain or loss of value. If you were to sell an item and convert it cash, the sale of the item can be tracked against the Asset accounts containing the item.

3.4.2. Bank

Bank accounts are used for the savings accounts you would have at a bank.

3.4.3. Cash

Cash accounts represent the cash you carry with you. Cash accounts are also good for representing deposits and withdrawals from Flexible Spending Accounts.

3.4.4. Checking

Checking accounts are used for the checking account you would have at a bank.

3.4.5. Credit

Credit accounts are used to record purchases and payments made to a credit card account. Credit accounts are primarily used for short-term liabilities and great for representing overdraft and line of credit accounts at banks.

3.4.6. Equity

Equity accounts are used to record opening account balances against. Typically, you will have only one Equity account. Equity accounts are representative of another account's net worth at the time you begin tracking its value.

3.4.7. Expense

Expense accounts are used to record expenses such as food, utilities, taxes, investment expenses, etc.

3.4.8. Income

Income accounts are used to record income such as salary, dividends, investment income, etc.

3.4.9. Investment

Investment accounts are used to buy and sell Securities. Investment accounts can be used to track 401k, IRA's, etc.

- Investment Accounts have a cash balance if you buy or sell transactions against the account.
- Investment purchases and sales fees can be made against the cash balance of the investment account or other specified accounts.
- Multiple investment fee entries per transaction may be entered.
- Multiple gains/loss entries per transaction may be entered.
- Investment Accounts support multiple securities.
- Investment Accounts can be used to model an on-line brokerage account.

3.4.10. Liability

Liability accounts are used to track long term loans or liabilities. Liability accounts have the added feature of allowing you to set-up a loan payment that takes some of the effort out of entering periodic loan payment transactions.

3.4.11. Money Market

Money Market accounts are typically a high interest yield account with withdrawal rules or limitations. They are generally used for long term savings accounts with the intent of keeping your cash readily accessible.

3.4.12. Mutual Fund

Mutual fund accounts are a specialized version of an Investment account and generally used to track mutual fund type investments.

3.4.13. Simple Investment

Simple investment accounts are for investments where you do not actively manage or are able to track purchases and sales of securities. The typical scenario would be a company pension plan that only provides cash balance information. Sometimes, these types of investment accounts are called Annuities or Guaranteed Retirement Accounts

3.4.14. Root

The root account is the top level account that holds all other accounts. You cannot remove or modify the root account. Normally, it is not visible unless you are changing the account structure.

3.5. Entering Transactions

jGnash follows well known double entry accounting practices while reducing the complexity of transaction entry.

If you are familiar with other personal finance applications, you may notice that jGnash uses income and expense accounts instead of income and expense categories. Functionally, there is no difference, other than jGnash allows you see a detailed transaction register of the income and expense accounts as easily as you would look at your bank accounts.

When creating your file, if you selected the available default accounts, you will have income and expense accounts to work with. These accounts can be changed to suit your needs at any time.

The benefit of double entry accounting in jGnash is the ability to use reports and charts to see where your money is going and coming from. Single entry transactions hide those details and make tracking difficult and tedious.

For simplicity, the terms used here to discuss changes in account balances will be **Increase** and **Decrease**.

Business accounting practices use the Credit and Debit terms which can appear to be backwards depending on account type and cause confusion for those who are not familiar.

3.5.1. Common Transaction Properties

The properties below are common to all basic transaction types. *Investment transactions will require additional information not covered in this section.*

Payee

The Payee is almost always the name of a person or business. The Payee field may be empty, but it is good practice to always use a payee for a transaction entry. jGnash will automatically learn and autocomplete a transaction using the Payee field. This helps aid speed of transaction entry and helps to establish consistency making searching and filter much easier.

Number

A transaction may be assigned a number or abbreviated description. If working with a Checking account, the number is almost always the same as the check number you wrote. Use of a check number also makes reconciliation against a bank statement easier.

Date

Every transaction has a date. The date is usually the date the transaction occurred. Some people will choose to edit the transaction to match the posting date.

Please review the [Date Fields](#) shortcuts that may be used to save a significant amount of time when selecting and editing dates.



jGnash also maintains an internal timestamp for the actual date and time the transaction was created or last modified for auditing and tracking purposes.

Memo

The Memo is a brief description of the transaction so you can remember what it was. jGnash will automatically learn the Memos you commonly use. This helps aid speed of transaction entry and helps to establish consistency making searching and filter much easier.

Split transactions have an option to Concatenate or automatically merge the Memos of the split entries.

Amount

This is the transaction amount. If entering a multi-currency transaction, this field will be expanded to handle the correct exchange of currencies.

The [Number Fields](#) section details how to enter amounts using mathematical operations in the same manner as a calculator.

Reconciliation State

The Cleared CheckBox at the bottom of the register form is a tri-state box that allows you to toggle through all three of the reconciliation states described below.

A jGnash transaction has three reconciliation states

Not Reconciled

The transaction has not been reconciled against a bank or online statement

Cleared

The intended use is for manual reconciliation of a specific transaction prior to a full reconciliation for the period.

Reconciled

The transaction has been reconciled manually or through use of the Reconciliation tool

Transaction Attachments

jGnash allows the attachment of an image file to the transaction using the chain link button at the bottom of the transaction form. The attachment will be moved to a managed directory call **attachments** located in the same directory as your jGnash file. The eye button allows you to view the attachment and the broken chain loop button allows for removal of the attachment.

3.5.2. Double Entry Transactions

A double entry transaction follows standard accounting practices. A double entry transaction will always increase the balance of one account and decrease the balance of another account. The amount of the change will always equal and opposite in value.

Double entry transactions using accounts with different currencies will not be equal and opposite numerically due to exchange rates between currencies. jGnash automatically handles the difficult part of the currency exchange within the transaction.

A double entry transaction normally begins within the register of some type of Cash or Bank account. In the example below, a Withdrawal is being made from a Cash account. The balance of the account will be decreased by 25.67 and the balance of the Expense Account **Automobile:Fuel** will be increased by 25.67.

The account to withdraw funds from (Decrease) or deposit to (Increase) is selected in the Account ComboBox.

Deposit	Withdrawal	Transfer	Adjust
Payee:	Acme Gasoline	Number:	
Account:	Expense Accounts:Automobile:Fuel	Splits	Date: 01/22/17
Memo:	Gasoline	Amount:	25.67
<input type="checkbox"/> Cleared	  	Cancel	Enter

3.5.3. Split Entry Transaction

A Split Entry Transaction is a Double Entry Transaction, but the amount is split across multiple accounts.

A Split Entry Transaction is started by clicking the [**Splits**] Button. A dialog will be shown that allows an entry for multiple accounts to be made.

Memo	Account	Clr	Deposit	Withdrawal	Balance
Batteries	Misc Consumables			7.99	(\$7.99)
Groceries	Groceries			105.08	(\$113.07)
Shampoo	Toiletries			4.56	(\$117.63)

☒ Concatenate Memos

Deposit Withdrawal

Account: Expense Accounts:Household:Toiletries Amount: 4.56

Memo: Shampoo

☐ Cleared Clear Enter Close

Notice the [**Concatenate Memos**] Checkbox. If the Checkbox is selected, the Transaction memo will be a generated list of the unique memos of the split entries. This saves entry time for the Transaction and reduces the file size.

Editing of the Transaction amount will be disabled as it is the sum of the Entries. The Memo field will be disabled as well if the [**Concatenate Memos**] in the Split Transaction dialog was selected.

If a memo is not entered for a Split Transaction and the [**Concatenate Memos**] button is not selected, the Transactions register will display the memo of the first Split Entry.

A Split Transaction may consist of multiple Deposits and Withdrawals as shown below. This is a typical example of a paycheck where insurance and taxes are deducted from the gross salary.

Memo	Account	Clr	Deposit	Withdrawal	Balance +
Federal Taxes	Federal			246.23	(\$246.23)
Insurance Premium	Insurance			55.00	(\$301.23)
Pay Check	Checking			700.00	(\$1,001.23)
Salary	Salary		1,230.00		\$228.77

Buttons: New, Delete, Delete All

☒ Concatenate Memos

Deposit | Withdrawal

Account: Income Accounts:Salary Amount: 1230.00

Memo: Salary

☐ Cleared Clear Enter

Close

3.5.4. Single Entry / Adjustment Transaction

A Single Entry Transaction is primarily used to fudge an Account balance when you simply don't have the information to correctly balance the account.

In the example below, you can see a negative amount of -1.23 was used to decrease the balance of the account.

Date	Payee	Memo	Account	Clr	Amount	Balance
04/04/14	My Employer	Pay Check			700.00	\$2,069.70
12/31/16	Big Bank	Year end adjustment to balance	Checking	R	1.23	\$2,068.47
01/22/17	Acme Gasoline	Gasoline	Fuel		25.67	\$2,042.80

Buttons: New, Duplicate, Jump, Delete

Deposit | Withdrawal | Transfer | Adjust

Payee: Big Bank Number: [dropdown]

Memo: Year end adjustment to balance Date: 12/31/16 [calendar]

☒ Cleared [info] [lock] [eye] [refresh]

Amount: -1.23 Cancel Enter

The half black and half white circular button at the bottom of the form is a utility to help convert the Single Entry transaction into a Double Entry Transaction after you find the needed information.

3.5.5. Transfer Transaction

The Transfer tab provides a slightly faster way to move money between accounts without requiring as much information. If go back to edit the Transaction, the edits will be performed within the Deposit or Withdrawal forms.

3.6. Investment Accounts

Investment Accounts need to be populated correctly if the Portfolio report is to work correctly.

- Accounts with prior history should purchase securities from the "Opening Balance" Equity account. Ensure the quantity of securities is correct and use the current price.
- Cash balances should be transfers from the "Opening Balance" Equity account.
- Dividends, sells, etc. should occur after opening securities and cash balances are established.

Chapter 4. Budgets

jGnash has a budgeting feature that makes it easy for you to define spending and income goals by account and bump those goals up against your actual transactions. A compact graphical overview of each budgeting period is provided to highlight how well you are following your budget based on selectable periods.

Tracking how well you follow your budget can be an eye opening experience and can lead to better financial health.

Budget Features

- Multiple budgets are supported and may be copied making it easy to try out different scenarios and create year specific budgets if desired.
- Allowed accounts for budget are limited to Income and Expense accounts.
- Accounts may be excluded from budgets by setting the exclude flag in the account properties dialog. Sub-accounts will not be displayed if the parent account is excluded.
- The reporting period for budgets may be daily, weekly, bi-weekly, monthly, or quarterly and can be changed as needed.
- The per account budget goals may also be entered in daily, weekly, bi-weekly, monthly, or quarterly periods and are independent of the budget reporting period.
- The budget may be exported to a spreadsheet.

Budget Periods

The reported period of the budget is independent of the per account budget goal period.

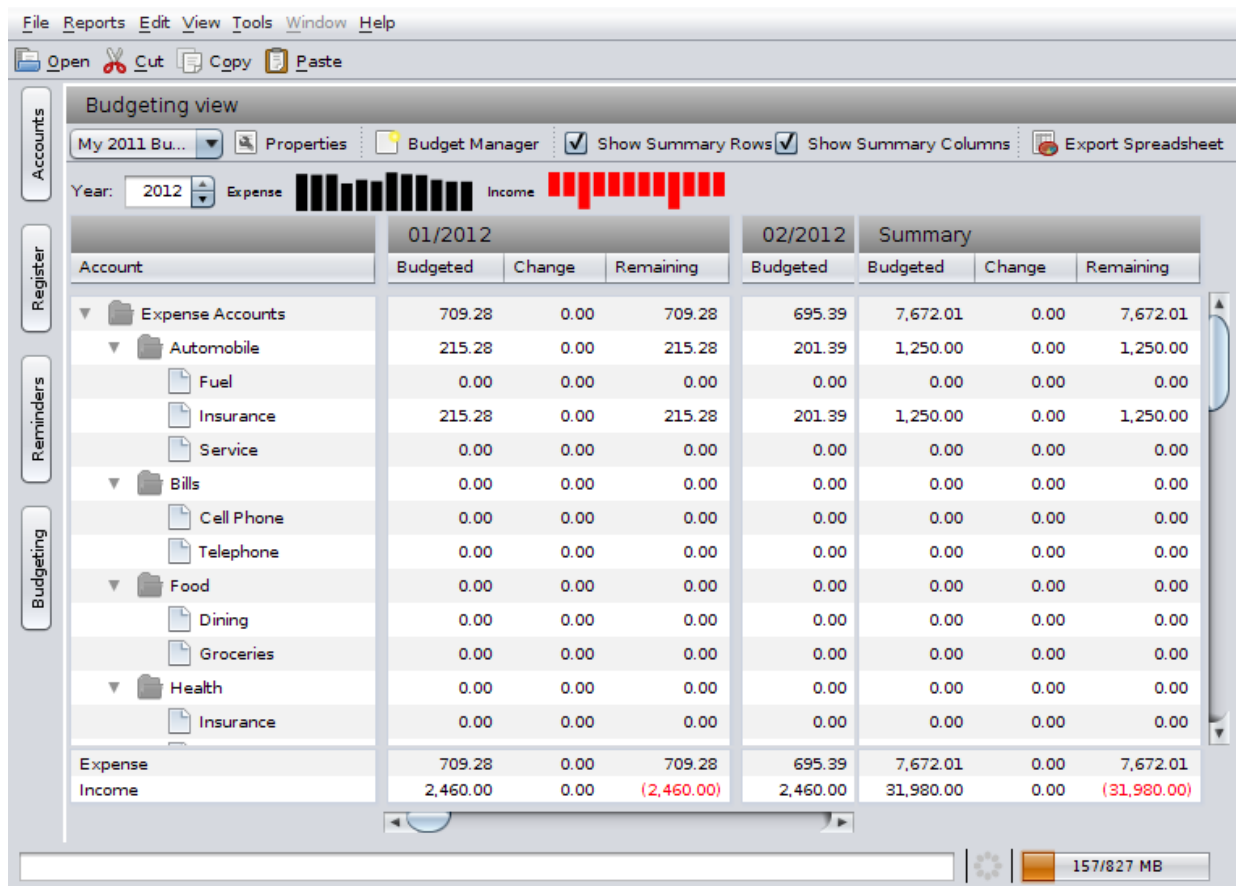


Example: Your salary is paid in bi-weekly intervals, but you want to see your budget reported by month. You can change the period for the income account to weekly or daily and enter your salary.

When reported by month, jGnash automatically handles the difference in the periods and distributes your bi-weekly salary income across monthly boundaries.

4.1. Graphical Overview

The main budget panel is shown below.



The width of the account column is adjustable by placing the cursor between the Account header and the period header columns and then clicking and dragging the mouse cursor right or left.

At the top of the panel, a toolbar exists that allows you to change how much information is displayed, modify the budgets, and export the active budget to a spreadsheet.

The budget drop down list lets you quickly select between different budgets you have created. The **[Budget Manager]** button displays a dialog that let you create, duplicate, and delete budgets.

The **[Properties]** button will display the dialog shown below with various options for the active budget.

Budget Properties

Description:

Period:

Account Groups

- ☒ Income Accounts
- ☒ Expense Accounts
- ☐ Asset Accounts
- ☐ Liability Accounts

The period used for the budget display can be changed in this dialog as well as the budget description. You may also select the account groups that are visible for the selected budget.

The year spinner allows you to bump the selected budget up against the selected year's transaction data. The selected year also effects the calendar periods when editing period amounts.

Double clicking on an account name to the left of the panel will display a dialog that allows you to change the account specific budget period and period amounts.

Budget Manager - Insurance

Period:

Currency: USD

Period	Amount
Quarter 1 of 2012	625.00
Quarter 2 of 2012	6.79
Quarter 3 of 2012	618.21
Quarter 4 of 2012	0.00

Smart Fill

Fill All:

Pattern:

Start Row:

End Row:

Amount:

The Smart Fill panel may be used to enter repeating patterns or fill in the amounts automatically based on the last 12 months. Alternatively, you may directly edit the amount of each period by clicking and typing in a table cell.

The per account budget amounts as well as the *Change* and *Remaining* values are hierarchical in that the values of the child account are summed and are added to the parent account. If a parent account is not configured has a placeholder, it may also be assigned period goals that are inclusive of any children.

At the bottom of each reported budget period, a summary by account group is displayed. To the right, a summary by account is displayed. The summary's may be disabled if desired by unselecting the appropriate checkboxes.

The [**Export Spreadsheet**] button will export a file to your choice of an *xls* or *xlsx* file. The exported spreadsheet does contain formulas which makes it easier to manipulate the file externally.

4.2. Budgeting Tips

When planning a budget, you need to consider how you spend and receive your money versus how you want to report your budget.

jGnash has to make assumptions when entering per account period amounts. Internally, jGnash is keeping a list of 366 days (365 + 1 leap day) per account with the list starting at the first calendar day of the year.

When a period goal for an account is entered, the amount is averaged across each day of the period. Entry of amounts is also sensitive to the current year. If you select Monthly for the account period, the monthly boundary for days is established by the current year calendar months and the amount is then averaged across the number of days per each month.

Averaging of periods has an impact on how exact the tracking of your budget is. If you choose to enter a monthly average for income, but are paid on certain days on the month, your budget will show slight variations through the year.

If you want the budgeted vs. Remaining amounts to be exact for a particular account, then you will want to set the account period to be Daily and take the effort to enter your daily amount goals.

You will not be able to export a spreadsheet when the report period is daily due to memory requirements and limitations of some spreadsheet applications.

Chapter 5. Reconciliation

Reconciliation is a simple and visual process of matching up the transactions listed in an account's register against a paper or electronic statement provided by a financial institution. If differences do exist, then any missing or erroneous transactions must be addressed until the differences are resolved. Statements should come from you bank, investment broker, credit card issuer, etc. on a periodic basis.

Periodically reconciling an account helps ensure transaction entry errors do not creep in over time. *Reconciliation is also a great tool for monitoring your accounts for fraudulent transactions.*

Accounts may be reconciled using a manual process or using the Reconciliation Wizard. For any given reconciliation period, using a combination of both methods will be difficult.

Regardless of the Reconciliation process used, it is good practice to reconcile all accounts periodically.

5.1. Basics

Every transaction entry will have two independent reconciliation states that applies to both of the related crediting and debiting accounts. Split transactions may have even more reconciliation states depending on how many accounts it touches. Reconciliation states are explained a bit later in this chapter.

The default assumed reconciliation states can be configured depending on your preferred method of reconciliation. Taking time to understand these options is important for a successful reconciliation process.

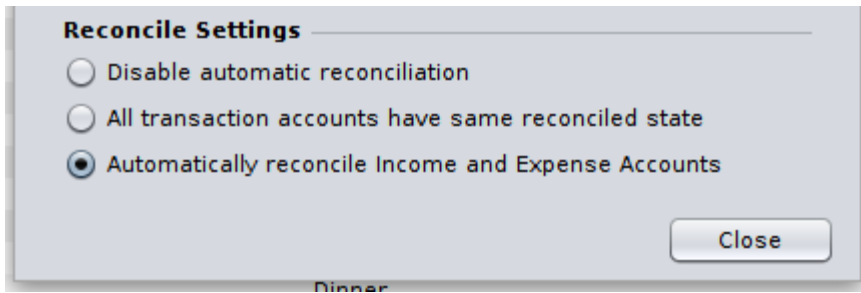
By default, jGnash comes configured to favor use of the Reconciliation Wizard.



If this is your first time reconciling an account and you have prior transaction history with a mix of Reconciled and Cleared transactions, you may need to manually reconcile prior transaction history.

5.1.1. Reconcile Settings

jGnash makes it easier to manage reconciliation by providing some options described below. These can be access in the *Register* options tabs using the **Tools > Options** menu.



Unless you have very specific needs, it is recommend that you choose to have the option **All transaction accounts have same reconciled state** or **Automatically reconcile Income and Expense Accounts** selected as the default.

Selecting **Automatically reconcile Income and Expense Accounts** requires a bit more work on your part in that you are required to reconcile all institution statements, but it will not create any issues when transferring between accounts. *This is the recommended option if you are using the Reconciliation Wizard.*

Selecting **All transaction accounts have same reconciled state** will reduce the effort of reconciling transactions, but can create problems reconciling transfers between bank accounts later. If you manually reconcile your accounts and do not use the Reconciliation Wizard, this option saves a significant amount of work at the risk of making an assuming a transaction occurred correctly between two institutions. *Use of this option in conjunction with use of the Reconciliation Wizard can create problems with bank transfers when you reconcile both accounts.*

Choosing to disable automatic reconciliation will require you to reconcile Income and Expense accounts for which you may not have been provided a reconciliation statement.

5.1.2. Reconcile States

jGnash transactions have three reconciliation states that are presented in order below:

Not Reconciled

The transaction has not been cleared or reconciled.

Cleared

The transaction has been marked by the user to have been cleared during a manual or unfinished reconciliation process. A transaction may be marked as cleared to draw attention to it without impairing use of the reconciliation wizard.

Reconciled

The transaction has been reconciled or manually reconciled.

Manually marking transactions is not recommended if you are going to use the Reconcile Wizard.

5.2. Manual Reconciliation

Manual reconciliation is the process of individually comparing the account register against the institution provided statement and marking the matching transactions as reconciled.

The downside to manual reconciliation is not all checks and balances are performed against the reported opening and closing balance for a given period. This increases the likely-hood of missing a recorded transaction or incorrectly entered amount.

To manually mark a transaction as reconciled, use the context menu in the register to display options to change the reconciled state.

Tokyo Seoul	Dinner	Dinning
Shell	Gasoline	Fuel
Country Kitchen SweetArt	Cake	Misc Consumab
Ossian Do It Best Hardware	Hardw	
Lowes	Hardw	
Ossian Deli	Snack	
El Camino Real	Dinne	
Kroger	Groce	Groceries
Ossian Do It Best Hardware	Hardware	Hobbies

Use of the context menu is currently the only means of marking a transaction as reconciled other than using the reconciliation tool. It may also be used to clear transaction erroneously marked as reconciled.

Transactions may also be marked as **Cleared** through the transaction form. Some users may prefer to clear certain transactions manually during a given period to draw attention to them. **Cleared** transactions will still be visible within the Reconciliation Wizard if used later while manually **Reconciled** transactions will not.

PaymentChargeTransferAdjust

Payee: Shell

Account: Expense Accounts:Automobile:Fuel

Memo: Gasoline

Cleared☒

Number:

Date: 5/17/14

Amount: 47.69

Splits

EnterCancel

5.3. Reconciliation Wizard

Use of the Reconciliation Wizard helps to simplify the reconciliation process by comparing opening and closing balances reported by the institution against the sum of the transactions as you mark them as reconciled. You receive instantaneous visual feedback as you mark transactions, and at the end of the process you should have a net difference of zero.

The Reconcile Wizard has a nice feature that is not immediately obvious. While the wizard is displayed, you can still go back to the account register and enter missing transactions, correct erroneous amounts, or modify and delete transactions if entered into the wrong account. The Wizard's credit and debit lists are fully dynamic. You are not required to exit the Wizard without completing the process if you discover missing transactions or errors.

The image of the account register shown next is representative of a small but typical reconciliation period. The amounts and balances shown correspond with the other images as the Reconcile Wizard is explained in this chapter. Refer back to this image as necessary for clarification.

Take note of the *Reconciled Balance: \$2,614.43* and that it is the last transaction marked as reconciled. Also, take note of the transaction dated *03/25/14* and the corresponding balance of *\$1,369.70*. You will see these same values later in the Reconcile Settings dialog.

Checking				Balance: \$2,069.70		Reconciled Balance: \$2,614.43	
Date ▲	Payee	Memo	Account	Clr	Deposit	Withdrawal	Balance
01/19/11	Acme Gasoline	Gasoline	Fuel	R		23.68	\$619.32
01/21/11	My Employer	Pay Check	[4 Splits]	R	700.00		\$1,319.32
01/28/11	Acme Gasoline	Gasoline	Fuel	R		27.68	\$1,291.64
02/04/11	My Employer	Pay Check	[4 Splits]	R	700.00		\$1,991.64
02/08/11	Acme Gasoline	Gasoline	Fuel	R		25.67	\$1,965.97
02/18/11	My Employer	Pay Check	[4 Splits]	R	700.00		\$2,665.97
02/19/11	Slow Pumps Gasoline	Gasoline	Fuel	R		29.67	\$2,636.30
02/21/11	Slow Pumps Gasoline	Gasoline	Fuel	R		13.31	\$2,622.99
03/02/11	Acme Gasoline	Gasoline	Fuel	R		8.56	\$2,614.43
03/04/11	My Employer	Pay Check	[4 Splits]		700.00		\$3,314.43
03/16/14	Acme Gasoline	Gasoline	Fuel	C		25.67	\$3,288.76
03/17/14	Food Mart	Groceries	Groceries			78.45	\$3,210.31
03/17/14	Pet Shop	Dog food	Misc Consum...			14.56	\$3,195.75
03/18/14	Auto shop	Repair trans...	Service			1,799.95	\$1,395.80
03/22/14	Salty Dog	Softener Salt	Misc Consum...			19.56	\$1,376.24
03/25/14	Coney Island	Lunch	Dining			6.54	\$1,369.70
04/04/14	My Employer	Pay Check	[4 Splits]		700.00		\$2,069.70

The Reconcile Wizard is started by using the context menu in the Account List, or by clicking the **[Reconcile]** button in the transaction register.

A small dialog will be shown requesting some information.

Statement Date

This is the closing date for the reconciliation period. This should be reported on your account statement. The date will typically be the end of the month, but may be different due to institution or locale rules. Transactions entered after this date will not appear within the Reconciliation Wizard

Opening Balance

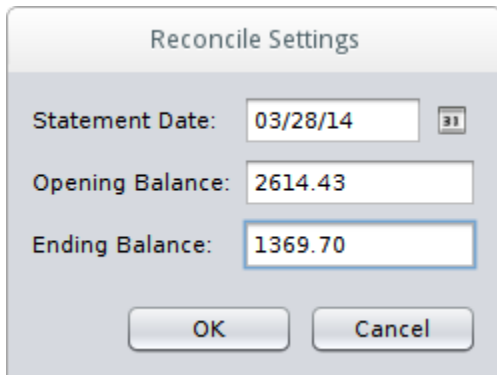
The opening balance should also be provided by your institution and should be equal to the closing balance of the last reconciliation period. In your account register, this will also be the account balance of the last reconciled transaction.

Ending Balance

This amount should also be provided by you institution.

These values should be provided to you by your banking institution in paper or electronic format and it's important these values are entered correctly, otherwise balances will not zero out.

Pay special attention to the account type, the selected option for *Reverse Displayed Account Balances* and if you are entering a positive or negative opening and ending balance.

A screenshot of a 'Reconcile Settings' dialog box. It has a title bar with the text 'Reconcile Settings'. Inside, there are three input fields: 'Statement Date:' with the value '03/28/14' and a small calendar icon to its right; 'Opening Balance:' with the value '2614.43'; and 'Ending Balance:' with the value '1369.70'. At the bottom of the dialog are two buttons: 'OK' and 'Cancel'.

After clicking the **[OK]** button, the settings dialog will be replaced by a dialog showing all of the transactions prior and inclusive of the statement date that have not been marked as Reconciled. *Transactions marked as cleared will be shown.*

The next step is to go through the institution provided statement and mark every matching transaction as reconcilable by clicking on the transactions. As you click each transaction, totals will update and you should see the Difference value approach zero. The symbol in the *Clr* column will also change when marked as **Reconciled**. When the Difference is zero, the **[Finish]** button will become active. Transactions marked as cleared will also need to be selected if they are to be reconciled.

It is not unusual to find transactions that go unmarked for reconciliation near the end of the statement period. These are transactions you have entered that were not processed through the system fast enough to show up on your statement and impact your account balance. Simply ignore these transactions and they will be captured at the start of the next statement and reconciliation cycle.

Reconcile - Bank Accounts:Checking

Withdrawal					Deposit				
Clr	Date	Num	Payee	Amount	Clr	Date	Num	Payee	Amount
C	03/16/14		Acme Gasoline	(25.67)		03/04/11		My Employer	700.00
	03/17/14		Food Mart	(78.45)					
	03/17/14		Pet Shop	(14.56)					
	03/18/14		Auto shop	(1,799.95)					
	03/22/14		Salty Dog	(19.56)					
	03/25/14		Coney Island	(6.54)					
0.00					0.00				

Select All
Clear All

Opening Balance: 2,614.43

Target Balance: 1,369.70

Reconciled Balance: 2,614.43

Difference: 1,244.73

Cancel
Finish Later
Finish

Clicking on the **[Finish]** button will close the dialog and will mark the selected transactions as Reconciled. Depending on the number of transactions and type of file format being used, it could take awhile for the changes to be saved. A wait message will be displayed during the change process.

What do you do if you have marked all transactions as reconciled and the difference is not zero?

- Not all paper and electronic statements clearly identify fees, earned interest, etc. Make sure you have captured these transactions.
- Were any transactions amounts entered incorrectly?
- Transactions manually marked as Reconciled during the statement period will not show in the transaction columns and are guaranteed to throw off balances. Mark the transactions as **Cleared** instead.
- Do you have your Reconcile Settings configured appropriately for the process you are using? If in doubt, use **Automatically reconcile Income and Expense Accounts**.
- Incorrectly entered opening and ending balances will cause errors in calculated balances.

If you need to to exit the Reconciliation Wizard before finishing, the **[Finish Later]** button may be used. This will close the dialog and mark selected transactions as **Cleared**. This makes it easy to restart the process with transaction you have already marked as reconcilable identified. You will still need to reselect those transactions when you restart the process.

Chapter 6. Importing Transactions

Importing of OFX, QFX, MT940, and QIF transaction files is supported within jGnash. The files are downloaded manually from your financial institution and then imported. jGnash does not currently support an automatic download process.

QIF is an old format that was not well defined and is generated inconsistently between financial institutions. There are two significantly different formats with one consisting of transnational data only and the other format attempts to serve as an export / import format with account information for financial applications. Use of date formats within the QIF format will vary and can lead to incorrect or failed import of transactions. If at all possible, avoid use of QIF files and use an OFX or QFX file.

OFX and QFX files are a well defined standard and jGnash will easily process these. This is the preferred file format for importing transactions into jGnash. OFX and QFX files are XML based and human readable in that you can open the file with a text editor and easily understand the information contained within.

MT940 is another well defined standard commonly used between financial institutions. The format consists of fields separated by colons and commas with well defined numeric codes. MT940 is very compact and efficient to transfer electronically.



The Import Process below describes the basic import of transactions. jGnash can also process OFX and QFX files with *Investment* transactions. Additional columns will be present and enabled when applicable for these advanced types of transactions.

6.1. Import Process

Importing transactions is an easy process that is guided with a simple wizard. It begins with **File › Import › OFX / QFX**, **File › Import › QIF**, or **File › Import › MT940** and selecting a file that has been downloaded.

The first step of the import process requires selecting the correct account the import file is for. This is the base account all imported transactions will be associated with.



When importing OFX or QFX files, jGnash will preselect the correct account after it has learned from the first import.

The second step of the process is reviewing the transactions as shown below.

Import transactions from a file

Steps

1. Select Destination Account
2. Modify Transactions
3. Import Summary

2. Modify Transactions

You can modify the imported transactions here before completing the import.

You may want to review the destination account to better organize your income and expenses.

New transactions can be deleted or their import state toggled off. If a transaction is detected as pre-existing, it may be overridden and the import forced.

	Date	Num	Payee	Memo	Account	Amount
+	06/22/11		Payment - Thank You		Checking	24.00
+	07/08/11		Finance Charge		Bank Fees	-3.00

Delete

< Back > Next Finish Cancel

The first column consists of import status symbols:

- A plus symbol indicates the transaction has been detected as new. Double clicking on it will change it to a negative symbol to indicate you do not want it to be imported.
- An equals symbol indicates the transaction has been detected as a duplicate of a manually entered transaction or already imported transaction. Double clicking on it will change it to a plus symbol to indicate you want to force the import of the transaction.

The second, third, and fourth columns are not editable. The Payee and Memo columns may be preprocessed using JavaScript Filters as described later.

The Account column can be double clicked and changed to suit. The selected account will normally be an income or expense account unless it was a transfer to another bank account or financial institution. This column is also the equivalent to *Categories* for some other financial applications.

The Amount column can be double clicked and edited. This is normally not needed and not recommended, but allowed for some specialized uses when working with multiple currencies.

The **[Delete]** button may also be used to remove a transaction being imported.

When importing transactions, jGnash uses what is called a Naive Bayes Classifier to help preselect the best account for the transaction. Consistent use of memo and payee fields will help accuracy of account selection. Accuracy also improves with increased quantity of transactions over time.

The last step of the Import Wizard allows you to review basic information about the import before committing to the changes. After clicking on [**Finish**], the dialog will close and jGnash will begin the import process.

6.2. OFX imports

Taking the time to correctly configure your jGnash Account properties can help reduce the effort needed to automatically identify Accounts when importing OFX transactions.

OFX files may contain enough information to identify transfers between accounts. Most financial institutions will correctly identify transactions between checking and savings accounts with the bank, but others may include enough information when transferring between finance institutions.

Below is a fragment of the OFX file content defining the transfer. jGnash will attempt to match the **<ACCTID>** identifier to an existing **Account Number** that is specified within the properties of your jGnash account.

```
<BANKACCTTO>
  <BANKID>100000009
  <BRANCHID>TEST
  <ACCTID>555555-C01 ①
  <ACCTTYPE>CHECKING
</BANKACCTTO>
```

① Account identifier

The **Account Number** is easily changed by modifying the Account properties as described in the [Creating Accounts](#) section of the manual.

6.3. JavaScript Filters

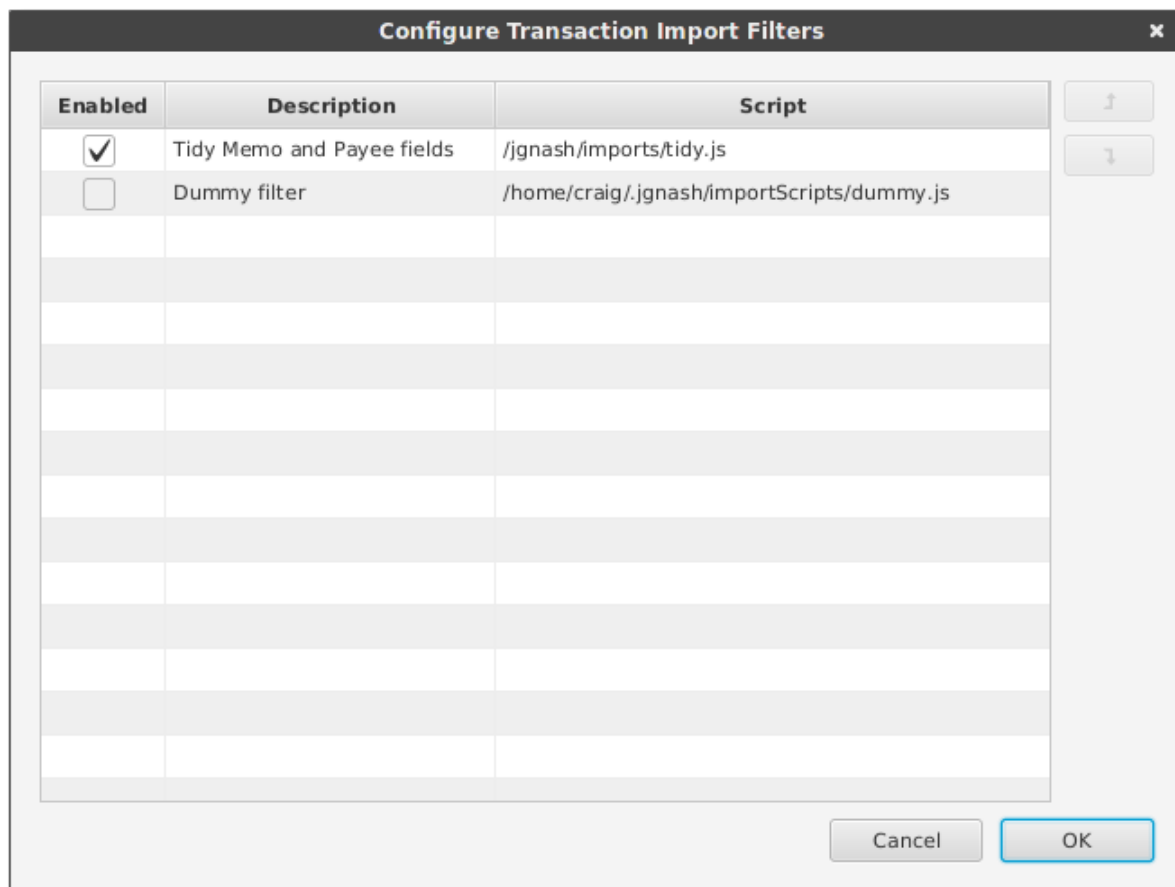
When importing transactions from OFX/QFX, mt940, and QIF bank statements downloads, transactions may be preprocessed using custom JavaScript files. As of jGnash release 2.32.0, the scripts may be used to alter the memo or payee of the transactions being imported.

You have three options for making a JavaScript file available for use:

1. Some scripts are included by default. These show up as `/jgnash/imports/xxx.js` in the **Script** column of the table.
2. Place the JavaScript file into a *importScripts* sub directory where your jGnash data file is installed.
3. Place the JAR file into your home directly where jGnash will find it.
 - a. `$HOME/.jgnash/importScripts` for UNIX and BSD based operating systems.
 - b. `USER_HOME\AppData\Local\jgnash\importScripts` for Windows operating systems.

These import scripts must be specifically enabled for use and the order in which they will be executed

can be changed using the **Tools > Configure Transaction Imports Filters...** menu as shown below.



Below is an example JavaScript file. The first four functions are required for correct operation.

The first function accepts an **ImportTransaction** for advanced manipulation of the imported data.

The second and third functions accept a **string** and are expected to return a **string**.

The **getDescription** function should return a meaningful description of the script.

```
/* Normalizes the case of the payee and memo fields */

// place holder for the passed ImportTransaction
var importTransaction;

// This will be called first and passed the ImportTransaction
function acceptTransaction(transaction) {

    // does nothing with it in this script
    importTransaction = transaction;
}

// This is a required function
function processMemo(memo) {
    return capitalizeFirstLetter(memo.toLocaleLowerCase());
}

// This is a required function
function processPayee(payee) {
    return titleCase(payee.toLocaleLowerCase());
}

// This is a required function
var getDescription = function (locale) {
    var Locale = Packages.java.util.Locale;

    switch (locale) {
        case Locale.ENGLISH:
            return "Tidy Memo and Payee fields";
        default:
            return "Tidy Memo and Payee fields";
    }
};

// Capitalizes the first letter of a String
function capitalizeFirstLetter(str) {
    return str.charAt(0).toUpperCase() + str.slice(1);
}

// Converts a string to Title Case
function titleCase(str) {
    return str.replace(/(^|\s)[a-z]/g,function(f){return f.toUpperCase();});
}
```

The full jGnash API may be accessed within these scripts for advanced processing capabilities. See the [JavaScript](#) section of the manual for more details.



JavaScript files are expected to be encoded as UTF-8 Files. An incorrect file encoding may cause script failures.

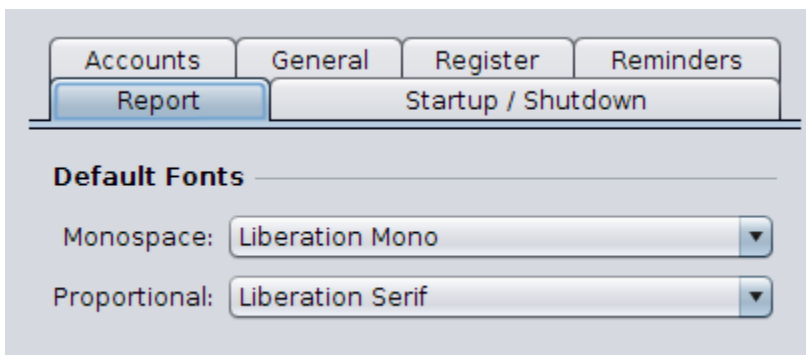
Chapter 7. Reports

A variety of reports exist that present your financial history and status in different ways. There are currently three classes of reports available. Text reports can be exported and easily imported into a spreadsheet for advanced manipulation. Chart based reports may be altered and exported to a graphic file, or printed using the context sensitive pop-up menu. Tabular type reports may be printed or saved to various file formats including *CSV* or *PDF* files.

7.1. Tabular Reports

Tabular reports are displayed in a specialized viewer that allows you to change the page and print or export the report. The font size of the displayed report can be changed from the toolbar of the report window.

The fonts used to display the report may be changed in the **Tools > Options** dialog shown below. The Proportional font is typically used for report headers and footers. The Monospace font, also called a fixed-width font, is used to display the reported values.



If a proportional spaced font is chosen for the Monospace font, numeric report values may not line up correctly in the report.



Font Information

Information on font types as well as a wide selection of freely available fonts can be found on the Internet. Once a new font is properly installed in your operating system, it will be available for use in jGnash the next time it is started.

7.2. Tips

Depending on your operating system, you may need to change the font type and font size to achieve the best looking report. The font size can be changed on the report toolbar and is remember for each report type.

7.2.1. Nothing displays in the report and I'm not getting any errors

Try increasing your font size, and if that does not work, choose a different font. Depending on your operation system, fonts may not render correctly at reduced sizes.

7.2.2. I get an error that tells me to reduce my font size

The selected font size is too large to display the report correctly. You will need to choose a smaller font size. Many times, the column heading text may dictate the displayed width of a column. Try choosing a proportional font with condensed spacing. You may also want to check the default paper size and adjust if needed.

7.2.3. My PDF exports are missing information or don't look correct on different computers

Not all fonts are able to be embedded within a *PDF* file. You may need to experiment with different fonts to achieve good portability. In most cases, the defaults jGnash chooses will give you good results.

7.2.4. The IRR is not being displayed in my Portfolio report

Your investment account may not be setup properly. Ensure that stocks have been added or purchased prior to sells, buys, dividends, etc.

Chapter 8. Administration

Several administration options and tools are provided to help with management of your data.

8.1. File | Save As

An open file may be saved as a new file of the same type, or a new file with a new file type. To save the file as a different type, you must change the file extension to a supported type. Correct file extensions are shown below.

Table 2. File Formats

XML File	.xml
Binary File	.bxds
H2 Relational Database (B-Tree)	.h2.db
H2 Relational Database (MVStore)	.mv.db
HyperSql (hsql) Relational Database	.script (.lobs, .log, .properties are used as support files)

8.2. File | Export | Export Accounts and File | Import | Import Accounts

Use of these commands allows you to export your account structure and import it back into and new file. This is handy if you want to start a new file without manually recreating your accounts. This does not preserve existing transactions.

8.3. Change Database Password

By default, when a new relational database is created, a password is not specified. This allows you to password protect your file. This does not encrypt your data, so a person with the right tools can easily access your data. It is useful for casual protection only. If encryption is important, use OS level encryption capability available on any modern operating system. This is disabled while a file is open.

8.4. Shutdown Server

Issues a shutdown request to a remote server. This is disabled while a file is open.

Chapter 9. Plugins and JavaScript

jGnash support the addition of JavaScript and Plugins to add additional functionality to the application.

9.1. Plugins

Plugins are tightly integrated into jGnash, and once loaded, behave as if they are a standard part of the application. Plugins are coded in Java using a jGnash specific API as the entry point so they may be loaded into jGnash.

Standard Plugins are packaged into *JAR* files and are located within the *plugins* directory located in the directory jGnash is installed.

You have two options for manually installing a Plugin:

1. Place the JAR file into the *plugins* sub directory where jGnash is installed and restart jGnash.
2. Place the JAR file into your home directly where jGnash will find it.
 - a. `$HOME/.jgnash/plugins` for UNIX and BSD based operating systems.
 - b. `USER_HOME\AppData\Local\jgnash\plugins` for Windows operating systems.

The jGnash JavaDoc may be referenced if you are interested in creating a jGnash Plugin. The MT940 import is written as a standard Plugin and may be referenced as an example of how to write one.

9.2. JavaScript

In addition to use of Plugins, jGnash allows you to create and run JavaScript programs. The internals of the jGnash engine and some user interface functions can be accessed to create custom reports, create and modify transactions, etc.

Running a JavaScript program is as simple as using **Tools › Run JavaScript** command from the menu bar.

Below is an example JavaScript program that displays the accounts in the currently loaded file and demonstrates how to display a simple dialog. To try the program, create a text file using your favorite editor with a name of your choice that ends with a .js extension. After creating the file, simply using the **Tools › Run JavaScript** command to select the program and run it.

```

load("nashorn:mozilla_compat.js"); // Load compatibility script

importPackage(javax.swing);
importPackage(Packages.jgnash.ui);
importPackage(Packages.jgnash.engine);

// helper function to print messages to the console
function debug(message) {
    java.lang.System.out.println(message);
}

// show the console dialog to see the debug information
var Console = Java.type("jgnash.uifx.views.main.ConsoleDialogController");
Console.show();

// this is how to get the default Engine instance
var engine = EngineFactory.getEngine(EngineFactory.DEFAULT);

// get a list of accounts
var accountList = engine.getAccountList();

// loop and print the account names to the console
for (var i = 0; i < accountList.size(); i++)
{
    var account = accountList.get(i);
    debug(account.getName());
}

// just to show how to use Swing
var optionPane = JOptionPane.showMessageDialog(null, 'Hello, world!');

```



JavaScript files are expected to be encoded as UTF-8 Files. An incorrect file encoding may cause script failures.

JavaScript programs have the advantage of not requiring the use of an IDE or Java compiler to create and test a program. The disadvantage is troubleshooting syntax and logic errors can be more difficult than writing a jGnash Plugin.

Chapter 10. Command Line Options

jGnash has several command line options for advanced users.

Options

--enableEDT

Primarily used for development and debugging the graphical user interface. When enabled, this detects and warns of bad UI programming practice.

--file filename

Specifies a file to load at startup.

--opengl

Enables OpenGL support for platforms and video drivers that support it. Disable use if strange graphics errors occur.

--xrender

Enables 2D rendering pipeline for modern X11 based desktop environments. The performance improvement can be significant for some systems. This has no effect on OSX or Windows systems.

--portable

If portable is specified on the command line, jGnash preferences will be stored to a file named **pref.xml** instead of using the system registry. Use of this option is intended for users who want to run jGnash from a thumb drive on multiple computers and maintain their preferences without using the system registry. The **pref.xml** file will usually be stored at the location jGnash was started from.

--portableFile filename

If you don't like the location the **pref.xml** file is stored, or wish to use a different name, use this option to change the location and name to suit.

--uninstall

Removes all registry and configuration settings jGnash has created. This will not have any effect if you have been using the **-portable** option.

Client/Server Options

--server filename

Starts the jGnash server using the specified file. The file must exist and not be in use by another program. A user interface will not be displayed. The file must be in the Object Database (jdb) format.

--host *servername*

Specifies the name of the remote server. This starts jGnash and automatically connects to the specified server. If running on the same computer as the server, localhost may be used as the name of the server.

--shutdown

Issues a shutdown request to a server. If -host is not specified, then localhost is assumed for the server name

--encrypt

Enables encrypted client / server communication if supported by the relational database (H2 Only). Remote file transfers and client communications, etc will be encrypted. This will not encrypt your database file. A password must be used, otherwise encryption will be disabled. Depending on your locale and export laws, encryption may not be available and will fail if not supported in your installed JVM.

--password *password*

The password that the client must correctly specify to connect to the jGnash database. This is not required if the database is not protected.

--port *port*

An empty port for network communications. The specified port and port + 1 may not be used by any other application at the same time. The default port is 5300.



Open Dialog

It is possible to start the jGnash client and specify the server, and password settings from the **File > Open** dialog.

Client/Server Examples

Start the jGnash server using the default port with a password protected database

```
java -jar jGnash2.jar --server /home/craig/jgnash.jdb --password fh56dy
```

Start the jGnash client and connect to the local server running a password protected database

```
java -jar jGnash2.jar --host localhost --password fh56dy
```

Issue a shutdown request to a remote server that is password protected

```
java -jar jGnash2.jar --shutdown --host localhost --password fh56dy
```

Issue a shutdown request to a local server that is not password protected

```
java -jar jGnash2.jar --shutdown
```


Chapter 11. Frequently Asked Questions

Where do I set my opening account balance?

Create an Equity Account called "Opening Balances" and transfer money from the Equity account to the new account which will establish an opening balance. The "Opening Balances" account may be hidden later if you do not want it visible.

What happened to transaction categories?

Most commercial personal finance applications use categories to help track spending and income. jGnash uses Income and Expense accounts instead of categories for tracking where your money comes from and where it goes.

Can I use multiple currencies?

Yes! The **Tools** › **Currencies** › **Add/Remove** menu will let you add additional currencies.

After adding new currencies, simply create new accounts that use the new currency. When creating a transaction between accounts with different currencies, a field for the exchange rate will be enabled.

How do I add Securities / Stocks to my Investment and Mutual Fund Account?

First, you need to have created your stocks/securities. **Tools** › **Commodities** › **Create / Modify**.

When creating the securities, the scale field must be filled in and the prefix field should be filled in. The scale will generally be the same scale as the currency the securities value is reported in. In most cases, a scale of 2 will work fine. For the prefix, the currency prefix of the reported value should be used.

After creating your securities, you can go back and modify the existing account or select the securities when creating a new account. Use the **[Securities]** button in the dialog to make changes.

Appendix A: Keyboard Shortcuts

This Appendix contains application keyboard shortcuts that are available to you throughout jGnash

Depending on your operating system and how you have it configured, other shortcuts may be available that perform the same function.

Table 3. Shortcut Keys

Keys	Function
CTRL-F4	Closes the active register window if you have one open
F1	Displays the Help dialog

Table 4. Editing Keys

Keys	Function
CTRL-C	Copy
CTRL-X	Cut
CTRL-V	Paste

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